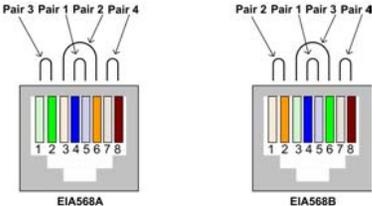


# Specifications

<b>Environment</b>	HDMI 1.3a													
<b>Devices</b>	DVD, plasma, projectors, monitors, TV, PC, laptops, servers supporting HDMI.													
<b>Transmission</b>	Transparent to the user													
<b>Bandwidth</b>	225 MHz													
<b>Signals</b>	HDMI 1.3a protocol													
<b>Connectors</b>	One (1) HDMI receptacle. Two (2) RJ45S for Cat 5e/6 unshielded or shielded twisted pair. <i>Note: HDMI cables not included.</i>													
<b>Maximum Distance</b>	<table border="0"> <tr> <td>480i/p:</td> <td>Cat 5e: 300 ft (91 m)</td> <td>Cat 6: 300 ft (91 m)</td> </tr> <tr> <td>720p, 1080i:</td> <td>Cat 5e: 300 ft (91 m)</td> <td>Cat 6: 300 ft (91 m)</td> </tr> <tr> <td>1080p:</td> <td>Cat 5e: 150 ft (46 m)</td> <td>Cat 6: 200 ft (61 m)</td> </tr> <tr> <td>1080p Deep Color:</td> <td>Cat 5e: 90 ft (27 m)</td> <td>Cat 6: 150 ft (46 m)</td> </tr> </table> <p><i>Note: When installed in an electrically noisy environment, an STP cable must be used. Also, cross-connection reduces the effective distance depending on the grade of twisted cable used.</i></p>		480i/p:	Cat 5e: 300 ft (91 m)	Cat 6: 300 ft (91 m)	720p, 1080i:	Cat 5e: 300 ft (91 m)	Cat 6: 300 ft (91 m)	1080p:	Cat 5e: 150 ft (46 m)	Cat 6: 200 ft (61 m)	1080p Deep Color:	Cat 5e: 90 ft (27 m)	Cat 6: 150 ft (46 m)
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1080p Deep Color:	Cat 5e: 90 ft (27 m)	Cat 6: 150 ft (46 m)												
<b>RJ45 Pin Configuration</b>	<p><b>RJ45 A (HDMI A)</b></p> <p>Pin 1 (R) Pin 2 (T) Pin 3 (R) Pin 6 (T) Pin 4 (R) Pin 5 (T) Pin 7 (R) Pin 8 (T)</p> <p><b>RJ45 B (HDMI B)</b></p> <p>Pin 1 (R) Pin 2 (T) Pin 3 (R) Pin 6 (T) Pin 4 (R) Pin 5 (T) Pin 7 (R) Pin 8 (T)</p> 													
<i>Reverse Polarity Sensitive. Use ELATIA 568A or 586B straight-through wiring.</i>														
<b>Cable</b>	Two (2) Cat 5e/6 or better twisted pair cables required													
<b>Power Supply</b>	Two (2) 110-240V/12VDC power supplies with interchangeable blades													
<b>Power Consumption</b>	Transmitter: 1.8 Watt Receiver: 3.6 Watt													
<b>Temperature</b>	Operating: 0° to 55°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing													
<b>Enclosure</b>	Fire retardant plastic													
<b>Dimensions</b>	Transmitter: 2.40" x 2.25" x 1.00" (6.1 x 5.7 x 2.5 cm) Receiver: 4.50" x 3.00" x 1.25" (11.4 x 7.6 x 3.2 cm)													
<b>Weight</b>	2.0 lb (0.9 kg)													
<b>Mounting</b>	Velcro Pads (included)													
<b>Compliance</b>	Regulatory: FCC, CE, RoHS Flammability: 94V0													
<b>Warranty</b>	2 years													
<b>Order Information</b>	500405 HDMI IR/Extender Kit 500406 HDMI IR/Transmitter 500407 HDMI IR/Receiver													



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## HDMI IR/Extender Kit

500405

## Quick Installation Guide

### Overview

The HDMI IR/Extender Kit (500405) allows HDMI equipment to be connected up to 150 ft (46 m) @ 1080p Deep Color via two (2) Cat 6 unshielded twisted pair cables in a point-to-point configuration. The kit comes with one (1) Transmitter and one (1) Receiver.

### Applications

Applications include commercial and residential AV systems, classroom projector systems, digital signage, boardroom systems, collaborative PC systems, and medical information systems.

## Installation

1. Identify the connectors on the Transmitter and Receiver as indicated on the product labels.



2. Verify that the distance between the HDMI Transmitter and Receiver is within MuxLab specifications (see Specifications table).
3. To install the Transmitter:
  - 3a. Connect the Transmitter to the HDMI video source with an HDMI compliant cable.
  - 3b. Connect two (2) lengths of Cat 5e/6 (or higher) grade UTP cables to HDMI LINK A and HDMI LINK B connectors on the Transmitter.
4. To install the Receiver:
  - 4a. Connect the Receiver to the HDMI display equipment with an HDMI compliant cable.
  - 4b. Connect the two (2) Cat 5e/6 cables to HDMI LINK A and HDMI LINK B connectors on the Receiver.

**Note: Verify that the cables are connected straight-through (i.e., HDMI LINK A to HDMI LINK A and HDMI LINK B to HDMI LINK B) and not inverted.**

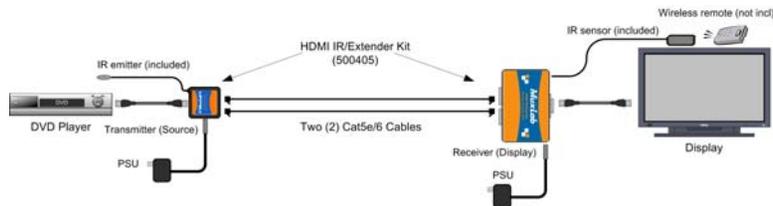
5. Connect the 12 VDC power supply to the Receiver first, and then plug the power supply into an AC power outlet. Connect the 12 VDC power supply to the Transmitter first, and then plug the power supply into an AC power outlet. If power is present, the green power LED of the Receiver will be ON. The power LED of the Transmitter will only be ON when the source equipment (i.e., DVD Player, PC, etc.) is powered on.

**Note: Power the HDMI IR/Extender Balun only after all connections are made.**

6. Power the HDMI equipment and verify the image quality.
7. If infrared remote control is needed, connect the IR Sensor to the 3.5mm Stereo Jack of the receiver and the IR Emitter to the 3.5mm Mono Jack of the Transmitter.

**Note: You can differentiate the IR Sensor and the IR Emitter by looking at the 3.5 mm plug. The IR Sensor is using a Stereo Plug (3 Contacts) and the IR Emitter a mono plug (2 Contacts).**

8. Position the IR Sensor so that it is directed to the hand-held remote control. For a clear IR signal reception, aim the hand-held remote control to the top of the IR Sensor enclosure.
9. Position the IR Emitter as close as possible to the source's IR Sensor (i.e. DVD player). For a clear IR signal reception, the IR Emitter can be glued on the source's IR Sensor. The IR Emitter's signal is transmitted from the side of the enclosure.
10. The following diagram shows the final configuration.



## Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in respect to the installation of the HDMI IR/Extender Kit:

Symptom	Tx LED		Rx LED		Probable Cause	Possible Solutions
	Power	Sync	Power	Sync		
No Image	OFF	OFF	OFF	OFF	No power	• Check power connections
No Image	OFF	OFF	ON	OFF	Source not power on	• Power on source and check the HDMI cable of the source.
No Image	ON	OFF	ON	OFF	Cable	• Check the UTP cables pin-out. • Verify that the UTP cables are not crossed.
No Image	ON	ON	ON	OFF	Synchronization	• Check cable length. • Check source resolution versus distance.
Flickering Image	ON	ON	ON	ON	Synchronization	• Check cable length
Choppy sound	ON	ON	ON	ON	Synchronization	• Check cable length
Green or pink hue	ON	ON	ON	ON	DDC communication	• Cycle power of the HDMI Extender. • Check UTP cables and replace.
Image flickers when powering up nearby equipment	ON	ON	ON	ON	Interference	• Use STP cables
IR not functioning	ON	ON	ON	ON	Remote control not directed to the IR Sensor or IR Emitter not directed to the source.	• Make sure the IR Sensor is directed towards the remote and the IR Emitter to the equipment
IR not functioning	ON	ON	ON	ON	Interference from sunlight, Fluorescent, Neon or Halogen lights	• Place the IR equipment away for the interfering light
IR not functioning	ON	ON	ON	ON	Interference from RF radiation from the TV	• Place the IR equipment away for the RF radiation

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).