



Part Number: BLN-VPDRJ45

Gem Electronics
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~Introduction~

Thank you for buying this GEM product.

The BLN-VPDRJ45 allows the transmission of video signals and remote power via a single UTP (unshielded twisted pair) cable for more versatile cabling. The BLN-VPDRJ45 is used in pairs to allow you to eliminate more expensive coaxial cable, including coupling signals from remote video cameras to display systems, video capture, security and surveillance monitoring applications.

The use of existing twisted pair infrastructure such as telephone cable and cat.5 computer networking cables are also available. All baluns are 100% tested for reliability and durability to guarantee your signal integrity.

~Installation~

[Step 1]

Run your CAT5 cable between camera and the rest of your CCTV equipment. It is recommended running more CAT5 cable than you actually need to give tremendous flexibility to add extra cameras and audio feeds etc.

[Step 2]

Strip the CAT5 cable sheath with proper length (approximate 10mm) and identify the various pairs in the CAT5 cable. 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 3]

Connect the BLN-VPDRJ45 to your camera and your CCTV device: BNC plug for video connection, black/white & black color lead for control/data to control the camera from equipment and black & red color wire for power to supply power to camera from your equipment.

~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.
3. Make sure not to apply the power-thru baluns to cameras which require power more than 50VAC/DC.

~Trouble Shooting~

[LED Indicator is not lighted ON]

1. Turn off all power sources
2. Check if power sources are wired correctly.
3. Check if maximum distances are exceeded over spec.

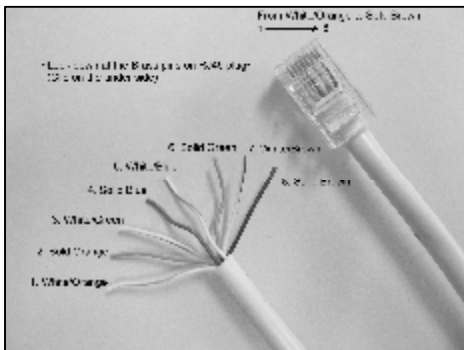


fig.1

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



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[No Picture]

1. Camera is not working or not feeding power to camera. Please make sure the camera is working normally.
2. Check if the pin configurations and polarities are correct
3. Check if the correct power sources are applied.
4. Check if maximum distances are exceeded over spec.

[Poor Picture]

1. Check the polarity of video signal.
2. Check if all the wirings are connected firmly.
3. Check if the maximum distances are exceeded over spec. All the maximum distances of power thru shown on the spec are transmitted via 3 pairs of CAT5E UTP cable, less pair and/or poor quality cable would caused a result of shorter transmission distance. CAT5E UTP or better cable is recommended. Also pay attention that the maximum distance may be much shorter while DVR equipment is applied, the maximum distance of this application may be around 300-450M.
4. Check if the power source has full capability to meet power requirement of the CCTV device. Contact CCTV equipment supplier for more information.

[Bad Remote Control]

1. Check the wiring and polarity of DATA control

<p>~Specification~ Cable-UTP: CAT5E or better Impedance: 100ohm at 1MHz Max. capacitance: 20pf/ft Attenuation: 6.6dB/1000ft at 1MHz</p> <p>Cable-BNC: Impedance: 75ohm at 1MHz (RG59/U), Max. 25ft of coax allowed per end to end link</p> <p>Max. distance: Color: 2230ft/CAT5 Monochrome: 2550ft/CAT5</p> <p>Pin configuration: Video 7+/8- Power 1,3+/2,6- Data 4+/5-</p> <p>Environment required: Operating temp. 0 to 55°C Storage temp. -22 to 85°C Humidity up to 95%</p> <p>Dimension: 33x21x24.2mm</p>	<p>~Electrical Characteristic and Performance~</p> <ul style="list-style-type: none"> • Bandwidth: Video DC to 8 MHz • Max. input: 1.1Vp-p • Impedance: 75ohm to 100ohm or 75ohm to 120ohm on request • Insertion loss: Max. 2dB • Return loss: Greater than 15 dB • Common mode rejection: Greater than 40dB at 8MHz <p>~Remote Power~ (ie. 24VAC, 28VAC)</p> <table border="1" data-bbox="826 1240 1442 1653"> <tr> <td data-bbox="826 1240 1107 1509"> Max. Distance @ 24VAC via three pairs of an UTP Cat 5 cable (24 AWG): </td> <td data-bbox="1107 1240 1442 1509"> 5VA: 519ft (170m), 10VA: 258ft (85m) 20VA: 130ft (43m), 30VA: 86ft (28m) Based on 10% voltage drop at camera. Longer distance may be achieved @ 28VAC </td> </tr> <tr> <td data-bbox="826 1509 1107 1581"> Maximum input voltage: </td> <td data-bbox="1107 1509 1442 1581"> 50Volts (AC RMS/DC) </td> </tr> <tr> <td data-bbox="826 1581 1107 1653"> Maximum current Rating: </td> <td data-bbox="1107 1581 1442 1653"> 4.5A (AC RMS/DC) </td> </tr> </table>	Max. Distance @ 24VAC via three pairs of an UTP Cat 5 cable (24 AWG):	5VA: 519ft (170m), 10VA: 258ft (85m) 20VA: 130ft (43m), 30VA: 86ft (28m) Based on 10% voltage drop at camera. Longer distance may be achieved @ 28VAC	Maximum input voltage:	50Volts (AC RMS/DC)	Maximum current Rating:	4.5A (AC RMS/DC)
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~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.