ANALOG CORNER

BY MICHAEL FREMER

THIS ISSUE: An all-Haniwa LP player, including a current-source phono stage and a tonearm that eschews both overhang and offset angle, has captured Mikey's attention this month.

Haniwa's Current-Loop System

Haniwa's Dr. Tetsuo Kubo is an interesting fellow. If you go to shows, domestic or overseas, you've possibly encountered him in his room—a space known for being strewn, shrine-like, with LPs that once belonged to *The Absolute Sound*'s founder, the late Harry Pearson: Dr. Kubo was a fan.

He is also a fan of phase coherency and flat frequency response. Indeed, Dr. Kubo—an engineer and a medical doctor—claims both of those qualities for Haniwa's HDSA01 integrated amplifier and HSP01 single-driver "full-range"[1] loudspeaker: Despite his being an analog fan, Kubo's integrated amplifier digitizes the incoming signal at 24 bits/192kHz in order to apply real-time phase and frequency control.

Over the past decade or so, Dr. Kubo has commissioned Yoshio Matsudaira of My Sonic Labs to make for him a series of ultralow-impedance moving-coil cartridges, a few of which I've reviewed over the years and greatly enjoyed. The latest of these is different. The HCTR-CO was designed by Dr. Kubo, made by Kubotek, and is part of a Kubo-designed analog front-end system, with the Haniwa HEQ-A03-CI current-sensing phono preamp; the 9"-long HTAM01 tonearm, whose pivot floats on a bubble of magnetic oil—and, just as unusually, has a headshell that isn't offset; and The Player turntable, a compact though massive belt-drive design built for Haniwa by German turntable manufacturer Transrotor.[2]

Purchased separately, the HCTR-CO cartridge costs $10,000, the HEQ-A03-CI $12,000, and the combination of HTAM01 tonearm and The Player turntable $15,000. The cartridge and phono preamp can be purchased together for $20,000—a $2000 savings—while the package price for the complete front-end system is $33,000, which represents a $4000 savings relative to the separately purchased components.

Stereophile policy forbids system reviews, or reviews in which multiple products new to the reviewer are inserted into his or her system at the same time, in order to minimize the number of variables in our formal equipment reports—and that makes complete sense. But in a column such as this, reviewers are allowed a bit more leeway—and that's fortunate, because Dr. Kubo intends for these products to be used and heard together. That said, I also reviewed the new Haniwa cartridge "solo," in my usual reference system.

THE HANIWA HCTR-CO CARTRIDGE

The HCTR-CO is a low-output moving-coil design featuring an ultralow 0.2ohm (at 1kHz) internal impedance. Not *two* ohms, which would itself be exceptionally low, but *point two* ohms. To my knowledge, that's the lowest internal impedance of any cartridge ever designed and sold. The HCTR-CO's inductance is 0.1µH/1kHz.

Dr. Kubo intends for these products to be used and heard together.

The cartridge features a solid diamond line-contact stylus, 3µm by 30µm, fitted to a 0.3mm-diameter boron cantilever. Compliance is specified as usefully low, at 1.2×10^{-5}cm/dyne at 1g VTF and 9.5×10^{-6}cm/dyne at 1.5g VTF (the suggested tracking force using the HTAM01 arm). Haniwa does not specify output voltage because, in a current-amplification setting, voltage output is irrelevant. But you can be sure that with such a low internal impedance—approaching a short circuit—the coils have very few turns of wire. And given the cartridge's 8.5gm weight, it's unlikely to contain a massive, powerful magnet system—the sort of thing that would help elevate voltage output.

1 But at shows, the Haniwa speakers sound as small as they look and are hardly "full-range."

2 There's no equivalent turntable in Transrotor's lineup, though the Fat Bob Plus comes close, at least cosmetically.

Haniwa recommends using the HCTR-CO with a tonearm that does not have multiple electrical connections between cartridge clips and RCA (or XLR) plugs. My reference SAT CF1-09 is wired straight through, from clips to plugs, so before listening to the full Haniwa system, I tried the HCTR-CO in my SAT arm, plugged into one of the current-mode inputs of my CH Precision P1 phono preamp.[3]

Setup was easy: I achieved a 92° SRA with the arm parallel to the record surface. Haniwa doesn't specify crosstalk, but channel separation measured in excess of 26dB (using a digital oscilloscope, which usually produces lower than actual separation numbers) and interchannel balance was within 1dB with the cantilever perpendicular to the record surface. In other words, the HCTR-CO exhibits excellent build quality—as it should for ten grand.

The small number of coil turns results in both minimal output voltage and minimal back EMF, so it was no surprise that the HCTR-CO's speed, transparency, and overall responsiveness were reminiscent of the coil-less DS Audio optical cartridges. The HCTR-CO came closest in my experience to sounding as effortless and open as the best DS optical cartridge.

I'm not sure what's more enjoyable: listening to Vinyl Me, Please's all-analog reissue of Al Green's Hi Records soul masterpiece *Call Me* (FPH 1146-3) or imagining a vinyl newbie hearing for the first time what recorded cymbals are supposed to sound like, as Howard Grimes's and Al Jackson, Jr.'s do on this must-have reissue, mastered from tape to lacquer by Ryan K. Smith at Sterling Sound Nashville.

The HCTR-CO's rendering of this recording emphasized the stick-on-cymbal attack over the meatier grit of the cymbal's sustain—something the Ortofon Anna D does so well—but for those who prefer speed and transparency over weight, the HCTR-CO produces that with ease. Either cartridge would make anyone happy listening to the gentle rim shots on Green's "Your Love Is Like the Morning Sun," each of which is a notable event worth savoring.

This is a great time for vinyl-loving soundtrack fans. As I was preparing this review, two new ones from La-La Land Records arrived: *Saving Private Ryan* (LLLLP 2005) and *Schindler's List* (LLLLP 2006), both engineered by Shawn Murphy—one of the greats working today.

The recording venue for *Saving Private Ryan* was not a Hollywood soundstage but Boston Symphony Hall, using BSO musicians and the Tanglewood Festival Chorus. Chris Bellman cut the lacquer from an unspecified source, but whatever it was, it probably started on tape. John Williams's score captured well the somber goings on and reminded me somewhat of James Horner's electrifying score for the 1992 film *Glory*.

Both cartridges nailed the hall sound and the richness of the brass and strings, but the Anna D produced literal goosebumps the Haniwa did not, thanks to the former's greater weight and grip on bottom, which brought forth the timpani and double basses and helped fill in the hall sound. Not that the Haniwa's rendering was anything but top shelf.

On the other hand, the Haniwa's presentation of guitarist Stefan Grossman's *Hot Dogs* (Transatlantic TRA 257)—a recent used acquisition, thanks to a Canadian friend who monitors Transatlantic records at the thrift store in which he sometimes works—produced sharp, satisfying sonic sparks and musical effervescence. The somewhat more deliberate Anna wasn't quite as bubbly.

Before moving on to the Haniwa HCTR-CO in the full system, I'll sum up the solo review by saying that this cartridge is the speediest Matsudaira design I've ever heard: a bit less liquid and "sheeny" than the recently reviewed Air Tight PC-1 coda ($8500), and definitely less so than the $16,000 TechDAS TDC01 Ti, which makes the Haniwa more of a cartridge for all musical genres rather than the best for classical music. The HCTR-CO did everything well and had no obvious faults—or subtle ones, for that matter. If you value speed, transparency, faultless (though not rich and inviting) harmonic integrity, and reasonably good detail extraction without being overly analytical, and you have the proper low-impedance infrastructure (current-sensing phono preamp, straight run of tonearm wire), the HCTR-CO is well worth considering.

THE PLAYER TURNTABLE WITH HTAM01 TONEARM

Haniwa bills this as "The only LP Playback system built specifically for ultra-low impedance current circuit cartridges." However, nothing about this turntable/tonearm combination distinguishes it from any other in terms of how it deals with low-impedance cartridges.

In fact, while Haniwa advises the user to avoid wire breaks from cartridge clips to RCA plugs (not without reason), their supplied tonearm terminates with RCA jacks in back and thus has a break—unlike my own SAT tonearm, which has no breaks! Go figure.

Setting up the belt-drive Haniwa turntable was relatively easy and straightforward, so I'll skip that part. It's a massive (approximately 35lb) plinthless design, with a platter-sized footprint and an 18V twin-phase AC motor hidden under the heavy platter (no weight specified), which fits into a circular plinth cutout, thus remaining in close proximity to the subplatter. Drive is via a small-diameter belt that fits around a nicely machined aluminum pulley. This is a good place to write that I'm extremely impressed by Transrotor's machining and plating quality. However, at $15,000 there's plenty of stiff competition.

The nicely turned platter surface appears to be of the recycled vinyl type, which makes sense in terms of impedance matching. But Haniwa adds to this a 5mm-thick Oyaide BR-12 mat (approximately $50 online), made from butyl rubber and tapered, from center to perimeter, with a 1° elevation—which makes little sense to me, given that the grooves of all lipped records angle *downward* from the perimeter to the center, and so the mat only accentuates a less-than-ideal profile. (The Oyaide mat also has on its surface a series of "tuning holes," which to me appear more fanciful than sonically effective.)

A large, circular outboard structure, connected to the motor via an umbilical, houses the speed controller, turns the motor on and off, and changes between 33 1/3 and 45rpm. It also houses a speed-adjustment set screw. As you can see in the graphic on this page, though the turntable ran at nearly the correct speed (it was slightly fast, but so close to speed that a typical strobe unit would not pick up the difference), the measured performance—even low-pass filtered—was only okay. (The green line should be relatively straight.)

3 So, while I wasn't yet using Haniwa's current-mode phono preamp, I *was* using a current-mode phono preamp, an important aspect of the Haniwa system.

I tried adjusting the belt and making more than a few additional test runs but got similar results.

The turntable's flat arm platform, fitted with a compliant damping insert, is specifically designed for the flat-bottomed arm base of the HTAM01, which made the installation easy. If you're an Analog Corner devotee and my description of the HTAM01 sounded familiar to you, it's because you've come to know it as the ViV Laboratory Rigid Float tonearm, which I reviewed in the August 2014 *Stereophile*. The HTAM01 appears to be identical to the ViV Lab arm, except perhaps for its use of lower impedance internal wiring.

The arm comes with the headshell's overhang—in this case, it's actually "underhang," since the stylus is intended to fall short of the center of the spindle rather than extend beyond it—preset for the HCTR-CO cartridge, which also makes cartridge setup easy. All you have to do is install the counterweight and set the tracking force: There are no other adjustments. It's as close to plug'n'play analog as it gets. I'm not going to go into too much detail on the arm other than to write that I think the lack of an offset angle and an "underhung" arc to avoid skating issues—and thus admittedly problematic antiskating solutions—is both misguided and demonstrably ineffective.

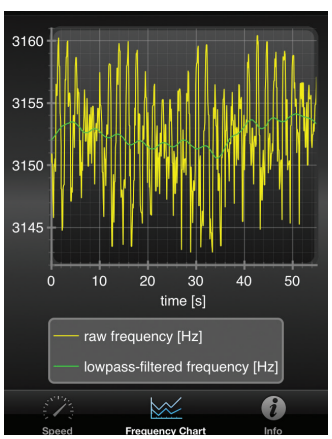
By not having a combination of an offset angle—effected either at the headshell or via a bend in the arm tube—and a precise amount of stylus overhang, you end up with far greater tracking error and thus far higher distortion. My mentor, the late Wally Malewicz, a skilled mechanical engineer, confirmed that, and demonstrated how offset and overhang could be combined to produce two zero-error null points—one nearer the lead-in groove, the other nearer the lead-out groove—and an optimized degree of error everywhere else on the record's surface. (All alignment geometries produce somewhat high distortion at the lead-in groove, and a very sharp distortion rise just beyond the second, innermost null.)

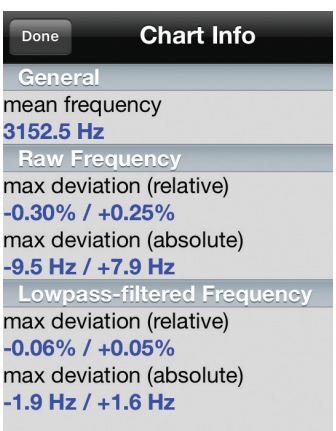
And guess what? Eliminating the offset angle does not eliminate skating! While much of the cause of skating is the offset angle—since the arm's pivot is offset from the cantilever instead of directly behind it, the frictional drag produces a force vector that pulls the arm inward—there's a secondary skating force set up by the lack of groove tangency produced by the stylus's arc of travel across the record surface.

This is easy to demonstrate. While using a blank record is not the correct way to set antiskating—the amount of frictional drag produced when "tracking" a smooth surface is far less than what a stylus would encounter in a typical grooved record—it certainly is useful to demonstrate that, despite the lack of an offset angle, the arm skates! I tried it with The Player, first making sure that everything was level (including replacing its tapered mat with a flat one), and the arm skated inward like Nancy Kerrigan—though I wasn't left asking "Why? Why? Why?" because I knew why: Since there's no antiskating mechanism on the HTAM01 as there is on most pivoted arms, there's no way to counter it! So, I'm not a huge fan of this arm: I think it's a (failed) solution to a nonexistent problem.

Also, at least as used on The Player, the HTAM01 doesn't allow you to set either azimuth or VTA/SRA, which created a problem on some records. The mat's height effectively lowered the back of the arm (and of course VTA/SRA) to where, on many records, the rear end of the cartridge body hit the record lip. I double-checked tracking force and it was correctly set at 1.5gm, per the instruction manual.

My only solution was to remove the mat and replace it with a thinner one, or to use none at all and place the record directly on the platter's vinyl surface. I used a Stein Music The Perfect Interface mat, which solved the interference problem, put the bottom of the cartridge body parallel to the record surface, and greatly improved the sound by opening up the top—as you'd expect from raising VTA/SRA and whatever other magical stuff the Stein mat does. (Try it, you'll like it.) Clearly this is not what Dr. Kubo intended, so I'm not sure why it occurred. It did, so I'm reporting it.

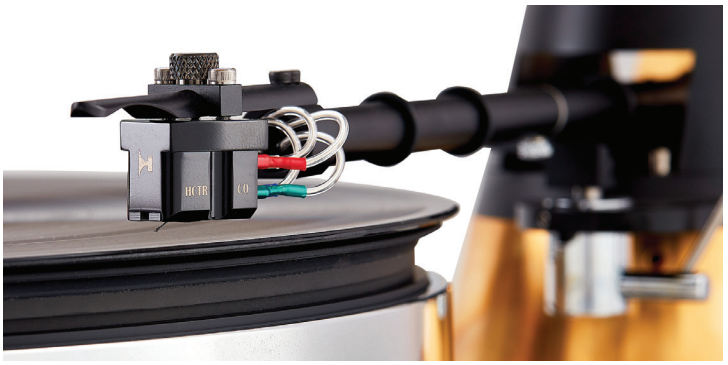




THE HEQ-A03-CI PHONO STAGE

The HEQ-A03-CI is a current-sensing phono stage in a relatively compact chassis that weighs approximately 9lb and is fitted with an

attractive brushed-aluminum front plate. The only control is an on/off button. The rear panel includes a pair of balanced XLR inputs and a pair of RCA outputs. (The brochure shows both single-ended and balanced inputs, but obviously Haniwa made a running change; offering balanced-only inputs is typical of current-sensing phono preamps.) Because the arm output is RCA jacks and the phono stage is XLR, Haniwa provided a pair of short RCA to XLR cables.



While the accompanying literature makes it seem as if current-sensing phono preamplifiers are revolutionary and unique, there are several such products on the market. What *is* unique about the HEQ-A03-CI is its WRC, or Waveform Recovery Circuit, although Dr. Kubo doesn't say precisely what it is and does. But Haniwa's literature provides a "with and without" graphic comparison, in which "with" shows higher and sharper amplitude peaks, though the time period shown isn't specified. The literature makes the well-known point that cartridges are velocity-sensitive, not amplitude-sensitive, devices and claims that this "deforms" the waveform and compromises the sound. WRC is said to correct this by eliminating phase shift that all other phono preamps ignore.

It's one thing to reduce phase distortion by reducing the impedance the cartridge sees; it's another thing to reverse it. I wonder, does it do so in the digital domain, as Haniwa's *amplifier* does? I hope not, but none of this is convincingly explained. For that reason, and because the literature contains so much hype and all-caps jargon—including the claim that the combination of HCTR-CO and HEQ-A03-CI is "THE WORLDS FIRST CURRENT DOMAIN ANALOG SYSTEM CARTRIDGE+ PHONO STAGE/EQUALIZER" (if that's true, then what can we call the industry's *other* combinations of low-impedance cartridges and current-sensing phono preamplifiers?)—I'm limiting myself to simply describing the sound produced by the complete Haniwa system.

Since Haniwa says their "with and without WRC" graphic was made using the album *Art Pepper Meets the Rhythm Section*, I figured I'd compare the sound of that record[4] on the Haniwa system (using the Oyaide butyl mat, since that's part of the supplied system) and my reference: Hardly work! (I made comparisons using many other recordings, but space doesn't permit going there.) Of course, on this 1957 Roy DuNann-engineered recording, Art never really "meets" the rhythm section of Paul Chambers, Philly Joe Jones, and Red Garland; Art's on the left and the others on the right in this two-channel recording made to get a good balance in the mix to mono.

Pepper's sax was full, round, rich, and "buttery" on the bottom.

In any case, I'd be lying if I wrote anything other than that the Haniwa system sounded far greater than the sum of its parts—including those parts I griped about! The system sounded darker, richer, and far drier, with a hint of added grain compared to my reference, very powerful and full on bottom, though not nearly as well-controlled or as fully extended. I attribute some of this to the added second-order harmonic distortion I presume is produced by the tonearm: The HCTR-CO certainly didn't sound like the same cartridge in my system!

Whatever it was, as with a rich-sounding tube amp, the result was intoxicating, though it lacked the reference system's air and reverberant delicacy. Red Garland's piano was much bigger and fuller, Pepper's sax was full, round, rich, and "buttery" on the bottom, but not as airy and breathy on top. Chambers's bass was full, sometimes overly ripe. His *arco* bass strokes pressurized the room—well beyond what's really on the recording, IMO, but was it fun, as the added bottom-end weight also contributed to a generous room sound!

It was an almost "old fashioned" sound that, in a blind test, I imagine some less experienced listeners in particular might prefer to my reference LP front end, thinking the Haniwa more dynamic—particularly when Philly Joe smacks the toms and/or slams the kickdrum and Chambers plucks the lowest notes.

Maybe it's all as Dr. Kubo's graphics suggest, but I believe the unique pleasures of the Haniwa combination were more of an additive nature than the result of the elimination of an otherwise unaddressed distortion; at times, those pleasures reminded me of a great juke box. However, when you consider the price differential—the SAT tonearm alone costs more than the entire Haniwa system—this assemblage may just be what the doctor ordered. In fact, it definitely is. ■

4 My copies are a mustard-label copy of the original (Contemporary S7532) and a 1992 RTI test pressing of its reissue (Contemporary/Analogue Productions APJ 010).

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