

Intelix S-V1P-R Installation Manual



Introduction

When used with a compatible Intelix balun, the S-V1P-R transmits composite video and power over a single twisted pair cable, such as Cat 5 or Cat 6. The S-V1P-R combines twisted pairs 1, 2, and 4 for power distribution, allowing higher voltage supplies and longer distances. S-V1P-R baluns replace bulky coaxial video cable and utilize a building's existing structured cabling network.

The S-V1P-R features a wave filter and anti-static design and conforms to IEC 61000-4-2:1995 standards. S-V1P-R baluns are ideal for security and monitoring applications with such equipment as CCTV cameras, monitors, DVRs, video sequencers, video multiplexers, quads, switchers, and servers.

When signal quality matters, choose Intelix.

Warning: The S-V1P-R is not waterproof and should not be used in areas exposed to liquid. Do not operate or install the unit with wet hands.

Installation

Caution: Do not attempt to disassemble or alter the balun housing. There are no user-serviceable parts inside the unit. Doing so will void your warranty.

1. Power off the source and destination devices which will be connected to the baluns.
2. Verify the modular outlets and cross connects to which you will connect the S-V1P-R balun are configured properly and labeled appropriately to identify the circuit.

Caution: To minimize the possibility of equipment damage from electrostatic discharge (ESD), all source and destination equipment must be powered off during installation. This includes signal extenders, splitters, and switches.

3. Verify the desired twisted pairs are not being used for other LAN or telephone equipment.

Caution: Do not connect the balun to a telecommunication outlet wired to unrelated equipment. Doing so may damage the unit or any connected equipment. Ensure all connected twisted pair cabling is straight-through (point-to-point).

4. Connect the S-V1P-R to the video port of the destination equipment.
5. If transmitting power, connect the S-V1P-R to a power supply.
6. Connect one end of the twisted pair cable to the S-V1P-R. The RJ45 pinout in the twisted pair cabling should conform to the EIA/TIA 568A or 568B standard.
7. Connect a compatible send balun, typically a S-V1P-T, to the video port on the source equipment.
8. If transmitting power, connect the S-V1P-T to the power input on the source equipment.
9. Connect the other end of the twisted pair cable to the second balun. The RJ45 pinout in the twisted pair cabling should conform to the EIA/TIA 568A or 568B standard.
10. Power on the source and destination equipment.

Note: For your convenience, it is recommended that you uniquely mark the ends of the twisted pair cable before pulling them through a wall or conduit.

Voltage Drop According to Cable Length

using 24AWG cable

Transmission Distance	Transmission Voltage Required		
	12V DC, 0.5A	12V DC, 1.0A	12V DC, 1.5A
160 feet	13.5V	15.5V	17.0V
320 feet	15.5V	18.5V	22.0V
500 feet	17.0V	22.0V	27.0V
650 feet	18.5V	25.5V	32.0V

Troubleshooting

Symptom	Probable Causes	Possible Solutions
Insufficient power	Cable loss	Increase the power supply voltage. See the <i>Voltage Drop</i> chart.
Image not stable	Defective link or equipment	Verify source and destination equipment and cabling
Unusual colors	Reversed polarity	Verify RJ45 pinout conforms to EIA/TIA 568A or 568B standard
Smearing or weak video contrast	Exceeded cable distance	Verify cable grade and total cabling distance
Horizontal bars moving upward in background	Ground loop problem	Verify the source and destination equipment are at the same ground potential. Ground the source and destination equipment.
Shaking image	Ground loop problem	Verify the source and destination equipment are at the same ground potential. Ground the source and destination equipment.
Variance in hue	EMI interference	Identify possible radiating frequency sources and isolate them from the cabling. Use shielded twisted pair cabling.
Background pattern	EMI interference	Identify possible radiating frequency sources and isolate them from the cabling. Use shielded twisted pair cabling.

Technical Specifications

Maximum Distance	Video: 1,000 feet Power: 650 feet
Recommended Devices	CCTV cameras, monitors, DVRs, video sequencers, multiplexers
Bandwidth	DC to 8 MHz
Maximum Input	1.1 Vp-p, 75 ohms
Insertion Loss	Less than 2 dB over the frequency range
Return Loss	Greater than 15 dB over the frequency range
Protection	1KV (10/700 μ s)
RJ45 Pin Configuration <i>Reverse Polarity Sensitive</i>	Pins 4 and 5 Power (pins 3, 4, 5, 6, 7, and 8 are tied together) Pins 1 and 2 Video Pins 7 and 8 Power (pins 3, 4, 5, 6, 7, and 8 are tied together) Pins 3 and 6 Power (pins 3, 4, 5, 6, 7, and 8 are tied together)
Cable	Unshielded Cat 5, Cat 5e, Cat 6 or better
Temperature	Operating: 0 to 55 C. Storage: -20 to 85 C. Humidity: up to 95% non-condensing
Warranty	2 years
Order Information	S-V1P-PAC: two baluns in retail packaging S-V1P-R: one receive balun in bulk packaging S-V1P-T: one send balun in bulk packaging

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.

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EIA/TIA 568B Crimp Pattern Standard

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

