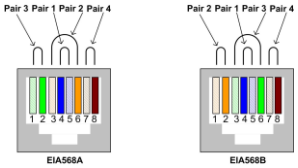
Specifications

Environment	HDMI 1.3a
Devices	DVD, plasma, projectors, monitors, TV, PC, laptops, servers supporting HDMI.
Transmission	Transparent to the user
Bandwidth	225 MHz
Signals	HDMI 1.3a protocol
Connectors	One (1) HDMI receptacle. One (1) RJ45S for Cat 5e/6 unshielded or shielded twisted pair. One (1) 3.5mm jacks for IR emitter/sensor. Four (4) DIP Switches for device ID addressing. *Note: HDMI cables not included.*
Maximum Distance *Based on a maximum length of 6.6 ft (2 m) of HDMI cable per end.*	Cat5e/6: 330 ft (100 m) up to 1080P *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.*
Latency	One (1) Frame
Compression	Motion JPEG
Bandwidth	60Mbps
Network Requirement	100BaseT for Point to Point; 1000BaseT for other configuration
IR Frequency	38KHz
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
PoE	IEEE 802.3af
Power Consumption	Transmitter: 2.9 Watt Receiver: 1.8 Watt
Temperature	Operating: 0° to 40°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing
Enclosure	Metal
Dimensions	3.70" x 3.68" x 0.97" (94 x 93.5 x 24.6 mm)
Weight	1.1 lb (0.5 kg)
Compliance	Regulatory: FCC, CE, RoHS Flammability: 94V0
Warranty	2 years
Order Information	500752 HDMI Over IP Extender Kit with PoE 500752-TX HDMI Over IP Encoder with PoE 500752-RX HDMI Over IP Decoder with PoE

8495 Dalton Road, Mount Royal, Quebec, Canada. H4T 1V5
Tel: (514) 905-0588 Fax: (514) 905-0589
Toll Free (North America): (877) 689-5228
E-mail: videoease@muxlab.com URL: www.muxlab.com

© MuxLab Inc. 94-000748-B SE-000748-B

HDMI over IP Extender Kit with PoE

500752

Quick Installation Guide

Overview

The HDMI over IP Extender Kit with PoE (500752) allows HDMI equipment to be connected up to 330 ft. (100m) @ 1080p via one (1) Cat5e/6 unshielded twisted pair cable in a point-to-point configuration. Point-to-multipoint and multipoint-to-multipoint is possible by connecting several encoders and decoders to the same Ethernet network. The Encoder (500752-TX) and Decoder (500752-RX) also support PoE (PD) if used with a PoE Ethernet Switch. The kit comes with one (1) Encoder and one (1) Decoder as well as an IR Emitter and IR Sensor for remote control applications.

For the point-to-multipoint and multipoint-to-multipoint configuration the Ethernet switch must have Gigabit ports, DHCP Server capability and IGMP communications protocol. We recommend to use the Cisco SG300 Series Managed Switches.

A MuxLab Management Software is available to simplify the configuration and utilization of the 500752. The Software can be downloaded from the MuxLab Web Site; http://muxlab.com/hdmi-over-ip-management-software

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 Encoder and Decoder as indicated on the product labels.

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

3. To install the Encoder:

   3a. Connect the Encoder to the HDMI video source with an HDMI compliant cable.

   3b. Connect one (1) length of Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Encoder.

4. To install the Decoder:

   4a. Connect the Decoder to the HDMI display equipment with an HDMI compliant cable.
   4b. Connect one (1) Cat 5e/6 cable to the RJ45 LINK connector on the Encoder.

5. If the configuration is a point-to-multipoint or multipoint-to-multipoint:

   5a. You will need to use an Ethernet Switch with Gigabit port, DHCP Server and IGMP Protocol. **Verify that the Ethernet Switch is configured correctly and that the DHCP Server and IGMP Protocol are enabled**. See the operating manual for more information about configuring the Ethernet Switch.
   5b. Connect all Encoders and Decoders to the Ethernet Switch.

   5c. Use the DIP Switches to select a unique Device ID for each Encoder present on the network and configure each Decoder Device ID to the corresponding selected Encoder. Note: This step is not necessary if the management software is used.

6. Powering the Encoder or Decoder via an external power supply is only necessary where PoE (PSE) is unavailable. If PoE is unavailable, connect the 5 VDC power supply to the Decoder first, and then plug the power supply into an AC power outlet. Connect the 5 VDC power supply to the Encoder first, and then plug the power supply into an AC power outlet. If power is present, the green power LED of the Encoder and the Decoder will be ON.

   Note: Power 'ON' the HDMI over IP Extender only after all connections have been made.

7. Power 'ON' the HDMI equipment and verify the image quality.

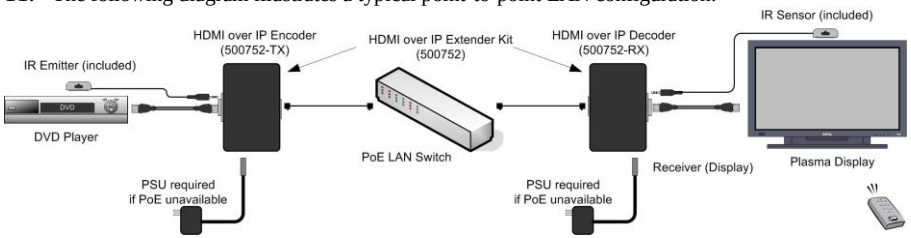
8. This product supports IR pass-thru control. If infrared remote control is needed to control the Source equipment from the Display, connect the IR Sensor to the 3.5mm Stereo Jack of the receiver and the IR Emitter to the 3.5mm Mono Jack of the Transmitter.

   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).

9. Position the IR Sensor so that it is directed at 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.

10. 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.

11. The following diagram illustrates a typical point-to-point LAN configuration.



© MuxLab Inc. 2014

Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in regard to the installation of the HDMI over IP Extender Kit with PoE:

Symptom	Encoder LEDs		Decoder LEDs		Probable Cause	Possible Solutions
	Power	Link	Power	Link		
No Image	OFF	OFF	OFF	OFF	No power	• Check power connections • Check PoE Ethernet Switch Setup
No Image	ON	OFF	ON	ON	Internal Error	• Reboot the Encoder unit.
No Image	ON	ON	ON	OFF	Internal Error	• Reboot the Decoder unit.
No Image	ON	ON	ON	ON	UTP Cable	• Check the Encoder UTP cable.
No Image	ON	BLINK	ON	ON	UTP Cable	• Check the Decoder UTP cable.
No Image	ON	BLINK	ON	BLINK	HDMI Cable	• Check the HDMI Cable Quality.
Choppy Image	ON	BLINK	ON	BLINK	Ethernet Switch	• For Multipoint-to-Multipoint enable the IGMP mode of the Gigabit Ethernet Switch.
Choppy sound	ON	BLINK	ON	BLINK	Synchronization	• Check cable length • Check the HDMI Cable Quality.
Image flickers when powering up nearby equipment	ON	BLINK	ON	BLINK	Interference	• Use STP cables
IR not functioning	ON	BLINK	ON	BLINK	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	BLINK	ON	BLINK	Interference from sunlight, Fluorescent, Neon or Halogen lights	• Place the IR equipment away for the interfering light
IR not functioning	ON	BLINK	ON	BLINK	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).