

Equipment Report



Shunyata Research Sigma v2 Interconnects and Loudspeaker Cables

Immediacy

Kirk Midtskog

Shunyata Research is known mostly for its power cords and power conditioners (or “power *distributors*,” as the company prefers to call them). The firm started out as a power-products manufacturer in the late 90s, so it is entirely understandable that “power gear” is the primary subject most audio folk have filed under “Shunyata” in their mental catalog entry. I hope this review helps to expand those entries to include the company’s *signal* cables as more than mere “also makes.” In my opinion, to pass over Shunyata’s signal cables is to miss out on some excellent products.

Background

I reviewed the original Sigma cables in 2018 and have been using them as my references ever since. The current Sigma v2 represents a significant performance advancement over the originals, much more of an advancement than the simple “v2” designation might lead you to assume. The subject of this review is the Sigma v2 interconnects (\$4000/one-meter RCA) and Sigma v2 speaker cables (\$9950/two-meters).

Listening

If I were to distill my overall impression of Sigma v2 into a word, it would be *immediate*. By this, I mean the cables help my system deliver a listening experience of directness and responsiveness. The music has a straightforward liveliness and sounds less electronically processed. Indeed, my stereo’s sound quality has reached a level that I thought would only be possible in a much more expensive system, with the sort of top-of-the-line gear one hears at trade shows or in dedicated rooms in a well-heeled audiophile’s home. While my setup is not exactly a starter kit, it certainly

would not be characterized as “upper level” by most audiophiles. (Please see the Associated Equipment section.) And yet, I hear the kind of continuousness, dynamics, low-level detail, and tonal complexity that I normally expect from super-systems. Some of the sonic smearing that very good electronics ameliorate can also be cleared up by cables, and the Sigma v2 offerings are a case in point. If you already have a Goldilocks set of electronics and speakers but want to explore ways to wring more performance from them, consider some new cables before you buy new equipment and include Sigma v2 on your

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Specs & Pricing

Pricing: Interconnect, RCA \$4000/1m (\$80 per additional 0.25m), XLR \$4500/1.0m (\$100 per additional 0.25m); speaker cable, spade or banana \$9950/2.0m (\$420 per additional 0.25m)

SHUNYATA RESEARCH

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Associated Equipment

Analog source: Basis Debut V turntable & Vector 4 tonearm, Benz-Micro LP-S MR cartridge

Phonostage: Simaudio Moon 610LP

Digital sources: Hegel Mohican CDP, HP Envy 15t running JRiver MC-20, Hegel HD30 DAC

Linestages: Ayre K-1xe, Hegel P30

Integrated amplifier: Hegel H390

Power amplifiers: Gamut M250i, Hegel H30

Speakers: YG Acoustics Sonja 2.2, Dynaudio Confidence C1 Signature

Cables: Shunyata Sigma v1 and v2 signal cables, Shunyata Sigma USB, Shunyata Alpha S/PDIF and AES/EBU, Shunyata Sigma v2 NR, Omega XC and QR power cords

A/C Power: Two 20-amp dedicated lines, Shunyata SR-Z1 receptacles, Shunyata Everest 8000 and Typhon power conditioners

Accessories: PrimeAcoustic Z-foam panels and DIY panels, Stillpoints Ultra SS

dynamic events on the loud transients (cymbal crashes) and an irritating hardening on loud saxophones. Clarinets, flutes, and violins don't make me unconsciously cringe when they are played loudly in the same way that cymbals and saxophones do. Has anyone else noticed how many sax players' volume levels at concerts and on some recordings are set too high for the instrument's sonic characteristics? It can be painful. (I have nothing against sax players. I admire all accomplished musicians.) Systems that more closely track the timing of these sounds don't add their own layer of "confusion," and so they sound less harsh. *[It's worth noting that the saxophone has the most complex harmonic structure of any instrument. —RH]*

Our auditory systems are very sensitive to minute differences in the timing of sounds. (This is probably because we need to know the location of certain sounds so that we can flee or pursue things, depending on the situation.) The very small differences in the arrival of the sound waves on the fairly small contours of our ears (and the distance between our ears) cause our auditory system to convert those differences into a probable sound-source location. (I suspect that accurate timing in audio is actually as important as flat frequency response—possibly more so—provided frequency response is not grossly distorted, of course.) I might be misguided, here, but I think Shunyata is addressing the temporal domain as vigorously as it is other key areas, such as frequency response, noise-reduction, and clean signal and power transmission, etc. What I hear

from the Sigma v2 is a clear, revealing, dynamically vibrant presentation without a hint of any part of the sound being forced or hyped up. Music just sounds more real and more alive. More *immediate*.

The Sigma v2's tonal balance is neutral, as far as I can tell in the context of my system. The interconnect sounds a bit fuller in the bass than the speaker cable, but that does not mean the speaker cable is thin or zippy in anyway. Frequency extension is very wide. Bass is particularly robust. In my earlier review of the v1, I recommended the speaker cable—mostly because of its HARP technology—over the interconnects, if someone could only acquire either one or the other (because of budget constraints, for example). I no longer believe the speaker-cable advantage applies. Shunyata has advanced the v2 interconnects' performance to a level that closely matches that of the v2 speaker cable.

Sigma v2 helps my system's soundscape expand in all three dimensions, especially depth, which is the trickiest of the three—especially when using all solid-state amplification, as I do. Soundstage width was already excellent with the v1, but the v2 extends it out even more. Height also extends a bit higher. But the depth rendering of v2 is really the most rewarding difference. To use a visual analogy, going to Sigma v2 is akin to peering into a tide pool after it has been exposed at low tide for some time, and the water has mostly drained out or evaporated. The 3D contours of the pool's bowl and its contents of starfish, sea anemones, and other features are more readily apparent. When filled with water, you can see the starfish

short list, even if you can spring for more expensive wires.

That immediacy I mentioned comes across as the ability of the system to closely track quick and subtle changes in a way that is much closer to how you hear them in real life. The absence of fuzziness on dynamic sequences allows hard transients, in particular, to emerge more directly, more intact as they unfold moment to moment. Much of what I used to consider "electronic noise" I am beginning to think has a lot to do with the improper timing of music's constituent parts. I don't understand, at a technical level, the cause of what could be referred to as this "timing smear," but I can hear it when it happens and, more easily, when it is greatly reduced. And I believe others can, too. In a parallel sense, the quote attributed to Supreme Court Justice Potter Stewart about pornography ("I can't define it, but I know it when I see it.") applies to what I attribute to "timing disruption" (i.e., I can't define it but I can hear it when it is meaningfully reduced). This "temporal confusion" can be more readily heard on upper-frequency hard transients and on instruments with unusual harmonic characteristics, like cymbals and saxophones when they are played with some oomph. There is a slight blurring of the sequence of

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and anemones in the pool, but their contours usually appear to be rather flat and not distinctly full, 3-D shapes. The Sigma v2 allows my system to render images and soundscape depth with greater overall verisimilitude, more like the pool at low tide. Mind you, the v1 was already a very good imaging cable. Only in direct comparison to the v2 would I say the v1 is rather like a tide pool with a quarter of the water still remaining at the bottom.

It almost goes without saying that cables which can respond very well to subtle timing phenomena and recreate believable soundscapes and convey compelling musical information would likely also have very good resolution of fine details. This is, indeed, the case with Sigma v2. I could have just summarized this entire review with something like, "The Sigma v2 signal cables are masters of resolution. No tonal balance problems. Great dynamics and imaging. The end." (Some folks may have preferred that!) Joking aside, the level of resolution of detail here is astonishing. I heard individual voices more distinctly in the chorus, as well as more air and hall space, in Ariel Ramirez's *Misa Criolla* [Philips]. I heard better defined textures and low-level effects in the piano and electronic background tracks of Billie Eilish's "Listen Before I Go" on *When We All Fall Asleep, Where Do We Go?* [Darkroom/Interscope]. Both singers' voices (José Carreras and Billie Eilish O'Connell) were resolved so well that I could more easily "understand" how they were singing...us-

ing their mouths, their breath control, etc. The Sigma v2 allows my system to reveal more of the music not by skewing its frequency response to enhance detail, but by lowering the interfering noise and making dynamic behavior sound more lifelike. The result is a more musically interesting, revealing, exciting and, simultaneously, calmer listening experience.

Conclusion

Shunyata has really improved its signal cables with the new v2. The performance advances in both the Sigma v2 interconnect and speaker cable over the already-very-good v1 are substantial, especially in areas such as overall resolution, dynamic agility,

and soundstaging and imaging. The sonic improvements wrought by the Sigma v2 cables in my system are closer to what one would expect from a major electronics upgrade, rather than from new cables alone.

Building upon the original Sigma's technologies and construction, Caelin Gabriel and his team at Shunyata have brought to market some truly fine signal cables that, while fairly expensive, are not priced anywhere near the upper end of the market. I highly recommend Sigma v2 cables, even if you can afford the more expensive stuff.

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Technology

Shunyata's *raison d'être* and subsequent success would not be possible without its founder and designer Caelin Gabriel. A scientist by education, he worked for the NSA in digital signal acquisition and encoding, where he helped develop methods that could detect and resolve previously unintelligible transmission signals to usable levels. Carrying much of this approach to Shunyata, Gabriel uses rigorous research methods to develop technologies that reduce phenomena that adulterate signal integrity in audio gear.

All of the features from the earlier Sigma v1 are carried over to v2, with some updates integrated into the mix. I refer readers to my original Sigma review in 2018 for a more detailed discussion of the underlying technology. What follows in the next four paragraphs is a summary of the baseline Sigma design elements from that earlier review, with some new information folded in to account for the v2 features.

Shunyata uses what it calls *ArNi^o* wires, the basis of which is Ohno Continuous Cast (OCC) single-crystal, OFE101-grade copper (the purest form of certified copper available). While plenty of other cable makers use OCC conductors, Shunyata's cables are formed to function as a virtual hollow tube (called VTX) which reportedly reduces distorting eddy currents, randomly generated within a typical conductor's interior as the signal travels down its exterior. New to v2, the speaker cable uses a pure-silver center conductor surrounded by a pure-copper "concentric ring" (called VTX-Ag), whereas Sigma v1 used copper throughout. The use of silver in combination with copper is artfully done here. The increased sense of "speed" associated with silver is evident, but it is not accompanied by some of silver's downsides—like tipped-up, thin, or aggressive sound.

All Shunyata cables are treated with something called the Kinetic Phase Inversion Process (KPIP), which essentially does away with the need to determine a cable's correct signal direction and to provide sufficient burn-in before its function is optimized and remains stable. Shunyata actually doesn't say much about how KPIP works, other than to claim that it does away with the need for cryogenic treatment. My own experience with treated-versus-untreated cables confirms that KPIP does reduce break-in time significantly, about two days as opposed to three weeks.

Tron^o addresses what Shunyata characterizes as "dielectric absorption and re-radiation in signal transmission." (Editor-In-Chief Robert Harley described *Tron^o* thoroughly in his excellent review of Anaconda signal cables in Issue 220.) Shunyata also uses sonic-welding and cold-welding methods to join conductors and connectors, instead of traditional soldering, brazing, or crimping. Sonic-welding reportedly enhances transient response and mechanical integrity, while mitigating some of the flaws of the other methods.

Sigma v2 includes two more interesting technologies—TAP (Transverse Axial Polarizer)

in the interconnect and HARP (not an initialism) in the speaker cable. Sigma v2 now has two TAP modules instead of one in v1. TAP reportedly reduces electromagnetic polarization distortion by blocking longitudinally polarized waves while allowing transverse waves to pass unimpeded. This apparently reduces sonic glare caused by longitudinal electromagnetic waves interfering with the original signal. HARP apparently does not change signal transfer function (capacitance, inductance, or resistance). Shunyata is guarded about how it works. I can tell you, though, that HARP is highly effective in improving the overall performance of the applied system based on A/B/A demos I've heard at the Shunyata facility in Poulsbo, Washington. HARP enhanced the system's performance in every regard—tonal purity, image focus, dynamic precision, soundstaging, and resolution of details and timbre. Sigma v2 now has two HARP modules instead of one in v1.

In a general sense, the build-quality of Sigma v2 has improved. The HARP modules are now more elegantly integrated into cylindrical structures at either end of the speaker cable, so they look like part of the breakout section from the main cable into the hot/neutral legs for the amp or speaker terminations. The older v1 HARP modules were larger, mostly oblong-shaped boxes that resembled a "network case," such as those on cables made by Transparent or MIT, although Shunyata cables don't contain capacitors, inductors, or resistors that modify the frequency response or transfer function. The v2 spade and XLR connectors appear to be of better quality, and the speaker termination "shoes" are more robust and look nicer. The v2 interconnect TAP modules, which resemble small carbon-fiber cylinders, are also a bit smaller in diameter, and therefore a little more subtle. Each interconnect has only one small red or black dot at the ends of each XLR barrel (I assume this is also the case on the RCAs), so I sometimes found it a bit difficult to tell whether I was handling the right of left channel cable. (This would probably not pose a problem to a normal music lover, who does not need to switch cables in and out as often as a reviewer does.) Similar to the originals, both the v2 interconnect and speaker cables are reasonably flexible and easy to work with.

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