Specifications
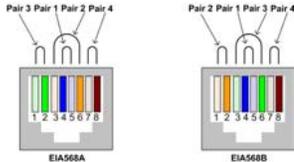
Environment	HDMI 1.3a (Supports the 3D feature of HDMI 1.4)
Devices	DVD, plasma, projectors, monitors, TV, PC, laptops, servers supporting HDMI.
Transmission	Transparent to the user
Bandwidth	340 MHz
Signals	HDMI 1.3a protocol
Connectors	One (1) HDMI receptacle. One (1) RJ45S for Cat 5e/6 unshielded or shielded twisted pair. Two (2) RJ45S for LAN (10/100BaseT) connection. Two (2) 3.5mm jacks for IR emitter and sensor. *Note: HDMI cables not included.*
Maximum Distance *Based on a maximum length of 6.6 ft (2 m) of HDMI cable per end.*	480i/p: Cat 5e/6: 330 ft (100 m) 720p, 1080i: Cat 5e/6: 330 ft (100 m) 1080p: Cat 5e/6: 330 ft (100 m) 1080p Deep Color: Cat 5e/6: 330 ft (100 m) *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.*
RJ45 Pin Configuration *Reverse Polarity Sensitive. Use EIA/TIA 568A or 586B straight-through wiring.*	**RJ45 Link** Pin 1 (R) Pin 2 (T) Pin 3 (R) Pin 6 (T) Pin 4 (R) Pin 5 (T) Pin 7 (R) Pin 8 (T)
Cable	One (1) Cat 5e/6 or better twisted pair cables required
Power Supply	Two (2) 110-240V/5VDC power supplies with interchangeable blades
Power Consumption	Transmitter: 2.75 Watt Receiver: 5.15 Watt
Temperature	Operating: 0° to 40°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing
Enclosure	Metal
Dimensions	4.40" x 3.00" x 1.00" (11.2 x 7.6 x 2.5 cm)
Weight	1.4 lb (.6 kg)
Compliance	Regulatory: FCC, CE, RoHS Flammability: 94V0
Warranty	2 years
Order Information	500453 HDMI / LAN Mono Extender Kit

HDMI / LAN Mono Extender Kit
500453
Quick Installation Guide

Overview
The HDMI / LAN Mono Extender Kit (500453) allows HDMI equipment to be connected up to 330 ft (100 m) @ 1080p Deep Color via one (1) Cat 5e/6 unshielded twisted pair cables in a point-to-point configuration. The product also features two LAN ports for interconnecting Ethernet equipment via the same Cat5e/6 cable. The kit comes with one (1) Transmitter and one (1) Receiver as well as an IR Emitter (500998) and IR Sensor (500999) for remote control applications.

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.
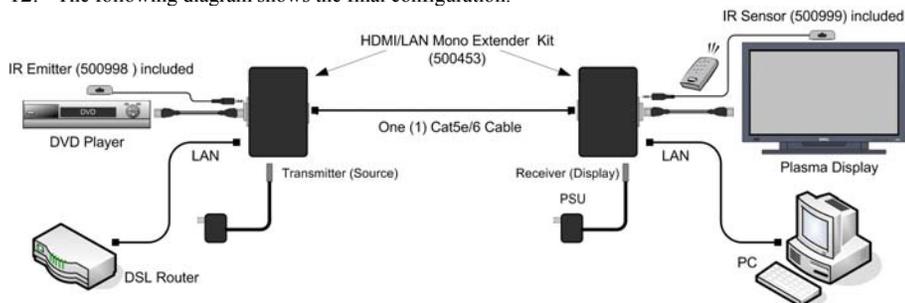
2. Verify that the distance between the HDMI Transmitter and Receiver is within MuxLab specifications (see Specifications table).

3. To install the Transmitter:
   3a. Connect the Transmitter to the HDMI video source with an HDMI compliant cable.
   3b. Connect one (1) lengths of Cat 5e/6 (or higher) grade UTP cables to RJ45 LINK 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 one (1) Cat 5e/6 cables to RJ45 LINK connectors on the Receiver.

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 Transmitter and the Receiver will be ON.

   Note: Power the HDMI/LAN Mono Extender only after all connections are made.

6. Power the HDMI equipment and verify the image quality.

7. This product support bidirectional IR control. If infrared remote control is needed to control the Source equipment from the Display, 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. If infrared remote control is needed to control the Display equipment from the Source, connect the IR Emitter to the 3.5mm Stereo Jack of the receiver and the IR Sensor to the 3.5mm Mono Jack of the Transmitter.

11. If an Ethernet 10/100 LAN connection is required, connect Cat5e/6 jumper cables between the LAN equipment and the RJ45 LAN connectors on the Transmitter and Receiver.

12. 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/LAN Mono Extender Kit:

Symptom	Tx LEDs			Rx LEDs			Probable Cause	Possible Solutions
	Power	HDMI	RJ45	Power	HDMI	RJ45		
No Image	OFF	OFF	OFF	OFF	OFF	OFF	No power	• Check power connections
No Image	ON	OFF	OFF	ON	OFF	OFF	UTP Cable	• Check the UTP cables.
No Image	ON	OFF	ON	ON	OFF	ON	HDMI Cable	• Check the HDMI Cable.
No Image	ON	ON	ON	ON	ON	ON	Synchronization	• Check cable length.
Flickering Image	ON	ON	ON	ON	ON	ON	Synchronization	• Check cable length • Check the HDMI Cable Quality.
Choppy sound	ON	ON	ON	ON	ON	ON	Synchronization	• Check cable length • Check the HDMI Cable Quality.
Green or pink hue	ON	ON	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	ON	ON	Interference	• Use STP cables
IR not functioning	ON	ON	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	ON	ON	Interference from sunlight, Fluorescent, Neon or Halogen lights	• Place the IR equipment away for the interfering light
IR not functioning	ON	OFF	OFF	ON	OFF	OFF	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).