KVM HDMI over IP PoE Extender Deluxe, 4K30

Quick Installation Guide

500850

94-001012-A/SE-001012-A

Table of Contents

1. Safety Precautions

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for future reference.

- Follow basic safety precautions to reduce the risk of fire, electrical shock, and injury.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burns.
- Do not open or remove the housing of the device as you may be exposed to dangerous voltage or other hazards.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture and do not install this product near water. Keep the product away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on the housing, unplug the module immediately.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Using supplies or parts not meeting the product specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- Install the device in a place with adequate ventilation to avoid damage caused by overheat.
- Unplug the power when left unused for a long period of time.
- Information on disposal of devices: do not burn or mix with general household waste, please treat them as normal electrical waste.

2. Introduction

The KVM HDMI over IP PoE Extender Deluxe, 4K/30 allows HDMI & USB equipment to be connected up to 330ft (100m) over an Ethernet LAN, supports HDMI up to 4K @ 30Hz (4:4:4) and 4K @ 60Hz (4:2:0) via Cat5e/6 cable in multiple point-to-point and point-to-multipoint configurations. The Transmitter (500850-TX) and Receiver (500850-RX) support PoE (PD) if used with a PoE (PSE) Ethernet Switch.
The Transmitter terminates to a computer server/workstation via an HDMI & USB port, The Receiver terminates to an HDMI display and up to 4 USB devices such as a keyboard, mouse, printer, drawing pad, storage device, etc., via a 4 port USB hub. In addition, The Transmitter features an HDMI loop out for connecting a local TV and the Receiver features an HDMI input for connecting a local video source.

3. Features

- Supports HDMI up to 4K @ 30Hz (4:4:4) and4K @ 60Hz (4:2:0)
- Up to 330ft (100m) over Cat5e/6
- One operator can manage multiple servers/workstations
- Receiver side includes a 4-port USB hub,for KVM applications
- HDMI loop out on TX
- HDMI local input on RX
- 100 channel selector
- Supports multiple point-to-point, and point-to-multipoint applications
- Supports PoE powered
- Supports balanced/unbalanced audio insert (TX), and balanced/unbalanced audio extract (RX)

4. Package Contents

- One (1) KVM HDMI over IP PoE Extender Deluxe, 4K30 (Transmitter or Receiver)
- One (1) IR Sensor
- One (1) IR Emitter
- One (1) User manual (available via download)

Notes: Confirm that the product and accessories are all included. If not, please contact the supplier from which you purchased the unit.

5. Specifications

Technical	
Enviroment	HDMI 2.0a
HDCP Compliance	HDCP 1.4, HDCP 2.2
Bandwidth (HDMI)	297MHz
Video Resolution	Up to 4K/30Hz (4:4:4) or 4K/60Hz (4:2:0)
Compresion	JPEG 2000
Maximum Distance	Cat5e/6: 330ft (100m)
Latency	Typical one (1) Frame: 16ms for 60Hz and 33ms for 30Hz
Bandwidth	Up to 500Mbps
Network Requirement	1000BaseT with PoE
HDR Color	HDR10
RS-232	Up to 115k Baud
IR	Bi-Directional
Connection	
Transmitter	Input: 1 x HDMI IN [Type A, 19-pin female] 1 x Audio Input [5pin-3.81mm Phoenix jack] Outputs: 1 x HDMI Loopout [Type A, 19-pin female] 1 x Ethernet LAN port [RJ45, 8-pin connector] Controls: 1 x IR Sensor [3.5mm Stereo Mini-jack] 1 x IR Emitter [3.5mm Stereo Mini-jack] 1 x RS-232 [3pin-3.81mm Phoenix jack] 1 x USB HOST [USB Type C]
Receiver	Inputs: 1 x HDMI IN [Type A, 19-pin female] 1 x Ethernet LAN port [RJ45, 8-pin female] Outputs: 1 x HDMI OUT [Type A, 19-pin female] 1 x Audio Output [5pin-3.81mm Phoenix jack] Controls: 1 x IR Sensor [3.5mm Stereo Mini-jack] 1 x IR Emitter [3.5mm Stereo Mini-jack] 1 x RS-232 [3pin-3.81mm Phoenix jack] 4 x USB DEVICES [USB Type A]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions (WxDxH)	Transmitter/Receiver: 163mm x 107mm x 23mm
Weight	Transmitter: 485.3g, Receiver: 494.4g
Power Consumption	Transmitter: 5 Watt Receiver: 7 Watt
PoE Standard	IEEE 802.3af
Operating Temperature	32 - 104°F / 0 - 40°C
Storage Temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20~90% RH (non-condensing)
Generic Specification	
Compliance	Regulatory: FCC, CE, RoHS
Warranty	3 years
Order Information	500850-TX KVM HDMI over IP PoE Transmitter Deluxe, 4K/30 (UPC:627699908501) 500850-RX KVM HDMI over IP PoE Receiver Deluxe, 4K/30 (UPC:627699808504)

6. Installation Procedures

1. Identification of Connectors:
   - Identify connectors on the Transmitter and Receiver based on product labels.
   - Refer to front and rear product views for connector details.
2. Distance Verification:
   - Verify that the distance between HDMI Transmitter and Receiver complies with MuxLab specifications.
3. Transmitter Installation:
   - Connect Transmitter to computer server/workstation HDMI video source using an HDMI-compliant cable.
   - Connect Transmitter USB Port to computer server/workstation USB port using a compliant Type A to Type C USB Cable.
   - Connect computer audio-out to Transmitter audio-in if required.
   - For point-to-point application, connect one Cat 5e/6 cable to the RJ45 LAN connector on the Transmitter.
   - If transmitting over the network, use an Ethernet Switch between Transmitter and Receiver.
4. Receiver Installation:
   - Connect Receiver HDMI port to Monitor HDMI port using an HDMI-compliant cable.
   - Connect two Receiver USB 1.1 ports to a USB keyboard and mouse.
   - Connect two Receiver USB 2.0 ports to other USB devices (printer, drawing pad, storage device, etc).
   - Connect Receiver audio-out to amplified speaker if required.
   - For point-to-point application, connect one Cat 5e/6 cable from the Transmitter to the RJ45 LAN connector on the Receiver.
   - If transmitting over the network, use an Ethernet Switch between Transmitter and Receiver.
5. Multiple Point-to-Point Configuration:
   - Use an Ethernet Switch with Gigabit ports, DHCP Server, and Jumbo Frame support.
   - Verify correct configuration of the Ethernet Switch, enable DHCP Server, and enable Jumbo Frame.
   - Connect all Transmitters and Receivers to the Ethernet Switch.
   - Use the Up and Down buttons located on the right side of the display to assign a unique device ID for each transmitter.
   - Configure each Receiver Device ID to correspond with the selected Transmitter.
   - Skip this step if using MuxLab ProDigital Network Controller (500812).
6. IR and RS232 Ports:
   - The Transmitter and Receiver support bi-directional IR and RS232 ports for control signals if required.

7. Powering:
   - Power Transmitter/Receiver via external supply if PoE is unavailable.
   - Connect a 5 VDC power supply (500993, sold separately) to each transmitter and each receiver.
   - Connect all power supplies to AC outlets after all connections are made.
   - Ensure blue power LED on each Transmitter and Receiver illuminates.
8. Verification:
   - Power on HDMI equipment and verify image quality, sound, keyboard and mouse functionality, and other USB-connected devices.
9. Reference Manual:
   - Download and reference the 500850 Operation Manual from the MuxLab website for further instructions.
10. Diagram:
   - Refer to the provided diagram for a typical KVM LAN configuration.

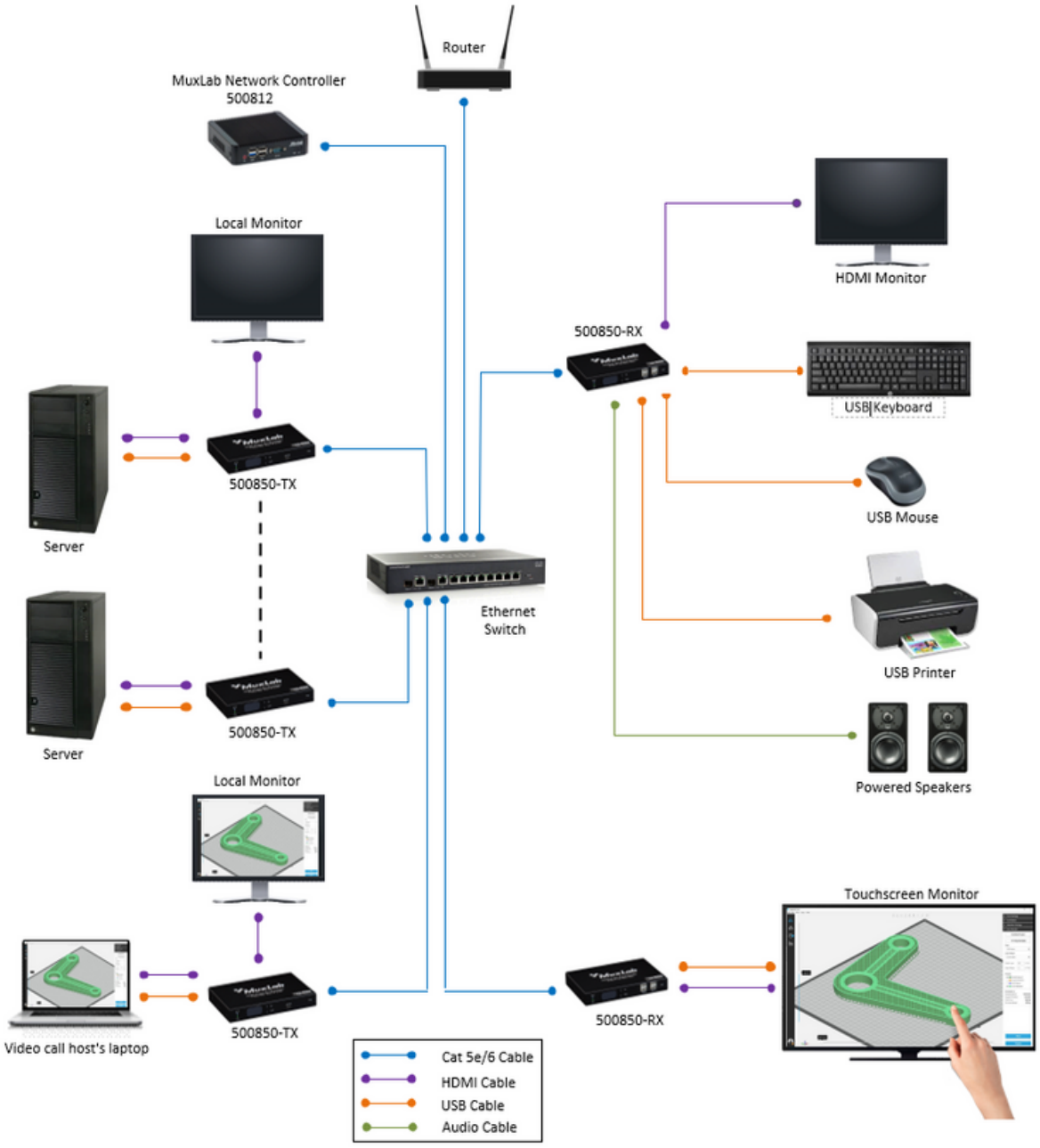
7. Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in regard to the installation of the KVM HDMI over IP PoE Extender Deluxe, 4K30 :

Symptom	Transmitter LEDs		Receiver 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	BLINK	OFF	BLINK	ON	Booting	• Wait until booting process is finished
No Image	ON	OFF	ON	OFF	No Ethernet Link	• Check Ethernet Switch Status • Check UTP Cables
Info Screen	ON	OFF	ON	BLINK	UTP Cable	• Check the Transmitter UTP cable
Info Screen	ON	ON	ON	OFF	UTP Cable	• Check the Receiver UTP cable.
Info Screen	ON	BLINK	ON	BLINK	No Data Connection	• Check if the IDs match.
Info Screen	ON	ON	ON	BLINK	Wrong setting on Receiver	• Check ID address of the Receiver
Choppy Video	ON	ON	ON	ON	Configuration	• Check cable length • Check the DVI Cable Quality • Check if Jumbo Frame is enabled on the Ethernet Switch
Image flickers when powering up nearby equipment	ON	ON	ON	ON	Interference	• Use STP cables
Mouse or Keyboard not working	ON	ON	ON	ON	USB Cable	• Check the USB Cable Quality • Check that the Keyboard and mouse are connected to the USB 1.1 Port.
USB Speed Slow	ON	ON	ON	ON	Wrong Port	• Check that any additional USB devices are connect to the USB 2.0 Port

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).

8. Application Diagram



2321 Cohen | St-Laurent , H4R 2N7 | Québec, Canada Tel: 514-905-0588 | Fax: 514-905-0589 | Toll free: 1-877-689-5228 info@muxlab.com | salesteam@muxlab.com | www.muxlab.com