

# TARA LABS

## DIGITAL SERIES



The digital bit-stream is a complex series pulses in a simple on or off (called binary) code. These impulses, in the correct sequence, can be used to reproduce simple or very complex sounds. For example, a single sine wave such as a 200 cycle (200 Hz) sine wave.

Mathematically speaking, a square wave is an infinite series of sine waves at all of the odd harmonics of the fundamental. Example: A 200 Hz square wave is composed of sine waves at 200 Hz, 600 Hz, 1,000Hz, 1,400 Hz, 1,800 Hz, etc. Only the correct series of sine waves can correctly create a 200 Hz square wave.

Hundreds of higher-order harmonics are required to reproduce the correct harmonic structure of a musical note without distortion.

In the digital world, a square wave can be thought of as a 'group' or 'packet' of digital impulses that will make a musical note. And multiple packets of digital impulses are able to reproduce the combination of sounds that we call music. Why do Digital cables sound different or possibly better? The most significant reason for the different sound in digital recording and playback systems is the phenomenon of 'errors'. The most widely known error is called 'jitter'. Jitter can be thought of as a timing error or a distortion of the digital bit-stream within the digital send and receive components and the digital interconnect cable. The timing errors (digital jitter) can be reduced by using better quality cable with superior shielding to reject interference within the cable.

TARA Labs has a wide range of digital cables available. Beginning with our entry level TL 2D, up through our Grand Master Evolution digital cables, There are eleven different models available. The construction of our digital cables includes numerous proprietary materials including our SAOF8N copper conductors.

It is the geometry as well as the materials we use during construction that has a vastly improved the performance of our digital cables over our competitors due partly to how our cables handle and relate to a phenomenon known as "jitter"

Jitter explains why Digital cables sound different from one to another. The most significant reason for the different sound in digital recording and playback systems is the phenomenon of 'errors'. The most widely known error is called 'jitter'. Jitter can be thought of as a timing error or a distortion of the digital bit-stream within the digital send and receive components and the digital interconnect cable. The timing errors (digital jitter) can be reduced by using better quality cable with superior shielding to reject interference within the cable.

TARA Labs digital cable notes: The TARA Labs Grand Master Evolution Digital Interconnect uses a pair of RSC® Gen 3 Rectangular Solid Core® conductors. In the AES/EBU format, the conductors are critically spaced to ensure an exacting 110 Ohm characteristic impedance; this is the AES/EBU format used with XLR connectors. The RSC Gen 3 conductors are smaller than the Gen 2 version, and this provides a more extended bandwidth for the digital signal. The TARA Labs Grandmaster Evolution Interconnect uses a system of woven filaments constructed from small Teflon tubes, to expand and displace the shield further away from the signal carrying conductors. In this way, the Grandmaster Evolution Digital Interconnect is able to completely reduce digital distortion.