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# oBravo HAMT-1

Absolute Sounds has waited years to distribute a headphone that it felt worthy of the other brands it represents. Does oBravo's HAMT-1 make the grade?

Review: **Ken Kessler** Lab: **Keith Howard**

**O**Bravo's HAMT-1 headphones are very much a product of their time: our time. They are unabashedly aimed at purists, thanks to size and price, and they boast high-tech innards as well as a luxurious *mien*. This is the brave new world of headphones, targeted squarely at, well, audiophiles. (Or those who have outgrown their Beats.)

Thinking back to my early days in audio – the mid-'60s – the headphone situation was created almost solely by a need for privacy. One bought headphones in order to be able to listen to one's system without disturbing others. For the life of me, I cannot name a single fellow enthusiast who used cans for any other reason, certainly not for absolute audio quality.

## FACING A REACTION

Sony's Walkman changed all that, when it made acceptable sound quality a mobile/portable possibility. The result was the creation of a pragmatic need for compact, ultra-light headphones (even though Sennheiser had been making them for years with the HD414). A couple of decades later, and the iPod would force a demand for in-ear types. Now we face a backlash against earbuds, which are uncomfortable and arguably will lead to a generation that will suffer hearing loss.

This has resulted in a market so rich with intriguing headphones that I think we may have access to more fine cans right now than at any time since stereo first appeared. OBravo addresses a listener who will opt for the HAMT-1 primarily because the headphones are of the genre – like the latest from Audeze and Oppo – that places sound quality at their design summit. Their price of £1499 is far from the market's dearest, but it indicates the need for serious consideration when there are so many amazing headphones below £350.

**RIGHT:** The large, high-end oBravo phones have hand-stitched leather ear cups and wooden cheeks, emphasising the fact these are 'closed back' listening types

A giveaway as to oBravo's no-compromise attitude is size that absolutely mitigates against using them on the go. They are comically huge, and you would no sooner want to be seen wearing them outdoors than you would the most ludicrously large and ungainly headphones of all-time: the 'Darth Vader's helmet'-like Jecklin Float. Perhaps it's no coincidence that both the Jecklin and the oBravo use the astounding Heil Air Motion Transformer drive unit (hence the designation), found here in a two-way, coaxial configuration.

Those massive, wooden-faced oBravo earcups, which make you look like Princess Leia (geddit? Darth Vader and Princess Leia...), house two separate drivers which share a common axis. The 40mm AMT tweeter [see boxout] is supported by a dynamic Neodymium bass/mid driver, working like a mini-Tannoy or KEF Uni-Q by radiating sound from a single point.



'The lifelike and deep bass was chilling in its authenticity'

Looking like no others, the oBravo's earpieces are made from aluminium, wood and lush, hand-stitched leather. Despite the sheer 'hugeness' and weight of the HAMT-1s, they are supremely comfortable thanks to the admittedly Cyberman-ish

headband construction and earcup rods. The only reservation one might have is related to the pressure on the skull.

They do form a tight seal to ensure controlled bass; and I will admit to not wearing my glasses

while donning the oBravos for more than a half-hour at a time.

Like the Oppos, all Staxes, the Audezes and a few other unconventional types, the oBravo uses a dipole driver that will find immediate favour among those who own Quad ESLs, MartinLogans or other panel-type speakers. Even with sealed backs, these headphones deliver an airy, open sound which goes a long way toward relieving the disconcerting effect endemic with *all* headphones: the unnatural 'in the head' sensation that can never be mistaken for realistic portrayal of a musical event. When it comes to using cans, you either accept it, or you listen to speakers.

## BALANCED CABLE OPTION

Arriving in an aluminium flight case, the review pair was fitted with a stiff, monocrystal cable that connects via screw-threaded plugs and sockets, terminating in a 3.5mm plug. The balanced alternative, though, is the *tech du jour* in high-end cans, and always superior to single-ended connections, whatever anyone tells you. OBravo charges £200-£250 for the necessary balanced cables of your choice.

My own antipathy towards cables aside, I would rather see 'universal' cable connectors at the earcups, for those who like to experiment with wires. This, however, also applies to Audezes, B&Ws and other headphones with either atypical connector types or tight spaces within the cups (the B&Ws), so it's only an observation



**LEFT:** There's an adjustable rod and swivel to assist a tight fit to the head with these headphones. OBravo offers optional cables to allow for balanced connection

off into the aether. A second, immediate stand-out trait is their exceptional talent at feeding you microscopically small details. In this respect, they remind me most of the Audeze LCD-XC (the version with the sealed backs) especially with recordings that feature studio chatter being rendered sublimely life-like.

What might jar, though, is a slight nasality that I find endemic in almost all sealed-back headphones, and which is doubly curious in headphones using dipole drivers (here, just for the treble) which would otherwise beg for open-backed capsules.

Conversely, what always delights me about the isolation inherent in headphone listening is the way it not only enables greater concentration, it demands it. Short of falling asleep with your cans on, this is to hi-fi what a double espresso is to a latte: industrial-strength potency.

Dying to hear how the Four Seasons' harmonies mesh? 'Big Girls Don't Cry' and 'Walk Like A Man' [Rhino Box Set 8 122795939], familiar to the point of habit or instinct, were reproduced with the requisite amount of transparency needed to separate Valli from the rest. It goes some way toward making real those near-mythical claims from reviewers who'd say stuff like, 'I could single-out the second violin from the left' or 'One could hear the spittle on the reed.'

Also apparent was the lifelike and deep bass, occasionally over-rich but chilling in its authenticity. It is not my wont to listen to Kodo's *Heartbeat: Drummers Of Japan* [Sheffield Lab CD-KODO] for ☞

– not a criticism. Even my aged Sennheiser HD414 'phones use their own proprietary two-pin connector.

Trying these with headphone amps and USB DACs from Musical Fidelity, Oppo, Chord and AudioQuest, I also used the Pono, Astell & Kern and iPod Classic portables. While in every case the levels were adequate, the oBravos are like high-end speakers that want more, despite what their sensitivity suggests, and you will want to fiddle with the impedance if your headphone amplifier allows it.

Once you 'get' what oBravo is doing – and these are not without their own unique quirks, as you will see – you will agree that the HAMP-1 is worthy of the best headphone amplifier you can muster. Then again, who on earth would drop £1.5k on headphones and feed them from a cheesy socket output?

### SILKY AND SWEET

If ever a pair of headphones presented the case for 'one type for the home, one type for the road,' the oBravo and the other super-cans demonstrate that their bulk and

mass pay off in sound quality. Buying two pairs of headphones may seem profligate, but it's a case of horses for courses. So, no, I didn't take these on the road – they deserve rather better than fighting ambient noise, or the thrum of a jet-engine in the background.

Without doubt, the initial impression they make is skewed toward the treble, which is silky and sweet if not soaring

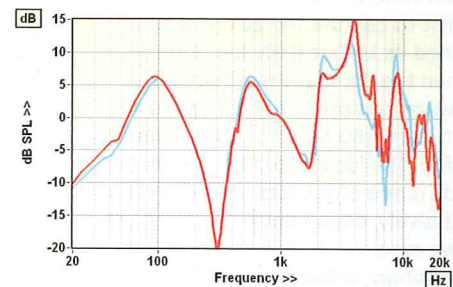
### HEIL'S AIR MOTION TRANSFORMER

However they are set in motion – by electromagnetic force in moving-coil, isodynamic or ribbon drivers, or electrostatic forces in electrostatic panels – conventional loudspeaker diaphragms are all like paddles: they displace air, and thereby generate pressure waves, in the same direction as they radiate sound. The air motion transformer, patented by German engineer Dr Oskar Heil in 1973, is quite different: made of plastic film to which thin aluminium strips are bonded which carry the signal current, and pleated rather like an accordion, it displaces air by squeezing it out from its V-shaped crevasses. While there are more AMT drivers, principally tweeters, around today than ever before they remain rare, and AMT-toting headphones are scarcer still. When Precide – the successor to Jecklin – reinvented the famous Float Electrostat in the 1990s, it used AMT drivers instead of electrostatic panels but in the Precide the AMT unit was used full-range. Here, in the two-way oBravo, it carries the treble frequencies only. KH

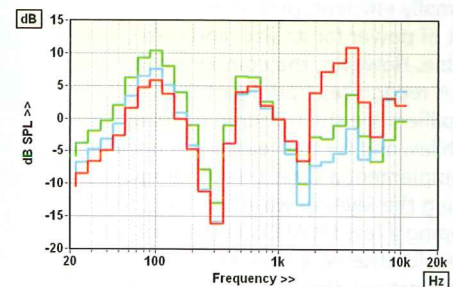
## OBRIVO HAMT-1

Claimed sensitivity for the HAMT-1 is 105dB but as oBravo doesn't specify the input, that figure is meaningless. On the artificial ear we obtained a mean sensitivity for the two capsules of 112.1dB at 1kHz for 1Vrms, significantly above the oBravo spec. but no better than average for a modern closed-back circumaural design. Impedance is specified as 56ohm but this is wishful thinking given that we measured a maximum and minimum modulus of 75.4 and 12.0ohm respectively over the frequency range 20Hz to 20kHz. This huge variation – by a factor of over 6:1 – makes the HAMT-1 exceptionally sensitive to source resistance. If the output resistance of the source is 10ohm that will be sufficient to introduce a 4.2dB variation into the frequency response; if the source impedance is 30ohm then this rises to 8.0dB. As the HAMT-1's impedance is high at low frequency and low at high frequency (where the AMT driver takes over from the moving coil bass unit) these errors will take the form of a suppressed treble output.

If the HAMT-1's impedance characteristic is idiosyncratic, its frequency response is even worse. The uncorrected frequency response on the artificial ear is a rollercoaster ride below 1kHz, where most headphones have a fairly flat response characteristic perhaps with a gentle bass roll-off [see Graph 1, below]. Above 1kHz the output initially falls before recovering to a somewhat late and narrow peak at 4kHz. These features are reflected in the diffuse-field corrected response [green trace, Graph 2] as gross perceived differences in output across the audible range. The only good news from the frequency response is that variability is at a pretty low level with different headphone positioning, and the vice-like grip of the capsules ensures a pretty consistent seal at bass frequencies. All told, though, this is a highly irregular performance for what is a very costly, albeit innovative, headphone. KH



ABOVE: Uncorrected response shows a notch at 300Hz and peaks at 100Hz, 600Hz and 4kHz. High preamp source impedance will exaggerate this trend



ABOVE: Third-octave freq. resp. (red = uncorrected; cyan = FF corrected; green = DF corrected)

ABOVE: The sturdy headband construction reflects the high-end calibre of the HAMT-1s. But the side pressure might make them uncomfortable if you wear specs

pleasure, but it is invaluable for assessing equipment. The lower octaves were so deliciously massive that it was a rare occasion when a pair of headphones delivered as much satisfaction as a system with a correctly-matched subwoofer. Because the drivers are well-controlled and fast, the decay was smooth and perfectly paced, the impact a Herculean thud.

### LISTENING TO MONO

Because I was revelling in the details unveiled by the HAMT-1s, I turned to my favourite, near-antediluvian recordings, George Formby's *When I'm Cleaning Windows – His 52 Finest 1932-1946* [Retrospective RTS 410]. I cannot count the number of times I've played the title track, trying to decipher his strumming technique, but the initial blast through the oBravos was an ear-opener. Frank Skinner's praise of Formby in a TV special suddenly meant more to this fledgling uke player, the strums appearing so fast that they're almost too quick to reproduce without smearing.

Listening *in* to a mono recording is ever an education, and the oBravos do a fine job of recreating, albeit in one's head, a sense of three dimensions. OK, so it's near-spherical with no imagery because it simply doesn't exist in mono, but there *is* a fullness that is more satisfying than listening to a tiny point. Is it accurate or an artefact of the headphone? I don't know, but it certainly sounded wonderful.

But there are minor reservations, or perhaps observations. Because these are sealed-back enclosures, as all seasoned audiophiles know, there is less of the 'out of the head'

capability than with open-backed types. If you were to take a model offered in both sealed and open-backed versions and play both side-by-side, you would hear the trade-off: openness versus tight, solid bass. You can't have both.

Playing the title track from Lou Rawls *At Last* [Blue Note CDP 7 91937 2], I was consistently able to hear the classic manifestations of a sealed headphone, but compounded by the presence of a dipole driver. It is the very reason why the oBravo possesses its own unique character, and it is distinctive enough to make this an easy choice. My schizophrenia is compounded here by a preference for open-backs and a lifelong love for the Heil tweeter.

Thus, as if to reinforce my belief in Ouroboros, I hasten to add that, at university over 42 years ago, the system I lived with during my senior year included ESS AMT1s – with Heil AMT tweeters. I was back in Bangor, Maine, however briefly. What goes around, comes around. Blessedly. ☺

### HI-FI NEWS VERDICT

These join my shortlist of Staxes, Audezes and B&Ws. They are unapologetically *not* portable, though some road warriors may choose to schlep them around for their isolation properties. The HAMT-1s are among very few headphones that satisfy as much as listening to a high-end floorstander, but they have their own odd, distinctive traits. Quirks aside, one of the most satisfying headphones you can buy.

Sound Quality: 85%

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### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL at 1kHz for 1Vrms input)	112.1dB
Impedance modulus min/max (20Hz-20kHz)	12.0ohm @ 8.8kHz 75.4ohm @ 92Hz
Capsule matching (40Hz-10kHz)	±7.2dB
LF extension (-6dB ref. 200Hz)	20Hz
Distortion 100Hz/1kHz (for 90dB SPL)	0.1% / <0.1%
Weight (headset only)	500g