



Holbo Airbearing

An air-bearing turntable and a parallel-tracking, air-bearing tonearm in a single, easy-to-use package for under £7000? Devotees of both will love the Holbo Airbearing
 Review: **Ken Kessler** Lab: **Paul Miller**

Every product type has its following, however focused. I am sure, for example, that there are devotees of hybrid amps with tube front-ends and solid-state output stages just as, among the niches in LP playback, audiophiles are tempted by air-bearing turntables and parallel-tracking tonearms. Made in Slovenia by Bostjan Holc, the Holbo Airbearing combines those two, and does so for an almost-inexplicable £6500.

Here's my observation of the economics: I have no idea when wages in Slovenia, Slovakia, et al, will match those of Germany, but this also works in its favour, as lower manufacturing costs help exports. This is a simple fact, and it's the only way I can figure out how such a technically complex and beautifully made package can be offered for what a US or Western European brand might charge for just the arm or the deck, but not the pair.

Editor PM told me it was a doddle to set up, in contrast to every other device I have ever used which involved air pumps, and he was right. There was, of course, back-up in the form of a superb owner's manual, but this deck is so intuitive that I had to learn only one lesson the hard way: never have I experienced anything so critical about being levelled to perfection. Fortunately, the unit rests on three pointy feet, two of which are adjustable – plus I also ensured my turntable rack was also absolutely level.

PLINTH CHARMING

Why so critical? You can't set up the arm if it isn't faultlessly horizontal because it will slide away from you when you least need it to do so. That was the only unanticipated event and I actually had this up-and-running in 30 minutes. That included fitting the cartridge, a fiddly process that will demand as much forbearance as setting up a Hadcock, Mayware or Syrinx of yore.

RIGHT: Air is forced from the black sleeve, not the stainless barrel of this linear-tracking arm. The Litz wiring, and fine air tube, are also visible along with the counterweight, cueing system and adjustment screw to set the arm length

What first strikes you about the Holbo pairing is its simplicity. In style terms, this is the air-bearing, parallel-tracking equivalent of that turntable of Bauhausian clarity and minimalism, the Rega Planar 2, which – for this scribe – remains the cleanest record deck design ever. The Holbo Airbearing is so uncluttered that even the black-on-black logo on the front right-hand corner of the deck disappears when viewed from certain angles.

Holbo has devised what is simply a slab with a POM/Delrin platter, the tonearm emerging from a cut-out at the back, with a basic on-off rocker in the left-hand corner. Speed change is via a toggle at the back, and cueing is as basic as it gets – an undamped lever behind the arm. It's slightly awkward to get to if the deck is mounted above waist-height, and

you will certainly want full control of its manually-applied descent, so consider this if your equipment rack is especially tall.

MODEL DECK

Two black boxes [see p49] – provide AC power and air for the bearing and the tonearm. The unit comes with enough tubing to allow you to put the pump in another room, but it was so quiet that I didn't bother. The hose is connected to a nipple on the air pump and another on the back of the deck, secured with screw-down collars. The power supply connects through a socket at the back, and – as the deck is supplied without signal leads – the user can fit whatever cables he or she prefers to the Holbo's RCA connectors and earthing tag.

'A knock-out, especially with low-octave instruments'





My only complaint at this stage is the lack of a dust cover, which I would assume should be critical for keeping schmutz, dust and air-borne grime off the arm's guiding cylinder. Other than that, this is a model of clear thought and attention to detail, finicky arm set-up apart.

ARM TWISTING

Having connected the deck to my EAT E-Glo phono stage, I used the cable that was supplied with the recently-reviewed EAT B-Sharp turntable [*HFN* Jul '20]. As for the cartridges chosen for the listening, these included the EAT Jo N°5 MC [*HFN* Dec '18], an aged Tsurugi MC and Ortofon's 2M Red MM [*HFN* Oct '08]. Set-up was undertaken with the supplied gauge, mirror-finished to help with azimuth, while overhang requires lining-up the stylus to intersect with the spindle. Arm height is adjusted at the back, but it's the azimuth and overhang setting that will demand you don't precede installation with a few cups of coffee.

PUMP IT UP

Looking back into hi-fi history it would seem the genesis of the air-bearing turntable began with the Wayne H Coloney municipal engineering company in Tallahassee, Florida. But the story really begins with student, and soon to be audiophile luminary, Bruce Thigpen seeing an air-bearing demonstration in a physics class in 1975. Bruce discovered that presenting engineer Lew Eckhart, then of the Geophysical Fluid Dynamics Institute (GFDI) in the Physics Department at FSU, had already designed a prototype air-bearing turntable and tonearm. Having persuaded Eckhart to help him build his own solution, high-end audio brand Infinity took a license for the design. Sadly only about ten Infinity turntables were made under contract in Japan before the speaker company was bought by Harman in 1983, and its radical turntable was dropped.

Meanwhile, Coloney had started manufacturing its own AB-1 air-bearing turntable with Thigpen as project manager, but got into difficulties in 1982 and sold the inventory to Maplenoll. At this point Thigpen set up his own company, Eminent Technology and was granted a patent for an 'Air bearing straight line tracking phonograph tonearm' in 1985. When he launched his ET1 arm and later, with Edison Price, the ET2 [*HFN* Jul '86], these became the first widely-known air-bearing arms. Another pioneering US arm of the 1980s was the now-obscure Dennesen, closely followed by the now-iconic Airtangent from Sweden. **PM**

Holbo's arm tube is completely removable from its horizontal mount if the counterweight is not yet fitted, so if you loosen the set-screws to adjust its length it can rotate, rendering the headshell no longer perfectly horizontal to the platter when viewed from the front. Now you see why the gauge has a mirror surface.

I soon figured out that loosening the set screws to allow only slight movement enabled me first to set the overhang, then to twist the tube as necessary to ensure faultless 'verticality' from the front. By this time, you will have learned, too, that the cueing is direct in its action and not damped, so care is needed.

I point this out because, as one who rarely uses a cueing lever, you cannot operate the Holbo arm without the lift/lower device. Such a device is mandatory with a free-floating, parallel-tracking arm because it simply doesn't enable you to lift and then park the arm like a conventional pivoting type. You will soon get used to

ABOVE: The platter is lifted some 10µm under pneumatic pressure, while the stainless ring is part of the chassis and bearing. The deck must be precisely levelled via its three feet


lowering this without haste, but I thought you ought to know.

SOMETHING IN THE AIR

As one spoiled for the better part of a year by the spooky silence of an air-bearing turntable, the primary feel of the Holbo Airbearing was instantly familiar. It is the antithesis of idler-drive, which never appealed to me because the lower registers and the noise floor are never as genuinely deep as with an air-bearing solution. I used my newest LP, with pristine surface, to exploit this, admittedly comparing its silences to those of the TechDAS Air Force III Premium [*HFN* Jun '19] at seven times the cost.

With BB King and Eric Clapton's *Riding With The King* [Reprise 895206093624], I concentrated on the fluidity of both guitarists' lead breaks, followed by their familiar-yet-contrasting voices. Their epic take on Sam & Dave's 'Hold On I'm Coming' revealed a sonic signature softer than I expected, but it was consistent from cartridge-to-cartridge. As identifying a component's overall 'personality' is the *raison d'être* of any review, I was eager to learn if this defined the sound.

It was smoother than EAT's B-Sharp, but here we have a case of what the listener prefers over what measurements might reveal [see PM's Lab Report, p49]. King's voice has a nasality which was reproduced with all its near-liquidity, while the mild huskiness of Clapton's was spot-on – this unit has a way with vocals. Comparing it to the admittedly dearer TechDAS, any losses were minor, mainly in terms of warmth.

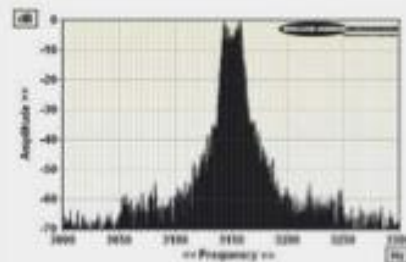
As for guitar, the Holbo deck excelled in treble extension, with lead notes soaring, but transient attack was dependent on the 

LAB REPORT

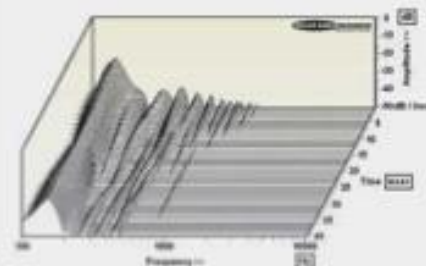
HOLBO AIRBEARING

Measured directly through its Teflon spindle and bearing sleeve, rumble is a moderate -68.5dB (DIN B wtd, re. $1\text{kHz}/5\text{cm}/\text{sec}$) with a cluster of low-level modes between $75\text{--}85\text{Hz}$ making an appearance as the principal resonances. Gratifyingly, this figure improves to a low -71.8dB (through groove) thanks to the isolation afforded by the weighty POM/Delrin platter, and all without the services of an aftermarket clamp. The platter gets up to speed in a relatively swift $3\text{--}4\text{secs}$ but, as supplied, our sample was running a full $+5\%$ fast – fortunately the rear trim pot adjustment [see pic, adjacent] has sufficient range to accommodate at least $\pm 10\%$ either side of 33.33rpm . Absolute speed now achieved (before shipping to Ken) the drawback of many DC motor-equipped decks was subsequently revealed by the low-rate drift visible on the W&F spectrum [see Graph 1, below]. Many listeners are evidently insensitive to these $0.5\text{Hz}\text{--}1.5\text{Hz}$ changes in speed so the Graph, and 0.15% peak wow, 'look' worse than may be experienced in practice.

The 163mm alloy tonearm tube is damped with an internal foam that holds the silver-plated copper ITC wiring in place and successfully quells the harmonics and twisting modes following the main 150Hz bending resonance [Graph 2]. The cartridge mounting platform adds little to the overall 7.5g effective mass, so it remains best suited to higher compliance MM's than low compliance MC's. Friction is low enough at $\sim 30\text{mg}$ within the 'air bearing'. In this case air is forced from within the sleeve rather than perforations in the supporting barrel, so while lower friction might be obtained by a higher air pressure, noise at the arm would increase. Holbo has achieved a fine compromise here. PM



ABOVE: Wow and flutter re. 3150Hz tone at $5\text{cm}/\text{sec}$ (plotted $\pm 150\text{Hz}$, 5Hz per minor division)



ABOVE: Cumulative tonearm resonant decay spectrum, illustrating various bearing, pillar and 'tube' vibration modes spanning $100\text{Hz}\text{--}10\text{kHz}$ over 40msec

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.35rpm ($\pm 0.05\%$, adjusted)
Time to audible stabilisation	4sec
Peak Wow/Flutter (Peak wtd)	0.15% / 0.04%
Rumble (silenced groove, DIN B wtd)	-71.8dB
Rumble (through bearing, DIN B wtd)	-68.5dB
Hum & Noise (unwtd, rel. to $5\text{cm}/\text{sec}$)	-58.7dB
Power Consumption	4W motor / 6W pump
Dimensions (WHD) / Weight	$430 \times 150 \times 420\text{mm}$ / 12kg



ABOVE: Connected via a soft 6mm PVC umbilical the 'Air' intake valve feeds both the platter and tonearm 'bearings'. Fine arm leads are terminated in gold-plated RCA's while $33.3/45$ speeds are selected via a toggle and adjusted via two trimpots

cartridge. It was curious because, out of the three, the Tsurugi usually provides (to my ears) sharper note termination, but via the Holbo Airbearing, the Ortofon 2M Red was the champion. This reminded me of PM's remarks about compliance – this being a low effective mass arm – and those auditioning the Holbo pairing should take note of this.

POWER AND IMPACT

Here we also end up with something a tad ironic: the Holbo Airbearing creates a superbly wide and deep soundstage, but it was less airy than I anticipated, given the absence of bearing contact. I hasten to add that this is a minuscule point, and I was listening hyper-critically through both Wilson Sasha DAW speakers [HFN Mar '19] and a pair of open-backed Audeze LCD-4z headphones.

I returned to The Kinks' *Arthur (Or The Decline And Fall Of The British Empire)* [BMG BMGCAT407DLP], primarily for the opportunity it affords for observing retrieval of detail. As ever, the most vaudevillian of the tracks, 'She's Bought A Hat Like Princess Marina', provided plenty of material for this purpose, including harpsichord, kazoo and other amusing sounds, as well as stunningly-recorded percussion.

With this LP, the Holbo Airbearing proved a knock-out, especially with low-octave instruments, the drum break at $2\text{m } 10\text{s}$ possessing ear-opening power and impact. The percussion, snare-and-cymbals in particular, should be deliberately

trashy and splashy, and the Holbo system emulated this music hall experience with aplomb. Vocals were noteworthy, too, a brief sojourn through the Falcon Acoustics LS3/5As [HFN Dec '18] testifying to the deck's natural midband.

Ultimately, it was Al Di Meola's latest Beatles tribute, *Across The Universe* [E-A-R Music/Edel 0214706EMU], which proved to be the most revealing disc. The sheer clarity of the recording, the atmosphere of acoustic instruments and the overall pristine nature were key tools for learning that the arm is compliance-sensitive and tracking ability will be affected. This, however, suited the Holbo turntable well enough because properly-executed parallel-tracking arms eliminate inner-groove errors.

Whatever my reservations about absolute airiness and transient attack, the Holbo Airbearing has a way with unplugged instruments which complemented the Di Meola album through sheer gracefulness. But to achieve this state of grace, I must reiterate: set-up – however seemingly simple – is the final arbiter. Achieving this superlative consistency and naturalness demands the right cartridge and obsessive attention to levelling. ☺

HI-FI NEWS VERDICT

Perhaps I am recommending this for what some may consider the wrong reasons – value for money – but there is no denying that getting all this tech, and so well-executed, at this price is irresistible. It's comparable to DS Audio giving you an optical cartridge at a 10th the price of its flagship. For anyone captivated by air-bearing decks and linear-tracking arms, the Holbo Airbearing combo is a gift.

Sound Quality: 84%



ABOVE: Compact pump [left] with air filter [gold] and output valve, and equally compact turntable PSU [right]