

# 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>3 dB Bandwidth</b>	20 Hz to 20 kHz over the distance range
<b>Maximum Input</b>	1.1 Vp-p
<b>Insertion Loss per Balun Pair</b>	Less than 2 dB over the frequency range
<b>Common Mode Rejection Ratio (CMRR)</b>	Greater than 60 dB at 1 kHz Greater than 40 dB over the frequency range
<b>THD</b>	Less than 0.007% at 1 kHz
<b>Audio Source Impedance</b>	100 ohm maximum
<b>Audio Receiver Impedance</b>	10 kohm minimum
<b>Max. Distance via Cat 5E/6 UTP/STP Cable</b>	3,250 ft (1.0 km)
<b>Pin Configuration (RJ45)</b>	Audio 1 (White): Pins 1(R) & 2(T) Audio 2 (Red): Pins 3(R) & 6 (T)
<b>Cable: Cat 5E/6 UTP/STP</b>	24 AWG or lower solid copper twisted pair wire Impedance: 100 ohm at 1 MHz Maximum capacitance: 20 pf/ft Attenuation: 6.6 dB/1,000 ft at 1 MHz
<b>Cable: Coax</b>	Shielded audio cable
<b>Connectors</b>	Two (2) RCA-F One (1) RJ45
<b>Temperature</b>	Operating: 0° to 55°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing
<b>Enclosure</b>	ABS. Fire retardant plastic
<b>Dimensions</b>	4.1" (104 mm) x 1.8" (45.7 mm) x 1.44" (36.6 mm). Choose 1.6" (40 mm) deep back box to allow for Cat 5E/6 wiring connection.
<b>Weight</b>	2.9 oz. (82 g)
<b>Warranty</b>	Lifetime
<b>Order Information</b>	500028-WP-US Stereo Hi-Fi AudioWall Plate Balun UPC: 6-27699-92028-2

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## Stereo Hi-Fi Audio Wall Balun 500028-WP-US

### Quick Installation Guide

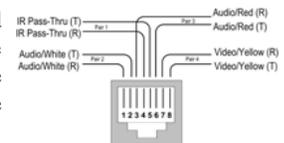
#### Overview

The Stereo Hi-Fi Audio Wall Balun (500028-WP-US) allows unbalanced line level stereo audio to be transmitted up to 3,250 ft (1.0 km) via an unshielded copper twisted pair (UTP) cable in a point-to-point connection. Used in pairs, or in conjunction with the 500028, the product is designed for high fidelity applications where full audio bandwidth (20 Hz to 20 kHz) is required. Used in pairs, the Stereo Hi-Fi Audio Wall Balun eliminates costly and bulky audio cables, allowing audio equipment to be connected or moved within a structured cabling environment. Applications include; Audio distribution, high-fidelity sound systems, and custom residential audio systems.

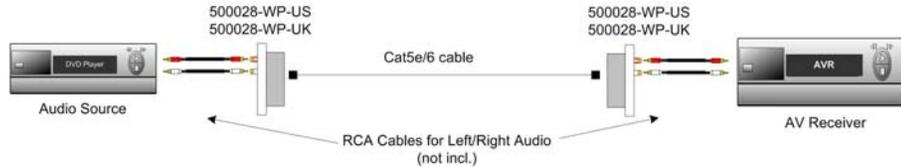
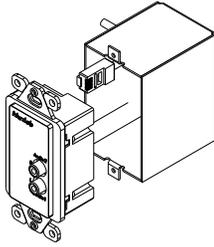
#### Installation

One (1) pair of baluns is needed to complete one stereo hi-fi audio connection via Cat 5E/6 twisted pair. To install the baluns, perform the following steps:

1. Identify the pin configuration of the baluns. Two (2) twisted pairs are required as shown in the diagram to the right. The pin configuration follows the EIA/TIA 568A/B standard. The Stereo Hi-Fi Balun is reverse polarity sensitive. Please ensure that wiring is straight-through (Ring to Ring, Tip to Tip).



2. To install the balun in a single back box, choose a back box with a depth of 40 mm or more. Connect the RJ45 plug into the rear of the balun. Secure the balun with the 2 front screws.
3. Place a Decora® faceplate (not included) and secure with the 2 front screws.
4. Plug one (1) balun into the stereo hi-fi audio output of the audio source according to the color code of the RCA connectors.
5. Plug the second balun into the stereo hi-fi audio input of the receiver at the remote end.
6. Complete the connection between the two baluns, using standard Cat 5E/6 twisted pair cable and connecting hardware, terminated by RJ45 plugs at both ends. Ensure that there are no split pairs or taps.
7. 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.



## Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in respect to the installation of the Stereo Hi-Fi Audio Balun. 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).

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/Video 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.

