



## Parallel world

Clearaudio's TT5 tangential tonearm puts vinyl on track

## Audeze iSINE

Stellar in-ear headphone with planar magnetic tech



# Hi-Fi Choice

**PASSION FOR SOUND**

Issue No. 423

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**The Knowledge**  
Top amps to make your tunes sing

# Music heroes

Quad and Chord hit the sweet spot

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**PRODUCTS ON TEST:**

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## MOJO WORKING

The Mojo is simple enough to connect to a phone although it will need a second cable to link it to the OTG (On-The-Go) cable output. The connection is stable once made and it seems to be entirely resistant to noise and interference from the phone itself. The only downside to when it's used as a mobile device is that while it is fairly small, the form factor isn't a happy partner for most smartphones and fitting the whole ensemble into a pocket is not always that practical.

The good news is that even though it does without a high gain setting, the Chord sounds just as happy with the Bowers & Wilkins P9 Signature as it does the Noble Trident (both reviewed in *HFC 421*). There is plenty of power on tap and that superb tonal balance remains as the Mojo shines no matter what it's connected to.

# Chord Electronics Mojo £399



The competition is getting stronger, but this compact solution still has bags of appeal and performance

### DETAILS

**PRODUCT**  
Chord Electronics Mojo

**ORIGIN**  
UK

**TYPE**  
Headphone amp and DAC

**WEIGHT**  
174g

**DIMENSIONS**  
(WxHxD)  
60 x 82 x 22mm

**FEATURES**  
● 32-bit/768kHz PCM and DSD256-capable DAC  
● Inputs: micro USB-B; optical; coaxial  
● Outputs: 2x 3.5mm headphone jacks  
● Quoted battery life: 10 hours

**DISTRIBUTOR**  
Chord Electronics

**TELEPHONE**  
01622 721444

**WEBSITE**  
chordelectronics.co.uk

**H**aving launched its first portable headphone amp/DAC with the £1,400 Hugo (*HFC 386*) and shaking up the market, Chord Electronics followed with the Mojo in 2015 to take the basic architecture of its Hugo down to a more affordable price point. Central to this is the use of a Xilinx Field Gate Programmable Array (FPGA) to carry out the decoding and filtering.

This is a very powerful device, but one that has no programming on board beyond that which Chord puts on it, meaning that the software is entirely bespoke in operation. This decoding is made available to a USB connection that supports PCM sample rates to 768kHz and DSD256 via Toslink and coaxial input – the latter is on a 3.5mm connection to save space. The Mojo then outputs via a pair of 3.5mm jacks, allowing two pairs of headphones to be used at once. Unlike most rivals, there is no gain adjustment, EQ or filter settings.

The Mojo looks fairly normal, but there are still some idiosyncrasies to the design. The plastic balls that function as the power and volume

buttons change colour to show volume levels and incoming sample rate, and feel a bit strange upon first use. A separate USB charging port means you can't listen and trickle charge the Mojo at the same time as with some rivals unless you have a second spare USB cable.

Build is extremely good and the chassis looks and feels like it can shrug off the daily scuffs and knocks of life on the move. Its shape does have some limitations for portable use (see box out), but it's compact form will win it many admirers.

### Sound quality

It might be small and have no gain setting adjustment, but the Mojo is barely at tickover with the test level and absolutely silent when nothing is playing. This means that music rises from an extremely quiet background and has an immediate benefit to its performance. The Neil Cowley Trio's *Kneel Down* has a tangibility that is lacking in most of the rest of the group. Each plucked bass string is an event with a defined beginning and end and this very effective sense of decay also helps piano notes sound real.

Underpinning this is a bass response that balances force and impact with speed and detail to near perfect effect. The pounding bassline of Scratch Massive's *Take Me There* reveals nuances that are easily lost elsewhere. Somerville's vocals extend effortlessly above this low-level force and reveal that the Chord has no shortage of treble energy, but also no sign of the stridency and harshness

that this slightly ballistic recording often suffers from.

This means that when you give it well mastered material from the likes of London Grammar, the Mojo is effortlessly powerful, open and involving. There is a real sense of the soundstage extending far beyond the confines of the earphones and it is tremendously easy to listen to. The scrupulous accuracy of the Mojo does mean that some of the devices here might be perceived to be more fun and propulsive, but the reality is more that it simply presents what is contained in the recording with no embellishment. This means that the more relaxed tempo of Paul Simon's *Under African Skies* is handled perfectly with all of the fine detail buried in the recording extracted and convincingly arranged. The Mojo has been around for a while now, but the level of performance that it offers still takes some beating ●



## Hi-Fi Choice

### OUR VERDICT

<b>SOUND QUALITY</b> ★★★★★	<b>LIKE:</b> Balanced and detailed sound; solid build and spec
<b>VALUE FOR MONEY</b> ★★★★★	<b>DISLIKE:</b> Awkward shape for use with mobiles; sound can lack some excitement
<b>BUILD QUALITY</b> ★★★★★	<b>WE SAY:</b> A real all-rounder that delivers sparkling performance and great features
<b>FEATURES</b> ★★★★★	

### OVERALL







# iSINE of the times

The world's first planar magnetic in-ear looks highly innovative. **Ed Selley** takes an exclusive listen to see how it performs

**A**udeze is best known as manufacturer of full-size headphones that use planar magnetic driver technology to achieve thin and lightweight units with the voice coil printed into them, resulting in a large radiating area with little mass. The iSINE 10 is the first in-ear to make use of such a driver.

Making such a design work in an in-ear form is no small undertaking. By the standards of a normal planar magnetic driver, the 30mm unit used here is tiny but still larger than the ear canal utilised by in-ear models. In order for the design to work, the iSINE has been built as a flat section that sits outside of the ear. The output from the driver is then taken via a port into the canal. The fitting points are via a rubber dome on the end of the port and a clip that attaches to the in-earphone and loops around the ear. Build quality is good and you get a useful carry case that is big enough to hold the in-ears, but small enough to be usefully portable.

Audeze has ensured that the new driver design incorporates many of its

traditional refinements. This means that it uses 'Fluxor' magnets to give it the required power and a Uniforce voice coil to give it linear and effective movement. Not content with building a world first, it has also equipped the iSINE with another innovative feature. As well as a conventional cable that has a regular 3.5mm jack, there's also one that terminates in a Lightning connection for Apple devices. This includes its own decoding and amplification and also features a mic and inline remote. Install the Audeze app on your device and you can tweak the EQ settings to suit your taste.

## Sound quality

Initially using the iSINE 10 via the conventional analogue cable into Chord Electronics' Mojo (see p31) is an impressive experience. Sensitivity is comparable to similarly priced in-ears, and mobile devices should have no problems effectively driving it. Listening to Public Service Broadcasting's *Live At Brixton*, the Audeze handles *Sputnik* with the speed and clarity of a single armature

## DETAILS

**PRODUCT**  
Audeze iSINE 10

**ORIGIN**  
USA

**TYPE**  
In-ear headphone

**WEIGHT**  
20g

**FEATURES**  
• Driver type: 30mm planar magnetic  
• 2x detachable cables with 3.5mm jack and Lightning connector  
• Leather and canvas carry case

**DISTRIBUTOR**  
Exertis Unlimited

**TELEPHONE**  
0208 3585858

**WEBSITE**  
audeze.com



in-ear, but one with a frequency response rather in excess of what you would generally expect from such a design. At the same time it sounds faster and more cohesive than all but the very best dynamic or multiple armature designs.

This is most clearly apparent in the bass response. The sledgehammer blows of percussion in Underworld's *And I Shall Kiss* generate a palpable force in the ear, but there's nuance as well. The speed and detail retrieval is outstanding and it draws you into the performance very effectively. Compared with the recent test-topping Noble Trident (*HFC 421*), the Audeze can sound fractionally sterile in its upper registers, lacking some of its warmth and sweetness but never sounding forward or harsh.

A eureka moment comes when connecting the iSINE 10 via its Lightning cable to an iOS device – in this case an iPad Air running Tidal HiFi streams. Where the performance with the Chord Mojo headphone amp/DAC leaves the iSINE sounding fractionally sterile at times via the inhouse decoding and amplification, it sounds a little lush and more engaging. Nikki Lane's *Highway Queen* connects in a way that highlights her exceptional voice and intriguing lyrics. At the same time, none of that speed and low-end punch is lost in the switch of devices, making this an extremely entertaining listening experience.

## Conclusion

What is significant about the iSINE 10 is that distinctive appearance aside, the drivers don't do anything to draw attention to themselves while listening to music. While the iSINE 10 is good when used via a conventional 3.5mm cable connection, it truly excels in partnership with an iOS device connected via a Lightning cable and for Apple owners it's pretty much a must-have product ●

## Hi-Fi Choice

### OUR VERDICT

<b>SOUND QUALITY</b> ★★★★★	<b>LIKE:</b> Cohesive and dynamic sound; excellent Lightning implementation; build
<b>VALUE FOR MONEY</b> ★★★★★	<b>DISLIKE:</b> Slightly odd fit and appearance
<b>BUILD QUALITY</b> ★★★★★	<b>WE SAY:</b> A seriously impressive in-ear that sounds exceptional, particularly for users of Apple devices
<b>FEATURES</b> ★★★★★	

### OVERALL

