



**~Introduction~**

Thank you for buying this GEM product.

BLN-AV2RCA is a passive type audio balun to allow you to send stereo audio or dual mono audio signal through CAT5/6 cable and requires no power. The transmission distance is about 2500 feet via a CAT6 cable.

**~Installation~**

*[Step 1] Cable preparation*

Run the CAT5 cable between your audio source and the output unit with proper length.

Assemble the RJ45 plug on CAT5 cable. Please refer to the following diagram (fig.1) of standard connection order carefully. Mistakes are easy to make at this point. Please make sure that the cores slide into the RJ45 plug with correct order and all cores go to the end of the plug before crimping. The crimp tool will press the brass pins in to the individual cores and lock the plug on to the cable.

*[Step 2] Connect BLN-AV2RCA to your system*

Put on the BLN-AV2RCA on both end of the prepared CAT5 cable with RJ45 plug.

Connect the audio source on one of the BLN-AV2RCA and connect the output unit (ie. speakers, amplifier etc.) on the other end.

**~Important Notice for Installation~**

1. The fig.2 shows the connection order for standard CAT5 cable with RJ45 plug.
2. Strip the cable with proper length (10mm) will make the connection stronger and the CAT5 cable will be locked by the RJ45 plug.

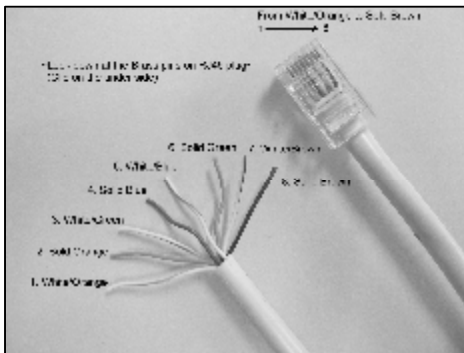


fig.1

Looking down at the brass pins on the RJ45 plug  
From Left to right:

Pin	Color of Core
1 (Left)	White/Orange
2	Solid Orange
3	White/Green
4	Solid Blue
5	White/Blue
6	Solid Green
7	White/Brown
8 (Right)	Solid Brown

fig.2



**~Trouble Shooting~**

*[No Sound]*

1. Audio source is not working or not power on. Please make sure the source is working normally.
2. The connection of CAT5 and RJ45 plug is not correct please re-check the connection order to standard.
3. The RJ45 plug has not been put on correctly, either with incorrect connection order or the cores are not far enough into the plug and not been crimped properly. Cut off the end again and re-crimp.
4. The cable is damaged or there is a short or open circuit on the wire, please replace the wire.

*[Poor Sound]*

1. Audio source is not working properly. Please make sure the source is working normally and sending good quality signal.
2. The RJ45 plug has not been put on correctly, either with incorrect connection order or the cores are not far enough into the plug and not been crimped properly. Cut off the end again and re-crimp.
3. Polarity incorrect with one balun being wired opposite to the other one, please re-wire.
4. Cable run too long. The picture will deteriorate if the cable run too long. 2500 feet is the maximum distance for a passive balun to be functioned through CAT6 cable

**~Specification~**

Cable-UTP: 24 gauge or lower solid copper twisted pair wire,  
Impedance: 100ohm at 1MHz  
Max. capacitance: 20pf/ft  
Attenuation: 6.6dB/1000ft at 1 MHz

Pin out: Left audio: pin 3 & 6 (pair 3)  
Right audio: pin 1 & 2 (pair 2)

Max. distance: 2,500 feet via CAT 6

Environment required: Operating temp. 0 to 55°C  
Storage temp. -22 to 85°C  
Humidity up to 95%

**~Electrical Characteristic and Performance~**

- Bandwidth: 10 to 50KHz +/- 3dB
- Impedance: 600 : 600 ohms, unbalanced to balanced
- Isolation: 500 V
- Nominal level: 1.0 volts
- Insertion loss: Max. 1dB
- Common mode rejection: Greater than 40dB
- Housing: 49.2 x 43 x 21.5mm

**~Limited Lifetime Warranty~**

Gem Electronics warrants that this product is to be free from defect in materials and workmanship, for the life of the product. The warranty given by Gem is in lieu of any other warranties, express or implied. This warranty does not apply to units abused through misuse or subjected to improper and/or excessive voltage, beyond our control. Gem assumes no responsibility for damages or penalties incurred resulting from the use of this product. Gem's liability under any warranties shall be discharged by replacing or repairing, at our option, the defective product. Gem's liability for any product shall not exceed a refund of the purchase price. The warranty listed here is intended only as a summary of your full and complete warranty. For a full and complete warranty of this product contact Gem Electronics.