



FLOATING APPEAL

The MAG-LEV's platter levitates above any „bad vibrations“ on its magnetic cushion. This way, it is supposed to lift listeners into higher audiophile spheres. Can the ML1 do this or is it just a fancy gag?

What an awe and wonder it was during the Munich HighEnd show in 2017: at a small booth in hall 2 a rather inconspicuous record player was surrounded like a huge sensation. In fact, that is exactly what it was. As if held by ethereal hands, the turntable floated above its base, with its luminous orange ring ensuring that everyone noticed it.

It was the ML1 of the Slovenian newcomer MAG-LEV Audio. This started as a crowd funding project with the goal of not only developing but also building a record player with “magnetic levitation”-technology, which also gave MAG-LEV Audio their name. The idea is not new, as, e.g., the famous train “Transrapid” works according to the same principle. The aim is to lift up and then control an object provided with magnets, via an electrically generated magnetic field. In the case of the Transrapid, several tons have to be handled, while in the ML1, it’s “only” the 2.2-kilo turntable. However, even this is a real challenge.

It only likes MM-pickups

The technicalities are to blame. There have long been ideas for a magnetic levitation record player, which would be immune to rumbling, because of the omitted plate bearings, while being perfectly decoupled from vibrations of the base at the same

time. However, the implementation is so complicated that almost everyone kept their hands off it. With the exception of analog-grandmaster van den Hul, who presented the well-functioning prototype of a drive with magnetically supported plate in 2015, but had to cancel the



▲ The only control is a knob to select „Off“ and the two speeds, the values of which flash during start-up and only light up continuously after the selected speed has been reached.



▲ As an alternative to the OM10 (left), the ML-1 is also available with pre-mounted Ortofon-MM 2M Blue, which is clearly superior in sound quality.

project for various reasons. One of them was that inductive interactions of the powerful magnets of MC pickups, for which van den Hul is famous, with the magnetic field of the turntable occurred, which irritated the controls.

It is no different with the ML1, despite the shielding steel plate implemented in the platter. It can, therefore, only be used with MM-cartridges. Also “Moving Iron” scanners (MI) are not recommended, and even among the “Moving Magnet” (MM) types, which are in general suitable due to their small magnets, there are models the Slovenian is not compatible with. In that case it would reduce the speed and finally lift off the tone arm after a short playing time, to signal the problem with a red flashing speed display.

For this reason, the manufacturer, who had to overcome numerous technical hurdles on the way to serial production and continued to postpone the launch of the ML1, is equipping it with Ortofon’s unproblematic entry-level MM OM10 at a total price of near to 2,500 euros. However, since this hardly satisfies more than the most basic sound requirements, the MAG-LEV-turner can also be obtained for 150 Euro surcharge with the Danes’ much more appropriate 2M Blue, which is also the one we used in the test.

Turned off, four support rods are driven out of the chassis with a rattling noise and keep the plate away from the base and in the same height even without the magnetic cushions. ▼



▲ With the ML1, MAG-LEV audio developer Tadej Doles achieved a real coup

What lasts long...

This one had some, let’s say, start-up problems. A first device, which found its way into our listening room in mid May after the HighEnd, was afflicted by a slight wobble of the plate. Comment from the producer: software error. This could even lead to a failure of the turntable’s normally stable lateral guides and the platter slipping off sideways. An absolute no-go! At that point we had our doubts the hovering technology would ever function reliably. However, the second device taken from the first regular batch ran stable, although one has to take into account some of the ML1’s peculiarities.

Using it demands quite a lot of patience from the listener. The initial position is that the platter lies on four plastic rods when the unit is switched off. Turning the knob on the left side of the chassis one step to the right to “33” and pushing the height-adjustable tone arm, Pro-Ject’s proven 9cc with low-resonance carbon fiber tube, over the record, the bars are lowered into the frame under buzzing noises, and the plate hovers freely. It will then gradually pick up speed, while the orange “33” flashes. This takes a while, during which you can safely lower the arm lift and go to the listening position, as the MAG-LEV only places the needle on the vinyl after the target speed has been reached, at which point it also switches from flashing to continuous light. A full 45 seconds pass by from pressing the button to the first sound.

Quickly listening to a few freshly purchased thrift store records might turn out to be an ordeal, as every change of record is accompanied by the same process first in reverse and then again from the top. The arm moves into its holding, the button moves to “Off”, whereupon the plate decelerates veery slowly; the bars move up and the turner switches off. Although experienced users with nimble fingers can succeed in quickly fishing the disc from the rotating plate, it then often tumbles so badly that the device switches to “tilt” like a pinball machine that has been pushed too hard, so that nothing works anymore at all. Then what has to be done is to briefly disconnect the external power supply in order to reboot the control CPU. Don’t worry, the plate does not just fall onto the base. A buffer maintains the energy until it safely lies on the support pins again.

...can do pretty well

It is time to devote ourselves to the complex technology of the ML1: in fact, a powerful ARM chip runs all processes and guides the plate by precisely regulating the ten coils inserted in the chassis, which are controlled alternately and thus, according to the principle of the linear motor, keep the plate, held at a distance by magnets, rotating. The 21 neodymium magnets in the plate serve as “counterparts”. The control registers its movements and speed via an optical system by means of nine small mirrors inserted into the underside of the plate. As a result, the



Slovenian manages to maintain speeds quite precisely, with a slight plus at 33.33 and a tiny minus at 45. Hardly worth mentioning!

Before using the MAG-LEV, we took off our mechanical watches, as they generally don't like magnetic fields. The operating instructions also recommend that pacemaker users should maintain at least one meter of distance from the turntable so that it can't irritate the device's pace. Sounds dangerous, but better to be safe than sorry!

And what does the revolutionary MAG-LEV turntable sound like? This is not an easy question to answer, because the result depends even more than usual on the environment. The ML1 requires a straight, largely vibration-free base. A board screwed to a solid wall would be ideal. Wobbly little shelves on a rocking wooden floor do not work at all. Even a draft of air can cause the plate to tumble. And then, of course, that's it with smooth running, constancy and inner order of sound images.

On top of that, the frame is quite sensitive to footstep noise. We asked ourselves, what the benefit of such extreme effort as applied for the floating plate is, if vibrations creep in anyway via the still firmly connected to the base tonearm? MAG-LEV owners have to simply accept

A powerful neodymium magnet in the center of the plate carries the „main load“. Nine narrow mirrors ensure the controlling. ▼



this contradiction and it is yet another compelling argument for a positioning that is as free as possible from disturbances.

However, the magic of the platter, floating almost four centimeters above the base, which is available in various decors, makes up for any inconvenience and limitations. No other turntable can offer this kind of fascination when the platter rotates weightlessly in the air.

Okay, after running up the plate wobbles unsteadily back and forth for a few seconds, which is no problem with normal pop music. If, on the other hand, a piano record is played, the first bars come across slightly howling and somehow out of tune. Also, the Slovenians cannot simply conjure away the axiomatic analog law that the connection between plate and tonearm must be as rigid as possible. Logically, movements of these parts relative to each other must lead to blurring and inaccuracies. Especially in the inner grooves, where the radius is small and the offset, hence, relatively large.

Timing is in the flow

If nothing disturbs its circuits, the ML1 spreads good mood. James Taylor's "Her Town Too", with its punchy, dry bass, was depicted with vehemence and power. The large orchestra in Chadwick's "Jubilee" was spacious and cleanly staggered in depths. It may be that the Slovenian did not focus quite as much on edge sharpness as the nitpickers from the record player's cookie-cutter fraction, but it was far from diffuse- or even uncleanliness.

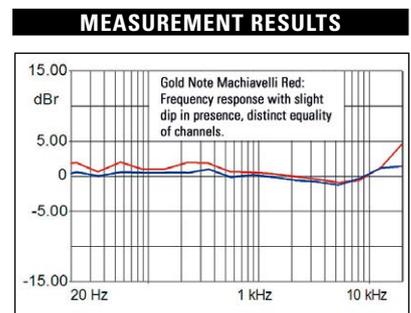
When it comes to timing, the turner offers a soft "flow" with a little rounded corners and edges. A crisp low frequency appears somewhat softened on it, while voices that are strikingly offset from the background seem to be more integrated into the overall picture. This is the "analog" character of the ML1, and we like it. Though the MAG-LEV doesn't rise into the analog heaven, it certainly is more than just a gag with show effect. And at home all your hi-fi friends are guaranteed to crowd around it with open mouths.

Matthias Boede

MAG-LEV AUDIO ML1

from 2500 €
 (with MM-scanner Ortofon OM10, with Ortofon 2M Red for 2650 €)
 Dimensions: 48 x19 x36 cm (WxHxD)
 Warranty: 2 years
 Contact: MAG-LEV Audio
 www.maglevaudio.com

The phenomenal thing about the ML1 is the fact that it works at all. Clever, sophisticated technology makes it possible to guide the turntable in a controlled magnetic field. The MAG-LEV proves that it is not a gag, featuring appealing sound images, especially with the Ortofon 2M Blue, which is subject to an extra charge.



FEATURES

External power supply, RCA connectors, semi-automatic (the arm is lifted up at the end of one disc side, shortly afterwards the platter halts), good quality phono cable

STEREO-TEST

SOUND QUALITY **67%**

PRICE/PERFORMANCE

★★★★☆

VERY GOOD