

# Specifications

<b>Environment</b>	Unbalanced line-level analog audio.
<b>Devices</b>	DVD players, audio receivers, audio amplifiers and audio mixers, audio matrix switchers and other unbalanced line-level audio equipment.
<b>Transmission</b>	Transparent to the user
<b>Bandwidth</b>	20 Hz to 20 kHz
<b>Peripherals' Impedance</b>	Source 100 $\Omega$ Mx, Receiver 10 k $\Omega$ min.
<b>Insertion Loss</b>	Less than 2 dB per pair over the frequency range
<b>Common Mode Rejection Ratio</b>	Greater than 60 dB at 1 kHz
<b>THD</b>	Less than 0.007% @ 1 kHz
<b>Maximum Input Level</b>	1.1 Vp-p
<b>Impedance Transformation Ratio</b>	Single unit: 4:1 (source: line)
<b>Cable: Cat 5E UTP/STP</b>	24 AWG or lower solid copper twisted pair wire Impedance: 100 ohms at 1 MHz Maximum capacitance: 20 pF/ft Attenuation: 6.6 dB/1,000 ft at 1 MHz
<b>Unbalanced In/ Out Cable</b>	Shielded, coaxial
<b>Ground Loop Isolation</b>	Range of +/-50VDC
<b>Connectors</b>	Four (4) RCA receptacles for audio, one (1) RJ45 jack
<b>Pin Configuration</b>	Audio 1: Pins 7(R) & 8(T) Audio 2: Pins 3(R) & 6(T) Audio 3: Pins 4(R) & 5(T) Audio 4: Pins 1(R) & 2(T)
<b>Max. Distance: Cat 5E/6 UTP/STP</b>	3250 ft (1 km)
<b>Temperature</b>	Operating: 0° to 55°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing
<b>Enclosure</b>	Fire retardant plastic
<b>Weight</b>	3.6 oz (103 g)
<b>Dimensions</b>	2.40" x 2.25" x 1.00" (6.10 x 5.72 x 2.54 cm)
<b>Warranty</b>	Lifetime
<b>Order Information</b>	500033 Quad Audio Balun



## Quad Audio Balun

**500033**

## Quick Installation Guide

### Overview

The Quad Audio Balun allows up to four (4) analog line audio signals to be transmitted via an unshielded twisted pair (UTP) cable in a point-to-point connection. Used in pairs, the Quad Audio Balun eliminates up to four (4) coaxial cables, allowing audio-video equipment to be connected via a space-efficient and cost-effective Category 5E/6 twisted pair cable and supports Hi-Fi audio signal transmission. The Quad Audio Balun also works in conjunction with other MuxLab analog audio baluns such as the 500019.



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## Installation

One (1) pair of baluns supports four (4) mono unbalanced analog audio channels or two (2) stereo audio channels via a Cat 5E/6 twisted pair. To install the baluns, perform the following steps:

1. Identify the pin configuration of the baluns. Four (4) twisted pairs are required if all four (4) signals are transmitted. The pin configuration follows the EIA/TIA 568A/B standard. The Quad Audio Balun is reverse polarity sensitive. Please ensure that wiring is straight-through (Ring to Ring, Tip to Tip).
2. At the audio source end, connect a Quad Audio Balun to the audio output using the appropriate number of RCA cables.
3. At the audio receiver end, connect a Quad Audio Balun to the audio input using the appropriate number of RCA cables.
4. Complete the connection between the two baluns, using standard Cat 5E/6 twisted pair cable and connecting hardware, terminated on RJ45 plugs at both ends. Ensure that there are no split pairs or taps.
5. Power-on the audio equipment. Check the sound quality and refer to the troubleshooting table below if the sound quality is unsatisfactory. The following diagram shows a typical installation.

## Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in respect to the installation of the Quad Audio Balun:

Symptom	Probable Cause	Possible Solutions
Poor Quality Audio	EMI interference	Check that wiring is not too close to transformers and ballasts.
	Split pair	Check if the UTP pairs are split and correct. Each signal pair must be twisted.
No Audio	Power-off	Check power supply.
	Open contact	Check wiring to ensure continuity.
	Defective Audio Balun	Change Audio Baluns for another pair.
Weak Audio	Distance exceeds specs	Check DC loop resistance and verify if distance spec is exceeded. Reduce cable length or eliminate high-loss components.
	Lower grade UTP cable is introducing high signal losses.	Use signal repeater for extended distance. Replace cable by higher grade.

If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).