Specifications

Specifications subject to change without notice.

Maximum Distance*	2200 feet
Maximum Video Input	1.1 Vp-p
Bandwidth (video)	DC to 8 MHz
Bandwidth (audio)	20 Hz to 20 kHz
Impedance (video)	75 ohms
Impedance (audio)	600 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 *Cat 3, Cat 5, Cat 5e, Cat 6, Cat 7 compatible*
Connectors	Four (4) RCA to one (1) RJ45
RJ45 Pinout	Video 1: 7 & 8, pair 4 Audio 1: 1 & 2, pair 2 Video 2: 4 & 5, pair 1 Audio 2: 3 & 6, pair 3
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	4.3" x 2.5" x 1"
Weight	0.2 lbs (3.2 oz.)
Ordering Information	*AVO-V2A2*: single AVO-V2A2 balun in bulk packaging *AVO-V2A2-PAC*: two AVO-V2A2 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

Intelix
2222 Pleasant View Road
Middleton, WI 53562

Toll-free: 866-4-MATMIX
Phone: 608-831-0880
Fax: 608-831-1833
www.intelix.com

AvoCat Series — Intelix AVO-V2A2 Video and Stereo Audio Balun Installation Manual

The AVO-V2A2 balun is designed for audio/video equipment using RCA connectors for both video and audio. The AVO-V2A2 balun is or use with standard unshielded twisted pair (UTP) cabling, such as Cat 5.

Used in pairs, AVO-V2A2 baluns allow VCRs, camcorders, closed-circuit televisions, PC-based teleconferencing, and other baseband audio/video equipment to be connected via a building's structured wiring system. The balun provides the necessary impedance matching and supports two-way baseband audio/video transmission over a four pair UTP cable, thus presenting an ideal solution for videoconferencing applications.

Installation

Caution: Do not attempt to open the balun housing. There are no user-serviceable parts inside the AVO-V2A2. Opening the unit will void your warranty.

To install an AVO-V2A2 balun, perform the following steps:

1. Turn off power and disconnect the video equipment by following the manufacturer's instructions.
2. Make certain that outlets and cross connects to which you will connect the AVO-V2A2 are configured properly and labeled appropriately to identify the circuit.

Caution: Do not connect the AVO-V2A2 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."

3. Verify the desired twisted pairs are not being used for other LAN or telephony equipment.
4. Connect the RCA inputs from the source equipment to one of the two baluns. Two AVO-V2A2s are needed—one at each end of the run—and are interchangeable.

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

5. Connect a 4-pair Cat 5 cable from the RJ45 8-position modular jack of the AVO-V2A2 to a structured cable, such as Cat 5.
6. Connect the second balun's RCA inputs to the destination equipment.
7. Connect the 4-pair Cat 5 cable from the RJ45 8-position modular jack of another AVO-V2A2 to the structured cable attached to the first balun.
8. Power on the source and destination equipment and test for correct operation.

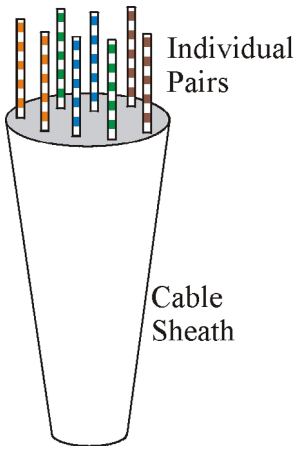
Troubleshooting

If your equipment malfunctions with AVO-V2A2 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-V2A2 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-V2A2 balun with another AVO-V2A2 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.

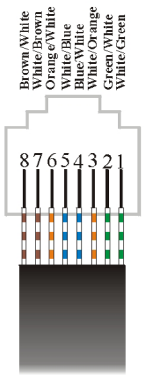


Begin by stripping back the cable's outer jacket/ insulation about an inch (or more depending on whether multiple baluns will be connected to the pairs of a single cable) so that the internal wires are exposed. Be careful not to cut the internal wires when stripping the insulation/jacket. Eight twisted 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.

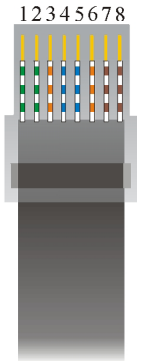
How do I crimp an unshielded RJ45 connector onto Cat 5?
Crimping an RJ45 connector onto Cat 5 is a fairly straight forward task, assuming you have the proper tools. Keep in mind that baluns require either the EIA/TIA 568A or 568B crimp pattern, which are the industry standards for networking.

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.

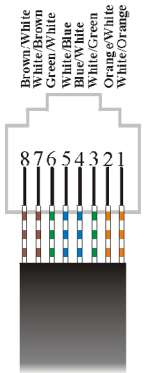
EIA/TIA 568A Crimp Pattern Standard



Pin	Color
1	White/Green
2	Green/White
3	White/Orange
4	Blue/White
5	White/Blue
6	Orange/White
7	White/Brown
8	Brown/White



EIA/TIA 568B Crimp Pattern Standard



Pin	Color
1	White/Orange
2	Orange/White
3	White/Green
4	Blue/White
5	White/Blue
6	Green/White
7	White/Brown
8	Brown/White