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MAY 2014

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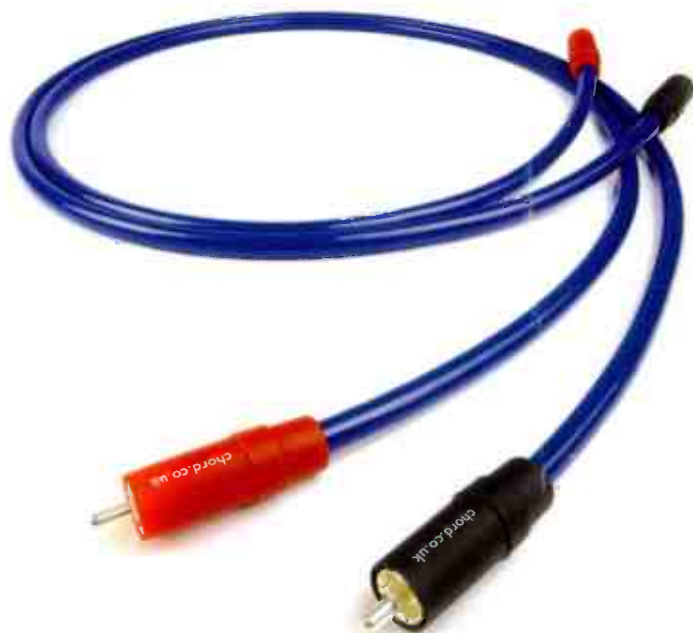
"For the first time I found that I was being made aware of the background sounds and echos in the studio. Each of the performers seemed to have gained some space around them and it made for a very inviting listen. The texture of all of the sounds was filled out and better described, with the attack of the trumpets having particular impact, although it was very well controlled."

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."



Chameleon VEE 3
HI-FI WORLD October 2013

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welcome

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Jon Myles, Martin Pipe



The only innovation in amplifiers has been the rise of Class D. It's cheap and it can be made to work well, as NuForce and Hypex show. One of the problems facing Class D is old-fashioned Class A. Spend time with a good Class A and you'll realise that all others are losing something. And that's what we found yet again with Sugden's quietly impressive FPA-4 Class A amplifier, reviewed by Jon Myles (see p10) this month. Like earlier Sugdens, notably the A2ISE we used as a reference until it was sold from under

us (!), the FPA-4 needs a little understanding. It didn't suit Tannoy DC10As, Martin Logan Electromotion hybrid electrostatics or Usher N-631s, all good loudspeakers – but it flew with Quadral Wotan VIIIIs. Their ribbon tweeter revealed the FPA-4's superb treble, whilst slightly underdamped bass suited the Sugden's reticent bottom end. OK, we couldn't party with it, there wasn't enough volume, but we were impressed by a Class A that has been developed over the years to stay ahead of the whizziest latest technologies.

A fascinating press release arrived at our Editorial in-box the other day. Yet again, Russ Andrews has had a complaint made over claims that his cables – in this case mains cables – improve sound quality. A persistent anonymous complainant, obviously an engineer of the fundamentalist sort, persuaded the Advertising Standards Authority to investigate. The ASA "told Russ Andrews not to imply that RFI from mains electricity was a perceptible problem or that their products could reduce mains-borne RFI, unless they held robust substantiation to show that was the case".

In response Russ Andrews got 3C Test Ltd., an independent UKAS Accredited EMC certified test facility, to test the cables and they found they did suppress RF noise. Consequently, the ASA threw out the complaint. Similarly, What Hi-Fi have suffered two ASA investigations about 'misleading' reviews of cable sound quality and successfully defended both.

Cables clearly do affect sound quality and readers usually report the effect significant. Happily, dealers commonly allow home demo of cables, so try before you buy. I hope we can cover this controversial subject in more detail in a forthcoming issue.

Noel Keywood, editor.



testing (see www.hi-fiworld.co.uk for full explanations of all our tests)

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

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

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

No other UK hi-fi magazine has in-house testing, and none has access to such advanced tests across all types of equipment. That's why you can depend on *Hi-Fi World* reviews.



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SUGDEN LA-4 & FPA-4 PRE/POWER COMBINATION

MAY 2014

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Designing multi-award winning
radios wasn't enough for us.

Here's a better one.

EVOKE D4

"The masterstroke
is the addition of
Bluetooth connectivity,
allowing for
wireless streaming."

THE SCOTSMAN

2014

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news



QUAD VENA

Available with a prospective price tag of £600, Vena combines a DAC and integrated amp in a single chassis offering wireless Bluetooth connectivity alongside an extensive range of inputs and outputs. D/A conversion is handled by the same 24bit/192kHz chipset used in Quad's Platinum CD players plus support for the aptX codec for Bluetooth use.

The Class A/B power amp section provides 45W per channel into 8 Ohms. There's a range of finish options including piano black, piano white and wood. The Vena can be used with smartphones, tablets, PCs and Macs and traditional hi-fi separates.

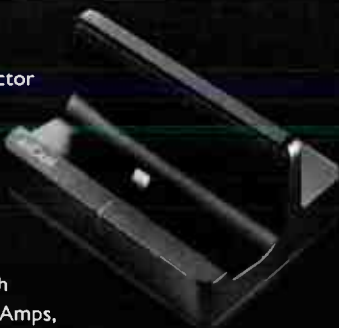
Click on www.quad-hifi.co.uk for more information.

ARCAM rDOCK-UNI

Featuring a certified Apple Lightning connector and support for older 30-pin, iPod/iPad/iPhone leads, the new rDock-uni, priced at £200, in addition to allowing you to play your own music, will stream Spotify, Qobuz, Rdio, Deezer, Tune-in Radio and more. Offering full IR remote control of docked devices and control integration with Arcam's Solo neo, Solo mini and Arcam AV Amps, the rDock includes the Burr-Brown/TI PCM1502 DAC chip and Arcam's de-jittering circuitry.

Thanks to the chassis design, the rDock-uni is able to accommodate iPad Mini models, iPad Air, iPad 4, as well as iPods and iPhones.

Click on www.arcam.co.uk



MCINTOSH MA8000

The new MA8000 amplifier offers D/A decoding at up to 32bit/192kHz for up to five digitally connected devices plus fifteen inputs in total: six line-level; two balanced; five digital plus a MM and MC phono input. The five-strong digital input suite in the McIntosh Digital Engine includes two assignable coaxial and two assignable optical inputs plus a dedicated asynchronous USB 2.0 input (operating at up to 32bit).

The MA8000's Moving Magnet and Moving Coil phono sections feature adjustable cartridge loading and impedance matching and can be optimised to suit a range of turntable and phono cartridge configurations.

Also included is McIntosh's new internal High Drive headphone amplifier which offers increased gain and output power, optimising it for virtually every headphone type – from in-ear to over-ear, 20 to 600 Ohms. The MA8000 also benefits from a Home Theatre Pass Through feature, for integration into existing multichannel home cinema systems.

Offering a 300W output, the 45kg solid-state MA8000 includes a discrete eight-band analogue tone control and McIntosh's Power Guard technology: a waveform comparison circuit that continuously monitors both input and output signals, dynamically adjusting them when necessary, in order to avoid potentially damaging clipping. Price is £9,995.

Call 01202 911886 or click on www.jordana-coustics.co.uk for more information.



NEW FROM ANTELOPE

Antelope has released the Zodiac Platinum DSD256 upsampling DAC, Voltikus PSU and the Audiophile 10M atomic clock (aka Baby 10M).

The new Zodiac Platinum DAC features a 256X DSD upsampling mode. In addition, it features a custom-built USB chip capable of carrying DSD 128 and 24bit/384kHz PCM files and a wide range of connectivity options, including the 10MHz input for the 10M Atomic Clock.

The new Baby 10M is a Rubidium Atomic Reference Generator. By syncing with the 10M's atomic reference signal, with its accuracy of 0.03ppb, it reduces jitter in the digital stream. The Baby 10M is based on Antelope's Isochrone 10M pro-audio clock. See next month's issue for a full review.

Call 020 8133 8113 or click on www.facebook.com/AntelopeAudio for more information.



AUDIO PRO

Audio Pro, the loudspeaker company from Sweden, has announced the launch of four new products to its Living wireless audio ecosystem. Joining the LV2e bookshelf speakers are the LV33 floorstanding speakers (£1,300), the LVSUB Flat wall-mountable subwoofer (£450.00), the LVHUB multi-source transmitter hub (£250.00) and the WFHD200 point-to-point transmitter/receiver set (£150.00).

Living LVHUB: with its four inputs (one USB, two TOSLINK digital and one 3.5mm stereo analogue), users are able to create a multi-source wireless audio system by connecting all sources to the hub. After the set-up procedure, the LVHUB 'finds' all compatible Audio Pro Living speakers within the area and automatically connects to them. With Audio Pro's Living system, a dedicated audio network is created, transmitting CD-quality sound wirelessly.

Living LV33 is a three-way floor standing speaker system that utilises both direct and reflected audio technology. Featuring a built-in bass equaliser, which allows the user to tune the speaker to the room that it is in. Each LV33 can be set to be a right, left or mono speaker, which is ideal for those wanting multiple pairs in a single room or individual speakers in several rooms. It is finished in Audio Pro's leather (available in black or white).

Living LVSUB Flat: as either part of an Audio Pro Living wireless audio system or connected as a standard subwoofer to any audio device with a subwoofer output, the LVSUB Flat is ideal for those that want additional bass reinforcement with universal mounting options. Hung on a wall, placed on the floor or hidden under a couch, it offers a 200W Class D amplifier, 20.5cm long-throw bass driver and DSP control.

For further information, visit www.audiopro.com

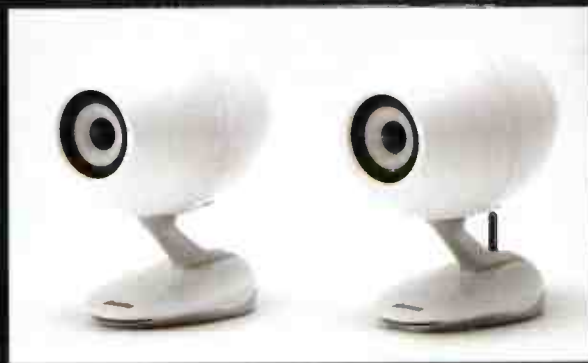


ECLIPSE TD-M1 ACTIVES

A new set of desktop active speakers has been released by Eclipse, housed in streamlined chassis housings. The speakers utilise Eclipse's own Time Domain sound system and support Apple's AirPlay and AirPlay Direct services as well as UPnP Wi-Fi streaming with network compatible standards for everything else.

The electronics are built into the base of the right hand speaker and include a 24bit/192kHz USB interface plus a Class D amplifier. Using a 8cm single driver, it is priced at £999.

Click on www.eclipse-td.net for more information.



DENON SOUNDBAR & PHONES

Denon has revealed a new soundbar with wireless subwoofer. The £399 Denon DHT-S514 soundbar provides HDMI and Bluetooth wireless plug-and-play connectivity. HDMI ARC (Audio Return Channel) functionality enables sound from other audio-video devices connected with HDMI to the TV to be played via the DHT-S514.

Connectivity includes digital, analogue and wireless inputs, with aptX Bluetooth streaming for CD-quality wireless audio from Bluetooth equipped portable devices.

In addition, Denon Virtual Surround technology simulates full multi-channel home theatre surround sound with Dolby Digital and DTS decoding.

Selectable listening modes include Dialogue, Movie, Music and Night Mode for late-night viewing.

Denon is also introducing two new in-ear headphones. Both the £89 AH-C120 and £39 AH-C50, are situated in the company's Music Maniac series.

The entry-class AH-C50 come with 9mm dynamic drivers set in a moulded ABS housing. They also feature a non-tangle cable with an in-line, one-button remote and microphone for control of select Android and Apple devices. Four different sizes of silicon ear tips are provided. The AH-C120 in-ear phones feature 11.5mm drivers that are set in a premium hybrid metal housing. The set contains silicon ear tips (S, M, L) plus a pair of Comply Foam TX-400M ear tips. Call **2890 27830** or click on www.denon.co.uk for more information.



THE KEY

The trend for mini-DACs continues with The Key. A pocketable design, you can connect it via the included 3.5mm analogue stereo output. Supported by a Texas Instruments PCM5102A DAC chip, The Key supports up to 32bit/384kHz audio across USB audio 2.0. The anodized aluminium enclosure is available in Blue, Silver, Gold and Black. A capped USB A male input keeps The Key safe and protected for travel. Price is £189.

Click on www.aloaudio.com or call **001 971 279 4357** for more information.

THE ROTH ROARS

Roth Audio has upgraded the OLi POWA-5 active stereo speaker system. The latest POWA-5 uses aptX-capable Bluetooth technology.

The list of compatible aptX-ready devices is growing and currently includes the HTC One Max, all Macs with OS X Snow Leopard or Lion and the Samsung Galaxy S3 and S4 models. The cosmetic changes to the OLi POWA-5 are subtle but include the IR window changing from rectangular to circular while a larger and flatter redesigned control knob is included. A powered speaker design, one of the cabinets houses an 80W amp while each two-way speaker uses a 25mm tweeter and 13cm driver.

Connectivity includes one RCA in, one 3.5mm stereo in, two optical ins, two USB charging sockets and a subwoofer out.

The Roth POWA-5 is available now at £249. Click on www.rothaudio.co.uk or call 01753 682782 for more information.



MODEL THREE BT

New from Tivoli Audio is the Model Three BT, Bluetooth-equipped clock radio. Priced at £249, it uses a top-located, full-range 8cm speaker driver together with a bass port.

In addition to Bluetooth, the Model Three BT offers an AM/FM tuner. There is also a rear panel-located 3.5mm input, which enables wired connection of many music devices such as the iPod Classic and other branded MP3 players.

The illuminated clock has a sleek thumbwheel with which to set the alarm, as well as a twenty-minute sleep timer, a snooze button and the choice to wake to the alarm tone or the radio. Its battery backup also guards against the radio losing alarm settings during a power outage. An FM antenna and stereo headphone output is also included.

See page 21 for the full review.



ASIMI ULTRA

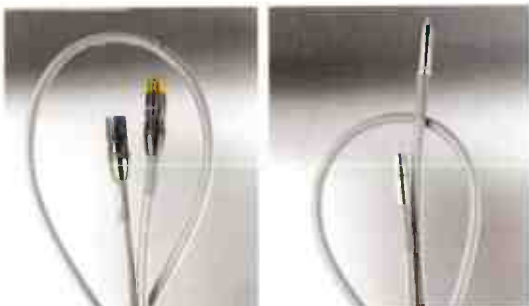
Atlas Cables has announced the launch of the new Asimi Ultra reference interconnect cable. Hand built at its factory in Scotland, the Atlas Asimi Ultra interconnect cable is priced at £2,750 for a metre pair. It uses solid silver conductors manufactured using the technique for drawing pure silver. Ohno Continuous Cast or OCC, used in the manufacture of high quality Atlas copper cables minimises the impurity boundaries in the material, in this case pure silver, by ensuring that there is less than one grain or signal-deleting crystal boundary in up to 125m of conductor.

A microporous PTFE (Teflon) tape is wound around the OCC solid silver conductors and then covered again and stabilised using a protective FPE (Flexible Polyethylene) dielectric.

The all new Atlas Ultra plug has a 57% reduction in mass over its predecessor and employs an internal non-conductive sleeve matched to the dielectric properties of the cable (Teflon).

For the new Asimi Ultra, Atlas has developed an anti-RFI system that uses two symmetrical drain wires inserted between a 100% copper Mylar foil and SPC screen. This system connects the screen to the cable return plug interface and provides total screening.

For more information call 01563 572666 or click on www.atlascables.com



KRELL iBIAS

Krell is offering a new Class A amplifier. The iBias sports a proprietary Krell technology that combines Class A's famed sonic qualities without the excessive heat and wasted energy of conventional Class A designs.

In an iBias amplifier, a circuit continuously measures current flow through the amplifier's output transistors and instantly adjusts the power (or bias) going to the transistors to suit the demands. The output transistors never shut off, yet very little power is wasted as heat. Not only does the amplifier consume less power, it runs cooler and can be built into a more compact chassis.

The new line includes seven models, each one built into a 3U-high (134mm) chassis with removable rack-mount ears: the Duo 175 and Duo 300 stereo amps, Solo 375 and Solo 575 monoblocks, Trio 300 three-channel amp, Chorus 5200 five-channel amp and Chorus 7200 seven-channel amp.

In order to assure reliable operation, Krell has added ethernet capability to all iBias amplifiers. Through the ethernet connection, each amplifier can be accessed on its own web page through any device that can run a web browser, such as a smartphone, tablet or computer. Using this interface, you can view heat sink temperature, fan speed and other information and also receive alerts for such conditions as overheating, fan failure and shorting of the output terminals. Prices are: Duo 175 stereo power amp (175W) £7,500; Duo 300 stereo power amp (300W) £9,500; Trio 300 three-channel power amp (300W) £11,500; Chorus 5 five-channel power amp (200W) £7,500; Chorus 7 seven-channel power amp (200W), £9,500; Solo 375 monoblock (375W) £8,750 and Solo 575 monoblock (575W) £11,250.

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



A Class Act

A new pre/power combination from West Yorkshire's foremost hi-fi company delights Jon Myles.

Ask any hi-fi enthusiast to name a British-built, Class A transistor amplifier and the chances are the name Sugden will arise.

While the company produces various other products, including loudspeakers, a CD/DAC and a headphone amplifier, there's no doubt its reputation rests largely on the relatively low-powered but famously sweet-sounding amplifiers which have been hand-built in West Yorkshire since the 1960s.

Of course, Class A has its drawbacks. Low power, hot running and decidedly careful speaker matching being the most obvious.

But they avoid the inherent

crossover distortion common in most push-pull designs so tend to sound more fluid, and when done well have a mid-band clarity that is hard to match.

Which is why Sugden's range of Class A products has such a loyal and dedicated following – and why we were so eager to get our hands on the latest additions to its range-topping Masterclass series. We have the LA-4 pre-amp priced at £2,950 and the FPA-4 power amplifier costing £2,495.

Both units come in Sugden's house-style casings with thick aluminium front panels and a distinct lack of frippery.

The FPA-4 power amplifier has

a large central on-off button flanked by two small blue and undeniably discrete indicators to show both channels are powered.

Inputs are via RCA phono or balanced XLR – with the latter connected to left and right virtual transformer circuits to convert the signals to single-ended.

Sugden's rated output is 30 Watts per channel, although our measured performance found this rather optimistic.

The matching LA-4 pre-amp is a dual mono, d.c.-coupled, Class A design. Each gain stage is powered by current shunt differential power supplies which Sugden says enable faster transients.

Connections include stereo pairs of balanced inputs, four single ended RCA phono inputs, a by-pass input together with two main pre-amp outputs and a balanced output. There is a remote control too.

Design-wise, these Sugdens are sober in their appearance, but all the controls are solid with a reassuring heft to the buttons and rotary controls.

SOUND QUALITY

Three things come to mind immediately with this Sugden combination – clarity, ambience and an innate sense of naturalness.

Pair them with speakers with decent sensitivity – in our case a pair of Quadral's Aurum Wotan VIII's – and they produce music with a remarkable sense of see-through clarity.

Tommy Smith's saxophone on 'Dialogue Of The Insects' from his 'Azure' collection hung between the speakers with superb atmosphere – sharp but without any undue edge. The backing of Jon Christensen's cymbal work also came had a crystalline purity because of the Sugden's razor-sharp precision.

Taken on their own both the power amplifier and its partnering pre are both components that major on detail and musical coherence. Nils Lofgren's dazzling fretwork on 'Keith Don't Go' was truly stunning – I could almost see his fingers racing across the strings as the track moved forward.

The FPA-4 is also a very fast-sounding amplifier due to its lack of any apparent smear. The Arctic Monkey's 'I Bet You Look Good On The Dancefloor' came across with tremendous verve and energy yet still had rare detail despite the track's dense mix.



Big heatsinks run warm rather than hot. The Sugden is more efficient than basic Class As, using a dynamic load circuit of Sugden's own design.

Its huge damping factor means bass is tight and well-defined – in fact some of the tightest I've heard in a long while.

On Led Zeppelin's 'Daze And Confused' John Paul Jones's walking bassline stopped and started with unerring precision. Again there is no hint of the smear or faint haze that some transistor amplifiers can impart. Instead you're getting just what's on the CD, download or slab of vinyl you're playing.

Obviously the FPA-4 doesn't have the sheer grunt of something like Quad's QMP monoblocks so the low-end is never going to be seismic. Our measured performance shows the FPA-4 outputs just 18 Watts into 8 Ohms and 28 Watts into 4 Ohms – a little shy of its quoted 30 Watts per channel.

And you can hear that if you pair it with speakers requiring some grunt to go loud – such as small standmounts.

Briefly plugging the Sugden

combination into a pair of Acoustic Energy's latest bookshelf speakers saw the FPA-4 rapidly run out of steam.

Yes, the clarity and quality remained but suddenly there was strain and a perceptible feeling that the amplifier was out of its comfort zone. Similarly, connected to a pair of Usher N-6311s (see review page 17) and the FPA-4 became decidedly unhappy.

Going back to the Wotans immediately solved this. So, choose your speakers carefully with these Sugdens – although that's rather a prerequisite with all but the biggest and mightiest Class A amplifiers, even for those who are going to be paying significantly more than the Sugden FPA-4 costs. But keep this amplifier within its limits and the result is endearing.

Listening to a slice of Arvo Part on 'Spiegel Im Spiegel' the violin and viola parts simply swelled from the speakers. Jurgen Krose's piano was also full, round and rich. I've heard this recording through much more powerful amp and pre-amp combinations but few have the richness and filigree detail that the Sugdens manage to bring to the party.

This translates into a very impressive soundstaging ability. Overall, the sound is pushed forward from the speakers extending music



The LA-4 preamplifier can be connected to the FPA-4 power amplifier through balanced cables.



HEAR LIKE A PRO

'These are supremely musical mini-monitors with astounding bass punch and rhythmic ability allied to class-leading resolution.'

Hi-Fi World, July 2013



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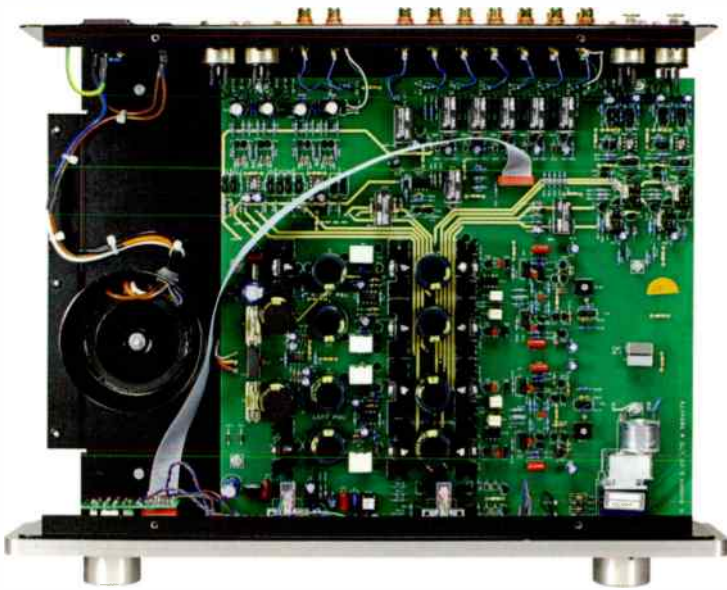
LS50

To celebrate 50 years of groundbreaking innovation, our LS50 mini monitor applies KEF's latest acoustic technologies from Blade and beyond to deliver the uncompromised sonic purity, accuracy and transparency we originally pioneered with the legendary LS3/5a professional studio monitor for the BBC. The good news is that you no longer have to be a sound engineer to enjoy the startling illusion of presence it creates.

www.kef.com/LS50

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The LA-4 preamplifier has a motorised Alps Blue pot, for remote control.

right into the room.

It's an effect which works exceedingly well with vocals and acoustic backing. Suddenly you are enveloped in a whole swathe of sound which seems to envelop the room.

The simple arrangements of Sinead O'Connor's 'Sean Nos Nua' reinterpretation of Irish standards are direct and compelling. There's atmosphere in abundance here and an ethereal quality to O'Connor's immaculate delivery.

Indeed, the temptation is simply to hit the replay button to hear it all again. Which I did – while also checking the heat dissipation from the units.

As I said above, Class A amplifiers can push out room-warming levels of heat. But Sugden's implementation here doesn't mean you'll be frying eggs on the casing. Warm, yes – but not to any great extent.

So, what's not to like about this combination? Well, anyone who desires earth-shaking bass and volume likely to have squads of police cars parked outside their front door better look elsewhere. Sugden simply don't do that sort of equipment.

Also, it's wise to choose your partnering loudspeaker carefully. Ideally, a pair of sensitive floorstanders to avoid stressing the power output of the FPA-4.

Get those parameters right, though, and you'll be in for a treat. Taken together the LA-4/FPA-4 combination comes in at just short of £5,500. To put it in context, I've heard DACs costing more than that which

don't offer the same individuality of these units.

Low-powered? Yes. Hot-running? Not especially so. Entirely musical? Undoubtedly.

CONCLUSION

This Sugden combination is one for aficionados. It won't pin you to the wall with its bass output and nor will it favour those who like to turn the volume control to 12 and have their ears pinned back to the skull. But those who enjoy the subtlety and dynamic contrasts in music will find it a delight.

There is speed aplenty on offer, as well as detail, freshness and a clarity that you'd find hard to match elsewhere.

Definitely one to audition before you buy – but take the time and the chances are you'll be beguiled.

MEASURED PERFORMANCE

Power output measured 18 Watts into 8 Ohms – less than the 30 Watts claimed. The FPA-4 managed 28 Watts into 4 Ohms though, so with most loudspeakers it gets close to 30 Watts. All the same, whilst these powers will make a sensitive floor standing loudspeaker of around 90dB SPL/Watt run loud, they are not suited to small shelf/stand mounting speakers that need more power. The FPA-4 is for those who'll play loud, but not shatteringly loud; Sugden have a balanced bridge amplifier for that.

Although the FPA-4 uses a single-ended transistor output stage with dynamic load, it does not run unbearably

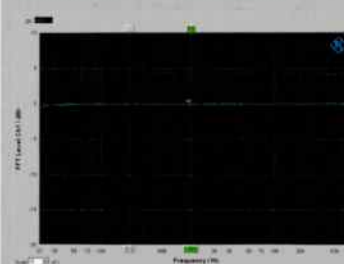
hot. Sugden use output protection/muting Mosfets they say, and current feedback. It is possible to reduce output impedance to notional zero and this is what they have done, as claimed. Output changed not one jot between 8 Ohms and 4 Ohms, giving zero output impedance and infinite damping factor. This suggest very good loudspeaker bass control and tight, or dry, bass.

Frequency response was very wide, extending to over 100kHz, and input sensitivity normal enough at 930mV for full output, through either phono or XLR inputs. Distortion remained low at around 0.02% over the amplifier's entire working frequency and output range.

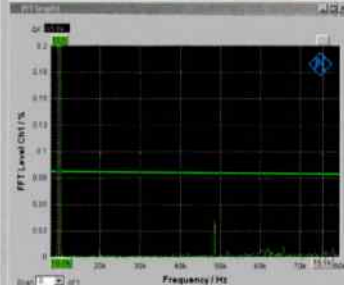
The LA-4 preamplifier has a usefully high gain of x10 (20dB) and will deliver up to 8V output. Gain is the same via phono or XLR and bandwidth wide; Sugden do not bandwidth limit.

The LA-4 and FPA-4 measure well all round, but power output of the FPA-4 is limited. NK

FREQUENCY RESPONSE



DISTORTION, 1 Watt, 10kHz



POWER AMP FPA-4

| | |
|--------------------|-------------|
| Power | 18 Watts |
| CD/tuner/aux. | |
| Frequency response | 12Hz-100kHz |
| Separation | 82dB |
| Noise | -95dB |
| Distortion | 0.01% |
| Sensitivity | 930mV |

PREAMP LA-4

| | |
|--------------------|------------|
| Frequency response | 4Hz-100kHz |
| Separation | 92dB |
| Noise | -108dB |
| Distortion | 0.008% |
| Gain | x10 |
| Overload | 8V out |

SUGDEN
MASTERCLASS
FPA-4 £2,495

MASTERCLASS
LA-4 PREAMP
£2,950



OUTSTANDING - amongst
the best

VERDICT

A winning combination from Sugden. Clarity, speed and hear-through sound mark it out from the herd. Match it with the right speakers and you'd be hard-pressed to find anything better.

FOR

- sweet and clear
- fast
- no transistor haze

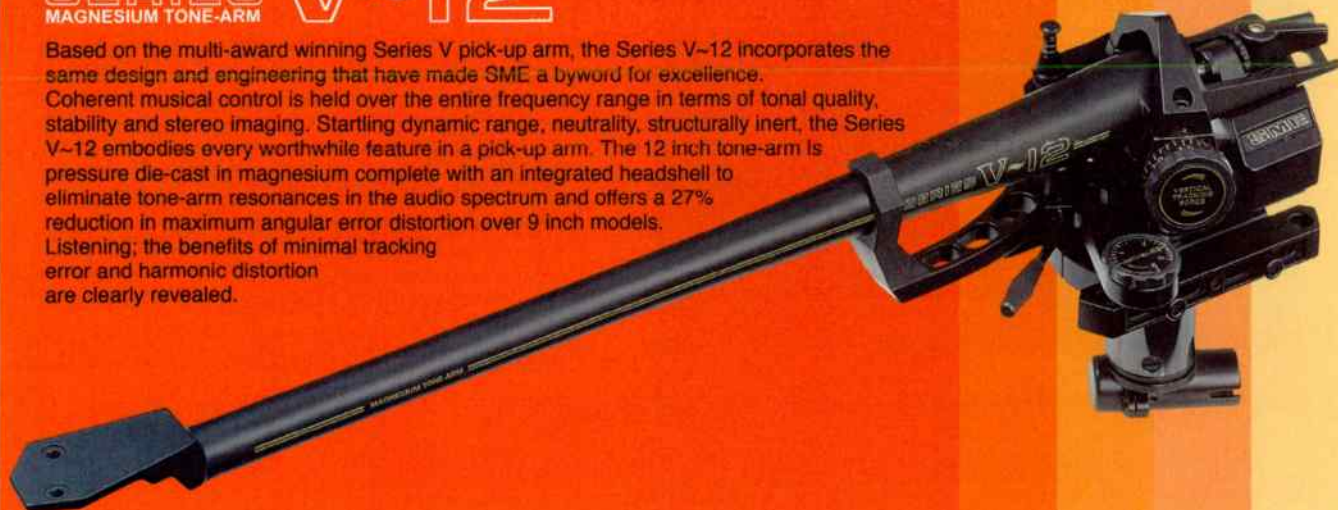
AGAINST

- low power
- needs sensitive speakers

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SERIES V-12 MAGNESIUM TONE-ARM

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HI-FI WORLD
February 2013



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House of Usher

Usher Audio's new N-6311 is the latest value-for-money floorstander from this Taiwanese manufacturer. Jon Myles likes what he hears.

Over the past few years Usher has steadily and consistently built a reputation for well-engineered products that frequently belie their price point.

Their gloriously-finished Dancer Mini-X DMD standmounts impressed us no end when reviewed in our January 2014 issue for example. But their combination of a proprietary diamond-metal-diamond coated tweeter and dedicated stands is going to set you back around £3,000.

Audio products
designed to combat
phase distortion

Tellurium Q

"In short, I can honestly say the Tellurium Q Black Diamond interconnects and speaker cable are the very best leads that I have ever had in my system."

Tony Bolton, Hi Fi World 2014



"I've talked a lot about Tellurium Q of late. I've also sung its praises constantly. To be honest, I wish I had something to grump about, it would make a change but when a company gets a series of products "this right" it is difficult to say anything negative."

Paul Rigby, HiFi World 2012

"A certain magic when it comes to absolute sound quality"

Jimmy Hughes, Hi Fi Choice 2012



The return of the Claymore!

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hi-fi+ Products of the Year 2010

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Cable of the Year 2010

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Jan 2011
Jan 2013

RECOMMENDED

2010
2011
2012
2013
2014

HI-FI WORLD
VERDICT ●●●●●

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For those of you looking for a slice of Usher sound and quality at a lower price point the company has now unveiled its new N-6 series – consisting at present of a single standmount and two floorstanders. Middle of the range is the N-6311 on display here – a two-way model costing a penny short of £1,500. True to Usher form it's a handsomely turned-out model with superb fit and finish for the price.

Usher is proud of the fact that it manufactures all its drive units in-house – which in this case means the company's tried and tested 7-inch carbon fibre/paper blend mid-bass driver allied to a 1-inch textile dome tweeter housed in its own tuned chamber.

The cabinet measures 26cm/35cm/106cm (W/D/H) and slopes back at the top to give the drivers a degree of time alignment. A front-facing and relatively narrow slotted port helps augment the bass and means placement close to rear walls should not prove problematic.

In traditional Usher style there's no grille as such for the fascia but simply a circular cloth pad which fits over the mid-drive unit while the tweeter is protected by an incorporated fixed wire mesh.

Two pairs of good-quality binding posts around the rear allow for bi-wiring or bi-amping if required. Finally a heavy (and I do mean heavy!) cast-iron bottom plate with admirably easily-adjustable spikes completes the package.

When set-up and in-situ there's no doubt the N-6311s look purposefully well-built. Admittedly, they may lack the lavish veneered finish of some of Usher's more expensive models but there's no sense of any obvious corners having been cut.

SOUND QUALITY

The best audio products really come into their own over the long-term – and that's just the way it is with these Ushers.

By which I mean don't expect them to knock your socks off at first. There's no soaring treble or thumping bass to give an immediate sense of excitement. But spend some time with the N-6311s and their qualities begin to shine through.

What they have is a very natural, unforced quality which doesn't artificially emphasise any particular element of the frequency spectrum at the expense of the others.



Twin gold-plated speaker terminals allow for both bi-wire and bi-amp operation.

Instead they sound very smooth and sophisticated. Hooked up to a pair of Quad's powerful yet refined QMP monoblocks and John Coltrane's

“they are designed to simply get on with the business of music-making in a straightforward, no-nonsense way”

'Africa/Brass' collection sounded deliciously full and detailed. This CD repays a loudspeaker that can accurately capture the interplay between the various musicians without sacrificing the propulsive thrust of the music – and the Ushers are fully up to the task.

Coltrane's saxophone is admirably detailed without ever veering into a hard-edged squall. Ditto with something like Oasis's 'Definitely Maybe' that can often sound harsh and ear-piercingly

aggressive on less accomplished loudspeakers. It's clear Usher have voiced the N-6311s for smoothness and accuracy without any obvious colouration.

That brings a real sense of atmosphere to anything recorded in a natural acoustic space. Margo Timmins' voice is deliciously smooth and creamy on Cowboy Junkies' 'The Trinity Session' with the subtle reverberations of the disused Toronto church that served as the recording venue crystal clear. Close your eyes and you could almost be there.

The same goes for Barb Jung's 'From Stockport To Memphis' where the jazz chanteuse's silky vocals hang high in the air between the speakers with a sense of calm assurance. If there's one criticism to be levelled here it's that the inherent smoothness of the tweeter can translate into a slight sense of a rolled-off top end at times.

For those seeking a brighter high-frequency response some judicious toe-in helps appreciably. Pointing the loudspeakers slightly more towards the listening seat gave an increased edge and definition to the synthesisers on Kraftwerk's 'Minimum-Maximum' live opus, as well as helping bring a better-focussed and deeper stereo image into play.

But don't let the above comment lure you into thinking the Ushers lack any sparkle or excitement when the music demands it. They don't – more they are simply marvelously adept at reproducing just what is on your silver discs, downloads or vinyl.

Move on to something significantly more up-tempo and the Ushers show that rhythmically and timing-wise they are well up to speed. New Order's 'Love Vigilantes' pounded along with suitable vigour and a slice of old-school Detroit techno in the shape of Model 500's 'No UFO' showed they have pace aplenty.

Bass here especially was also well-controlled, fulsome and lively with little sense of overhang or boxiness when the volume is pushed

icon Audio

MB30m SET/p Sometimes Less is More!



Hi-Fi WORLD said:

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MB30SE
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PAIR**



VERDICT

A gorgeous, liquid valve sound with sufficient power to drive real-world loudspeakers.

FOR

- smooth Class A sound
- triode or ultralinear operation
- economical valve replacement cost



designed by David Shaw

*Low Distortion Tertiary
wound transformers*

Shown with upgraded KT150s David Shaw 6SN7s, Jensen copper foil in paper and oil capacitors

Absolute Simplicity 27w+27w UL or 16w+16w Triode

In recent times there has been much interest in simple valve amplifiers for their excellent musical qualities. Single Ended* designs are interesting as they strip away a whole layer of complexity, leaving the bare essentials of a valve amplifier to work their magic. But until now the power of many of these amplifiers has been limited to about nine watts unless exotic high power triodes are used. Unfortunately nine Watts is just too low for many modern speakers to create realistic listening levels.

The recent introduction of the Tung Sol KT120 and KT150** super beam pentodes gave us the opportunity to design a new amplifier using only two valves to obtain power of 16 Watts in Triode or 27 Watts in Ultralinear configuration. Designed with equal emphasis on Triode and Ultralinear this amplifier will provide very good volume levels with most loudspeakers having three times the power than a single 300B valve.

Because the MB30s are mono blocks they each get an independent power transformer, a valve rectifier and a custom designed choke, giving the best possible quality of power. A wide range of operating conditions are available including 8 Ohm and 4 Ohm speaker taps and low and high sensitivity switch for operation with or without a pre-amplifier. The output transformers are our own LDT tertiary wound type having excellent bandwidth and dynamics, together with low distortion. A built in meter 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.

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

The MB30 is an ideal match to any well designed loudspeaker of medium to high efficiency. See our website for details.

Our four cornerstones are **Quality Performance and Value**, and ongoing quick affordable **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 by about 40%. 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. High quality components are used throughout.

*Using one output valve rather than the usual two in "push pull". **Also tested with the forthcoming Shuguang and Psrane KT120.

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up. Of course, with a 7-inch combined mid-bass driver and relatively compact cabinet there's never going to be earth-shaking low-end on offer. But what is there is always tuneful and thankfully free of the dreaded one-note thump that besets some designs.

The kettle drums on a 24/96 download of Rimsky Korsakov's *Snow Maiden*, *Dance Of The Tumblers* had suitable depth and power with a rich, resonant tone.

Having said that, those who enjoy their music loud and like to feel the thrill of a big orchestra in full flow need to choose their partnering amplifier carefully – for the Ushers respond best to a good dose of power. The combination of a 12 Ohm overall impedance and a low 85dB sensitivity means they need around 60 Watts for reasonable listening levels.

Switching from the Quads to a Class A Sugden with just 20 Watts per channel on tap, for example, brought a slight hardening of the overall sound. Nothing exactly unpleasant but enough to suggest it wasn't exactly a match made in heaven, especially if you start to crank up the volume.

Moving back to the Quads brought the Ushers under control again and helped reveal more of their qualities – not least of which is the confident way they go about their business no matter what genre of music you choose to play. Moving from Rimsky Korsakov to Nick Cave's *'Murder Ballads'* the Ushers took the change of musical direction in their stride. Cave's voice was brooding and venomous with just the right amount of menace – the contrast between his dark musings and Kylie Minogue's soft, sensuous vocals on *'Where The Wild Roses Grow'* nothing less than spine-tingling.

It's that sort of quality which makes extended listening sessions through the Ushers such a pleasure and encourages you to revisit all sorts of favourite tracks. And it's also where I think the Ushers will reward more in the long run than a fair number of other, more immediately exciting loudspeakers in their price range.

Yes, there'll be some



A 7-inch carbon fibre/paper blend mid-bass driver is allied to a 1-inch textile dome tweeter housed in its own tuned chamber.

listeners who may crave the more sharply-edged presentation of say a ribbon or metal-domed tweeter or demand the greater bass extension

that more drive units can bring. But that would be missing the point of the Ushers. They're not a loudspeaker that sets out to impress with an artificially-engineered sound. In contrast they are designed to simply get on with the business of music-making in a straightforward, honest and no-nonsense way. They have a calm neutrality about them.

CONCLUSION

We've been more than impressed with Usher Audio's various speakers over the past few years – and the N-6311s are no exception. Refreshingly even-handed, they are also smooth and detailed while retaining a rhythmic punch and good sense of timing that brings the best out of whatever you fancy listening to.

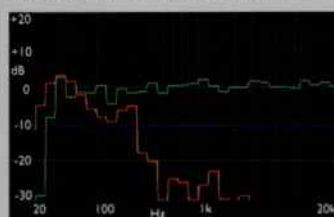
They respond best to a relatively high-powered amplifier and some listeners may at first find them a little too smooth for their tastes. But give the N-6311s time to work their magic and the chances are you'll grow to love them.

What's more, you'll probably be listening to them in many years to come when the initial charms of some of their more sonically-coloured rivals have begun to wear thin.

MEASURED PERFORMANCE

Frequency response of the N-6311 measured relatively flat, analysis shows. A more detailed stepped sine wave response confirmed this result, even output from the drive units suggesting low coloration. The loudspeaker is very accurate in terms of tonal balance, with no midrange dip nor treble peaking to

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



enhance detail. The tweeter in particular looks very smooth. This result is on-axis; off axis treble rolled off slightly so the speakers should be toed in toward listeners.

Bass output is both even and smooth down to 40Hz, with no emphasis to make bass obvious. As a result the N-6311 will sound balanced, but not bass heavy. The port is tuned to 40Hz where it augments deep bass a little. Because the port is narrow tuned it will have a lively quality; there is little subsonic output below 30Hz.

The Usher uses a high D.C. resistance bass unit (7 Ohms) and this lifts impedance considerably above most other loudspeakers. Overall impedance measured a high 12 Ohms, a high power amplifier is needed, 60 Watts or more, for reasonable volume. Sensitivity measured a low 85dB.

The N-6311 is very accurate loudspeaker, with no emphases at all in its sound balance. With low coloration too, it will give an impressively neutral but well detailed sound. It's only drawback is low sensitivity, meaning it needs power to go loud. **NK**

USHER N-6311

£1,499



OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT

Another winner from the Usher stable. Smooth, sophisticated and free from colouration, the N-6311 is a sensibly-priced loudspeaker that just gets on with the job of playing music.

FOR

- accurate
- smooth treble
- well-constructed
- price

AGAINST

- need plenty of power
- some may want more sparkle
- no subsonics

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Clocking On



Tony Bolton finds his morning alarm call brightened by the new Tivoli, Bluetooth-equipped, clock radio.

Over the last few years I have seen and heard Tivoli radios at friend's houses and also at hi-fi shows, and have formed quite a good opinion of them – but have never had the opportunity to live with one in my own space. This situation recently altered when I received a Model Three BT (Bluetooth) clock radio to review.

Sharing the same overall styling as the Model One and Two table radios, the Model Three BT has a 3-inch, full-range, long-throw driver mounted on the top of the casework. This measures 114 x 212 x 133 mm, so it leaves plenty of room on a bedside cabinet. It can be finished in the cherrywood veneer of this example, or walnut, black or white. The fascias for the latter two choices come in white, whilst the veneered models have either a beige or this one's silver taupe frontage.

The fascia is occupied by a conventional clock face on the left, the 5-to-1 geared tuning dial on the right with volume and source/power knobs in the middle. A green power light and a yellow tuning indicator light sit between these two knobs.

Below the clock face are buttons for the alarm and a twenty-minute sleep timer.

The alarm is set by rotating the

rim of the clock anticlockwise. If the selector switch is set to a Source, this is the sound that will wake you up. If the source knob is set to Off then a buzzer sounds through a speaker at the back of the cabinet.

This little speaker sits alongside sockets for a subwoofer and the matching stereo speaker connection, (the Top-Firing Speaker is available separately from £79) an Aux In and Rec Out. The 12V power supply plugs in at the back and there is also a headphone socket.

The set-up instructions are quite comprehensive and it took only a few minutes to connect my MacBook Pro via the Aux/Bluetooth connection (it uses a Finnish Blugiga Bluetooth connection called A2DP, version 2.1 + EDR) and to be enjoying my iTunes library, as well as the wealth of material available on the internet, through this rather capable little device. There is also a Tivoli radio App that can be downloaded from the App Store.

Over the next few days I spent a fair amount of time listening to various radio channels at different times of day, and was constantly impressed with the reception capabilities, as well as the overall sound quality.

Using AM, the Tivoli pulled in transmissions from France, Germany, Italy and Spain, although the latter

was somewhat prone to interference, whilst the FM reception was generally loud and clear with no noticeable hiss.

There are no tone controls, but the overall sonic balance was good, with enough extension at each end of the frequency range to allow both bass notes and the swish of high-hats to be enjoyed.

With a 3 inch driver, this machine isn't going to cause earthquake-inducing bass, but it was taut and tuneful (a subwoofer is available for £119). The mid-band had good definition with vocals being well enough projected that even the most slovenly of a singer's diction was comprehensible.

The opening paragraph of the instructions say that the makers "believe the Tivoli Model Three BT to be one of the finest AM/FM clock radios available".

In this case, I would fully endorse that comment. The sound is excellent for the size of the unit, and the usability and finish are first-class.

Admittedly, £249 is not cheap for a clock radio – but in this case it buys you something that oozes that slight air of understatement which often defines a top-quality design.

It also has the solidity of build and operation that inspires confidence in its longevity. Overall then, I feel this is an excellent product that is well worth investing in.

TIVOLI MODEL THREE BT CLOCK RADIO £249.00



OUTSTANDING - amongst the best

VERDICT

A well thought-out and excellent sounding device with a Bluetooth connection which compliments the fine radio selectivity.

FOR

- easy to use and set-up
- sensitive and selective tuner
- Bluetooth enabled

AGAINST

- nothing

Tivoli Audio
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Class D SA

Martin Pipe tries the Pro-ject's DSA, their latest high-end network player with built-in Class D amplifier.



They have redefined the budget turntable, thanks in part to a communist-era Czech factory earmarked for closure, and exhorted us to 'go analogue' at a time when the smart money was on digital.

But that was 1991. Although Pro-ject continues to bring us high-quality turntables, not even they are able to swim against the digital tide.

Thus the Streambox range, Pro-ject's take on products like the (sadly) now-discontinued Squeezebox family. Core Streambox features are a versatile network-audio player, USB audio player and 'vTuner' internet radio – concepts that would have been alien when Pro-ject debuted over two decades ago.

And now we have the Streambox DSA, which is basically a current-generation Streambox DS+ with a claimed 25 Watt per channel (into 8

Ohms) Class D amplifier built in.

Here, though, the digital and analogue inputs truly come into their own. Both coaxial and optical digital varieties are provided, while the two sets of analogue inputs are line-level only. Similarly, line-level analogue (fixed and variable) plus coaxial digital outputs are also offered for driving external equipment. The variable analogue output enables the DSA to drive power amps directly.

Connection to a network is via wi-fi or ethernet. There are two USB ports for memory sticks. One is, for convenience sake, positioned on the front panel. I personally prefer this arrangement to USB ports designed specifically to interface with a computer (the DSA lacks such functionality). It's easy to copy music you want to play to a USB memory stick, shut down the computer and play from the DSA. It is compatible

with hi-res audio files – 24-bit resolution with a 96kHz or 192kHz sample rate – as well as CD-quality ones.

Not only that, but Pro-ject has ensured that just about every key audio codec is supported by DSA: FLAC, WMA9, ALAC, AAC, MP3 and Ogg Vorbis all present and correct, as are basic PCM formats AIFF and WAV. The only ones absent are APE (Monkey Audio) and DSD. It is however easy to recompress APE into FLAC with suitable computer software with no loss of quality, as both codecs are lossless.

The DSA worked with every internet radio station I tried, from overseas low-bitrate obscurities to BBC Radio 3 (available in the UK at 320kbps). With all these options at your disposal Pro-ject clearly want you to make the most of the DSA's DAC circuitry – which is built

around the venerable Burr-Brown/TI PCM1796 chip.

Then there's the user interface, which uses a bright 3.5in. colour screen. I wondered how Pro-Ject managed to squeeze it all into such a small package. Part of the reason is that much of the power supply is contained in a large external 'brick' of the sort that's supplied with laptop computers. This supplies 24 volts DC at 500mA to the DSA itself.

The user interface is simple but effective. When the DSA is powered up you're given a list of sources (and a final 'set-up' option for configuring network connections, etc). Select the one you want and any further lists of relevant options then follow (uPnP servers, Albums, Tracks) enabling you to find what you want. Playlists, previously created with a computer, are also within the DSA's bounds, enabling sets for specific moods. If such a playlist isn't present, the DSA will sequentially play all tracks in a folder or playlist and then stop. If your music is held on a DLNA server it can be sorted by Genre, Artist, Album or Folder.

Spotify and AirPlay are possible, but only via a 'workaround' that involves installing a cheap 'MusicFlow' app. Radio stations are a real boon. Indeed, the DSA provides one of the best tuner implementations in practical terms I've seen.

Yes, it supports the usual 'sort by location or genre'. It also makes playing podcasts easy. In the 'UK' section, you'll find a category dedicated to the BBC. Within that are the BBC radio stations – either live transmissions or a selection of podcasts. If you register the DSA on a website, the creation of favourites lists becomes a practical reality. And it's all easy to drive, whether from the credit-card sized remote or the front panel buttons. No touch screen here...

Or maybe there is, in the form of smartphone apps. Pro-Ject's 'Box Control' app (specifically the Android one) is alas less than reliable if my experiences are anything to go by. It was for ages 'trying to connect', and even after communication with the DSA had finally been established it would then be randomly lost.

Returning to my smartphone after a couple of minutes, I would often find that the connection had been magically-restored.

Not even connecting the DSA to the network via Ethernet (thus halving

potential wi-fi connectivity problems) helped in any significant way. To be fair, wi-fi is pretty lousy around my urban location as there are so many wireless routers competing for a limited amount of radio spectrum.

a Cowon D20 personal player. A Sony CD player, interfaced optically, acted as a disc transport. First to Nusrat Fateh Ali Khan's 'Night Song' (CD), an atmospheric mix of traditional Pakistani qawwali music

"for all its small size, the DSA is capable of giving basslines and percussion the heft they need"

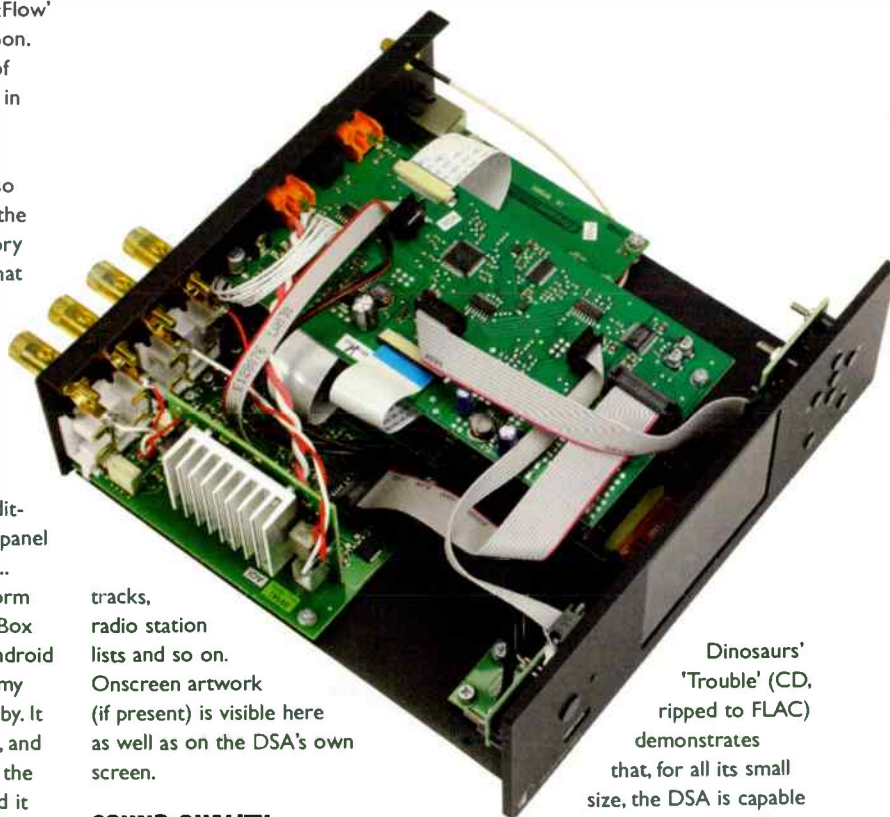
Note in passing that the DSA's 802.11b/g/n wi-fi transceiver only supports the crowded 2.4GHz band.

When it does work, though, the app works very well. You get the same basic user interface but if anything it's better as you can quickly 'swipe' your way through albums/

and ambient electronica. Deceptively-simple, there's much going on in the downtempo 'Sweet Pain' even before Nusrat starts his distinctive vocal. All these subtle strands are identifiable, and in proportion too.

Moving up in pace to the title track of *Totally Enormous Extinct*

Small yet perfectly formed; the DSA includes an efficient Class-D power amp (at left, next to the heatsink) along with PCM1796 DAC on the adjacent circuit board. Underneath is hidden the main board, which contains the core of the system - a BridgeCo DM860 networked media processor. This sophisticated 600MIPS wonder-chip is built around a British-designed (ARM) triple-core processor.



tracks, radio station lists and so on. Onscreen artwork (if present) is visible here as well as on the DSA's own screen.

SOUND QUALITY

The DSA was linked to my faithful Acoustic Energy AE109 speakers, and connected across my home network to a Synology DS214play NAS. Music was also introduced to the unit via USB courtesy of

Dinosaurs' 'Trouble' (CD, ripped to FLAC) demonstrates that, for all its small size, the DSA is capable of giving bass lines and lower percussion the heft they need. Sure, I've heard them in greater quantities but the DSA deals out those lower octaves with a commendable degree of control and articulation. Dance music such as

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.

MWA-RC caps are manufactured from high quality polypropylene which act reduce the vibrations found on unused RCA contacts on your system.

The inclusion of a 1mm thick piece Oyaide's very own Magnetic Wave Absorption material also acts as a barrier from the noise generated from the unused RCA contacts on your equipment.

Additionally the caps act as a barrier to dust build up in your equipment, which combined with the above can taint the quality of the music you have come to love and enjoy!

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Although the DSA incorporates an on-board amplifier, fixed/variable analogue and coaxial digital audio outputs are provided for external alternatives. Analogue and digital inputs allow you to position the DSA at the heart of a compact system or use it as a 'streaming preamp'. Wired and wireless network connections are supported (wi-fi aerial connector at top left, aerial not shown).

this (and Deadmau5's 'Some Chords') reveal a good rhythmic ability that's bettered only by dedicated amps.

I did note that with some music there's a slight tendency towards brightness; hi-hats, whether conventional or electronic, sound particularly crisp.

This can, however, impart a sense of excitement and energy. This bright character gets more aggressive at high volume levels. Substituting a Linn LK280 driven directly from the DSA's variable output, restored a sense of balance.

But the DSA isn't designed to compete with muscle amps. Considering its proportions, I'm amazed it delivers as much as it does.

Internet radio is, as noted in previous reviews, considerable fun although the sound quality can be rather patchy (the DSA doesn't attempt to redress the balance with the sort of 'compressed music enhancer' now being built into Japanese AV receivers). At its worst, stereo images are squashed and higher-octave sounds spoilt by an unpleasant 'phasiness' - the effects of low station budgets and high compression. But considering the choice of fade-free music from radio at your fingertips, they're arguably prices worth paying.

The DSA does however do full justice to high-quality programmes, such as Radio 3's 320kbps stream. Listen to one of that station's evening concerts, and prepare to be wowed by the soundstaging and intricate portrayal of subtleties.

The potential of high-definition audio, specifically a 24/96 PCM rip of a mint Miles Davis LP stored on the Cowon USB device, was realised by the DSA.

A natural sense of scale and

timing, impeccable detail and vitality brought the players into my listening room. All very impressive, considering the criticisms made of Class D amps in the past.

CONCLUSION

Project's DSA is similar to Cambridge's superb-value Minx Xi, but with more flexibility, bass depth and musical subtlety. It covers all key musical sources, except vinyl,

and provides good - if not perfect - sound from its on-board Class D amplifier. At a later date perhaps, this can be bypassed with an external amplifier when if hi-fi ambitions demand upgrade, so it's flexible in application too.

In all then, the DSA is a fine value-for-money network player and amplifier that I found easy to use, does it all (well, almost) and provides great entertainment.

MEASURED PERFORMANCE

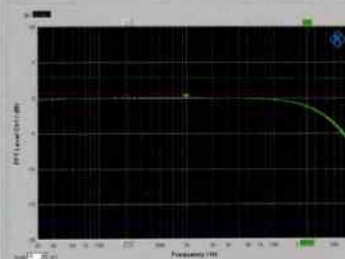
The digital section of the DSA accepts signals up to the maximum 192kHz sample rate, through optical and electrical S/PDIF inputs and ethernet. With a very low distortion figure of 0.032% at -60dB with 24 bit, the DAC offers excellent figures, EIAJ Dynamic

Range measuring a high 117dB. Analogue frequency response extends to 37kHz at 192kHz sample rate.

The small digital amplifier measures less well than the DAC. It produces 24 Watts into 8 Ohms and 30 Watts into 4 Ohms, so volume will be limited. Distortion was high at high frequencies, as is commonly the case with Class D, reaching 0.5% at 10kHz. The output filter network rolled off high frequencies above 24kHz (-1dB) into 8 Ohms, but into a 4 Ohm load this fell to 8kHz, meaning a slightly warm sound balance into low loads.

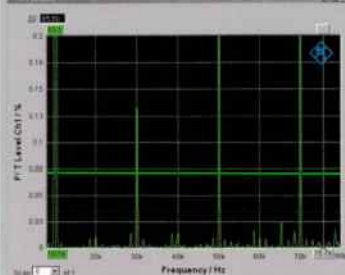
The digital section of the DSA measured well, but the Class D power amplifier was mediocre by today's standards. NK

FREQUENCY RESPONSE



DISTORTION

| | | |
|-----------|------------|------------|
| THD @ 0dB | Level (dB) | Frequency |
| 0.5118 % | 2.7450 V | 10.000 kHz |
| OFF | OFF | OFF |



| | |
|---------------------------|------------|
| Power | 24 Watts |
| Distortion | 0.5% |
| Noise | -86dB |
| Sensitivity | 800mV |
| Frequency response (-1dB) | 10Hz-24kHz |
| CD/hi-res digital | |
| Distortion (%) | |
| 0dB | 0.004 |
| -60dB | 0.032 |
| Separation (1kHz) | 96dB |
| Noise (IEC A) | -116dB |
| Dynamic range | 117dB |

STREAM BOX DSA £999.00



EXCELLENT - worth auditioning

VERDICT

A fine all-round network player, easy to use and with fair sound from its amplifier. Upgradeable too.

FOR

- excellent internet radio tuner
- broad connectivity
- full-bodied sound, a little bright on occasions

AGAINST

- no headphone socket
- app behaved erratically
- no DSD or APE support

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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 MIKE BLAIN, Letter of the Month winner in our APRIL 2013 issue.

Letter of the Month

ON THE MOVE

I have been listening to music for the last two years via headphones as I live in a terraced house and have concerns over noise. I will be moving to a detached house in the near future and will be looking to purchase an amplifier to partner my existing gear. My hi-fi consists of a Nottingham Analogue Spacedeck, SME 309 arm, Sumiko Blue Point SE 2 cartridge, Gram amp 2se, Rega Apollo-r/Rega DAC, Stax SRM-600/507 headphones and Sonus Faber Cremona Auditor loudspeakers. Cabling is mostly middle-tier Chord and power cords are Russ Andrews.

I have always fancied Naim gear. However, having listened to the new Supernait (with and without Snaps) and 202/200 pre-power, I am not 100% convinced, especially given the £4000+ price tag. The other thoughts are Devialet 110/170 but again price is high.

Others I am considering is the Sugden A21SE, but what else should I consider?

I am also interested in streaming music/making available music ripped to iMac in Apple lossless, initially via wifi/Bluetooth but am not sure what options to consider here. Your thoughts, advice would be appreciated.

John Spelght

First of all John, if you are moving to a new home with bigger space then the first thing to do is set your



Quad Stereo Platinum power amplifier and DMP digital preamp may well suit John Spelght's new home.

equipment up and take a listen. The chances are it may sound very different at first!

The Sonus Fabers are superb speakers and do have a rich, detailed sound. But they need careful positioning and a relatively powerful amplifier to get the best from them. I use Naim amplifiers at home, but if you have reservations my first thought would be Quad's new Platinum Stereo amplifier at £2,500. Add its Digital Media Player (DMP) counterpart and you have the benefit of streaming and CD - although not with a wi-fi option.

Taken together you would be

looking at £5,000 for the pair but I have a feeling they would suit your new home well. You would also have the option of selling your existing Rega CD and DAC to put towards the cost.

Alternatively, for an amplifier take a listen to the NuForce N-18. It's very clean and clear and has the capability to bring the best out of your speakers.

I'm still not convinced on the benefits of streaming via Bluetooth from an iMac but if you do want to go down this road then there are various options. Mass Fidelity's Relay at £180 is a decent choice.

Again, though, I would recommend moving in and getting your speakers set-up first before deciding exactly which way to go with partnering equipment. **JM**

CD IS DEAD

CD is dead. Well nearly! I had to write in regarding comments in April letters by Remi Balesti on hi-res. Is he really trying to tell the converted hi-res 24 bit brigade (there's probably not many of us) that 16 bit is better to his ears than 24/96?

I won't say that's rubbish, but has he ever been to a great live venue where top-class musicians perform? That's where hi-res takes you. It's not thin and weedy like CD or MP3, it's not bright either. It's smooth and it sounds real.

'Garbage in, garbage out' still applies to 24/96. As Noel says, some older hi-res does not sound as good as modern material and as we all know, people prefer different sounds, like Naim versus valves or moving coil versus electrostatics and so on.

One thing's for sure, whichever side of the many fences you sit, hi-res will sound better and take you closer to the original studio/venue sound.

Stop living in the past. Keep your vinyl, buy a Digital Audio Player (DAP)



A FiiO X3 high resolution portable player costs just £150.

and rip your favourite CDs – they do sound better! Listen to some 24/96, shut your eyes and be transported to the Albert Hall or Abbey Road. You can even leave your slippers on!

**Robert
RAM Electrical
Leeds**

Thanks for your views Robert. "There's not many of us" is an interesting comment. The music biz moved to 24 bit resolution long ago, because it sounded better. But music



"Mass Fidelity's Relay at £180 is a decent choice" for Bluetooth music streaming, says Jon Myles.

listeners have had to accept CD, a 1980s technology, as their de-facto quality standard for a long time, having no access to 24 bit because CD is resolutely 16 bit. Since CD was never so good, being technologically limited at its introduction (when it sounded worse than LP) after thirty years it is hopelessly outdated in its digital technology. But moving away from a physical carrier to downloads isn't universally popular and few people have done so.

Anyway, CD is easy to use and convenient. And of course we all have large CD collections. Understandably then, the rapid decline of CD and all it entails is causing some angst. It would be nice if HMV could sell hi-res in its stores, perhaps on memory sticks. This would be a way to avoid download dissatisfaction! **NK**

CD ISN'T DEAD

I read with interest the answer of N.K. to my previous letter. I don't know about distortion but I care about music and I want it dynamic with details and a hefty bass. As I listen to many players, only a real 16 bit convertor can bring music to

life and add that sparkle of magic.

As we know, Bitstream was only an economical issue when CD players were reaching mass production, they didn't need the fine tuning of a 16 bit convertor and they were more suitable for the big production of the period.

When we talk about CD of the 80s and 90s, readers who are interested can have a look at Dutchaudioclassics.com and have a glance at You Tube or eBay where vintage CD players are still going strong and kicking!

**Remi Balestie
France**

Fair enough Remi. There's interest in old 16 bit players, models that pre-date 'Bitstream'. Even in its time Bitstream was declared a bit dull and nowadays some enthusiasts insist early players sound better.

I think I am right in saying, however, that Bitstream (i.e. PDM) lies at the heart of all modern DACs, since they use stacked Delta Sigma modulators and an integrated low pass filter to avoid the need for fine-trimmed ladder resistor networks that, with their errors,



"I bought an old and modest Philips CD 650 with a CDM 2 mechanism and an early 1541 SI converter (single Crown)" said Remi Balestie in our May issue, where we featured this picture. "I don't know about distortion but I care about music and I want it dynamic with details and a hefty bass" he says. "Only a real 16 bit convertor can bring music to life".

were responsible for the distortion produced by early DACs that plagued the sound of the first CD players. Philips came up with this ingenious way of eliminating distortion and it is still in use today. So, the early players you and others like were – and still are – very different at heart to modern machines. Vive la difference!

NK

TURNTABLES AND TONY

Before anything else I want to thank Tony Bolton for his kind answer to my questions about mono reproduction and also tell you about the subsequent investigation I made on the subject, with a little help from my specialist friends. There is also information I should have provided in my previous letter but that I only hinted about.

I told you that I was using low output MC cartridges but I didn't tell you which. To make things right here it goes: Dynavector XX2, Dynavector Karat 17D2MKII, Dynavector Karat 17D3, Rega 78, Ortofon Cadenza Bronze, Ortofon 2M Blue.

The turntables and tonearms are as follows: Garrard Type A (Ceramic cartridge installed), Garrard 301/SME 2009I Dynavector Karat 17D2 MKII Garrard 401 ISME 3009I/Dynavector Karat 17D3 DUAL 1109/Audio Technica AT120E Technics 1210 MKII/no upgrades whatsoever/Ortofon 2M Blue Modified Dual 1110/Rega RB1000 modified/Rega RB 78 Well Tempered Labs Amadeus GTA/WTL tonearm/Dynavector XX2.

Finally, the phono preamps/amps/speakers are as follows: Garrard Type A plugs into a Rega EOS/Rotel RHA-10/Leak Stereo 20(restored and



Thorens TD-124 turntable, an idler drive owned by Mario Kopke Tulio.

upgraded)/KEF Corelli Garrard 301 and 401/JG Audio T5 with phono C phono stage/Leak Stereo 60 (heavily restored and upgraded)/KEF Concerto/KEF 105.2 Dual 1109/Quad 33 upgraded /pair of bridged and upgraded Quad 303/Yamaha NS1000m modified Dual 1109 quietly waiting Technics 1210 MKII/VTL 5.5/Pair of Bridged NAD 2100/Harpa floorstanders Well Tempered Labs/ASR Basis Exclusive/VTL 6.5/BAT VK60 + Rotel RB-10/Kef 107.2 Raymond Cook SE.

Some 80% of the music I listen to comes through the Amadeus System. It would probably become 100% if I ever get to modify the Technics 1210 or if I ever buy an Inspire HI-FI Monarch. I firmly believe that the proper successor to the idler drive turntables that conveyed most of the music I heard as a youngster and into my early twenties, in the late seventies, are not the Clear Audios of this world or even the SMEs

and the Avids, but the well-engineered direct-driven TTs. I also believe that my Garrards 301 and 401, like any good and correctly tuned idle wheel-driven turntable, for instance, a Thorens TD 124, still are in many ways far better than any of the most exquisite belt-driven turntables, independently of the music genre or the records we play.

Basically, among the more than 800 records now unpacked, washed, catalogued and inserted in new inner sleeves I found that I have essentially four different types of records. First of all, sixties stereo LPs; secondly, fifties and sixties mono LPs and Mono 10in records, in third place common Shellac 78rpm from the thirties, forties and fifties and finally a relevant number of albums of classical music on 12in shellac records, dating from the 1920s — all of them acoustic recordings before the era of electric turntables.

The first item of equipment I purchased in accordance with your suggestion was a Loricraft record cleaner that I got from eBay in very good health and at a most convenient price. This simple decision produced real miracles with the stereo and mono vinyl discs, bringing the records to life and allowing me to enjoy the music without the omnipresence of surface noise, like you said, resulting essentially from paper micro debris from the sleeves and several home dust generations. What an eye-opener it was.

For the Shellac record cleaning I use luke-warm demineralised water and a neutral shampoo. The results are very good indeed and don't harm the records in the slightest way.

The second step I took was to pay a visit to Audioteam, the distributor in Portugal for Clear audio, Rega, XTZ, VTL, WTLabs, Dynavector, Goldring, etc. And I purchased myself a Rega 78 cartridge



Loricraft record cleaner "produced real miracles with the stereo and mono vinyl discs, bringing the records to life", says Mario Kopke Tulio.



For listening to old Shellac records that spin at various speeds, not just 78rpm, "the Technics SL-1200 with Timestep RA and the inherent digital speed control are a must! There is no way to avoid it" says Mario Kopke Tulio.

that I've been using with good results to play the most recent Shellacs.

I also ordered from the net an Ortofon 2m Mono Verso cartridge for the replay of the microgroove mono records in my stereo system, through the ASR Basis Exclusive phono preamp. A missing link in chain of reproduction of the Shellac and early vinyl monos whilst correctly addressing the equalisation curves issue is a proper phono stage but that is still something I'll have to look carefully for.

I noted your suggestions pertaining Graham Slee and lfi phono stages and intend to listen to them in my system before taking a final decision on this delicate matter. In January's Hi-Fi World you've published my letter and Tony's great and most welcome answer to my questions but also, I would risk saying, an uttermost disturbing review of the Timestep RA Technics and I understood immediately that the only turntable in my vast TT collection able to sort the different record speed problem is my HMV Gramophone. And platter speed is obviously a major issue when you're talking Shellac. At least as big an issue as the equalisation curves one and similarly defying under both technical and financial points of view.

If I want to be able to apply modern means to the reproduction of my old Shellac and listen to these records the way they have never sounded before the Technics SL-1200 RA and the inherent digital speed control are a must! There is no way to avoid it.

Tony wasn't wrong when he told me I wouldn't need more than one mono cartridge. That would certainly be true if I only intended to listen to 33

rpm mono records. Both my specialist friends were right when they told me I would need at least two different mono cartridges, one for the microgroove records and another for the 78rpm Shellacs but the correct answer is I need a detachable headshell tonearm too and probably at least 3 different mono 78rpm cartridges, with different cut and diameter styli, depending on the age of the Shellac records and their physical condition.

I might do well going for a Sound Hi-Fi Re-equaliser too as this device apparently allows installation between phono preamp and preamp, keeping an open option of no interference with the signal as it is sent from the first to the second. In fact it apparently allows me to benefit from the high-end phono-preamp when playing standard stereo LPs and introducing a different equalisation curve whenever I shall need it.

What started as a short term project has now become a medium-term

one that instead of a simply relevant expense now requires a real investment of roughly £8,000 and that is something to be rationalised instead of hobbled around with. What a hobby! There's a brave new Olde World to be explored but is it worth the investment?

If I decide to go forwards with this project won't I be opening the doors to become an avid collector of Shellac records when there are too many exceptional re-editions of remastered vinyl being poured into the market every other month? Such are apparently the options.

Best regards and thanks for shaking this hobby to its roots every month, with a fresh issue of Hi-Fi World with plenty of excellent reviews of exciting new and old kit, intriguing points of view and articles that leave me thinking and give me years and years of reading material. I would also like to thank you for all the new challenges the mag insists in providing me with, from the early articles on computer audio by NK, to DIY articles on valve amplification or loudspeakers by Peter Comeau to the fantastic and different points of view from other reviewers that sadly left the magazine (like David Price and Adam Smith more recently) but also from those who stay with us every month, looking at musical reproduction from so many different angles like Tony Bolton, Paul Rigby, Rafael Todes, Martin Pipe, Jon Myles and of course Noel Keywood. After over 40 years attached to this hobby I can honestly say that Hi-Fi World does it better. By the way, great and interesting article by Noel Keywood in February's issue as the walls (and windows) are in fact all around us and are determining factors on how differently equipment sounds whenever we move it from room to room around the house.

**Mario Kopke Tulio
Portugal**

Garrard 401 has 78rpm and pitch control, so it can spin at the right speed with 78s.



Tony Bolton replies:

Hi Mario. I am glad you have found the benefits of using some form of cleaning system on your records. You should also find that both stylus and record wear are drastically reduced, if not virtually eliminated.

I have to say that that is a truly impressive collection of record decks, arms and cartridges that you have in your possession. I agree with you, that the Garrards and the Thorens 124 can still hold their own against a lot of modern turntables. Both of these decks have pitch control facilities that are more restricted in range than the Timestep RA speed controller, but the majority of 78s

is the best choice, whilst later 78s are intended for use with a 0.0028" needle. Using too small a needle will result in increased surface noise. I have long used a 0.0032" truncated conical tip mounted on a Denon DL103 by the Cartridgeman. (www.thecartridgeman.com). This is a compromise size that allows me to get good results from all electrical era records from 1925 to the end of 78 production in 1960. It will also give adequate results with earlier discs.

Stanton offer a range of stylus profiles that cover these sizes as well as appropriate tips for Edison Diamond Discs and even cylinder

little irregular surface noise than the compressed and lifeless sound that most of the 78 to CD transfers seem to produce.

One great advantage of collecting large quantities of vinyl and Shellac is the damping effect that their mass can have upon the sound of a room. Both my listening rooms have records on shelves, hiding in every corner and under every bit of furniture that has legs. The results are rooms that have very little reverberation which aid the clarity of the sound from the systems.

Although it is a good idea to get the equalisation and speed absolutely perfect, please do not let a lack of suitable equipment stop you from exploring your newly-acquired record collection. Playing and enjoying the music held in the grooves should be the most important part of any system whether it is modestly priced or expensive, old or new.

I still use my acoustic gramophone, as well as the hi-fi and radiogram, for my 78s. The enjoyment of a pre-dinner glass of wine in the garden in summer with friends and a few choice records on a gramophone are one of the simple pleasures in life that should be indulged. **TB**



An early Berliner gramophone, driven by a clockwork motor from a sewing machine.

SPEED KING

The January 2014 issue of HFW got here last weekend and I have been reading my way through it. I just finished Tony Bolton's review of the Timestep Technics SL-1200 turntable. This seems like an ideal source component for the vinyl collector.

This review raises a question that has bothered me for years, though: Why were the speeds 78, 45, and 33 1/3 chosen? For example, wouldn't 30 RPM be easier to implement mechanically and play slightly longer than 33 1/3? The chosen speeds seem entirely capricious. What is the background behind the choices that were made? What are the sonic, playing time and technical trade-offs?

If anyone needs an idea for an article, here you are. If you have already covered this question, please let me know where to find the article.

Best regards,
Kent Johnson
St. Louis,
Missouri

Hi Kent, There are various alleged answers to this question, some of which promote the idea that the choice of speeds was a random occurrence. In fact, the answer

were recorded at between 74 and 84rpm and both of these decks should just about provide you with that range of adjustment.

The Timestep RA is a superb combination of speed controller, arm, deck and turntable mat, all of which contribute to its excellent sound quality. However, if your budget is tight then Timestep offer a cheaper simplified version (www.soundhifi.com) or you could try combining the SME M2-9R arm and the Oyaide BR-12 turntable mat on one of the Garrards. I have just tried this on my LP12 and the results are excellent. Even just the mat, combined with the SME 3009 arms on your Garrards should give very good results.

Stylus size is a bigger issue with 78 reproduction than most people realise. During the acoustic era groove sizes were quite big and a 0.0040" stylus is the ideal size for these discs. From the introduction of electrical recording until the mid to late 1940s a 0.0035" stylus

reproduction. They can be contacted at www.stantondj.com. Don't be put off by the preponderance of DJ equipment — buried in the website is a list of the various 78rpm tips available.

Grado also make a 78 stylus with a 0.0030" tip that would be very suitable for most 1930s and 40s recordings. See www.gradolabs.com.

I have not had the opportunity to hear the Sound Hifi Re-Equaliser so cannot comment on its sound quality. If you get to hear one before I do I would be most interested to hear your views on it.

One of the reasons that I have spent so much time playing 78s has been my discovery of lots of excellent music that has never been released in any other format. I also find that a cleaned 78, played on suitably sympathetic equipment will usually sound far better than the "cleaned up" versions of these tracks that have been released on CD. I would rather put up with a

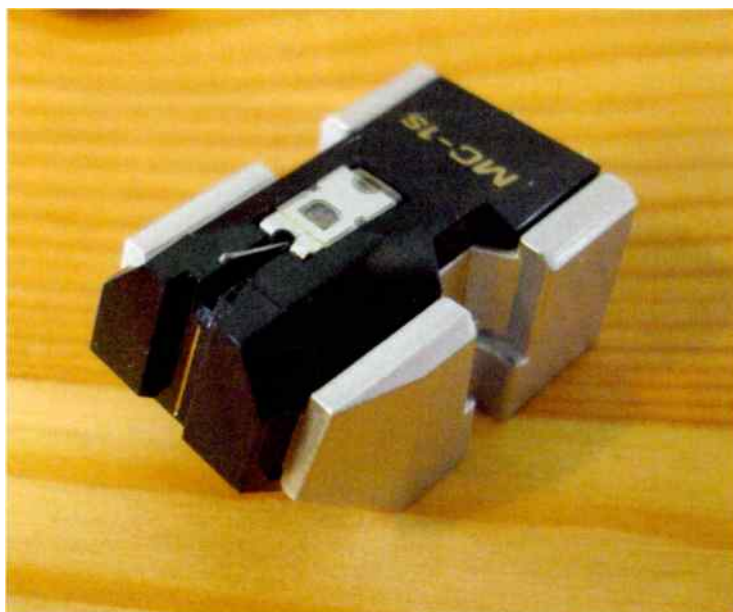
is down to a combination of the technologies then available and a trade off in sound quality versus playing time.

The original Berliner gramophones of the 1880s were hand-cranked and didn't gain mechanical power until the late 1890s when Berliner discovered a clockwork motor that had been developed by Eldridge Johnson of Camden, New Jersey. Originally intended to power sewing machines, the motor proved more useful in driving the platter of gramophones. The original hand-cranked models were geared so that a comfortable rotational speed of the winding handle gave a disc rotation of around 78 rpm. This gave an adequate playing time, reasonable (for the period) sound quality and was fast enough that the hiss of the needle tracking across the surface was raised beyond the reproductive abilities of the most of the record players. By chance, Johnson's motor produced a similar rotational speed and in the next few years most manufacturers settled for a playing speed in the 74 to 90 rpm bracket. The Johnson and Berliner business association going on to become the Victor Talking Machine Company (later RCA Victor).

In the 1920s, talking pictures were developed. The first formats used a disc carrying the soundtrack to accompany the film. Since 78 playing times were roughly 3 minutes for a 10-inch disc and 5 minutes for a 12-inch version, and a reel of film ran for approximately 10 minutes, the discs were slowed down until their playing time matched that of a reel of film. This required a speed of 33 1/3rpm. This became the industry standard for film sound discs and was later used, mostly in America, for the 12-inch and 15-inch diameter acetate discs that were used for live recordings and distributing copied radio broadcasts in the days before tape was available.

The domestic music industry remained with 78rpm. The advent of electrical players in the mid '20's caused a slight anomaly in speed due to the gearing applied to motors rotating to differing mains frequencies on either side of the Atlantic. This resulted in records in 50Hz countries rotating at 77.922rpm, and those with 60Hz supplies having a 78.26rpm speed.

Various unsuccessful attempts were made to increase playing times of records but it was not until



An Ortofon MC15 moving coil cartridge refurbished by Nottingham Analogue. "The sound is fluid. It is sort of 'organic'. There is no 'hard edge' to vocals, or sibilance" says David Deeks.

Columbia in America introduced the microgroove record in 1948 that longer playing times and lower speeds made their way into the home. RCA Victor retaliated with the 45rpm record that had the same playing time as a 78 but the groove size of Columbia's new 12-inch discs — the size and speed being arrived at via a trade-off of sound quality versus playing time versus groove dimensions, and the bandwidth and distortion levels that these factors would allow.

Needless to say the public took fright at the incompatibility of these new formats and record sales plummeted during the next couple of years until what became known as the 'War of the Speeds' was settled by a pooling of patents. This resulted in the Columbia product becoming the format for classical works and compilations of music and the 7 inch record taking over from the 10 inch 78 as the pop music carrier.

Further information on this can be found at the British Library Sound Archive and the works of Peter Copeland. www.bl.uk. **TB**

GOOD TIP

I decided to follow your advice in the August 2013 issue about replacing my Linn Klyde cartridge in my LP12 / Ekos. By doing so, however, I have ended up in a slightly different place! I had found the Klyde to always sound a bit 'sharp', adding an edge to female vocals in particular and sometimes showing obvious signs of mistracking. Noel suggested I might prefer non-Linn

cartridges and as the short headshell of the Ekos would make many of these a tight fit, I should change to an SME or Rega arm and choose a cartridge from perhaps, the Ortofon range. His personal preference was an Ortofon Cadenza Bronze, although this was outside my intended budget.

I decided however to go for one of these, but would need a short-term fix while I saved up. I then remembered an article about Northwest Analogue's cartridge re-tipping service, found it in the March 2012 issue, and rang their Dominic Harper to ask whether he may be able to help me temporarily by rebuilding an elderly and broken Ortofon MC15II which I remembered fondly from many years ago — and would it fit my Ekos?

He not only said he could, and with care that it would, but that this cartridge was a particular favourite of his and would sound 'very good indeed' fitted with a sapphire cantilever and line contact tip. I decided to give it a punt — and am very glad I did. When Dominic tried the re-built cartridge he reported as follows: "I must admit to being very surprised at the results. It is far better than I expected and I prefer this Ortofon to most others I have heard regardless of price. A bold statement I know, but you will understand I hope when you hear it. The cartridge tracks much lower now, around 1.7 to 1.8 grams and sounds very nice in my system. The only other Ortofon I modded and really liked was an old MC2000. I did exactly the same work to that and from memory they are very similar. Yours maybe tops the MC2000 in fluidity."

I decided to have my local hi-fi shop Lintone Audio fit the cartridge, as shoehorning it into the Ekos looked a bit tricky for me! and they reported themselves well impressed when testing my LP12 through a fairly high-end Naim / B&W system.

I have now been using my little old repaired MC1511 for about three months. As Dom reported, the sound is fluid. It is sort of 'organic'. There is no 'hard edge' to vocals, or sibilance – and end of side distortion has been virtually eliminated. The top end is refined, there is less background noise.

When it was first installed there was a slight softening to leading edges of bass notes but this seems to have disappeared (or perhaps I have just got used to it!) but the dynamics are superb. I could go on!

Needless to say I have no connection with Dominic Harper other than as a very satisfied customer, and he has no idea of course that I am writing this email — but Noel's advice has unexpectedly led me to spend an extremely worthwhile £500 with no need to save further except for another Northwest Analogue rebuild when the time comes!

All best wishes.

Prof David A Deeks
www.davedeeks.com

JOGGLING ALONG

There have been a number of different questions and articles in your magazine following the increase of popularity in using a hard drive and computer and your in-house network for music playback. I already had a Squeezebox Touch which was simple and worked well. However you have suggested the SBT recently which is a little worrying as Logitech who made the SBT stopped production last year and currently will not repair or honour any guarantee on the SBT so if you buy any new old stock around the current price they go for (£250 +) then you are on your own. A real shame as I bought mine for the knock down price of £160 over 14 months ago and like the SBT and the tweaky things (Toolbox 3, EDO App, better power supply) you can do with it.

However, nothing and no one has stepped into the void to offer all the things it did – good-sized screen and simple use. Most of the current market runs to very expensive alternatives made by hi-fi companies and often offering lots of things many of us do not need. So, I have searched around and looked at how cheap can you do this? Answer is very cheap indeed as many of us already have much of the kit already in



The Cambridge NP30 network player costs around £200, making it an affordable way to enter the world of streaming audio.

place. A PC and a HD attached plus a wireless system are needed plus a DAC with USB input.

My suggestion for anyone to try if they have the above is called a Joggler O2 — a small screen often used in betting shops and based on a Linux system. Again like the SBT no longer made or supported but a good unit in excellent condition can be had for about £20-£40 on eBay. I bought one in very good condition for £21. Then you need to put a little effort and read some help and get some advice like I did if need be to create a boot drive on a USB stick (at least 2 GB). Once you do this you then turn the Joggler off, put the drive in and turn it back on and let the drive rewrite the Logitech OS Software direct to the Joggler. When finished you reboot and turn on and you are then greeted with a standard SBT screen. You then need to copy and paste a line of code into an SSH session using software from your PC on to the Joggler, drop the copied code into the command line and let it work itself out which it does automatically and you then have a full 7-inch touch screen that will output from its USB socket full 192/24 bit Flac direct into a USB DAC.

The media server software you need is free to download from Logitech and you can get apps to control it for Android and Apple. It can be controlled

by a Logitech Controller which, if you want, you can again buy second-hand. I made it a little more stable by using a wired connection and it sounds fantastic. Music streaming that looks and sounds good using much of what you already have for less than £50 means that anyone who is prepared to work a little at it can try what everyone is talking about and see if it works for them. If you like it then buy another Joggler for the bedroom, kitchen wherever — they can all be linked.

regards

Andrew McBride

Hi Andrew. That's an interesting approach and great if you like spending time creating boot drives and what have you. But since a Cambridge NP30 network player now costs £200 there are easier options for those who haven't the time or inclination to get so involved.

NK

GET THE CHOP

Following on from Eric Nutton's letter in March 2014 issue I'd like to add that acrylic sheet in a wide range of sizes and thicknesses, even cut to size & polished, can be found for very little money on the web. Self-adhesive buffers can similarly be found and in combination with the acrylic an effective



Logitech's popular Squeezebox network player has been discontinued.

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*subject to status
**subject to conditions



Martin Logan Ethos loudspeaker.

isolation platform is very easy to DIY.

Another approach would be to use wooden "chopping boards" which are widely available on the High Street and the web. Add three oak cone feet or similar and you can create a very effective isolation device.

I favour bamboo boards as these are made from many strips of bamboo glued and compressed together which prevents them warping and with a bit of polish look far more expensive than the minimal cost involved. Small "butcher's blocks" is another idea.

These solutions may not impress purists but will leave some cash over for real essentials like more music!

Best Regards,

John Conway.

VALVES AND STATICS

I suppose this question is mostly for Noel. You once gave me advice regarding the World Design phonostage, and I ended up building it, and it is magnificent.

Since then I have changed speakers. I now have Martin Logan Vantage. I don't think they were ever tested by you, but they are very similar to the Ethos, apart from having a single bass driver loaded by a sort of transmission line instead of a passive radiator. They are still active with an Ice-power amp for the bass.

My current amplifier is a Vincent

SA-T1 tube preamp and a set of SP-T100 hybrid monoblocks. I am quite fond of these amps and they are a good match sonically for the Logans. If you remember from your old measurements (I believe it was Adam who reviewed them) it has a very stable distortion pattern with no crossover.

I can't help thinking, however, if it would be even better to go tube "all the way" as you so often recommend for Logans. Now, the easiest way to do this would obviously be to get, for example, an Icon Audio or one of the Danish Thorhauge tube amps (since I am Danish...).

Now, easy is not always the most fun. And since the World Design phonostage turned out so successfully – it has beaten everything I have tested it against – the idea of a WD KT88 has gotten itself stuck in my head. I am concerned, however, that the high-frequency impedance drop of the Logans would cause treble roll-off. Have you had a chance to test the WD-KT88 with 'stats, or do you remember its output impedance?

Best regards – and keep up the good work!

**Jesper Bevensee Jensen
Denmark**

Hi Jesper. I'm glad you are enjoying the World Design phono stage; I still use a World Audio Design KLPP1 phono stage equipped preamp and love it. But on to the electrostatic issue...

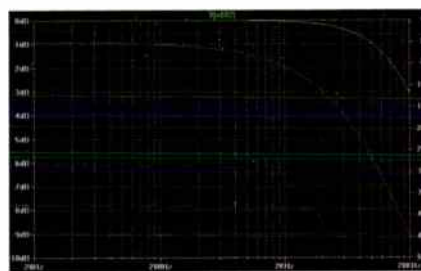
If you look closely at the Ethos impedance curve that we've printed large and in original form here, a screen shot from our Clio loudspeaker analyser, you can see impedance drops to just 1 Ohm at 20kHz, meaning the XStat panel presents a massive 8µF capacitive load – not something transistor amplifiers like at all! I do not recall WD KT88's output impedance but a valve amplifier like that will come in at 1 Ohm or so (a damping factor of 8). Look at our LTSpice analysis and you can see treble is -1dB at 6kHz and -3dB at 20kHz.

So the panel does roll down treble from a valve amplifier, that's a fact. I know the amount of roll-off sounds drastic but in real life there are other balancing factors to consider. The big XStat panel radiates a lot of high-frequency energy because it has a large active surface area and because it radiates backwards as well as forwards; this is no dome tweeter! As a result the amount of high treble can be quite

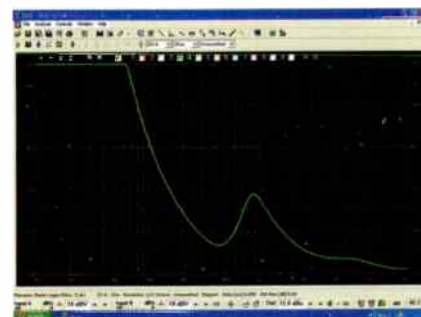
challenging, so a roll-off brings energy levels back into alignment with expectations rather than producing obvious warmth.

Another factor to consider is that high-frequency distortion from transistor amplifiers rises significantly into low loads and this phenomenon, together with high treble energy, makes for a gritty or harsh sound, especially from CD.

That's one reason why I say transistor amplifiers don't suit electrostatics. It is, however, a generalisation based upon my experience running Quad electrostatics, and Martin Logans in particular. Quad's new QMP monoblock power amplifiers do suit



LTSpice analysis of 1 Ohm valve amp feeding 8µF electrostatic load.



The impedance curve of Martin Logan's Ethos loudspeaker. Its electrostatic panel reaches just 1 Ohm at 20kHz.

Martin Logans and can withstand the 1 Ohm load without shutting down or blowing up!

So, to summarise, treble will be less assertive, but I run Martin Logan Electromotions from a WAD 300B valve amplifier (and Quad II-eightys) and they're fine.

Technically, however, treble does roll down when a high impedance source feeds electrostatics. Whether this is acceptable to you will depend upon your tastes and even your room acoustics, and how much treble the walls are reflecting back at you.

Always best to try it and see first: I suggest you borrow a valve amplifier if possible to listen for yourself. **NK**

Doubled up

Hi-FiMAN'S latest digital portable player has great potential with its double DAC configuration — but Noel Keywood says there's more work needed if it is to live up to its promise.

Unpacking the HiFiMAN HM-901 portable digital player I spotted a mains charger — unheard of with portables. Lifting out the player made me aware of its size and weight: it is big and heavy compared to my Astell&Kern AK120 high resolution portable. Overweight? Perhaps. A giant of portables? Also perhaps. Its weight and bulk looked purposeful to me, all the same.

Those were first impressions. After reading the manual that fell out of the box at the same time, I was even more impressed: this is one specialist player. Let me get straight to the nitty gritty: the HiFiMAN HM-901 uses one of the most advanced

and expensive DACs on the market today, the ESS Sabre ES9018 — two of them in fact.

Unfortunately, the HM-901 did not live up to its promise. Our review sample was unstable with its 1.082 firmware as delivered. And performance was 'disappointing', shall I say — more of which later.

The Sabre DAC chip, usually one of a pair, is used on premium CD/SACD players that cost in excess of £1000, and commonly £5000 or so. Which puts the HiFiMAN's £650 asking price into perspective. But it uses two of them, each running eight channels in parallel — madness for a portable player!

There are drawbacks to this approach: high-end DAC chips like the 9018 are wretchedly expensive, and they are not designed to be battery driven: they chew current, making a big battery essential — and this the HM-901 has, hence its weight. As the battery delivers +/-7.5V out, it couldn't be charged by a 5V USB supply, hence the need for a special charger with +/-8.4V (constant current) outputs.

Overcoming my initial shock at the extremeness of this, and also a certain initial reverential awe, my reading of the manual produced more surprise. How much memory does it have on-board — none!

Er — none? But every portable player has memory because that's what you need to store music. HiFiMAN play it differently. All music is held on an SD card that's plugged into a single slot. As this is a full size SD card, not a Micro SD as used by everyone else, maximum capacity is a massive 128GBs, or so HiFiMAN claim. A quick scan of the 'net reveals a common maximum capacity of 64GB, so where my AK120 has 96GBs on-board (3x32GB) the HM-901 manages only two-thirds that.

It isn't the end of the world but since a hi-res track will be at least 200MB and an album 1GB you can get a rough idea of capacity. However, I suspect most people will be loading a mixture of resolutions, including a lot of ripped CDs, in which case it will hold perhaps a few hundred albums or around a thousand songs.

Just how big is the HM-901? Our ruler made it 115mm high, 70mm wide and 29mm deep. On our scales it weighed a hefty 257mm against the 141gms of an Astell&Kern AK100. That makes it pocketable — but only just. Much of the weight comes from its large, removable lithium-ion rechargeable battery that is accessed by sliding off a rear cover. Playing time is quoted as 8 hours, about half that of rivals.

Compatible music files are WAV, FLAC and ALAC with 24-bit resolution, and AIFC, AAC, MP3 and APE at 16-bit resolution. HiFiMAN don't mention sample rate but our '901 played 192kHz files from the SD card and 96kHz maximum through its digital input when working as a DAC — it would not accept 176.4kHz or 192kHz sample rates as a DAC (firmware 1.082). The ES9018 DAC works up to 192kHz sample rate, so this limitation lies elsewhere.

The headphone output can be switched between Normal and Balanced working but since headphones are by their nature a balanced load the purpose of this isn't obvious to me. I noticed it affected grounding when the headphone output was connected to a grounded load such as an amplifier so it appears to break the earth link when selected, to avoid hum loops and instability when the player is used as a DAC and its input is also grounded.

A slide switch provides Low Gain and High Gain options, but





The left side has a Normal and Balanced slide switch to cope with headphones or a hi-fi, plus a chunky SD card slot. At top sits the main jog wheel, with central Select button.

both give relatively high output from the headphone socket, 1.6V and 2.5V respectively. This is similar to that from a CD player (2V) and high enough to drive even the most insensitive headphones to very high volume or to drive a hi-fi amplifier.

There's an on/off slide switch and a peculiar HD/Vintage slide switch, the Vintage option rolling off high treble to give a warm sound, our measurements showed. Volume is controlled by a large and difficult to use roller at the top of the player. The slide switches were fiddly too – this isn't the easiest player to operate.

A vertical row of four buttons at left select Home menu, Play/Pause, Forward and Reverse. A return button at right steps back on the Menu tree.

Pushing the On button up for a few seconds fires up the player, loading a horizontal menu list that runs from Favourites at left on the screen through SD Card contents, Artist, Album, All Songs and Setting(s). Each menu is selected by turning the jog wheel forward or back to place a rolling wheel screen image over it, then pressing a select button – a peculiar and awkward way of doing things. The screen is reasonably sharp, but dull and the lettering small.

'Setting' offers a range of on-screen options: Repeat (one, all or off), Shuffle (on/off), Backlight (always on or 10 seconds to 2 minutes on), Sleep mode (always on or 5 minutes to one hour shut-off), Brightness, Cue support (on/off), Language, S/PDIF input (DAC mode), Updating database and Reset settings. A small battery indicator sits at top right on the display panel and gives quite good resolution. This is not a touch screen; all commands are made through the jog wheel and the buttons. There are no equalisation options or graphic equaliser, nor gapless play.

The base of the player carries a 24-pin socket that mates either with a battery charger or with two supplied leads (or an optional dock). One, terminated with a USB A plug, links the player to a computer where it shows up as mass storage when the 901 is switched on, so music files can be loaded. The other has left and right analogue audio outputs, terminated by white and red phono plugs respectively, plus an S/PDIF digital input terminated by a black phono plug that would, typically, go into the digital output of a CD player when the player is used as an external DAC. The analogue outputs are fixed Line level (2.5V), unaffected by the volume control, and meant for connection to a hi-fi amplifier. Our measurements showed the Line output gave slightly better performance than the headphone output – more details in MEASURED PERFORMANCE.

There's no digital output socket on the player body for hookup to an external DAC but the multi-pin output has 'Coax out' the instructions say, so S/PDIF out may be available with a suitable lead, but this would have to come from HIFIMAN because of the unusual 24-pin connector used.

Our player's early 1.082 firmware crashed after a few minutes use and stayed that way, preventing any further playback from its SD card memory — but the player continued to work as a DAC. HiFiMAN acknowledge this problem on the Head-Fi forum (but not their website!) and offer a firmware update to 1.084 to fix it, as well as a range of other issues. However, one of the other issues it fixes is inability to firmware update and as luck would have it, our player would not update! HiFiMAN are aware of this and offer a solution, or if this doesn't work say e-mail customer support or call the factory in China.

We e-mailed them, got a prompt reply and finally got the player to accept 1.084 firmware by playing a single track before the update process with shuffle and repeat

off. Perhaps our player locked irredeemably because repeat had been used with measurement test tracks – it's difficult to know. With 1.084 installed the HM-901 was stable and worked properly but DAC mode had stopped working!

The player doesn't make the most of its Sabre DACs. They are spec'd to give 128dB dynamic range and we've measured up to 122dB from them on the Audiolab M-DAC, but the '901 gave just 104dB at best (line output) due to the presence of distortion and noise.

Some complex electrical problems afflicted this player I found. The headphone output must see around 300 Ohms to work reasonably well, which many headphones provide. However, it doesn't like 40 Ohms, which is also reasonably common, distortion rising to 0.5% or more. There was a lot of d.c. (250mV) on the headphone output with high loads, but not with low loads, so there's no d.c. servo it would appear. The line output is derived from a very high impedance source, so output depends much upon load. However, performance from line was good if still only CD quality.

SOUND QUALITY

In use a range of unwanted effects made themselves obvious. When buttons were pressed or a track started/stopped the



player produced popping and spitting noises over the headphones. The volume control was noisy throughout its entire range, a sign of d.c. on the track, a silly design mistake.

The biggest and strangest problem though was headphone compatibility. Most headphones worked reasonably well, but my Philips Fidelio X1s did not. Through these, ripping distortion was obvious with high-resolution tracks in particular. I'm talking about many percent distortion here, and indeed the player did produce over 1%

An HD / Vintage switch alters tonal balance, and Low / High gain alters volume.



(((AE)))

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distortion under measurement, at half volume feeding a 40 Ohm load, which the Fidelios are. These headphones work fine on all other players, including my Astell&Kern AKI20 reference player, so the HM-901 is unpredictably load sensitive and in its current state not really suitable for open market sale.

With my portable Jay V-Jays the HM-901 sounded good very much in the manner I've come to expect from the Sabre ES9018. It has a smooth, almost mellow but full-bodied sound, rich in timbral detail. The ESS Sabre DACs are very 'non-digital' in their sound; I use one almost daily in an Audiolab M-DAC and it is sonically superb.

Potentially, I felt the HM-901 was one of the best players I have heard, but with wiriness in the violins of the Trondheim Soloists playing 'Divertimenti' (24/192) and the same roughness of treble apparent even in the Eagle's 'Somebody' (16/44.1), even on the V-Jays — a sign of distortion — the HM-901 obviously wasn't working properly. Its potential was subverted by its problems.

Connecting up the Line output to my WAD valve amplifier through at KLPP1 preamp, and thence to Martin Logan Electromotion hybrid electrostatic loudspeakers, the HM-901 produced a better result all round and really started to fly. But as it didn't work properly as a headphone portable I'm not sure this is consequential. And because the Line output comes from the same multi-pin connector that the charger uses, the player cannot work from its charger when driving the hi-fi, as it needs to.

Worse, when plugged into the charger, the headphone output becomes noisy so it cannot be used with a charger in this mode of operation either.

And finally, firmware upgrade to 1.084 caused the DAC function to stop working and we await a reply on this from HiFiMAN.

CONCLUSION

Normally, when a product is not fit for sale we drop it from the magazine in favour of something that works properly and has practical

value. However, the HM-901 is a new high-resolution player whose use of two ESS Sabre DACs understandably attracts interest, as it did with us.

Unfortunately, whilst it has

potential, HiFiMAN have more work to do with this player, both on its firmware and its headphone amplifier, to deliver an acceptable level of performance that matches current

standards. As it stands it doesn't match the performance of most of its competitors.

Whether they'll ever get two Sabres working to their full potential in such a small player I somehow doubt — the HM-901 seems overly ambitious to me, as well as inadequately engineered. But if HiFiMAN do get the HM-901 working properly then it will be one dynamite portable player.

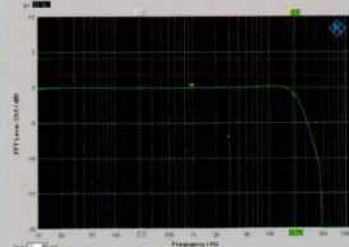


The circle rolls horizontally when the player's jog wheel is turned, to select a drop-down menu.

MEASURED PERFORMANCE

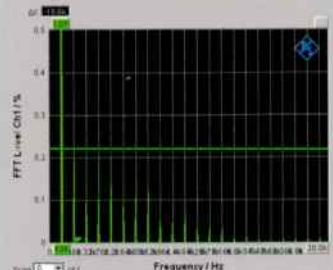
The HM-901 plays files up to 192kHz sample rate from SD card. However, it down-samples 192kHz to 96kHz and analogue bandwidth at the headphone socket was 21.7kHz in HD mode, our analysis shows. This is much like CD, so there's little benefit here, although the filtering was slower than CD. Switched to Vintage, response rolled down above

FREQUENCY RESPONSE



DISTORTION

| THD | Line Out | Frequency |
|----------|----------|-----------|
| 0.6246 % | 1.7442 V | 440.42 Hz |
| OFF | OFF | OFF |



8kHz, to soften the sound.

Output from the headphone socket was a high 1.6V when switched to Low Gain, rising to 2.5V when switched to High Gain, so there's plenty of drive here for headphones and a hi-fi. However, the headphone output amplifier has problems: it is load sensitive and clips asymmetrically with a low load (40 Ohms). It has no d.c. offset with this load value but it has 200mV or so with a 300 Ohm load, so there's no effective d.c. servo. Distortion was very high at 0.5% to 1%. Switched to High Output distortion reached a massive 3% into a 40 Ohm load.

EIAJ Dynamic Range was a mediocre 99dB at high sample rates and 102dB with low sample rates, effectively a 16-bit performance with a 24-bit signal. Sabre DACs are spec'd at over 124dB dynamic range by ESS and we have measured 122dB from the Audiolab M-DAC. Wolfson DACs also manage 115dB or so in portable players from FiiO and Astell&Kern our measurements show, so the HM-901 isn't getting the best from its DACs, nor is it competitive with rival players.

The Line output, available through a cable inserted into the multi-pin connector, gave a fixed 2.5V (1.084 firmware) unaffected by the volume control or Gain

switch. EIAJ Dynamic Range was a little higher than that from the headphone socket, measuring 104dB at 48kHz sample rate. Distortion was lower too, measuring 0.3% at -60dB, with a 24-bit digital signal, still a relatively poor result. Frequency response again reached 21.7kHz with high sample rates. When this output is used with the lead supplied the player cannot run from its charger.

Run as a DAC (1.082 firmware only) the digital S/PDIF input accepted up to 96kHz sample rate and results from both the headphone and line outputs were identical to that when reading from internal SD card memory. Both 176.4kHz and 192kHz sample rates were not accepted. Firmware upgrade to 1.084 stopped the player working as a DAC though.

The HM-901 has technical problems that limit its performance. It isn't fit for purpose as a high fidelity player in current form, measurement shows. NK

Frequency response (-1dB)

| | |
|-------------------|-------------|
| CD | 4Hz-21.7kHz |
| Distortion (%) | (24 bit) |
| 0dB | 0.5-3 |
| -60dB | 0.5 |
| Separation (1kHz) | 87dB |
| Noise (IEC A) | -98dB |
| Dynamic range | 99dB |
| Output | 2.5V max |

HiFiMAN HM-901



POOR - flawed

VERDICT

An eye popping specification wasn't met in real life, due to a range of significant problems. If HiFiMAN eradicate them, the HM-901 could be a great player.

FOR

- high quality DACs
- high volume

AGAINST

- distortion
- unworking DAC mode
- small, dull screen
- few facilities

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Enormous versatility and everyman pricing mark out Advance Acoustics' entry-level X-i60 amplifier. Martin Pipe checks its many abilities.

The X-i60 is the entry-level amplifier of French company Advance Acoustics' range. It may have been developed in France, but manufacture has been outsourced to Chinese factories.

The X-i60 measures a 'standard' 430mm width. A wide range of inputs is supported, and among them are various digital options and a phono stage. No Bluetooth, though, unless you pay £100 for an optional 'dongle' that derives power from a dedicated rear-panel jack and pours audio directly into one of the X-i60's auxiliary inputs. The phono sockets in question actually hold the dongle in position. Clever!

A microprocessor lurks inside the X-i60. What looks like a plain volume knob on the glossily-finished front panel is actually the shaft-encoding input-device of the X-i60's control system. Advance Acoustics call it a 'multi-function' control - and quite rightly so; it will also adjust treble/bass/loudness-compensation, bypass/defeat the latter adjustments,

select inputs or change stereo balance.

To switch between volume and these other adjustments, the white-backlit knob is pressed. Above the control is a bright blue three-digit LED display that indicates the selected function or volume level. Other front-panel indicators confirm the selected input. There's also a 6.3mm headphone socket. Make no mistake, the X-i60 looks far more expensive than its £400 asking price suggests.

In 1980, remote control was something you'd find only on high-end colour TV sets (or the more upmarket of the era's new-fangled video cassette recorders). In 2014, we take it for granted - as Advance Acoustics obviously realises. The X-i60's handset, like the

ones that accompanied the VCRs of yesteryear, is packed with buttons. In addition to adjusting volume levels, you'll find buttons that enable you to 'short-cut' to various functions - including input selection, tone/defeat and playback functions if you're using an Advance Acoustic CD player.

Turn to the rear panel, and it becomes evident just how versatile the X-i60 is. You get no fewer than seven line-level inputs, a MM phono input, a fixed-level output for recorders and jumpered links between the pre-amp and power-amp sections. The latter allow you to, for example, use a beefier power amp or feed the power amp directly from a source component with adjustable output level. You even get a switch that changes the operating characteristics of the power amp. The X-i60's switch, marked 'high bias', is claimed to configure the power amps





Rear panel carries USB A and B digital connectors, as well as S/PDIF digital inputs, and even pre/power bridging links. There's a High Bias slide switch too.

so they work in Class-A mode at outputs of 10 watts or less. I used it in the default 'on' setting.

Of the two USB ports, one plugs into a PC enabling you to use the X-i60 as a 'virtual soundcard'. The second accepts music stored on USB storage devices (including MP3 players). Both use their own silicon, with dedicated DACs - neither of which can deal with resolutions higher than 16-bits or sampling rates higher than 48kHz. However, there's a third DAC. This is intended to work with one of the three conventional digital inputs (two coaxial, one optical) and goes all the way to 24-bit/192kHz.

The X-i60 can deliver 60 watts per channel into 8 Ohm loads. Take a closer look at the neatly laid-out interior, and you'll see that some of the manufacturing is a little sloppy with uneven soldering and component insertion. At the price, this is understandable. Good quality components - such as a large and heavy toroidal-core mains transformer - have however been specified. The final-stage transistors are modern Toshiba devices, working in push-pull.

Compared to many modern amps, the X-i60 is quite intimidating to use at first - certainly if you're using the front-panel controls. The information that can be shown on a 3-digit LED is, after all, quite limited. This also affects the selection of USB music; remember that upmarket amp/DACs give you a nice big screen or smartphone app to select music. Insert a USB storage device into the rear panel (shame it's not on the front!) and upon selecting the appropriate input - called 'USA', to distinguish it from the PC port 'USB' - the X-i60 simply plays all songs as it finds them.

All you can do is skip a track or replay the previous one. Oh, and only MP3 tracks are compatible here. Still, it's a handy function for continuous

background music - parties and so on. For more sophisticated playback and versatile codec support, hook up your PC and select the 'USB' input (not 'PC2', which is one of the analogue phono pairs). The USB DAC, which is based around a Burr Brown PCM2900E chip, was immediately recognised by Windows Vista's audio control panel as a 'USB Audio CODEC'. I set it as the default, and was immediately able to play tracks stored on the PC using software like Windows Media Player and VLC.

SOUND QUALITY

Let's get the bad stuff out of the way first. The USB file-playback function (i.e. 'USA') is not only awkward to use in terms of track selection (as you're working blind) but sound

noisy too. A very cheap PC sound card delivers similar results. I've never heard of the chip that performs this function (according to Advance Acoustics, it's an 'A165174') and based on these experiences I doubt we'll hear of it again! Its employment should be retained for uncritical background-music applications only.

Fortunately, the PC input (aka 'USB') is much better. Although you're still stuck with CD-resolution audio - which admittedly accounts for the vast majority of non-analogue recordings - there's a lot more musical finesse on offer here. As the quirky 21st-century easy-listening of *You Used To Call Me Sadness*, from Stereolab's EP collection *Oscillons* from the *Anti-Sun* (CD), poured from my speakers the brass arrangements



Internally, the X-i60 houses a mass of modern electronic circuits to cope with all its many processing options. This is one complex amplifier.

quality is, as conveyed by my Acoustic Energy AE109s, at best mediocre. It robs the music of its character, plodding away in an uninspired manner bereft of focus and involvement. And playback is fairly

were delivered with bite although the vocals sounded a little withdrawn. A good overall sketch of the music was however obtained; the overall effect isn't dissimilar to what you can expect from the analogue outputs of



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a budget branded Blu-ray player fed with CDs.

This was a lossless CD rip, played in VLC. At the same time, I played the original disc on a Sony transport connected to the X-i60 via an optical link. The better-quality DAC used here yielded improved bass definition, tightened up the track's shifting rhythms and opened up the vocals. We've now gone up to decent Blu-ray player territory, in subjective listening terms!

I then hooked a Chord DAC64 between the Sony transport and one of the X-i60's auxiliary inputs. This allowed me to explore more fully the music, demonstrating that certainly as an amplifier the X-i60 is actually pretty good. The Stereolab track's bassline was for example not only better-defined, but it sounded fuller too.

A recording of Holst's Planet Suite (Colin Davis/LSO, LSO Live, CD) played using this approach was thrilling, with superb dynamics and a realistic soundstage. Compared to the Roksan K2 BT, though, I found high-end a tad more recessed - although the lower octaves of a random dance and rock music

selection the K2 got on so well with are also described here with weight and conviction. For what is a budget amp, that is surprising; bass is usually the first thing to suffer (usually due to lightweight power-supply arrangements).

The tone controls could be switched in and the treble advanced, but doing so tended to subtly-curtail the finest details. Still, it is good that Advance Acoustics has at least given us a choice when it comes to such adjustments. OK, we've established that performance from digital sources depends on which input you're using - and that so far the best potential lies in the line-level analogue inputs. But what about the phono stage? Suitable for higher-output MM cartridges, it's a simple design based around the ubiquitous NE5532 op-amp and thus similar to those built into some AV receivers. And predictably, results are similar.

Played on my Linn LP12/Basik/Ortofon 540Mk II, I found that although the live Tangerine Dream album Ricochet was textured, rhythmically-precise and precisely-delineated in imaging terms (it's a headphone joy!), other material

- such as Hurdy Gurdy Glissando (from Steve Hillage's L) - could sound rather congested in places. A spin of Eurythmics' Touch proved to be rather interesting; gone was the excessive brightness I remember from this LP. The pulsating sequenced electronic percussion and synths of closing track Paint A Rumour are given the pacing they deserves, as are the emotion and range of Annie Lennox's voice.

CONCLUSION

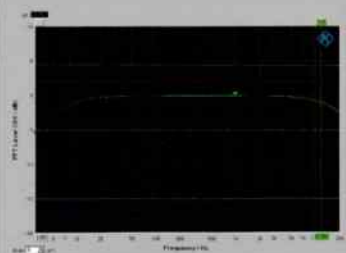
The X-i60 tries to push beyond the constraints of a low budget, and so it's not surprising that flaws are occasionally audible. The 'USA' DAC is a low-fi (OK, 'mid-fi') disappointment, although at the other ends of its digital capability the conventional DAC gives a good account of itself. And although the internal phono preamp lacks the performance of a dedicated unit, it's certainly an excellent introduction to the joys of vinyl.

The X-i60 is at its core a very credible modern amplifier packed with ability. It isn't perfect but it's low price reflects that. This is a very good budget product I feel.

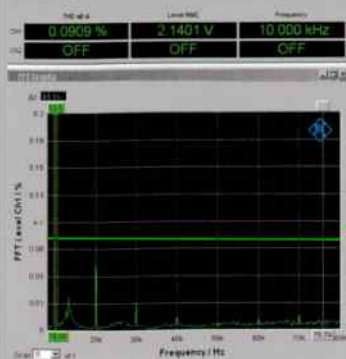
MEASURED PERFORMANCE

Power output measured 72 Watts into 8 Ohms and 100 Watts into 4 Ohms, so the X-i60 will drive most loudspeakers loud. With a low damping factor of 14 bass will be a little more obvious than most

FREQUENCY RESPONSE



DISTORTION



amps, except Naims, and this may well give the Advance some subjective 'heft' to its sound.

Distortion levels were low at all frequencies, powers and into 4 and 8 Ohm loads, except at full power, 10kHz, into 4 Ohms - a stressful test - where distortion measured 0.2%.

Switching to high bias reduced higher order crossover components at low signal levels, as expected, but overall distortion values changed little. This isn't so bad, because distortion was primarily low-order second and third harmonics, and they are not subjectively unsettling. The only fly in the ointment was obvious low level noise, either from a switch-mode power supply, or the digital circuits; the X-i60 was a tad noisy, but this is not noise you hear so much as subliminal stain.

Bandwidth was strongly limited at both ends of the frequency spectrum, via the CD input, an unusual result. With treble -1dB down at 12kHz the X-i60 will sound warm. Subsonics were curtailed too. The Phono input (LP) displayed this, plus a little bass roll off, so it will sound a tad lean but warm. Phono sensitivity was very low at 9mV, so only high output MM cartridges can be used.

The S/PDIF digital input accepted 192kHz sample rate PCM (and below), but frequency response was limited to just 6kHz (-1dB), a very low value that will give an obviously warm sound lacking detail. Noise and distortion were high, measuring 0.7% at -60dB and this resulted in a poor 91dB EIAJ Dynamic Range value. The digital input is poor by current standards.

The X-i60 will have a warm sound, due to its rolled off treble. It otherwise works well in most areas, albeit with quite obvious limitations; budget DACs can manage better than its S/PDIF digital input. **NK**

| | |
|---------------------------|------------------|
| Power | 72 Watts |
| CD/tuner/aux. | |
| Frequency response | 9Hz-12kHz |
| Separation | 82dB |
| Noise | -85dB |
| Distortion | 0.1% |
| Sensitivity | 500mV |
| Disc (MM) | |
| Frequency response | Hz-kHz |
| Separation | 61dB |
| Noise | dB |
| Distortion | 0.12% |
| Sensitivity | 9mV |
| Overload | 53mV |

X-i60 INTEGRATED AMPLIFIER ADVANCE ACOUSTICS £400



GOOD - worth auditioning

VALUE - keenly priced

VERDICT
It may not be perfect, but the X-i60 is a good amplifier for the money. Those with limited funds could do far, far worse!

FOR
- incredible value for money
- multiple inputs
- surprisingly-muscular

AGAINST
- USB OAC lacklustre
- user interface intimidating at first
- veiled highs from some sources

Advance Acoustics
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www.advance-acoustic.com
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WORLD STANDARDS

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

TURNTABLES

FUNK FIRM LITTLE SUPERDECK

2013 £110

Funk's entry-level turntable offers excellent value. Superb speed stability and an appealing sonic performance make it a true bargain.



AVID INGENUUM 2013 £800

Great bass response and upper midrange detail allied to clarity and a fleet-footed delivery makes this a must-hear at its price-point.

INSPIRE MONARCH 2012 £3,970

A startlingly musical performer with blistering speed and dynamics allied with smoothness, sophistication and purity of tone..



PRO-JECT 2 XPERIENCE BASIC+ 2012 £600

Seriously confident, assured and capable vinyl spinner. More than capable of getting the best out of your record collection.

ROKSAN RADIUS 5.2 2011 £1,450

Although getting expensive, the latest Radius is a highly grown up package with a flowing yet engaging nature; a fine package.

ACOUSTIC SIGNATURE STORM 2011 £3,612

An excellent high end design with a smooth, solid, open and lyrical sound and razor sharp styling and build.

FLETCHER AUDIO OMEGA .5 2010 £3,699

Charming high end turntable that's a fitting testament to the late Tom Fletcher.

PALMER 3 2010 £3,750

Eccentric hand built high end turntable with a pleasingly smooth, sweet and lucid sound.

E.A.T. FORTE S EVO 12 2010 £4,750

Excellent premium price turntable with power, precision and passion aplenty, but relaxed and easy going by nature too. Great value package with the Pro-ject Evo 12" arm option.

DR FEICKERT WOODPECKER 2010 £3,445

Elegant deck with great low frequency solidity, coherent soundstaging and a precise midband.

AVID DIVA II SP 2010 £2,599

New twin belt drive and power supply make this a more commanding performer although there's a substantial price hike. Speed, dynamics and detail are hard to beat anywhere near the price.

NOTTINGHAM ANALOGUE HYPERSPACE 2010 £2,390

Deliciously spacious, lyrical and beguiling sounding turntable, but lacks ultimate grip.



LINN LP12SE 2010 £3,600

Surely hi-fi's most iconic turntable, the legendary Sondek goes from strength to strength. New Keel subchassis and Radikal DC motor add precision and grip to one of the world's most musical disc spinners. Expensive, though.

INSPIRE ECLIPSE SEV2 12 2010 £2,349

Finely engineered, smooth and detailed sounding deck offering valuable twelve inch tonearm compatibility.

REGA RP1 2010 £225

Pleasing sound, fine build and ease of set-up and use make this a great first 'real' hi-fi turntable.

BRINKMANN BARDO 2010 £5,845

Unique high end direct drive turntable with amazing grip and focus, albeit not the most romantic of natures.

TONEARMS

ORIGIN LIVE ENCOUNTER MK3C 2012 £1,745

Origin Live combines carbon fibre and ebony to marvellous effect in its new 12-inch arm. Creamy and rich in presentation, the Encounter delved deep into the mix for a satisfying listen.



REGA RB202 2012 £198

Replacement for the venerable and much-loved RB251. Three-point mount design serves up a taut and detailed sound.

HADCOCK GH-242 EXPORT 2010 £793

Consummately musical, lyrical sounding tonearm, but needs the right turntable. Excellent value.

FUNK FIRM FXR II 2010 £1,175

Clever reworking of the ubiquitous Rega platform, the FXR II gives a wonderfully musical, almost unipivot like performance.

ORIGIN LIVE ONYX 2011 £450

Easy, smooth, creamy nature that reminds you why you're listening to vinyl in the first place. Essential audition at the price.

SME 312S 2010 £1,750

Twelve inch magnesium alloy armtube plus SME V bearings makes an impressive transcription tool with an insightful yet composed sound. Superlative build completes the age.



ORIGIN LIVE SILVER 3C 2010 £599

Excellent mid-price tonearm with a clean and open yet lyrical sound.

AUDIO TECHNICA AT-F3/III 2010 £189

Great value entry level moving coil with detail and grip you just can't get from similarly priced moving magnets.

PHONOSTAGES

PRO-JECT TUBE BOX DS 2013 £425

Compact MM and MC phonostrage with valve output circuit and a big sound.



IFI IPHONO 2013 £350

Multi EQ phono stage from British manufacturer that punches well above its weight. Substantial bass and open midband.

TIMESTEP T-01 MC 2013 £995

New, minimalist phono stage that sonically punches well above its weight.

LEEMA ACOUSTICS ELEMENTS ULTRA 2012 £1,199
Smooth and detailed sound with the ability to accommodate most modern cartridges. Exceptional value for money.

WHEST AUDIO PS.30SE 2011 £4,500
Amazing incision and grip, the Whest manages to eke out information from low-level phono signals to an almost microscopic level.

CARTRIDGES

REGA CARBON 2013 £35
Budget price for a competent and musically coherent-sounding cartridge with a fairly unflappable nature.

ORTOFON 2M 78 2013 £80
Well thought-out mono, standard groove version of respected @M series of cartridges. Detailed sound with low surface noise.



BENZ MICRO ACE SL 2012 £595
Smooth, lucid and full-bodied, award-winning, hand-made cartridge from Switzerland.

VAN DEN HUL OOT-II SPECIAL 2011 £995
Long-established cartridge from Holland with an open and dynamic sound.

BENZ MICRO WOOD SL 2010 £945
Highly finished Swiss moving coil that plays music with riflebolt precision.



ORTOFON CAOENZA BRONZE 2010 £1,350
Smooth and engaging high end MC with a slightly warmer and more relaxed presentation than its superb bigger brother.

ORTOFON CAOENZA BLACK 2010 £1,650
Ultra incisive, transparent and dimensional moving coil with grip and punch aplenty.

ORTOFON CAOENZA BLUE 2009 £1,000
Musical, out of the box sound, allied to real finesse, makes this a great do-it-all high end moving coil.

PREAMPLIFIERS

MING OA M07-SE 2012 £1,520
A valve preamplifier with an open, effortless sound and a big soundstage. It has plenty of gain so will accept any source and drive any power amp. A real beauty.



ICON AUDIO LA-4 2011 £800
Uses early 6SN7 triodes for liquid sound. Has plenty of gain and a remote control into the bargain.

OPA CA-1 2010 £2,650
Excellent solid-state preamp with a meticulously detailed and propulsive sound, but a deep velvety tonality.

MF AUDIO CLASSIC SILVER 2010 £4,500
One of the best preamplifiers we've heard any price, this transformer-coupled marvel does very little wrong. It's powerful, clean and open yet delicate. Its sound is unmatched at or near the price.

INTEGRATED AMPLIFIERS

ICON AUDIO STEREO MKIIIM 2013 £1,500
Excellent starter tube integrated with plenty of detail and an expansive soundstage. Revised 2013 model features easy bias meter for even easier set-up.



ARIANO PRO845SE 2013 £1499
Pure single-ended valve magic. Low-powered but immediately gorgeous, easy-going yet forcefully dynamic at the same time. At twice the price it would still warrant the entrance fee.



CAMBRIDGE AUDIO AZUR 651A 2012 £450
Dual-mono construction and meaty toroidal power supply combine to produce a rich, mature sound that produces sonics far beyond its price point.

NAIM NAIT 55I 2013 £925
Naim's fabled entry-level integrated amplifier is updated to its status. Retains Naim's superb musicality with an extended bandwidth and smoothness.

PRIMALUNA PROLOGUE 2013 £2,349
Fabulous pure, organic, liquid sound from this 40 Watts per channel valve amplifier. Slightly light bass is the only drawback.

CANOR TP-134 2013 £2,495
Great build quality sonics makes for hassle-free, sophisticated valve amplification. One of the great bargains in audio.



NUFORCE IA-18 2013 £2,899
Class D amp from undoubted experts in the field with bags of detail, clean sound and fantastic imaging.

CREEK EVOLUTION 50A 2013 £750
Flexible, friendly design marked by transparency and dynamism. Sets new value-for-money standard.

BURMESTER 032 2012 £11,500
Undeniably expensive - but if you treasure a large yet subtle presentation with plenty of air and space around the performers then the Burmester will provide. Also built to last a lifetime.

ICON AUDIO LA-4 MKII 2012 £1,100
Vintage 6SN7 valves provide liquid sound with plenty of gain. Comes with remote control for added convenience.

EXPOSURE 1010 2012 £425
Entry-level integrated from Exposure has excellent upper mid-performance with an almost valve-like sound.

CAMBRIDGE AUDIO A851 A 2012 £1,199
Feature-packed amplifier that turns in a mightily accomplished performance offering power allied to superb levels of finesse and detail.

OENSEN B-175 2012 £5,500
Stylish, minimalist-designed amplifier which offers a combination of low frequency power and higher frequency finesse.



VTL IT-85 2012 £5,100
Valve-encrusted integrated with a surprisingly strong bass kick and a sense of passion and emotion that drags you into the music.

CYRUS 8A 2011 £1,250
Trademark shoebox-sized Cyrus integrated now offering 70Watts per channel. Majors on insight and clarity without sacrificing an ounce of musicality.

QUAO II CLASSIC 2010 £4,500
Beautiful retro styled integrated amplifier with a subtle, supple sound - although needs matching to speakers that are easy loads.

SIM AUDIO MOON 600I 2010 £5,750
Sturdy build, useful facilities and a wonderfully relaxed, seamless and even-handed sound will win this many friends.

MUSICAL FIDELITY AMS35I 2010 £5,999
One of the best high end integrations we've come across, this combines hear-through transparency with musical get-up-and-go.

OPA CA-1 2010 £2,650
Stylish, minimalist-designed amplifier offers a combination of low frequency power and higher frequency finesse.

OARTZEEL CTH-8550 2010 £16,500
Charismatic and quirky high-end solid-state integrated amplifier with superb sound and a charming visage.



POWER AMPLIFIERS

AUDIO RESEARCH VS175 2013 £7,498
Powerful, fast valve sound that makes everything else look weak at times. Needs careful matching but well worth the effort.

ICON AUDIO MB845 MKIIM 2013 £5,999
Offering 120Watts from big 845 valves the Icon Audio offers power right down to low frequencies providing massive dynamics and bass swing yet always remaining easy on the ear.

QUAD ELITE QMP MONOBLOCKS 2013 £1,195 (EACH)

The proverbial iron fist in a velvet glove. Plenty of power but delivered with an assured and confident nature. Smooth on top and easy on the ear but can rock out when needed.



TELLURIUM Q IRIDIUM 2012 £4,800
Single-ended Class A solid-state with a beautifully smooth, transparent and three-dimensional sound. All the refinement of a good valve designer but with a tighter and firmer lower end.



QUAD PLATINUM STEREO 2013 £2,495
The best solid-state amplifier yet from Quad. Combines power, poise and control with superb authority.

CHORD SPM 1200 MKII 2013 £8,200
Stunning looking amplifier with masses of grunt and a clean, detailed delivery that combines power with precision.

MUSICAL FIDELITY AMSS0 2010 £7,000
Mighty, assured high end full Class A integrated proffering icy clarity allied to real musicality. Lacks the lucidity of the best tube amps but redeems with power and punch.

XTZ AP-100 2010 £520
Decently smooth yet usefully muscular, this power amp punches way beyond its price point in sonic and value terms.



ICON AUDIO MB845 MKII 2010 £5,500
With 120W from big 845 valves right down to low frequencies, this power amplifier has massive dynamics and bass swing, yet is easy on the ear.

AUDIO RESEARCH VS115 2012 £5000
Oodles of power with enormous punch. Rafael Todes found the Audio Research provided "shock and awe" while retaining incredible smoothness and texture.



LOUDSPEAKER FLOORSTANDER

QUADRAL PLATINUM M50 2013 £3,150
A superbly engineered loudspeaker combining low end authority with midband detail and a clean spacious treble. Very few to touch it at the price.



QUAD ESL-2812 2013 £6,500
The latest incarnation of Quad's classic design is better than ever. Brilliantly open and natural with a cohesive quality that puts conventional box loudspeakers in the shade.

TANNOY PRECISION 6.4 2013 £2,399
Clear, forward sound with great projection. Need little power to go loud and have superb fit and finish into the bargain.



SPENDOR SP100 R2 2013 £6,495
Retro looks but a sound that's hard to match. Spendor's 12" bass unit provides massive of low-end grunt with a room-filling sound.

QUADRAL ORKAN VIII AKTIVS 2013 £6,200
Active loudspeaker with tight, powerful bass, perfect accuracy and detailed treble from a ribbon tweeter.

CABASSE PACIFIC 3 SA 2013 £11,500
Superb speaker which resolves a vast amount of detail. Needs top quality source to be at its best.

SONUS FABER VENERE 2.5 2013 £1,198
Great bass, superbly neutral midband and musical authority to spare make this a great introduction to the Italian maker's range.



WHARFEDAILE AIREDALE CLASSIC 2013 £24,995
Classic name and styling allied to 21st century cabinetry, crossover and drivers to produce a class-leading loudspeaker. Just make sure you have the room!

AURUM WOTAN VIII 2012 £2400
A supremely well-balanced loudspeaker. Clean and detailed with great treble and a real sense of presence. A big, bold sound from a relatively compact cabinet.

EPOS ELAN 35 2012 £1,200
Enthralling loudspeaker with prodigious bass power, detail and depth. A 93dB sensitivity means it works well with lower-powered valve amplifiers.



USHER DANCER MINI-TWO 2012 £3,500
Fitted with Usher's own diamond-coated tweeter, these loudspeakers glisten with detail while the massive cabinet delivers deep, powerful and controlled bass. Offer great sound from a price-tag half that of some rivals.



MARTIN LOGAN ETHOS 2012 £6,698
Matches Martin Logan's XStat electrostatic to a powerful subwoofer to provide extended, powerful bass with dramatic sonic purity. Demands careful partnering to give of its best.

PMC TWENTY.24 2012 £3,100
Stylish, detailed and thoroughly enjoyable, the PMCs have the deep bass of a transmission line with the heart of a mini-monitor.



SPENOOR A3 2012 £1,295
Fine little floorstander with a smooth, natural mid-band and even tonal balance. Ideal floorstander for smaller rooms.

Q ACOUSTICS 2050i 2012 £525
A large floorstander at a budget price. Offers high sensitivity and big sound and has very few flaws for the price.



SPENOOR ST 2010 £5,995
This classy sounding, superbly presented big floorstander will appeal to those seeking high end sonics with subtle looks.

VIVIO V1.5 2010 £6,000
Breathtaking transparency, superlative coherence and dizzying speed make these one of the best standmounters ever made - providing you like their 'studio sound'.

B&W 8000 2011 £18,000
B&W's statement floorstanders are a veritable study in hi-tech design. They deliver depth and definition with breathtaking speed and authority. Expensive - but endlessly impressive.

GERMAN PHYSIKS LIMITED 11 2011 £7,800
Don't be fooled by the austere looks; this is a superbly enjoyable omnidirectional speaker with a wonderfully fast, expansive sound.



ECLIPSE T0712Z/2 2011 £5,100
Flawed genius, and wilfully so. These loudspeakers don't do everything well, but what they can do is profound and enthralling; rhythms, dynamics and soundstaging.

MAO MY CLAPTON GRANO MM 2010 £3,599
Distinctive coaxial standmounters with wonderful soundstaging, bright lucid midband and true musical insight.

REVOLVER CYGNIS GOLD 2010 £15,000
Vast in scale with effortless dynamics and an easy, barrel chested bass, these big bangers are great for lowish power tube amps. Large room needed!

TANNOY DEFINITION OC10T 2010 £5,000
Wonderfully wide and open, super fast and amazingly engaging to listen to.

LOUDSPEAKERS STANDMOUNT

MARTIN LOGAN MOTION 15 2013 £800
Folded Motion tweeter gives a taste of Martin Logan's electrostatic sound in a standmount. Very different from the standard mini-monitor and all the better for it.



ACOUSTIC ENERGY 301 2013 £425
Clean, crisp delivery with a good level of detail. Bass performance belies their size.

WHARFEOALE OIAMONO 122 2013 £280
Builds on the success of previous Diamond ranges with better bass, more detail and a much greater sense of scale.

USHER OANCER MINI-X 2013 £2,450
A highly-accomplished standmount speaker from Usher with outstanding sound and great build quality.

KEF LS50 2013 £800
Supremely musical mini-monitors which sound much bigger than they look.



WHARFEOALE OENTON 2012 £500
A beguiling mixture of retro looks with modern, high-technology drive units. The Denton has an easy-going, big-hearted sound with just a touch of warmth that should appeal to many listeners.

PMC TWENTY.21 2012 £1,375
Transmission line loaded standmount with a big box sound from a compact cabinet. Punches well above its weight.

PARA0IGM SHIFT A2 2012 £658
Well-developed and hugely enjoyable active loudspeakers with distinctive looks and a big, bold sound.

TRIANGLE COLOUR 2011 £500
Taut, dynamic and immensely musical. Design, fit and finish comparable to models costing significantly more.



MY AUDIO OESIGN MY 192 2011 £1,350
Mini-monitors with an exceptionally smooth, spacious and refined sound that beguile and excite in equal measure.

Q ACOUSTICS 2020i 2010 £165
Great little bargain-priced standmounts with a friendly, fun yet surprisingly refined sound. Hard to better for a pair of starter loudspeakers.

ACOUSTIC ENERGY NEO 1 V2 2010 £225
Civilised sounding speaker with fast and tuneful bass.

XTZ 99.25 2010 £640
Disarmingly open and refined at the price, these standmounters bring unexpected civility, refinement and insight to the price point. Exceptional value for money.

MY AUDIO OESIGN MYCLAPTON SE 2010 £3,299
Powerful, dynamic, musical yet refined, this unconventional point-source design yields dramatic sonic benefits.

ELAC BS243 2010 £1,000
More transparent and spacious than they've a right to be at this price, these refined mid-price standmounters represent top value.

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.

HEADPHONE AMPLIFIERS

EPIPHANY EHP-02 2012 £99
PP3 battery-powered portable gives great sound quality at an almost giveaway price. Happy with the output from an iPod or CD player, the little epiphany is a true bargain.



GRACE M903 2012 £1,980
A top-quality DAC and headphone amplifier in one. Shines a bright light on even the finest detail.

ICON AUDIO HP8 MKII 2012 £550
Offering a clean, open soundstage, the HP8 MKII valve-based headphone amplifier provides precision and detail over the entire sound spectrum.

MUSIC FIRST PHONE BOX 2012 £276
Brings a big stage, plenty of detail and rich, deep colours to the sonic spectrum.



FIELITY AUDIO HPA 100 2011 £350
Great little headphone amplifier with a lively yet refined and open sound.

CREEK OBH11 2010 £150
Designed specifically for low to medium impedance (300ohm - 3000ohm) headphones the little Creek has a marvellously well-judged sound. Slightly lean in the bass but none the worse for it.

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

SYSTEMS

LINN KIKO 2013 £2500
Great looks and good sound make the Linn Kiko one of the best all-round entertainment systems available today.

PEACHTREE AUDIO IDECCO 2012 £1000
Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.

LINN AKURATE DSM 2012 £16,250
A technological tour-de-force of a system, largely due to the DSM preamplifier. The Akurate system has enormous ability plus a smooth sound.

CD PLAYERS

REGA APOLLO-R 2013 £550
Rega comes up with a cracking CD player again. Tremendous detail and an easy, unforced sound at all times. Few bells and whistles but made up for by its superb sonic ability.

CAMBRIAGE AUDIO AZUR 651C 2012 £450
Mature, rich presentation from this budget CD player. Cracking audiophile entry point for any digital fan.

CHORD RED REFERENCE 2012 £15,000
A unique and massive engineering exercise that could well be the best CD player available. Chord's Pulse Array DAC technology produces a musical experience like few others. This is a true reference player.



SUGDEN A21SE 2012 £2,480
Class A amp with fantastic sound quality producing hard, sculpted images, deep detail and tight bass. Just don't expect disco-like sound levels!



ESOTERIC K-03 2012 £9495
Superb high-end silver disc spinner that is beyond criticism. Devoid of its own character but has a flawless presentation.

XTZ CO-100/11 2012 £400
Stunning CD player for the price that will give players costing three times as much a decent run for their money. Well-built, great sound and bags of features.

CANOR CD2+ 2012 £3100
Musically coherent and tuneful valve-driven CD player from Slovakia. Lovely liquid sound.



DENSEN B-475 2012 £5,950
Ice-cool, luxury-designed two-box player with sublime sound quality. Could be the only CD player some people will ever need.

EXPOSURE 101 2012 £395
Detailed player with fine sense of timing should be an automatic entry on any demo list at this price.

ELECTROCOMPANIE EMP-1/S 2011 £4,650
Epic in scale, lavish in tone and exuberant in its musicality - this is a memorable SACD spinner. Quirky in operation and modest in finish, though.

AUDIOLAB 8200CDQ 2011 £949
Inspired CD player and DAC with price-performance ratio like no other. Capable of matching designs costing much more.

ROKSAN KANDY K2 2010 £900
A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the money.

MARANTZ SA-K1 PEARL 2010 £2,500
Finely-honed, affordable high-end silver disc spinner; this has a musical lucidity that's unexpected at this price.

TUNERS

CAMBRIAGE AUDIO AZUR 651T 2010 £299
Value-packed Am/FM/DAB and DAB+ ready tuner. Precise and detailed with excellent resolution of spoken word.

CREEK OESTINY 2 2010 £675
Creek's tuner expertise shines through in the Destiny 2. This AM/FM receiver is wonderfully three-dimensional and smooth.



MAGNUM OYNALAB MD-90T 2010 £1,900
Exceptionally able, but commensurately priced, audiophile tuner that cannot fail to charm.

DACS

TEAC UO-501 2013 £699
Feature-packed DAC with benefit of DSD playback. Superb sound means little to touch it at the price.



CHORD QUTE HD 2013 £990
Superb build quality and exceptional sound from this compact unit. Boasts the ability to handle DSD direct via USB and has an exceptional soundstage. One of the best DACs you can buy.

AUDIOLAB Q-OAC 2013 £400
Stripped-down version of Audiolab's M-DAC loses some features but retains much of the sound making it a veritable bargain.

AUDIOLAB M-DAC 2013 £600
Excellent sound, a comprehensive feature count and impressive flexibility make the Audiolab a stand-out product at its price. A range of filter options is the icing on the cake.



ANTELOPE ZODIAC GOLD/VOLTIKUS 2013 £3,095
DAC/preamp/powersupply combination majors on detail but has a remarkable un-digital sound. One of the best at its price.



CHORD QUTE HO 2013 £990
Superb looks and seriously good sound make this little DAC a winner. Both 384kHz and DSD capable meaning it is also future-proofed.

EXPOSURE 2010 S2 2013 £810
Superb performance from the USB input and various filter options make this a truly flexible DAC with great sound.



NAD M51 2012 £1500
A sweet-sounding treble coupled with complexity and tonal depth makes for a rounded and smooth performer. HDMI functionality adds to the NAD's all-round value.



REGA DAC 2012 £498
Lovely sound characterised by dimensionality and strong pace. Among the best at its price and destined to become a digital classic

DCS OEBUSSY 2011 £8000
DCS's bespoke 'Ring DAC' circuit gives a beautifully-fluid, almost analogue sound that encourages long listening sessions. Not cheap but worth every penny.

METRUM OCTAVE 2011 £729
Unique two-box digital-to-analogue convertor with great sound at a great price. Cuts upper treble, though.



NAIM OAC 2010 £1,995
Superb high-end digital convertor with a probing, punchy and fomesically-detailed sound.

NETWORK PLAYERS

CHORD OSX100 2013 £7500
Chord's proprietary DAC circuit shines in their top-of-the-range streamer. Hear-through clarity with a sound rich in detail, dynamics and soundstage.

NAIM NAC-N172 XS 2013 £1650

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

**SANSUI WLD+2012** 2012 £350

Offering great value for money with a variety of input options the Sansui was a deserved Hi-Fi World Award-winner in 2012. Few can match its ability at the price.

**CAMBRIDGE AUDIO NP30** 2012 £399

Budget offering from Cambridge offers a great introduction to network streaming.

CYRUS STREAM X 2012 £1400

Gorgeous sound quality even from compressed digital music. New control app makes everyday operation a doddle.

**MUSICAL FIDELITY CLIC** 2012 £1250

Smooth and easy on the ear but possessed of a big, bold sound that remains clean and airy at all times. Clear, colour display makes navigation a breeze.

NAIM NDX 2011 £2995

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

PRO-JECT STREAM BOX RS 2013 £1095

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

NAIM ND5XS 2012 £2175

Great sound quality with traditional Naim heft. A wonderful DAC with full 24/192 handling. Only the display could be better.

QUAD PLATINUM DMP 2013 £2495

Comined CD/network player has all the usual Quad elements but with added zest and detail that brings life to everything you care to play.

DIGITAL SOURCES**ASTELL&KERN AK120** 2013 £1,140

It's small - but packs a punch. Plays digital files up to 24/192, packs 32gb of memory (expandable up to 96gb via MicroSD cards) and has massive dynamic range with negligible jitter. Good enough to replace a CD in most systems.

**ASTELL&KERN AK100** 2013 £569

Portable high-definition digital player with fabulous sound quality.

NAIM HDX 2009 £4,405

Interesting one-box network-enabled hard-disk music system that gives superb sonics together with impressive ease of use.

PORTABLE SPEAKERS**BAYAN SOUNDBOOK** 2013 £149.99

Superb design and great sound make for one of the best portable Bluetooth speaker/radios on the market. Not the cheapest - but worth every penny.

**IRIVER IBA-50** 2013 £69

Big, warm sound with plenty of volume and clean at high levels. Muscular sound compared to many rivals.

**CABLES****MAINS CABLES R US NO.27** 2013 £95

Offers a sprightly pace with a precise nature. Fast performance enhance frequencies and beautifully etched detail.

**BLACK RHODIUM LIBRA** 2013 £100

Opens up the sound stage and offers a significant upgrade to a basic power lead.

TELLURIUM Q BLUE POWER 2012 £399

This power cable is not cheap but is worth every penny. Top quality, high resolution and fine value.

BLACK RHODIUM TWIST 2012 £71/3M

Twisted to fight off radio frequency, the Black Rhodium speaker cable is easy on the ear with a fine sense of clarity and focus. A remarkable performer at the price.

**TELLURIUM Q BLACK** 2010 280/3M

A deep, dark, velvety performer that's nevertheless highly musical, it represents excellent value as mid-price cables go.

**HEADPHONES****PHILIPS FIDELIO X1** 2013 £270

Aimed firmly at the upper end of the market, these are super-accurate 'phones that can shame many a loudspeaker. Hear them before anything else.

**B&W P3** 2012 £170

Beautifully presented headphones from the loudspeaker specialists. Feed them a good quality source signal and they reward with excellent sound.

YAMAHA HPH-MT220 2013 £150

Purposed for indoor monitoring yet light and comfortable enough to be used on the move. Excellent sound quality marred only by a slight warmth to vocals.

ONKYO ES-HF300 2013 £180

Detailed and fast sound with good bass and finely-etched treble. Have great presence without colouration.

SENNHEISER HD700 2012 £599

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

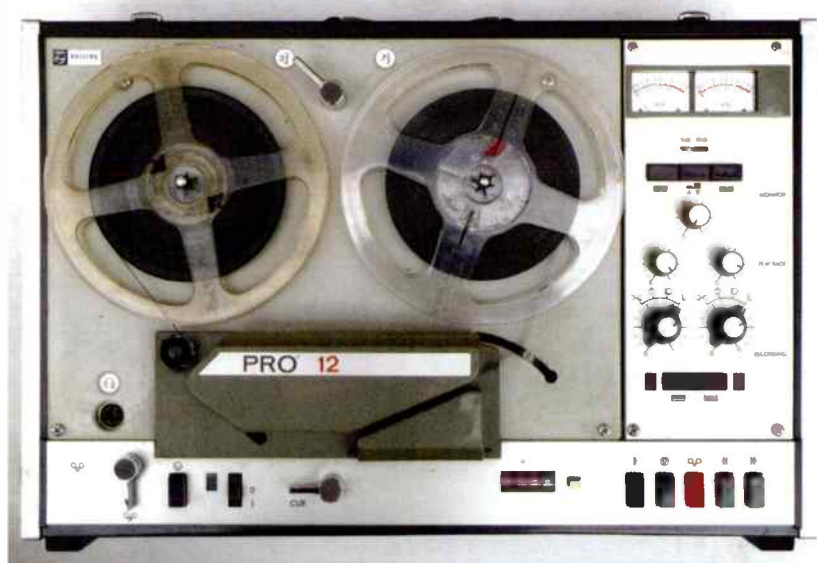
**JAYS V-JAYS** 2010 £49

Wonderful little budget over-ear portable 'phones with a clean, smooth sound to beat the best of the rest at the price.



Lucky number twelve?

Tape enthusiast Martin Pipe explores the legacy of the robustly-built Philips Pro 12 analogue recorder, circa 1968. It wouldn't take pro-sized spools or run at the pro tape speed of 15ips, but it only cost him £10!



In 1966 Philips introduced their Pro 36 open reel tape recorder. This large and substantial machine differed from earlier Philips professional models in that both its electronics and deck were built into the same enclosure. It also used silicon transistors, rather than valves. Amongst others, the BBC acquired several of these excellent machines.

As a professional machine, the Pro 36 was very expensive. Philips was however keen to attract serious club-going enthusiasts and budget-conscious professionals, and to this end introduced a 'scaled-down' baby version in 1968. Although heavy, the similarly industrial-styled Pro 12 was relatively-compact enabling it to be built into a suitcase complete with handle and low-fi monitoring speaker. It was thus billed as a 'transportable', since all 23 kilograms of the machine could be lugged in one go by the dedicated enthusiast from home to any recording location where mains

power was available.

Contemporary literature made the machine's aspirations clear - according to Philips, the machine was "specifically designed for broadcasting stations, recording and film studios, outside broadcasting vans and the discriminating user".

The BBC Overseas Service at Bush House bought several Pro 12s, and they were in use in EMI studios too. Meanwhile Pye - by then a Philips brand-name - built one into a demonstration van intended to promote local commercial radio.

When launched, the Pro 12 sold for a mouth-watering £249 - well over £3,000 in today's money. At that time, a transportable version of the famous Revox A77 would have set you back a 'mere' £173 5s.

Philips made the short-sighted decision to support only 7in. reels (albeit usable with the lid shut, to minimise running noise); as opposed to the larger 'professional' 10.5in. (27cm) ones that the Pro 36 could

accept.

The cheaper Revox competitor could, in contrast, take these large reels. The Pro 12 offered two recording speeds - 19cm/s and, oddly for a machine with professional pretensions, the 9.5cm/s more normally associated with domestic recorders. Amusingly, Philips claimed in its advertising that even at the lower speed the Pro 12 was 'at least the equal of many large studio recorders (currently) in use at 15ips' (i.e. 38cm/s).

You could get away with absurd claims like this in the 1960s, although it is obvious that Philips was referring to obsolete 'first-generation' studio recorders! In its marketing materials, Philips took trouble to point out that the Pro 12 bettered the DIN 45511 standard for professional recording equipment. By this time, though, DIN 45511 was a decade old. Much tape had passed heads since then...

A 7in. spool contained 1200ft of 'standard play' tape, which would run

for half an hour at 19cm/s. For longer recording times, the user had to use thinner (i.e. stretch-prone) tape, or choose the slower speed and its attendant risks - restricted frequency response, increased noise and higher speed instability. Revox A77 owners had only to load a 10.5in. spool containing standard-play tape, and they could record for an hour with the 19cm/s speed. Much higher quality was thus assured.

Philips tried to address this issue by adding a four-track version of the Pro 12 to double tape capacity (the standard variant, as with the A77, was professional two-track) but this compromise was unpopular.

Another limitation of the Pro 12 was its reliance on DIN connectors - even for microphones and headphones. In contrast, the A77 placed more emphasis on more standard connectors, such as quarter-inch jacks and RCA phonos. Philips' DIN implementation was more sensible than most, though, with separate line-level connectors available for left and right inputs and outputs. But such design nevertheless meant more non-standard leads and adaptors to worry about.

For all its oddities, though, the Pro 12 is a worthwhile machine. Locking spool retainers allow the Pro 12 to be used vertically as well as horizontally. The recorder's signal electronics (built around low-noise silicon transistors) are hinged, and thus accessible for servicing/calibration without complete disassembly. Build quality is impeccable, the deck being built around a die-cast chassis along the lines of the Revox. Head assemblies are of the 'butterfly' construction to minimise crosstalk between tracks. Butterfly? The magnetic cores of the two stereo head sections are spread apart in a butterfly-like 'V' shape

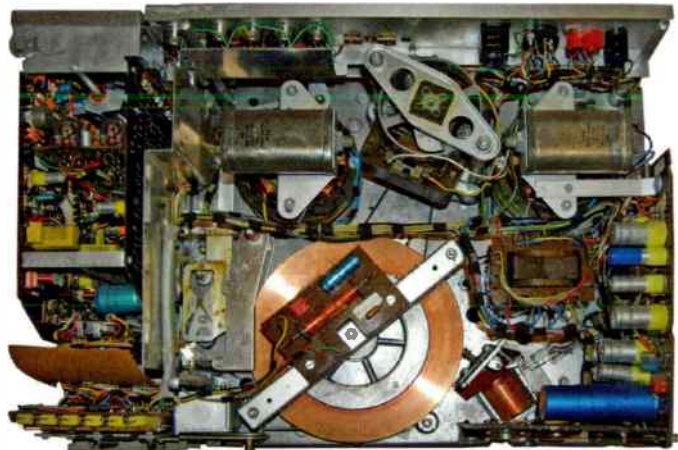
to maximise their physical separation within the constraints of standardised track-compatibility. And they're resilient; Pro 12 heads certainly last longer than the ones fitted to earlier A77s (although slow-speed recording may have helped). As with the Revox machine, no pressure-pads are used - the only quality manufacturer to persist with these was Ferrograph. As a professional-type three-head machine - i.e. separate erase, record and playback heads - you can monitor the recording in progress, listening-in fractions of a second after it has been laid down on tape.

Such design also allows for echo (feeding back some of the delayed signal from the playback head to the recording amplifier; the character of the effect depending on recording speed).

Two knobs - one for each channel - select the recording source. You can choose from microphone, line, radio (a conventionally-wired 5-pin DIN) or the other track - for echo effects or 'multiplay'. Also known as 'sound-on-sound', the latter is a creative process that involves laying down, on one track, a new recording containing a mixture



As is common on European equipment of this vintage, DIN connections are used throughout. Philips has been more sensible than most, however, insofar that the all-important line-level terminals comprise separate input and output sockets for both channels. No professional-type balanced connections are offered as standard, although options were available.



Inside the machine. Note the copper surface of the flywheel - this forms part of an eddy-current brake that's used to regulate speed. The flywheel is belt-driven from an induction motor. To the left you can see the record/playback electronics, which can be 'hinged' open with the deck in its normal working position.

of the current source (e.g., guitar) and a previously-recorded contribution (e.g., drums) playing from the other track. A lot of fun, although generation loss can impair fidelity.

On the Pro 12, recording and playback can be turned on or off for both channels. All of this, plus relay/solenoid push-button deck control with basic remote facility, variable playback levels and (sadly, non-backlit) meters that are operational whenever a signal is present (the A77's are only active during recording) lead to a flexible machine. Cueing, a four-digit tape counter, adjustable meter sensitivity and a decent mechanical pause are also welcome. A separate volume control serves the mono monitor speaker.

As with all professional machines, separate motors are dedicated to the capstan (tape drive) and each



This head block is four ('quarter') track, but two ('half') track variants of the Pro 12 were far more common. Note the substantial construction, relative ease of access to the tape path (for editing) and the shield that prevents the playback head (the third one along) from picking up hum from stray mains fields. Pro 12 heads weren't ferrite (as specified for some studio machines) but were nevertheless fairly long-lasting.

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" This product is truly awesome in the effect it has upon a system and can be regarded as an essential purchase. "

Tony Bolton - Hi-Fi World, April 2014 Issue



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World Radio History

reel. The Pro 12 has an unusual tape speed regulation system. Behind the capstan lies a heavy flywheel that is coupled to an induction motor via a flat belt. A wonderful Heath Robinson-esque speed-change contraption, coupled to a knob above the tape reels, essentially grabs the drive belt and positions it over the motor's relevant pulley. To provide fine control over speed, magnets are mounted on either side of a copper disc precision-mounted underneath the flywheel. Eddy currents circulate around the disc, the associated magnetic resistance generating a braking action that slows down the flywheel. Fine-speed adjustment is achieved simply by adjusting the distance between the magnets and the flywheel; to this end, a stroboscope is built into the Pro 12's chassis. A far cry from the Revox's elegant servo-controlled direct-driven capstan! Interestingly, some turntables (such as the Garrard 301/401) employ the same basic principle.

My model, discovered under a table at a local amateur radio rally, was acquired for a measly £10. It is alas one of the rare four-track examples. As with other Philips machines of its vintage, the drive belts (capstan and counter) have a tendency to turn into black goo - and mine was no exception. You then have to disassemble the transport, and remove every trace of the mess; white spirit is particularly good for cleaning any remaining residue from the flywheel and pulley surfaces. Be careful when doing this job. This ex-belt gunk is horrible stuff, and can stain clothing or carpets. The belts are not particularly uncommon sizes; as I recall, ex-stock VCR belts did the job. To reduce hum (not least from those three AC motors!), a mu-metal plate comes into contact with the play-head housing during record and playback operations. It's attached to the mechanism with a foam material that decays with age. I used two slices of draught excluder to effect a repair.

Noisy switches and contacts are also problematic, but a good squirt of Servisol into their innards usually pays dividends. Pay attention not only to the level controls but also the various internal switches - including one mechanically-interlinked with the speed change to ensure the correct equalisations and so on are selected. Lubrication and regreasing of moving parts is also a good idea;

what needs doing (and when) is covered by the service manual. This is available online at <http://tonbandwelt.magnetofon.de/philips/pro12/1.htm>. It's probably also worth replacing electrolytic capacitors (especially the larger-value ones in the power supply section). Having said that capacitors taken from my Pro 12 at random were tested, and are still within tolerance. Pretty good, considering they're more than 40 years old! In contrast, the cheap junk fitted to some modern equipment (especially games consoles, set-top boxes and PC motherboards) can fail after only two or so years - a bulging top-cap is a giveaway. On my example, the azimuth of the record and play heads needed to be reset - a 'phantom twiddler' had been at work!

Perhaps due to its rarity - the cheaper Revox A77 outsold it by a considerable margin - the Pro 12 attracts collectors and vintage tape enthusiasts. I have seen them sell on eBay for over £200. It looks after your tape - and the build quality, 'portability', attention to detail and longevity are draws too.

Also in its favour is excellent sound quality. Even the slow speed gives a good account of itself - and remember that the 'economical' four-track specimen I have has a signal-to-noise ratio at least 2dB worse than the more common two-track version. In particular, there's a wonderful warm valve-like quality to the bass.

Relative to the original source (the McIntosh MCD550 reviewed last month), I detected a noticeable drop in high-frequency presence when using the Pro 12's ability to switch between 'A' (after tape) and 'B' (before tape). This might be due to the biasing being a little too high. Such falling treble helped to make some early and aggressively over-bright CDs more listenable! Stereo separation and thus soundstaging emerges unscathed.

Even at the slow speed, wow and flutter is all but inaudible with speech and most types of music. Slight roughnesses in pitch were heard very occasionally, and even then only with sustained solo piano or guitar - which are very difficult subjects for analogue recording. I then noticed some shed tape-oxide on the capstan and pinch roller. After cleaning these and the guides, the roughness disappeared. Kudos, then, to Philips' wonderfully low-tech but clearly very effective speed-change mechanism!

Why we suggest you buy the tape recorder you can't hear.

The one thing you don't want to hear from a tape recorder is the sound of the tape recorder itself.

Which is why we spend a lot of time developing Hi-Fi stereo machines that keep internal noise so low you can't hear it. And then have added all these features the discriminating enthusiast demands.

Take the PRO12. Even at the lower speed of 1 1/2 ips, the sound quality meets the DIN 45111 studio equipment specifications. Which means tapes prepared on it are ready for immediate broadcasting.

Wax and Resin are under 0.1%, at 3 1/2 ips, and better than 0.05% at 7 1/2 ips. Purchases include manufacturing, mixing and transportation from one track to another.

Curing and dishing trays. VU meters. And a timing-up switch for accurate set-up of head alignment and amplifiers.

In fact, the PRO12 is a true professional tape recorder, at an enthusiast's price—under £300 (recommended).

other Curing and dishing trays. VU meters. And a timing-up switch for accurate set-up of head alignment and amplifiers.

stereo tape recorder, with everything you need for magnificent recordings. Recommended price £163.00.

Or look at the 04920—a superb 16:1 stereo tape deck, designed for connection to an external amplifier. It's perfect for use with a chain of Hi-Fi stereo units. Recommended price £128.



For a free Tape Recorder brochure write to Philips Electrical Ltd, Century House, Shaftesbury Avenue, London WC2A.



PHILIPS

Although the Pro 12 was sold as a (semi) professional recorder, Philips advertised it in the specialist press alongside cheaper and more obviously consumer-orientated ones. Of the machines pictured here, only the Pro 12 had a three-motor drive system. Over time, the drive belts of all three degenerate into a horrible mess.

Switching to the 19cm/s speed eliminated these wavers altogether, restored much of the top end and lessened noise to the extent that an external Dolby B unit was no longer necessary.

Playback of four-track tapes I made many years ago with various Sony, Akai, Revox and Tandberg decks was also a rewarding experience using my Naim Nait and Acoustic Energy AE109 speakers, especially after the azimuth of the playback head had been adjusted to match that of the original recording - if this isn't correct, you'll have problems with treble response and stereo imaging. The machine's headblock is designed with accessibility in mind, and it's easy to get to the adjustment screws.

A Philips Pro 12 open-reel recorder is well worth considering if you want to transfer old tape recordings to a digital medium. The proviso is of course that the spool sizes can be no larger than the Pro 12's 7in. capacity. Oh, and you'll need to deal with those infernal DIN connections.



Here's a round up of some interesting products we spied at this year's Bristol hi-fi show.

Bristol Sound & Vision Show 2014



The end of February isn't – meteorologically – the quietest time of the year to hold a show, especially in Bristol, but this year the rain held off, it was mild and the sun was spotted! This made for a busy show, as did perhaps a slightly less gloomy UK economic outlook, Britons being told it's safe to spend again. So in anticipation of doing so and just to have a nice day out looking at intriguing audio products new and old, there were plenty of visitors, the exhibitors claiming a 14% increase over 2013. We were there of course: Hi-Fi World has attended this show since 1991. There were new products and exhibitors aplenty, a selection of which you can read about in our Show Report.

OUR STAND

We were in the Bristol Suite again this year, sharing a stand with Rohde & Schwarz, and demonstrating their audio analyser, which we rely upon for advanced measurement. By happy coincidence Astell&Kern were beside us so we got to hear some great sounds too.



ASTELL&KERN AK240

Astell&Kern were showing their new AK240 portable high resolution player, with machined casework and large touch screen. Driving impressive magnetic planar headphones from Audeze, sound quality was fabulous and the stand busy throughout the show.



TANNOY WESTMINSTER

And that will cost you £27,950, not including Pickfords! The new Tannoy Westminster Royal, now in Gold Reference Edition form, is one of the world's largest domestic horns. Behind it sits a Canterbury GR (£16,950), with massive 15in Dual Concentric, and then a Kensington GR (£9,950).



AUDEZE LCD-XC

OK it's a headphone – and there are plenty of those around these days. But hold on – the Audeze 'phones use Planar Magnetic drive units and what we heard on the Astell&Kern stand told us they are very special. Expect a review by us soon.



MAGNEPLANAR LOUDSPEAKERS

And here are Magneplanar loudspeakers that, like Audeze and Oppo 'phones, use magnetic planar drive units. With a sound of their own, Maggies are always impressive. Again, we have a review soon.



KRONOS

The Kronos turntable has two (counter-rotating) platters, driven by separate d.c. motors, microprocessor controlled. It looked wonderful and was attracting a lot of interest. For more, see www.kronosaudio.com.



VAN DEN HUL

Aalt van den Hul carefully hand assembles one of his superb moving coil cartridges live at the Show, for all those who want to see how it is done. With great patience and care, is the answer, plus a stereoscopic microscope just to see the parts.



MING DA

A disguised valve amplifier by Mark Manwaring White of Ming-Da UK, built into a 1970s Technics transistor amplifier. Eh? This was the most imaginative product at the show.



SONY

Sony were showing stereo hi-fi instead of AV, with an emphasis on new Hi-Res products, including Walkmans and home digital amplifiers like the UDA-1. Look again and you'll see a pair of high-end Sony floor standing loudspeakers too – rare birds!

ortofon

accuracy in sound



Q uintet

Since 1948 Ortofon have introduced nearly 100 different moving coil pick-up cartridges to the hi-fi market. Their latest models in this long and proud heritage are the Quintet Series.

All Quintet cartridges use the same ABS thermoplastic bodies and neodymium magnets, but each model in the range has its own sonic expression that reflects its status. From the well-rounded **Quintet Red**, through the smooth **Quintet Blue** and spacious yet dynamic **Quintet Bronze** up to the pure audio excellence of the **Quintet Black**, this series offers something for every discerning listener at a very attractive price.

The Quintet Series also includes a true-mono cartridge, for accurate reproduction of older mono recordings.



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World Radio History



GRAHAM AUDIO

A brace of Graham Audio BBC LS 5/9 loudspeakers (www.grahamaudio.co.uk) surround a Nagra TA open-reel professional tape recorder, providing a great sound with traditional qualities.

QUADRAL

Quadral loudspeakers were demo'ing the models we have reviewed and recommend, including the M50 and Orkan active.



SPENDOR

Spendor were showing a very trad. looking pair of SP2/3R loudspeakers when we arrived and they sounded smooth but powerful.



YAMAHA

Yamaha offered big discounts on show items and sold most of their stock by the end of play. Here's a lovely CD-S3000 and A-S3000 combo that was off to a new home.



CHORD ELECTRONICS HUGO

Chord Electronics debuted their new Hugo DAC/headphone amplifier (£1200) incorporating Rob Watts DAC technologies. It handles DSD, PCM up to 384kHz and Bluetooth. We'll be reviewing one soon!



MING DA

Mark Manwaring-White of Ming-Da UK holds open a 'Biscuit Tin' to reveal it holds a valve amplifier! Below is an old Leak amplifier also fitted with new valve amplifier circuitry.

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

World's Best!



The winners of Hi-Fi World's 2013 awards were out in force to pick up their trophies at the Bristol Sound & Vision show. Faiza Chunara captures all the action.



A winning combination: Left to right, Steven Edwards from award co-sponsors Rohde & Schwarz, Naim Audio's Patrick O'Shea, Mark Perfect from Leema Acoustics, IAG's Peter Comeau, Hi-Fi World's Noel Keywood, Volker Schwerdtfeger and Paul Heath from Quadral, Teac's Mandy Clarke, Alex An from Astell&Kern with SPRS Media Solution's Richard Stevenson - the evening's ebullient host.

Yet again one of the highlights of the Bristol show was the presentation of the Hi-Fi World Awards - co-sponsored this year by Rohde & Schwarz.

Our pick of products reviewed during 2013 saw Quad take top spot for Best Amplifier with its Elite QMP monoblocks while Audusa's Ariand was the winner for best valve amplifier.

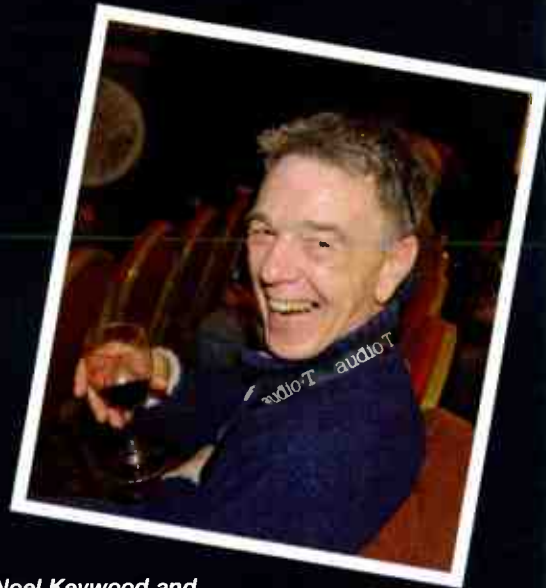
Best Loudspeaker award went to Quadral for its Platinum M50 floorstander and the Best Bookshelf Loudspeaker category was won by Martin Logan with its innovative Folded Motion tweeter-equipped Motion 1S.

As digital downloads and streaming continue to dominate the hi-fi landscape it was no wonder the DAC and Network Player categories were hotly contested - with TEAC's UD-S01 coming out top in the former and Naim's NAC-172 XS pre-amp and streamer combination winning the latter.

Funk Firm's Little Super Deck garnered the Best Turntable globe with Leema Acoustic's Elements Ultra named Best Phonostage, Philips Fidelio XI as Best Headphones and Astell&Kern's AK120 the Best Digital Source.



Noel Keywood and Richard Stevenson announce the winners (top right) Steven Edwards from Rohde & Schwarz looks on (above left) while Hi-Fi World Sales Manager Louise Palfrey helps hand out the awards (right)



Cheers - we're all ears: Noel Keywood and Richard Stevenson get things under way (above left) while Hi-Fi World reviewer Tony Bolton gets in the party mood.



IAG's Peter Comeau receives the Best Amplifier award for Quad's QMP monoblocks.



Do They Look Good On The Dancefloor? Rhode and Schwarz's Steven Edwards with compere Richard Stevenson (below) while the audience (above) give their verdict. Nul points, unfortunately.



Alex An from Astell&Kern takes the Hi-Fi World globe for the company's AK120 media player.





I've got the Hi-Fi World in my hands! Quadral's Volker Schwerdtfeger (above) is bowled over with his Best Loudspeaker award.



Naim's Patrick O'Shea (left) accepts the award for Best Network Player, while Noël Keywood (above right) explains just how large that fish was that got away!



Mark Perfect from Leema Acoustics (above) takes the award for Best Phonostage.

David Mungford (above right) receives the globe for Best DAC for Teac's UD-501.



Rai-sing the roof. Kulwinder Rai from Rai PR celebrates Teac's win for Best DAC.



Are we happy? You bet: The Onkyo/Teac team of Mark Perfect, Mandy Clarke and Kulwinder Rai.



POPOL VUH

Hosianna Mantra
Wah Wah

Turn on the TV or the radio and there they are: bands and artists singing and playing synthesisers. It's such a normal state of affairs in today's music industry that no-one blinks an eye. Back in 1970, however, not only did eyes blink but eyebrows were raised and fingers pointed. Popol Vuh became the first German band to utilise the Moog synthesiser, the first of the influential Krautrock movement to use it within their work and one of the first groups to retain the instrument as a staple part of the repertoire. Pioneering in the world of ambient music (wasn't Brian Eno supposed to have invented the genre years later?), looking forward to world-beat textures the band (named after a Mayan term translated as Meeting Place) was run by Florian Fricke on those keyboards plus his then group of Frank Fiedler and Holger Trulzsch. It was a fit of Christianity that pulled the plug

for this album that returned to organic instruments such as violin, tamboura, piano, oboe, cembalo (plus a smattering of electric guitar from Conrad Veit) and Korean soprano Djong Yun, who offers haunting vocals.

The music on here can often be termed as epic, but Fricke saw this work as almost sacred music, intimately linked to religious experience, although beyond that of any one faith. Indeed, Fricke called this album a "Mass for the heart" and that aspect can be heard on the melancholy 'Abschied' and the fragile 'Segnung', which blend an austere feeling with a more mystical vibe. This music is timeless and healing.

Look out for other Popol Vuh releases from Wah Wah including the extended works of electronics and church organ in 'In Den Gärten Pharos' (1971), the beautiful 'Einsjäger & Siebenjäger' (1974) and the spacey jazz rock of 'Seligpreisung' (1974).

AUDIOPHILE VINYL



RON GRAINER

Man In A Suitcase
Network

Grainer is probably better known to you for two iconic pieces of music: the theme tunes to both 'Dr Who' and 'The Prisoner'. An Aussie by birth, Grainer had played with international singing greats such as Billy Eckstine, Frankie Lane and Guy Mitchell before his rehearsal pianist work at the BBC lead to his scoring of TV series and films.

His first foray was the 1960s TV adaptation of the detective character Maigret — which was known at the time for the then little heard harpsichord and clavichord.

Grainer became much in demand after that, penning the music for the likes of 'Comedy Playhouse' and 'Steptoe & Son'. A Joe Meek-like period of time in early sixties pop with the British Pye label and The Eagles (no, not them, a British outfit) led to his interest and practice with experi-

mental, weird sounds and odd arrangements which lead to his legendary work in the recording of the Dr Who theme.

'Man In A Suitcase' was an effective replacement for Patrick McGooohan's 'Danger Man' that starred Richard Bradford (it was initially going to be Jack Lord of 'Hawaii 5-0' fame) taking the part of a disgraced US Intelligence agent reduced to detective and bounty hunter work across the world.

Grainer's main title theme for the espionage/adventure series 'Man In A Suitcase' was thoroughly in his own style but it also displayed characteristics resembling the Beatles' 'Good Day Sunshine' and the Tremeloes' 'Suddenly You Love Me'.

Also look out for another important soundtrack on the Network label by Edwin Astley for the 1969 TV series 'Randall & Hopkirk (Deceased)', which is also available within a gatefold sleeve.

Black is a songstress for all seasons. That means that she can quite easily tackle a multitude of musical genres such as rock, blues and jazz as well as the folk ditties that she has become well known for along with her musical background which was sown within the Irish outfit De Danann.

She was with this group when she launched her solo career with the album 'Without The Fanfare'.

Black was noticed — not only in Ireland but also in the USA where she climbed to the Top 20 of the New Adult Contemporary chart.

Her vocal style is broad and shows influences from diverse areas of music such as Sandy Denny and also Aretha Franklin, Bonnie Raitt and Billie Holiday.

As the solo albums progressed, so did the polish of her performance. On 1989's *No Frontiers* she was still slightly

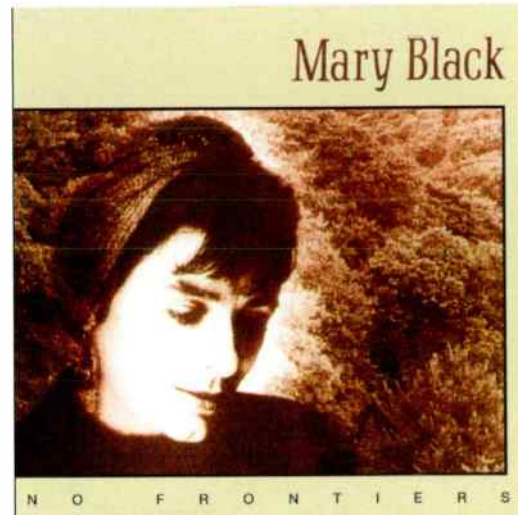
rough and ready in her approach but with a wholly dignified set of arrangements, in relative terms.

With 'No Frontiers' she was shown to be distancing herself from her traditional Irish music. Showing her stylish voice to its best, there's a host of quality songs hear by Jimmy McCarthy such as 'Shuffle Of The Buckled' while the title track allows Black's clear vocal style to work at its very best.

This is not a perfect album, however, which showed that she had a little bit of growing still to do. 'I Say a Little Prayer for You' is just flat but she is back on solid ground with the likes of 'Fat Valley of Pain' and Donald Long's 'The Shadow'.

The more contemporary elements of Black's oeuvre used to dominate her style but, on this LP, she is the mistress.

'No Frontiers' showed Black as the rapidly maturing vocalist: a multifaceted and authoritative release which is well worth investigating.



MARY BLACK

No Frontiers
Pure Pleasure

AUDIOPHILE VINYL

Arriving as a set of two separate vinyl volumes, presented in heavyweight card, gatefold sleeves, this well produced set contains, in Volume 1, a whole heap of rocking beat music from the early sixties from wholly obscure bands such as The Blizzards, The Pralins, Les Copains, The Starfighters, The Details and the Bats. Great names, the lot of them with searing rock'n'roll music to match and well recorded. The German studios of the time knew what they were about.

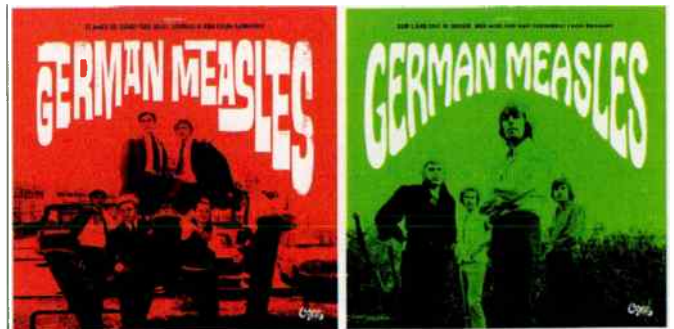
Volume 2 looks towards the maturation of the German sound as it explored freakbeat, harmony-based pop and psychedelic noises featuring outfits such as Improved Sound Limited, the Petards and The Rivets, the Ones, The Newcomers and The Lords.

You don't often see vinyl issued via Bear Family, at least not these days. When you do, however, the

label does the right thing. On these releases, for example, both have been processed using DMM (Direct Metal Mastering) via Günter Pauler at Pauler Acoustics, Northeim.

Early DMM processing produced great bass but screeching upper mids and tinny treble. The later incarnations of the process (as practised by both Abbey Road and Music On Vinyl) correct those inefficiencies to produce music with impressive transients, tight, thumping bass and, if anything, extended frequencies in the upper midrange.

To retain, if not enhance, those advantages, the company has sent both recordings to be mastered by Bob Jones and then pressed by Pallas, in Diepholz, Germany. Pallas is one of the very best audiophile pressing plants in the world and is regularly used by Speakers Corner, for example. So buy both of these discs with confidence and thrill to the sonic delights within.



VARIOUS

German Measles: Flames Of Love, '60s Beat, Garage & R&B From Germany.
Bear Family



WIN CREEK'S SUPERB EVOLUTION 50A AMPLIFIER WORTH £750 IN THIS MONTH'S GREAT GIVEAWAY

QUESTIONS

[1] What is the VHF tuner called?

- [a] Ecko
- [b] Pye
- [c] Twizzy
- [d] Ambit

[2] Luke's surname is?

- [a] Skywalker
- [b] Creek
- [c] Legato

[3] What does the 50A weigh?

- [a] 1lb
- [b] 2 tons
- [c] 2 ozs
- [d] 7.5kg

[4] Power output is?

- [a] lollipops
- [b] 50 Watts
- [c] 5 Watts
- [d] 2 Amperes

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Here's your chance to win the superb Creek Evolution 50A amplifier which we reviewed in our November 2013 issue. Just read the review excerpt below and answer the questions.

"In its standard form, the Evolution 50A is an elegant and compact 50 Watt per channel integrated amplifier that weighs in at a substantial 7.5kg. But there's more to it than that. Your choice of the Sequel phono stage – versions are available for low-output MC cartridges, low-output MM/high-output MC carts and high-

output MM carts – can be fitted internally. Our review sample was fitted with the Sequel 40, the high-output MM variant. They're the same modules sold for other recent Creek amplifiers such as the Evolution 2 and the 50A's bigger brother, the 100A.

Not enough? An optional RDS-capable FM/AM tuner (the 'Ambit') or a forthcoming DAC (the 'Ruby') module can also be (retro) fitted. Luke Creek told me that the Ruby will also include an FM-only tuner with a performance equivalent to the Ambit's. Our particular unit was equipped with an Ambit, which seamlessly integrates with the 50A's operating software. So, our 50A

can be seen as the 21st-century equivalent of those 'receivers' that beat at the heart of many a 1970s hi-fi system.

The crackle-prone pots and switch-banks of old are gone, replaced by microprocessors and electronic switching. I'm impressed with the highly-intuitive control system, which relays information to the user via a bright and readable organic-LED panel centrally-located on the machined-aluminum front panel".

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Ms I. Warren of Garsington, Oxford

Soft spot

Sony still make headphones – and their new £200 MDR-1Rs are pretty good, reckons Martin Pipe.

I'll always have a soft spot for Sony headphones. Back in the late 1980s I chanced upon a pair of MDR-50 Walkman-type 'open' phones that someone had thrown away – simply because their (replaceable!) earpads had disintegrated. A lucky find, since they audibly trounced the 'cans supplied with my top-of-the-range Aiwa HS-G08 personal stereo.

Treble was bestowed with a new-found crispness, while the bass went much deeper – qualities that complemented my love of dance music. At that time, lightweight phones like these were 'à la mode'. Anyone wearing unfashionable full-sized headphones on the Tube was just sniggered at.

Yes, times change. Headphones are now serious business – and, it would seem, the bigger the better. Over 30 years since the MDR-50 debuted, Sony bring us the elegant-looking MDR-1Rs reviewed here. These are large 'closed' (circumaural) headphones; in front of their 40mm domed drivers are synthetic-leather pads that enclose the ears, shutting out unwanted ambient noise while at the same time preventing your music from leaking out to others who might not share your tastes. They're intended for use with modern-day portables. A telling sign is the 1.2m tangle-resistant cable that provides remote-control of an iPhone as well as an omnidirectional hands-free microphone.

Don't have an iPhone? Fear not, for the cable is compatible with other devices. However, Sony also supplies a 'standard' cable that doesn't have that tell-tale remote bulge. It incorporates a 3.5mm plug, with fewer connection 'poles' than its backwards-compatible Apple-centric

equivalent. From this, you might deduce that the MDR-1R's cables are detachable. And you'd be right. The good news is that the headphone-end connector is a common-or-garden 3.5mm plug too. Such design is handy, because the plug will detach from the headphones if someone trips over the cable. All connectors are gold-plated. No adaptor for 6.3mm headphone sockets is provided but these are cheap enough.

Rather more important is the sensitivity, which is claimed to be 105dB/mW. This compares favourably with some competing 'phones like Onkyo's ES-HF300s, meaning that less signal is needed for the same perceived volume – good for battery life. For this, we can thank the cutting-edge technology built into the 48 Ohm drivers, such as neodymium magnets and liquid-crystal polymer diaphragms. There's no noise-cancelling here; Sony sells alternatives with that kind of functionality should you want it.

Equally important is comfort, and I have to say that the MDR-1Rs – that weigh 240g – are very easy on the ears. They're even more comfortable to wear than the ES-HF300s. Adjustment of the headband is easy, too.

Most important of all is audio quality and the MDR-1Rs fulfil this particular brief admirably. I tried them with my Sony Walkman Professional as well as more conventional hi-fi gear. I don't recall cassettes sounding better on the move! Roy Ayers'



'Running Away' was carried to my ears with verve and snap, as was vintage house music such as T-Coy's Latino-tinged classic Carino. They're not quite as revealing in the treble as the Onkyos, but detail there is, and plenty of it; it's just not forced on you. The bright synth work in Vangelis' 'Spiral' is luscious; still on the electronic tip, Tangerine Dream's 'Ricochet' showed off some impressive imaging properties.

They don't go quite as low in the deep bass as Onkyo's finest but still explore lower-octave depths denied to most speakers. Better still, what you get is tight and tuneful as the bass lines of a variety of tracks including New Order's 'Blue Monday' and Tom Tom Club's 'Genius of Love' revealed.

Overall, I was pleased with the sonics these phones delivered. If you're in the market for some well-presented and sturdily-built headphones of pleasing performance, take a listen to these Sonys.

SONY MDR-1R £200



EXCELLENT - extremely capable.

VERDICT

These phones demonstrate that Sony can still hold its own against newer entrants to this crowded market.

FOR

- warm yet detailed sound quality
- very comfortable to wear for long periods
- detachable cables

AGAINST

- treble not as incisive as some
- warmth yields to thickness on occasions
- no 6.3mm adaptor supplied

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"Yes, King Crimson and Deep Purple try the finances of fans the most"



Paul Rigby

Ifrequent many record shops, record fairs, charity shops, jumble sales...you name it, in search of bargains, rarities or just desirable records. When you do that sort of thing, you get to know people, discovering a community of like-minded individuals plus a range of – what shall we call them? – 'characters' let's say. Some are lonely guys who use the hobby to socialise, some are passionate to the point of geekiness, some are budding dealers looking for a quick profit, others are dedicated collectors.

I got to know one chap, a keen collector of Beatles items, and experienced the extremes of his hobby. He had to have anything by the band or band members. Not just the music but memorabilia, ephemera and other collectables, reaching an unhealthy stage as it has taken over his life.

Reportedly, just about every square foot of his house is covered with Beatles items. Even the stairs are masked. In fact, you can only open the door to the lounge halfway because of Beatles-ware behind the door. Once in the lounge, you have to wind your way through a valley of Beatles items if you want a seat. This is completism gone mad.

My completism is not on such a grand scale. But when I get into a band I have to have all the commercially released music plus bootlegs, side projects and solo works. It does nasty things to your wallet, let me tell you.

Some bands are worse than others for prompting this sort of psychological behaviour. Longer-standing bands with rotating line-ups are the worst: Yes, King Crimson and Deep Purple try the patience and finances of their fans the most.

What can be surprising is just what attracts dedicated collectors and why.

Take a single band, Deep Purple: what would interest the completist of this band and why? We'll steer clear of the official albums as every collector already has these.

How about a couple of albums, 'Look At Me Now' (1981) and 'And About Time Too' (1979) on the label Hear No Evil by Bernie Marsden?

Marsden was never a member of Deep Purple, it is true, but both albums featured the likes of Ian Paice, Jon Lord and Don Airey – Deep Purple men all. It's a Purple-fest make no mistake.

Similarly, drummer whizz Crazy Powell's solo outing 'Octopuss' (Lemon Recordings) features the keyboard talents of Purple man Jon Lord. If it has the touch of Purple – it has an interest to fans.

Supreme guitarist Tommy Bolin stupidly died of a drug overdose at twenty-five and can be found via a number of CD releases including 'Bolin' (2004; Lemon Recordings). But he was a member of Deep Purple for what seemed like five minutes, in fact from 1974-1975. He qualifies for the DP collector, though.

Too easy? The James Gang, then? This was a group that was formed without a Deep Purple member in sight. In stepped the boy Bolin again after founder member Joe Walsh left to join The Eagles.

So now the James Gang are roped-in to the Deep Purple sphere of influence. At least for the brief time that Bolin was a member – the album 'Newborn' (1975; Lemon Recordings) being a good example.

Let's take it even further then. Remember 'Screaming' Lord Sutch? The guy who headed the Official Monster Raving Loony Party and lost all forty of the elections that he entered?

In his time, he was a significant player in the rock establishment and

did valuable groundwork for the British Invasion phenomenon. He had a great horror/rock act which featured a stellar array of talent over time that included, behind the scenes, Joe Meek and, on stage, Jeff Beck, Noel Redding, Nicky Hopkins, Jimmy Page, John Bonham and, yes, Purple man Ritchie Blackmore. You can hear them all on 'Lord Sutch And His Heavy Friends' (1970; Esoteric).

Even more tenuous is 1967's The Flower Pot Men (via 'Listen To The Flowers Grow', 2007, RPM), a distinctive play on words between the children's TV programme and the naughty weed. A British pop group created in 1967, the band's sound featured rich, three-part, vocal harmonies. The recorded band had nothing to do with Deep Purple.

Ah, but then there was the live band version which, would you believe, did.

Featuring future Deep Purple members Jon Lord and Nick Simper, the pair were invited by telegram to join DP while on tour with The Flower Pot Men, in Sheffield.

And this lot is just the tip of a very large iceberg.

You could be there forever – and most Deep Purple fans are. Don't forget, that's just the published commercial stuff – and music only at that come to think of it. There's the concert posters, tickets and even music industry articles to take into account for the true obsessives.

God help you if, like me, you have a broad and eclectic taste.

But we are not Mad Hatters. Well, not all of us. We are also archivists, amateur historians and amateur museum curators but, most of all, we are having fun.

As long as we can get up and down the stairs and open the lounge door fully there's no need to call the blokes in white! ●

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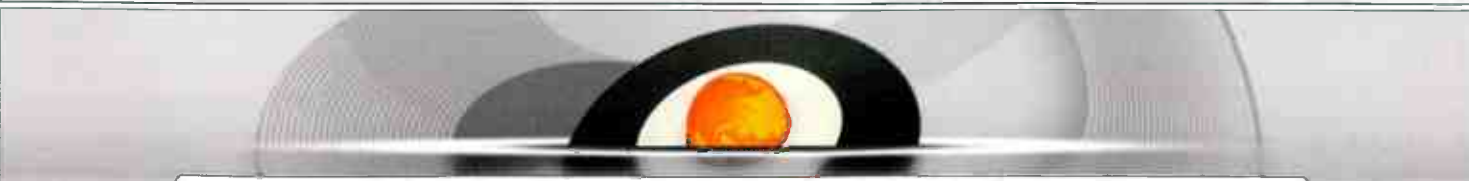
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“I have tried many types of equipment support...some a bit Heath-Robinson”



Tony Bolton

As you will have realised from some of my recent columns, I have tried many types of equipment support over the years, some professionally made while others have been home-made and occasionally a bit Heath-Robinson in both their appearance and construction. One thing they have all shared is an affect upon the sound of whatever equipment has been placed on them – for better or worse.

Recently I was visiting a friend who had, some years ago, gone to the effort of making two sandboxes to stand his rather substantial valve monoblock amplifiers on. A year or two later he suffered the misfortune of being flooded.

The hi-fi survived unscathed but one of the sandboxes was a write-off. The other one was put into a cupboard (minus sand) and forgotten about. It resurfaced during a recent house move and on my visit was offered to me if I had any use for it.

It is very well made from 20mm pine and measures 530 x 450 x 70mm. The outer surface is stained a cherrywood colour and the MDF top shelf is finished in black. This sits within the body of the box, with about 1mm clearance all the way around. I pondered for a moment and then thought that it would make an interesting experiment as a turntable support so brought it home with me.

The turntable that I was most keen to try it under was my Clearaudio Master Solution. This usually sits on a Voodoo Airtek support which I have had for a number of years.

It consists of a veneered wooden cabinet with two bicycle inner tubes inside it. It copes with the weight of the Master Solution but it is close to the limits of its capabilities in this situation. I have continued to use it

though, because I like the sense of air and spaciousness that it gives to the sound of anything mounted on it.

I have another one under my LP12 on the upstairs system and all decks that visit the house take up residence on a third example so that everything that I listen to has similar underpinnings.

The Voodoo Airtek stands on a Pro-Ject Wallmount it 2 support made of a welded steel frame that is bolted to one of the external walls of our pre-war, brick-built house. Within this frame are four adjustable spikes which support a veneered wood shelf.

After checking the measurements I realised that the sandbox would overlap the edges of the frame a little but the shelf sat high enough above the frame so that there was no contact between the frame and the sandbox.

Even without the sand in it this box is quite a substantial piece of woodwork and I was initially a little concerned about the weight that I was about to put on the Wallmount it 2 – so I tried sitting on the wall shelf. Since it took my weight I decided that it was safe enough to risk loading it up with the sandbox and my beloved turntable.

A quick trip to our local builders merchant produced a bag of sand that, according to the label, was pure enough to be used in children's sandpits (use kiln dried silver sand – NK).

I was lucky enough to start this project just as the weather turned from incessant rain that has blighted this winter to sun, so I took advantage of the dry, sunny days to spread the sand out on a tarpaulin in the garden to dry it out thoroughly.

Once I was absolutely sure that it was dry I took the sand inside and began filling the box up. I put enough

sand in to leave the top of the shelf sitting a little below the surrounding box edge and began the laborious task of getting it level.

I fashioned handles for the shelf from gaffer tape so that I could lift it in and out without disturbing the sand underneath and began the task.

One tea break and a great deal of fiddling later I felt that the shelf was level and stable enough to put the record deck on. So I removed the gaffer tape handles from the shelf, dropped it into place and lowered the deck on.

Even though the weight distribution of the deck is uneven over the shelf with the mass of the motor to one side and the arm on the other I found that the shelf was still level and stable.

Once I had reconnected the deck to the Leema Agena phonostage I played a few records and started to get to know this new take on a familiar sound.

As with the majority of changes like this, there were pros and cons. I found that I like the weightier and seemingly deeper bass sound that I am now getting — although whether this depth is a false perception caused by the greater mass behind the notes I am not yet sure.

But there is also a certain freedom to the sound of the midrange that I am finding that I am missing. Possibly due to the more impactful attack of the start of a beat, rhythms seem a little tighter and more energetic which is always engaging to listen to.

As with so many experiments like this, extended listening over a wide range of music and mood will ultimately decide whether I continue with this set up, or revert to the Voodoo Airtek.

I'll update you on how things progress as always. ●

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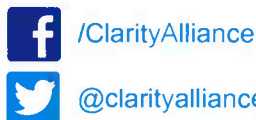
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clarity

“a device may well play high-res audio, but that doesn’t mean it will sound any good”



Noel Keywood

I never really got on with my iPhone, so it’s gone and I am slightly taken aback by the replacement – it plays high-resolution audio! This I did not expect.

I’ll tell you now it sounds worse than the low-resolution iPad Mini I bought the other day, illustrating just how confusing mobile sound can be. In a nutshell, a device may well play high-res audio, but that doesn’t mean it will sound any good. I think we’ll be seeing a lot more of this ‘is it high-res or isn’t it?’ confusion in future. But I also think we can put a number on what hi-res is.

What I got to replace the iPhone was – somewhat inevitably – a Samsung Galaxy, the Note 3. When Apple recently updated iOS with newly illegible spindly typeface I’d had enough of peering at its tiny screen and fumbling with the mini keyboard; my fingers are just not that small.

And when I originally went iPhone many years ago, after having a Samsung, reception went out of the window – literally. I often had to hang out of the window to make a call, using the special iPhone grasp to keep my fingers away from its inadequate aerial. Having people yelling down their phones that I was breaking up was unsettling and a tad embarrassing: I was the Barney Rubble of modern comms.

And synchronisation with iTunes was not only a pain but caused music and video files to disappear from the phone altogether. One minute I had an HD video on the phone, next minute I did not.

What a different experience the Samsung is. A large screen (full HD), clear typeface and graphics, better phone sound quality, reliable reception from a decent internal aerial and a host of advanced features unknown to iPhone have made me realise I was living in the

dark. But my real surprise came when I casually swung a 24/96 FLAC music file into memory, using an Android loader on my Mac Mini – and it played! Where the iPhone (like the iPad) remains buried in the past, limited to 48kHz sample rate files, the Samsung plays right up to 24/192 WAV and FLAC.

I’d like to be able to say I was bowled over by sound quality but I wasn’t. It was obviously mediocre, with muted dynamics and a ho-hum demeanour: this isn’t a phone to get the blood pumping. Perhaps that’s just as well because then high-resolution players would have no *raison-de-etre*. But it was nice to be able to load tracks and have them play all the same. The iPhone was irritating in this respect.

This situation reminds me of a maxim used in modern audio electronics: no-play scenarios are unacceptable. Warning messages that “the format is unsupported” are not what users want to see. Sadly, this understanding hasn’t been embraced by Apple with their mobile iOS (no problems with OS-X Mavericks). More agnostic manufacturers like Samsung are able to casually build something that plays, rather than something that doesn’t want to and throws up excuses why.

I should be railing against sound quality perhaps, but it is a mobile phone after all. So much is crammed into these devices it is surprising they handle audio at all. The Galaxy 3 in Notepad form allows me to handwrite e-mails, handwrite notes and draw circuits and such like in my e-mails. Yep, this is a phone you handwrite into. But it isn’t driven by steam!

Unfortunately, though, the human interface is as understandable as an introduction to nuclear physics written in Cantonese. Pop-up screens emerge from top, bottom, right and

left to inform me of all possibilities available, irrespective of whether they are of any facility. Warning panels with ‘OK, Delete and Cancel’ options are an on-screen plague; getting rid of them is like swatting flies.

I knew I had to accept this confusion to enjoy the technology, notably its ability to turn handwriting into text with little error. Modern text and speech recognition systems are becoming efficient, even if Siri couldn’t recognise “carbohydrates” as a PR man bellowed into an iPhone 5S the other day as he tried to convince me this was the future. And the Notepad 3 must be switched from Text to Numeral mode to prevent it confusing 7 with Z. Doh!

But this new phone reminded me of Sony’s NWZ-F886 Walkman we reviewed in the April 2014 issue. Hi-res does not necessarily mean better sound; high-resolution digital audio will not sound better unless all downstream circuits can support its quality and the big limitation here is panning out to be the headphone drive amplifier.

In a nutshell most are horrid: they’re noisy, have miserable dynamic range and sound flat and unengaging. The Sony, which I suspect is a modded Xperia phone, measured 96dB Dynamic Range and the Samsung 95dB. Portables fitted with weedy headphone drive chips consistently come in at these values, whereas CD players measure around 100dB and high-resolution portables (real ones!) measure in excess of 105dB, 115dB being achieved by the Astell&Kerns. So there’s a big difference between low-res/high-res portables and truly high-res/high-res portables, if you see what I mean!

It’s still handy to be able to load high-res files and have them just play, to paraphrase Apple. But I’ll not be abandoning my Astell&Kern AK120 for the Notepad 3 anytime soon. ●

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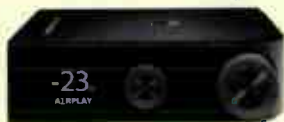


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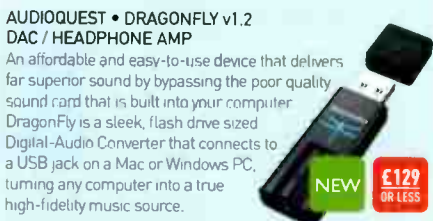
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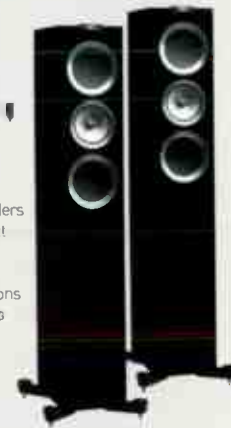


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VPI TRAVELER TURNTABLE 83

Tony Bolton is impressed by a new high-end turntable from VPI

ORTOFON QUINTET BLACK MC CARTRIDGE 89

Ortofon's latest moving coil cartridge is superb value for money, says Tony Bolton

news

NINJA'S TUNES

A double album, 'Jaga Jazzists Live With Britten Sifonia' is handsomely arranged with a varying textural and tonal voyage complete with symphonic jazz vibes.

Also look out for Fink & The Royal Concertgebouw Orchestra's 'Live In Concert' which mixes Fink's own subtle and melodic songwriting with a full orchestra. The collaboration is a true balanced partnership which leads to a magical contemporary classical live recording.



MORE ROCK

Classics abound on the rock front including The Cult's 'Electric' (1987, Beggars Banquet) which stemmed from an earlier project 'Peace', an unhappy series of sessions. Both are included in one neat package. Ideal for fans.

The Birthday Party's 'Live 81-82' (1999, 4AD) stitches together London, Germany and Athens live cuts. Stunning...in the true violent sense of the word.

Uriah Heep's 'The Magician's Birthday' (1972, Wax Cathedral) offers highlights rather than consistent quality.

Also look out for power metal German outfit Running Wild's new release 'Resilient' (SPV) which will appeal to more mature metal fans who prefer

straightforward rock. Finally, do yourself a favour and grab Marillion's 2012 release, 'Sounds That Can't Be Made': a little cracker, the fans will love it. Emotionally literate, the band continues to innovate



SPV: ROCKIN FINE

Via German label SPV (www.spv.de) and New Jersey comes vibes from Southside Johnny and the Asbury Jukes' fine 1976 release, 'I Don't Want To Go Home' with songs written by Bruce Springsteen and Steve Van Zandt plus guest vocals from Ronnie Spector and Lee Dorsey.

Next is Mother's Finest's superb, self-titled debut which infused a healthy slice of funk within the rock that sounded even better live than in the studio. Raging Slab's eponymous 1989 release is clearly inspired by seventies rock but possibly puts the brakes on when you feel that the band wanted to freak out.

Also look out for Molly Hatchet's 'No Guts...No Glory' (1983) which returns to the powerful output of the band's debut; Pro-Pain's new hardcore punk/speed metal of 'The Final Revolution' which is tight in construction but a little uninspired and Grim Reaper's 'Rock You To Hell' a forceful, melodic outburst.



JUICY JAZZ

New from Gearbox (www.gearboxrecords.com) is Tubby Hayes Quartet's 'Seven Steps To Heaven: Live At The Hopbine 1972' a comeback gig after serious heart surgery, a rather more restrained yet still rewarding set.

Charlie Rouse & Paul Quinichette's 'The Chase Is On' (1957; *Pure Pleasure*, www.purepleaserecords.com) exhibits two contrasting tenor sax styles packed with fun, frolics and innovation.

Paul Desmond's alto sax on 'Blue' (1962; *Pure Pleasure*) appears with string backing for the first time. Rich yet subtle and quite soothing.

Marvin Ash's self-titled LP (1954; *Jump*, www.discovery-records.com) is a superb piano-based LP full of superior standards. Great for fans of stride and trad-jazz piano.

Manny Albam's 'The Jazz Greats Of Our Time Vol.1 & 2' is a dual LP sequence of his arrangements and compositions. A top-notch suite featuring the likes of Art Farmer, Hank Jones, Zoot Sims, Gerry Mulligan, Harry Edison and Shelly MANne.

Also look out for Dave Stapleton's 'Slowly Rolling Camera' (Gearbox) which has a sweet, Ninja Tune-esque vibe.

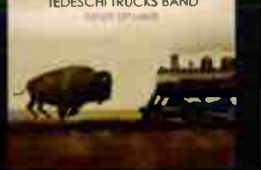
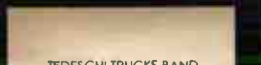
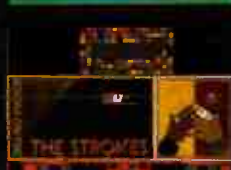


MUSIC ON VINYL

New from MOV (www.musiconvinyl.com) is Boston's 'Don't Look Back' (1978) producing a similar structure to the popular self-titled 1976 debut. An LP packed with riffs and melodic hooks.

The Strokes' 'Room On Fire' is a bright, full second album from 2003 with plenty of crafted moments and surprises.

Also look out for Booker T & The MG's classic 'Doin' Our Thing' (1982) and the Tedeschi Trucks Band's new LP 'Made Up Mind' which improves the songwriting and arrangements from their 2011 debut 'Revelator'.



GORY GORIES

New from White Stripe man Jack White's record label Third Man Records (www.thirdmanrecords.com) is White Stripe influence The Gories' 'The Shaw Tapes: Live In Detroit 5/27/80'. Formed in 1986, the band constitute two guitars and drums (no bass) offering expressive, raw garage punk. Here, you have unrestrained, undervalued rock that barely holds its form within a small venue. A perfect recipe for savage ferocity then.



...AND FINALLY

Check out Paroni Paakkunainen's 'Plastic Maailma' – his first LP from 1971. A milestone in the Finnish prog scene (he was associated with Karelia and Wigwam). King Crimson fans should take a look.

Jackson Brown's 'Where The Shadows Fall: The Classic 1972 Broadcast' (*Let Them Eat Vinyl*, www.letthemeatvinyl.com) featured music that would appear on the album 'For Everyman'. A unique document for fans.

Two new releases from Jace Everett, influenced by gospel and the country music of Waylon Jennings, 'Terra Rosa' has biblical references while, in contrast, Everett is also responsible for the 'True Blood' Vampire TV show theme tune which appears on the 12in single 'Bad Things'. Everett certainly has that outlaw approach to his work which will impress those who like country music with an edge.

'Peppermint Twist: Rockin' Twist Instrumentals Exotica and other sounds from Spain 1958-1966' (*Munster*, www.munster-records.com) is the wordily titled double LP, a sparkling conglomerate of rock'n'roll, doo wop, surf and more.

Onto the Colombian folk/dance champeta via 'El Maravilloso Mundo de Abelardo Carbono' (*Vampi Soul*; www.vampisoul.com) produces a raw sound with a conglomerate of multi-cultural influences to spice things up.

From Static Caravan (www.staticcaravan.org) is Laura J Martin's 'Dazzle Days' which mixes chamber pop and folk to effect when she is not being too overly playful.





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Magical Mystery Tour

Tony Bolton packs his musical luggage and goes on a journey with the VPI Traveler turntable.



In the December 2013 issue of this magazine I reviewed the VPI Scout 1.1 turntable and was rather impressed by it. With this in mind I was pleased to be offered the opportunity to review another one in the VPI range so I decided to try their most affordable deck, the Traveler (my spell checker isn't broken, this is the American spelling), priced at £1650.

VPI are based in New Jersey, USA. By their standards this is quite a compact deck that, according to the manufacturer's figures, needs a space

of 19 x 15 inches to accommodate it, and weighs 24lbs. It is supported on four coned feet tipped with rubber, called "Tip Toe Feet". These are on threaded bolts so can be adjusted to level the deck.

The plinth is made of three parts, the main body being of machined aluminium. Bonded to this is a stainless steel damping plate that is topped by a textured acrylic finish that can be supplied in the vibrant red of this example, or four other colours.

The pulley for the 24V AC motor, rotating at 500rpm, protrudes

through the top of the plinth. Speed change between 33 and 45 is accomplished by simply moving the belt between steps on the pulley. Power is supplied by pressing a button that resides to the left of the platter on the plinth.

The substantial platter is made from 0.8 inch thick machined aluminium, damped with stainless steel and is topped with a mesh mat made from Neoprene. The drive belt is made of a high silicon content rubber.

The platter sits on a stainless steel bearing housing that uses a



The screw that secures the arm in position is on the left of the arm mounting. The signal output sockets at the back of the deck are sensibly spaced. The counterweight setting is adjusted by rotating the round knob on the back of the arm

ball resting against a PEEK thrust pad. This is Polyetheretherketone, a semi-crystalline thermoplastic with excellent mechanical and chemical resistance properties, used extensively in the aerospace, automotive and electronic industries.

The gimbaled Traveler arm is made of stainless steel, as is the counterweight. This runs on a Delrin housing that is attached to a worm gear inside the arm stub. The tracking force is set by rotating the chromed knurled knob at the back of the arm which moves the counterweight backwards and forwards. The weight must not be moved by hand or damage will result.

The arm wiring is a single run from the cartridge plugs through to the plug that is inserted into the socket at the back left of the arm. This cable has twist on it which should provide adequate anti-skating force for most occasions, but more can be added by twisting the cable further and reinserting it in the socket. The lead is made from VPI's own low capacitance Discovery wire that has a low friction PTFE dielectric.

Set up is fairly straight forward, an alignment jig is supplied which fits over the spindle and locates against the arm rest. Apart from the usual grid, an arc is printed across the jig so that the position of the stylus can be checked right across the area of play. Little touches like this inspire confidence in the thought that has gone into executing this design.

The arm drops into a Delrin housing and can be easily removed for cartridge changes. Arm height can be set by slackening the screw at the right of the mounting block and rotating the knurled ring on the arm pillar.

Once it was all set up on the downstairs system, I started playing records. Like its more expensive sibling, the Scout 1.1, the motor made a short series of scrabbling noise as the belt got to grips with rotating the mass of the platter. Once

“... the attack of the beat ... came closer to the punch of an idler drive deck than I am used to hearing from belt drive units.”

the platter's inertia was overcome, rotational speed was attained quickly at both 33 and 45rpm.

I gave the deck about 20 hours of use to allow the bearings and motor time to bed in and started wandering through my record collection. I was playing classical music at this point and found the 1961 'Concert At the White House' relayed in beautiful detail. This concert, by Pablo Casals, in front of the Kennedy family, took place in the East Room of the White House.

The engineers did a superb job in capturing the ambience of the venue as well as wonderful performances of Mendelssohn, Couperin and Schumann by the then 82 year old cellist. He was accompanied by Alexander Schneider on violin and Mieczyslaw Horszowski on piano. The tonality of the instruments seemed pretty accurately displayed, and the slower elements of the music were handled with due reverence, but a certain level of restraint. Where the pace of the music picked up there seemed to be a rush of enthusiasm from the deck to reproduce the more rhythmically obvious aspects

of the score. Later on I found that the more uptempo pieces by Mozart and Rossini were reproduced with a certain gusto to the beat which made them romp along in a quite jovial manner.

Having discovered this deck's rhythmic abilities, I explored them through my jazz collection, finishing with Kenny Ball and His Jazzmen playing live at the London Palladium in 1961. This version of 'High Society' has to be one of the hottest jazz tracks that I possess. The band were really on form, taking the tune at a cracking pace, and the sounds that Dave Jones extracted from his clarinet during the Alphonse Picou solo, shadowed for part of it by Ball on the trumpet, have probably never been heard before or since. If you like your jazz superheated then this is must for your record collection.

The Traveler seemed to be in its element with this sort of music, letting the sounds flow with

a seemingly unstoppable drive to the beat. This is the last track on side one, and the cleanliness of the sound was a testament to the lower tracking error inherent in the 10.5 inch length of the arm. Although not quite as good as a 12 inch one would be, it left any 9 inch unit that I have heard standing in terms of lower inner groove distortion and an ability to track quite complex waveforms with equanimity.

Since it seemed to track inner grooves very well I tried playing some of my '60's singles. I found that

The twist on the signal lead adds anti-skate compensation and can be twisted more should more anti-skate be required. The knurled ring just above the arm base can be rotated to set the arm height.





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The horizontal bearings use stainless steel points running in sapphire sockets. The vertical bearings use stainless steel for all components.

increasing the twist on the arm lead by one turn helped the stylus to sit correctly in the mono grooves of these discs, with the result that the Beatles single, 'She Loves You', kicked off with real impact and drive behind the opening beats of Ringo Starr's drums. This copy is in very good condition, and through this deck it sounded nearly mint. I like Benz Micro cartridges for their ability to ignore groove damage and



The textured surface of the acrylic chassis top can be clearly seen. The stainless steel bearing housing is bolted to the stainless steel damping plate below the acrylic surface.

focus on the music, and the Ace did an excellent job mounted on the Traveler arm.

Less well cared for records also sounded very good, with a focus on the attack of the beat that came closer to the punch of an idler drive deck than I am used to hearing from belt drive units.

I finished off listening to 'Museum of Consciousness', the fifth studio album from my favourite Progressive Trance outfit, Shpongle. The music varies from haunting vocals by Michele Adamson through to fairly banging hardcore dance beats. The Traveler played them all with what I have come to see as its customary aplomb, with a distinct flow to anything that had a rhythm to it.

Soundstaging was good, with the usual electronica tricks of sounds swooping across a quite wide and deep soundstage, being well displayed.

Overall this is a very good deck, although I felt that there was a certain gravitas missing when playing some more 'considered' types of classical music. The Scout 1.1 had a more mature presentation of such music and would be my first choice out of the two decks if I mostly played classical sounds. I would say that this deck is aimed more at the jazz, pop and dance music user, where its way with rhythms, and projection of vocals, were amongst the best I have heard at this price point.

The gains in tracking ability conferred by the use of a 10.5 inch arm allow even much loved pop singles to sound good through a full bandwidth hi-fi. This is something a lot of high-end decks cannot do, and there is a straightforwardness to the sound of the Traveler that makes you forget that you are listening to a turntable, and get on with just enjoying the music.

CONCLUSION

The Traveler's infectious attitude to rhythms will cause you to 'strut your funky stuff' across the sitting room as you play

SYSTEM USED

Benz Micro Ace SL cartridge
Leema Acoustics Agena phonostage/ Tucana II amp
Chario Ursa Major loudspeakers

records, so don't blame me if you get odd looks from your friends and family. It is just part of the Traveler experience.

So although this deck is not at its best with classical music, I am awarding it 5 globes all the same, because it does everything else so well. It makes music fun and thoroughly enjoyable, and if your musical taste coincides it's strengths then it is must for the audition list.

MUSIC USED

Pablo Casals, Alexander Schneider, Mieczyslaw Horszowski. 'A Concert at the White House.' Columbia Masterworks. KL 5726. 1961.

Kenny Ball and His Jazzmen. "Kenny Ball and His Jazzmen." Pye Jazz Records. NJL 28. 1961.

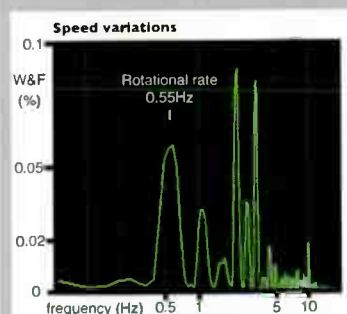
The Beatles. 'She Loves You'. Parlophone Records. R 5055. 1963.

Shpongle. 'Museum Of Consciousness'. Twisted Records. TWSLP45. 2013.

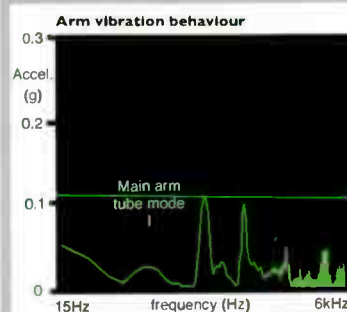
MEASURED PERFORMANCE

The turntable was accurate in speed, rotating just 0.1% fast. Basic speed

SPEED VARIATION



ARM VIBRATION



stability was typical of belt drives, unweighted wow measuring 0.2%, normal enough for an inexpensive turntable, but not exceptional for one of this price. Flutter was higher than usual and there are some unusual peaks in our analysis. An upgrade mod was sent to Tony Bolton to fix this. Since the Wow and Flutter reading was achieved before modification, flutter reduction would help improve this to around 0.15% or better, a good result, because our analysis shows basic rate wow at 0.55Hz is low; only flutter was a problem.

The arm tube exhibits a main bending mode at 230Hz, a normal value for an untreated tube. The peak visible in our analysis is not high, so the effect is well controlled and coloration minimal. The solid machined headshell is fairly silent though, resonating little at higher frequencies, so treble should be quite clean and well separated.

The Traveler turntable and arm both measure well, with the flutter mod giving better results than those published here.

NK

VPI TRAVELER TURNTABLE

£1650.00



OUTSTANDING - amongst the best

VERDICT

A solidly constructed and well finished turntable that has an infectious enthusiasm for any beat driven music.

FOR

- excellent rhythmic abilities
- very good tracking
- good vocal projection
- deep, fast bass

AGAINST

- acceptable but unexceptional replay of classical music

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Quintet essential

Tony Bolton finds himself beguiled by the charms of Ortofon's latest Moving Coil cartridge.

Danish cartridge manufacturers, Ortofon, have recently replaced both the Rondo and Vivo ranges of Moving Coil cartridges with an entirely new series called the Quintets. This consists of five models, ranging in price from £199 for the Red through to the £649 range-topping Black model under discussion here. There is also a dedicated Mono version available, priced at £325.

They all share a body made of ABS (Acrylonitrile/Butadiene/Styrene). This is a thermoplastic material which is lightweight and impact resistant, as well as providing a durable scratch resistant surface. Internally Neodymium magnets are fitted.

The cantilever on this model is made from Boron and is tipped with a Nude Shibata diamond which has a wide contact area with the groove walls for maximum detail retrieval.

The bodywork is well thought

The profile of the nude Shibata stylus can be clearly seen in this image, as can the glue which fixes it to the Boron cantilever.



out, with square edges and the cantilever clearly visible, making both alignment and cueing up an easy task. I set the tracking force on my Clearaudio Magnify arm to the recommended 2.3g and settled down to the task of running in the cartridge.

For the first couple of hours of listening the sound showed a very deep bass but a rather rolled off treble. However this started to loosen up a bit after while so that by the time it had about 10 hours of playing the mid-band was opening up and the treble was showing a little more presence.

After about 25 hours I settled down to do some focussed listening

“the impact of the cannon going off would have been enough to cause structural damage to the house if I had had it any louder.”

and started off with Peggy Lee's soothing tones telling me that 'My Heart Belongs To Daddy'. This was from Lee's first LP, originally released in 1953 in America as a 10-inch LP with eight tracks. Four more songs were added to create the 1956 12 inch release on the American Decca label. This copy is the UK release from 1961. It has been well-loved over the years but plays without too

much intrusion from groove damage – and the Quintet Black did an exemplary job

of ignoring the wear and focussing my attention on the music. In the process it demonstrated a lively attention to the slowly swinging beat of the song. The sound was rich, soothing and really rather seductive, with a deep soundstage that drew me into it quite effortlessly.

After this, I felt like listening to something a little more vibrant and went to the opposite musical extreme with Suede's third LP, 'Coming Up'. This contains all of the swaggering vocals that Brett Anderson excelled at, backed with



F•X by Funk

Or, the Lost Chord

Modified Rega owner:

"I didn't expect it to be bettering my Immedia, which it has.. and my Immedia has been up against SME, several Graham's, Tri-planar's, Naim, Goldmund's, Ikeda, Pluto, VPI... Clearly someone is happy. Why not try for yourself?"

Your cartridge must be held precisely and never allowed to vibrate. If it does, musical information is lost. It can never be retrieved.

Well, all arms use tubes, even those costing £3000+ ...and it is the property of a tube that it rings...ever heard a wind chime? So tubes are anything but rigid.

Contrary to common lore, then, it is Arm Rigidity *and not bearings* that matters. Damping tubes smears the energy; adding holes and you have a flute.

Funk's F•X Rega mods (£960 +p&p) mates a cross-member within a suitable tube.

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The pins are a two-piece design. The outer shell has a bullet insert which grips the wire inside. This gives a better connection than soldering.



Richard Oakes heavily-distorted guitar lines. It sounded very good but I felt that the extreme edges of such harsh sounds were ever so slightly rolled off. The Quintet Black seemed to err towards sonic good manners rather than absolute honesty. This didn't detract from my enjoyment in anyway though and the rolling bass lines from Mat Osman carried the music along in a vivid and colourful manner.

After this I went back to calmer waters with Simon and Garfunkel's 'Greatest Hits'. The overall smoothness of the treble presentation was well suited to the simpler arrangements of guitar and vocals, with a real sense of the performers being present in the room in front of me. Whether it was the delicacy of 'Scarborough Fair' or the groovin' beat of 'Cecilia' the sound was thoroughly involving and enjoyable, presented with an air of breeding that belied the price of this cartridge.

The next day I went on a ramble through my classical LPs, finishing with a high-volume rendition of Tchaikovsky's '1812 Festival Overture'. This recording, complete with cannon and carillon, is a true tour-de-force and the Quintet Black seemed to be in its element.

The tonality of the instruments in the orchestra was good. Violins in particular had a satisfying rasp to their sound, while the impact of the cannon going off would have been enough to cause structural damage to the house if I had had it any louder. This is a majestic piece of music and the Black showed it off with a suitable scale and colour to the sound that again had me double checking the price of this cartridge.

CONCLUSION

The Quintet Black is something of an audiophile bargain. It seemed to deal with any type of music that I played through it with decorum and an air of quality that is unusual at this price point.

There were a couple of

occasions where I felt that it erred a little too much towards smoothness – but the benefit of this was a complete lack of listener fatigue and an enjoyment of the music without

being distracted by the condition of the record.

It possesses the sonic class of the old Kontrapunkt b, but is priced at an affordable level that should allow it to enjoy the success that it deserves.

It is a very good cartridge that will, I am sure, be extremely successful and will be a welcome addition to any hi-fi system.

SYSTEM USED

Clearaudio Master Solution/
Magnify arm.
Leema Acoustics Agena phono-stage/
Tucana II amp.
Chario Ursa Major loudspeakers

MUSIC USED

Tchaikovsky. '1912 Festival Overture Op.49 (Original Scoring). Antal Dorati conducting the Minneapolis Symphony Orchestra with Bronze Cannon, Douay, France (1775), Bells of the Laura Spelman Rockefeller Centre Memorial Carillon. Spoken commentary by Deems Taylor. Mercury Olympian Series Records. AMS 16010. 1959.

Peggy Lee. 'Black Coffee'. Ace of Hearts Records. AH 5. 1961

Simon and Garfunkel. 'Greatest Hits'. CBS Records. 69003. 1972.

Suede. 'Coming Up.' Nude Records. NUDE 6LP. 1996.

MEASURED PERFORMANCE

Much like the other Black models from Ortofon (Cadenza, 2M etc) the Quintet has steadily falling treble and aims for a smooth-to-warm sound balance. Our response analysis shows output -2dB down around 10kHz so the effect is not great, just enough to give a svelte quality without obviously detracting from detail. Inner groove losses (red trace) were relatively minor, just -0.5dB or so at 10kHz and -3dB at 20kHz so the end of an LP side will not sound obviously dull, due to the use of a Shibata profile stylus that reads short mechanical wavelengths well. The Quintet will not sound bright though, far from it.

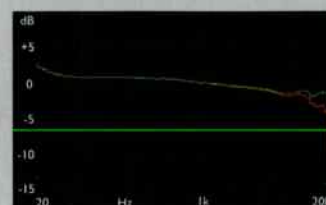
Output was low at 0.5mV at 5cms/sec rms so the Quintet needs a quiet MC phono stage with plenty of gain; budget MC stages may not work so well in this

respect.

Tracking was good at low and medium frequencies, if not up with the best as top level cuts were not tracked with confidence. Channel separation was very high as Ortofon's go, measuring 32dB. Vertical tracking angle was high too, at over 30 degrees, which raises distortion on vertical modulation (Left and Right images) to 5%. As this is mostly second harmonic though it is usually difficult to detect.

The Quintet Black will have a mild balance and smooth treble quality as there is no peaking. It's output is a little low, but not impractically so. With good tracking it's a strong performer. **NK**

FREQUENCY RESPONSE



| | |
|--------------------------|--------------|
| Tracking force | 2.3gms |
| Weight | 9gms |
| Vertical tracking angle | >30degrees |
| Frequency response | 20Hz - 20kHz |
| Channel separation | 32dB |
| Tracking ability (300Hz) | |
| lateral | 63µm |
| vertical | 45µm |
| lateral (1kHz) | 23cms/sec. |
| Distortion (45µm) | |
| lateral | 0.7% |
| vertical | 5.5% |
| Output (5cms/sec rms) | 0.37mV |

**ORTOFON QUINTET
BLACK MOVING
COIL CARTRIDGE**
£649.00



**OUTSTANDING - amongst
the best**

VERDICT

Very well mannered, but sprightly sounding cartridge from respected Danish manufacturer

FOR

- very smooth midband and treble
- excellent surface noise control
- fast and fluid bass sound

AGAINST

- high frequencies may be a little laid-back for some

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| ALMARRO 5012A VALVE INTEGRATED AMP | Suffolk | £1 500 |
| ANATEK CM0 5 PASSIVE PREAMP WITH REMOTE CONTROL | Suffolk | £495 |
| ARIAND PRO845 MK 1V SINGLE-ENDED INTEGRATED VALVE AMPLIFIER | Kent | £999 |
| ARCAM ALPHA 10P POWER AMP- 3 CHANNEL | Suffolk | £350 |
| ART AUDIO JOTA 300 B-XLS SINGLE ENDED TRIODE | Suffolk | £4 000 |
| AUDIO ANALOGUE BELLINI PREAMP | Suffolk | £350 |
| AUDIO ANALOGUE DONIZETTI POWER AMP | Suffolk | £350 |
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| AUDIO INNOVATIONS 500 INTEGRATED VALVE AMPLIFIER WITH BUILT IN PHONOSTAGE | Suffolk | £600 |
| AUDIO INNOVATIONS L2 VALVE PRE AMP BORDER PATROL UPGRADE | Suffolk | £575 |
| AUDIO RESEARCH CLASSIC 60 VALVE POWER AMPLIFIER | Suffolk | £1 500 |
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| AUDIO SYNTHESIS DESIRE DECADE POWER AMPLIFIER | Suffolk | £1 500 |
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| CHORD CHORDETTE SCAMP POWER AMP- GOOGLE SPECIAL EDITION | Suffolk | £550 |
| CROFT ALEMBC OTL VALVE POWER AMP | Suffolk | £500 |
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| CYRUS PSX-R POWER SUPPLY, IN QUARTZ | Suffolk | £300 |
| EASTERN ELECTRIC PREAMPLIFIER - WITH BORDER PATROL POWER SUPPLY | Suffolk | £700 |
| GAMMA ERA REFERENCE VALVE PREAMP | Suffolk | £850 |
| GAMMA SPACE REFERENCE VALVE AMP 300B | Suffolk | £1 750 |
| HEART BEAT 300B SINGLE ENDED VALVE MONOBLOCKS | Suffolk | £1 000 |
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| HORNING SATI 520B VALVE AMPLIFIER WITH PSU | Suffolk | £5 600 |
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| MUSICAL FIDELITY A1 FINAL EDITION INTEGRATED AMP BOXED, WITH BUILT IN MM/MC | Suffolk | £750 |
| MUSICAL FIDELITY A308CR PRE AMPLIFIER | Suffolk | £725 |
| MUSICAL FIDELITY M6i INTEGRATED AMP | Suffolk | £1 750 |
| MUSICAL FIDELITY X-A2 AMPLIFIER WITH PSU | Suffolk | £350 |
| NAIM NAP 250 POWER AMPLIFIER | Suffolk | £850 |
| NAIM NAC 62 PRE AMPLIFIER | Suffolk | £300 |
| NIGHTINGALE ARMONIA INTEGRATED VALVE AMPLIFIER | Kent | £1 500 |
| NIGHTINGALE ADM-32 INTEGRATED VALVE AMPLIFIER | Suffolk | £2 000 |
| NVO SPA ONE PHONOSTAGE | Suffolk | £2 950 |
| PARASOUND MC275 POWER AMP | Suffolk | £300 |
| 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 |
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| TRAFOMATIC EXPERIENCE TWO 300b VALVE AMP | Suffolk | £2 000 |
| VERITAS P400 240WATT POWER AMP | Suffolk | £600 |
| YAQUIN MS 300B SINGLE ENDED INTEGRATED VALVE AMP | Suffolk | £550 |

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| KEF LS50 LOUDSPEAKERS- BOXED | Suffolk | £575 |
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| WLM LA SCALA SPEAKERS | Suffolk | £1 500 |

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| | | |
|--|---------|--------|
| ARCAM FMJ CD37 CD PLAYER | Suffolk | £800 |
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| NAIM CD5 SI CD PLAYER | Suffolk | £675 |
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| WADIA DIGIMASTER X32 DAC | Suffolk | £450 |

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| | | |
|--|---------|------|
| AUDIOQUEST CASTLEROCK 3m B1WIRE 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 | £500 |
| KUBALA SOSNA EXPRESSION DIGITAL 1M INTERCONNECT | Suffolk | £400 |
| MISSING LINK " LOG-RHYTHM" MK2 TONEARM CABLE | Kent | £350 |
| SILTECH G7 330th ANNIVERSARY 1M PAIR INTERCONNECTS | Suffolk | £499 |
| SYNERGISTIC RESEARCH RESOLUTION REFERENCE MK2 1M BALANCED XLR CABLES | Suffolk | £500 |

MISCELLANEOUS

| | | |
|--|---------|--------|
| ACCUPHASE 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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TERMS AND CONDITIONS: Only one advert per reader. No Trade adverts. This section is strictly for readers selling secondhand hi-fi equipment only. Maximum length per advert is 30 words. Adverts over 30 words will not be accepted. Telephone numbers and E-mail addresses are treated as one word. Model numbers are treated as one word i.e. Quad 303 = two words. Email your advert to; classifieds@hi-fiworld.co.uk or fill in the form on page 97 and post it to Hi-Fi World Free Readers Ads, Studio 204, Buspace Studio, Conlan Street, Notting Hill, London W10 5AP. Sorry, we cannot accept adverts over the telephone. The Publisher reserves the right to judge submissions.

BRACKNELL 2014 Hi-Fi sales event. Sunday 1st June 2014. Venue at Bracknell Leisure Centre, Bracknell, Bucks, RG12 9SE. A good mix of vintage and modern hi-fi equipment for sale. Now its 5th held here. Please phone 07846-002164 for more details.

FOR SALE or P/Ex. N.O.S. tested power valves. Offers? 3 unused 6C33C/B in boxes. 2 pairs 6C33C/B used. One pair N.O.S. GE6A57 GA in boxes. 2 Quads STC 12E1 N.O.S in boxes. 2 pairs N.O.S. STC 12E14, boxes. 4 Mullard N.O.S P230 high current F.W. Rec. The STC 12E1 and 12E14 replace EL34, 15% more power, adjust bias to suit. Ruggedised. Might P/Ex for quality s/h mains or power output transformers for valve amplifiers. Wanted: Chromed Quad II monoblock chassis only (no Quad transformers) Ten PL509 valves bases. Ten N.O.S. Octal valve bases. W.H.Y? Tel: 07508 180 764

GARRARD 401 SME arm, Ortofon cartridge plus phono amplifier, £775. Cambridge Azur amp/CD, £225 each. Cambridge DAB tuner, £60. Sony TC WE475, £75. Sennheiser headphones, £125. Will demonstrate. Phone for details. Tel: 01159 754 070 or 07791 363 434

ROTEL RA-10 amplifier, £260. Marantz CD6005 CD player, £180. Both under one year old. Tel: 01732 457 712 (Kent)

QUAD SYSTEM: 34 pre-amp, 306 power amp, FM4 tuner, Quad rack, ESL63 speakers. Can demonstrate. £750 ono. QC 24 pre-amp, £400. Buyer collects. Tel: John 01932 563 953 or Email: cobscolley@btinternet.com (Staines area)

GAMUT L3 birds eye maple speakers plus Partington Dreadnought stands, £1875. Krell KAV-400xi integrated amp plus KAV-280CD player, £1950. Primare I30 integrated amp plus CD31 player, £1650. Michell Gyrodec SE + SME + Rega arm bds, £775. Tel: 01474 326 220 (Kent)

NAIM CDi, low hours, mint, £375. Meridian 557 power amp, mint, £750. Wanted: pair of Sonus Faber speakers and Quad 405/2 amp. Tel: Phil 07973 426 291

PAIR ART Skibo floorstanding speakers, light wood finish. One speaker slight damage but working fine. Will demo. No boxes. collect only. £425 ovno. Tel: Vic 01745 822 992 (North Wales)

WANTED: COPLAN CSA28 hybrid integrated amplifier. Must be one owner and in excellent condition. Cash waiting. Tel: 020 7263 5702 after 7pm

QUAD 57 speakers in gold. Very good condition. £450 ono. 01798865699. b@igent.co.uk (West Sussex)

REL Q50 sub-woofer. Neutrik cable 3m, phono to phono cable, manual. Room too small. Excellent condition. £210 ono. Tel: 020 7623 5702 after 7pm

REQUIRE TO replace Sansui QRX 9001/999 Quadraphonic tuner/amplifier. Lost by repairers in Bath years ago. Purchased in Berlin in 1978. Can you help? Tel: 01985 213 952

MARANTZ CD63SE CD player, £60. Musical Fidelity KW phonostage, £1200. Tannoy 611 speakers, £140. Rotel RA930AX amplifier, £60. Kenwood 3090 MiniDisc, £60. Pioneer PL12D turntable M75ED, £50. Tel: 01708 457 691

ATC SIA 150 integrated amp. Lots of power with superb sound. Mint condition. Boxed. £1250. Tel: 01225 706 783 (Wilts)

THORENSTD150 turntable £40. Celef PE1 (Proac) speakers £50. Castle Warwick speakers £20. Wharfedale Dovedale 3 speakers £20. Musical Fidelity B200 amp £30. Collection Sheffield. Details: 0114 236 9620 or Email: kevin@dalewood.plus.com

STAX SR-007 Omega Reference System. i.e. SR-007 electrostatic ear-speaker with matching SRM-00711 direct coupled dual triode vacuum tube energiser. Original owner, absolutely new. £2200. Tel: 01505 346 791 (Renfrewshire)

NAIM SUPERNAIT/2. Bought November, one weeks use, remote, instructions, boxed, as new. Cost £2750, accept £1950. Tel: 0772 962 0621

ROKSAN XERXES turntable, XPS/2 power supply. Dark oak, cosmetically good but unused five years so needs servicing. Bargain £400 ono. Sorry but no guarantee, user manual available. Tel: 01704 530 928

NAIM CD5i, mint, £375. Meridian 557 power amp, £750 mint. Project Headphone amp (black) used twice, £60. JBL Control One speakers, new, £55. Tel: Phil 07973 426 291

AUDION SILVER Night 300B single ended, five line input (1997). Fitted with TJ mesh plate 300B tube and Border Patrol P/S. Excellent condition. £1200. Tel: 020 7263 5702 after 7pm

WANTED: APOLLO Mezzo Soprano 5-shelf rack, full size hi-fi with 12mm clear glass shelves and silver legs. Phone or text 07858 241 826 (West Yorkshire)

POWER LEADS TelluriumQ Blue and Black (1200) £575. Van Den Hul, 2X Mainsstream (£330) £155. each and Mainsserver £75. 3X Isotek EVO3 (£330) £155. each 2X Synergistic Research £40 each. Mike 07557093121

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TEL: 07860 511111 WEB SITE www.heathcoteaudio.co.uk

SOLID STATE AMPLIFIERS

| | | |
|---|--------------|-------|
| CHAPTER AUDIO 2+ POWER AMP | BOXED | £2750 |
| TOM EVANS VIBE PRE AMP LITHOS-7 1 OWNER | MINT | £2750 |
| PRIMARE I-21 INTEGRATED (TITANIUM) | MINT/BOXED | £595 |
| SONY TA-N220ES 2/3/4 CHANNEL POWER AMP 1 OWNER | EXCLT | £275 |
| KENWOOD DA-9010 DIGITAL INTEGRATED (ULTRA RARE) 1 OWNER | EXCLT/BOXED | £475 |
| KRELL EVOLUTION 402 STEREO POWER AMP LITTLE USE | EXCLT/BOXED | £6750 |
| DENSEN B200 PRE/GIZMO & B300XS POWER AMP (ONE OWNER) | MINT/BOXED | £1850 |
| MARANTZ PM11 S2 INTEGRATED (£3300) | EXCLT | £1795 |
| DENON PMA-QS10H 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 100.5 POWER AMP | MINT/BOXED | £1795 |
| BEL CANTO PRE-1 & REMOTE | EXCLT/BOXED | £995 |
| AUDIO INNOVATIONS 1000 SILVER PRE-AMP | EXCLT | £695 |
| TRIO L07-C PRE AMP WITH MM/MC/STAGE(RARE) | EXCLT | £695 |
| TRIO L05-M MONOBLOCKS (VERY RARE) | DEM | £695 |
| ADVANTAGE i200 INTEGRATED AMP (£1800?) | EXCLT/BOXED | £895 |
| 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 MONOBLOCKS (ONE OWNER) | EXCLT/BOXED | £795 |
| 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 |
| 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

| | | |
|---|-------------|-------|
| KENWOOD DX-9010 HEAVYWEIGHT TRANSPORT 1 OWNER (RARE) | EXCEPTIONAL | £595 |
| 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 CD PLAYER (ONE OWNER) | EXCLT/BOXED | £395 |
| INCA TECH KATANA RCA/XLR OUT | VGC | £395 |
| LYNGDORF CD-1 CD PLAYER/TRANSPORT | EXCLT | £745 |
| THETA CARMEN CD/DVD TRANSPORT | EXCT/BOXED | £795 |
| 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 | EXCLT/BOXED | £395 |
| SONY XA-1200ES MULTI CHANNEL SACD PLAYER | GC. | £299 |
| STELLO CDA-320 24 BIT/44/96/192 CD PLAYER WITH DIGITAL INPUTS | EXCLT/BOXED | £695 |
| VACUUM STATE JLT SACD/CD PLAYER (LAST ONE £1300) | NEW/BOXED | £695 |
| VACUUM STATE LOGIC JLT 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

| | | |
|--|-----------------|-------|
| BALANCED AUDIO TECHNOLOGY VK-60 POWER AMP | EXCLT/BOXED | £2195 |
| ROGUE AUDIO M-150 MONOBLOCKS BOXED | N.O.S | £2995 |
| ART AUDIO INTEGRA EL-34 INTEGRATED AMP (ONE OWNERSUPERB) | EXCLT | £1150 |
| AUDIO RESEARCH VS-110 POWER AMP LITTLE USE (ONE OWNER) | MINT/BOXED | £2195 |
| PAPWORTH M-100 MONOBLOCKS 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 MONOBLOCKS (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 |
| ANTIQUE SOUNDLABS A-1009 845 MONOBLOCKS EX.DEM | SERVICED/VALVED | £2995 |
| ANTIQUE SOUNDLABS LH-01 PRE-AMP H/PHONE AMP | EX.DEM | £375 |
| ANTIQUE SOUNDLABS MINI PHONO 2 BOX | VGC | £295 |

VINYL

| | | |
|---|--------------|------|
| WILSON BENESCH CIRCLE (ONE OWNER 25 HOURS USE ONLY) | AS NEW/BOXED | RING |
| NOTTINGHAM ANALOGUE MENTOR TONCARM | DEM ONLY | RING |
| AUDIO INNOVATIONS 1000 MC STEP UP | EXCLT/BOXED | £475 |
| CARTRIDGE MAN MUSIC MAKER II FEW HOURS DEM USE | EXCLT | £450 |
| 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 DP-1200 LTD./SHURE CARTRIDGE DIRECT DRIVE CLASSIC | VGC | £595 |
| MICHELL ISO PHONO STAGE & HERA HUGE POWER SUPPLY | EXCLT | £345 |
| TOM EVANS MICRO GROOVE | EXCLT | £345 |
| MISSION 774 TONE ARM UPGRADED LEAD | VGC | £345 |

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| ANTIQUE SOUNDLABS MINI PHONO (2 BOX WITH NOS MULLARD VALVES) | EX.DEM | £349 |
| DENON DL-30L TURNTABLE ARM AND CARTRIDGE | EXCLT | £225 |
| TRIO KD-2055 CORIAN TURNTABLE/ARM/CARTRIDGE | VGC | £275 |

LOUDSPEAKERS

| | | |
|---|-------------|-------|
| AUDIO ARTISTRY DVORAK 2 PANELS 2 SUBS & CROSS OVER (SUPERB) | EXCLT | £1850 |
| TANNOY CPA-12 PROFESSIONAL SERIES | EXCLT | £895 |
| B&W 802 MATRIX SERIES-3 & SOUND ANCHOR STANDS (ONE OWNER) | EXCLT | £1795 |
| USHER DANCER MINI-X DIAMOND 3 MONTHS USE | MINT/BOXED | £1850 |
| ALR JORDAN CLASSIC 2 BIRCH VENEER (NEW BOXED £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 801 MATRIX SERIES-2 IN WALNUT (ONE OWNER) | EXCLT | £1995 |
| MARTEN MILES CHERRY (8K+ ONE OWNER FROM NEW) | SALE! | £2995 |
| TANNOY CPA-12 | EXCLLT | DUE |
| SNELL C MKIV AMERICAN WALNUT (SUPERB) | EXCLT | £1250 |
| PODIUM 1s FEW WEEKS USE ONLY (£6000? NEW) | MINT | £2295 |
| ENSEMBLE FIGURA (SOLID ALUMINIUM £5800?) (ONE OWNER) | SALE! | £2995 |
| HALES TRANSCENDENCE 5 HUGE FLOORSTANDERS (2 OWNERS) | EXCLT/BOXED | £1795 |
| AURUM CANTUS VOLLA (LAST PAIR) | DIS.BOXED | £1695 |
| PROAC STUDIO 150 (PREMIUM YEW FINISH) | VGC | £695 |
| ACOUSTIC REFLEX (CONCRETE BAFFLE HORN LOADED MONSTERS) | EXCLT | £495 |
| AURUM CANTUS MUSIC GODDESS (£2500) | DEM | £1595 |
| AURUM CANTUS LEISURE 3 SE BRAND NEW BOXED (LAST PAIR £1350) | NEW/BOXED | £895 |
| AURUM CANTUS BLACK ORCHID BRAND NEW BOXED (LAST PAIR £1300) | NEW/BOXED | £895 |
| AMPHION NEON 1 (1 OWNER) | EXCLT | £895 |
| THEIL CS 1.5 (ONE OWNER FROM NEW) | MINT BOXED | £995 |
| MIRAGE M6 SI HUGE BI-POLAR FLOORSTADERS (£6.5K?) | VGC | £1995 |
| MIRAGE BPS-200 SUBWOOFERS (2 OFF) & LX-3 CROSSOVER UNIT | VGC | TBA |
| HARPER QUARTETO FABULOUS FLOORSTANDERS (£4000) | SALE! | £1695 |
| BOLZANO VILLETTRI BV3003 & BV SUBWOOFER FANTASTIC! | SALE! | £2995 |
| CURA CA-30 FLOORSTANDERS (£3000 ONE OWNER FROM NEW) | EXCLT | £995 |
| T&A TMR-100 SIZEABLE GERMAN TRANSMISSION LINES | SALE! | £495 |
| SEQUENCE SONATA-300 FLAT PANEL WALL/FLOOR SPEAKERS | NEW/BOXED | £295 |

TUNERS/TAPE/STANDS/MAINS

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| MUSICAL FIDELITY A5 DAB/FM TUNER (£1500) 1 OWNER | EXCLT | £650 |
| RICHARD GRAYS POWER COMPANY, MODEL 1280 240V UK | | |
| MODEL 8 OUTLET (RARE) | EXCLT | £1295 |
| BEN DUNCAN PURE POWER MAINS TRANSFORMER ONE OWNER (HEAVY!!) | EXCLT | £375 |
| BLACK RHODIUM 8 WAY MAINS BLOCK | EXCLT | £149 |
| 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 |
| RUSS ANDREWS KIMBER KABLE 1 METRE YELLO POWER CORD | EXCLT | £35 |
| AUDIOPLAN CLEANCORD I METRE POWER CORD | | |

LOUDSPEAKER CABLE

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| BLACK RHODIUM POLAR NINJA DCT 2.9 BI-WIRE METRE PAIR | EXCLT | £650 |
| TARA LABS RSC 5 METRE BI-WIRE PAIR | EXCLT | £395 |
| XLO 5.2 SIGNATURE-1 4FT PAIR | DEM | £495 |
| SONORAM PLATEAU 4 METRE VERY HEAVY HI END PAIR | EXCLT | £475 |
| RAPPORT (USHER) 5 METRE PAIR FACTORY TERMINATED | DEM | £249 |
| XLO REF.2.5 METRE PAIR | EXCLT | £375 |
| BLACK RHODIUM S-300 BI WIRE 4 METRE PAIR (£240) | NEW | £175 |
| BLACK RHODIUM S-300 BI WIRE 2.5 METRE PAIR (£200) | NEW | £100 |

INTERCONNECT CABLE

| | | |
|---|------------|------|
| MUSICAL FIDELITY NU-VISTA 2.5 METRE PAIR | EXCLT | £295 |
| XLO ULTRA 0.5 METRE PAIR RCA | MINT | £149 |
| CHORD CO.SIGNATURE 1.5 METRE RCA PAIR (ONE OWNER) | MINT/BOXED | £359 |
| CHORD CO.SIGNATURE 1 METRE PAIR BNC TO BNC | UNUSED | £299 |
| KIMBER KCAG SILVER CABLE 1 METRE (ONE OWNER) | EXCLT | £399 |
| 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 |
| 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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MISSION FREEDOM 752 floorstander. Cabinet and drive units in excellent condition. Flawless. 90dB efficiency. Room too small. £345 ono. Tel: 020 7263 5702 after 7pm

HI-FI ENTHUSIAST is looking to buy both vintage and modern audio equipment. Unfinished projects welcome. Will travel, cash waiting. 0117 946 7188 slkw@btinternet.com

ARCAM A38 integrated amplifier £850; Arcam CD37 CD player £850; Arcam T32 FM/DAB tuner £400. All units in black and in excellent unmarked condition, and perfect working order. Each unit is complete with remote, manual, etc and original box. Tel. 023 8073 8935 or Email: golf3385@hotmail.co.uk

PRECISION EIKOS CD player fully upgrade by Tom Evans 2 years ago to his very latest spec. with external power supply at a total cost of £3600-00, asking £1575-00. Phone John on 01202 515474 or e-mail johnlangle17@talktalk.net

WANTED: Top quality Hi Fi separates and complete systems, Naim, Linn, Cyrus, Meridian, Audio Research etc, fast, friendly response and willing to travel/pay cash Please call me on 0781 5892458

PROAC RESPONSE D1 standmount speakers, as new. Cherry finish. £875. Would prefer buyer to collect. Berkshire. 01628 626085

ICON AUDIO passive "R" pre-amp with remote control, superb sound quality looks and sounds stunning £220, also a pair of B&W MP1 monobloc amps compact and powerful £250 call John 02084204633

REVOLVER PURDEY floor standing speakers in excellent condition, £70 no offers. Tel. 07745165756

CLASSICAL L.P'S for sale. (possibly in batches). approx. 2000. many well regarded recordings (Gramophone Penguin Cowan guides) All excellent condition. Maidenhead. Contact Colin Hope: 07804782950; 01628 788078 hope.colin@yahoo.co.uk

NAIM CDS2, CDPS, NAC52, 52PS, NAP135's, NACA5 cables, Fraim base plus 5 standard levels in black/maple. Everything in excellent condition with original boxes. Complete system £6,500. colint@twodc.com 01789 209051 Warwickshire

POWER SUPPLY for Class A amplifiers, self contained, suits John Linsley Hood's or any low power class A amplifier, £279. Pair of used SEAS 10 inch drivers, £99. Tel:- 0207 499 8729.

TANNOY LANCASTER speakers 15" Monitor Gold, walnut cabinets good condition original paperwork, promotional leaflets, drawings and book demonstration by arrangement buyer collects £2,000 Tel. 0208 670 2180

IXOS GAMMA ENCORE 1002 silver plated oxygen free copper phono leads 1meter .as new £20 Tel Derek 07711741860 (West Sussex)

SONY MDS JB920 (UK Special Edition) minidisk player/recorder in mint condition with remote and manual £135 Tel Derek 07711741860 (West Sussex)

MISSION 753 Freedom speakers in rosewood, I have had these from new, they are a matched pair in perfect working order and condition £399. Tel Derek 07711741860 (West Sussex)

WANTED FAULTY or non working Quad 44 preamps, Denon AU310 or AU320 MC transformers. Contact Mike 01758 613790.

WORLD AUDIO WD25T EX Loudspeakers. SEAS Millenium tweeters. Professionally finished and polished cabinets in medium oak. Can demo, collection only. £750 ono. Including relevant magazines. Birmingham 0121 423 1576 or 07790 009854

MUSICAL FIDELITY A308CR Pre-amplifier £695: Extremely well reviewed. Attractive all silver appearance and was excellent value even when new at £1500. Owned by me from new, less than 100 hours use, still pristine, unmarked (kept covered by a dust sheet) as new, with original box, remote and instructions. Protected in an audio rack in my smoke and pet free home. Very happy to demonstrate. Mike (Cheshire) 07500 804700 michael.yates7@ntlworld.com

MUSICAL FIDELITY A3.2 CR Power amplifier £395: Extremely well reviewed. Attractive all silver appearance. These were £1000 when new. Owned by me from new, less than 100 hours use, still pristine, unmarked (kept covered by a dust sheet) as new, with original box and instructions. Protected in an audio rack in my smoke and pet free home. Very happy to demonstrate. Mike (Cheshire) 07500 804700 michael.yates7@ntlworld.com

CYRUS CD8X. Mint condition and it is in perfect working order. Smoke, children and pet free environ. Quartz / Silver. Boxed in Manufacturer's original carton and packaging. Power lead and Phono leads unused. Remote control. In the late 00s this CD player won successive 5* accolades and Best CD Player awards from What HiFi, and was an enhanced version of the CD8. Nottingham. 07783 327 689 & 01159 877 567. rayspink@supanet.com. £350. ono (P&P £20).

PROAC RESPONSE 1.5 floorstanding loudspeakers light oak finish excellent condition one owner from new non smoking/no pets environment boxed £600 ovno Kent 01795 522224

CELESTION A2 speakers, tri-bar tweeter, black ash, new and boxed £600. ZU Audio DL-103 rare Grade 2 (0.1%) brand new £500. Tel: 07953 109709 or Email: starslider@hotmail.co.uk

SHANLING CDT-100C. 3-D Audio UK tuned. Mint, boxed, remote. Upgraded valves. 24/96 switchable upsampling. Tube or SS output. £1700 new. £900. contact jefftees@live.co.uk for pics, info.

2 RUSS ANDREWS Signature Powerkords, 1m length, Wattgate 3501 IEC plugs mint condition, RRP £440 - £295 Each or £575 for both, cheaper if collected. Tel 01902 884694 Email: jukey39@yahoo.co.uk

ELAC FS207.2 fabulous sounding and looking speakers with ribbon tweeters work well with valve and solid state amps. £300 spent upgrading crossovers internal wiring. £500 07793749178 London kingjuancho@yahoo.com

BRACKNELL 2014 Hi-Fi sales event. Sunday 1st June 2014. Venue at Bracknell Leisure Centre, Bracknell, Bucks, RG12 9SE. A good mix of vintage and modern hi-fi equipment for sale. Now its 5th held here. Please phone 07846-002164 for more details.

HI-FI ENTHUSIAST is looking to buy both vintage and modern audio equipment. Unfinished projects welcome. Will travel, cash waiting. 0117 946 7188 slkw@btinternet.com

QUAD 57 speakers in gold. Very good condition. £450 ono. 01798865699. b@igent.co.uk (West Sussex)

NEXT MONTH JUNE 2014 ISSUE

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...and much more.



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DIRE STRAITS

BROTHERS IN ARMS

1985



"The album was recorded in a tropical studio in Montserrat... before a volcano partly destroyed the island"

Brothers In Arms' pushed Dire Straits' established work into a pop setting and became immensely successful, quickly becoming the biggest-selling LP in the UK during the eighties, a double Grammy award-winning album in 1986 and spending nine weeks at No 1 in the US charts, while the single 'Money For Nothing' was a worldwide No 1 single. Twenty years later, the LP won another Grammy as the best surround-sound album.

While the album launched the group into the stratosphere and stardom, the exposure didn't sit well with songwriter and lead singer Mark Knopfler.

"The preconceptions that people have about you, the rubbish that is written about you, you have to come to terms with it. You've really got to want to do this" he said. "You really can't get upset and if you haven't got a sense of humour then you are dogmeat".

The album was, in fact, recorded in George Martin's tropical studio in Montserrat before a volcano partly destroyed the island..

"I used to go down to the disco there" said Knopfler. "Now, you wouldn't normally catch me down at a disco to save my life. But it was great, just great. There was a lot of rum down there. Then everyone would get into Jeeps and drive flat out back to wherever you were. We were recording 'Brothers In Arms' and, one night, we got bored so we timed each other to see who could drive up the hill the fastest to the studio. A stopwatch was taken out and everyone was screeching up the hill. Then someone didn't show up and, eventually, we went down the road to look for them and they'd gone off the road and over the side and been stopped by a couple of trees. They got out, they were fine. Then Alan (Clark, keyboards) wanted to carry on and better his time so we said, 'No, no, let's quit while we are ahead!'"

'Money For Nothing', supposedly the iconic video that celebrated MTV was anything but... As songwriter and lead singer, Mark Knopfler said: "At the time, they were running some ads saying something like 'I Want My MTV' with the Police or somebody saying that. So I stole some notes from 'Don't Stand So Close To Me',

for which Sting's publishers demanded 15-20% of 'Money For Nothing'. That's why he gets a co-credit for writing it but he didn't actually write it, I just stole five notes. Sting happened to be on holiday in Montserrat at the time. It was perfect because Sting was the perfect MTV creature. So I asked him if he would come up and sing it and he was there like a shot and sang beautifully on it".

The fact that this small haul of notes was used in the song which prompted the lawyers to step in hasn't caused problems for Knopfler, however.

"Not at all, I don't care about money or anything like that".

The album is full of top quality tracks such as 'Walk Of Life' that is dominated by a distinctive organ riff.

"The organ has always been important to me via songs like Del Shannon's 'Runaway' and The Animals' 'House Of the Rising Sun'."

Knopfler demanded the use of the real thing, though, not the increasingly fashionable organ 'plug-in'.

He said: "Despite all of the work done on a synthesiser, you can't get the flexibility out of a Hammond program because the organ swoops and changes, interacting with the Leslie speaker. It's like a saxophone, you can't do it on a synth."

The album can now be found within a new box set, re-mastered for vinyl by Bob Ludwig, cut at Bernie Grundman's studio and pressed at Pallas, Germany on 180gm vinyl. The CD running order with full length versions of the tracks have been restored to 'Brothers In Arms', now presented as a 2-LP set, as well as a double vinyl of 'On Every Street'. With all original artwork restored, the six albums are packed in a handsome box set slipcase. All come complete with download cards and are available as a strictly limited edition.

Whether you talk about 'Money For Nothing', 'So Far Away' or 'Walk Of Life', 'Brothers In Arms' benefitted from concise and focused writing that was topped by the utterly under-rated and atmospheric title track.

The LP displayed an increased sense of how to write a perfect pop song, from a technical standpoint: the riffs, the melodies, it was all there. **PR**

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