

# Specifications

<b>Environment</b>	Line level unbalanced analogue audio
<b>Devices</b>	DVD players, satellite receivers, MPEG players, laptops, hi-fidelity stereo audio amplifiers, audio switchers, AV monitors and other line level audio equipment.
<b>Transmission</b>	Transparent to the user.
<b>3dB Bandwidth</b>	20 Hz to 20 KHz over the distance range.
<b>Maximum Input</b>	1.1Vp-p (unbalanced)
<b>Insertion Loss per balun pair</b>	Less than 2 dB over the frequency range.
<b>Common Mode Rejection</b>	Greater than 60 dB @ 1 KHz Greater than 40 dB over the frequency range.
<b>THD</b>	Less than 0.007% @ 1KHz
<b>Audio Source Impedance</b>	100 ohms maximum
<b>Audio Receiver Impedance</b>	10 k ohms minimum
<b>Max. Distance – Cat 5 UTP</b>	3,250 ft (1 km)
<b>Pin Configuration (RJ45)</b>	Audio 1 (White): pins 1[R] & 2 [T] Audio 2 (Red): pins 3 [R] & 6 [T]
<b>Cable – UTP</b>	24AWG or lower solid copper twisted pair wire Impedance: 100 ohms at 1 MHz; Maximum capacitance: 20 pf/foot. Attenuation: 6.6 dB/1000 ft at 1 MHz
<b>Cable - Coax</b>	Shielded audio cable.
<b>Connectors</b>	500028: Two (2) RCA-M 6" cable leads 500028-F: Two (2) RCA jacks One (1) RJ45
<b>Temperature</b>	Operating: 0° to 55° C. Storage: -20° to 85° C. Humidity: up to 95%
<b>Enclosure</b>	ABS. Fire retardant plastic
<b>Dimensions</b>	2.40" x 2.25" x 1.00" plus 6" audio lead
<b>Weight</b>	3.1 oz (89 gms)
<b>Warranty</b>	Lifetime
<b>Order Information</b>	500028 Stereo Hi-Fi Balun, M 500028-2PK Stereo Hi-Fi Balun, M, 2-Pack 500028-F Stereo Hi-Fi Balun, F 500028-F-2PK Stereo Hi-Fi Balun, F, 2-Pack



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## Stereo Hi-Fi Balun (500028 & 500028-F) Quick Installation Guide

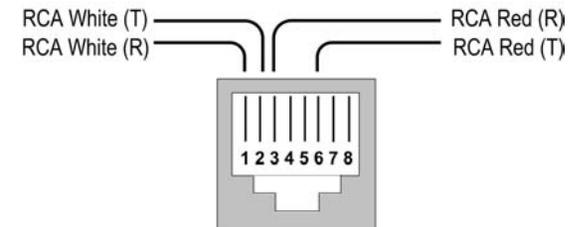
### Introduction

The Stereo Hi-Fi Balun (500028, 500028-F) allows unbalanced line level stereo audio to be transmitted up to 5,000 ft (1.5km) via unshielded copper twisted pair (UTP) in a point-to-point connection. Used in pairs, the product is designed for high fidelity applications where full audio bandwidth (20Hz to 20 KHz) is required. Used in pairs, the Stereo Hi-Fi Balun eliminates costly and bulky audio cable, allowing audio equipment to be connected or moved within a structured cabling environment. Applications include; audio distribution, high-fidelity sound systems, custom residential audio systems.

### Installation

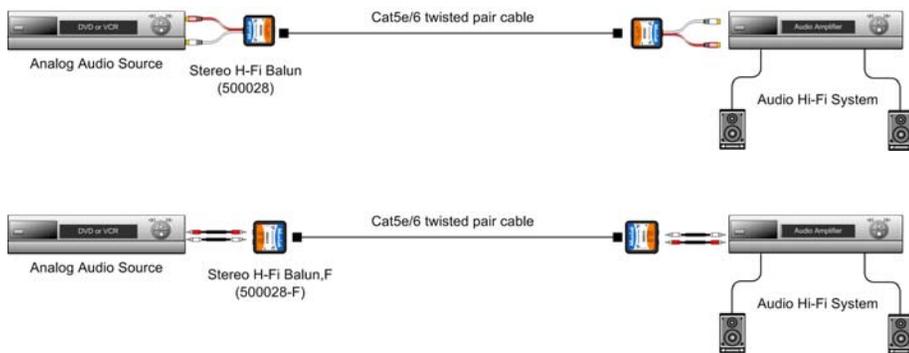
To install the Stereo Hi-Fi Baluns, perform the following steps:

1. One pair of Stereo Hi-Fi Baluns is required for each stereo channel.
2. Identify the pin configuration of the baluns. Two (2) twisted pairs are required as shown in the following diagram.



**Note:** The Stereo Hi-Fi Balun is phase polarity sensitive. Therefore, in order to achieve full stereo audio quality, please ensure that the wiring is straight-through and according to EIA568 (A or B) standard.

3. Verify the colors of the RCA plugs and connect one (1) Stereo Hi-Fi Balun to the left-audio and right-audio RCA connectors of the audio source.
4. Verify the colors of the RCA plugs and connect a second Stereo Hi-Fi Balun to the left-audio and right-audio RCA connectors of the audio receiver at the remote end.
5. Complete the connection between the two (2) baluns, using standard UTP cable, connector blocks and appropriate modular RJ45 outlets.
6. Power-on the audio equipment and check the audio quality. The audio should be clear within the maximum specified distances. The following diagram shows a typical configuration.
7. The female version requires respective RCA type audio cables (not included)



## Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in respect to the installation of the Stereo Hi-Fi Balun. If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or 514-905-0588 (International).

Symptom	Probable Causes	Possible Solutions
Poor audio quality	EMI interference.	Check that wiring is not too close to transformers and ballasts.
	Split pair	Ensure that the UTP pairs are not split and that each pair of wires is twisted.
No audio	No power	Check your audio system for power.
	Open circuit	Check wiring to ensure continuity
	Defective balun	Change Stereo Hi-Fi Baluns for another pair.
Audio phase cancellation	Reversed wires	Check for straight-through wiring.
Audio weak	Distance specifications exceeded	Check DC loop resistance and verify if distance spec is exceeded. Reduce cable length or eliminate high-loss components.