
Millennial Expectations: Setting Sail on SOTA's Flagship

Sota owned a goodly portion of the High End turntable market back in the Eighties. But in the space of a decade, following a 1988 rave review in *Audio* citing the Sota Cosmos as the best turntable in existence, the company has slipped into near obscurity. The firm foundered in the early Nineties, was twice sold, ultimately acquired by its chief fabrication contractor.

Today it is struggling to re-establish itself. Sota's current owners, Kirk and Donna Bodinet, are determined to reclaim at least some of the lost ground. The Millennia should prove a strong positioning piece in their new marketing campaign.

The Dawn of the Millennia

The Millennia, at \$6,400, is by far the most expensive product Sota has ever released, a seeming departure from the earlier strategy of developing moderately priced merchandise of strong performance. Note the "seeming." A close look at the array of performance features and design refinements in the new turntable indicates that Sota is continuing to stress high value, if at a more elevated price point.

As if to emphasize the new direction the company is taking, the Millennia's appearance diverges markedly from that of its predecessors, and the deck utilizes a fundamentally different suspension concept from previous models. In its grosser lineaments, it bears more than a passing resemblance to the VPI TNT or the Basis Debut – it's a big, black table with an open subchassis, and four massive pillars upon which that subchassis is hung, not sprung. It is clearly intended to update the image of a company whose products were growing long in the tooth. Yet in truth the Millennia is more a hot rod than an entirely new product, utilizing quite a number of parts from the Cosmos, which is still in the product line. Nevertheless, the Millennia is sufficiently distinct from its predecessor to merit an extended description.

The subchassis itself consists of a fairly massive (22 pounds) slab of inch-thick aluminum riddled with nickel-sized holes that are packed with plugs of elastomer. The effect is cosmetic as well as functional, lending the plank a sort of honeycomb appearance. Thanks to the dampening, the subchassis is quite inert. Incidentally, the subchassis is painted a gleaming black acrylic, making a compelling visual statement. On my sample, one of six in existence at the time, the workmanship was not quite perfect; the surface bore a couple of small scratches and one or two beads of paint.

The suspension of the Millennia is quite stiff but well damped, and has little travel. On my equipment rack, already loaded up with several hundred pounds of electronics, the Millennia behaved well.

The base of the table is a gleaming black acrylic slab, without holes and with no apparent damping. This is bolted to the pillars, which terminate in



adjustable spike feet. Aluminum padded discs may be placed beneath the feet if you're concerned about marring your shelves.

The Millennia is a belt-drive turntable. What makes it different and potentially better than earlier Sotas is the fact that the motor is housed in a separate compartment, with no physical contact, other than the belt, with the base or subchassis.

The motor compartment, made of medium-density fiberboard and mounted on rubber feet, is heavily damped, as well, to prevent vibrations from reaching the base through a common supporting surface. We've seen this tactic elsewhere, but nowhere that I can remember in so reasonably priced a deck. The motor cabinet is flawlessly finished in lustrous black acrylic.

The motor is AC synchronous, the preference of British and American High End manufacturers. (The Japanese almost always use DC servomotors at all price levels – exception Denon.) The actual 60-cycle waveform is synthesized by a pulse-width modulator driven by a quartz clock after the alternating current from the wall has been first smoothed to DC. This is typical of the better turntables today, and is, in my opinion, the only way of extracting acceptable performance from an AC motor that is otherwise subject to significant speed fluctuations. Sota's literature cites exceptionally low wow and flutter figures for the Millennia – less than 0.04 percent maximum.

In addition to the sinewave regenerator, the Sota employs a flywheel, a smallish brass disk placed over the pulley for the drive belt. How much flywheel effect it has I can't say. The table didn't seem to sound much different without it, but it looks trick.

Sotas have always been known for the use of inverted jewel bearings – run without damping in the earlier iterations. The Millennia still uses a jewel – actually two. The platter rests upon a zirconium ball that turns on a sapphire thrust plate affixed to an aluminum hub. Both the thrust plate and ball are contained in a cup filled with viscous oil – a welcome innovation. The center of gravity for the platter is, as

always well below the contact point for the bearing, which is said to eliminate wobble in the platter. The sleeve fits so snugly that there's precious little room to wobble, in any event. Sota advertises rumble measurements of less than -60dB unweighted, among the lowest in the industry.

The platter is machined aluminum with multiple coatings of this and that, which serve to damp the platter itself and the record on it. The penultimate layer – that is, below the mat itself – is vinyl. The platter is dead to the touch, and the cloth mat, which is removable, appears to do an excellent job of squelching vinyl resonances. I suspect that the light-force vacuum, an optional feature that was enabled on my review sample, plays a big part allowing the mat to work optimally. A lead ring encircles the outer edge of the platter for increased inertia, a sound idea on purely engineering grounds. The rubber lip, which fits against the edge of the record, does not fold over the playing surface at all, so there is no interference with the needle as it goes into the lead-in groove. A damped reflex clamp is a standard accessory.

Unlike certain recent designs, such as the Simon Yorke turntable, the Millennia strives to damp or suppress vibrations excited in the vinyl disc and in the arm-cartridge assembly, and at the same time, to prevent air and structure-borne vibration from reaching the disc's surface. It looks as if extraordinary effort has been made to meet both design goals. Although an opposing theory has it that a turntable should resonate in a euphonic manner, like a musical instrument, to achieve a livelier sound, I believe the approach adopted by Sota is the valid one.

Millennias come with predrilled arm-boards consisting of alternating layers of acrylic, lead, and aluminum. These, too, seem commendably dead. Whether they are entirely effective in damping arm vibrations, as the literature states, I can't say. (Black Diamond Racing makes an accessory carbon-fiber board that may be used with the Millennia, and I know it works very well.)

Because the Sota itself is so heavy, it can accommodate heavy pickup arms. Sota will custom-machine arm-boards to accommodate unusual types. They did with me, uncomplainingly running through several rejects before they got it right.

Finally, both the air pump and the sinewave regenerator are housed in a second box. The pump is extraordinarily quiet – it is connected to the platter via a ten-foot plastic hose that allows it to be placed well out of the listener's way. I put it behind a sound-absorbing panel where it was completely inaudible.

As an ensemble the Millennia presents a most handsome appearance, and the slight cosmetic flaws will go unnoticed at any but the closest inspection.

Set-Up

I am neither dexterous nor patient, so I usually drag others for turntable set-up. Alas, my press gangs turned up no suitable recruits at the time of this review, so I was forced to do for myself.

The Millennia proved pretty accommodating. Essentially all you do is make the electrical and air-hose connections, oil the bearing, place the platter on the bearing, and slip on the belt, being careful to lower the heavy platter gently into place lest you crack the thrust plate. The only hassle is leveling the thing via adjustments of the feet, but that's a problem with any turntable. I had the thing up and running in a few minutes. Any set-up problems have to do with sheer weight, not with ergonomics.

Sounds Unheard Of

Attention to detail is evident in every aspect of the Millennia's design. The result is an extraordinarily refined sonic presentation – lacking elevations in frequency response (to make it sound “exciting”) and having excellent low-level detail resolution. I never sensed that the Millennia was the limiting factor in the performance of the systems in which it was inserted. Since these systems consisted of MBL and German Physiks loudspeakers driven by Wolcott Audio, McIntosh, and Pathos electronics, that's saying something. In the presence of any system augmentation, as in the addition of Elac Ribbon super-tweeters on the German Physiks Unicorn and the addition of Bybee Technology filters at every connection in the system, the Millennia obliged with appropriate increments of resolution and information. Indeed, with the Millennia fronting the system, I proceeded with system improvements with confidence that the full measure of their benefits would become audible.

While a turntable is not supposed to have tonal characteristics, all of them do. No turntable is entirely non-resonant, and thus they all pass or return more energy at certain frequencies than at others. The “perfect” Linn Sondek is notorious for this, having a rich midbass that stems from measurable plinth resonances.

The Sota has a bass response that is lean. Compared to most analog front ends, there is a sense of energy lacking at the bottom. There is also a sense of unprecedented control and of distinctive bass lines, note by note. The undifferentiated low-frequency throb that one comes to associate with analog – even High End analog – is gone, provided the loudspeakers used in the system are also well damped and free of cabinet resonances.

Millennia bass is not perfect. Comparing the vinyl with the 24/96 issue of *Pulse* [Classic Records & New World Records NW 319], the digital bass is both more precise and authoritative. Although some cheap CD players have poor bass owing to cheesy power supplies, generally any non-contact medium has a built-in advantage over a mechanical playback system. Bass modulates the record, and vinyl has to compete against the new, extended-definition digital formats that are better than CD. A Millennia-based system, though, can more than hold its own against 24/96, except at the lowest frequencies. But from the midbass up, the vinyl wins when played back on the Millennia; I found this consistently across the Classic line where comparisons were possible.

Indeed midrange clarity is perhaps the most singular characteristic of the Millennia. Take a record

with nothing but midrange, *Blues Hoot* by Sonny Terry and Brownie McGhee [DCC Compact Classics reissue of Horizon Records LPZ-2007] – just a raggedy old country blues man with a whiskey tenor and beat-up guitar. I've never heard a guitar sound more like a guitar, or damaged vocal chords negotiate the record/playback process with less additional damage. There was none of the blur that customarily occurs on strums and arpeggios.

High strings and brasses were entirely free of stridency except that native to the instrument itself. On natural-sounding recordings, the treble was reference quality. Observe, for instance the harpsichord and Baroque fiddle on *Italienische Solomusik um 1630* [Edition Phnix EPH 07]. The balance of harmonics to the fundamentals is unerringly correct, and coincidentally, the reverberant soundfield is retrieved down to the lowest levels.

Dynamics were fully supported – bass drum whacks, orchestral and vocal crescendos, and cymbal crashes. In all cases my speakers set a limit to dynamics, not the turntable. There was never any airborne or structure-borne acoustic feedback catching up with the signal. There were simply no level-dependent anomalies that I could hear.

The ability of the system to delineate large-scale orchestral and choral scores is astonishing. On the 1975 Decca recording of *Porgy and Bess* [Decca Stereo Set 609-11], recently reissued on heavy vinyl, the Sota shone. In many sections of the score, massed voices combine with contrapuntal voices, sound effects, massed strings, and solo instruments in an astonishingly variegated mélange. The Sota provides a virtual concordance of the proceedings – nothing omitted, nothing overdramatized. The same is true in the reissue of the Ray Charles, Cleo Laine rendition of *Porgy and Bess* (Classic Records repressing of Jazz Planet JP-183), recorded around the same time and similarly excellent, but as different in style as can be.

I was able to compare the Sota directly with a number of other turntables, including my own Win Labs SEC-10, the Walker Proscenium, the Wilson Benesch Act II, and the Forsell Air Force One. Because cartridges and pickup arms were not identical in the set-ups, comparisons were provisional. One attempts to focus upon the normal colorations of turntables that stem from pitch stability, dynamics, and acoustic breakthrough, and determine the relative degrees to which these are present in different designs.

In this comparison, the Walker, the Forsell, and the Sota were outstanding in their ability to reject acoustic feedback and reveal low-level information in the grooves against a background of silence. The Forsell is probably the most neutral table, because the inertia of its heavy platter, the silence of its air-bearing, and the effectiveness of its vacuum hold-down bring about the lowest noise floor and the liveliest dynamics and best retrieval of details. The

Walker, which lacks vacuum hold-down, sounds more aggressive, forward, analytical. The Win, which also lacks a vacuum hold-down, has the best air-bearing of the lot, a frictionless and nearly perfect speed regulation, but the mat on mine does not damp disc resonances effectively, so the deck sounds less detailed than the previous two. The Wilson Benesch, which lacks a platter at all, offers the least resolution. The disc vibrates freely. The Millennia in this context is not as good sounding as the Forsell, and the workmanship doesn't even come close. But the sonic differences are not extreme. The Sota is *very* good. And you don't need to spend another grand on an air-float isolation pad, as you do with some other popular suspensionless tables.

The fact that the Millennia acquitted itself well against products double its price says a lot for its design integrity. It is among the least expensive turntables available that will bring you close to the current limits of analog playback. There are turntables for 15, 20, 40 thousand dollars that sound wonderful, and they may, by virtue of their many custom high-tolerance parts, justify their pricing. But the Millennia, using many stock parts (whose tooling has been fully amortized), achieves economies of scale that make it highly cost-effective while not detracting perceptibly from its performance.

Indeed, with the Millennia, I was struck again and again by the excellence and immediacy of the best analog. I am not certain that optimized analog will soon be decisively surpassed, as many supporters of the new digital formats now imagine. The 125-year-old phonograph keeps getting better and better, and even with the limited production of vinyl, there are more excellent new releases than on any of the high-res digital formats.

Don't count vinyl out just yet. Don't count Sota out, either.



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ASSOCIATED EQUIPMENT

Win Labs MC-10 and Ikeda Kwami cartridges; Ikeda and Graham Series 2.0 pickup arms; Danish Audio Connect phono amp; Boulder L3AE preamp with phono section; Graham and Ikeda phono cables; Wolcott Audio Presence power amps; Pathos Twin Towers Integrated amplifier; Parasound HCA-3500 power amplifier; German Physiks Unicorn loudspeakers; Elac 4 Pi omnidirectional ribbon tweeters; Huff System 3 stereo subwoofers