

4CH Hum-Bar Rejection Video Balun

with Data & Power thru – Easy Tool™ Terminal Block

OPERATION MANUAL



Description:

The 4CH CCTV Video Balun allows 4 base-band composite video signals and power supply as well PTZ/Data to be transmitted via unshielded twisted pair (UTP) cable for more versatile cabling. The Balun can be used with Balun with power & data thru or Balun with Power converter for wide applications, and eliminate more expensive coaxial cables, including coupling signals from remote video cameras to display systems, video capture, and surveillance monitoring applications. Owing of reliability and easy installation, the device uses terminal block instead of using crimping tool's common RJ45 jack.

Features:

1. 4 balun are installed within one package, 4x1BNC-F and screw terminal block for UTP cables
2. One DC jack provided one power input and is shared by four cameras.
3. One terminal block with two pins provided one Data signal input to control four PTZ cameras.
4. Located at DVR or monitor receiving side.

Specification:

Environment	CCTV equipment for security and surveillance.
Devices	CCTV cameras, monitors, multiplexers, digital video recorders (DVR) and other CCTV equipment.
Bandwidth	Video DC to 8MHz
Maximum input	1.0Vp-p
Insertion loss	Max. 2dB per pair over the frequency range from DC to 8MHz
Return loss	Greater than 15dB over the frequency range from DC to 8MHz
Cross talk	Greater than 40dB over the frequency range from DC to 8MHz
Common mode rejection	Greater than 40dB at 8MHz
Video transmission	Color: Cat.5 2230ft (680 Meter) Monochrome: Cat.5 2550ft (780 Meter)
Max.distance	No qualified cable might decrease the transmission distance.
Cable-UTP	Cat 5 or better, 24 gauge typical Max. capacitance :20p/ft Attenuation: 6.6dB/1000ft at 1MHz
Cable-Coax	Impedance: 75 ohm at 1MHz, Max. 25ft. of coax allowed per end to end link
Connectors	Screw terminal block, BNC Male, DC jack and a two pins of terminal block, GND
Polarities of each CH	Video1+2- Power thru3+4- Data thru5+6- 4CHs share the same Power & Data
Impedance	75 ohm to 100 ohm (or 75ohm to 120ohm on request)
Temperature	Operating temp. 0 to 55° C Storage temp. -22 to 85° C Humidity up to 95%
Data	PTZ by RS485. It can be transmitted up to 1000m over CAT5 UTP.
Dimension	162*102*32 in mm, BNC& terminal block connectors are included.
Weight	400g (PV Balun) , 450g (PVD Balun)

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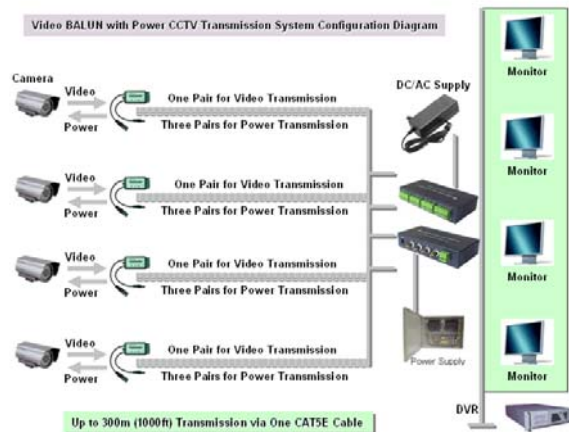
Remote Power: (ie: 24VAC, 28VAC)

Max. Distance @ 24Vac via an UTP Cat 5 cable (24 AWG):	VA	Distance
Based on 10% voltage drop at camera. Longer distance may be achieved @ 28VAC or use Power converter with Balun items.	5VA	558ft (170m)
	10VA	279ft (85m)
	20VA	141ft (43m)
	30VA	92ft (28m)
Vmax input voltage	50VDC/AC	
Imax. current Rating	4.5A	

Installation:

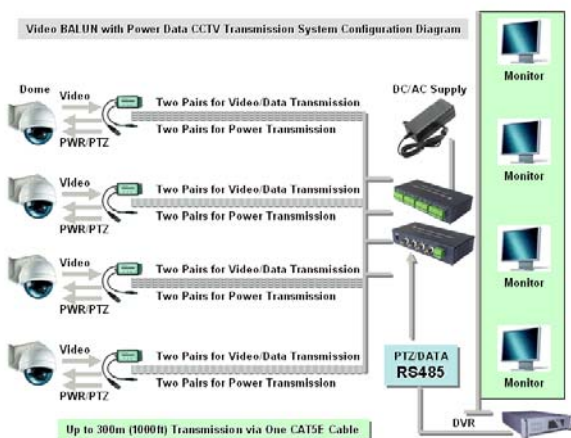
1. Run cameras and single channel PV(D)Balun w/BNC-M coax cable Balun transmitters at cameras' side.
2. Connect female power connector (and PTZ/Data - UTP cable directly) to camera.
3. Run UTP cables between PV(D) Baluns and CCTV 4 CH Power Video Data (PVD) Balun. Please pay attention to the wirings of screw terminal block pins for Video, Power, Data connection, it is easy to make the mistake at this step. Please make sure you get one pair UTP cable for Video, the second and third pair UTP cables for Power (positive and negative), and the fourth UTP cables for PTZ/Data connection in correct order. For Power Video (PV) application, you can share the fourth UTP cable as power cable for longer distance transmission in case of no PTZ/Data signal transmission needed.
4. Plug the outputs of power supply to DC jack on CCTV 4 CH Power Video Data Balun.
5. Connect Data control signal to terminal block on CCTV 4 CH Power Video Data Balun.
6. Run coaxial cables connection between CCTV 4 CH PVD Balun and DVR/Monitor.

Power & Video (PV) Installation Application:



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Power Video Data/PTZ (PVD) Installation Application:



*Remark:

- A. For the UTP/CAT5 cable PTZ/Data connection to 1CH Power Video Balun, just needs to connect the balanced fourth UTP cable pair directly to demo PTZ/Data's RS485 pins w/o routing to 1CH PV Balun.
- B. Power Backup: Centralized power management through UPS at monitor site, no worry for power blackout.
- C. RJ45 Jack Connector for PVD Balun: Video 8+/7-, Power thru 1,3+/2,6-, Data thru 4+/5- (RJ45 Jack for Optional OEM/ODM)

Application & Installation Troubleshooting:

No Picture

1. Camera is not working or not feeding power to camera. Please make sure the camera is working normally.
2. Wrong wire colors have been used in wrong order please recheck the connection order.
3. Screw terminal block and wires connection has not been put on correctly, either the wire cores are in wrong order or the cores are not long to enough into the screw plug holes and not been screwed tightly. Screwing wire into connector tightly.
4. The cable is damaged or there is a short or open circuit on the UTP or coax cable wires, please check and replace the UTP or coax cable wire.

Poor Picture

1. Camera is not working properly. Please make sure the camera is working normally and sending good quality picture.

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2. Insufficient power supply to be submitted for four cameras. Check camera specification to replace suitable power supply.
3. Wiring of to screw terminal block connection has not been put on correctly, either the cores are in wrong order or the wiring cores are not far enough into the screw plug holes and not been screwed tightly. Screwing wire into connector holes tightly.
4. Cable runs too long. The picture will deteriorate if the Cat 5 cable runs too long. 2,230 feet (Coaxial cables be included.) is the maximum distance for a passive balun to be functioned with adjustments to DVR and monitor. However, a maximum distance 650 feet (Coaxial cables be included.) is recommended for using with equipment such as DVRs, multiplexers and quads.

Warranty:

Our products have a limited lifetime warranty. We warrant that this product is to be free from defect in materials and workmanship, for the life of the product. The warranty given by us 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. We assume no responsibility for damages or penalties incurred resulting from the use of this product. Our liability under any warranties shall be discharged by replacing or repairing, at our option, the defective product. Our 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, please contact us.

Caution:

Do not attempt to open the body, as there are no user-serviceable parts inside Balun. Opening the unit will void your warranty. All contents above are subjected to change without notice.

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