

## AUDIO CABLES



Tributaries complete line of audio, speaker and power cables were developed exclusively for Tributaries by celebrated cable designer Jay Victor. Using some of the same design principles from Clarus Audiophile cables, it took 3 years to complete the engineering and cosmetic design to offer this comprehensive family of cables to the market.

Tributaries cables incorporate a host of patented technologies. Beginning with copper made specifically for audio applications; conductors are multi-gauge in design with individually insulated strands and precision impedances. The Tributaries collection is complemented by painstakingly meticulous hand-craftsmanship.

#### Copper

One of the most important considerations in developing audio cables is the grade of copper. Typical high quality electrical grade copper has a purity level of 2N and approximately 1500 crystal per foot. Signals crossing thru these crystal boundaries result in loss and distortion. The next level above this is oxygenfree copper (OFC), the purity of OFC varies. Tributaries uses 2 grades: 3N OFC and a high-conductivity oxygen-free copper (HC-OFC) with 4N of purity. Both are extruded in an oxygen free environment resulting in only 400 crystals per foot. Series 8 cables use copper with purity of 5N called "linear-crystal" copper (LC-OFC). LC-OFC is carefully drawn to produce only 70 crystals per foot, a vast improvement resulting in less loss and distortion.



#### The Expert in Cable Design

Jay Victor, The engineer behind the development of the Tributaries Audio, Power and Speaker Cables, is a holder of approximately 50 patents for cable geometry. "I am a musician and a life-long music fanatic. Being a technically-minded person, and an Engineer, it is inevitable that Hi-Fi equipment would become a major preoccupation. If music is a major value in your life, then the realistic reproduction of it becomes an obsession. This is what goes into the cables that I design; a relentless pursuit of perfection in reproducing the sound of real music."

#### **Insulated Multi-Gauge Conductors**

Tributaries uses solid conductors in its audio cable design. Although stranded cables are valued for their flexibility, the signal can jump from strand to strand in an undesirable manner causing distortion. Another undesirable effect is oxidation which can quickly spread between strands and cause a diode effect impeding signal flow. Conductor size also has an influence on sound. Large conductors transmit signals with less resistance than smaller ones and will also more accurately reproduce the lower frequencies; medium gauge conductors, the midfrequencies; and fine gauge conductors the high frequencies. Most theories cite skin effect and flux density as reasons for this phenomenon. Further, insulating gauges from one another result in greater clarity.

#### **Cable Geometry**

Tributaries audio cables use a twinaxial design. Twinaxial cables have two equally balanced conductors precision twisted and surrounded by a shield. Conductors are insulated using Polyethylene. Polyethylene is chosen because its transparency is similar to Teflon but without the harshness in the high frequencies. Polyethylene is flexible and has a sound quality that is warm and balanced. The shields have 360° coverage to keep noise from entering the signal path. Series 6 and 8 cables include copper braided shields with lower resistance for trapping induced noise current. In this design the signal and return have dedicated separate conductors and the shield is free to be connected at the source end only eliminating EMI & RFI induced noise from entering the receiver. The best balanced cables are triple balanced with three equally balanced twisted conductors surrounded by a shield. In a balanced system using dedicated conductors for the positive, negative and ground with an additional shield connected only at the source end delivers audible improvements by lowering the noise allowing you will hear more of the recorded music



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Toslink was originally designed by Toshiba in 1983 to connect their CD players to receivers. This hot pluggable connector delivers a digital audio bit stream of uncompressed two channel PCM audio or compressed 5.1/7.1 surround sound but does not have the bandwidth to carry the lossless versions of Dolby TrueHD or DTS-HD audio. Fiber optic cables can temporarily stop working or become damaged if bent tightly. Toslink Fiber is chosen over digital coax because it is immune to ground loops and Radio Frequency Interference (RFI). Tributaries Series 4 Fiber Optic cables are sold in each.





#### **SERIES 4 FIBER OPTIC CABLE**

### MODEL: 4AO

High Performance Audio cable

Tributaries Series 4 Fiber Optic cables are single mode plastic optical fiber made from 1mm crystal-clear fiber cores surrounded by a highly reflective cladding and a protective jacket. The cladding and jacket are applied in concentric layers during the drawing process to prevent damage to the fiber that may occur during a 2 step process. The constant thickness improves losses due to attenuation. The 4AO has highly polished termination ends that resemble the convex look of a camera lens to ensure maximum signal transfer. This procedure ensures less than 0.1dB loss at each termination

The Series 4 Fiber Optic Audio cable is stocked in each in lagnths of 1/2 meter to 10 meter.

#### **Model 4AO Highlights**

Made in China. Designed, Tested and Packaged in Orlando Florida, USA.

Machine Polished convex lenses

1mm single-core plastic optical fiber

High reflective polyethylene cladding

Toslink® SJ15 connector with molded cover

Decorative woven jacet over higly flexible black PVC jacket

Available in 1/2 meter to 10 meter length

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