

Specifications

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|---|---|
| Environment | Component Video (YPbPr), RGB Video (sync on green), 480i/p, 720p, 1080i/p. IR-emitter pass-through. |
| Devices | DVD players, satellite receivers, plasma displays, projectors, monitors, up-converters, amplifiers, switchers, home theatre and other equipment supporting HDTV component video and/or IR. |
| Transmission | Transparent to the user |
| Bandwidth | Video: 60 MHz, 3 dB roll off |
| Maximum Input | 1.1 Vp-p |
| Insertion Loss per pair | 0.1 dB for 0.1 MHz Gradually increasing to 3.0 dB over the frequency range |
| Return Loss | Greater than 15 dB over the frequency range |
| Common Mode Rejection Ratio (CMRR) | -55 dB max. |
| Max. Distance Color via Cat 5E/6 UTP/STP Cable | 480i/p: 1,000 ft (305 m) 720p and 1080i/p: 500 ft (152 m) IR emitter: See IR vendor specs |
| Cable: Cat 5E/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 |
| Cable: Coax | Impedance: 75 ohms at 1 MHz |
| Connectors | 500054: Three RCA-M connectors: Green (Y), Blue (Pb), Red (Pr) 500055: Three RCA-F connectors: Green (Y), Blue (Pb), Red (Pr) One (1) 2-pole terminal block for IR-emitter pass-through RJ45S for twisted pair |
| Pin Configuration <i>Reverse polarity sensitive</i> | Red (Pr): Pins 7(R) & 8(T) Green (Y): Pins 3(R) & 6(T) Blue (Pb): Pins 1(R) & 2(T) IR Pass-Thru: Pins 4(R) & 5(T) |
| Temperature | Operating: 0° to 55°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing |
| Enclosure | ABS fire retardant plastic |
| Dimensions | 500055: 2.40" x 2.25" x 1.00" (6.10 x 5.72 x 2.54 cm) 500054: plus 6" (15 cm) cable lead for video |
| Weight | 2.9 oz (81 g) |
| Regulatory | FCC, CE, RoHS |
| Warranty | Lifetime |
| Order Information | 500054 Component Video/IR Pass-Thru Balun, M 500055 Component Video/IR Pass-Thru Balun, F |



Component Video / IR Pass-Thru Balun 500054, 500055 Quick Installation Guide

Overview

The Component Video/IR Pass-Thru Balun (500054, 500055) allows one component video (YPbPr or RGB) signal and one IR-emitter signal to be transmitted via a cost-effective unshielded twisted pair (UTP) cable.

Used in pairs, the Component Video/IR-Pass-Thru Balun supports 480i/p, 720p and 1080i/p resolution for hi-definition (HDTV) video applications.

The product allows four coaxial cables to be replaced by one Category 5E/6 twisted pair cable allowing standard structured cabling techniques to be used for more efficient cabling.



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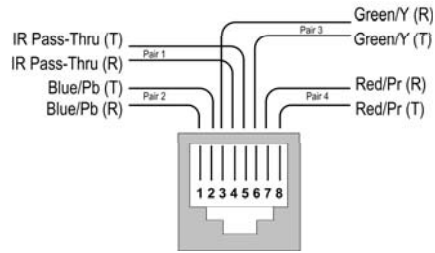
Toll Free (North America): (877) 689-5228

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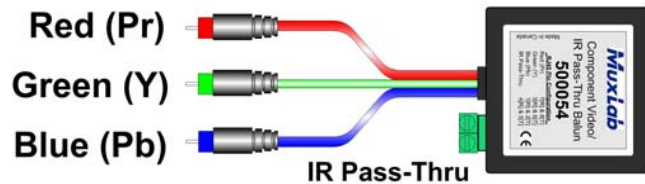
Installation

One (1) pair of baluns is needed to complete one component (YPbPr/RGB) connection via Cat 5E/6 twisted pair. To install the baluns, 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 optional IR emitter pass-thru. The pin configuration follows the EIA/TIA 568A/B standard. The Component Video/IR Pass-Thru Balun is reverse polarity sensitive. Please ensure that wiring is straight-through (Ring to Ring, Tip to Tip).



2. Plug one (1) balun into the component video coaxial cable output of the video source according to the color code of the RCA cable leads.



3. Plug the second balun into the component video coaxial cable input of the video screen or receiver at the remote end.
4. Complete the connection between the two baluns, using standard Cat 5E/6 twisted pair cable and connecting hardware, terminated on RJ45 plugs at both ends. Ensure that there are no split pairs or taps.
5. If IR-Pass-Thru is connected (optional), connect a 2-wire IR lead between the terminal blocks on the balun and the IR-emitter equipment at both ends.



6. Power-on the component video equipment. Check the image quality and refer to the troubleshooting table below if the image quality is unsatisfactory. The following diagram shows a typical installation with IR-Pass-Thru.

Troubleshooting

The following tables describe some of the symptoms, probable causes and possible solutions in respect to the installation of the Component Video/IR Pass-Thru 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. |

| IR Symptom | Probable Cause | Possible Solutions |
|--------------|--------------------------|--|
| No IR signal | No continuity in IR pair | Check wiring. |
| | IR equipment malfunction | Check IR equipment with direct connection. |

If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).