

Kronos Audio Turntable

by Paul Bolin, November 2, 2012

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It is always risky to become smitten at first sight. One never knows if disappointment and despair or happiness and wonder will arise from fateful first encounters, but there are times when one must simply throw caution to the wind and dive into the deep end of the pool. For me, this happened most recently at the 2012 Consumer Electronics Show. I stopped in to the second of two rooms presided over by Vladimir and Elina Lamm, and then stopped dead in my tracks. I couldn't believe my eyes. There was the most gorgeous and intriguing turntable I'd ever laid eyes on at the front of an all-Lamm system driving Verity Lohengrin II loudspeakers. It was The Kronos turntable -- no model designation, please. After recovering a bit of my composure, I asked Elina Lamm who was responsible for this visual masterpiece and she promptly introduced me to Louis Desjardins, the only begetter of the Kronos. My first question was "How much is it?" which I had already answered to myself as "\$60,000 or more." When Louis replied that the Kronos was \$28,000, I was pleasantly surprised.

By the time he had finished playing a number of notable records, including a test pressing of the much-lauded *La Fille Mal Gardée* (now released by Original Recordings

Group), I was hooked. By the end of CES he had agreed to supply me with a 'table for review as soon as one became available. As it turned out, the review sample was #006, the very 'table used for the photos on the Kronos website and which had been his show demo 'table for the previous year. Two hundred and fifty Kronos 'tables will be built, after which Desjardins will reassess the design for potential improvements.

Desjardins is a Montreal native and a charming, knowledgeable fellow whose love of aesthetics (he's a professional photographer) and music are immediately apparent. A blues guitarist and collector of vintage Gibson electrics, he understands music from both within and without. When he visited me in June to set up the 'table, we had the chance to talk at great length about guitars, hi-fi, and what it is that brings the home listener closer to the live experience. Louis is that engaging combination of visionary, engineer and music lover one only seems to find in the high-end community.

Like so many of the people engaged in the highest reaches of audio design, Louis began as a tinkerer. A devout lover of vinyl -- he later told me that he doesn't



even have a digital playback device in his home system -- he began his long audio journey by buying, tweaking and repairing turntables, all in search of his ideal LP-spinning machine. After years of experimenting and thinking, he set out to build his ultimate turntable, combining the best engineering from all the 'tables he had worked on over the years. After completing his prototype, he realized that it might be possible to turn it into a commercially viable product, and, *voila*, he debuted the 'table in shows in 2011. Given its striking appearance, thoroughly wrought design and superb sonics, about which much more later, it attracted considerable attention, and Louis now has Kronos 'tables spinning in some dozen countries around the world.

Time for explanation

The first thing that one notices about the Kronos is its striking, triple-decker appearance. It is the first turntable in the world that combines a counter-rotating platter with a full suspension. The three chassis are, from the bottom up, the main platform, which contains the switching and LED platter-speed readouts and is shaped like a broad U, with four posts arising from its corners and to which the two-motor stack is bolted at the left-center end of the platform.

The middle plinth holds the counter-rotating platter and has a hole at each corner, and the top plinth contains the main platter, provisions for mounting a tonearm and the suspension system. Like the middle plinth, the top plinth has holes at each corner, but bolted onto this plinth are short towers that are capped and which hold a group of O-rings. These O-rings serve to suspend and isolate the double-deck sandwich that carries the platters.

It is rather awkward to describe all this, but one look at the 'table and any experienced vinyl hound will instinctively grasp just how it works, and it is in fact a simple and technically elegant design. The plinths and platform are made of two superbly machined layers of aluminum, between which is a material that looks at first glance like wood but which is actually a very dense and dead composite similar to Bakelite. Desjardins asserts that this combination of materials provides optimum damping for the three parts.

What makes the Kronos a singularity is that the two top plinths are coupled firmly together, and that two-deck assembly is then lowered over the posts extending from the corners of the bottom platform. Those posts then contact the bottom of the caps secured to the top plinth, and the two plinths hang from the O-rings, providing





a suspension system that uses gravity in much the same way that a SOTA or SME turntable does. A simple and effective record clamp, as beautifully made and machined as every other metal part of the Kronos, is provided to secure the LP to the top platter's carbon-fiber mat.

The two motors, one for each belt-driven platter, are precision Swiss-made DC units driven by an outboard class A power supply and encased in a composite/plastic material that is acoustically dead. The motor unit, as noted above, bolts securely to the bottom-most platform. Another interesting feature of the Kronos is that speed control is facilitated by markers in the platters. These markers are read by optical sensors located in the motor blocks, which then communicate with a servo unit that controls the rotational speed motors. This facilitates a constant, non-cogging speed adjustment that works flawlessly in practice. The exact speed of each platter, down to the tenth of a revolution, is displayed on an LED readout located on the bottom plinth, which also contains the on/off and speed-selection touch switches. Each platter rests on an aerospace-derived inverted bearing running in a bath of specially selected lubricant. The start-up speed is a bit slow, but not much more so than that of turntables that have very heavy mass-damped platters.

One of the perks of being a reviewer is that manufacturers will set up components in my home. On a Monday afternoon in June, the Kronos arrived in a heavy-duty flight case, and shortly after Louis showed up. Despite lengthy discursions explaining the whys and wherefores of the Kronos, Louis had the entire 'table set up and running in considerably less than two hours.

Desjardins prefers 12" tonearms, and my standard-length Graham 2.2 'arm was deemed to be incompatible with the Kronos. He therefore arrived with an SME V12 'arm in tow, which is one of his preferred options. Yes, I know, change one thing at a time, but I am no stranger to SME 'arms, having used a 309 as my reference for several years earlier in my audio lifetime. SME 'arms have a distinct sound -- powerful deep bass, highly neutral midrange and a smooth, unaccented top end that does not add artificial sparkle or detail. Louis installed and set up the SME with my reference Dynavector XV-1s cartridge, and I had everything double checked by turntable guru Wally Malewicz, who has done my

analog setup for more than fifteen years, just to make sure everything was according to Hoyle. Wally tweaked the overhang adjustment and all remained as solid as houses for the remainder of my auditioning.

I have not been much of a social butterfly when it comes to turntables. For the last twenty years I have used SOTA 'tables, first a Star Sapphire, then a Cosmos, which I had upgraded to a Series III about ten years ago. I have always viewed the ultra-expensive and ultra-exotic 'tables with a certain degree of skepticism. "Fussy" and "tweaky" are not adjectives that I like to associate with any piece of audio equipment, but they applied to so many of the more unusual (and expensive) turntable designs. Fortunately, the Kronos is neither. Quite to the contrary, once set up, everything locks down to a degree of solidity that is both impressive and reassuring.

Time table

It was impossible to overlook a couple of things that the Kronos did from the first time I placed stylus on LP. The first of these was an intertransient silence that competed directly with the most exotic of air-bearing 'tables, such as the Bergmann Sleipner, that I've heard. The second was the extraordinary nature of the images the Kronos projected, which were more solid, three-dimensional and grounded than any turntable I have listened to at length.

The very first record I played was the recent reissue of Henry Mancini's music from *The Pink Panther* [RCA/ Speakers Corner LSP-2795], which I had played a few days before on my SOTA Cosmos III. With the SOTA it had been a perfectly lovely chunk of music. Via the Kronos it was a completely immersive experience. Each voice of the chorus and every instrument floated on a plush cushion of air in a most spacious and precisely described environment. The pitch definition of the acoustic bass was nothing short of standard-setting and the sheer dimensionality of each instrument and voice was for me a new experience. And while even very good turntables tend to float images in an ungrounded "off the floor" way, the Kronos did not. Every musician was a fully developed -- and grounded -- person standing on the floor, not a somewhat disincorporated entity. I could clearly perceive that there were living, breathing human beings producing every note I heard. This is *not* something any



but the best turntables, and virtually no digital gear, can manage.

The Kronos ratcheted up the innate musical drama of sprawling, cinematic pieces by allowing more, much more, of the players' intensity to burst effortlessly into my room. To borrow a photographic metaphor, it allowed the depth of field to be increased by a large geometric factor, rather than a small arithmetic one. Dire Straits' *Love Over Gold* [Warner Bros. 23728-1] has rightly been long acknowledged for both musical as well as sonic excellence, and is an LP I know as well as any in my collection. The silence out of which "Telegraph Road" arose was quite remarkable, and Mark Knopfler's voice and Dobro were superbly focused and as timbrally complete as one might wish. As the song builds musically, it also builds spatially, and the Kronos evenly illuminated every last inch of the immense soundstage with ease. Dynamics, both here and on "Private Investigations," were smashing, capable of resolving the most delicate acoustic string plucks and explosive drum/electric guitar crashes in a singularly convincing way. Knopfler's rage-against-the-dying-of-the-light solo on "Telegraph Road" is powerful in itself. Alan Clarke's sweeping waves of keyboards, rolling like ocean breakers, and the sheer majesty and explosiveness of Pick Withers' magnificent drumming made it all the more so.

An even bigger-sounding hunk of great rock vinyl than *Love Over Gold* is the German pressing of David Bowie and Giorgio Moroder's "Cat People." (12" 45 [Backstreet/MCA 259 574-0]). The track begins with sinister bass synth rumblings and electronic percussion. Bowie's voice enters, dark and low, and when the band kicks in all kinds of hell break loose: depth-charge drums, the kind of bass guitar that punches the listener directly in the gut, and Bowie at his most theatrically

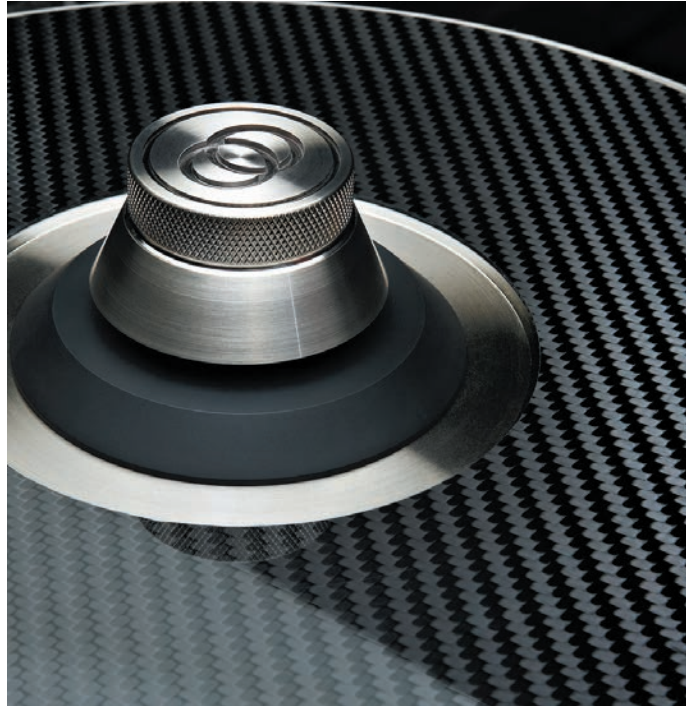
tortured and passionate. The backing singers were placed with astonishing individual specificity and body, and a life-sized Bowie expertly wrung every drop of pathos and yearning from the song. Yet another big banger is "Jerusalem" from Emerson Lake & Palmer's masterpiece *Brain Salad Surgery* [Castle Communications ORRLP 02], a British reissue. Emerson's keyboards dominate the proceedings, with massive Moog bass detonations and a screaming, double-tracked Hammond organ,

both of which had granitic solidity. Greg Lake's choirboy tenor was warm and resonant and Carl Palmer's ever-hyperactive yet rock-steady drumming was rendered in all its complexity and power.

But large-scale music was by no means the only type with which the Kronos excelled. "The Baron of Brackney" from Pentangle's *So Early In the Spring* [Green Linnet SIF 3048] is one of those great, brooding Scots ballads of treachery, infidelity and murder.

The interplay between the late Bert Jansch's acoustic guitar and Rod Clements' mandolin was beautifully displayed; the voices of Jansch and Jacqui McShee had more body and presence than I have previously heard, though Jansch's sporadically slurred and muttered voice, which occasionally obscured some of the lyrics, is a feature, not a bug, on this great track. The ominous build and fade at the song's end, with Nigel Portman-Smith's fretless bass guitar and keyboards slowly rising from *piano* to *mezzo forte* before receding into a portentous twilight behind Clements' sinuous electric guitar, was truly thrilling.

The Kronos not only captured all of this; it kept it in perfect scale and time, neither embellishing nor diminishing the vital elements from which the music was constructed. And with orchestral material and jazz, it was just as adept. Hearing the Prelude to *Die*





Meistersinger performed by Otto Klemperer and the Philharmonia Orchestra (*Klemperer Conducts Wagner* [Angel 3610 B], gold “Stereo” stamp) was spectacular. The dynamic swings of this golden-age EMI recording -- which range from a couple of woodwinds playing together to titanic full-orchestra climaxes -- can test the mettle of any front-end; the grandeur and nobility of the music were overpowering. Strings had a lusciousness and depth of tonality that lost none of the rosiny quality so essential to a lifelike presentation, and woodwinds had real roundness and body. Big brass had weight and heft with never a hint of uncalled-for “blattness.” The soundstage was huge and enveloping, with particularly distinguished front-to-back layering. The Kronos’ timbral rightness with strings was also very much to the fore with Sir John Barbirolli’s timeless interpretation of Ralph Vaughan Williams’ *Fantasia on a Theme by Thomas Tallis* [Alto/EMI ASD 521]. Oliver Nelson’s *The Blues and the Abstract Truth* [Impulse IMP-154] is also one of the really great Rudy Van Gelder recordings, particularly the moody “Stolen Moments” where Freddie Hubbard’s trumpet and the flute work of Eric Dolphy were grippingly present. On the rapid interplay of “Cascades,” each line was clearly individuated yet part of a driving and swinging whole.

Another quality of the Kronos’ presentation was particularly vivid with purely acoustic music. I always found myself looking into an eye- and ear-level soundstage; I never seemed to be hovering slightly above it, as if listening from a balcony seat. *Francis A. and Edward K.* [Reprise FS 1024] let me hear the plush-sounding Ellington band with Sinatra at the peak of his powers. Both had greater clarity and realism than ever before. Sinatra was simply there in my room.

Okay, I can hear you say, the Kronos brings out the best in records that everyone knows are great sounding,

and if a ‘table that costs 28 large can’t do that, it’s pretty useless. True, which leads directly to the fact that the Kronos works its spatial, temporal and timbral magic just as completely with records that, from a sonic standpoint, are very ordinary indeed. Take Jefferson Starship’s *Red Octopus* [Grunt/RCA BFL1-0999] or Fleetwood Mac’s *Mystery to Me* [Reprise MS2158]. I’d always thought of Jefferson Starship’s “Miracles” as a decently recorded but nothing-special (sonically)

song from 1975. Playing it on the Kronos was a revelation. Suddenly there was a clearly defined soundstage in three dimensions, with Marty Balin’s lead vocal front and center. The backing vocals of Grace Slick and David Freiberg were neatly located in the back left corner of the stage and *popped* when Slick asserted herself; the strings wrapped around the entire band and there was a graceful swing to what had seemed before to be somewhat plodding. A sense of utter calm was pervasive and everything was superbly sorted out, both of which the Kronos managed cut after cut.

On the Mac’s *Mystery to Me* they cover the old Yardbirds tune “For Your Love,” and for

my money it may be the single best cover in the history of rock’n’roll. Again, the Kronos sorts what was now revealed to be hazy and indistinct on even my SOTA Cosmos Series III. At the beginning, electric-guitar harmonics pop into the foreground without ever stepping on Christine McVie’s harpsichord parts. Bob Welch’s lead vocal had striking dynamism and presence and the backing vocal parts overdubbed by Welch and Christine McVie were pristine and gorgeous. As with the Starship track, there was a recognizable and cleanly defined stage (audibly apparent as a studio creation) and walloping macrodynamics when Mick Fleetwood really cuts loose on the toms before the middle eight. What was once merely a great song became virtual reality.





The Kronos's greatest strength, on all types of music, was to bring it into being with more life, more color, and more verisimilitude than any source component of my experience. There was a oneness and a complete unity in its presentation that set it apart. The vast majority of this comes, I believe, from the essence of the turntable's design. The second platter counteracts any torsional or cogging caused by the rotation of the main platter, resulting in the extraordinary image dimensionality and stability the Kronos resolves. The speed-control system, which provides for real-time adjustments in very fine increments, worked flawlessly and provided obviously and audibly superior stability. That it is also suspended made it impervious to any perturbation that may have

resulted from the floors in my 100-year-old duplex. The 'table remained Zen-master calm unless I actually jumped up and down in close proximity to the mass-damped Ultra Resolution Technologies Bedrock stand on which it sat.

Time to wrap up

There are times when first impressions are indeed correct. The Kronos absolutely floored me in that Lamm room at the 2012 CES. The 'table then went on to exceed my lofty expectations and impressed me even more on extended auditioning for this review. Louis Desjardins has created a turntable capable of standing with any competition that may exist.

How the Kronos does what it does

The Arabesque Minis might be small, but that doesn't A turntable has seemingly simple goals that are exceedingly complex in their execution. Rotating the LP must occur at an unwavering speed, small fluctuations becoming audible to those of us who listen to music intently. There is also the relationship between the noise of the motor, the movement of the platter and the infinitesimal vibrations that create the musical signal to consider. Minute vibration -- from the motor and even the friction of the bearing -- can find its way to the record surface, where the cartridge will blend it with the music. Finally, there is also the issue of environmental vibration, which can adversely affect sound quality.

Turntable makers combat these bad vibes in a number of ways, including with the use of springs, special damping materials, and sheer mass. Louis Desjardins followed both well-worn and newly blazed paths in the creation of his Kronos turntable. First, the Kronos is a suspended design. The unit's two plinths, which are topmost in the stack, are coupled to each other, and the entire structure is suspended from the turntable's base with O-rings, which serve to isolate the physical structures that carry the platters. More original is the Kronos 'table's use of dual counter-rotating platters. The rotation of these identical slabs of machined aluminum cancel the torsional forces that each of them exhibits alone. The idea is that

for this action, and the stray energy created by it, an equal and opposite reaction provides the best defense. Unaddressed, this energy can cause all manner of sonic maladies -- especially of the type you won't hear until they are absent, a difficult feat, given that the Kronos is, to my knowledge, the only turntable extant that addresses them. The platters and suspension work together to create a quieter record-playing platform, the platters addressing a significant source of self-induced noise and the suspension isolating the playing surface, the tonearm and the cartridge from all manner of airborne and structureborne vibration.

Speed is handled by an identical pair of DC motors, which are attached to the bottom platform. Optical sensors read markings on the underside of the platters, adjusting speed on the fly within one-tenth of a rotation. LED readouts on the platform may flicker to indicate that speed adjustments are being made, but this happens imperceptibly, so absolute accuracy is maintained.

It's also remarkable, given all of the engineering and design fine points -- and physical size -- of the Kronos, that the 'table looks as elegant as it does. In addition to having a unique approach to building a turntable, Louis Desjardins has a keen eye for industrial design, his turntable, which in other hands could have become a monstrosity, looking as refined and finished as any I've seen.

– Marc Mickelson



My beloved SOTA Cosmos Series III sounded somewhat defective and fuzzy by comparison, and I know that is a very good turntable, albeit much less expensive than the Kronos.

As for its sonics, your ears will tell you everything you need to know. More than any other turntable -- any other *source component* other than a perfectly setup and hot-rodded analog tape machine (and just try to find a huge catalog of music to play on one of *those*) -- the Kronos was able to erase the temporal distance of recordings and bring their unique times into the present with a singular vividness and acuity. Recordings by their very nature capture a moment in time. The Kronos re-created the past moments captured in those vinyl discs like nothing I have ever heard. It presented musical experiences of the past, whether their creators are still alive or now gone, with such an intense truthfulness and lifelike immediacy that it is far better experienced than described. Be forewarned, however. Everything else in your system had better be capable of resolving what the Kronos does or you will be missing a substantial share of its magic.

What makes the Kronos even more of a star is its basic simplicity. Desjardins believes in keeping everything in

accordance with the Einsteinian dictum that everything should be as simple as possible to perform its intended function but no simpler.

This the Kronos does. It does not weigh 200+ pounds, though it is as solid as a skyscraper. It does not have potentially tricky or troublesome features such as vacuum pumps or air bearings. Though revolutionary in combining a counter-rotating platter with a full suspension, it is in its essence a simple machine borne of deep thought, sound science and superb engineering and presented in a complete and exquisitely finished package. It's also quite glorious, aesthetically, at least to my eyes. In sum, all of Desjardins' research and design efforts have brought forth a masterpiece. Its obvious competitors, such as the Bergmann Sleipner and SME 30/3, both of which I have heard more than briefly but less than extensively and in systems not my own, cost anywhere from \$10,000 more to nearly double the Kronos's price, which Desjardins is considering raising, more than justifiably in my opinion.

The Kronos is a remarkable experience, and you just might save yourself tens of thousands of dollars by hearing one for yourself. It is absolutely top class, and I cannot possibly recommend it highly enough.

Price: \$28,000 without tonearm.

Warranty: Two years parts and labor.

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Associated Equipment

Analog front-end: SOTA Cosmos Series III turntable, Graham 2.2 tonearm, Dynavector XV-1s phono cartridge, Hovland Music Groove phono cable, Pass Labs XP-25 phono stage.

Preamplifier: Aesthetix Calypso Signature, BAT VK-51 SE, VTL TL-7.5 Reference Series III line stages.

Power amplifiers: Lamm M1.2 Reference and VTL MB-450 Signature Series III monoblocks.

Loudspeakers: Wilson Audio Specialties Sasha W/P.

Interconnects: Nordost Odin.

Speaker cables: Nordost Odin.

Power conditioners: Quantum QBase 4 and 8, four Quantum QX4s (two for sources, phono stage and line stage, two for power amplifiers).

Power cords: Nordost Odin.

Accessories: Grand Prix Audio Monaco stands and two F1 carbon-fiber shelves, Ultra Resolution Technologies Bedrock stand, Ganymede isolation footers, Nordost Titanium Pulsar Points, Shun Mook Iso-Qubes, Caig Labs Pro Gold, Ayre/Cardas IBE system-enhancement CD, Argent Room Lenses, Disc Doctor and LAST record-care products.