Specifications

<table>
<thead>
<tr>
<th>Environment</th>
<th>HDMI 1.3a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devices</td>
<td>DVDs, projectors, monitors, TVs, PCs, laptops, servers supporting HDMI.</td>
</tr>
<tr>
<td>Video Wall</td>
<td>NxM video wall capabilities.</td>
</tr>
<tr>
<td>Compatibility</td>
<td>Compatible with 500752, 500753 and 500811</td>
</tr>
<tr>
<td>Transmission</td>
<td>Transparent to the user.</td>
</tr>
<tr>
<td>Video Bandwidth</td>
<td>225MHz</td>
</tr>
<tr>
<td>Signals</td>
<td>HDMI 1.3a protocol</td>
</tr>
</tbody>
</table>

**Connectors**
- One (1) Cat 5e/6 unshielded or shielded twisted pair.
- One (1) 3.5mm jack for IR emitter/sensor.
- One (1) DB9 Serial Port Connector.
- Four (4) DIP switches for device ID addressing.

**Maximum Distance**
Based on a maximum length of 6.6ft (2m) of HDMI cable per end.

**Latency**
One (1) Frame.

**Compression**
Motion JPEG

**Power Consumption**
Transmitter: 2.9Watt
Receiver: 1.8Watt

**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 2.5cm)

**Weight**
1.1lbs (0.5kg)

**Compliance**
Regulatory: FCC, CE, RoHS
Flammability: 94V0

**Warranty**
3 years

**Order Information**
500754 Video Wall Over IP Extender Kit with PoE
500754-TX Video Wall Over IP Transmitter with PoE
500754-RX Video Wall Over IP Receiver with PoE

**Accessories**
(These items are sold separately)
500905 3-Port Rackmount Transceiver Chassis
500920 16-Port Rackmount Transceiver Chassis
500917 Wall Mount Transceiver Bracket Kit
500990 IR Emitter, and 500991 IR Sensor
500992 Univ. Power Supply 5VD/1.2A US/UK/EU Blade

500754 Video Wall over IP Extender Kit with PoE Quick Installation Guide

**Overview**

The Video Wall over IP Extender Kit with PoE (500754) allows HDMI equipment to be connected up to 330ft (100m) @ 1080p via one (1) Cat5e/6 unshielded twisted pair cable in a point-to-point configuration. Point-to-multipoint, multipoint-to-multipoint, and Video Wall configurations are also possible by connecting several Transmitters and Receivers to the same Ethernet local IP network via an Ethernet Switch. The Transmitter (500754-TX) and Receiver (500754-RX) also support PoE (PD) if used with a PoE Ethernet Switch. The kit comes with one (1) Transmitter and one (1) Receiver. The IR Emitter and IR Sensor, if required, may be purchased separately for remote control applications. Additional Transmitters and Receivers may be purchased as kits or purchased separately depending on the intended application and number of units required.

For the point-to-multipoint and multipoint-to-multipoint configuration the Ethernet Switch must have Gigabit ports and DHCP Server capability and additionally support the IGMP communication protocol for the multipoint-to-multipoint case. MuxLab recommends using the Cisco SG300 Series Managed Switches.

The MuxLab ProDigital Network Controller (500811) is available to simplify the configuration and utilization of the 500754 and other MuxLab IP based products via an Ethernet web interface.

**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, see the above front and rear product views for further details.

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

3. To install the Transmitter:
   3a. Connect the Transmitter to the HDMI video source with an HDMI compliant cable.
   3b. If the application is point-to-point, then connect one (1) length of Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Transmitter. If transmitting over the network, use an Ethernet Switch between the TX & RX unit.

4. To install the Receiver:
   4a. Connect the Receiver to the HDMI display equipment with an HDMI compliant cable.
   4b. If the application is point-to-point, then connect one (1) Cat 5e/6 cable (or higher) coming from the Transmitter, to the RJ45 LINK connector on the Receiver. If transmitting over the network, use an Ethernet Switch between the TX & RX unit.

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Toll Free (North America): (877) 689-5225
E-mail: videoease@muxlab.com URL: www.muxlab.com
5. If the configuration is a point-to-multipoint or multipoint-to-multipoint:
   5a. You will need to use an Ethernet Switch with Gigabit ports and DHCP Server support. In addition IGMP Protocol support is required for the multipoint-to-multipoint case. **Verify that the Ethernet Switch is configured correctly and that the DHCP Server is enabled and that the IGMP Protocol is enabled for multipoint-to-multipoint applications.** See the operating manual for more information about configuring the Ethernet Switch.

5b. Connect all Transmitters and Receivers to the Ethernet Switch.

5c. Use the DIP Switches to select a unique Device ID for each Transmitter present on the network and configure each Receiver Device ID to the corresponding selected Transmitter. **Note:** This step is not necessary if the MuxLab ProDigital Network Controller (500811) is used.

6. Powering the Transmitter or Receiver via an external power supply is only necessary where PoE (PSE) is unavailable. If PoE is unavailable, connect the 5 VDC power supply (sold separately) to each Receiver and to an AC power outlet. Next connect each Transmitter in the same manner. If power is present, the green power LED on each Transmitter and Receiver will illuminate. **Note:** Power ‘ON” the Video Wall over IP Extender only after all data connections are 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 (sold separately) to the 3.5mm Stereo Jack of the Receiver and the IR Emitter (sold separately) 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 at 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’s signal is directed towards the IR Sensor. The IR Emitter’s signal is transmitted from the side of the enclosure.

11. This product supports RS232 bidirectional communication. On the Transmitter, the RS232 port is configured as a DCE; and on the Receiver as a DTE. Please connect your RS232 cable accordingly as previously indicated. The default settings are 9600, N, 8, 1.

12. To send an RS232 packet to a specific device, you need to put the IP address in front of the packet. This communication is meant to be machine to machine; and hexadecimal codes must be used. For example, to send the message “Hello” to a device having an IP address of 192.168.168.55, send the following hexadecimal string: 0x0C 0x0A 0x0A 0x37 0x48 0x65 0x6c 0x6f 0x66 0x6f (or “192 168 168 55” in hexadecimal).

13. To setup a video wall, please use the 500811 ProDigital Network Controller and follow the steps in the controller manual.

14. The following diagram illustrates a typical 2x2 Video Wall configuration.

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**Troubleshooting**

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

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Transmitter LEDs</th>
<th>Receiver LEDs</th>
<th>Probable Cause</th>
<th>Possible Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No image</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>No image</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>No image</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>No image</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>No image</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
<tr>
<td>Choppy image</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
<tr>
<td>Choppy sound</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
<tr>
<td>Image flickers when powering up nearby equipment</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
<tr>
<td>IR not functioning *</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
<tr>
<td>IR not functioning *</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
<tr>
<td>IR not functioning *</td>
<td>ON</td>
<td>BLINK</td>
<td>ON</td>
<td>BLINK</td>
</tr>
</tbody>
</table>

* IR Emitter and IR Sensor sold separately.

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).