



Part Number: BLN-AT & BLN-AR

Gem Electronics
920-A River Street - Windsor CT. 06095
Toll Free: 888-436-4195 - Fax: 860-683-0396

~Introduction~

Thank you for buying this GEM product

BLN-AT & BLN-AR are active CCTV video baluns to provide long-distance transmission of real-time color and monochrome video signals as well as all base band (composite) video signals by economy UTP (Unshielded Twisted Pair) cable up to 1.8 kilometers across CAT5 cable or better.

~Features~

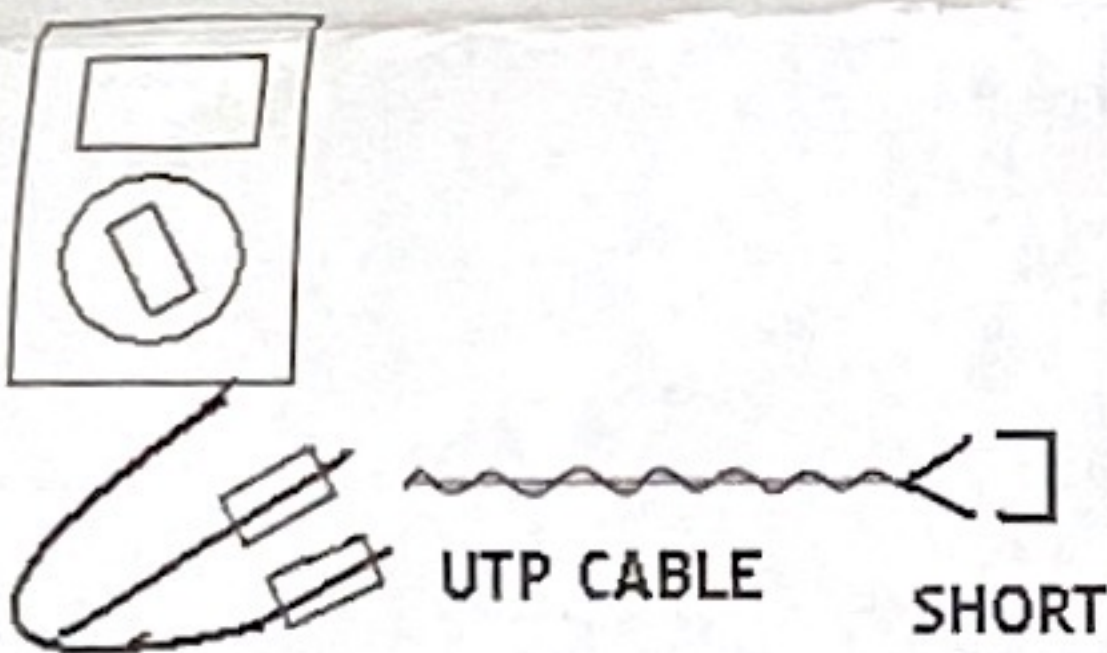
- Easy & economical assembly by UTP cable
- Spark voltage protector built-in
- Impedance matched network built-in
- Distance switch provided
- Luma & Chroma adjustable
- Use with both passive and active transmitters for various distance
 - 1000m: use with any GEM passive balun at transmitter end, ie. BLN-TL, BLN-RJ45, BLN-RJ45PT etc.
 - 1800m: use with GEM active transmitter balun BLN-AT.
- Wide power range 12-24Vac/dc
- Long distance transmission

~Installation~

[Step 1]

Run your CAT5 cable between camera and the rest of your CCTV equipment and measure the transmission distance by shorting two conductors in the cable and measure the loop resistance by an ohms meter. Please refer to following diagrams:

Loop Resistance measurement:



Cable Resistances:

CAT.5e	Loop Resistances/100 M
20 AWG (0.7mm)	7 ohms
22 AWG (0.6mm)	11 ohms
24 AWG (0.5mm)	18 ohms

[Step 2]

Set the distance switch on the top of the BLN-AT to the desired position: "L"= 500M, "M" = 1,000M & "H"=1,800M.

[Step 3]

Wiring the UTP cable into the terminal blocks on both BLN-AT and BLN-AR individually by follow the instructions shown on the terminal blocks:

12~24V ac/dc of BLN-AT, 12~24VAC/DC of BLN-AR: connect to the power supply (no polarity)

Ground: connect to earth ground

Video +/-: connect to one pair of UTP cable, make sure to use the same pair and polarities on both units. We would recommend to use 7+/8- to suit the video pin configuration on all GEM baluns.

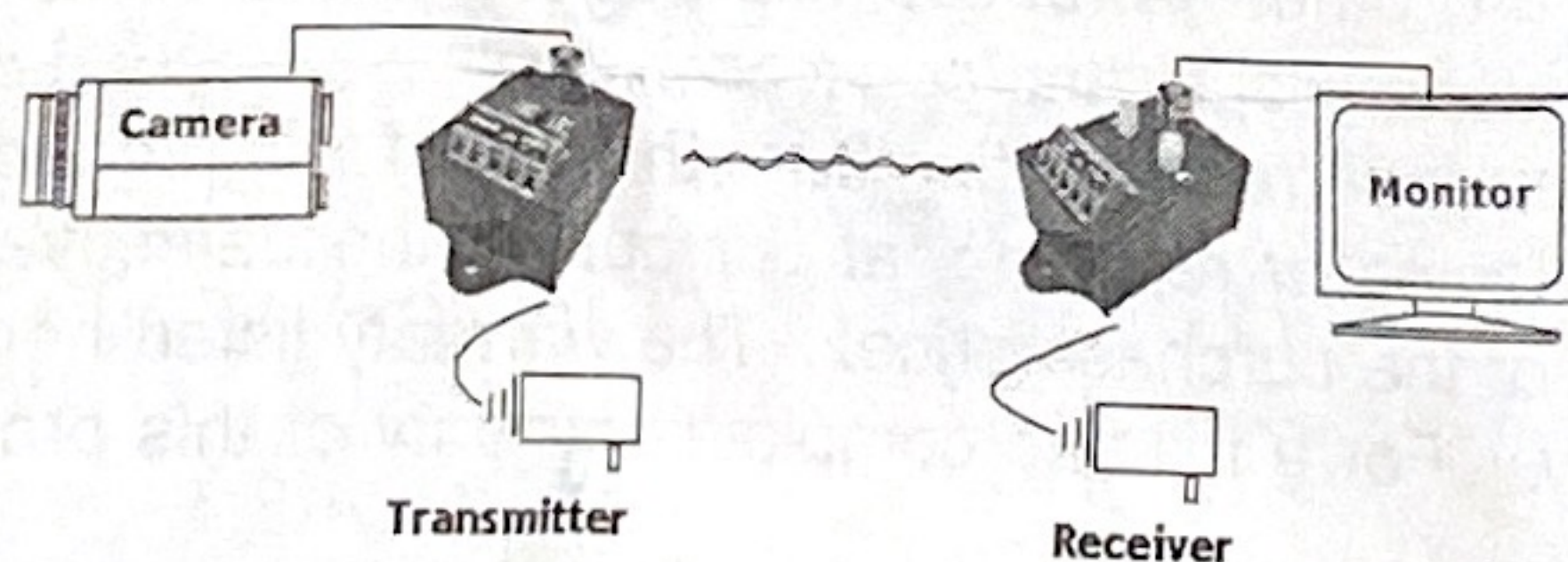
[Step 4]

Connect the baluns to your camera and your control equipment or monitor with BNC jumper.

[Step 5] Power units on

- Check all hook-ups specified power source shown in the specification table.
- Always use the specified power source shown in the specification table.
- Pay attention to LED indicators: Power on = Blue Light / Video on = Yellow/Green Light

~Application~





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~Trouble Shooting~

[No Picture]

Check the power sources and wirings.

[Poor Picture]

1. Check the cable quality
2. Check the wirings firmly
3. Check the polarity of Video signal
4. Check distance set switch at right position. Be sure to include the length of coaxial cables while setting this switch.
5. Check camera settings: focus intensity... may check with another portable monitor.
6. Check adjustments of equalizations both Luma & chroma variable resistors, wrong adjustment may cause asynchronous signal and dizzy or distorted pictures

~Specification~

Environment	Close-Circuit TV (CCTV) equipment for security and surveillance.
Devices	CCTV cameras, monitors, sequencers, multiplexers, digital video recorders (DVR) and other CCTV equipment.
Bandwidth	DC to 8MHz
Common mode rejection	60 dB typ. at 15KHz to 5MHz
Differential Capacitance	19 Pf/ft max. (62 Pf/m max.)
Distance Switch 3-positions	500m: 500m or less 1.0km: 500~1000m 1.8km 1000m or longer, up to 1800m
Power Required	Transmitter: 24Vac/dc, 250mA max. May share 24Vac power with camera. Receiver: 12 - 24Vac/dc, 100mA max.
Power On	Blue LED light
Video On	Yellow-green LED light
Networking Wiring	UTP Cat. 5 or better, AWG #24 typically Impedance: 100 ohms
DC Loop Resistance	Refer to table 1
Transmissive Distance	1.8Km across Cat. 5 cable or better
Impedance	Coax: female BNC 75 ohms UTP: Terminal Block 100 ohms
Dimensions	3.0 x 1.6 x 1.1 in (75.6 x 40.9 x 27.1 mm) excluding BNC
Temperature	Operating temp. 0 to 55° C Storage temp. -22 to 85° C Humidity up to 95%
Weight	170g
Material	ABS

The content subject to change without notice

~Caution~

Do not attempt to open the body, as there are no user-serviceable parts inside balun. Opening the unit will void your warranty.

~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.

Website: www.gemelec.com

E-mail: gembpitcher@aol.com