Specifications

Specifications subject to change without notice.

Maximum Distance*	Digital audio only: 600 feet 480i/p video only: 1,000 feet 480i/p video with digital audio: 600 feet 720p video only: 500 feet 720p video with digital audio: 500 feet 1080i/p video only: 500 feet 1080i/p video with digital audio: 500 feet
Maximum Video Input	1.1 Vp-p
Bandwidth	Video: 60 MHz, 3 dB roll off Digital audio: 25 MHz, 1 dB roll off
Video Insertion Loss	0.1 dB for 0.1 MHz; gradually increasing to 2.5 dB over the frequency range
Audio Insertion Loss	Less than 1 dB over the frequency range
Return Loss	Greater than 15 dB over the frequency range
Video Common Mode Rejection	-55 dB at 0.1 MHz; gradually increasing to -20 dB at 60 MHz
Audio Common Mode Rejection	-50 dB at 0.1 MHz; gradually increasing to -30 dB at 25 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 5, Cat 5e, Cat 6, Cat 7 compatible*
Connectors	Three (3) female RCA and one (1) gold-plated female coax to one (1) RJ45
RJ45 Pinout	Red (Pr): 7 & 8, pair 4 Green (Y): 3 & 6, pair 3 Blue (Pb): 1 & 2, pair 2 Digital Audio: 4 & 5, pair 1
Temperature	Operating: 32 to 131 F (0 to 55 C) Storage: -4 to 185 F (-20 to 85 C) Humidity: up to 95%
Enclosure	Front: standard decora wallplate Rear: metal casing
Dimensions	4.0" x 1.4" x 1.7"
Weight	0.2 lbs (3.2 oz.)
Ordering Information	*AVO-V3AD-WP*: single AVO-V3AD-WP balun in bulk 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
DESIGN WITH INTELLIGENCE

AvoCat Series — Intelix AVO-V3AD-WP Audio/Video Balun Installation Manual

The Intelix AVO-V3AD-WP wall-plate balun transmits one high-definition (HDTV) component video (YPbPr or RGB) signal and one digital audio signal up to 1,000 feet over inexpensive structured cabling, such as Cat 5. Used in pairs or with the rack-mountable Intelix AVO-V3AD balun, the AVO-V3AD-WP is ideal in residential, corporate, educational, and hospitality environments.

The Intelix **AvoCat** Series of baluns is the ideal solution for sending audio and video over structured cabling. **When signal quality matters, choose Intelix.**

Installation

> **Caution:** Do not attempt to open the balun housing. There are no user-serviceable parts inside the AVO-V3AD-WP. Opening the unit will void your warranty.

To install an AVO-V3AD-WP balun, perform the following steps:

1. Identify the pin configuration of the baluns. Three (3) twisted pairs are required for video and one (1) twisted pair is required for digital audio. The pin configuration follows the EIA/TIA 568A/B standard. The Intelix AVO-V3AD-WP balun is reverse polarity sensitive. Please ensure that wiring is straight-through.
2. Connect one AVO-V3AD-WP balun to the component video coaxial cable output of the video source using three RCA video cables. Ensure the color codes of the AVO-V3AD-WP and video equipment match.

> **Caution:** Do not connect the AVO-V3AD-WP 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. Connect a second AVO-V3AD-WP wallplate balun or a compatible AVO-V3AD rack-mountable balun to the component video coaxial cable input of the receiver(s) at the remote end using three RCA video cables.
4. Complete the connection between the two baluns using standard Cat 5 twisted pair cable. Verify the Cat 5 is terminated with RJ45 connectors on both ends. Ensure that there are no split pairs or taps.

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

5. If digital audio is to be connected (optional), connect an RCA lead between the balun and the digital audio equipment at both ends.
6. Power-on the component video equipment. Check the image quality and refer to troubleshooting if the image quality is unsatisfactory.

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.

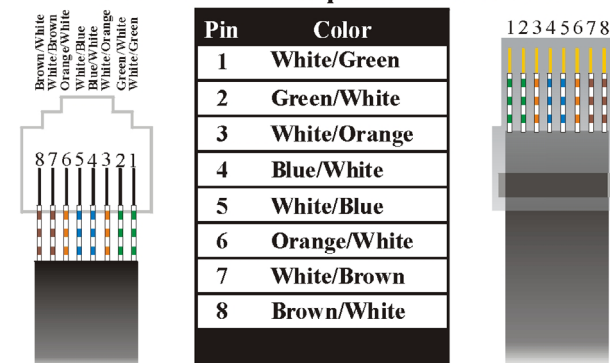**How do I crimp an unshielded RJ45 connector onto Cat 5?**
Crimping an RJ45 connector onto Cat 5 is a fairly straight forward task, assuming you have the proper tools. Keep in mind that baluns require either the EIA/TIA 568A or 568B crimp pattern, which are the industry standards for networking.

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.
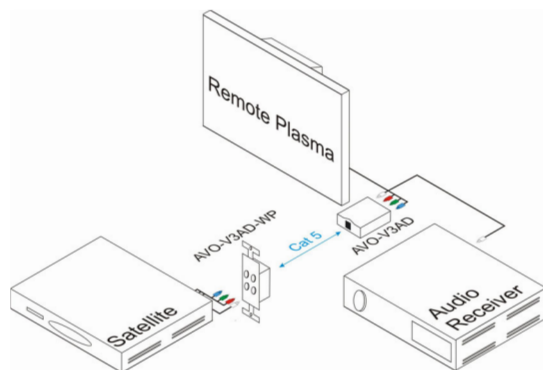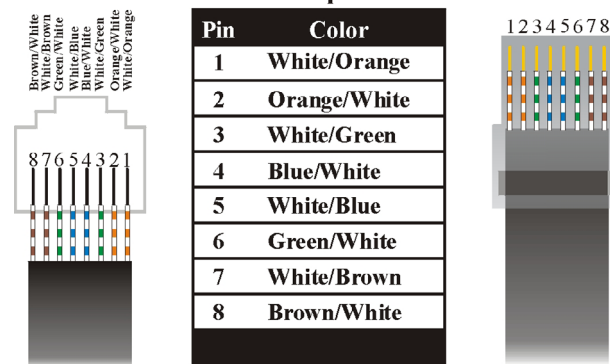

Example System: An AVO-V3AD-WP wall-plate balun and an Intelix AVO-V3AD rack-mountable balun transmit audio and video from a satellite receiver to a remote plasma and audio receiver over standard Cat 5 cabling.

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

Troubleshooting

If your equipment malfunctions with AVO-V3AD-WP baluns in place, follow the trouble-shooting procedures below:

1. Perform diagnostics on your AV 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 on the structured cable.
4. The maximum operational distances over which the AVO-V3AD-WP 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-V3AD-WP balun with another AVO-V3AD-WP that is known to be working.
7. If you still cannot diagnose the problem, contact Intelix for support.