

**OVERVIEW**

***It's a Snap!™***

The BL4850 is a UTP (Cat5) video balun unlike any other. Its revolutionary advanced design requires NO TOOLS and connects in seconds.

The BL4850's exceptional interference rejection insures that crosstalk is practically eliminated. The video signal can share the same cable bundle as power, data, audio and other video signals,

up to 2000\* feet. It supports up-the-coax control signals up to 1000 feet.

Two stage surge suppression provides added protection for power surges and lightning strikes.

**IMPORTANT:** If you are using existing telephone company wiring, it must be free of loading coils, metal oxide surge protectors and bridge taps. Punch-Down blocks are acceptable.

The cable run should not exceed the specified distances. In order to determine the distance of existing cable runs, connect the wires of a pair at one end and use an ohm meter to measure the loop resistance at the other end.

For 24 gauge wire, loop resistance is typically 51 ohms per 1000 feet, while 26 gauge has a resistance of 82 ohms per 1000 feet.

\* **PLEASE NOTE:** Performance and distance may be affected by the quality of the cable used. Better performance may be obtained with the use of Cat 5e or Cat 6.

**INSTRUCTIONS**



**INSTALL WIRE.**

Step 1: The BL4850 incorporates a transparent cover which opens to allow access to the Cat-5 wire connector. The cover opens easily by inserting your fingernail under the two hooks behind the cover and gently pulling upwards.



Step 2: Hold straightened wire pair\* approximately 3/4 of an inch from the end, and insert firmly (with a slight upward motion) into rectangular opening just below "+" and "-" symbols. Please DO NOT STRIP the wires! The wires should be entered into separate openings on left and right.

\*Designed for use with solid 24 AWG wire.



Step 3: Wires may be flattened down onto connector if necessary. Each wire should sit above the left and right connector. Close cover firmly until completely closed. The correct wire placement in the connector can be observed when cover is closed and the self-contained IDC connection will be complete.

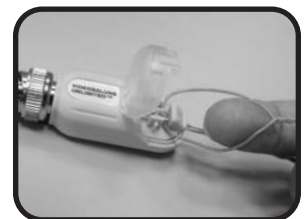
***It's a Snap!™***

**REMOVING WIRE.**

In rare cases when wires must be removed such as correcting polarity on one balun or when reusing the baluns, please proceed as follows:

Open cover as in Step 1 above, or simply tug on wires sharply at a 90 degree angle. Using an 8" piece of Cat5 wire, insert it under the wire pair just behind the connector.

Loop the wire around and twist tie ends together. Then pull up sharply and wires will disconnect from connector. Wire pair can then be pulled out of the BL4850 and it is ready to use once again. The BL4850 is designed to allow connections and reconnections multiple times.



**TROUBLESHOOTING**

**No video**

- After ensuring that the CCTV equipment is functioning properly, verify that UTP and BNC connections are secure, use a continuity tester to test for shorts or breaks in the cable.

**Image is faded, fuzzy or distorted**

- Use only unshielded twisted pair, preferably Cat 5 or better rated cable.
- Do not exceed specified distance. Note that the higher the category rating of cable, the greater the distance possible.
- Make sure that polarity is not reversed, observe polarity on each balun, Punch-Down block or splice.
- Verify that both wires of the twisted pair are properly connected and that there are no shorts along the wire path.

**Video does not sync and image is distorted**

- Check for the presence of a ground loop. (see below)
- Look for factors that can create crosstalk. Crosstalk is due to electromagnetic interference (EMI) and

can occur when video signals are sent in opposite directions within the same jacketed cable. Try limiting this distance to under 1000 feet or using cable that is rated Cat 5 or better.

**Video does not sync and the image is severely distorted with large white sections**

- Try reversing the polarity of the twisted pair.

**Horizontal bars traveling up or down the screen**

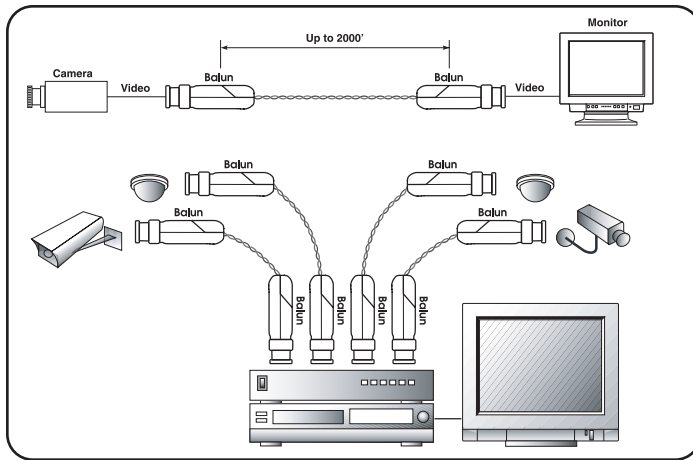
- This may indicate the presence of a ground loop. When different power sources are used for camera, monitor or other equipment, differing ground potentials can cause ground loops. This causes voltage to flow between the CCTV equipment and the video baluns. A voltage greater than 0.5 volts can damage the baluns.
- One solution is to leave the camera ungrounded, as long as this meets the manufacturers recommendations and local electrical code.
- If this is not possible, an isolation transformer can be installed between the video balun pairs.

- Ground loops can be prevented by using the same power source for all equipment. UTP provides a convenient way of running power from a central point when unused pairs remain. When using three pairs of 24 gauge wire to run 24 VAC, the voltage drop typically limits the run to 500 feet (for safety never use UTP cable for high voltage applications). For greater distances, a lower gauge cable is needed. Several cable manufacturers now offer a combined UTP and power cable for added convenience.

**Ghost Images**

- In the cable run, check for bridge taps, untwisted sections of wire or split pairs. Bridge taps are unterminated sections of wire attached to the main cable loop. These should be removed because they can cause "ghosts" or faint versions of the original image to appear.
- Split pairs occur when one wire is taken from one pair and another wire is taken from another pair. This can severely degrade the performance of the cable. Use paired wires only.

**SPECIFICATIONS**



<b>Video</b>	Bandwidth	DC to 8 MHz
	Maximum Input	1.1vp-p
	Format	NTSC, PAL, SECAM
	Insertion Loss	<1 dB
	Return Loss	-20 dB
	Common Mode Rejection	-50 dB
<b>Distance</b>	Using Cat 5 cable	Up to 2000 feet*
<b>Wire</b>	Unshielded Twisted Pair	Cat 2, 3 5 or better, 24 gauge solid copper twisted pair wire
<b>Impedance</b>	BNC Connector Side	75 ohms
	UTP Connector Side	100 ohms
<b>Environment</b>	Temperature Operating	0 to +55 C
	Temperature Storage	-20 to +85C
	Humidity (non condensing)	0 to 95%
<b>Mechanical</b>	Size (LxWxH in inches)	2 1/8 x 11/16 x 9/16
<b>Warranty</b>	Limited Lifetime	
<b>Regulatory</b>	UL/CUL, CE, RoHS	
<b>Patented</b>	Flammability	94V-0

\* Distance will vary depending on cable quality

**LIMITED LIFETIME WARRANTY**

VIDEOBALUNS UNLIMITED warrants their products are free from defects in material and workmanship and that they conform to VIDEOBALUNS UNLIMITED applicable published specifications for the life of the product.

There shall be no other warranties, express, statutory or otherwise, including any implied warranty of merchantability of fitness, or any other obligation on the part of VIDEOBALUNS UNLIMITED with respect to any of its products.

In the event that any product is damaged or altered or modified in any way whatsoever without the expressed prior written consent of VIDEOBALUNS UNLIMITED,

any warranty for those products will immediately cease and VIDEOBALUNS UNLIMITED will have no further liability as it pertains to those products.

VIDEOBALUNS UNLIMITED assumes no responsibility for damages or penalties incurred resulting from the use of their products in a manner or location other than for which they are intended.

VIDEOBALUNS UNLIMITED's liability under any warranty shall be discharged by their replacing or repairing of any part or parts not conforming to the applicable warranty under normal and proper use.

VIDEOBALUNS UNLIMITED's sole financial liability with respect to any product shall not exceed a refund of the price paid to VIDEOBALUNS UNLIMITED for that product, and in no event shall VIDEOBALUNS UNLIMITED have any liability for any incidental, consequential, special or indirect damages.

Some states do not allow the exclusion or limitation of special, incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

For technical support, please contact:

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