



***HD1***  
**HDMI Extender**  
Quick Reference  
&  
Setup Guide



**Magenta Research**

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# 1. Specifications

<b>Cable Required:</b>	Category 6 solid copper unshielded twisted pair (UTP)
<b>Video Support:</b>	HDMI 1.2, HDCP 1.1 DVI Video modes
<b>Maximum Resolution and Refresh Rate:</b>	1080P (1920x1080), WUXGA (1920x1200)
<b>Bandwidth:</b>	4.95 Gbps
<b>Connectors:</b>	Tx: (1) HDMI type A, (1) RJ-45, (1) DC power Rx: (1) HDMI type A, (1) RJ-45
<b>Temperature Tolerance:</b>	Operating: 32 to 104°F (0 to 40°C); Storage: -4 to +140°F (-20 to +60°C)
<b>Humidity Tolerance:</b>	Up to 80% noncondensing
<b>Enclosure:</b>	Metal
<b>Power:</b>	+12 VDC @ 0.5A max each unit Consumption: 6 watts maximum each unit
<b>Size:</b>	0.94 "H x 2.56"W x 2.75"D (2.4 x 6.5 x 7.0 cm) each unit
<b>Weight:</b>	0.34 lb. (0.15 kg) - each unit
<b>Compliance:</b>	RoHS, CE; FCC Class A

## Recommended maximum cable lengths:

<u>Resolution</u>	<u>Maximum Cat6 length</u>
1080P	150 ft
WUXGA	150 ft
1080I	200 ft
720P	200 ft
UXGA	200 ft

## 2. Introduction

### 2.1 Overview

Magenta's HD1 series of video extenders extends HDMI or DVI signals over Category 6 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
- CAT6 cable

### 2.3 Compatible Cabling

Magenta Research products are compatible with CAT6 data cabling.

CAT6 cabling for the Magenta HD1 Series must be pinned to the TIA-EIA T568B wiring specification (see appendix A) We also highly recommend that all CAT6 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 CAT6 cables can damage the Magenta HD1 Series.

## 3. Setup and Installation

### 3.1 Cabling Considerations

- We recommend mounting and connecting all cabling to the HD1 Series components before applying power.
- Make sure that the CAT6 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

This section contains figures showing connections with the specific HD1 Series models. In general, however, the connection and setup procedure at both transmitter and receiver ends is as follows:

**NOTE:**

*All HD1 units should be cabled and powered on prior to turning on the video source device and display. It is recommended to cable/power on the HD1 units, then the display, and lastly the video source.*

*At the transmitter end:*

1. Connect the source video to the HD1 transmitter HDMI INPUT port using an HDMI type A cable (If using DVI video an HDMI to DVI adapter is required).
2. Connect the CAT6 cables to the transmitter.
3. Apply power to the transmitter. The LED's on the RJ45 sockets will come on - see Figure 3-3 for LED status modes

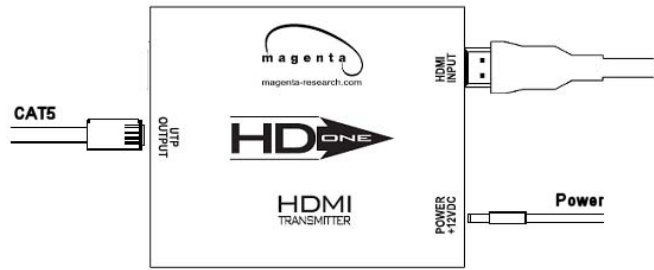
*At the receiver end :*

1. Connect the display to the HDMI OUTPUT connector of the receiver (If a DVI connector is on the display, an HDMI to DVI adapter is required).
2. Connect the CAT6 cables to the UTP connection.
3. If the transmitter is powered, the LED's on the RJ45 connector will come on - see Figure 3-3 for LED status modes.

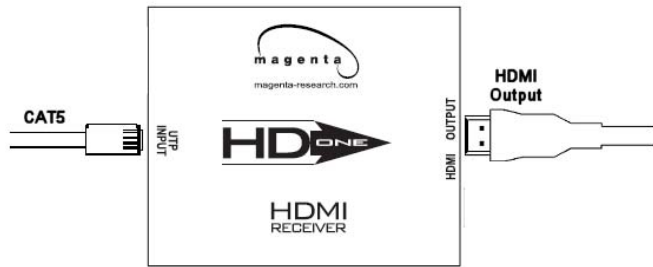
**MAGENTA HD1 HDMI EXTENDER**

**3.2.2 CONNECTIONS ON THE HD1**

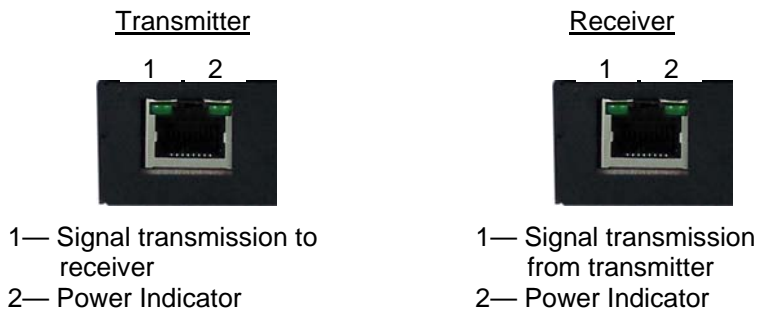
Figure 3-1 shows the HD1 transmitter connections, and Figure 3-2 shows the HD1 receiver connections.



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



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



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

## 4. Troubleshooting

### 4.1 Common Problems

#### *THERE ARE NO USER CONFIGURABLE SETTINGS FOR HD1 UNITS*

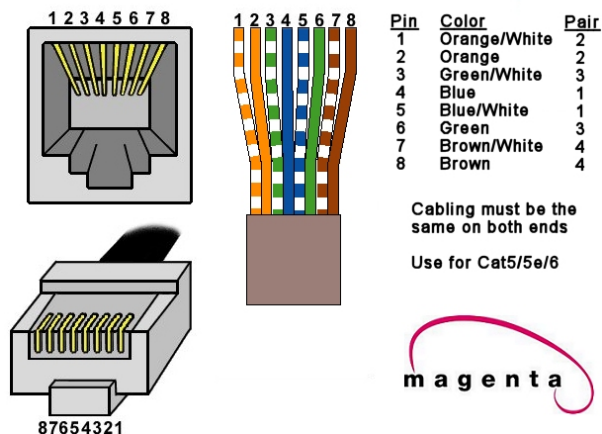
In most cases, nearly every issue with the HD1 Series can be resolved by checking the CAT6 termination and making sure that it's pinned to the T568B wiring specification. However, there may be other problems that cause the system to not perform as it's designed. Below are solutions to the most common installation errors.

**Problem:** No video or poor video quality.

- Solution:**
- Check that both units are powered.
  - Power units in the sequence noted in section 3.2.1.
  - Make sure the CAT6 cable is terminated correctly per the T568B wiring specification.
  - Is the display device powered on and functioning?
  - 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 (3 ft) and cause the video signal to be interrupted or lost. All devices may need to be power cycled if video is lost.

## Appendix A. Cabling Pinouts

### T568B CAT5 Specification





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