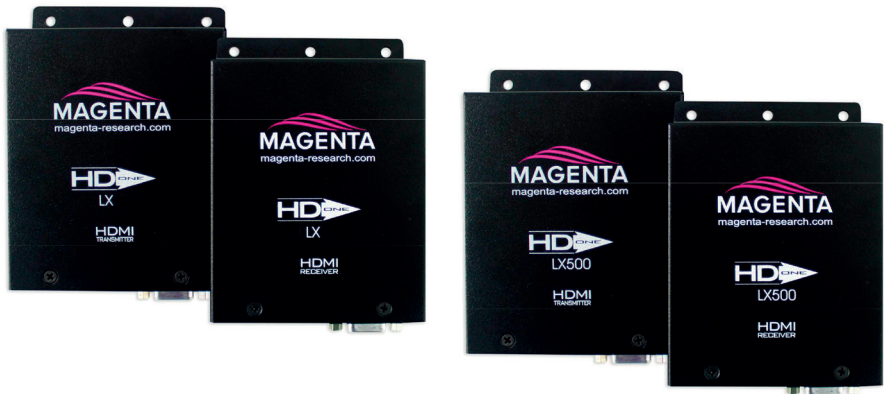




***HD-One LX/LX500***  
**HDMI, Serial & IR Extender**  
Quick Reference  
&  
Setup Guide



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# Contents

Chapter	Page
1. Specifications.....	2
2. Introduction .....	3
2.1 Overview.....	3
2.2 Equipment You May Also Need.....	3
2.3 Compatible Cabling .....	3
3. Setup and Installation.....	4
3.1 Cabling Considerations.....	4
3.2 Making the Connections.....	5
3.2.1 Connections and Setup in General .....	5
3.2.2 Connections on the Transmitter and Receiver.....	5
4. Troubleshooting.....	6
4.1 Common Problems .....	6
Appendix A. Cabling Pinouts.....	6

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# 1. Specifications

<b>Required Cable:</b>	CAT5e, CAT6, CAT6a, CAT6e, Cat7 UTP / STP or FTP (CAT6 or better is recommended)
<b>Video Support:</b>	HDMI 1.4, HDCP Compliant DVI Video modes
<b>Maximum Resolution and Distance:</b>	WUXGA (1920x1200) @ 60 Hz** 100 meter (328 feet) for LX** 152 meters (500 feet) for LX500**
<b>Bandwidth:</b>	3.4 Gbps
<b>Serial Baud rate:</b>	Up to 115200 bps; Full Duplex
<b>IR Support:</b>	36.7, 38.0, or 56.8 kHz modulated emitter output; Bi-directional
<b>Connectors:</b>	Tx: (1) HDMI type A, (1) RJ-45, (1) DC power (1) DB9F, (2) 3.5mm-jack Rx: (1) HDMI type A, (1) RJ-45, (1) DC power (1) DB9F, (2) 3.5mm-jack
<b>Temperature Tolerance:</b>	Operating: 32 to 131°F (0 to 55°C); Storage: -4 to +185°F (-20 to 85°C)
<b>Humidity Tolerance:</b>	Up to 95% noncondensing
<b>Enclosure:</b>	Metal
<b>Power:</b>	+5 VDC @ 2.6 A max each unit Consumption: Tx: 600mA Rx: 1200mA
<b>Size:</b>	5.1" x 3.5" x 1.2" (130mm x 88 mm x 30mm)
<b>Weight:</b>	0.6 lbs. (280 g)
<b>Compliance:</b>	RoHS, CE, FCC Class A

**\*\*NOTE:** To achieve maximum resolution and/or distance, Magenta strongly recommends the use of standard network CAT6 or better cable with solid 24 AWG copper wire. The use of lower quality cables will lower overall performance. Please contact Magenta for cable recommendations.

## 2. Introduction

### 2.1 Overview

Magenta's HD-One LX/LX500 Series of video extenders extends HDMI or DVI, serial, and IR signals over Category 5e/6/6a/6e/7 UTP / STP or FTP cable.

### **WARNING**

*This equipment is not intended for, nor does it support, distribution through an Ethernet network. Do not connect these devices to any sort of networking or telecommunications equipment!*

### 2.2 Equipment You May Also Need

- HDMI cables
- HDMI to DVI adapter cables
- Category 5e/6/6a/6e/7 cables
- IR Emitter and IR Receiver cables
- DB9 Serial Cables

### 2.3 Compatible Cabling

Magenta Research products are compatible with Category 5e/6/6a/6e/7 data cabling.

**\*\*NOTE:** To achieve maximum performance, Magenta strongly recommends the use of standard network CAT6 or better cable with solid 24 AWG copper wire.

Category cabling for the Magenta HD-One LX/LX500 Series must be pinned to the TIA-EIA T568B wiring specification (See **Appendix A**). Magenta recommends that all Category cables be pre-terminated and tested. Cables terminated on-site or in an existing infrastructure should be tested before use to ensure compliance with the TIA-EIA T568B specification. Using incorrectly terminated Category cables can damage the Magenta HD-One LX/LX500 Series.

# 3. Setup and Installation

## 3.1 Cabling Considerations

- For best performance, use one continuous UTP / STP or FTP cable with as few breaks as possible (i.e. patch bays, wall plates, or floor boxes).
- Magenta recommends mounting and connecting all cabling to the HD-One LX/LX500 Series components before applying power.
- Make sure that the Category cable you intend to use has been tested to comply with the T568B wiring specification (See **Appendix A**).

## 3.2 Making the Connections

### 3.2.1 CONNECTIONS AND SETUP IN GENERAL

**NOTE:**

*All HD-One LX/LX500 units should be cabled and powered on prior to turning on the video source device and display. It is recommended to cable and power on the HD-One LX/LX500 units, then the display, and lastly the video source.*

*At the transmitter end:*

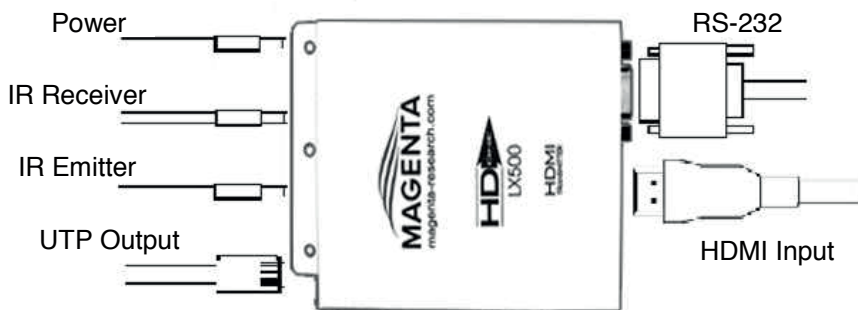
1. Connect the video source to the HDMI INPUT port on the HD-One LX/LX500 transmitter, using an HDMI type A cable (if using DVI video, an HDMI to DVI adapter is required).
2. Connect the Category cable to the UTP OUTPUT port on the transmitter.
3. Connect the serial and/or IR cables to the appropriate connector(s), as necessary.
4. Apply power to the transmitter.

*At the receiver end:*

1. Connect the display to the HDMI OUTPUT port on the HD-One LX/LX500 receiver, using an HDMI type A cable (if using DVI video, an HDMI to DVI adapter is required).
2. Connect the Category cable to the UTP INPUT port on the receiver.
3. Connect the serial and/or IR cables to the appropriate connector(s), as necessary.
4. Apply power to the receiver.

**3.2.2 CONNECTIONS ON THE HD-One LX/LX500**

Figure 3-1 shows the HD-One LX/LX500 transmitter connections, and Figure 3-2 shows the HD-One LX/LX500 receiver connections.



**Figure 3-1. Connections on the Transmitter**

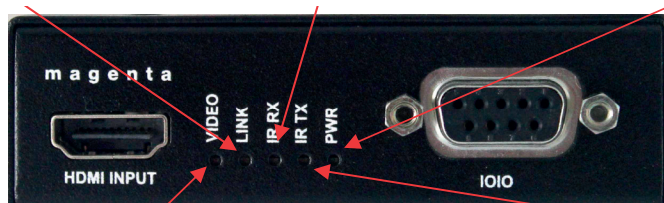


**Figure 3-2. Connections on the Receiver**

**Data Link Indicator**  
ON = UTP link present

**IR RX Indicator**  
FLASHING = IR Receiver activity

**Power Indicator**  
ON = Power present



**Video Status Indicator**  
ON = HDMI content w/HDCP present  
BLINKING = HDMI content w/o HDCP present

**IR TX Indicator**  
FLASHING = IR Emitter activity

**Figure 3-3. LED Status Indicators**

# 4. Troubleshooting

## 4.1 Common Problems

Most issues with the HD-One LX/LX500 Series can be resolved by checking the Category cable terminations and ensuring that they are pinned to the T568B wiring specification. However, other problems may arise. Below are solutions to the most common issues:

**Problem:** No video.

**Solution:**

- Check that both units are powered.
- Power units in the sequence noted in section 3.2.1.
- Ensure the Category cable is terminated to the T568B wiring standard.
- Some HDMI sources can take up to 5 minutes to initialize and will not output video signals during this time.
- Cell phones may cause interference at close range and cause the video to be interrupted or lost. All devices may need to be power cycled if video is lost.
- If using protected content, ensure all connected devices are HDCP compliant.
- Ensure the maximum distance has not been exceeded.
- Other troubleshooting tips include trying a better quality Category cable, disabling deep color at the source and reducing the resolution.

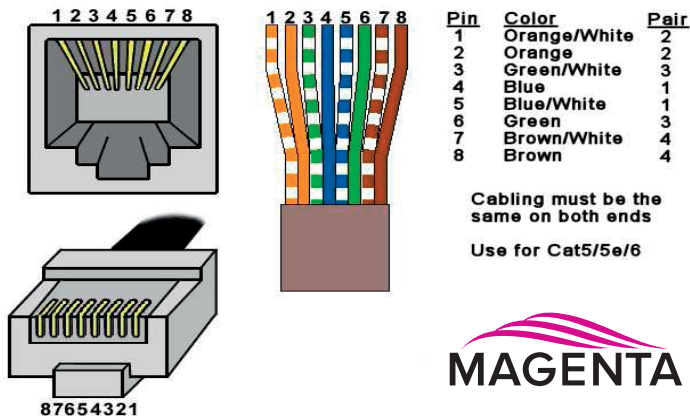
**Problem:** Poor video quality.

**Solution:**

- Ensure the Category cable is terminated to the T568B wiring standard.
- Check for faulty or poor quality HDMI cables.
- Ensure the display is compatible with the source.
- Other troubleshooting tips include using an alternative source and reducing the resolution.

## Appendix A. Cabling Pinouts

### T568B CAT5 Specification



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