Specifications

Environment	S-Video equipment	
Devices	DVD players, satellite receivers, laptops, notebooks, monitors, LCD projectors, CCD cameras, video switchers, S-Video splitters, S-Video converters and other S-Video equipment.	
Transmission	Transparent to the user	
	S-Video	**Audio (500017 only)**
Bandwidth	DC to 6 MHz	20 Hz ~ 20 kHz
Peripherals' Impedance	75 ohms	Source 100 Ω Mx, Receiver 10 kΩ min.
Max. Input	1.1 Vp-p	1.1 Vp-p
THD	NA	Less then 0.007% @ 1 kHz
Insertion Loss	Less than 2 dB per pair from DC to 6 MHz	Less than 2 dB per pair
Return Loss	Better than 15 dB over the frequency range	N/A
Common Mode Rejection Ratio	Greater than 40 dB over the frequency range	N/A
Max. Distance: Cat5e/6 UTP/STP	1,000 ft (305 m)	3250 ft (1 km)
Pin Configuration (RJ45)	Luma: Pins 7(R) & 8(T) Chroma: Pins 4(R) & 5(T) *Reverse Polarity Sensitive*	Audio 1: Pins 1(R) & 2(T) Audio 2: Pins 3(R) & 6(T)
Cable: Cat5e/6 UTP/STP	24 AWG or lower solid copper twisted pair wire Impedance: 100 ohms at 1 MHz Maximum capacitance: 20 pf/ft Attenuation: 6.6 dB/1,000 ft at 1 MHz	
Connectors	500016: One (1) 4-pin Mini DIN and one (1) RJ45 500017: One (1) 4-pin Mini DIN, two (2) RCA jacks and one (1) RJ45 The 500017 comes with one (1) 6" dual-RCA stereo audio cable	
Temperature	Operating: 0° to 55°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing.	
Enclosure	Fire retardant plastic	
Dimensions	500016: 1.875" x 1.0" diameter plus 5" S-Video lead 500017: 2.40" x 2.25" x 1.00" plus 5" S-Video lead	
Weight	500016: 1.0 oz (28 g) 500017: 4.1 oz (118 g)	
Warranty	Lifetime	
Order Information	500016 S-Video Balun 500017 S-Video/Audio Balun	

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S-Video Balun – 500016
S-Video/Audio Balun – 500017
Quick Installation Guide

Overview

The S-Video Balun allows a single S-Video signal to be transmitted via an unshielded twisted pair (UTP) cable in a point-to-point connection for more versatile cabling.

The product is available in two models: The S-Video Balun (500016) and the S-Video/Audio Balun (500017). Used in pairs, the S-Video Balun eliminates costly and bulky S-Video cables, allowing S-Video equipment to be connected or moved to any convenient modular outlet. The S-Video Balun works in conjunction with MuxLab's CCTV-Audio/Video Distribution Hub (500200), allowing S-Video programming to be distributed via UTP. The 500017 has a 20 Hz- 20 kHz bandwidth for Hi-Fidelity applications.

Applications

The S-Video Balun allows pre-existing twisted pair cables to be used in such applications as classroom video distribution, overhead projector systems, PC-training systems and tradeshow PC-demo systems in the S-Video environment.

Installation

To install the S-Video Balun, perform the following steps:

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

1. Turn off power and disconnect the S-Video source and S-Video monitor.
2. Make certain that modular outlets and cross connects to which you will connect the S-Video Balun are configured properly and labeled appropriately to identify the circuit.

Caution: Do not connect the S-Video Balun to a telecommunication outlet wired to unrelated equipment. Making such a connection may damage the equipment and/or the balun. Please ensure that all wiring is "straight-through" twisted pair.

3. Verify that the desired twisted pairs are not being used for other LAN or telephone equipment.
4. The S-Video Baluns operate in pairs.
5. Connect the S-Video Balun (500016 or 500017) to the S-Video port of the source equipment (*i.e.*, DVD or VCR). If the S-Video/Audio Balun is being installed, connect the audio connectors to the audio source via RCA-type audio/video jumper cables.

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

6. Connect a 4-pair Cat5e/6 cable from the RJ45 8-position modular jack of the S-Video Balun to the twisted pair cabling of the building. The 500016 requires two pairs. The 500017 requires four pairs if both S-Video and stereo audio are used.
7. At the destination point, connect an S-Video Balun to the S-Video monitor or projector.
8. Connect a 4-pair Cat5e/6 cable from the RJ45 connector of the S-Video Balun to the appropriate modular wall outlet. See typical application below. If the S-Video/Audio Balun is being installed, connect the audio connectors to the audio inputs (*i.e.*, loudspeakers) via RCA-type audio/video jumper cables.
9. Power on the S-Video equipment at both ends and adjust the monitor image and audio levels to the desired settings.

S-Video Projection Using 500016

S-Video and Audio Using 500017

Troubleshooting

The following tables describe some of the symptoms, probable causes and possible solutions regarding the S-Video Balun:

Video Symptom	Probable Cause	Possible Solutions
No video	No continuity in video link	Verify cable continuity between pairs of baluns.
	Power off	Check power supplies of video equipment.
	Improper connection and/or swapped pair	Check that baluns are connected to correct video inputs and outputs
Unusual colors	Reversed polarity	Check wiring and ensure straight-through polarity
Background pattern	EMI interference	Identify possible radiating frequency sources (*i.e.*, wireless LANs, switching power supplies). Try to isolate them from the video connection. Use shielded twisted pair grounded at both ends.
Smearing	Exceeded distance	Verify cable grade. Use higher-grade cable if necessary.
Weak contrast	Exceeded distance	Verify cable grade. Use higher-grade cable if necessary. Increase contrast on monitor.
	Unusual link attenuation	Verify cable distance using ohmmeter or cable tester.
Image not stable	Defective link or equipment	Verify video equipment interface integrity.
Horizontal bars moving slowly	Substantial crosstalk between multiple video sources	Consecutively turn off other video sources to determine which video source is the cause of interference.
Snowy picture	Distance is near limit	Verify cable grade; use higher-grade cable if necessary; reduce color intensity at monitor.

Audio Symptom	Probable Cause	Possible Solutions
Poor Quality Audio	EMI interference	Check that wiring is not too close to
	Split pair	Correct the UTP pairs if they are split.
No Audio	Power-off	Check power supply.
	Open contact	Check wiring to ensure continuity.
	Defective Audio Balun	Change Audio Baluns for another pair.
Weak Audio	Distance exceeds specs	Check DC loop resistance. Reduce cable length or eliminate high-loss components.
	Lower grade UTP cable is introducing high signal losses.	Use signal repeater for extended distance. Replace cable by higher grade.