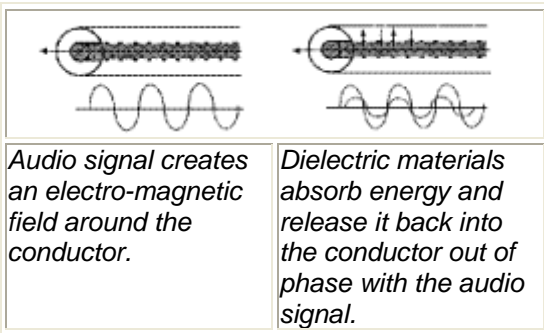


Glossary of Terms

Aero-PE[®]

Aero-PE[®] is also known as Aerospace Polyethylene[™]. It is a proprietary dielectric material developed by TARA Labs and used as the primary insulation for the conductors in most TARA Labs cables. This material is chemically treated to have low dielectric absorption and low dielectric loss. It reacts less with the signal in the conductor, making it more sonically neutral than other materials. Aero-PE is also extruded at a lower temperature than other insulating materials. Copper conductors insulated with Aero-PE are not exposed to high heat and therefore retain their specially annealed qualities. Dielectric materials sound different because of the different rates that the materials store and release energy at different frequencies. PVC, a common dielectric material, causes distortion and coloration mostly audible in the mid-bass and mid-range frequencies, whereas Teflon[®] causes distortion in the upper treble frequencies, making coloration less noticeable.



Air-tube[™] Technology

TARA Labs Air-tube[™] Technology emerged from our determination to minimize dielectric content of cables and eliminate coloration. Featured in all RSC Air[®] audio cables, Air-tube[™] Technology is used to suspend conductors inside Teflon[®] tubes to prevent the adverse sonic effects caused by typical dielectric material, such as fiber or PVC. These materials absorb energy and release it back into the conductor out of phase with the audio signal, causing distortion and coloration in the highly audible mid-bass and mid-range frequencies. By removing dielectric materials that cause distortion and coloration, Air-tube[™] Technology allows listeners to easily experience neutrality, transparency and a wonderfully detailed, spacious soundstage.



Partial view of the air-tube[™] and a single RSC[®] conductor

Banana Plug

Type of connector commonly used on speaker cables.



BFA Adaptor

Used to connect a BFA (British Federation of Audio) plug to a TARA Labs BSM (Banana/Spade Module).



Bi-Wirable, Bi-Wire, Bi-Wired, Bi-Wiring

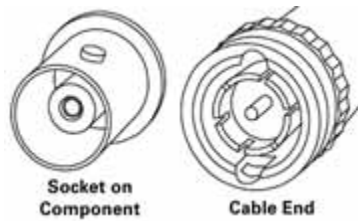
Refers to speakers that split the audio signal into two ranges: High-frequency and Low-frequency. These speakers have two pairs (four total) of speaker cable terminals, instead of the two terminals found on regular speakers. Bi-wiring provides the sonic advantage of physically separating high and low frequency runs, which results in improved high-frequency detail and integration of spatial cues.

Bi-wirable speakers can be connected either with two separate runs of regular speaker cable, or one run of speaker cable configured as "single run bi-wire." Bi-wire cables, such as TARA Labs' Prism Bi-Wire or RSC[®] Bi-Wire speaker cables, have all necessary conductor runs contained within the same outer jacket. They provide the four connections necessary for bi-wirable speakers in a more convenient and attractive form.

Although bi-wiring results in improved definition, further improvement in the soundstage can be gained by TARA Labs' unique range of bi-wire cables: RSC[®] 1800, RSC[®] Reference Bi-Wire, ISM Bi-Wire The 2[™] and ISM Bi-Wire The One[™]. In these very special cables, the bass conductors, positive and negative, are separately shielded to avoid electromagnetic radiation from the bass conductors affecting the high frequency conductors. This results in a very noticeable improvement in the smoothness of the entire sound field, producing a more coherent and involving sound.

BNC

Type of connector used on digital cables and video cables.



BSM (Banana/Spade Module)

Banana/Spade module. BSM's are a speaker cable termination which is used with TARA Labs' RSC[®] speaker cables. BSM's accept either a banana or a spade terminal. Male/female threads on the BSMs and the connectors allow a simple change between bananas, spades and pins. All of TARA Labs factory terminated speaker cables from RSC[®] Prime speaker cable and up have the added Banana/Spade Module included as standard termination. Specify banana, spade or pin where necessary.



Quad BSM Module



Dual BSM Module



Single BSM Module



1/4" BSM Spades

Ceralex™

A ceramic composite material developed for TARA Labs for the absorption of harmful RFI (Radio Frequency Interference) and EMI (Electro Magnetic Interference). Ceralex™ components eliminate the effects of RF/EMI, which include sonic distortion, noise, "snow," and lack of image clarity. You will find Ceralex™ on ISM Onboard The One™ and The Zero™ product lines.

Characteristic impedance

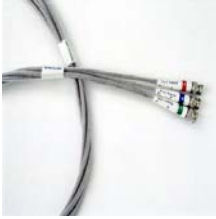
A measurement in co-axial cables determined by physical relationships between center conductor and shield.

CL-3 rating

Refers to class 3 cables power-limited with a 300 volt rating. Laws or codes requiring use vary by state, but most require that any cables installed inside a wall be CL-3 rated.

Component Video Connection

A video signal split into 3 parts: luminance and two color signals (technically known as Y, B-Y, R-Y). Superior to S-video connection.



Composite Video Connection

The most common type of video connection. A composite video cable is a coaxial cable (such as the one used for most cable TV connections) with an RCA connector at each end. Composite video cables carry all color and sync functions in a single cable. Better quality alternatives are S-Video, Component Video or RGB connections.

Conductor

The part of the cable along which the signal travels. TARA Labs uses only the purest copper in our products. Most of our cables are constructed with SA-OF8N™ copper (Super-Annealed Oxygen free eight nines copper™). TARA Labs conductors are Pressure-Stranded™, Solid core or Rectangular Solid Core®.

Dielectric

Insulating materials exposed to electric fields are called "dielectrics." Dielectrics are necessary parts in the construction of any cable because they prevent oxidation and keep the conductors from touching one another. In audio cables, relatively low voltage and current levels mean that dielectric strength is not the most important factor. Far more significant in its effect on the sound is a material's dielectric absorption. This characteristic describes the way a dielectric may discharge a secondary signal into the conductor out of phase with the audio signal. As a current is passed through a conductor, an electromagnetic wave is generated which interacts with the electrostatic field between the conductors and the shield. This interaction takes place within the dielectric material and temporarily displaces the molecular structure. If the dielectric material has good elasticity and can return quickly to its normal state, then the material is said to have low dielectric loss and will have little audible effect on the signal.

Digital

Information represented by a sequence of ones and zeros. In digital transmission, analog signals are converted to signals of zeros or ones to be transmitted to a receiving site, interpreted, and used to reconstruct the original analog signal.

Fiber Optic Cable

See Optical Cable

Floating Ground Station®

The final link in the chain of the Isolated Shield Matrix, the Floating Ground Station®, is perhaps the most important. It is the most effective device ever conceived for the isolation and grounding of RFI (Radio Frequency Interference) because it functions completely outside of the signal path. Its function is to absorb RFI energy in the Isolated Floating Shield of the ISM cables independent of the system or any components of a system.

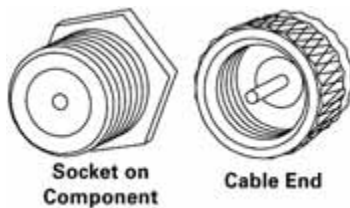
Inside the Floating Ground Station are Ceralex™ components. Ceralex is a ceramic composite compound for the absorption and grounding of RFI and EMI. This compound is comprised of metallic oxides and a specific amalgam of mineral elements in a ceramic binder.



Zero Cable with the Floating Ground Station®

F-Type Connector

Type of connector sometimes used on video cables. Commonly used for Cable TV hook-up for RF video cables, such as antenna to TV/cable box, etc.



GMI (Glass Microsphere Infusion)

Microscopic glass spheres are mixed with the aerospace polyethylene to lower the dielectric absorption of the polymer, resulting in a more neutral and transparent sound.

Insulation

Insulation materials are necessary in the construction of any cable because they prevent oxidation of the conductors and keep the conductors from touching one another. An insulation material that is coated directly onto the conductor is generally referred to as the primary insulation or dielectric. Dielectric is the name given to the material or materials that are between the conductors or different polarity (+/-), and/or the conductor (+) and the shield (-) in the cable.

Interconnect

A cable used to connect together, either audio, video, digital or subwoofer connections.

ISM Onboard Capsule™

ISM stands for Isolated Shield Matrix[®], an advance in the technology that was applied in the design of The One™ and The 2™. The ISM OnBoard™ cables employ a capsule that is fitted directly to the cable. The ISM OnBoard Capsule™ enables more effective control over RFI, as well as offering the advantages of a sleeker, more compact design and ease of connection.



Lumen

The technical name for the internal gallery(ies) within the TARA Labs air-tube™ used in the RSC Air[®] series cables. A lumen is the gallery or artery alongside the inner wall of the air-tube™, specially sized to hold the conductor in place.

L/R Channels (Left and Right Channels)

The most common type of connection for carrying the audio signal from one component to the next. The audio signal is split into a Left and Right channel and carried by cables terminated with RCA or XLR connectors.

Multiple Solid Core Conductor Group

Refers to a conductor that is made up of multiple solid-core conductors grouped together without insulation. Multiple conductors grouped together in this way will act as a single conductor, thereby increasing the current-carrying capability. However, depending on the configuration of the conductors within the group, this may be achieved with very little loss of high-frequency information. See "Trio Design™."

Optical (Fiber Optic) Cable

Many components have a type of digital input or output in which the digital signal has been converted to modulated light. This light is carried from one component to another via a fiber-optic cable. The signal is then extracted in a reverse of the transmission. This method is immune to RF interference, and it will not cause hum loops. However, the quality of the electronic circuitry that converts signal to light and vice versa may affect the resulting sound.

Pin Connector

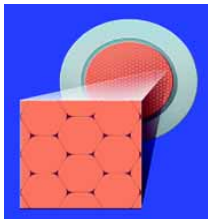
Type of connector used on speaker cables for use with amplifiers or speakers having spring-clip type terminals.

Polymethylmethacrylate

A rigid plastic with a high degree of transparency used in fiber optic cables as a signal carrying element.

Pressure-Stranded™

A proprietary technology introduced by TARA Labs that improves upon the performance and durability of typical stranded conductors. In typical stranded conductors, many strands of copper are bundled together to form a single conductor. The loose bundling results in air space between the strands. These air spaces will quickly produce points of oxidation, where the electrical AC signal can be modified and distorted. TARA Labs' Pressure-Stranded™ conductors begin with soft annealed strands that are twisted together under tremendous force. The pressure results in more intimate contact between strands and elimination of the air spaces that cause oxidation. Pressure-Stranded™ conductors deliver a cleaner, clearer signal. Because they are not subject to oxidation, Pressure-Stranded™ conductors will perform better over time than typical stranded conductors, which will continue to oxidize, degrading signal transmission over the life of the cable.



Pressure-Fit™ RCA Connector

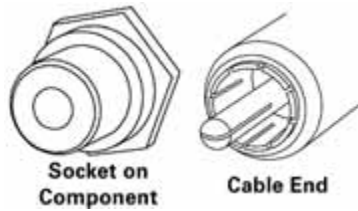
High contact pressure RCA plug. These connectors are available when you purchase bulk cable. They come in a variety of sizes depending on your application needs.

PTFE (Polytetrafluoroethylene)

PTFE is the technically correct name for the polymer that is commonly referred to as Teflon®. Products fabricated from PTFE are unaffected by nearly all chemicals and feature superior electrical properties. These products, some of which are rated for continuous service at 260°C (500°F), also provide exceptional low-temperature toughness, plus unique adhesion and are flame resistance. In the field of audio and video electronics, PTFE is widely recognized for its high quality performance due to low dielectric loss resulting in more neutral sound qualities. TARA Labs uses PTFE for its many of its cable products, and the unique TARA Labs' air-tube™ is made from PTFE material.

RCA Connector

Type of connector commonly used on audio cables, video cables, digital cables and subwoofer cables.



Rectangular Solid Core®

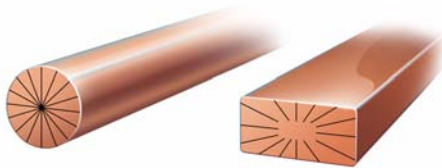
A solid, extruded conductor with a rectangular cross section. This technology is exclusive to TARA Labs.

Rectangular Solid Core® interconnects and speaker cables have become the reference standard for reviewers and serious audiophiles the world over due to their extremely accurate, neutral and frequency linear performance.

To understand the principle behind RSC® technology, it's necessary to understand a phenomenon known as the "Skin Effect". This principle states that in a round conductor higher frequencies will tend to travel towards the outside (or skin) of the conductor, while lower frequencies tend to be concentrated at the center of the conductor. The larger the diameter of a round conductor, the worse the effect will be, resulting in a significant roll-off of high frequencies in large gauge conductors.

Because of its rectangular cross section, an RSC conductor essentially has no center like a round conductor. Therefore it does not suffer the same high-frequency losses. It is the only conductor that is able to combine high current-carrying capability with extreme frequency linearity across the musical spectrum.

There are 2 types of RSC® Conductors; RSC® Gen 1 and RSC® Gen 2. The RSC® Gen 1 conductor is the original RSC® conductor and is now used in the RSC® Prime Series speaker cables only. RSC® Gen 1 is larger than RSC® Gen 2; RSC® Gen 1 is equivalent to a 17AWG conductor and RSC® Gen 2 is equivalent to a 22 AWG conductor. The RSC® Gen 2 conductor is used in all of the RSC® interconnect cables and all of the RSC® Air Series, ISM™ Series and the Omega™ speaker cables.



Round Solid Core and Rectangular Solid Core Conductors

RSC Air®

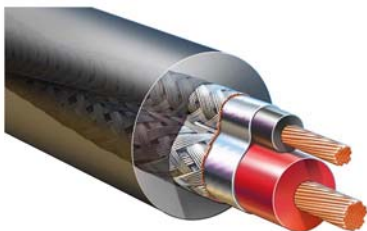
RSC Air® audio cables in which Rectangular Solid Core® conductors are suspended within a Teflon® Air-tube. (See Air-tube™ Technology.) There are also a range of RSC Air® speaker cables in which the RSC conductors are helixed around Teflon® Air-tubes.

SA-OF8N[®] Copper

Super Annealed Oxygen Free Eight Nines Copper (SA-OF8N[®]) is the new standard in high-performance copper purity. Variances in copper purity will result in audible differences. It is generally accepted that a purer, more conductive material can be more accurate and revealing than a material that is less conductive. TARA Labs' proprietary annealing process, known as Super Annealing (SA), along with Oxygen Free Eight Nines Copper (99.999999% pure) creates a unique, long, unbroken crystal structure called a "Monocrystal™" which has exquisitely smooth and detailed transfer of frequencies over a very wide bandwidth. Additionally, this new "Monocrystal™" eliminates the high-frequency distortion caused by the junctions or breaks between crystals in typical copper conductors. Acting like diodes, those junctions between crystals in normal copper would alter the flow of high-frequency AC, causing audible distortion.

Shielding

Shielding is used to protect the signal conductors from RFI and EMI. Braided shield is good for EMI, and foil for RFI. Combinations (foil and braid) are used for long runs for RF cables. TARA Labs exclusive Parallel Shielding System was formulated to "common" any electrical potential (EMI interference voltages) between shields in RSC[®] Gen 2 and RSC Air[®] audio cables. Our parallel shields connected together act as a 'star-ground' for the shields and the RFI/EMI radiation. By commoning the electrical potential in the shields, a better 3-dimensional reproduction of the soundstage is achieved due to both channels having the same level of reduced background noise. Example: Depending on the design topology within any component, the power supply devices and transformer may concentrate radiation more toward one channel of the internal wiring or interconnect pair. If there is no shielding, RFI would be modulated with the audio signal, often making the high frequencies sound bright or grainy. When shielding is used this sonic distortion is reduced. Further, when the shields are commoned, the left and right channels' bandwidth and EMI interference effects are far more equal channel to channel. The result is better imaging, spatial cues and a naturally quiet background.



Prism 300a cross sectional drawing showing polyethylene insulation, foil shield and braided shield wrapped around the Copper Conductors. The outer jacket is made of anti-static polymer.

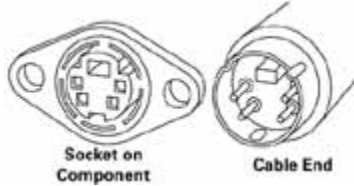
Super-Annealing

The Super-Annealing process was developed by TARA Labs to improve the conductor's ability to increase conductivity and to deliver a more neutral and transparent signal than ever before. Even the small differences in conductivity create audible differences in sound quality. Super-Annealing is a specialized metallurgical treatment that purifies and softens a conductor's structure to lower its specific resistivity and dramatically increase the length and size of crystals in copper conductors.

The Super-Annealing process is performed in an oxygen-free environment to create an ultra-pure conductor with long-grain copper crystals. Traditional copper conductors are composed of much smaller crystals. The multiple breaks or junctions between these smaller crystals cause increased noise due to the diode effect of these junctions. They alter the flow of electrical signals and cause distortion.

S-Video Connector

Also known as “Super VHS.” The S-Video signal is carried by two separately shielded conductors within a single jacket. The signal is split into chrominance (color) and luminance (brightness) information. S-Video generally provides a sharper, brighter picture with better color saturation than composite video.



SVPE™ (Stable Valence Polyethylene)

SVPE™ is a chemically modified PE polymer with UV resistant additives to ensure low dielectric loss. Named for its unique ability to make a stronger and more stable polyethylene polymer, SVPE™ is a cost-effective polymer used as the primary dielectric in many of the entry-level TARA Labs cable products.

Teflon®

Teflon® is a registered trademark of DuPont Industries for its PTFE polymer. This polymer, or plastic material, is widely recognized as the least reactive dielectric material currently in use. Insulating materials exposed to electric fields are called "dielectrics." Fiber and PVC, common dielectrics, cause audible distortion and coloration. When used within the construction of an advanced cable design, Teflon® has a low dielectric absorption and low dielectric loss that provide a sonically neutral signal.

Torque-Lock™ RCA

Proprietary high contact locking RCA plug design to securely connect your RCA plugs to RCA terminals.

Trio-Design™

Refers to a multi solid-core conductor made up of three round conductors arranged in a trio, with no primary insulation between them. This unique design is used in Prism Series speaker cables. These cables have lower inductance than typical stranded or solid-core cables of the same gauge. Most conductors of a large gauge will roll off high frequencies due to the concentration of electromagnetic flux at the center of the conductor (see “Skin Effect”). Trio Design conductors have a space at the center, thereby reducing electromagnetic flux and the resultant roll-off of high frequencies.

Vacuum dielectric

Vacuum dielectric is the type of dielectric used in TARA Labs' state-of-the-art audio cable, The Zero™. The Zero™ uses an extruded Teflon® air-tube (see air-tube™) to suspend the un-insulated RSC® conductors. Air within the tube is then removed; creating a vacuum that surrounds the conductors.

A vacuum is the most effective dielectric environment possible, due to its lack of dielectric loss (see “Dielectric.”)

VGA connector

Also known as HD15. A type of video cable connection using a 15-pin plug similar to those used in computer connectors.



XLR Connector (Balanced)

Type of connector used in balanced audio interconnects. Also used in AES/EBU digital interconnects, which are balanced and have a characteristic impedance of 110 ohm.

