

# Specifications

<b>Environment</b>	Component Video (YPbPr), RGB Video (sync on green). 480i/p, 720p, 1080i/p.
<b>Devices</b>	DVD players, satellite receivers, plasma displays, projectors, monitors, up-converters, amplifiers, switchers, home theatre and other equipment supporting HDTV component video and/or digital audio (Dolby Digital™, dts™).
<b>Transmission</b>	Transparent to the user.
<b>Bandwidth</b>	Video: 60 MHz, 3 dB roll off. Digital audio: 25 MHz, 1dB roll off
<b>Maximum Input</b>	1.1Vp-p
<b>Insertion Loss per pair (video)</b>	.1 dB for 0.1 MHz. Gradually increasing to 3 dB over the frequency range
<b>Insertion Loss per pair (audio)</b>	Less than 1 dB over the frequency range
<b>Return Loss (video)</b>	Greater than 15 dB over the frequency range
<b>Return Loss (audio)</b>	Greater than 15 dB over the frequency range
<b>Common Mode Rejection (video)</b>	-55 dB max.
<b>Common Mode Rejection (audio)</b>	-55 dB max.
<b>Max. Distance Color – Cat 5 UTP &amp; STP</b>	480i/p: 1,000 ft (305m). 720p and 1080I: 500 ft (152m). Digital Audio: 600 ft (182m). Compatible with 500020.
<b>Cable – Cat5 UTP/STP</b>	24 gauge or lower solid copper twisted pair wire impedance: 100 ohms at 1 MHz. Maximum capacitance: 20 pf/foot. Attenuation: 6.6 dB/1000 ft at 1 MHz
<b>Cable – Coax</b>	Impedance: 75 ohms at 1 MHz
<b>Connectors</b>	Three (3) RCA-M connectors: Green (Y), Blue (Pb), Red (Pr) One (1) RCA-F connector for digital audio RJ45S for twisted pair
<b>Pin Configuration</b> <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] Digital Audio: Pins 4 [R] & 5 [T]
<b>Temperature</b>	Operating: 0° to 55°C. Storage: -20° to 85°C. Humidity: up to 95%
<b>Enclosure</b>	ABS fire retardant plastic
<b>Dimensions</b>	2.40" x 2.25" x 1.0" (6.1 x 5.7 x 2.54 cm) plus 6" (15.24cm) cable lead for video.
<b>Weight</b>	2.9 oz (81gms)
<b>Regulatory</b>	FCC, CE.
<b>Warranty</b>	Lifetime
<b>Order Information</b>	IC566A Component Video/Digital Audio Balun

## Component Video/Digital Audio Balun (IC566A) Installation Guide

### Introduction

The Component Video/Digital Audio Balun (IC566A) allows one component video (YPbPr or RGB) signal and one Digital Audio signal to be transmitted via cost-effective unshielded twisted pair (UTP) cable.

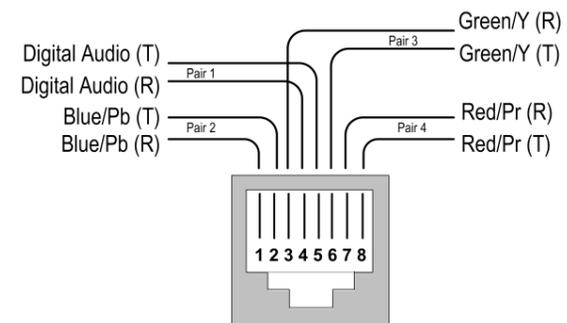
Used in pairs, the Component Video/Digital Audio Balun supports 480i/p, 720p and 1080i/p resolution for hi-definition (HDTV) video applications.

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

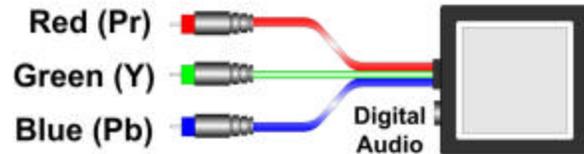
### Installation

One (1) pair of baluns are needed to complete one component (YPbPr/RGB) connection via Cat5 twisted pair. To install the baluns, perform the following steps:

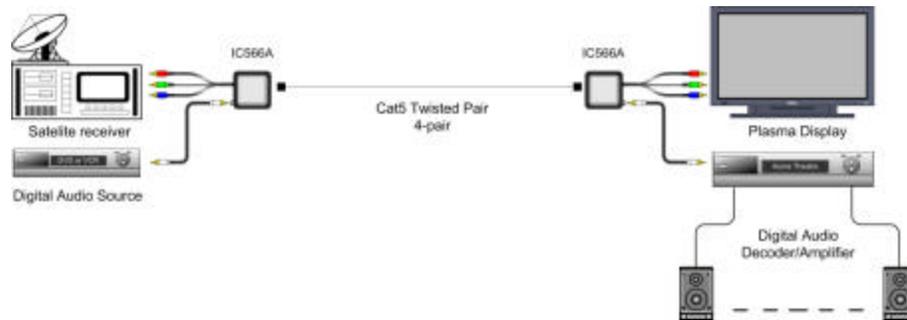
1. Identify the pin configuration of the baluns. Three (3) twisted pairs are required for video and one (1) twisted pair is required for optional digital audio. The pin configuration follows the EIA/TIA 568A/B standard. The Component Video/Digital Audio Balun is reverse polarity sensitive. Please ensure that wiring is straight-through (Ring to Ring, Tip to Tip).



- 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.



- Plug the second balun into the component video coaxial cable input of the video screen or receiver at the remote end.
- Complete the connection between the two baluns, using standard Cat5 twisted pair cable and connecting hardware, terminated on RJ45 plugs at both ends. Ensure that there are no split pairs or taps.
- If Digital Audio is to be connected (optional), connect an RCA lead between the balun and the digital audio equipment at both ends.
- 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.



## Troubleshooting

The following tables describe some of the symptoms, probable causes and possible solutions in respect to the installation of the Component Video/Digital Audio Balun. If you still cannot diagnose the problem, please call Black Box Tech Support at 724-746-5500.

Video		
Symptom	Probable Causes	Possible Solutions
No video	No continuity in video link	Verify cable continuity between pairs of baluns.
No video	Power off	Check power supplies of video equipment.
No video	Improper connection Swapped pairs	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 sources (ie; wireless, switching psus) Try to isolate them from the video. 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.
Weak contrast	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.

Digital Audio		
Symptom	Probable Causes	Possible Solutions
No audio	Distance exceeded	Verify cable length between the two baluns.
No audio	Split pair	Check if the UTP pairs are split and correct. Each signal pair must be twisted.
No audio	Power-off.	Check power supplies of digital audio equipment.
Missing channels	Cabling problem between the decoder/amp and the audio speakers.	Check audio speaker cabling.
Noise, static	EMI interference.	Check that wiring is not too close to transformers and ballasts.
Noise, static	Distance exceeded or unusual cable attenuation	Check cable distance and cable grade.