

(See vibration isolation technology @ [www.minusk.com?pdf](http://www.minusk.com?pdf))

# HIFI ZINE

The enthusiast's audio webzine

**HiFi Zine – December 2013**

## **Equipment Reviews**

### **MINUS K BM-8 ISOLATION PLATFORM**

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As vinyl addicts know, the search for sonic satisfaction via LP involves a seemingly endless and interacting series of variables that must be controlled, driving perfectionists to distraction and putting the faint-of-heart off the medium completely. Not only must you consider the turntable, tonearm and cartridge combination, but once settled on these, the setting of tracking force, azimuth, and rake angle all add further complications into the mix. There's a plethora of products out there now to help with these, ranging from dedicated protractors to USB-powered magnifiers, and this is before we even get to stylus cleaners or, remarkably, record cleaning machines, from which there are now more than a few to choose.

As every audiophile knows, unwanted vibration is your enemy, and when it comes to getting a table running smoothly, your best laid plans and settings will count for little if the table is subject to rumblings and feedback from the environment. Vibration induced by the speakers playing the very music you are trying to extract from the grooves is a common problem. Typical advice is to purchase a good rack and keep the table away from sources of vibration, including your speakers or footfalls in the room, but I suspect I am not alone in being wary of the so-called science behind many racks, isolators, and platforms, not to mention the exorbitant costs often associated with such products.



Of course, vibration isolation is not a concern only of audiophiles, there is an entire industry out there working on such products to ensure the best isolation for technical applications in medicine, manufacture, aviation and the military. In fact, the quest for isolation in some areas of human endeavor is far more pressing than the concerns of audiophiles and consequently, it has motivated solutions that would not likely occur to those concerned only with the stylus/groove interface. While this might be heretical to some, I would have greater confidence in the products emerging from such sectors than a design developed for audiophiles. Consequently, when I learned about Minus K products, a company that produces isolation devices for sensitive instrumentation from nanotechnology to spacecraft development, I was sufficiently intrigued to learn more. That they listed high-end audio on their website as just one area where some of their products had been utilized, I had to ask for more information. Thankfully, Steve Varma responded, confirming they had products that worked perfectly under turntables and offering me a chance to try a BM-8 model under my SME 20/2.

## **Who are Minus K?**

Minus K Technology was founded in 1993 by engineer David Platus, now company president, and specializes in 'patented negative-stiffness technology'. In simple terms, this type of platform utilizes stiff spring mechanisms in a completely mechanical configuration to isolate a support plate. Within specified weight ranges, this ensures optimal loading in horizontal and vertical planes. As I understand it, the goal is to create an interface for dissipation of vibration in a passive manner. This contrasts with the use of counteracting force approaches employed in active isolators such as electronic force-cancellation systems.

The company's website provides much detailed information on various approaches to isolation as well as numerous measurements comparing the performance of their products, but perhaps the most impressive example is their video of two glasses of wine: one directly on a large vibrating shelf, the other sitting on a Minus K platform on the same shelf. The camera shows the wine churning away in one but rather serene (though not completely unmoved) in the other. All you have to do is imagine which of these you'd prefer your turntable to be sitting on and you get a real sense of the benefits being offered. Since their founding, the company has grown from strength to strength and now offers a range of platforms covering weights up to 1000lbs, with custom solutions offered for weights far beyond this. Isolation is what this company specializes in and they make products that do this and this alone.

For my needs, I received a BM-8 capable of supporting up to 50 pounds, which arrived simply boxed and liftable with some effort on my own. Unpacking the Minus K is easy, but it's heavy enough to make me think the larger models might prove a little challenging for one person to move easily into place. The platform ships with small removable 'collars' on the top which have to be extracted to allow the top to move freely, after which a couple of simple adjustments for load and horizontal movement can be made. The goal is to position the item being supported so that its center of gravity is in the middle (which means most turntables won't sit directly

in the center since the platter tends to be slightly off-set on most plinths). From here you use the crank handle adjustment to set for the table's weight, which you determine via an indicator on the side which moves up or down to a target point on the 'high-low' scale. If the top is set too low or too high, you see it clearly with this scale and turn the crank accordingly. Really, it is even easier than it sounds.

For me, the SME 20/2, at about 45lbs, required a little offset to accommodate its slightly heavier left side, then a couple of turns of the crank handle had the top shelf floating at its target point (with only minor adjustments over a couple of months to keep it there). A check of the platform top's horizontal movement (you are instructed to push the top slightly to the side and count the settlement time – again, easier than it might sound) confirmed all was well but another adjustment control on the side and be used if needed. From unpacking to playing, I had the Minus K installed in less than 30 mins, and most of that was spent looking at the simple instructions, playing with the platform placement, and just being sure my precious table was safe and settled.

I was not sure what I expected, but after a couple of months with the relatively rigid PS Audio PowerBase under my table, the freedom of top-shelf movement of the Minus K platform initially concerned me. Even though I'd lived with a similarly moving Gingko under my turntables for the past 4 years, I think I've just always thought of isolation best enabled through the use of massive, rigid supports, 4" maple platforms, or in the case of the PS Audio PowerBase, a solid top that moves only very slightly under significant downforce. A support that can move when you lift the tonearm seems at first as if it might offer less not more isolation but I suppose this is where lay physics and real science part ways. Once dialed in, the Minus K is like a musical instrument or finely balanced scale, it is sensitive to comparatively minor changes but has a smoothness of operation that reassures you it is working well.

Lifting the record clamp from the LP (in my case the HRS universal that I use in place of the heavier standard SME screwdown model) causes the platform top to lift up, only for it to drop back to its target zone when the record and clamp are replaced. Nudging or pushing the table causes a slow, controlled movement of the top platform for a couple of cycles which then stops dead, back where it started. Different weight LPs can even cause a shift, revealing just how sensitive the platform is when set. After a couple of days, I found all this movement predictable and almost comforting as I changed records and cued up new sides, suggesting with every record played that the platform was indeed settling down to do its job.

### **Never mind the physics, what about the music?**

The magnitude of the change wrought by the use of the Minus K platform under my SME could not be described as subtle. Great as the table is with its own built in suspension system, as soon as I played a record with the platform in place I just smiled. The difference was so great that I feel anyone, even someone unused to vinyl playback, could identify it blind in a couple of seconds. I would go further and say the difference between the sonic presentation from putting the table on the Gingko was also easy to discern. This is is one platform that you won't have to

hear twice to know something has changed in your rig. And for me, this change was largely positive all round.

Most noticeable on first listen is the bass reproduction. From the moment I put on Paul Brady's *Hard Station* LP I was struck by how the bass seemed so much more finely resolved that I found myself listening anew to tracks I must have played hundreds of times over the years. The bass was not just clearer, it seemed to be more continuous. This is somewhat difficult to explain but where bass notes in amplified music can blur with percussion or come through louder at some frequencies, the Minus K enabled the SME to deliver a complete bass guitar, with each note sounding free, stopping and starting on its own. I listened to one track in particular, *Bustin' Loose*, which has a steady, driving pulse provided by the bass player and the drummer. I'd never quite heard the two instruments reproduced as clearly and separately across the full track as I did with this set up, and I returned to this album repeatedly over the next few days to clarify for myself what I was hearing.

This ability to resolve and make bass distinct was not about increasing the sonic warmth of the music. Rather, it created an almost lighter, floating quality to the music. Tommy Bolin's *Private Eyes* LP has long been a favorite on my table, and though I love the music and Bolin's highly original guitar style, the sonics of this LP always seemed a little too studio-manufactured for my taste. With the Minus K under the table, I could actually hear places where effects were applied but commensurately, I also heard more deeply into the music, with bass notes stopping and starting so clearly that tracks like *Sweet Burgundy* took on a new and more percussive vibe. The change creates the impression I may never really have heard this album in all its glory until now.

The sense of instrumental separation was not just increased at the lower frequencies. Van Morrison and Cliff Richard's unlikely pairing on "Whenever God Shines his Light" from Van's 1989 *Avalon Sunset* LP gave further insight into the effect of using the Minus K. Here, the pair's voices seemed more clearly separated from the band and from each other, floating in the air between my speakers, each distinctly rendered.

Again and again, LP reproduction just seemed to have more air between the instrumental lines and details emerged from the background in a manner akin to making a significant upgrade in cartridge. However, unlike a cartridge upgrade, you don't have to fuss with set up or worry that you've got the most out of the Minus K in your rig, it's truly a set it and forget it upgrade. Once in place, it was like hearing some records for the first time, with the music gaining a fresh texture that invariably sounded better and more realistic. The comparison with a cartridge upgrade is not unreasonable given the price of many new designs at the upper end. However, not only do you have considerably less set-up effort with the Minus K, it provides an improvement that can stay in your system longer than the life of a cartridge.

During the course of this review I had cause to try two cartridges on my SME V arm: a budget Dynavector 10x50 and my new reference, the six times more expensive Clearaudio Concerto V2. While there is no doubt the Clearaudio is a

significant step up from the Dynavector, I was impressed with how much improvement in sonics I could get from the cheaper cartridge once it was mounted on the Minus K supported rig. More than a few people have commented on my use of that basic Dynavector in this rig but it's a real over-achiever. Given the best possible platform of an isolated table and a great tonearm, it truly sang as never before. If you have a decent cartridge but long for an upgrade, I say keep what you have and try a Minus K before you spend north of \$2k on a new cartridge. I'm confident you'll not only hear what your old cartridge is really capable of delivering and then be able to choose more wisely where you go next, but the instant improvement of the Minus K under your table might discourage any immediate urge for a cartridge upgrade.

And that, in the end, is the beauty of the Minus K. It aims to do something basic that all tables need and it does it well. But beauty, in another sense, is what this platform also lacks. To describe the looks as 'industrial' would not be unfair and one imagines that some folks will find the visual footprint unappealing. Given the high aesthetics of many modern turntables, the Minus K is decidedly utilitarian in comparison and certainly it does not have the furniture grade looks of some dedicated audiophile alternatives. This may or may not matter to you, but it's worth noting that you are definitely not paying for packaging here.

## **Conclusion**

At \$2600, you need to be seriously committed to your rig to consider a Minus K platform but for me, it's offered the best upgrade in LP reproduction I've experienced since I bought the SME20/2. It is at least comparable to benefits you might get from spending the same amount on a new cartridge. It is also better than either the PS Audio PowerBase or the Gingko Cloud I've also tried under my SME. That it requires zero maintenance and is not attached to air pumps or power cords makes it even more attractive to me. There's a Minus K platform for any size or weight table you might own. For me, the platform is one of those products that, once you own, you will likely stop looking at alternatives. Factor that into the price and you might appreciate the value on offer. Highly recommended.

## **Associated Equipment**

Vinyl: SME 20/2 with SME V arm, and Dynavector 10×50 and Clearaudio Concerto II cartridges

Phono stage: Whest P.03RDT

Preamp: SMcAudio VRE-1

Power amps: Spectron Musician III Mk2 monoblocks

Cables: Harmonic Technology phono and interconnects, High Fidelity interconnects, Elrod speaker cables,

Power cords: Spectron Thunderbolts, Absolute Fidelity and Wywires.

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