



S-Video Baluns (500016, 500017 & 500038) Frequently Asked Questions (FAQ)

1. **What is the main function of the S-Video Balun?** The main function is to allow more cost-effective Cat5e/6 twisted pair cable to be used instead of traditional S-Video cable.
2. **What is the shortest distance at which it is cost-effective?** The shortest distance, where cost-effectiveness is seen, depends on the actual installation. In cases where the labor cost to install S-Video cable is prohibitive (such as breaking through walls), then the S-Video Balun will provide a solution by allowing pre-existing twisted pair to be used. If the goal is to save on the material cost of the cable alone, then at distances of 75 to 150 feet cost savings will be achieved depending on; a) the number of S-Video signals being passed under one Cat 5 cable and b) the actual price-per-foot differential between S-Video and Category 5 cable.
3. **What is the picture quality when Cat5e twisted pair cable is used versus S-Video cable?** When the maximum distance specifications are respected, the difference in image quality is virtually imperceptible.
4. **Will the performance results be better if Cat5e or a higher cable grade is used?** It is possible that a slightly greater distance will be achieved.
5. **Will the S-Video Balun work with shielded twisted pair cable?** Yes, as long as the shield of the cable is grounded on at least one end. If not, the shield may act as an antenna and interfere with the S-Video signal.
6. **What problems can arise during the installation of the S-Video Balun?** Since the S-Video Balun is passive, nothing can go wrong with the balun itself. The most common problems arise due to the cabling itself. The S-Video Balun requires that straight-through wiring be respected between the baluns. Problems such as wrong pin configuration, split pairs, swapped pairs, reverse signal polarity are some of the most common causes. More information can be found in the Installation Guide and in the Application Guide available on the web at www.muxlab.com.
7. **How does S-Video compare with other forms of analogue video?** According to industry experts, S-Video provides better image quality than composite video and lesser quality versus component video (i.e. RGB, VGA, and YPbPr).
8. **Is there a possibility of interference from outside electromagnetic fields such as fluorescent lighting, and transformers?** Not as long as the TIA/EIA cabling guidelines for Cat5e/6 twisted pair cabling are respected.
9. **Can more than one S-Video signal be transmitted under one 4-pair Cat5e UTP cable?** Yes. Up to two (2) S-Video signals can be transmitted under one 4-pair Cat5e UTP cable. Each S-Video signal uses two pairs; one for Chroma (C) and one for Luma (Y).
10. **Can 25-pair and 50-pair bulk twisted pair cable be used to transmit multiple S-Video signals?** Yes. As long as the 25-pair and 50-pair cable meets Cat 5 specifications, it may be used to transmit multiple S-Video signals respectively.
11. **Can other low voltage signals such as voice, audio, 24VAC power and data co-exist with S-Video under the same multipair Cat 5e cable?** Yes.
12. **If 24VAC is passed under the same Cat 5e cable jacket as the S-Video, will the video image be affected?** No. 24VAC will not affect the video picture quality if run on an adjacent pair of wires. Note that the 24VAC

will be attenuated and may not operate the equipment if the voltage is not high enough. Please verify with the corresponding equipment manufacturer as to what the minimum voltage must be.

13. **Will the S-Video Balun work with other cable besides Cat5e?** Yes. The CCTV Baluns will work with lower grades of twisted pair cable such as Cat 3. Maximum distances will be significantly less than with Cat5e.
14. **Where can I find outdoor Cat5e cable?** Mohawk/CDT sells several types of outdoor Cat 5e cable.
<http://www.mohawk-cable.com/images/products/pdf/lantrak%20cat%205e%20utp.pdf>
15. **We have a need for low smoke, zero halogen S-Video cable. What would you recommend as an equivalent solution?** It is recommended to use LSZH Cat5e cable in conjunction with the S-Video Balun.
Example: Belden DataTwist 1224, 4-pair, 24 AWG, LSZH, Cat 5e.
<http://www.belden.com/pdfs/Prodbull/NP288.pdf>

For more information, please contact MuxLab Customer Technical Support at 1-877-689-5228, or at 514-905-0588 or at <http://www.muxlab.com/>

Dec 2009