

THE CUTTING EDGE



AAS Gabriel/Da Vinci Audio Reference Turntable Mk II

Simply Terrific

Jonathan Valin

Almost every time we do an Analog Buyer's Guide we feature a picture of the AAS Gabriel/Da Vinci Reference turntable on the "cover." The reason should be obvious to anyone with eyes: It's among the most beautiful hi-fi components in the world. Happily, in the Da Vinci's case beauty is more than skin-deep, for the latest iteration of this design gem is also one of the highest-fidelity turntables and tonearms in the world.

A good deal has changed between the "original" and Mk II versions of the AAS Gabriel/Da Vinci turntable, and, judging from the sonic results, every change has been for the better. Among other things, I'm told (by its designer Peter Brem) that the center of gravity of the massive cylindrical base, into which the equally massive platter fits like a nested Russian *matryoshka* doll, has been recalculated; the constrained-layer materials of which the base is made are new and joined together more precisely; and the spindle of the magnetic bearing, fixed to the inside bottom of the base and on top of which the platter floats, is completely new. Likewise, the magnetic ring embedded in the bottom of the platter has been redesigned; the platter itself now uses specially fabricated copper cylinders inlaid into dense aluminum alloy; and the whole she-bang has been optimized for a superior flywheel

effect. Additionally, Da Vinci's massive, expensive, constrained-layer feet use new bronze vertical bearings.

Those of you who've read my review of the "original" Gabriel/Da Vinci (reprinted in our *2011 Guide to Vinyl Playback*, p. 50, downloadable for free at http://media.avguide.com/vinyl_buyers_guide_2011.pdf) will recall that I thought the Swiss 'table and arm set new standards of neutrality, transparency, and low-level resolution in vinyl playback, extending dynamic range on the *p-to-pppp* side in the same way that the great Walker Black Diamond record player extended dynamic range on the *f-to-ffff* side of the dynamic spectrum. Indeed, I compared the Da Vinci to the MartinLogan CLXes—those models of delicacy and detail at low levels—and the Walker to MBL X-Tremes—those dynamic dynamos at loud levels.

Since then both turntables, the Walker and the Da Vinci, have been improved mightily and, ironically, both have extended their dynamic reach into the other's "territory." The Walker Black Diamond Mk II (there is a Mk III, which I've just begun to audition) now has much of the delicacy and resolution at low levels of the Da Vinci, while the Da Vinci now has much of the clout of the Walker at higher volumes. In other words, both record players now encompass more of the dynamic range of real

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music, greatly reducing the differences between them (although there are still differences, for which see my sidebar on the Da Vinci tonearms) and greatly lowering the “character” (which is to say, the characteristic colorations) of each.

As you will have gathered from what I just wrote, the big news about the Gabriel Mk II is dynamics. And, brother, is this news good! As has been the case with speakers and electronics I’ve recently reviewed, noise, which was already very low in this magnetic-suspension, belt-driven table, is now audibly lower. As a result, details, both musical and engineering-related, are clearer than ever. (This honey is a sonic vacuum cleaner when it comes to transparency to sources.) But where before the original Da Vinci couldn’t bring quite the same energy to timbres at loud levels than it did at softer ones, the Da Vinci Mk II has phenomenal transient speed and dynamic range, bespeaking overall cleaner, clearer, faster, less colored, wider-ranging, higher-fidelity response. Provided that you have speakers capable of reproducing transients clearly (such as the Magico Q5s or the Magnepan 3.7s) and electronics that are equally transparent (such as those from Technical Brain, Soulution, Conrad-Johnson, or ARC), you will be amazed by the incredibly lifelike way the Da Vinci front end sorts out violinist Gidon Kremer’s different types of off-the-string bowstrokes and pizzicatos or hangs onto the pitches and harmonics of pianist Andrei Gavrilov’s thunderous *sforzandos* throughout the Schnittke Second Sonata [EMI]. If, like me, you used to think that digital owned dynamic range, once you hear plucked strings or sharply struck timps through the Da Vinci Mk II you will think differently. The thing isn’t just faster and more clearly focused than analog usually sounds; it’s also more complete. For instance, with percussion instruments such as timps the Da Vinci Mk II doesn’t just give you the thwack of the mallet on the drumhead followed by a phasey blur of tone color; it gives you the trampoline-like rebound of the calfskin, along with the resonant tone of the copper bowl. And it gives you these things with a clarity that lets you better understand how the instrument itself works and how it is being played.

As I tried to say in my Technical Brain review, when a source, a speaker, or a piece of electronics gets timing right—the sequence of events, fine and coarse, that go into the sounding of a note—it also gets spatiality right. You not only hear what’s happening more clearly; you “see” each instrument and performer imaged more clearly. For fidelity-to-mastertapes and absolute sound listeners, this is a huge advantage, like having not just a window on the orchestra but also a window on the individual performers, their instruments, and the score. The music is easier to take in, the performance easier to appreciate, the orchestration or instrumentation easier to “decode.” When such transparency is joined, as it is in the Da Vinci Mk II, to unstinting energy at very low levels and very loud ones, you get (with the best sources) a leap in fidelity and realism.

As I noted earlier, like the original Da Vinci, this is a very high-resolution turntable. How high? Well, I can hear the differences in the engineering and mastering of LPs more clearly than I can with other tables, including the original Da Vinci. I can, for instance, now hear that different takes from different occasions are being stitched together in several of the Talking Heads’ songs from *Stop Making Sense*—not altogether surprising in the soundtrack of a documentary pieced together

from concerts filmed on three different December nights at the Pantages Theater in Hollywood. Then there is the sheer, staggering amount of musical information that the Da Vinci reproduces. When you can hear details that are obscured or simply not reproduced at all through other sources—such as the tiny fluctuations of vibrato in Melody Gardot’s voice throughout “If The Stars Were Mine” from *My One & Only Thrill*, or the way she trills her “r’s,” or the exact words the child is shouting in the charming potted-in-at-the-rear-of-the-stage epilogue to that tune—you know you’re getting great resolution. Of course, with the Da Vinci’s expanded dynamic range, this same increase in resolution can turn recordings of much larger-scale music into sonic wonders. Take the RCA blockbuster *Venice*. Although this Decca-engineered disc ranks high on just about everyone else’s “Best RCA” list, I’ve always found it overrated, in part because the music is malarkey, but in equal part because I never thought the sound was all that great. The bass, in particular, seemed overblown, due in part to the “alto rise” built into Kingsway Hall and in part to mic-preamp clipping on certain *fortissisissimo* passages. Well, the Da Vinci II (with the H&S Ice Blue cartridge) taught me a little lesson in the differences turntables, tonearms, and cartridges can make, sailing through what I thought were unplayable (because overmodulated) crescendos with ease, lucidity, and wall-and-floor-shaking dynamic impact, and not only preserving the famous gorgeousness of string and wind tone but augmenting it by clarifying the sheer number of string players and the loveliness of their ensemble.

But there is another key to the Da Vinci’s ultra-high clarity (and brook-clear neutrality)—and that is the near absence of

SPECS & PRICING

Type: Belt-driven, magnetic-suspension turntable with outboard motor and double-gimbaled, ruby-bearing 12" tonearm

Price: AAS Gabriel/Da Vinci Reference Turntable Mk II, \$76,190 (with motor, motor base, and one arm stand); Grand Reference Grandezza tonearm, \$12,500

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JV'S REFERENCE SYSTEM
Loudspeakers: Magico Q5,

TAD CR-1, MartinLogan CLX, Magnepan 1.7, Magnepan 3.7

Linestage preamps: Conrad-johnson GAT, Audio Research Corporation Reference 40

Phonostage preamps: Audio Research Reference 2

Power amplifiers: Conrad-johnson ART, Lamm ML2.2
Analog source: Walker Audio Proscenium Black Diamond Mk III record player, Da Vinci AAS Gabriel Mk II turntable

Phono cartridges: Clearaudio Goldfinger Statement, Ortofon MC A90, Benz LP S-MR, H&S Ice Blue

Cable and interconnect: Synergistic Research Galileo

Power Cords: Synergistic Research Tesla, Shunyata King Cobra

COMMENT ON THIS ARTICLE ON THE FORUM AT AVGUIDE.COM

Da Vinci Setup

The Da Vinci Mk II comes in three cylindrical parts: One cylinder houses the motor and motor controller, one the magnetically suspended platter, and one the tonearm. Three sets of Da Vinci's massive constrained-layer feet (one for each cylinder), several turntable belts, dedicated Feickert tonearm and cartridge alignment tools, numerous Allen-head screwdrivers, and assorted other goodies are included in the bundle—all of them beautifully made and packaged.

You will need some help to assemble this tri-partite record player. You will also need a large and very well-damped stand. (Da Vinci recommends—and I am using—Critical Mass Systems' highly engineered, beautifully constructed and finished MAXXUM stand, which, alas, will set you back another \$40k. Of course, if you have this kind of mad money—or you're me—who's counting?)

After attaching its feet to the bottom of the big cylinder and depositing a few drops of the supplied oil on the tip of its inverted bearing, you will seat the massive platter atop the bearing spindle. This is definitely a two-person job. However, once it is accomplished you will be surprised by the results, especially if you have no previous experience with magnetic-suspension turntables. Built into the bottom of the platter's base cylinder is a high-powered ring magnet that circles the bearing spindle. A similar ring magnet of the same charge is set into the bottom of the platter, circling the well into which the spindle fits. Since magnetic "likes" repel, you will find that the platter, as large and heavy as it is, "floats" above the bearing on a gap of air produced by the magnetic field. (The platter doesn't contact the bearing tip; it merely rotates around the spindle.

This air gap—which is functionally the same as the air gap

in the Walker air-bearing turntable—is, IMO, a large part of the reason for the low noise (and consequent higher resolution) of the Da Vinci 'table. As with those who pooh-pooh twelve-inch arms, there are some who claim that air bearings have a resonance of their own. This may be the case, but it then becomes hard to explain why delicate instruments that require the ultimate in isolation from airborne and floorborne resonance, like electron microscopes and LP and CD cutting lathes, traditionally sit on air-bearing stands.

After situating your Da Vinci turntable on your \$40k CMS stand, you will set the motor/motor controller (with its feet attached) at the proper distance from the 'table. The "proper distance" depends on which belt you use (there is a long one and a short one). In either case, Brem recommends that the belt sees very low tension, so when you loop it around the platter make sure the motor base is not too far away. When you hook a finger through it, the belt should feel loose, not taut.

The location of the tonearm stand, to which the Grandezza is attached via a beautifully constructed Da Vinci arm mount, will depend on the distance from the spindle to the center of the tonearm bearing. Using the supplied dedicated Feickert protractor, determining this distance is a snap. Just fit the hole in the protractor around the turntable spindle and drop the pointer that fits into the protractor into the dimple at the exact center of the tonearm's bearing housing. You will have to move the arm stand to achieve the proper distance, but once you've done this, your work of setting up the Da Vinci is done. (Save, of course, for mounting the cartridge in the headshell and using the supplied plastic template to properly align it for minimum tracking error.) **JV**

distracting and confusing noise. A lot of distortion in hi-fi gear is clearly audible in the color and texture of the spaces behind and between musicians and the silences between notes. Although harder to separate out, this same noise mixes into the foreground as well, slightly blurring the outlines of instruments and vocalists, making them tougher to hear distinctly when they're playing or singing in groups or doubling one another at the same pitches, as well as coloring their timbres. The effect is analogous to the way MPEG distortion pops up in the background of some highly compressed high-def TV pictures, adding a kind of crawly speckled parti-colored texture to out-of-focus elements of the scene and to the edges of in-focus foreground images. The Da Vinci II has next to none of this kind of noise. Its backgrounds and silences are grainless and neither dark nor light, as clear of color or texture as the proverbial open window. As a result, individual instruments—even within groups, even when doubling other instruments at the same pitches and intensities—are far easier to make out and far more realistic.

A further result of this lower noise may be the greater (and clearer) breadth and depth of the Da Vinci's soundstage, which is right up there with the Walker for panorama, given the right recording. The sheer size of the stage on the *Venice* disc—and

the clarity and disposition of the large number of players—was something else the Da Vinci taught me about this LP and many others in my collection. I don't mean to suggest that the Da Vinci (or the Walker) makes every soundstage sound bigger. Everything depends on the engineering and mastering of the LP.

Let's face it: A turntable only has two jobs—to hold the record in place beneath the tonearm without feeding any sound of its own (or any sound reflected from the LP or the room) back through the vinyl and into the playback loop, and to keep that LP moving at precisely 33.3 rpm. The AAS Gabriel/Da Vinci Reference Mk II does this better than virtually anything else I've yet had in house. In combination with the superb 12" Da Vinci Grand Reference Grandezza tonearm (for which see the sidebar on the following page), it is one of the two highest-fidelity source components I've heard. (The other is the new Walker Black Diamond Mk III.) Though the Da Vinci costs a lot of money (\$76,190 for the 'table, motor, and one tonearm base in Aston-Martin Black Onyx finish, plus another \$12,500 for the tonearm), if you have a lot of money, an eye for beauty, a passion for the lifelike reproduction of music, and a large record collection, you owe it to yourself to audition this gorgeous Swiss masterpiece. Highest recommendation. **tbs**



Da Vinci Tonearms, Old and New

Just prior to our press date, I learned that Peter Brem of Da Vinci has put a new tonearm into production, the Master's Reference Virtu, which I hope to review in the near future. The Virtu was designed by Brem and Sandro Figi to address some of the perceived shortcomings of the Grandezza, particularly in the way of adjustability.

The Grand Reference Grandezza tonearm (sometimes I think Peter Brem learned to name products at the School for Would-Be Royals), with which the Da Vinci II that I'm reviewing is equipped, is a 12", double-gimballed, medium-mass, ruby-bearing tonearm of striking beauty. As I noted in my original Da Vinci review, the arm's bearing is made by the highest-end clockmaker in Switzerland, with an armtube constructed of ebony and copper/wolfram (tungsten) and a bearing block and arm-mount of bronze and stainless-steel, finished in platinum. The arm has a VTA adjustment: A long stainless-steel set-screw, housed snugly on the righthand side of the bearing block, is lowered via a (supplied) Allen-head screwdriver to the stainless-steel arm base; the arm itself is then loosened via two (supplied) Allen-head screwdrivers, raised or lowered by turning the set-screw, then retightened in its base, after which the set-screw is raised back into the bearing block. The Grandezza also has a magnetic damping adjustment: A simple knurled screw with a

magnetic tip on the lefthand side of the bearing mount is rotated closer to or farther from the bearing assembly to regulate the amount of damping. But these adjustments are rudimentary: There are no gauges associated with either screw, so the final setting must necessarily be done by ear. Likewise, VTF is set via manual adjustment of two platinum-finished damped bronze counterweights that are loosened and tightened via the supplied Allen-head screwdriver.

The relative simplicity (or crudeness) of the Grandezza's adjustable parts—and the lack of antiskating and azimuth controls—has met with some complaint. Despite what one of my dear friends and colleagues, Mr. Seydor, has said about immediately returning any cartridge whose azimuth isn't perfectly correct from the factory, I have yet to review a moving coil in which channel balance and separation were maximal without some fiddling with azimuth. Of course, there is nothing to prevent you from adjusting azimuth on an arm like the Grandezza the "old-fashioned" way, via shims, although this is an admittedly laborious means of going about it.

In part to answer these criticisms—and in larger part to sonically outdo the Grandezza—Brem designed the Virtu, which not only includes precision VTA and azimuth adjustments but has an entirely new four-point, fixed-gimbal, magnetic/ruby

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bearing, as well as exchangeable ebony and/or carbon tonearm tubes (twelve-inchers, 'natch) for precise cartridge-compliance matching!

I must say that, on paper at least, it appears as if Peter and Sandro really went the "other direction" with the new arm. To my mind and ear, the thing that made and makes the Grandezza the best pivoted arm I've yet heard is the very thing that some people complained about: its simplicity. Outside of that retractable set screw and the magnetic damping screw (both of which can be physically removed without sonic penalty) and the bearing itself, there are no movable parts on the Grandezza. It is essentially a virtually resonance-free armtube, a very-low-chatter bearing, and a damped counterweight, with no viscous fluid tanks, paddles, secondary bearings, spring-loaded antiskate or VTA devices, rack-and-pinion gears, removable armtubes, and the extra joints and hardware necessitated by same, hanging off it to add resonances.

It is also a twelve-inch (so-called "transcription") arm, with lower tracking error than conventional ten- and nine-inch arms. There are those who claim that the greater amount of tracking error in standard-length pivoted arms makes next to no difference in the fidelity with which LPs are reproduced. I'm hear to tell you that has not been my experience, and if you

don't believe me let me refer you again to Mr. Seydor and his eye-opening review of the straight-line-tracking (e.g., zero tracking error) Bergmann Sindre record player.

Now it is true that twelve-inch arms present engineering challenges with the distribution of mass and the damping of resonances that shorter arms do not. All I can say is that, judging by ear and experience, the Grandezza has successfully solved these problems. It is quite clearly as high in resolution and low in noise, as neutral and resonance-free as the superb 'table it is paired with, and comes as close as a pivoted arm can to the track-to-track sonic consistency of an SLT arm.

It remains to be seen (or heard) whether the far greater adjustability (and far greater complexity) of the Virtu will result in unmitigated sonic improvements over the elegantly simple Grandezza. Peter Brem, who is not given to overstatement, says that the new arm is considerably better than the Grandezza. Which means that it is superior to the most neutral and transparent pivoted arm I've heard (and I've heard a few).

I'll say this: If it is "considerably better," then the Virtu is really going to be something special. I will report my findings as soon as the Master's Reference Virtu has arrived and been played in. **JV**

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