

Home Audio Equipment Review

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Analysis Plus Solo Crystal Oval Interconnects and Solo Crystal Oval 8 Speaker Cables

by Marc Mickelson

Although high-end audio is a technical business, there are more than a few companies headed by people with little or no formal training in electrical or acoustical engineering. I won't argue that this is some kind of liability (perhaps it makes its own argument), but it is curious. However, a similar argument could be made about editors of audio magazines, many of whom have no formal training in editing -- or writing for that matter. Furthermore, I don't think the lack of relevant educational experience shows in audio products anywhere near as much as it does in audio magazines, where so many articles are the equivalent of an amp that's dead out of the box. Don't get me started!

I open this way in order to point out that Analysis Plus has at its helm trained electrical engineers with experience not only with the design of audio cables but also electronic and electromagnetic simulation, design and analysis. Mark Markel, Analysis Plus prez, has degrees in physics and electrical engineering from the University of Michigan and once worked for GM, where he met Dr. Sun, vice president of research at Analysis Plus and "a genius"

according to Markel. Analysis Plus was founded in 1993 to "solve complex physical problems" for the likes of Mitsubishi, Motorola, Ford and TRW. The company has also been hired to measure and analyze various audio products. Don't ask which ones -- there are



"Fabulous *cables*."



Analysis Plus Solo Crystal Oval interconnects...

Review Summary

- Sound** "Bracing, high-resolution view of your equipment and music," but also "palpable and fleshy through the midrange, the antithesis of thin or bleached"; "the better the software, the better it sounds with the Solo Crystal Oval cables."
- Features** Continuous Cast Copper wire and patented hollow oval geometry produce a cable that Analysis Plus claims is measurably better than the competition.
- Use** Proprietary T1 spades can be tricky to connect to Mark Levinson amps and other equipment with wing-nut speaker binding posts.
- Value** "These are cables with which you can call it quits, no matter the pedigree of your audio system or your tastes."

non-disclosure agreements in place.

At some point in its history, Analysis Plus decided to focus its efforts on audio cables, but with an engineering-based twist. Markel and crew researched and developed a cable geometry that would make for truer passage of the signal. How did they know that what they were working on would do this? They initially created computer simulations and thereafter measured the outcome, the latter of which they've continued to do at trade shows around the world. While other companies set up signs proclaiming that their cables are "used in the system you're hearing" (Analysis Plus does some of this too), Mark Markel lugs his oscilloscope and will gladly show that his cables, which utilize his company's patented hollow oval geometry, will pass a square wave that looks more, well, square -- and more like the incoming signal.

The whys and wherefores behind the hollow oval geometry are spelled out very clearly in Analysis Plus's literature and website as well as [an installment of the "Y-Files" column](#) here on *SoundStage!*, so I will only summarize them here. Resistance and inductance are the culprits that Analysis Plus wished to address, because with what Analysis Plus calls "typical round conductors" resistance increases dramatically with frequency, rolling off the highs, "which leads to the difference between the measured signal at the amp and the signal measured at the speaker terminals." The hollow oval design addresses rising resistance by producing uniform current distribution, which means resistance doesn't vary based on frequency. Therefore, more of what goes in comes out looking the same. A byproduct of this uniformity is that electrical properties of the cable don't change over the audio frequency band, and thus what Analysis Plus calls "frequency smearing" is also addressed.

The Solo Crystal Oval cables add another interesting twist -- oxygen-free copper wire that's slowly drawn and annealed so that its grain boundaries are non-existent in normal audio lengths. Analysis Plus calls this Continuous Cast Copper; similar wire is used by Harmonic Technology and Acoustic Zen, albeit without the hollow oval geometry.

The Solo Crystal Oval interconnects cost \$399 USD per meter pair and come with either locking RCAs or Neutrik XLRs. The Solo Crystal Oval 8 speaker cables, \$870 per eight-foot single-wire pair, are available with an array of connectors, including Analysis Plus's own *überspade*, the T1. This is a proprietary milled connector that's beefier than any other I've seen. There is one potential issue with it, however: Its thickness at the termination point makes it tricky to connect to Mark Levinson amps and their wing-nut binding posts, which don't allow enough clearance beneath them for the cap to be tightened. Using a little engineering brainpower of my own, I was able to tighten the connector to *just* before the point where the T1 spade would slip in, insert the spade, then tighten the cap the rest of the way. It's a tricky proposition, but doable.



...and Solo Crystal Oval 8 speaker cables

Systems

As has been my practice lately, I used the Analysis Plus cables with a cornucopia of

electronics and speakers as part of two separate audio systems. One paired Lamm ML2, Tenor Audio 75Wi, and deHavilland Aries 845 amplifiers with Wilson WATT/Puppy 6 or WATT/Puppy 7 speakers. Preamps were a Lamm L2 Reference and Audio Research Reference Two Mk II. Digital gear consisted of a Mark Levinson No.39 used as a CD player or tethered to Bel Canto DAC1.1 and DAC2 digital-to-analog processors. The other system used Magnepan MG1.6/QR, Silverline La Folia or Revel Ultima Studio speakers with Mark Levinson No.383, Audio Analogue Puccini SE Remote or Unison Research Unico integrated amps, with a Sony DVP-NS500V CD/SACD/DVD player or Mark Levinson No.39 as source. An Audio Research 100.2 stereo amplifier and Reference Two Mk II preamp gave the integrations a rest at a few points. Power cords in both systems were primarily from Shunyata Research (Anaconda Vx, Taipan, and Python), while power-conditioning duties were split between a Shunyata Hydra and Sound Application XE-12S, the latter used with a 20-amp Elrod Power Systems EPS-3 power cord.

While I had a good number of cables on hand for comparison, I chose Nordost Quattro-Fil and SPM for reasons that I will make clear below.

Sound

I'll get right to it, as this is what the Solo Crystal Oval cables do. If you are looking for cables that will massage, tame or somehow tune the sound of your audio system, look elsewhere. But if you are looking for cables that offer a bracing, high-resolution view of your equipment and music, you've found them in the Solo Crystal Oval cables. This sort of description means nothing if the end product is less than musically satisfying. I can report, however, that musical satisfaction is alive and well with the Solo Crystal Oval cables, even heightened in some specific ways.

Take contrasts for instance, not only dynamic contrasts but those between the various frequency regions themselves. With the Solo Crystal Oval cables in my system, treble takes on more of a metallic or silky tinge depending on the recording, displaying seemingly greater extension in the process, while bass has more pit-of-the-stomach power. A recording I came across recently that illustrates this is Jack Johnson's *Brushfire Fairytales* [Enjoy Records 422 860 994-2], an eclectic hip-hop/blues/soul/folk stew that's one of the best-sounding recordings of popular music I've ever heard. Shortly after the beginning of "Posters" some sort of brass instrument is struck, and the tone just decays and decays -- *for seconds*. With the Analysis Plus cables, this percussive strike goes on and on, slowly thinning out until it disappears like a wisp of smoke in the wind. The guitars have more of a steely tinge, the bass growls but is very well defined, and the entire presentation explodes with macrodynamic and microdynamic life. If you're looking for something new to listen to, get *Brushfire Fairytales*. You won't be disappointed by its sound, that's for sure.

Cables that are described as neutral and transparent, words that fit the Solo Crystal Oval cables well, often sound lean and even slightly devoid of harmonic color, but the Analysis Plus cables are palpable and fleshy through the midrange, the antithesis of thin or bleached. Cassandra Wilson's *Belly of the Sun* [Blue Note 7243-5 85072] picks up where her wonderful *Blue Light 'Til Dawn* [101577] and *New Moon Daughter* [Blue Note 112088] left off. You want presence? Listen to Wilson's cover of "The Weight," from *Belly* to get a good idea of what we reviewers mean when we say a performer is "in the room." The Solo Crystal Oval cables present Wilson with flesh and blood, as a person more than a mere image. These cables impart no threadbare, transparency-above-all-else presentation, and yet they always sound like utterly clear conduits between your components and music.

The better the software, the better it sounds with the Solo Crystal Oval cables. I have a number of JVC XRCDs, and they sound uniformly fantastic. Yet, with the Analysis Plus cables in my system, I was able to hear *into* the recordings in new ways, which elevated these CDs so close to SACDs that telling the difference between the two would be very difficult at best in a blind test. It's the remastered classic jazz XRCDs that catch my interest more than any others, and among these Wynton Kelly's *Piano* [Victor VICJ-60259] has become a staple of my listening, like salt on the dinner table. Recorded in early 1958, *Piano* is in mono, but the term the JVC team coined for it is "big mono" because the sound projects and spreads to such a degree that the mono tag seems meaningless. Via the Analysis Plus cables, Kelly's playing takes on a bouncy, vibrant personality, and the bass is surprisingly even more present and expressive. Talk about an audio system becoming a time machine -- 1958 comes to life via *Piano*, which is one of the very best-sounding JVC remasters of vintage Riverside recordings.

Do the Solo Crystal Oval cables have faults? Some might fixate on the presence in the midrange and miss the truly high-resolution view these cables allow. Others may think the abundant detail is a sin of commission, that the sound these cables help produce is sort of like what you get when you adjust an equalizer to highlight certain frequency regions, especially the treble. I don't hear it this way, as the overall presentation is highly involving and musically right. Finally, I wonder if the price of these cables won't hurt their chances with the crowd of well-heeled audiophiles who want everything in their systems to be the best and most esoteric. Analysis Plus makes interconnects with gold-over-copper conductors for such potential buyers, but even they, at \$2000 per meter pair, may not be pricey enough. Mark Markel confessed to me that he doesn't even *know* how he could make an interconnect that's more expensive than his Golden Oval, so maybe we should all just hold onto our money and appreciate the Solo Crystal Oval cables for the achievement they are.

Comparison

As keen-eyed readers will note, I have heard and reviewed more than a few cable brands over the past few years. High-end cables as a class of product are very good, with slight differences but great proficiency overall. Of all the cables I've heard recently, the ones the Analysis Plus Solo Crystal Oval cables resemble the most sonically are Nordost's Quattro-Fil interconnects and SPM Reference speaker cables. The Nordost cables are known for their speed, clarity, and high-resolution nature -- they are the cables that skeptics should hear because their sonic traits are obvious. Yet, the Solo Crystal Oval cables, while not sounding as subjectively fast as the Nordost cables, sound just as transparent and impart just as much information. One knock against the Nordost cables is that some listeners find them lean, and this again is not the case with the Analysis Plus cables, which offer notable midrange fullness and bass heft. In fact, down low, the only cables that I've heard that better what the Solo Crystal Oval cables do are the Transparent Reference XLs.

I know what some of you are thinking, and you're right: the Nordost and Transparent cables are *far* more expensive than the Analysis Plus cables -- by several thousand dollars. I have great admiration for the Nordost Quattro-Fil interconnects and SPM Reference speaker cables, and in some cases, with richer-sounding electronics and speakers, they will be the better choice. Likewise, there is much to like about Transparent Reference XL, which was by far the finest cabling I used with a complete collection of Audio Research electronics. But at the same overall level lies Analysis Plus Solo Crystal Oval, and at a price that won't have spouses looking for a good lawyer.

Conclusion

Cable choice for some listeners is like buying laundry detergent or other products for which brand loyalty or the recommendation of a friend or retailer can dictate purchase. Then there are those audiophiles who want "only the best," which often translates for them to mean "only the most expensive." And finally there are listeners who prefer that their cables editorialize and thus shape the sound to some extent. But the great thing about cables is that they're so easy to audition. Heck, the Cable Company has for years used in-home trial as a selling strategy. Try before you buy is not only highly recommended with cables, but also easy.

I know Mark Markel and the Analysis Plus gang to be a bunch of bright guys, and their Solo Crystal Oval interconnects and speaker cables have given me firsthand experience with their expertise. These are *fabulous* cables that won't act as filters or tone controls for your equipment, putting forth sound that's as direct and vivid as that of any cables I've used. The fact that they aren't priced anywhere near the top of the heap is a blessing for sure, but don't let their mid-level cost fool you. These are cables with which you can call it quits, no matter the pedigree of your audio system or your tastes.

...Marc Mickelson

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Analysis Plus Solo Crystal Oval Interconnects and Solo Crystal Oval 8 Speaker Cables

Prices: Solo Crystal Oval, \$399 USD per meter pair; Solo Crystal Oval 8, \$870 per eight-foot pair.

Warranty: Lifetime.

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