

The Gefen logo is a stylized oval with a gradient from light gray to black. The word "Gefen" is written in white, bold, sans-serif font across the center of the oval.

# Gefen

## **DVI over 1 CAT6 Extender**

**EXT-DVI-1CAT6**

**User Manual**



**[www.gefen.com](http://www.gefen.com)**

## ASKING FOR ASSISTANCE

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### Notice

Gefen Inc. reserves the right to make changes in the hardware, packaging and any accompanying documentation without prior written notice.

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# INTRODUCTION

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Congratulations on your purchase of the DVI over one CAT6 Extender. Your complete satisfaction is very important to us.

## **Gefen**

Gefen delivers innovative, progressive computer and electronics add-on solutions that harness integration, extension, distribution and conversion technologies. Gefen's reliable, plug-and-play products supplement cross-platform computer systems, professional audio/video environments and HDTV systems of all sizes with hard-working solutions that are easy to implement and simple to operate.

## **The Gefen DVI over one CAT6**

The Gefen DVI over one CAT6 Extender will send a 1920x1200@60Hz DVI-D signal over a single CAT-6a cable to distances of up to 200 feet (60m). Extension of high resolution computer video can now be simplified with the use of only a single CAT-6a cable. Previous solutions used 2 cables to accomplish this.

The DVI over one CAT6 extender's pure digital transmission method insures 100% signal integrity over this single cable extension solution.

## **How It Works**

The Gefen DVI over one CAT6 Extender system consists of two devices, a sender and a receiver. The single-link DVI source (set-top box, DVD player, or computer video card output) connects to the sender unit with the supplied 6-foot DVI cable. The receiver unit connects to a DVI-compliant display. One CAT-6a cable links the sender and receiver together at distances of up to 200 feet. Power is applied to both the sender and receiver with the included 5V DC power supplies. A perfect image is now displayed on the remote DVI display.

## **OPERATION NOTES**

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### **READ THESE NOTES BEFORE INSTALLING OR OPERATING THE DVI OVER ONE CAT6 EXTENDER**

- The DVI over one CAT6 Extender was designed for use with high quality CAT-6a (augmented) cabling. This unit will either not perform to specification or refuse to operate completely if cabling other than CAT-6a is used.
- When field terminating CAT-6a cabling please adhere to the TIA/EIA-568-B specification shown on page 9 for your convenience.
- The DVI over one CAT6 has a maximum distance rating based on the bandwidth (i.e. resolution and color) of the video being transmitted. When used with high quality CAT-6a cabling, you may expect a maximum extension range of 200 feet (60 meters) at 1920x1200 or 1080p resolution at up to a 60Hz refresh rate. Lower quality cabling or older standards such as CAT5 cables will shorten the maximum achievable extension distance.
- This product features HDCP pass-through.

# FEATURES

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## Features

- Flexible extension of single-link DVI-D thanks to inexpensive and widely-available CAT6 cable
- Video is transmitted digitally over the CAT6 cable for zero signal loss
- Single Link Range (Maximum resolution): 1920x1200@60 Hz
- Compliant with HDCP 1.1 and DVI 1.1 standards
- Equalizes the DVI signal and retransmits it with optimal quality regardless of incoming signal quality
- Eliminates equipment noise in the viewing environment
- Improved compensation for CAT6 cable skew

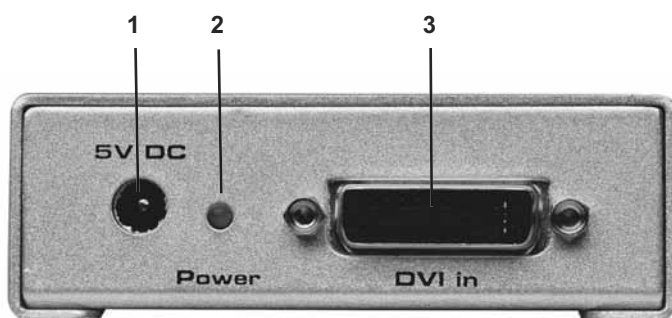
## Package Includes

- (1) DVI over one CAT6 Sender
- (1) DVI over one CAT6 Receiver
- (1) 6 Foot DVI-to-DVI Cable (M-M)
- (2) 5V DC Power Supply
- (1) User's Manual

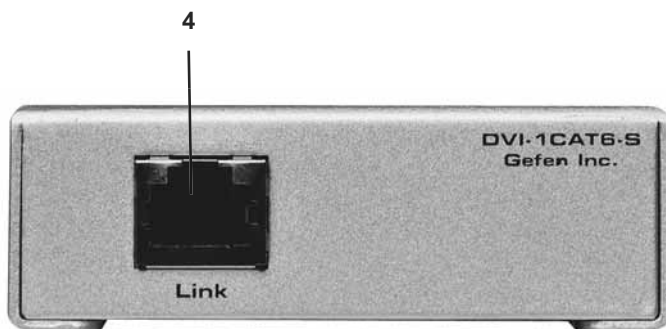
## SENDER PANEL LAYOUT

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*Front Panel*



*Back Panel*



## SENDER PANEL DESCRIPTIONS

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**1 5V DC Power Receptacle**

Connect the included 5V DC power supply between this input and an open wall power socket.

**2 Power LED Indicator**

This LED will become active once the included 5V DC power supply is properly connected between the unit and an open wall power socket.

**3 DVI Input Connector**

This input will accept a single DVI-D (digital only) source for extension. Attach the cable coming from your DVI source here.

**4 Link RJ45 Port**

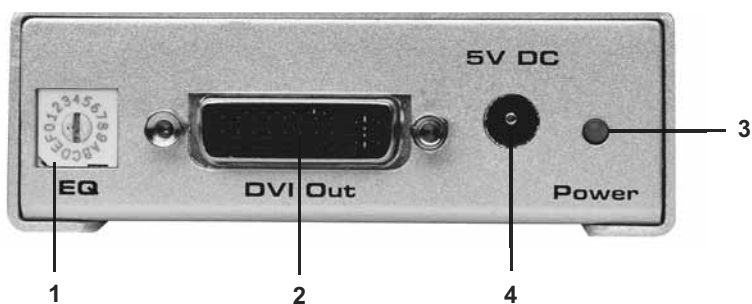
This port is used to connect the sending and receiving units together using a CAT-6a cable.



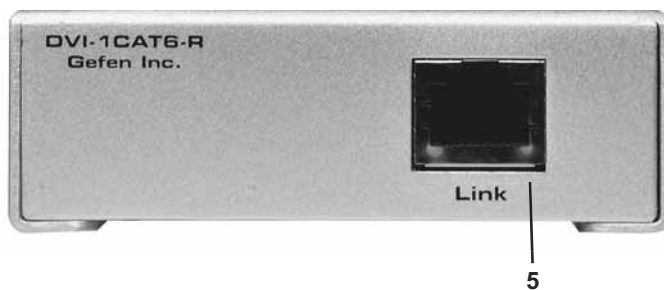
## RECEIVER PANEL LAYOUT

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### Front Panel



### Back Panel



## RECEIVER PANEL DESCRIPTIONS

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### **1    *Equalization Adjustment (Trim Pot Control)***

The EQ adjustment or Trim Pot is used to equalize the signal to compensate for the extension distance and the quality/skew variances that are found in different CAT-6a cabling brands.

### **2    *DVI Output Connector*** This connector hooks up the Receiver to a DVI-D compliant monitor at the remote destination.

### **3    *Power LED Indicator***

The LED power indicator will become active once the included 5V DC power supply is properly connected between the unit and an open wall power socket.

### **4    *5V DC Power Receptacle***

Connect the included 5V DC power supply between this input and an open wall power socket.

### **5    *RJ45 Linkage Port***

This port is used to connect the DVI Extender Sender and Receiver units together using a CAT-6a cable.

# CONNECTING AND OPERATING THE DVI-1CAT6 EXTENDER

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## How to Connect the DVI over one CAT6 Extender

1. Connect a DVI-D cable (one is supplied) between the DVI output on a source device and the DVI input connector on the *DVI over one CAT6 Extender sender unit*.

2. Connect a single CAT-6a cable between the sending and receiver units.

**NOTE:** When field-terminating CAT-6a cabling please adhere to the TIA/EIA-568-B specification. Please see page 9 for more information.

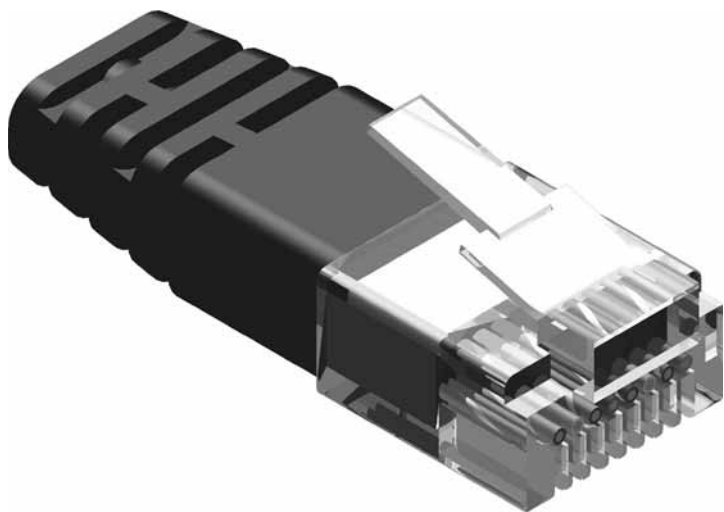
3. Connect a DVI-D cable (user-supplied) between the DVI input on a DVI-compliant output device (i.e. computer display) and the DVI output on the *DVI over one CAT6 Extender receiver unit*.
4. Connect the included 5V DC power supplies (two are included) between the sender and receiver units and available power outlets.
5. Power up the DVI output device (i.e. DVI computer monitor) first and the DVI source device (i.e. computer) last.

## How to Equalize the DVI over one CAT6 Extender

The *DVI over one CAT6 receiver unit* has a equalization device called a Trim Pot (trim potentiometer) to compensate for the extension distance and the quality/skew variances that are found in different CAT-6a cabling brands. If there is no output video or if output video contains video artifacts and/or video noise such as snow, please use the steps below to adjust the Trim Pot.

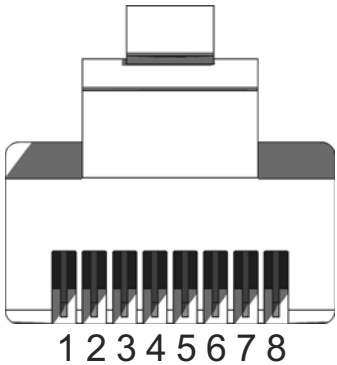
1. Insert a small flat-headed tool into the Trim Pot on the front panel of the *receiver unit*.
2. The Trim Pot has 8 set positions. Turn the Trim Pot in a clockwise fashion until it clicks into the next position. Continue adjusting the Trim Pot by trying all 8 positions until the issue is resolved.
3. Carefully remove the adjustment tool.

# NETWORK CABLE WIRING DIAGRAM



Gefen has specifically engineered products to work with the TIA/EIA-568-B specification. Please follow the table below when field terminating cable for use with Gefen products. Failure to do so may produce unexpected results and reduced performance.

Pin	Color
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown



This product was designed for use with CAT-6a (augmented) cabling only. This unit will either not perform to specification or refuse to operate completely if cabling other than CAT-6a is used.

Each cable run must consist of a single undivided segment of CAT-6a cabling from Sender to Receiver. Punch-down blocks or splices will not work.

# SPECIFICATIONS

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Video Amplifier Bandwidth .....	225 MHz
Maximum Video Resolution .....	1920x1200 max.
Input DDC Signal .....	5 Volts p-p (TTL)
Input Video Signal .....	1.2 Volts p-p
DVI Connector .....	DVI-I (29 pin) female (digital only)
Link Connector .....	RJ-45 Shielded
Power Supply .....	5V DC
Power Consumption .....	10 Watts (max. per unit)
Dimensions .....	3.3" W x 1.3" H x 3.4" D
Shipping Weight .....	3 lbs.