



DAVID SALZ OF WIREWORLD:

CABLE NOISE HAS BEEN SEVERELY UNDERESTIMATED

Words: Anil George



For the seriously music-obsessed, a key gateway to an expanded soundstage, where one comes within grasping distance of the creator's vision, lies in the purest and most sonically invisible of conductors being the medium between their audio setup. In the audio world, few have come close to reaching this flagstone as David Salz, Founder and CEO of Wireworld. For close to four decades, David has led a renaissance

in the cabling world, completely reinventing conductor geometries in his quest for high-performance cables that boast even octave to octave tonal balance, while staying bereft of the signature house sounds that color many a brand creation. I had the pleasure to chat with David on many things, including the creation process for the signature Platinum Eclipse 8 speaker cables, the search for true tests of musical preservation for cables and double-blind cable test protocols, among many other things.

Core audiophiles apart, do you think audio enthusiasts fully appreciate the need to invest in proprietary cabling, whether speaker cables, HDMI or otherwise?

It seems that many consumers don't believe that cables can substantially improve fidelity until they hear it for themselves. However, I caution people that the cables that make the most dramatic changes, like creating oversized images, are actually adding colorations that obscure the subtle details and expression in the music. Cables that maximize preservation create more

tightly focused images as they reveal more of the natural sonic details that make live music so enjoyable.

How early did you realise that this would be your field of choice, and how did you go about creating the first cable that the brand brought out?

I decided to pursue a career in cable design right after I performed my first cable test in 1980. The test compared a group of high-end interconnects to a pair of extremely short reference jumpers between my amp and preamp. I was shocked by how much more lifelike

and enjoyable the jumpers sounded. I quickly realized that I wanted to make that wonderful experience possible with standard length cables.

From the time you created your first cable to your latest, how would you say your outlook to the end process has changed.

From the beginning, my focus has always been on creating the most effective listening tests, so that I could learn how to minimize the coloration and loss caused by cables. Since then, I've continuously increased the depth of



my research and the sensitivity of the tests, but my development process has remained constant.

What do you think truly distinguishes Wireworld from other brands in the space? Do tell us about the patents that form the base of your cables.

I believe that Wireworld is the only company that develops cables through objective listening tests and also teaches those testing techniques to the public. These are the only true tests of musical preservation for cables because they use virtually perfect direct connections as the reference test control. We know that some other companies use these tests for development, but none have been confident enough in their products to recommend the tests to their followers or reviewers. In the mid 1990's, I developed and patented cable comparators to facilitate double-blind cable bypass tests. More recently, we've been developing recorded tests called Cable Polygraphs, that can be downloaded and evaluated on a high quality monitoring system or headphones. I've also been refining double-blind cable test protocols and have included my recommended techniques on the philosophy/technology page of our website.

For the first three decades of my career, most of the cables I produced had concentric tubular conductors. I used that structure because it provided better preservation than other existing conductor geometries. However, I eventually learned that the problematic electromagnetic loss called eddy current resistance could not be eliminated with those designs. Like the swirling currents in a river, the eddy currents in cables are created where the conductor strands



follow a path that differs from the straight path of the electromagnetic field that moves the signal. The resulting loss of transient speed masks quiet details and colors the sound. To minimize eddy current resistance, the conductor strands need to be completely parallel and the electromagnetic field needs to be distributed uniformly among them.

Since none of the existing conductor geometries allowed me to minimize eddy current resistance while optimizing the other critical parameters, I had to formulate an entirely new structure. This new structure, the 'Delineated Neutralizing Array', is abbreviated as DNA Helix. This patented technology uses layered flat conductors containing multiple round strands that are

completely parallel and precisely spaced to provide the most efficient transfer of delicate musical information. In objective listening tests, DNA Helix cables perform closest to the pure dynamic sound of a direct connection.

How labour intensive is a Wireworld cable? Take the flagship Platinum Eclipse 8 speaker cables, for instance, do take us through the creation process.

To begin with, the cable's conductors are made OCC-7N (99.99999% pure) solid silver, the most conductive metal in existence. This highly purified metal is created by feeding 4N silver through the slow-moving Ohno Continuous Casting process. Created by Professor Ohno of the Chiba Institute of Technology in



Tokyo, this patented process creates the purest and most sonically invisible conductors available. One hundred and twenty-eight of those wonderful conductor strands are then fed through a plastic extruder and covered with our exclusive Composilex 3 insulation to create the eight flat conductors in the cable. Those eight flat conductors are stacked in a specific (-+--++) pattern to create the square cross-section of the cable. That square group is then wrapped under tension and jacketed to create the finished cable.

The assembly time for a pair of Platinum Eclipse 8 speaker cables is about three hours, which is certainly longer than most other high-end cables. The cable has sixty-four separately insulated strand groups, so the stripping



in the most neutral cable brands. This is certainly true in the Wireworld line, where a mid-priced cable like Equinox 8 interconnect provides higher fidelity than many competitor's top models.

Wireworld has an incredibly passionate customer base, have you seen that expand in recent years into different age demographics?

We have noticed that our sales to younger customers are increasing and we think that this is due to the strength of our online reviews. About half of our current followers are younger than 45.

For someone who is setting up a hi-end audio setup, what is that one essential tip that you would give to ensure the natural flow of music, a feeling of being there as the creator envisions the piece.

I always recommend optimizing the relationship between speakers and room acoustics before considering any other changes or upgrades to the system.

Finally, and this is something many audio enthusiasts will be keen to know: Will we soon see a second incarnation of the Cable Comparator?

The Cable Comparators have always been challenging to use because of their demanding system requirements, such as the need to have mono amp outputs lined up with speaker terminals. For my development testing, I actually prefer manually switching between cables and reference jumpers, because eliminating the switching device increases the resolution of the test. The latest developments in our testing are recorded cable tests called Cable Polygraphs, which are conveniently downloadable and surprisingly effective.

procedure alone is intensive and time consuming. The soldering procedure is also challenging and slow because the massive group of OCC-7N solid silver strands is extremely effective at dissipating heat.

I'm sure you often do you get requests for custom cables. What's the most rather 'extreme' request you have got?

The most expensive cables we've produced are a fourteen meter pair of Platinum Eclipse interconnects and a five meter pair of Platinum Eclipse speaker cables.

As an engineer, what would you say are the essential aspects in a cable to truly set it apart? Please do tell us about how the DNA Helix truly stands out in reducing noise.

My test results have revealed that cable noise has been severely underestimated. Cables with widely-

spaced conductors tend to pick up the most electromagnetic interference simply because they are more like antennas. In contrast, the conductors in DNA Helix cables reject EMI naturally because they are extremely close together.

Cables also introduce triboelectric noise, which is generated by the contact between conductors and insulation materials, where static charge and discharge effects are induced by movement, vibration and signal energy. Our listening tests show that triboelectric noise causes much of the coloration, harshness and masking we hear from cables. It is the primary reason that various cable insulation materials produce different sound effects. Our custom-blended Composilex insulation materials minimize triboelectric noise to reveal the lifelike harmonic structure of the original sound.

Is it always the case that an expensive cable trumps lower priced offerings, or is it possible to achieve high fidelity with smart engineering at a lower price point?

This is difficult to answer, because with some brands, coloration increases with price. Those cable brands tend to have a 'house sound' that reflects the taste of the designer and so it follows that you can get more of that sonic effect with higher models in their line. Of course, more effect is the opposite of higher fidelity, but I would not argue with anyone's personal taste. However, musical preservation tends to improve with price

