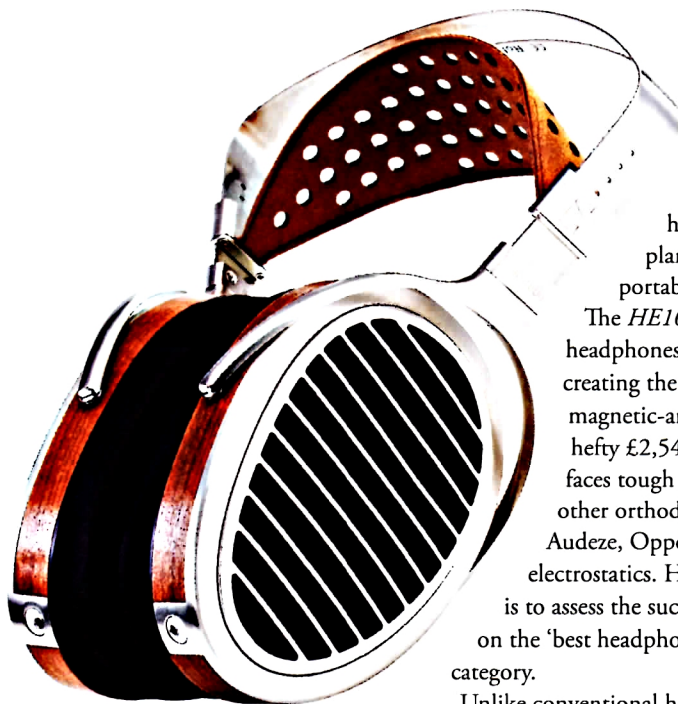


HIFIMAN HE1000

JOSÉ VICTOR HENRIQUES RECKONS THAT THESE OPEN-BACK PLANAR MAGNETIC HEADPHONES ARE CLOSE TO TODAY'S STATE-OF-THE-ART



Founded in 2007 by Dr. Fang Bian, HIFIMAN is a Chinese company that specialises in high performance planar headphones and portable audio products.

The *HE1000* is its flagship headphones, and an attempt at creating the state-of-the-planar-magnetic-art. It's priced at a hefty £2,545, and therefore faces tough competition from other orthodynamics like Abyss, Audeze, Oppo, and also Stax electrostatics. However the aim here is to assess the success of its assault on the 'best headphones in the world' category.

Unlike conventional headphones that use dynamic drivers, planar magnetic (aka orthodynamic transduction technology), reproduces sound by means of a very thin film diaphragm with a conductive track driven by a powerful magnetic field, much like Magnepan loudspeakers.

For this review I used my 'ol' blue eyes' McIntosh *MHA100* with its unique impedance matching output transformers, an iFi *micro-iDSD* source, and a Chord *Hugo* (my favourite portable headamp/DAC). The *HE1000* will even play music from an *iPhone*, but the moderate sensitivity of 90dB/mW (which seems more like 88dB/1mW) means it will not play to satisfactory sound pressure levels, nor deliver a sound quality that justifies the investment. Besides, it makes no sense to use such expensive, full-sized and fairly heavy (480g) headphones as a portable.

Main features of the *HE1000* include the world's first nearly massless diaphragm of truly vestigial 'nanometer' thickness, which is presented as "the cornerstone of its remarkable sound" (in Fang Bian's own words); the asymmetric double-sided (push-pull) magnetic circuit; and the 'Window Shade', a fancy name for a protection grille with a set of stiff metal ribs mounted well apart: "to gain openness, and keep the sound waves from a second reflection to avoid unwanted resonance and distortion".

Out of the Box

The *HE1000* comes in a brown leather box with the HIFIMAN logo engraved on a metal faceplate and a velvety interior. It has three sets of high quality plug-in cables: one with a 4-pin XLR (for balanced output amps); one with a 6.35mm jack; the other with a 3.5mm mini-jack. All the metal parts are stainless brushed steel, the somewhat industrial design ameliorated with a honey brown suede perforated strap, matched by a touch of wood around the huge ear cups – a planar family trend, but not as bulky or boringly circular as most of the competition. Though not unduly heavy, these are not the most comfortable headphones, even by good planar standards (the Oppo *PM-1* comes to mind). Furthermore, the adjustment slides are a little crude, and the suspension system is not as effective and smooth as, say, the Audioquest *Nighthawk*.

The *HE1000*'s oval ear cups are an elegant teardrop shape. These are really 'wide open' open-back planar headphones, and the protective Window Shade grille doesn't need to function as an air impedance matching device. The horizontal bars are so widely spaced they barely protect anything, and you can clearly see the traces of the largest planar-magnetic headphone diaphragm ever built (no wonder the bass is so powerful, propulsive and fast).

This means you can listen to music playing loud and clear including every single syllable of song lyrics, anywhere in the room (or indeed all over the house late at night, my wife complains), even when you are not wearing them (except that she misses out on the sensational bass that only reveals its full potential if you put them on). Stop the outward flow of sound into the room with your hands, and it's like choking the music to death. This also means that the listener is not isolated from the outside world, so I would not advise listening to the *HE1000* in a noisy hi-fi show or shop. I also strongly advise the volume should be kept under control, although I admit it feels good to listen loud: the open architecture, clear and transparent sound and very low distortion might well invite listening at possibly ear damaging levels.

Planar magnetic headphones are the current audio trend. Although the Abyss *AB-1266* costs a whopping £4,000+, Audeze offers the same technology at roughly half the price with models like

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the highly acclaimed open-back *LCD-3* (and *LCD-X*). Among the Audeze range the *LCD-3* is still my favourite, and I would also pick the excellent Stax *009* electrostatic to challenge the *HE1000*. I do not claim an A/B/C blind test, nor can one compare a Chinese apple to one grown in America, or indeed a Japanese orange which needs its own high voltage driver to deliver the juice. The only intention is to help position the *HE1000*'s sound against the most likely competition. Even with eyes closed I can still tell which is an apple or an orange, and how each one tastes, if you follow my drift.

Sound Quality

The *HE1000*'s character is surprisingly closer to the Stax *009* electrostatic headphone than Audeze *LCD-3* in clarity, see-through transparency, inner detail, resolution and speed. The *LCD-3* has a more upholstered upper bass, hence a subjectively slower pace with less obviously articulate and defined lines. Along with a creamier midrange and sweet shimmering highs, it delivers an allegedly 'organic' performance, despite sharing the *HE1000*'s orthodynamic transduction technology.

The *LCD-3*'s illumination turns almost crepuscular as the frequency climbs, setting a lugubrious yet relaxed atmosphere compared to the Stax *009*'s almost frenetic top end 'sheen'. While the *009* lays bare all the musical minutiae as if under a searchlight, the *LCD-3* forces one to search for detail buried deeper in the mix. Both deviate from neutrality, albeit in opposite directions: whereas the *009* strives to supply the raw truth in the recording medium, whatever that truth might be, the *LCD-3* shows the same reality through a diaphanous veil of captivating sensuality.

However, to my ears the Audeze also sounds more eloquent, robust, organic, lifelike and undisputedly more enjoyable as a whole. The Stax seems almost too eager to please, with uncanny yet often distracting amounts of information that turn music reproduction into a more mechanical enterprise, somehow emphasising sensationalism at the cost of emotion. How then are we to create headphones with the graphic explicitness of Stax that also excites the senses like the Audeze?

Right out of the box, the angels were singing slightly off tune (pardon the heresy), and 'them there highs' still lacked the expected planar magnetic finesse. Bass was already superb but I could still do with a little more wallop and extension. So the *HE1000* was put on a diet of pink noise, Pink Floyd and *Thriller* for a few days.

Now after a week both zombies and angels sing hosannas in perfect tune, bass runs underneath like a

transparent, pure subterranean endless river, and the pink noise waterfall is the smoothest I've ever heard from any headphone, anytime, anywhere. The oval ear-cups are huge, so make sure your ears sit in the sweet spot within. Yes, there is also a sweet spot for headphones. Try to move them with both hands up and down, back and forth until it's nailed, and only then fix the suspension slide position (ask for help if necessary). It's also important not to forget that these ear-cups are not mounted in a perpendicular line but with the lower lobes slightly angled towards the front, while the pads are thicker at the rear edge to achieve a better angle of attack to the pinnae.

Do that and the reward is a soundstage inhabited by musicians in an orbit that seems to expand and contract to accommodate the location. Defining the specificity of each and every member of a symphony orchestra or choir, yet then condensing to embrace the cozy atmosphere of a jazz club, or to beam one up into a studio recording session. It would be too tedious to name every single record I played. Suffice to say, the *HE1000* rocks with power and thunder down under; swings with the big bands that are usually only heard live; plays the blues with verve and feeling; and classical music with so much aplomb and beauty one jumps at the crescendos and marvels at the legatos.

The *HE1000* is so dynamic it's almost frightening, especially with well recorded classical music. However, let me pick up Mary Stallings' *Live at the Village Vanguard*, to illustrate what I think are the *HE1000*'s main virtues: dynamic plasticity, from hard swing soaring voice and solo instruments (Ron Blake's saxophone), to *so sotto voce* brooding and introspective interpretations, tonal texture and melodic structure, pitch perfect intonation and phrasing, awesome resolution with ambient and stage clues of the 'you are there' kind. While I listen to her singing *The Thrill is Gone* I can't help thinking that the thrill is back for good with the *HE1000*.

Conclusions

The HIFIMAN has nailed it! The *HE1000* represents the epitome of neutrality. It sounds scientifically linear in frequency response, yet is also psychoacoustically natural without any false euphonic shades: dynamic, yet relaxed; detailed, yet musical; timbrally pure and tonally balanced, yet full of vibrant colours and palpable, tangible acoustic images you can single out with precision; the bass foundation is so solid and deep, articulate, lightning fast and rhythmically endowed as to mimic the perfect mix of the many virtues of its rivals. It is, in short, a fine example of Audio Excellence, and therefore may be highly recommended.

Manufacturer's Specifications

Make	HIFIMAN
Model	HE1000
Style	Open Back
Driver Type	Planar Magnetic
Impedance	35 +/-3 ohms
Sensitivity	90 dB/1mW @ 1kHz
Frequency response	8Hz-65kHz
Weight	480g (16.9oz)
Price	£2,549

Ancillary Equipment Used

Headphones:

Dynamic: Audioquest *Nighthawk*, B&O *Beoplay H6*, Focal *Spirit One*, McIntosh *HDP1000*, PSB *PM4U1*, Sennheiser *H800*
Hybrid: Obravo *HAMT1*
Electrostatic: Koss *ESP950*, Stax *009*, King Sound *HS3*

Planar Magnetics: Audeze *LCD-3*, *LCD-X*, *EL-8*, HIFIMAN *HE1000*, HIFIMAN *HE560*, Oppo *PM1*, *PM3*, Ultrason *Edition 8*

Headamps & DACs: Asus *Essence III*, Chord *Hugo*, iFi *Micro-DSD*, McIntosh *MHA100*, Meridian *Explorer V1*, *V2*, Director, NAD *D3020*, Nagra *HD DAC*, NuForce *Micro 3*, Oppo *HA1*.