

Shunyata Research

SIGMA-X NR AC Power Cables

by Don Shaulis



Shunyata Research recently introduced a new “X-series” of power cords for the ALPHA, SIGMA, and OMEGA models in their Reference line. The SIGMA-X power cables are offered in three variants: QR, NR, and XC. Each has a specific application. The SIGMA-X XC version is designed specifically for use as a wall-connection power cord for Shunyata Research power distributors. The existing filtering in Shunyata Research power distributors eliminates the need for additional filtering in the supplying power cable. One of the new technologies in all SIGMA-X models is the TAPc (transverse axial polarizer) module, a patent-pending technology that Shunyata says actively breaks up EMI distortion. Two TAPc modules are installed under the SIGMA-X carbon-fiber headshells. TAPc is the newest version of the technology

originally designed for reference signal cables. Shunyata Research points to TAPc and KPIPV2 as the two key technologies responsible for the upgrade in the performance of the X-series power cords.

The SIGMA-X QR edition includes patented QR/BB technology and Gen3 NR noise reduction technology. QR-BB is an acronym Caelin Gabriel uses to describe “the engine that drives the performance of Shunyata Research’s top QR model power cords.” QR-BB technology is designed to act as an “instantaneous energy reserve circuit.” The patented QR-BB circuit (<https://patents.justia.com/inventor/caelin-gabriel>) delivers greater dynamic impact, energy, and accurate timing in sound. The SIGMA-X QR model is designed for high-powered amplifiers, critical analog and digital sources, and top-end preamplifiers. In professional recording studios, SIGMA-X QRs are being used to power recording consoles and custom-designed guitar amplifiers.

The SIGMA-X NR edition is designed to be compatible with all components, including high-powered amplifiers, preamplifiers, and analog and digital sources. The X-series “NR” designation indicates noise reduction, which is a primary focus of the design. The X-series NR model reflects 25 years of research into the science behind power delivery. There are third-party measurements from heart surgery labs verifying the NR circuit’s noise-reducing capability. Shunyata’s YouTube channel and website document the research and evolution leading to their current products.

SIGMA-X power cords are constructed using Shunyata’s VTX-Ag geometry and metallurgy. All VTX-Ag cables are constructed with a center conductor made of pure silver and an outer concentric ring of conductors made of pure copper. Fluorocarbon insulation is used to minimize dielectric absorption and re-radiation. Fluorocarbon insulation has been demonstrated to enhance resolution and is utilized in the most demanding applications. The pairing of silver and copper conductors is designed to maximize the benefits of each while minimizing any negatives. The beautiful carbon fiber CopperCONN® connectors employ pure Tellurium copper contacts for high conductivity. The Shunyata-designed, custom-manufactured connectors are works of art. It is a shame they will not be readily visible in most applications.

Shunyata’s Gen2 NR technology has been employed in power cords used for medical equipment, as well as in recording and mastering studios, for years with measurable results. Many skeptics have been converted. The SIGMA-X NR and ALPHA-X NR power cords employ the improved Gen3 NR technology in addition to TAPc technology.

Each power cable undergoes four days of continuous high-intensity, extreme-temperature metal tempering using Shunyata’s proprietary Kinetic Phase Inversion Process (KPIP v2™). The process is designed to refine conductor metals at the molecular level, improving performance and reducing burn-in time. Due to this process, Shunyata advises users to avoid cable burn-in devices. Avoiding cryogenic treatment is also recommended to protect plastic connectors and insulation. Cryogenic treatment voids the warranty.

Plan B

My primary audio system is split between two walls. My initial plan for this review was to replace three Shunyata ALPHA v2 NR power cords on my source components with three SIGMA-X NR power cords. I very quickly went to “Plan B.” Cold out of the box, the three SIGMA-X NR power cords did not make it

through the first song before I knew I had to order two more to complete my system. The improvement was dramatic and immediate. I had never previously experienced such major changes with any power cord swap. The shortest review I can give is that everything improved. It was like switching to a hi-res version of the same music. There was more there, there. With the first swap of three power cords, my speakers grew in apparent size. Not necessarily only the soundstage, but also in visceral impact. I had a similar experience with my home theater system. I switched from Magico A3 speakers to A5s. It was “ear-opening”. The change in presence and visceral impact was a huge surprise. I had expected an improvement, but not on that scale. But in that case, the speakers actually were larger.



With three SIGMA-X NR power cords on my source components, listening to the Cowboy Junkies double CD, 200 More Miles Live Performances 1985-1994 [BMG Music Canada, Inc. ASIN: B000024KWC] Margo Timmins' voice has an even more haunting feeling in the introduction to the track “Lost My Driving Wheel.” The guitar in the introduction is soft and subtle, and also benefits from the black background. Just when I think I have all the noise out of my system, another level of quiet is achieved with the SIGMA-X NR power cords. This track is a perfect example of how noise reduction is so critical. Margo Timmins' voice comes out of nowhere. On the same CD, “State Trouper,” written by Bruce Springsteen, the performance is more dynamic and holographic, with the instruments hanging in the air and the PRAT moving things down the road at a fast pace. More “life” was added to the live performance. “The Boss” would definitely approve. Improvements far exceeded the expectations I had for “simple” noise reduction. FuseAudio Banner (1).jpgWhen I introduced two more power cords on my VAC Essence 80 iQ monoblocs. I noticed improvements paralleling those observed on the components.



However, with the SIGMA-X NR power cords on the amplifiers, I felt the increase in presence and dynamics was even more pronounced. It was like I had more powerful and upgraded amplifiers. The ease of presentation was greatly enhanced. In addition, I noticed that on several CDs, background drums became defined as musical instruments instead of amorphous thuds.

On the Hans Theessink CD "Slow Train," the track Thula Mama-Oh mother don't you weep [Blue Groove 1620 LC7892] had a larger soundstage and a more visceral impact with much better-defined drums. There was more presence and immediacy. The kind of impact that sticks music in your brain for the rest of the day.

I had expected improvements in quiet portions, vocals, and solo instruments, such as a piano or guitar. What I had not anticipated was an improvement in all aspects of the music. The influence of noise reduction technology in the X-series is profound, but it cannot be separated from the total design of the power cords, including metallurgy, wire configuration, and insulation mentioned above.

Conclusion

I have spent years refining my audio system, discovering my favorite brands, and advancing through their hierarchy. I paid attention to mechanical isolation and acoustic treatment. However, it wasn't until I added an ALTAIRA chassis ground hub, and SIGMA-X NR power cords that I realized how insidious and pervasive electronic noise can be. I have high-quality power conditioning, and two of my major components have separate power supplies. I thought that would be adequate. I was wrong. The irony is

the better an entire system is, the more damaging noise is. If your room is acoustically noisy or has noisy tubes, reducing electronic noise might go largely unnoticed. One might try to reduce harshness with more mellow interconnects and speaker cables. That is counterproductive and futile. Losing definition is losing the very elements that make music engaging.

Noise is the culprit. And the NR designation on the SIGMA-X power cords stands for Noise Reduction. Both the ALTAIRA chassis ground hub and SIGMA-X NR power cords enhanced all the musical attributes I prize and the reasons I choose the music I do. The improvements due to additional noise reduction far exceeded my expectations. I find myself listening at louder volumes when noise levels are reduced, which in turn reduces harshness. My entire listening experience is enhanced.

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