



**~Introduction~**

Thank you for buying this GEM product.

BLN-AV3R is a passive type audio/video balun to allow you to send audio & video signals through CAT5/6 cable and requires no power. The transmission distance is about 2200 feet via a CAT5 cable.

**~Installation~**

*[Step 1] Cable preparation*

Run the CAT5 cable between your audio/video 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-AV3R to your system*

Put on the BLN-AV3R on both end of the prepared CAT5 cable with RJ45 plug.

Connect the audio/video source on one of the BLN-AV3R and connect the output unit (ie. monitors with audio output or DVR 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 cable will be locked by the RJ45 plug.

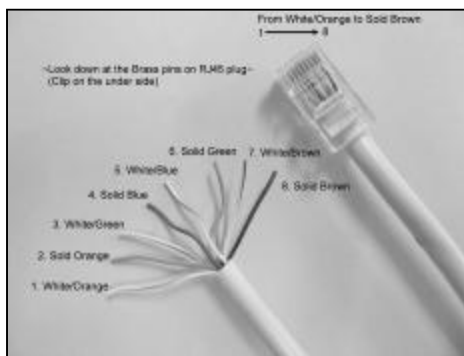


fig. 1

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



Part Number: BLN-AV3R

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**~Trouble Shooting~**

*[No Picture]*

1. Audio/Video 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 Picture]*

1. 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 CAT5 cable run too long. 2200 feet is the maximum distance for a passive balun to be functioned with adjustments to DVR and monitor. HOWEVER, a maximum distance 650 feet is recommended for using with equipment such as DVRs, multiplexers and quads.

**~Specification~**

Bandwidth:	Video DC to 8MHz Audio 20Hz to 50KHz
Insertion Loss:	Max. 2dB over the frequency range from DC to 8MHz
Return Loss:	Min. 15dB over the frequency range from DC to 8MHz
Common Mode Rejection:	Min. 40dB at 8MHz
Impedance:	RCA 75ohm (Yellow-video, Red/White-Audio)
Cable: UTP:	24 gauge or lower solid copper twisted pair wire
	Impedance: 100 ohm at 1MHz
	Max. Capacitance: 20 pf/ft
	Attenuation: 6.6dB/1000ft at 1MHz
Transmission Distance:	Color video: 2200 feet (CAT5 UTP)
	Audio: 5000 feet (CAT5 UTP)
Housing:	81 x 60 x 24mm

**~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.