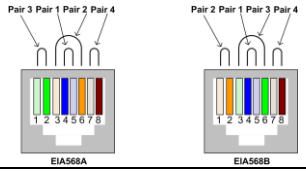
Specifications

Environment	HDMI 1.4a
Devices	DVDs, Blu-ray players, projectors, monitors, TVs, PCs, laptops, servers supporting HDMI.
Transmission	Transparent to the user
Bandwidth	340 MHz
Signals	HDMI 1.4a protocol
Connectors *Cables not included*	One (1) HDMI receptacle. One (1) RJ45S for Cat 5e/6 unshielded or shielded twisted pair. Two (2) 3.5mm jacks for IR emitter and sensor. One (1) 2.1mm locking power connector.
Maximum Distance *Based on a maximum length of 6.6 ft (2 m) of HDMI cable per end.*	4K/30 (4:4:4): Cat 5e/6: 131ft (40m) 4K/60 (4:2:0): Cat 5e/6: 131ft (40m) 1080p: Cat 5e/6: 230ft (70m) 1080p Deep Color: Cat 5e/6: 230ft (70m) *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	One (1) 110-240V/48VDC 0.5A power supply
Power Consumption	Transmitter: 1.6 Watt Receiver: 3.2 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 lbs (0.6 kg)
Compliance	Regulatory: FCC, CE, RoHS Flammability: 94V0
Warranty	2 years
Order Information	500451-POE HDMI Extender Kit, PoE, HDBT, UHD-4K 500451-POE-RX HDMI Extender Receiver, PoE, HDBT, UHD-4K

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HDMI Extender Kit, PoE, HDBT, UHD-4K

500451-PoE (Kit), 500451-PoE-RX (Receiver only)

Quick Installation Guide

Overview

The HDMI Extender Kit, PoE, HDBT, UHD-4K (500451-PoE) allows HDMI equipment to be connected up to 131ft (40m) @ 4K/30 (4:4:4) or 4K/60 (4:2:0) resolution, or up to 230ft (70m) @ 1080p Deep Color via one (1) Cat 5e/6 unshielded twisted pair cables in a point-to-point configuration. The kit comes with one (1) Transmitter and one (1) Receiver as well as an IR Emitter and IR Sensor for remote control applications. The 500451-PoE-RX is the receiver portion of the kit and is used in conjunction with MuxLab's HDBaseT Matrix Switches. For installation instructions, please refer to the Matrix Switch Installation Guide.

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) Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Transmitter.

4. To install the Receiver:
   - 4a. Connect the Receiver to the HDMI display equipment with an HDMI compliant cable.

Note: When used with MuxLab's HDBaseT Matrix Switches, please consult the Matrix Switch Installation Guide.

4b. Connect the one (1) Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Receiver.

5. Connect the supplied 48VDC power supply to either the Transmitter or Receiver 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. The power supply only needs to power one of these units, the other will be powered over the UTP connection.

   Note: Power the HDMI Extender Kit only after all connections are made.

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

7. This product supports 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.

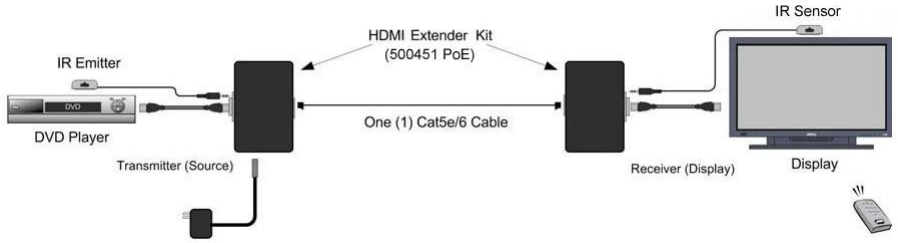
   Note: You can differentiate the IR Sensor and the IR Emitter by looking at the 3.5 mm plug. The IR Sensor is using a Stereo Plug (3 Contacts) and the IR Emitter a mono plug (2 Contacts).

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 at 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 must be secured so that it is facing the source's IR Sensor. The IR Emitter includes double sided tape to secure it in place.

10. If the 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. The following diagram shows the final configuration.



Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in regard to the installation of the HDMI Extender Kit, PoE, HDBT, UHD-4K:

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 cable.
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 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 equipment.	• 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 from the interfering light.
IR not functioning	ON	OFF	ON	ON	OFF	ON	Interference from RF radiation from the TV.	• Place the IR equipment away from 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).