stereophile

EQUIPMENT REPORT

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TARA Labs
The Zero
INTERCONNECT

Michael Fremer

TARA Labs The Zero interconnect

THE ZERO Air-dielectric, evacuated interconnect with Rectangular Solid-Core conductors (available in analog, digital S/PDIF and AES/EBU forms) and Floating Ground System. Capacitance: 3.4pF/foot. Inductance: 0.018µH/foot.
PRICE $14,900/pair in lengths of 1m, 2m, or 3m. Other lengths, prices vary. Approximate number of dealers: 8. Warranty: 5 years, nontransferable. Under separate warranty program, the cable is guaranteed to maintain its vacuum condition. The original purchaser may at his option send the cable to TARA Labs for a free diagnostic service, including an evaluation of the vacuum condition at any time during the first 3 years; thereafter, a service fee will apply.
MANUFACTURER TARA Labs, 550 Clover Lane, Ashland, OR 97520. Tel: (541) 488-6465. Fax: (541) 488-6463. Web: www.taralabs.com.

Let me take you by the hand, and together we'll jump off an audio cliff. I promise a soft landing, though there might be some turbulence on the way down.

When I reviewed the mbl 101E Radialstrahler loudspeakers two years ago, MBL's Jeremy Bryan asked me if I had the required double runs of speaker cables. When I told him I didn't, he said he'd bring some, but instead of cables he brought a cable manufacturer, Tara Labs' Matthew Bond. A surprise visit by a cable manufacturer is about as welcome to me as a case of head lice. Even a scheduled visit makes me itch.

Here at my place, I have enough cables to build a suspension bridge. Few manufacturers want them back, and I can't sell what's not mine. I've threatened to auction off what's here and give the money to Hurricane Katrina relief; if I can find the time, I will. Otherwise, I'll soon have to rent a storage space just for the cables I've accumulated.

So, as you might imagine, when Bond showed up, I was shaken, not stirred. I strongly expressed my displeasure, but, being a charitable fellow, and seeing how much cable he'd schlepped along for the occasion, I let Bond perform his dog-and-pony show. In the case of cable manufacturers, such events traditionally begin with a ceremony: The Removal of the Black Velvet Bag. (Don't think such show

biz is restricted to our own little hobby. Go to a wine-tasting or a single-malt scotch party and you'll get the same equal mix of pageantry and BS.)

Bond replaced all of the AudioQuest Cheetah speaker cables and Sky interconnects then linking my system together with TARA's The One cables and Vector interconnects. Every one of the higher-quality interconnects I've tried has imparted a slightly different "flavor" to the sound: a bit of brightness here, a smoothness there, a full bottom here, lean but detailed there, etc. If a product under review strikes me as leaning too much in one direction, I'll try to counter it with a cable that might take it in another.

Bond finished, and we listened. I heard very little difference between TARA's Vector and the AudioQuests. (For those of you who think cables don't make *any* difference, consider this admission a short-lived victory.) However, my cable journey began in the early 1980s when, a skeptical civilian, I heard a Petersen Litz-wire interconnect. I later heard one of the first sets of Randall Research's Teflon-dielectric cable, which I immediately bought and installed between my Eminent Technology ET 1 air-bearing tonearm and my phono preamp. I decided to stick with the AudioQuest interconnect but use the Tara The One speaker cable as originally planned.

"Thanks for coming, Matthew, and letting me hear these cables," I told him. "But what can I possibly do with them? What can I write, other than that they sound very similar to what I was already using?" I told him he'd be better off finding a reviewer new to the job who had never experienced what a well-designed cable can do for a system. Bond returned his cables to their black-velvet drawstring bags and departed.

Cut to 2006: a few weeks after setting up a single mbl 9007 amplifier in single-ended stereo mode, Jeremy Bryan returned to complete his installation of the balanced, monoblock mbl 9007s that I reviewed in September, and brought along with him another TARA Labs wire. Insistent young lad. "Forget what you heard last time," he said. "Let me just put this 1m set of interconnects into your system and let you hear them. Where do you think you'd hear the biggest difference?"

"Between the Manley Steelhead phono preamp and the Musical Fidelity kWP preamp," I muttered.

I pulled out Classic Records' astonishing-sounding, 45rpm boxed set—pressed on single-sided, 200gm, Quiex SV-P vinyl—of Ernest Ansermet and the Orchestra of the Royal Opera House, Covent Garden's famous *The Royal Ballet Gala Performances*, recorded in the UK's famed Kingsway Hall by Kenneth Wilkinson for British Decca and licensed to RCA for American release (RCA Living Stereo/Classic LSC-6065-45). We listened to the opening tracks: *March* and *The Dance of the Sugar Plum Fairy*, from Tchaikovsky's *The Nutcracker*. It's among the most exquisite orchestral recordings you'll ever hear, especially the sweeping, impossibly lush strings, which dramatically unfurl across the stage in an unusual call-and-response that raises goose bumps every time. The recording of the bell-like celeste is accomplished with impeccable purity and transient clarity. One listen and you'll know why this recording is legendary.

I listened to it through Harmonic Technology's top-of-the-line Magic Link One interconnect, and the sound of that disc was as astonishing as it's always been. Then Bryan replaced the Magic Link One with whatever TARA Labs interconnect he'd brought, which included a mysterious black box that he placed behind the Steelhead. I gritted my teeth and opened my skeptical ears.

One, Two, Three, JUMP!

What I then heard from that familiar recording I will never forget. That one stupid interconnect had completely transformed not only the sound of that recording, but my expectations of how close the playback of recorded music could come to live music. I understand that all of the cable in the chain, from the recording gear in Kingsway Hall to Bernie Grundman's mastering room, was *not* this new IC. I understand any skepticism about how one piece of wire could so dramatically alter the sound of an audio system. But it did.

With the Mystery Wire installed, and before Ansermet's baton went down and the first note was played, the vastness of Kingsway Hall appeared as I'd never heard it, with the full weight of the space delineated by the "room tone" of a large venue and the sensation of air. A few measures into the music, I blurted out, "Wow!"

What had wowed me? A total absence of "electronica." An enormous addition of lushness, texture, harmonics, and warmth, especially in the massed strings. And, at the same time, a major extension in air, detail, and transparency, coupled with a sensation of phase coherence that I describe as "acoustic jell." Usually you can get improvements in warmth and textures *or* more extension, air, detail, and transparency. Here, simultaneously, were both: a gigantic floating apparition of detail, delicacy, air, and texture, and an even greater diminution of glaze, glare, etch, and artifact. Usually you can get rid of those with the tonal cover-up of a high-frequency rolloff. With the TARA Mystery Wire, the artifacts were gone, yet the top-end extension and openness were greatly increased.

Each note on the celeste became a full-fledged, tripartite event: first a fully defined, cleanly rendered attack; then a three-dimensional, body-defining sustain; and finally a cleanly defined, effervescent decay into blackness. That holy trinity of live sound—believable attack, sustain, and decay timed out to perfection—more or less describes the dramatic improvement the TARA IC had wrought in my system. That, and the pitch-black backdrops against which all this sonic drama was played out, was what had me yelling "Wow!"

"What *is* that? And what does it *cost*?"

It was TARA Labs' The Zero interconnect.

Description

The Zero is the only interconnect with non-insulated conductors. Tara Labs claims it comes closest to the ideal of a dielectric-free cable. With no insulating coating to protect the wire from the oxidizing effects of air, the only way to preserve the wire's performance is to suspend it in a vacuum, and that's what TARA does.

They begin with stiff tubing of extruded Teflon, into which are also extruded three small arteries, or "galleries," at the 3, 6, and 9 o'clock positions (when looking at the tubing in cross section). These galleries run the tube's entire length. TARA calls this proprietary technology the Air-tube.

Inserted into each gallery is a run of bare RSC 2511 0.025" by 0.011" "eight-nines copper," rectangular solid-core, "Generation Two" conductor. This is relatively thin wire. Tara Labs claims its research shows that a con-

ductor's impedance rises with frequency and that larger diameter wire will roll off higher frequencies to a greater degree than will smaller diameter wire. Tara's test system and other information can be found on the company's website.

A web of polyethylene filaments woven in a "large-windowed" braid is wrapped around the Teflon tube and acts as a spacer to separate the conductors from a shield of braided copper wire. Unlike in most other interconnects, the Zero's shield is allowed to "float." That is, neither end of the shield is attached to ground. Instead, both ends of the shield terminate in thin wires, to which are attached tiny pins (see later).

Fitted to either end of the Zero and soldered in place are complex RCA plugs, machined to mil-spec tolerances and fitted with O-rings and a clamping mechanism capable of providing a reliable air seal and thus of holding a vacuum. Each plug has a tiny valve, made with a spring and stainless steel ball with a Teflon seat. When assembly of the Zero is complete, the air inside it is evacuated to a pressure equivalent to an altitude of more than12,000', where there is insufficient oxygen for oxidation to occur and the uninsulated bare copper is thus protected from corrosion. The result, in short, is an interconnect of two parallel runs of bare copper wire (three for balanced) kept a constant ⅜" apart.

Why go to all this trouble to use a near-vacuum as a major part of the dielectric instead of fiber or plastic fillers such as cotton or rope, or the more traditional polyethylene or Teflon? Because all organic and plastic dielectrics are reactive. They absorb and release energy differently at different frequencies, which is one reason different dielectrics sound different when used in cables. A vacuum, on the other hand, is nonreactive; it does *not* absorb and release energy differently at different frequencies—which makes it the perfect dielectric.

Usually, wires are insulated by drawing the conductor through a die along with the heated, molten dielectric or insulation material. However, TARA claims that the extrusion of high temperature plastic materials can cause overheating and oxidation of the conductor surfaces, and that smooth clean wire surfaces sound more neutral and revealing. Its 99.999999% pure ("eight-nines pure") rectangular-solid core copper is "super-soft annealed," then polished.

Usually, too, you'd use twisted-pair construction to create common-mode rejection, which rolls off and reduces in-phase audio band noise along with RF energy above 20kHz–30kHz. However, this increases capacitance between the conductors to a minimum of 20–30pF/foot, even in the best interconnects. For the Zero, TARA claims a conductor-to-conductor capacitance of 3.4pF/foot, which means you can run lengths many times that of normal interconnect with significantly less high-frequency rolloff, and with bandwidth extending into the hundreds of thousands of hertz.

Of course, 100kHz and above is well beyond the frequency range of musical fundamentals and the limits of human hearing—but not of musical harmonics. For the Zero, Matthew Bond claims zero overshoot on squarewaves of 200kHz and well above, which he says is important for the proper reproduction of far lower frequencies. (I report. You decide.[1]) Bond also claims that because there is an electromagnetic field through and around any conductor, the dielectric used in traditional interconnects can actually delay the velocity of the propagation of the delicate HF range of the musical waveform, causing higher-order harmonics to be out of phase with the rest of the signal. (Again, I'm not equipped to confirm or refute any of this, so Fox Rules apply here as well.)

Because the Zero's shield "floats" completely, it must be grounded somehow. TARA includes a heavy little box, the Floating Ground Station, with every pair of Zeros. The box contains modules made of Ceralex, a combination of ceramic materials and metallic compounds that absorbs RFI and EMI. The black paint on the box is a special anti-absorptive/reflective coating that is said to keep out RFI and EMI.

The pins at the Zero's source end plug into this box. The pins at the other end (one M one F) plug into each other. The box is then grounded to any component that has a ground lug (such as a phono preamp), or to earth or a cold-water pipe. This establishes the ideal "star ground" configuration, with all interconnects grounded to the same single point. No voodoo here.

If you're thinking that the Zero's stiff Teflon tubing would make it impossible to dress the cable, it didn't. The area of the Zero where you'd normally bend an interconnect has accordion-like pleating that makes flexing it easy. It would be difficult to break the wire, Bond contends, because the super-annealing sufficiently softens it.

All of the above—and much more that would take up too much space—is what produced, contends Matthew Bond, the astonishing sound (or lack thereof) that I heard simply by inserting one pair of 1m Zeros into my system.

Back on the ground

And now let's gently touch ground: A 1m pair of Zero interconnects will set you back $14,900. I am sorry.

Here's the good news: A 2m pair of Zeros also costs $14,900. So does a 3m pair. The length required to go from my preamp to my amps costs a not-so-cool $17,000.

Why so expensive? Matthew Bond claims that each mil-spec RCA plug costs him $473.50. Times four equals $1894. That's *his* cost just for the *plugs* for a pair of Zero cables. With the average high-end audio retail markup being fivefold, you're talking close to $10,000 *just for the plugs*. On learning the plugs' cost, and after inspecting a nonworking sample Bond had left with me, some friends with manufacturing experience outside of audio said they were impressed by the design and construction, but that perhaps someone other than Bond should be in charge of parts procurement.

When I mentioned this to Bond, he laughed. "In the small quantities I order from this mil-spec machine shop, which supplies parts for projects so secret they don't actually know what they're building, that's the best I can do." Funnily enough, the actual wire is probably among the Zero's least expensive components—though nonetheless of extreme importance, Bond insists.

The whole enchilada

After hearing what a single set of Zeros could do, I told mbl's Jeremy Bryan to call TARA's Matthew Bond and tell him *Please return, all is forgiven*, and could I *please* hear my entire system wired with Zeros. Bond agreed, the dynamic

1 For an interesting discussion of the importance of ultrasonic frequencies in music, read Cal-Tech Professor James Boyk's essay at www.cco.caltech.edu/~boyk/spectra/spectra.htm.

duo returned, and digital and analog Zeros were installed throughout the system. (Bryan and Bond also soldered together a system-wide star ground, and installed TARA's nonvacuum but equally interestingly constructed Omega speaker cable, which costs $15,000 per 8' pair. I don't have room to cover it here, but the description of the overall system certainly includes their contribution.) Still, I feared that a little of a good thing that proved so spectacular might turn into too much of a good thing when used throughout the system.

My fears were unfounded. Wired up with these ridiculously expensive interconnects, my system reached even more exalted levels of musicality, detail, purity, harmonic expansiveness, attack, sustain, decay, realism, and everything else I've already described. The increase in backdrop *quiet* was enormous. When Jeremy Bryan removed the ground pin from the Floating Ground Station terminating the long run of Zero from preamp to amp, I could hear noise rush into the speakers. He reinserted the pin and the noise abruptly ended.

What's more, the Zero connecting the Manley Steelhead's variable output to the Alesis MasterLink's input has helped me produce some CD-R compilations that are nothing short of astonishing. Yes, it doesn't hurt to have the Continuum Audio Labs Caliburn turntable as a source, but I'd made pre-Zero compilations with other 'tables, and the difference was easily audible. If I could just shoot you a copy of the latest one, you'd know what I'm talking about.

Here's an example. I transferred the Grateful Dead's "Uncle John's Band" from a plain old original Warner Bros. LP I've played hundreds of times, including recently and pre-Zero. With the single Zero in place, the wood block, ridged gourd, acoustic guitars, and voices just plain sounded real—or at least closer to reality than I'd ever heard them before. The transient attacks were perfect—not hard and edgy, not soft and squooshy, just perfect. The Zero produced greater transparency and revealed more musical complexity than any other interconnect I've ever heard in my system, yet it was not at all bright. It was also smoother, warmer, and richer than any other interconnect I've heard, without sounding soft, rolled-off, or cloying.

There was one downside: Because of the Zero's ultrawide bandwidth, some outside transient noise does get into the system when nearby appliances are activated. I suspect the Zero may be problematic in New York City apartments or other impulse-polluted environments. When I mentioned this to Bond, he told me there are some fixes available that have worked perfectly. Evidently there are people who, believe it or not, can actually afford this interconnect, and who, on hearing their systems wired with it, buy it without hesitation or later regret.

Conclusion

Don't hate the messenger. A length of TARA Labs The Zero arrived in my listening room unannounced and unheralded, and I had no idea what it cost. But when it was inserted in my system, I knew immediately what it was doing to the sound. And when the *entire* system was wired with Zeros, it sounded even better.

Is the Zero's astonishing performance the result of its low-pressure dielectric? The lack of insulation or dielectric material around the conductor? The in-phase propagation of frequencies only a bat can detect? The parallel construction, which yields ultrawide bandwidth and ultralow capacitance? The floating-shield/star-ground arrangement, which avoids terminating RFI/EMI contamination into the RCA plug's ground and thus directly into the associated equipment? All of that? Some of that? Other reasons yet unknown?

I don't know. All I know is that everyone familiar with my system who's come down here for a listen during the many months the Zeros have been here has easily been able to hear their purifying effect on the music. My wife, though a good listener, hardly qualifies as an audiophile, and she nailed it in a minute.

The Zeros didn't change the flavor of my system. They produced a new sensation unique in my listening experience. I've now had them long enough to know that my ears aren't being fooled by rolled-off highs or softened transients, because there's nothing mellow or soft about the sound. It's just fundamentally, musically *right*.

There are plenty of audiophiles out there who have what's technically referred to as "F—-you money." They can afford to blow $40,000 or $50,000 on *cables* for their audio systems. I don't think there's a one of them who would hear the TARA Labs Zero and *not* buy it without hesitation. I wonder if anyone's had them installed and then rejected them. I doubt it.

The rest of us can dream—and hope that TARA Labs, or someone else, finds a way to produce this technology at a reasonable cost.

ASSOCIATED EQUIPMENT

ANALOG SOURCES Continuum Audio Labs Caliburn, TW-Acustic Raven, Kuzma Reference turntables; Graham Phantom, Continuum Cobra, Kuzma Air Line tonearms; Lyra Titan (stereo & mono), Blue Angel Pink Ivory, Transfiguration Orpheus, Lyra Skala cartridges.
DIGITAL SOURCE Alesis MasterLink BPT-modified hard-disk recorder, Musical Fidelity kW DM25 DAC and transport.
PREAMPLIFICATION Manley Steelhead, ASR Basis Exclusive phono preamplifiers; Musical Fidelity kWP preamplifier.
POWER AMPLIFIERS Musical Fidelity kW monoblocks.
LOUDSPEAKERS Wilson Audio Specialties MAXX 2.
CABLES Phono: Hovland Music Groove 2. Interconnect/Speaker: Transparent Cable Reference, Shunyata Research Orion & Antares. AC: Shunyata Anaconda Helix, JPS AC.
ACCESSORIES Continuum Audio Labs Castellon magnetic isolation stand, Finite Elemente Pagode equipment stands; Audiodharma Cable Cooker; Shunyata Research Hydra 2 & 8 power conditioners; Oyaide AC wall jacks; ASC Tube Traps, RPG BAD & Abffusor panels; VPI HW-17F, Loricraft PRC4 Deluxe record-cleaning machines; Furutech, Audio Revive record demagnetizers.

—Michael Fremer