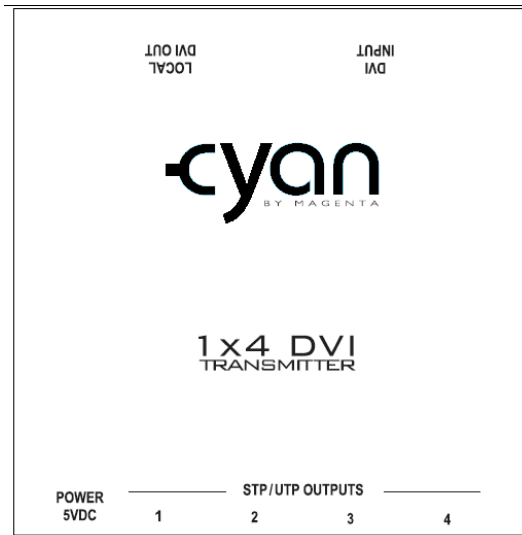




# **1x4 DVI Transmitter**

## Quick Reference & Setup Guide



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## 1. Specifications

<b>Cable Required:</b>	Category 5, 5e, 6 twisted pair (UTP)
<b>Video Support:</b>	DVI Video modes
<b>Maximum Resolution and Refresh Rate:</b>	1080P, 1600x1200 (UXGA)
<b>Bandwidth:</b>	4.95 Gbps
<b>Connectors:</b>	(2) DVI-D, (4) RJ-45, (1) DC power inlet
<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>	+5 VDC @ 1.25 A max, Consumption: 6.25 watts maximum
<b>Size:</b>	1.25 "H x 4.25"W x 4.25"D (3.2 x 10.8 x 10.8 cm)
<b>Weight:</b>	0.81 lb. (0.37 kg) - each
<b>Compliance:</b>	RoHS, CE; FCC Class A
<b>Recommended maximum cable lengths:</b>	
	UTP
UXGA, 1080P	50 ft
720P, 1080I	100 ft

## 2. Introduction

### 2.1 Overview

The Cyan 1x4 DVI Transmitter extend 4 DVI signals over Category 5/5e/6 cable. **Each display device requires a Cyan HDMI receiver unit (sold separately) .**

#### **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

- DVI M-M cables
- HDMI to DVI cable adapter
- CAT5 cable

### 2.3 Compatible Cabling

Cyan products are compatible with UTP Cat5/5e/6 data cabling.

CAT5/5e/6 cabling for the Cyan 1x4 DVI Transmitter must be pinned to the TIA-EIA T568B wiring specification (see appendix A) We also highly recommend that all CAT5/5e/6 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 CAT5/5e/6 cables can damage the Magenta 4Play Series.

## 3. Setup and Installation

### 3.1 Cabling Considerations

- We recommend mounting and connecting all cabling to the Cyan product components before applying power.
- Make sure that the CAT5/5e/6 cable you intend to use has been tested to comply with the T568B wiring specification and the shield is properly grounded (See **Appendix A**).

### 3.2 Making the Connections

#### 3.2.1 Connections and Setup

**NOTE:**

*All 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 transmitter and receivers, then the display, and lastly the video source.*

*At the 1x4 DVI transmitter end:*

1. Connect the source video to the 1x4 DVI Transmitter DVI INPUT port using a DVI cable (If using HDMI video an HDMI to DVI adapter is required).
2. Connect the CAT5/5e/6 cable to the transmitter. The 1x4 DVI Transmitter does not support HDCP so protected content will not be displayed.
3. Apply power to the transmitter. The LED's on the RJ45 sockets will come on - see Figure 3-3 for LED status modes

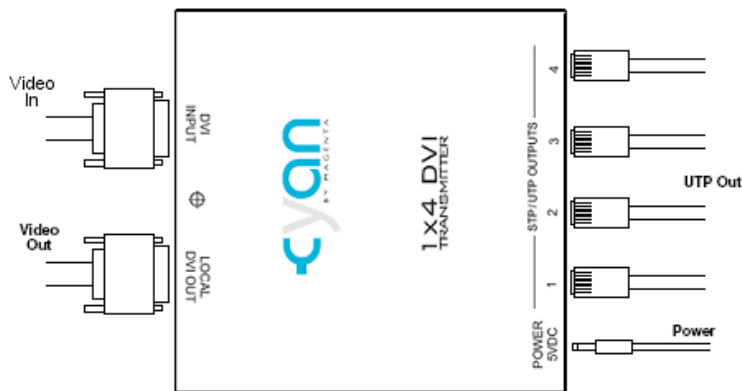
*At the Cyan HDMI receiver end :*

1. Connect the display to the HDMI OUTPUT connector on the receiver (If a DVI connector is on the display, an HDMI to DVI adapter is required).
2. Connect the CAT5/5e/6 cable to the Port 1 UTP connector. The 1x4 DVI Transmitter does not support HDCP so protected content will not be displayed.
3. Apply power. The LED's will come on - see Figure 3-3 for LED status modes.

You may need to change the DDC operating Mode in order to properly display certain screen resolutions. See bottom of Cyan unit or Appendix B for instructions.

**3.2.2 Connections on the 1x4 DVI transmitter and Cyan HDMI receiver**

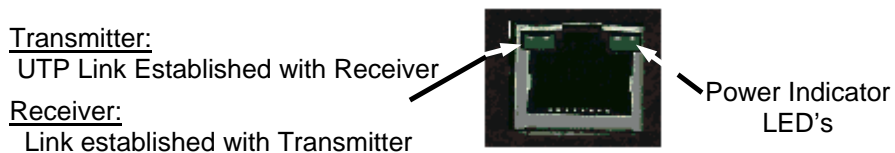
Figure 3-1 shows the 1x4 DVI Transmitter connections, and Figure 3-2 shows the Cyan HDMI Receiver connections. Figure 3-3 explains the LED status lights on the RJ-45 connector



**Figure 3-1. Connections on the 1x4 DVI Transmitter**



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



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

## 4. Troubleshooting

### 4.1 Common Problems

**THERE ARE NO INTERNAL USER CONFIGURABLE SETTINGS FOR CYAN PRODUCTS**

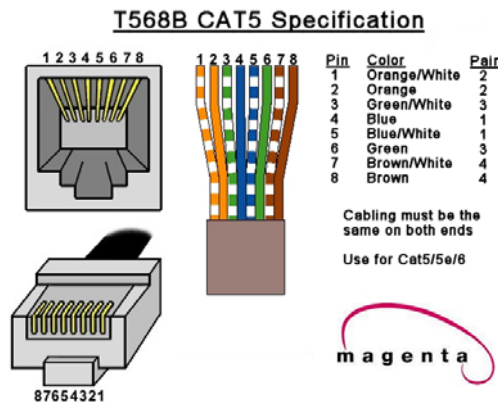
In most cases, nearly every issue with the 1x4 DVI Transmitter can be resolved by checking the CAT5/5e/6 termination and making sure that it's pinned to the T568B wiring specification. However, there may be other problems that cause the system to not perform as it's intended. Below are solutions to the 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 UTP cable is terminated correctly per the 568B wiring specification.
- **Screened** Cat5/5e/6 cable (ScTP) may be required for noisy EMI environments. Ensure the shield is properly connected at each RJ45 end.
- Is the display device powered on and functioning?
- Video source may need DDC information from display. See Appendix B.
- 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



**Table A-1. T568B CAT5 pinout**

## Appendix B. DDC/EDID Modes

The 1x4 DVI Transmitter features the ability to send DDC/EDID display identifiers to the video source in order to determine display capabilities. The DDC is a data communication channel used in plug and play devices to accurately report a display's capabilities and identify the manufacturer. If this data is not available, the video source may revert to a low resolution or not display at all.

1x4 DVI Transmitter features the ability to report a Universal Display (MRI Magic Display) that supports most popular VESA standards in standard or widescreen formats as well as the ability to clone an actual displays DDC information that is attached to the DVI input of the transmitter or pass DDC information from a local display attached to the DVI Local Output of the transmitter.

The various modes are detailed below:

### Mode 1: Universal Display (MRI Magic Display) (DEFAULT)

This mode reports a generic display supporting popular screen formats and is suitable for most if not all display types.

### Mode 2: Pass through DDC from DVI Local Output of transmitter.

This mode passes the DDC from a display permanently attached to the local output of the transmitter. Removing this display will result in no DDC information passed to the video source and may result in lower resolution or no display.

### Mode 3: Clone DDC from display on the DVI Input port and stores it in non-volatile Ram

This mode copies the DDC data from a display attached to the DVI Input and stores it in non-volatile RAM. It is not necessary to connect a DVI display to the local output in this mode.

To change modes requires dipswitches on the bottom of the unit to be changed:

Mode 1: Default mode. To restore, with power disconnected, set switches as per diagram 1) below. Connect power and move SW1 to ON as shown in diagram 2).



Mode 2: To pass DDC from a display connected to the local DVI output of the transmitter, set switches as follows in diagram 3) with power off, then connect appropriate cables and power on unit. Display must be connected at all times or DDC information will not be transmitted and display may not initialize.



Mode 3: To clone DDC from a display connected to the DVI Input of the transmitter and store it non-volatile RAM, set switches as per diagram 4) with power off, connect display to the DVI INPUT port, power on display, then power on transmitter. Next move SW1 from ON to OFF as per diagram 5). Observe the yellow LED's on the left side of the RJ45 connectors. If the operation succeeds, the port 4 LED will flash briefly and stay on. Disconnect display and install equipment as discussed in Section 3 of this manual.





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