

HERB REICHERT

AnalogueWorks Zero

TURNTABLE



My main task is to describe an audio component's basic character. How was it made? How did it fit into my system? How effectively did it deliver musical performances?

My goal is to create stories that generate sounds and images in your mind—stories that will allow you to imagine how the component might perform in *your* system.

I can hear the moans from all you objectivist guys: *Please*, Herb, spare us your purple prose.

But guys! Our full appreciation of music, art, *and* perfectionist audio depends entirely on our ability to imagine. The most practical measure of any hi-fi component's *usefulness*, hence its *value*, is to listen to diverse recordings and notice how they grip (or don't) our attention, how they stir our moods and provoke our imagination.

My purple prose, John Atkinson's measurements, the best recordings—all are completely useless if we can't *imagine* what they describe. And nowhere is this more true than in

The Zero turntable looks and feels like a classic 1958 MGA motorcar.

the realm of high-quality record players.

If accuracy of speed, wow and flutter, etc. were the only record-spinning

realities, every audiophile would own a Japanese direct-drive and that would be it. But, fortunately, scores of sophisticated turntables are being manufactured all over the globe, each a representation of the unique engineering and aesthetic viewpoints of its designer, and each presenting recordings of music in its own distinctive manner.

Don't believe me? Then watch the extraordinary video by Michael Fremer in which he compares his Continuum Audio Labs Caliburn turntable and Swedish Analog Technologies tonearm with Technics' new SL-1200G.¹ It clearly demonstrates how differently two high-quality turntables, with different types of drive system but the same cartridge

¹ See www.youtube.com/watch?v=qY9YYkqW8ng.

SPECIFICATIONS

Description Belt-drive turntable. Motor: AC synchronous. Speeds: 33 $\frac{1}{3}$, 45rpm. Platter: aluminum, 4.9kg. Dimensions (without tonearm): 18.4" (468mm) W by 4.25" (108mm) H by 14.5" (369mm) D. Weights: 24.25 lbs (11kg) net, 28.7 lbs

(13kg) shipping. **Finish** Birch ply (plinth). **Serial number of unit reviewed** 000018. **Prices** \$1595 with blank armboard; \$1995 with Jelco SA-250 tonearm; \$2095, as reviewed, with Jelco SA-750 tonearm. Approximate num-

ber of dealers: 8. **Manufacturer** AnalogueWorks, Divine Audio Ltd., Harborough Innovation Centre, Airfield Business Park, Leicester Road, Market Harborough LE16 7WB, England, UK.

Tel: (44) (0)1536-762211. **Web:** www.analogueworks.co.uk. **US distributor:** High Fidelity Services, 2 Keith Way, Suite 4, Hingham, MA 02043. Tel: (781) 987-3434. Fax: (781) 949-2998. **Web:** www.hifiservices.com.

and phono stage, can play the same LP.

That said, I will now attempt the impossible: to keep my purple prose to a minimum while describing the unique sound character and essential value of a brand-new, moderately priced turntable: the AnalogueWorks Zero (\$1595 with blank armboard).



Left to right: The Zero's platter bearing, disassembled; the same bearing, assembled; one of the Zero's supporting feet, disassembled.

Motor axioms

I'd been using the Palmer Audio 2.5 turntable² for a while when, in October 2016, I encountered the AnalogueWorks Zero at the Rocky Mountain Audio Fest. I said to Paul Manos of High Fidelity Services, AnalogueWorks' US distributor, "Look! A baby Palmer!" He did not smile. I asked, "Do you have to spin the platter with your hand to get it going?" Then he smiled, and answered in the affirmative. I told Manos that I was a slow learner, and that the Palmer 2.5 was only now, belatedly, teaching me the lessons of the old Nottingham Analogue worldview.

When I first read about Nottingham Analogue Studio, I learned that its founder, the late Tom Fletcher, believed that, to reduce noise, it's best to use a heavy platter driven, via a soft belt, by a motor so low in torque that when you switch it on, the platter's weight stalls the motor. You give the platter a push with your hand, and its mass and momentum take over. All the motor does is feed a little speed-stabilizing energy into the rotating mass.

I laughed at this ridiculous concept. I *believed* that Fletcher's idea was flat-Earth fiction fed to gullible audiophiles, and that my much-less-expensive, high-torque, direct- and rim-drive turntables were far superior pieces of modern engineering. I thought belt drives were rinky-dink, and that any basement DIY guy could build one.

Years later, when I finally listened to a Nottingham Spacedeck and the Fletcher-designed Ace-Space tonearm, the fictions I'd both created and accepted dominated my perceptions. I remember shrugging my shoulders and thinking, *No slam, too precious sounding, and definitely overpriced!* (In 2005, for example, the Spacedeck retailed for \$1800 without a tonearm.)

But now, direct daily experience of implementations of Fletcher's ideas has opened my mind about how the motor's torque, the drive system, and the platter's mass affect the character of a turntable's sound. After listening at length to Fletcher-inspired turntables manufactured by Palmer Audio, Pear Audio—and now the AnalogueWorks Zero, designed by Tim Chorlton—I'm finally appreciating the unique "black" quietude, subtly described midrange, and pure, grainless highs that can be heard when a low-torque motor is harnessed to a high-mass platter.

Description

The British-made AnalogueWorks Zero turntable looks and feels no-frills basic, like a classic 1958 MGA motorcar: its plinth is a slice of birch-ply laminate 18.4" wide by 0.94" thick by 14.5" deep and pierced by three holes. The platter's bearing well of leaded bronze goes through the center hole, the tonearm pillar through another, and the diameter of the freestanding, cylindrical motor pod is only 0.157" less than that of the third hole, which the pod must fill without touching the plinth. The motor is crowned by a stepped

double pulley: one wheel each for 33 $\frac{1}{3}$ and 45rpm. The motor pod is connected, via a captive cable, to an outboard supply called the Black Eye, designed by British power-supply specialist Martin Bastin. I was disappointed to see that this supply doesn't have a speed-adjustment pot.

The Zero's AC synchronous motor drives a substantial (10.8 lbs) aluminum platter via a silicone belt. Wrapped around the top edge of the platter is a second, thicker belt, the purpose of which, I assume, is to mechanically reduce platter ringing. The plinth and platter, but not the motor, sit on three height-adjustable compound-polymer isolation feet.

My review sample came with a 9", gimbal-bearinged SA-750 tonearm (available with the Zero for a package price of \$2095), made in Japan by Jelco Ichikawa Jewels. It features a removable, SME-mount headshell with adjustable azimuth. Using one of its two provided counterweights (one heavy, one light), the arm can accommodate cartridges weighing 5 to 24gm. On the top of the SA-750's horizontal bearing is an adjustable, oil-fillable damping pot that can be used to tune the arm's motional response when used with higher-compliance cartridges. The antiskating bias is set with a rotary spring control.

Setup

Setting up the Zero is easy—I've done it now at least five times. Start by putting the plinth-tonearm assembly exactly where you want it and, on that surface, mark the position of the motor cutout. Place the motor pod on that spot and lower the plinth over it, making sure that pod and plinth never come into contact with each other. Connect the captive motor lead to the power supply. At this point I recommend that you switch on the motor, and feel the top of the plinth with your hand—or listen to it through a stethoscope—for motor vibrations. Adjust the pod's position until the plinth is completely still and silent. If that never quite happens, it means that vibrations are being transmitted through the surface that both plinth and pod are sitting on. You may need some sort of isolation platform.

Put two drops of the supplied lubricant on the platter-bearing spindle—one on the tip, the other on the shaft—and lower the shaft into the bearing well. Loop the longer, thinner belt around the lower motor pulley and the lower platter groove, then the shorter, fatter belt in the platter's topmost groove.

I've always believed that the four mechanical and eight soldered connections associated with detachable headshells *must* represent a sonic compromise—but my years spent with Abis, Fidelity Research, and SME tonearms suggest that this *may* be difficult to prove or even hear. But I've since discovered that the cartridge/headshell interface is a much

² See Michael Fremer's review of the Palmer 2.5 in "Analog Corner" in the November 2014 issue.

more important junction. Where and how the cartridge is attached to the tonearm is highly critical: how tight or loose I make the cartridge fastening screws can make big changes in the sound, especially with plastic-bodied cartridges. As a general rule, I tighten the screws evenly, but not too much—just enough to hold the cartridge in place.

Listening . . .

. . . WITH THE ZU DENON DL-103: Wise audiophiles endeavor to match a loudspeaker's size and dynamic air-moving capabilities to the room's acoustic. Likewise, a phono cartridge's dynamic compliance must dance well with the tonearm's effective mass. Mismatches can result in transient slurring, audible resonances, and mistracking—which is exactly what the Denon DL-103 as modified by Zu Audio (\$399), a popular moving-coil cartridge with low compliance (5×10^{-6} cm/dyne) and high mass (14 gm), did in the Jelco SA-750 tonearm, which has low-to-medium effective mass. Measured with Shure's *An Audio Obstacle Course: Era IV* test record (LP, Shure Brothers TTR115), arm resonance was mild, and centered at 9 Hz—both good signs—but the Zu Denon didn't sound as clear or as descriptive as I know it is. In fact, it mistracked so badly on the Shure test record that I quickly replaced it with another moderately priced MC: the Hana by Excel EL, which is much lighter (5 gm) and of higher compliance (10×10^{-6} cm/dyne).

. . . WITH THE HANA BY EXCEL EL: What a difference a few cm/dyne can make.

The noon sun was bright. I had the low-output Hana EL (\$475) driving the Tavish Design Adagio phono preamplifier (\$1690) feeding PrimaLuna's ProLogue Premium line-level preamplifier (\$2199) and stereo amplifier (\$2199) driving Falcon Acoustics' LS3/5a speakers (\$2995/pair); Konrad Ruhland and the Munich Capella Antiqua were performing *Chants Grégoriens pour le Temps de Noël (Gregorian Chants for Christmastime)*; LP, Harmonia Mundi HM 5112). It was the sort of perfect, glowing, introspective, tubed analog moment that can happen only with a high-pedigree record player.

If your DAC can deliver 10th-century plainchant with more luminous melodic air or tone-perfect sacredness than this modest analog rig, please write and tell me about it, because I have never experienced *any* digital that could. It's why I invest my cookie-jar money in black discs. It's why I raved about the Hana EL cartridge and its alnico magnets.³

I sat, eyes closed, strongly affected by nothing other than the truth of the tones I was experiencing. The choir is revealed as a mass of individual voices, each one unique in sound and position.

The best thing about reviewing audio components is that I occasionally stumble on happy combinations of gear and get to tell you about them. The Hana-Jelco-AnalogueWorks Zero was definitely one of those. I'd forgotten how naturally vibrant the Hana EL could sound, and I'd never realized how much fine-wine flavor the workhorse Jelco arm could transmit. Bass was not supertight or powerful, but the mid-range was delicately rendered, and the highs were smooth and natural.

Long ago, I owned a Sumiko MMT tonearm, manufactured by Jelco. I liked how it looked and how it felt in my hand, but thought it sounded weak and indecisive; small-scale information seem distant and blurry. But with the Jelco SA-750 arm in the AnalogueWorks Zero, I experienced a quiet, handsome authority, with fine details and the most conspicuous forward momentum. The Chants

ASSOCIATED EQUIPMENT

Analog Sources Linn LP12, Palmer 2.5, Rega Research Planar 3, Roksan Series 7, Thorens TD 124, VPI Scout Jr. turntables; Abis SA-1, Audio Origami PU-7, Roksan Nima, SME M2-9 tonearms; AMG Teatro, Dynavector DV-20X2L, EMT TSD 75, Hana EL, Zu Denon DL-103 moving-coil cartridges; Ortofon 2M Black, Roksan Corus Silver moving-magnet cartridges; SoundSmith Carmen moving-iron cartridge.

Preamplification Bob's Devices CineMag 1131, Dynavector SUP-200, Lounge Audio Copla JFET-MC step-up transformers; Dynavector P75, Lounge Audio LCR Mk.III, Parasound Halo JC 3+, Tavish Design Adagio phono preamplifiers; Pass Labs HPA-1, PrimaLuna ProLogue Premium preamplifiers.

Power Amplifiers First Watt J2, PrimaLuna ProLogue Premium.

Loudspeakers DeVore Fidelity Orangutan O/93, Falcon Acoustics LS3/5a, Zu Audio Soul Supreme.

Headphones Abyss AB-1266, Audeze LCD-X & iSine 20, Hifiman HE-1000 V2, Sony MDR-Z1R.

Cables Interconnect: AudioQuest Cinnamon & Big Sur & Golden Gate, Auditorium 23, Kimber Kable Silver Streak, Wireworld Silver Eclipse 7. Speaker: AudioQuest Type 4 & GO-4, Auditorium 23. AC: Manufacturers' own.

Accessories PS Audio PerfectWave PowerBase power conditioner; Sound Anchor speaker stands; Dr. Feickert Analogue Protractor NG & Adjust+ software; Acoustical-Systems SmarTractor cartridge-alignment protractor; Musical Surroundings Fozgometer azimuth-range meter; Moongel stylus cleaner. —Herb Reichert

de Noël felt whole and easy flowing, and almost nothing seemed lost. The sound felt like the very definition of *analog*. What I heard caused me to admire the bearings in the Zero and the Jelco. Had their quality been anything less than top-notch, this sense of precision and wholeness could never have occurred.

I played this record again on my reference Palmer 2.5 turntable (\$8995) with Audio Origami PU7 tonearm (\$3000) and EMT TSD 75 MC cartridge (\$2095).⁴ Instantly, I heard a deeper, darker, quieter space. Grain and spatial ambiguity were reduced, detail increased. Musical progressions flowed more forcefully. Voices sounded more real and pure.

When I then returned to the Hana-Jelco-Zero, the same recording seemed softer, more reverberant. Musical progressions still flowed extremely well, but less forcefully. Voices were less separated. But the factors of Zen-like harmony and beauty had not been reduced at all.

. . . WITH THE ORTOFON 2M BLACK: I suspected that the Jelco SA-750 would be extra-happy with high-compliance, moving-magnet cartridges. I was right. Ortofon's 2M Black looked stealthy in the Jelco's headshell, and tracked perfectly. Unfortunately, I'm losing my affection for its buttoned-down ways. The Black plays with calm sophistication, and its Shibata stylus recovers heaps of information, but I need more slam, more shoot-'em-up dancing and car theft. Most of all, I need Claudio Arrau's concert grand to sound big and captivatingly colorful as he plays Debussy's *Préludes*

³ See my review of the Hana by Excel EL in the August 2016 "Gramophone Dreams," p.41: www.stereophile.com/content/gramophone-dreams-11-page-2.

⁴ See "Follow-Up" elsewhere in this issue.

(3 LPs, Philips 6768 357)—he did with the Hana EL, as he always does with the Roksan Corus Silver and Soundsmith Carmen.

... WITH THE SOUND-SMITH CARMEN: A friend was visiting. I'd just installed the Soundsmith Carmen moving-iron cartridge (\$799) in the Jelco-Zero, but hadn't yet listened to it. For my birthday, my friend's twin daughters had given me Alison Krauss's *Windy City* (LP, Capitol B002539401), and I put it on for background music as we talked. It sounded annoyingly distorted, so I took it off. When he left, I put on Mel Tormé's *Live at the Crescendo Club* (LP, Affinity AFFD 100), which I use to adjust a cartridge's vertical tracking angle (VTA) and stylus rake angle (SRA). That Soundsmith Carmen MI had never sounded better! I concluded that the Krauss album sucked.

Until the next morning, when I tried it again. Yes, it's an overproduced, overcompressed pop record—but what soulful performances of such interesting songs, totally in the tradition of Willie Nelson and Tammy Wynette. The record wasn't distorting; it was smooth and fluid, and moved like a young horse. In hindsight, I think it just took me two tries to make peace with the sound of that record.

The Soundsmith Carmen, Jelco arm, and AnalogueWorks Zero turntable went on to play every disc with what I can describe only as a well-drawn, richly textured just-rightness. Liquid and highly listenable.

... WITH THE ROKSAN CORUS SILVER: The Roksan Corus Silver (\$1000) is among my all-time favorite MM groove tracers. The Jelco and AnalogueWorks Zero liked it too. While the MC Hana EL outslammed and outdanced it, the Roksan tracked like a Shure (that's good!), and earned its props with natural timbres and captivating textures. On the Zero, the Corus Silver made Sun Ra's voice seem fleshy and lippy and quite real, about a foot from the microphone, on *Gilles Peterson Presents Sun Ra and His Arkestra: "To Those of Earth and Other Worlds"* (2 LPs, Strut 125). Transparency was extraordinary. An excellent combination.

Comparisons

As mentioned above, the Palmer 2.5 was considerably quieter, more forceful, and better organized than the AnalogueWorks Zero. In like measures, the Zero was quieter, more detailed, and better sorted than either the Rega Planar 3⁵ or the VPI Scout Jr.⁶ Music via the Zero felt more whole and refined than with either of those popular decks. The Zero's beguiling focus and quietude made the Planar 3 sound brash, the Scout Jr. inattentive.

The Zero ran about as silently as my Linn LP12, but delivered a noticeably different *quality* of silence. With the Zero, empty spaces in the music seemed deeper and dark-

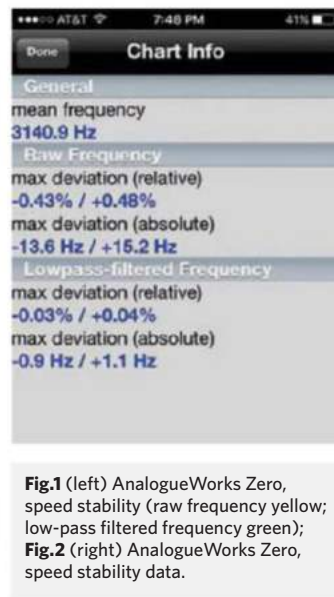
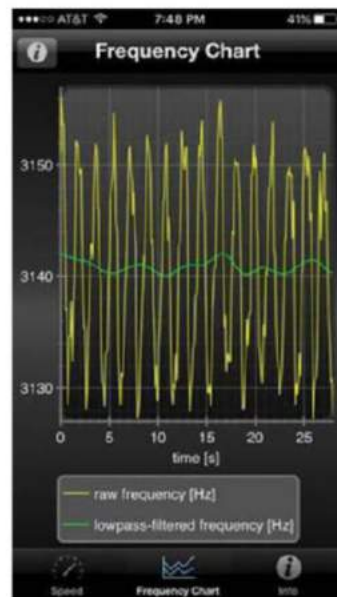


Fig.1 (left) AnalogueWorks Zero, speed stability (raw frequency yellow; low-pass filtered frequency green); **Fig.2** (right) AnalogueWorks Zero, speed stability data.

The AnalogueWorks Zero delivers Class B sound at a low Class C price.

er—and emptier. The AnalogueWorks Zero played records in a slightly more relaxed manner than the Linn. In contrast, the Linn delivers complex choral and classical works with an order and precision the Zero never achieved.

Strangely, while the AnalogueWorks Zero ran a touch slow (see figs. 1 & 2, and my review samples of the Rega Planar 3 and Technics SL-1200GRE respectively were a touch fast and spot on, all three record players were equally distinguished at boogie, forward momentum, and dance. Interestingly, the Zero displayed its own uniquely unhurried, understated brand of forward momentum that never once seemed dull or puritanical—just relaxed.

Every record player that passes through my bunker must compete in a contest of midranges with the Roksan Radius 7 turntable (\$2500) and Nima tonearm (\$1100).⁷ From the upper bass through the mid-treble, it's a tough contest: the Radius 7 and Nima deliver super-exquisite textures, luminosity, and truth of timbre. I find the Roksan-Nima's midrange more attractive than that of any other 'table and arm I've used. This comparison exposed the AnalogueWorks Zero and Jelco SA-750's most recognizable shortcoming: an ever-so-slightly vacant midrange that, whenever I noticed it, forced me to peer into its depths in search of more tangible bits of wood, metal, and flesh. However, I suspect that this slight lack of midrange presence was caused by the Jelco arm, not the Zero turntable.

Conclusions

As a basic turntable without tonearm, the AnalogueWorks Zero is a simple bit of elegant engineering that reproduced every record in a fundamentally truthful, exceptionally quiet, grainless, and highly involving way. It was a joy to use, and made late nights in the bunker extra magical.

The Jelco SA-750 tonearm exceeded my modest expectations for it, especially with higher-compliance cartridges and in its top octaves. It was well mannered and descriptive, with good detail, accurate imaging, and big soundstages. The Jelco's main weaknesses were a shortage of midrange life and bass authority. But it costs only ca \$500, it retains its value at resale, and the Zero's blank-armboard option lets you choose from or upgrade to vast realms of tonearm exotica.

For under \$2000, I can't imagine a better basic turntable. The AnalogueWorks Zero delivers Class B sound at a low Class C price. Highly recommended. ■

5 See my review of the Planar 3 in the February 2017 "Gramophone Dreams": www.stereophile.com/content/gramophone-dreams-14-rega-planar-3.

6 See my review of the Scout Jr. in the February 2016 "Gramophone Dreams": www.stereophile.com/content/gramophone-dreams-8.

7 See my review of the Roksan in the October 2016 "Gramophone Dreams": www.stereophile.com/content/gramophone-dreams-12