Specifications

Specifications subject to change without notice.

Maximum Distance*	2,500 feet
Output Impedance	600 ohms, balanced
Bandwidth	20 Hz to 20 kHz
Isolation	500 V
Nominal Output Level	0 dBu - (+16 dBu pk)
Common Mode Rejection	Greater than 50 dB
Power	24 VAC; system is powered on the receive end
Power Connector	DIN connector on receive balun
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*
Audio Connectors	Receive unit: one (1) 3-pin screw terminal to one (1) RJ45 Send unit: one (1) female XLR to one (1) RJ45
Phantom Power	24V
System Gain	0 to 60 dB
RJ45 Pinout	Audio: 1 & 2, pair 2 Power: 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	Black plastic
Dimensions	Receive unit: 4.3" x 2.5" x 1.0" Send unit: 4.0" x 1.4" x 1.7"
Shipping Weight	2.0 lbs (3.2 oz.)
Ordering Information	*AVO-MIC-WP-F*: includes send balun, receive balun, and power supply
Warranty	2 years

* Distances and audio 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
intelix@intelix.com

AVO-MIC-WP-F

8 95857 00108 5

AvoCat Series — Intelix AVO-MIC-WP-F Microphone Balun Set Installation Manual

The Intelix AVO-MIC-WP-F microphone balun set transmits a preamplified microphone signal and phantom power up to 2,500 feet over standard structured cabling, such as Cat 5. The AVO-MIC-WP-F balun set includes a decora-style wallplate send balun, rack-mountable receive balun, and a power supply; the set is powered on the receive end. The AVO-MIC-WP-F balun set is ideal for corporate A/V, churches, schools, auditoriums, and almost any other situation involving microphone level audio signal distribution.

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-MIC-WP-F. Opening the unit will void your warranty.

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

1. Identify the pin configuration of the baluns. Two (2) twisted pairs are required: one for audio and one for power. The pin configuration follows the EIA/TIA 568A/B standard. Please ensure that wiring is straight-through.
2. Connect the AVO-MIC-WP-F send balun to the audio output of the audio source using an audio cable.

> **Caution:** Do not connect the balun 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 the AVO-MIC-WP-F receive balun to the audio input of the audio destination using an audio cable.
4. Complete the connection between the two baluns using standard twisted pair cable, such as Cat 5. Verify the Cat 5 is terminated with RJ45 connectors on both ends which conform to the EIA/TIA 568A or 568A crimp standards. 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. Connect the included power supply to the wallplate send balun.
6. Power-on the audio equipment.
7. On the receive balun, EQ the balun pair by selecting the overal distance of the system. Set the EQ switch to either *less than or equal to* 1,500 feet or *greater than* 1,500 feet.
8. On the send balun, select whether phantom power is engaged or not (phantom power is on when the switch is down). Then adjust the overall system gain between 0 and 60 dB.

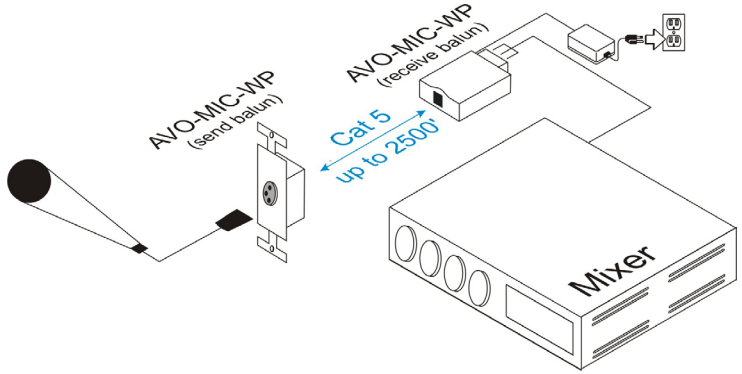
Frequently Asked Questions

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.



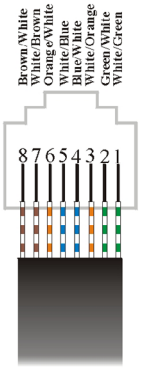
System Drawing: A podium microphone is routed to a remote receiver via an Intelix AVO-MIC-WP-F balun set. The baluns transmit the signal over 2,500 feet of standard Cat 5 cabling. The system is powered on the receive end.

Troubleshooting

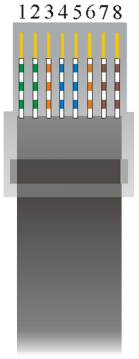
If your equipment malfunctions with AVO-MIC-WP-F baluns in place, follow the troubleshooting procedures below:

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

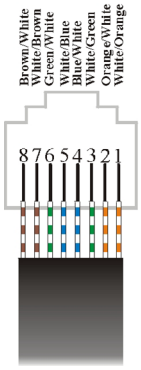
EIA/TIA 568A Crimp Pattern Standard



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