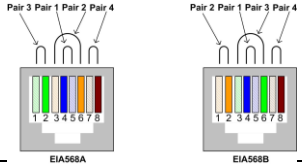


Specifications

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 and HDCP 1.4/2.2								
Connectors	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. <i>Cables not included.</i> One (1) Terminal block 3POS RS232 connector One (1) Terminal Block 2POS power connector.								
Maximum Distance	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) <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>								
RJ45 Pin Configuration	<p>RJ45 Link</p> <table border="0"> <tr> <td>Pin 1 (R)</td> <td>Pin 2 (T)</td> </tr> <tr> <td>Pin 3 (R)</td> <td>Pin 6 (T)</td> </tr> <tr> <td>Pin 4 (R)</td> <td>Pin 5 (T)</td> </tr> <tr> <td>Pin 7 (R)</td> <td>Pin 8 (T)</td> </tr> </table> 	Pin 1 (R)	Pin 2 (T)	Pin 3 (R)	Pin 6 (T)	Pin 4 (R)	Pin 5 (T)	Pin 7 (R)	Pin 8 (T)
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/12VDC @2A power supply with interchangeable blades								
Power Consumption	Transmitter: 1.8 Watt Receiver: 3.6 Watt								
Temperature	Operating: 0° to 40°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing								
Enclosure	Metal								
Dimensions	4.45" x 2.83" x 0.59" (11.3 x 7.2 x 1.5 cm)								
Weight	1.4 lbs (0.6 kg)								
Compliance	Regulatory: FCC, CE, RoHS Flammability: 94V0								
Warranty	1 year								
Order Information	100509 HDMI Extender Kit 70M, HDBT, UHD-4K								



HDMI Extender Kit 70M, HDBT, UHD-4K

100509

Quick Installation Guide

Overview

The HDMI Extender Kit 70M, HDBT, UHD-4K (100509) 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 two (2) IR Emitters and two (2) IR Sensors, plus two 3-Pin Phoenix plugs for RS232 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

- Identify the connectors on the Transmitter and Receiver as indicated on the product labels.
- Verify that the distance between the HDMI Transmitter and Receiver is within MuxLab specifications (see Specifications table).
- To install the Transmitter:
 - Connect the Transmitter to the HDMI video source with an HDMI compliant cable.
 - Connect one (1) Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Transmitter.
- To install the Receiver:
 - Connect the Receiver to the HDMI display equipment with an HDMI compliant cable.
 - Connect one (1) Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Receiver.
- Connect the 12VDC 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.



2321 Rue Cohen, Saint-Laurent, Quebec, Canada. H4R 2N7
 Tel: (514) 905-0588 Fax: (514) 905-0589
 Toll Free (North America): (877) 689-5228
 E-mail: info@muxlab.com URL: www.muxlab.com

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

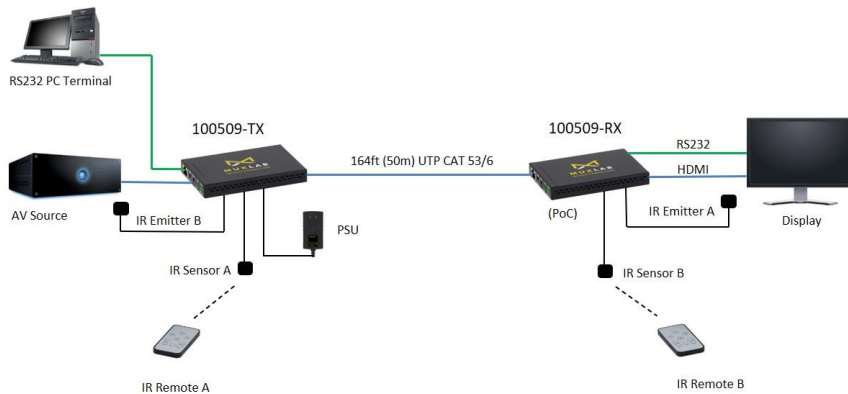
- Power the HDMI equipment and verify the image quality.
- This product supports bidirectional IR control. If infrared remote control is needed to control the Source equipment from the Display, connect the IR Sensor to the 3.5mm Stereo Jack of the receiver and the IR Emitter to the 3.5mm Mono Jack of 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).

- 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 toward the top of the IR Sensor enclosure.
- 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.
- If the infrared remote control is needed to control the Display equipment from the Source location, 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.
- The 100509 also supports RS232 pass-thru in order to allow a device such as commercial monitors to be controlled as in digital signage application. Please refer to the following table for the cabling connection.

Source DCE DB9 Pins	100509 TX RS232 Pins	100509 RX RS232 Pins	Display DTE DB9 Pins
TX – pin 3	RX	TX	RX- pin 3
RX – pin 2	TX	RX	TX – pin 2
GND	GND	GND	GND

- The following diagram shows an example 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 70M, HDBT, UHD-4K:

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