

Cable Controversies (Part 3)

IN THIS THIRD PART OF HIS MAGNUM OPUS ON HI-FI CABLES, MARTIN COLLOMS DISCUSSES IMPEDANCE MATCHING AND DISTORTION MECHANISMS, THEN REVIEWS A COMPREHENSIVE SELECTION OF INTERCONNECTS

Cable designers have a hard time of it. There are many more failures than successes, and they need to be obsessed with the science of small differences; otherwise performance improvements occur more or less by chance. The sheer variety of form, colour and size reflects the disparate approaches adopted by the designers, and you could be forgiven for suggesting that a dose of snake oil is an integral part of the audiophile cable business. Furthermore, the extravagant claims often made for the advantages of specific constructions do not help establish credibility.

The decisive factor that can cut through the confusion is the 'try before you buy' service offered by some suppliers, allowing the cable to be returned if you don't find an anticipated improvement sufficient or convincing.

Metallurgy and Stranding

Metallurgy - the element or alloy chosen to conduct the signal - is one of many aspects of cable technology that can affect sound quality. Simple copper is available in a range of purities down to six decimal places, and is capable of excellent performance. Beyond that, copper can be plated, or better still clad in a co-extrusion process (a technique different from electrochemical silver plating), most commonly using silver. Various other alloys can be chosen for the conductor, as well as costly pure metals such as silver or even gold.

The conductor can take many forms, ranging from a single strand to arrays of simple multiple strands, multigauge strands or individually insulated strands (called Litz, after the inventor). Many diverse stranding styles and geometries have been formulated, and are generally offered for sale with near occult theories explaining their specific innate superiorities.

The type of insulator used to separate the conductors and build the cable also influences sound quality. Use of exotic materials such as gold wire and foam Teflon insulation may or may not guarantee excellence. Build quality matters, as does the physical properties of the assembled cable. Above all, there is the skill of the designer.

Impedance matching

Some cable makers speak of impedance and matching, generally on the basis that a matched cable is terminated with its 'characteristic impedance', conferring a... (continued)