

VPI HR-X turntable & JMW12.6 tonearm

VPI Industries' TNT turntable and JMW Memorial tonearm have evolved through several iterations over the last two decades. Some changes have been large, such as the deletion of the three-pulley subchassis and the introduction of the SDS motor controller. Others have been invisible—a change in bearing or spindle material, for example, or the way the bearing attaches to the plinth. And, as longtime *Stereophile* readers know, I've been upgrading and evolving along with VPI, most recently reporting on the [TNT V-HR turntable](#) (*Stereophile*, December 2001).



But about the time I was expecting the next iteration, designer Harry Weisfeld threw me a curve by unveiling a completely new turntable design, the HR-X. First shown in prototype form at *Stereophile*'s Home Entertainment 2002 show in New York City, the HR-X is a stunning, milled-from-aluminum showcase of everything Weisfeld has learned from designing turntables for the past 25 years.

Nuts & bolts

Although the HR-X is a clean-slate design, it was obviously informed by the TNT. There are four corner towers with internal pneumatic bladders, a huge platter belt-driven by an outboard motor and flywheel, and a JMW tonearm mounted directly to a massive plinth. Beyond that basic configuration, however, everything is different—rethought, improved, optimized, and executed to the highest standard possible. It's immediately obvious that even VPI's workmanship and cosmetics have been raised to new levels: the TNT was well-built and solid; the HR-X is striking and sumptuous.

Weisfeld began by changing the plinth material, first to the prototype's aluminum, and finally to the HR-X's three-layer laminate of acrylic-aluminum-acrylic. The laminate was found to damp vibrations better than solid slabs of either material alone, and Weisfeld was trying to eliminate the TNT's upper-bass/lower-midrange emphasis and

slight softening of dynamic transients. "A lot of people thought the warmth was due to the acrylic chassis," he told me, "but not so. When we did the Scout, we discovered that the biggest contributor wasn't the chassis but the bearing."

Weisfeld explained that the biggest challenge in developing the Aries Scout ([reviewed by Art Dudley](#) in February 2003) was coming up with a suitable bearing assembly that could be produced within the available cost constraints (\$1600 retail, including a JMW 9 tonearm). "We tried to work through it with our machinist, but he got frustrated and said, 'Get out of here and let me figure it out.' What he came up with was the inverted bearing assembly. When we got the package together, it sounded great! And what's more, we noticed that it didn't seem to have the warmth of our other 'tables.'" The discovery led to the new bearing design, first for the Scout, then the HR-X.

The inverted bearing is quite simple, though executed to exacting specifications. The bottom element consists of a ball of hardened steel (Rc 60) press-fitted into the top of a similarly hardened steel shaft, which is then solidly attached to the plinth with a single, large nut that tightens from beneath. The mating assembly, press-fitted into the underside of the platter, consists of a stainless-steel boss that houses a graphite-impregnated brass sleeve and a 50/50 Teflon-Delrin pad that mates with the lower assembly's steel ball. Weisfeld has found that simplicity—*ie*, fewer material interfaces—almost always results in better sound.

The next major change was the replacement of the outboard motor and flywheel with a single, integrated unit housing the flywheel and two smaller motors. The reason for a flywheel is straightforward: add rotational inertia for speed stability, but not in the platter, where the mass would place even more stringent demands on the bearing assembly. "The TNT, like every turntable I've heard, sounds a lot better with a flywheel. The problem was generating enough torque to get it started. We tried a lot of things, but the two-motor assembly worked the best."

The last component was the perimeter clamping ring, something that Weisfeld had been thinking of for decades. "This was the hardest machining job of all. I always wanted to do it, but no one could make it for me. Finally, I found a guy who builds doors for biological level-four rooms, and he can do it." The clamping ring also enabled Weisfeld to lighten the JMW arm a bit and remove the armwand's internal damping.

This isn't the end of the story—the HR-X will continue to evolve. There's already a new tower assembly that replaces the pneumatic bladder ("Firestone couldn't make them consistently enough") with a racquetball, and a tonearm/terminal-block combo wired with [Nordost Valhalla](#) cable. When I asked Weisfeld what was next, he said that he's working on ways to reduce the number of parts in the JMW's mounting and VTA adjustment assembly by 60% to increase its rigidity and eliminate a few more interfaces.

Some of the HR-X's elements have already trickled down to other models. The TNT-6 turntable uses the new bearing and motor assembly, a platter/clamping-ring combination is available for the other models, and the new Aries will have a three-layer plinth similar to the HR-X's.

Music

The HR-X was simple to set up and use, and, other than a leaky pneumatic bladder (since replaced), it performed flawlessly. The new motor/flywheel assembly worked beautifully, bringing the platter up to speed quickly and precisely. Ditto the circumferential clamp, which was simple to operate, and by far the best record-holding and -flattening system I've ever used. And for nervous types, it eliminates any concern about a vacuum hold-down system leaching out the vinyl's plasticizers.

Like the TNT, the HR-X really likes to be level, and any time spent optimizing cartridge setup is well spent. After I'd gotten the setup as close as possible with my Wally Tools, I took about two days to fine-tune my latest Lyra Titan-I cartridge. Like all VPI turntables, the HR-X has no antiskating compensation. Harry Weisfeld believes that there are too many variables to allow true fine-tuning of antiskating, so it's best to just twist the leads to apply a bit of force and leave it at that. I'll duck the debate and just say that twisting the HR-X's leads seemed to work just fine—and after a decade of using TNTs, my records don't seem any the worse for wear. I did try Wally's antiskating system during my auditioning, and although it was more precisely "tuneable" than VPI's twist-the-leads method, I didn't find it sounded any better or any more consistent.

TNTs have always had wonderfully quiet, black backgrounds, but the HR-X bettered my TNT V-HR by a substantial margin in this regard. With acoustic recordings, my listening room was replaced by a deep, almost endless background silence. It wasn't an unnatural, "turned-off" digital silence, but a coherent, silent texture that let me sense the performance or recording space around me. And when instruments or voices entered, they didn't just appear but developed naturally, energizing the space around them.

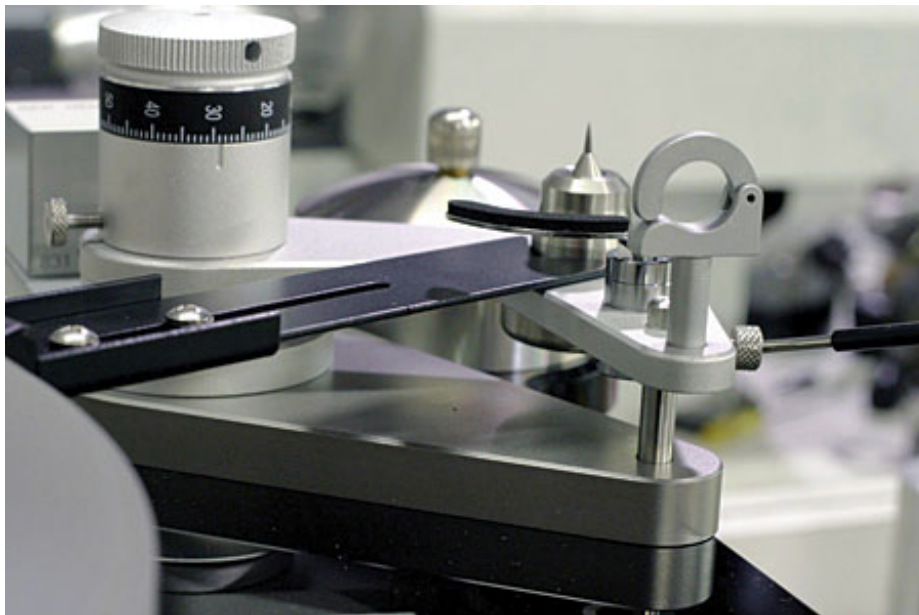
The Mady Mesplé–Charles Burles performance of Delibes' *Lakmé* (LP, Seraphim SIC-6082), one of my "Records To Die For," was a tour de force on the HR-X. No recording, no system, anywhere or anytime, has re-created a performance as naturally as the combo of HR-X and Lyra Titan did with this set. The performers had a solidity and dimensionality that put them "in" the room—or, rather, in the soundstage that had replaced my room. Everything about the HR-X's playback of this recording was uncanny and just right, from the tiniest detail or ambience cue to the sizes and spacing of the images and orchestra, and how they matched the listener's perspective.

Along with the deeper, blacker background—due, I presume, to better speed stability and a lower noise floor—came a noticeable improvement in the resolution of low-level and inner detail. TNTs are no slouches in this regard, so while the HR-X's improved performance was always noticeable, it wasn't particularly overt. During *Lakmé*, for example, I didn't register a wealth of new details, or previously unheard whispers and noises. Instead, everything about the performers and the space seemed sharper, clearer, and more three-dimensionally solid. Edges, whether they defined a person or a feature of the hall, were better defined than I recall being the case with my TNT V-HR.

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Where the HR-X tore the TNT envelope was just where its designer had intended: in the areas of dynamics, temporal precision, and tonal balance. The HR-X was more explosive, much faster, and considerably leaner-sounding than any TNT. Its dynamic transients were huge, from the lowest bass up through the lower treble, and from the softest passages to the loudest. Across the midrange, the resulting combination of dynamic power, speed, and precision was the best I've ever heard, and a big factor in *Lakmé's* sounding so realistic. The voices had more of that lifelike "jump" that tells you it's a band down the hall and around the corner, not a sound system.

The HR-X's bottom end was also the best I've heard—taut, powerful, and articulate, with superb pitch definition. The bass drum on Antal Dorati and the London Symphony's reading of Borodin's *Polovetsian Dances* (Mercury Living Presence SRI 75016) was a great example. Even my "Golden Imports" pressing was thunderous, exploding from deep in the soundstage and background ambience to pressurize the space around the orchestra as the waves radiated outward. Hearing this disc on the HR-X was the first time the bass drum had really felt right to me. It had been deep before, and powerful, articulate, controlled, etc., but never quite right. The closest I'd heard prior to the HR-X was the SACD version played through the two-piece EMM SACD transport and DAC, but even then, the bottom-end transients were not as powerful as with the HR-X, nor as well integrated with the orchestra and surrounding ambience.



The HR-X's handling of dynamics was one of those fundamental changes that, be it realism or simply a more intense musical connection with the listener, moves an entire system to a new level of performance. I've been gradually digitizing favorite albums to listen to in the car or with my iPod, and the HR-X has been a revelation. LPs that I'd thought of as sweet but not particularly dynamic came to life with the HR-X and Lyra Titan. Even a murky, nearly unlistenable 1984 reissue of Ahmad Jamal's *Poinciana* (Chess CH 9162) took on a bit of transparency and life, at least with respect to Jamal's piano and Vernell Fournier's snare and cymbals. A later Jamal compilation album, *Genetic Walk* (20th Century T-600), which was already pretty dynamic on the TNT V-HR, became even more so with the HR-X, and the three-dimensionality created in the mixing was much more dramatic as well.

I dug out John Sebastian's eponymous LP (Reprise 6379) and cued up the solo acoustic "You're a Big Boy Now." In my December 2001 review of the TNT V-HR, I noted that it seemed more natural, more detailed, and more complex than my previous TNT—in other words, it improved on the TNT's traditional strengths. The HR-X was a different experience. There was still the flowing, natural ease, the notes against a deep, black background, and even more detail and tonal complexity. But now there was also a live-sounding snap to

Sebastian's guitar strings, and to his slight exhalation when he'd begin a note.

Harry Weisfeld has succeeded in his goal of reducing the TNT's warmth, though some listeners might see it as a case of "be careful what you wish for." But the HR-X allowed me to hear what was on the record, for better or for worse. A beautifully recorded album, whether of an opera, a symphony, a jazz club, or a studio rock production, sounded incredible with the HR-X and Lyra Titan. Rich, detailed, dynamic, natural—all of the audiophile superlatives could be heaped on something like the fabulous AcousTech 45rpm reissues of Creedence Clearwater Revival's *Willie and the Poor Boys* from Analogue Productions APP 8397-45), or the vinyl reissue of Ray Brown's *Soular Energy* (Pure Audiophile PAA-002).

On the other hand, some of those old favorite 1970s and '80s rock albums sounded crudely compressed through the HR-X, and the ones with juiced-up upper midranges were often hard and edgy. Still others had ringing, over-accentuated transients, I suppose to compensate for the lack of real dynamic range, and the HR-X laid these bare with brutal honesty. At one point, I spent a couple of days trying different cable combinations in an effort to smooth things out, with no success. The HR-X allowed me to clearly hear the distinct Band-Aid effect that each cable superimposed on the sound, and that none of the changes really touched or altered the sound's basic characteristics.

Losing the overriding warmth had another interesting result: It allowed the HR-X's smaller, more localized tonal anomalies to be heard. The HR-X sounded neutral on the very bottom, and both its power and articulation extended as far down as the source material demanded. A little higher, from the midbass up into the midrange, the HR-X seemed a bit lower in absolute magnitude than the deep bass, though not enough to be discontinuous or make the 'table sound cool or lean. The upper-bass-through-midrange region was also quite smooth and well-balanced within itself, just not as spectacular or as powerful as the bottom end.

The HR-X also put a bit of extra emphasis on the upper midrange—but again, not enough to draw attention to the region or make it sound hard or edgy. There was just enough extra to move the center of the soundstage slightly forward, and to add a bit more sparkle and projection to most instruments' dynamic transients. The HR-X's treble region was very clean and airy, and seemed quite extended. I particularly noted how well the combo of HR-X and Lyra Titan reproduced naturally recorded cymbals, giving them a dimensional, airy feel and just the right balance of ring and shimmer. The top end was, however, down a bit in amplitude, particularly with respect to the slightly spotlighted upper midrange. One example I noted was that the triangle on the flip side of Borodin's *Polovetsian Dances*, Rimsky-Korsakov's *Le Coq d'Or Suite*, wasn't as loud or as distinct with the HR-X as with the SACD played through the EMM gear—exactly opposite the situation in the midrange and low end.

The combination of the powerful bottom end, the spectacular dynamics, and the slightly spotlighted midrange added a touch of pizzazz to the midrange—and, hence, to the overall performance. It's tough to definitively pin these colorations on the HR-X–Lyra combo rather than on the cartridge, phono stage, cables, or even the recording itself, but I did try several combinations and found the sound to be consistent throughout. I also tweaked the setup exhaustively, but again, the basic characteristics of the HR-X's sound remained unchanged.

These anomalies were small, and were revealed only because the HR-X established such an impressive new standard in performance; the net effect was hardly "bad," but quite captivating and entirely consistent with the character of the music itself. Were I a conductor, acoustician, or recording engineer, I'd probably kill to be able to create this sound, regardless of whether or not it was perfectly neutral.

Summing up

As its name suggests, VPI's HR-X turntable is not just the next step forward in the TNT series, but represents Harry Weisfeld's efforts to address the fundamental shortcomings of the earlier line. Those efforts have been successful—the HR-X is better than the TNTs in every way. It's simpler and more user-friendly. It's also smaller, prettier, more luxuriously appointed, and even better built than the TNTs. Most significant, it eradicates the sonic attributes that some listeners have complained of with the TNTs—their pervasive warmth and liquidity, their slightly smoothed, softened dynamic transients. The HR-X isn't perfectly neutral, but it's much more so than the TNTs have been—and more so than any other turntable I've auditioned.

In the past, I've thought of turntables, tonearms, and cartridges as a system, all working together and interacting

to produce a sound. The HR-X struck me as something different: a stable, inert, and nearly neutral platform that simply supports a cartridge and lets it do its job. It isn't a perfect turntable, but it's the best I've ever had in my system, and I'd be shocked if it's not among the few very best turntables available today. \$10,500 is a lot of money, but the HR-X is a lot of turntable. If you're serious about vinyl, you owe it to yourself to hear an HR-X. Very highly recommended.