

Specifications

Specifications subject to change without notice.

Maximum Distance*	2200 feet
Maximum Video Input	1.1 Vp-p
Bandwidth (video)	DC to 8 MHz
Impedance (video)	75 ohms
Insertion Loss	Less than 2 dB per pair over the frequency range from DC to 8 MHz
Return Loss	Greater than 15 dB over the frequency range from DC to 8 MHz
Common Mode Rejection	Greater than 40 dB @ 8 MHz
Unshielded Twisted Pair Cabling Specifications (24 gauge or lower solid copper)	Maximum capacitance: 20 pF/foot Impedance: 100 ohms @ 1 MHz Attenuation: 6.6 dB/1000 ft. @ 1 MHz <i>Cat 3, Cat 5, Cat 5e, Cat 6, Cat 7 compatible</i>
Connectors	One (1) male BNC to one (1) RJ45
Pinout	7 & 8, pair 4
Temperature	Operating: 32 to 131 F (0 to 55 C) Storage: -4 to 185 F (-20 to 85 C) Humidity: up to 95%
Enclosure	Black plastic
Dimensions	1.6" x 2.8" x 1"
Ordering Information	<i>AVO-V1</i> : single AVO-V1 balun in bulk packaging <i>AVO-V1-PAC</i> : two AVO-V1 baluns in retail-ready packaging
Warranty	2 years

* Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches. Intelix specifications are based on straight-through cabling with standard-grade Cat 5.

Contact Information



AvoCat
Series

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AvoCat Series Intelix AVO-V1 Video Balun Installation Manual



The Intelix AVO-V1 video balun eliminates 75-ohm coaxial cable and allows composite baseband video to be transmitted via a single unshielded twisted pair (UTP) cable, such as Cat 5. Typically, AVO-V1 baluns are used in pairs to transmit standard NTSC, PAL, or SECAM composite video.

The AVO-V1 is used with video equipment, as well as CCTV security and surveillance equipment, such as CCTV cameras, monitors, DVRs, video sequencers, video multiplexers, quads, video switchers, CCTV camera servers, and VCRs.

Installation

Caution: Do not attempt to open the balun housing. There are no user-serviceable parts inside the AVO-V1. Opening the unit will void your warranty.

To install an AVO-V1 balun, perform the following steps:

1. Turn off power and disconnect the video equipment by following the manufacturer's instructions.
2. Run your unshielded twisted pair cabling, such as Cat 5. One twisted pair is required for each camera signal.
3. The AVO-V1 balun works in pairs. Plug one AVO-V1 balun into the BNC connector of the source device.

Caution: Do not connect the AVO-V1-ST to a telecommunication outlet wired to unrelated equipment. Making such a connection may damage the equipment and/or balun. Please ensure all wiring is "straight-through."

4. Plug a second balun into the BNC connector of the destination equipment at the other end of the cable.
5. Connect a structured cable, such as Cat 5, to each RJ45 connector of the baluns. Verify the pinout on the connector conforms to the EIA/TIA 568A or 568B pattern.

Caution: Do not mount the balun over equipment ventilation openings. Covering the openings may cause the equipment to overheat.

6. Power-on the video equipment and check the picture quality. The video should be clear and sharp within the maximum specified distances.

Troubleshooting

If your equipment malfunctions with AVO-V1 baluns in place, follow the troubleshooting procedures below:

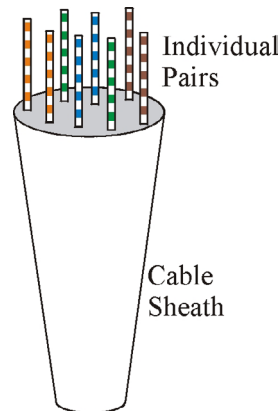
1. Perform diagnostics on your audio equipment by following the manufacturer's instructions.
2. Check all the connections and the structured cabling system. Verify the RJ45 crimp pattern conforms to either EIA/TIA 568A or 568B standards.
3. Check the pin configuration of the structured cabling.
4. The maximum operational distances over which the AVO-V1 can be transmitted is dependant on the equipment used and cable. Ensure that the maximum recommended operational distances have not been exceeded.
5. Check that only twisted pair patch cords are being used.
6. Replace the AVO-V1 balun with another AVO-V1 that is known to be working.
7. If you still cannot diagnose the problem, contact Intelix for support.

Frequently Asked Questions

How do I expose the individual pairs in Cat 5 cabling?

There is no single method when exposing the four individual pairs in twisted pair cabling, such as Cat 5 and Cat 6; however, it does help to have a cable stripping tool designed to strip the cable jacket/insulation.

Begin by stripping back the cable's outer jacket/insulation about an inch (or more depending on whether multiple baluns will be connected to the pairs of a single cable) so that the internal wires are exposed. Be careful not to cut the internal wires when stripping the insulation/jacket. Eight twisted wires and a string should now be visible; the string is unnecessary and may be removed. These eight wires, which when combined form four pairs, connect directly to the baluns. Typical protocol pairs similar colors; the important thing is to verify the same color-coded pairs are used on each end.



Is the AVO-V1 balun reverse polarity sensitive?

Yes.

What is the maximum length of twisted pair at a given gauge wire?

Maximum cable lengths are specified for 24AWG UTP cable. If lower gauge cable (i.e., 22AWG) is used, greater distances may be achieved.

Will the AVO-V1 baluns work with 100-ohm shielded twisted pair (STP)?

Yes; however, shorter distances may be achieved due to higher capacitance. If used, ground the shield at least on one end.

Does the AVO-V1 balun work in conjunction with other Intelix baluns, such as the AVO-V1-ST?

Yes. For other models, verify that the signal polarity of the baluns match.

How do I crimp an unshielded RJ45 connector onto Cat 5?

Crimping an RJ45 connector onto Cat 5 is a fairly straight forward task, assuming you have the proper tools. Keep in mind that baluns require either the EIA/TIA 568A or 568B crimp pattern, which are the industry standards for networking.

1. First, strip a portion of the insulation about 3/4" to expose the four twisted pairs.
2. Next, untwist the wires and fan them out so that they match either EIA/TIA 568A or 568B pattern.
3. Evenly trim the wires to about 1/2". Most RJ45 crimp tools feature a built-in wire trimmer.
4. Insert the trimmed wires into the RJ45 connector so that each wire is in its individual slot. Verify each wire is completely inserted.
5. Finally, insert the RJ45 connector into the crimp tool and squeeze firmly.
6. Repeat the above steps on the other end of the Cat 5 cable and verify pinout is identical on each end.

