

Gefen

Extender for HDMI™ 1.3 over one CAT-6

EXT-HDMI1.3-1CAT6

User Manual



www.gefen.com

1080P
PROGRESSIVE

HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

HDTV

HD DVD

Blu-ray Disc™

ASKING FOR ASSISTANCE

Technical Support:

Telephone (818) 772-9100
(800) 545-6900

Fax (818) 772-9120

Technical Support Hours:

8:00 AM to 5:00 PM Monday thru Friday.

Write To:

Gefen Inc.
c/o Customer Service
20600 Nordhoff St
Chatsworth, CA 91311

www.gefen.com
support@gefen.com

Notice

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

Extender for HDMI 1.3 over one CAT6 is a trademark of Gefen Inc.

CONTENTS

- 1 Introduction**
- 2 Operation Notes**
- 3 Features**
- 4 Sender Panel Layout**
- 5 Sender Panel Descriptions**
- 6 Receiver Panel Layout**
- 7 Receiver Panel Descriptions**
- 8 Connecting And Operating The Extender For HDMI 1.3 Over One CAT6**
- 9 Network Cable Wiring Diagram**
- 10 Specifications**
- 11 Warranty**

INTRODUCTION

Congratulations on your purchase of the Extender for HDMI 1.3 over one CAT6. 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 Extender for HDMI 1.3 over one CAT6

The Gefen Extender for HDMI 1.3 over one CAT6 will send a 1080p/60Hz HDMI 1.3 signal, with Deep Color support, over a single CAT-6a cable to distances of up to 125 feet (38m). HDMI 1.2 is still fully supported and can be extended up to 150 feet (50m) at 1080p/60Hz and 200 feet (60m) at 1080i/60Hz. Extension of high definition can now be simplified with the use of only a single CAT-6a cable. Traditional solutions would typically use 2 cables to accomplish this.

The Gefen Extender for HDMI 1.3 over one CAT6 supports the HDMI 1.3 specification with features such as Deep Color, Full 1080p HD and compressed lossless audio formats such as Dolby TrueHD and DTS-HD Master Audio.

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

How It Works

The Gefen Extender for HDMI 1.3 over one CAT6 system consists of a sending and receiving unit. The HDMI source (set-top box, DVD player, or gaming console) connects to the sender unit with the supplied 6-foot HDMI cable. The receiver connects to a HDMI capable display in the same manner. One CAT-6a cable will link the sending and receiving unit together at distances of 125 feet (HDMI 1.3) and 200 feet (HDMI 1.2). Power is applied to both the sender and receiver with the included 5V DC power supplies. A crisp, flawless HDMI picture is now displayed on the HDMI capable display at the extended location.

Note: This product is an HDCP pass-through device.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE EXTENDER FOR HDMI 1.3 OVER ONE CAT6

- The Extender for HDMI 1.3 over one CAT6 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. Please see page 9 for more information.
- The Extender for HDMI 1.3 over one CAT6 has a maximum distance rating based on the bandwidth (i.e. resolution and color) of the video being transmitted. The following specifications are based on high quality CAT-6a cabling.
 - 200 feet (60 meters) at 1080i/60Hz with up to a 10 bit color depth and with all HDMI 1.2 audio formats.
 - 150 feet (45 meters) at 1080p/60Hz with up to a 10 bit color depth and with all HDMI 1.2 audio formats.
 - 125 feet (38 meters) at 1080p/60Hz with up to a 12 bit color depth and with all HDMI 1.3 audio formats.
- The Extender for HDMI 1.3 over one CAT6 is HDMI 1.3 and HDMI 1.2 compliant.
- This product is features HDCP pass-through.

FEATURES

Features

- Flexible extension of high-bandwidth HDMI 1.3 thanks to inexpensive and widely-available CAT6 cable
- Audio and video are transmitted digitally over the CAT6 cable for zero signal loss
- Single Link Range: 1080p/60, 12 bit color depth, 1920x1200
- Compliant with HDMI 1.3, HDMI 1.2, HDCP 1.1 and DVI 1.1 standards
- Supports digital video formats in Deep Color Mode at up to 12bits/color
- Supports lossless compressed digital audio (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio)
- Equalizes HDMI signal and retransmits it with optimal quality regardless of incoming signal quality
- Eliminates equipment noise in the viewing environment
- Improved compensation for cable skew

HDMI 1.3 Features Supported

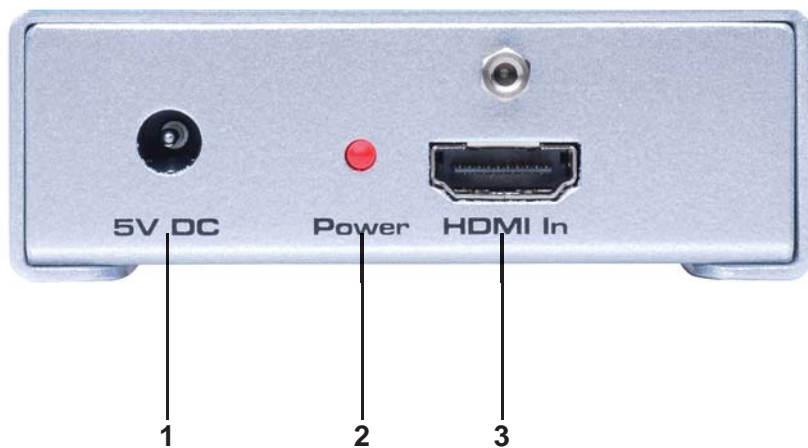
- Dolby TrueHD & DTS Master Audio
- Deep Color Supported (XV Color)
- 225 MHz (up to 12 bit YUV 444 @ 1080p)
- CEC Protocol Pass Through
- Lip-Sync Pass Through

Package Includes

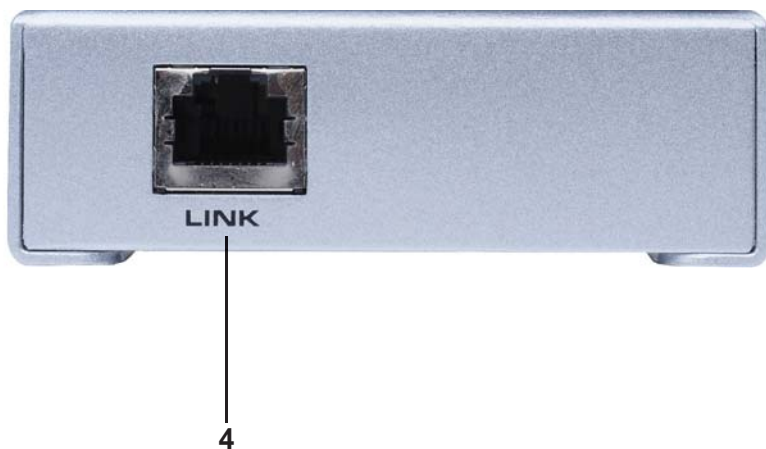
- (1) Extender for HDMI 1.3 over one CAT6 Sender
- (2) Extender for HDMI 1.3 over one CAT6 Receiver
- (1) 6 Foot HDMI to HDMI Cable (M-M)
- (2) 5V DC Power Supply
- (1) User's Manual

SENDER PANEL LAYOUT

Front Panel



Back Panel



SENDER PANEL DESCRIPTIONS

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 HDMI Input With Mono•Lok Secure Connector

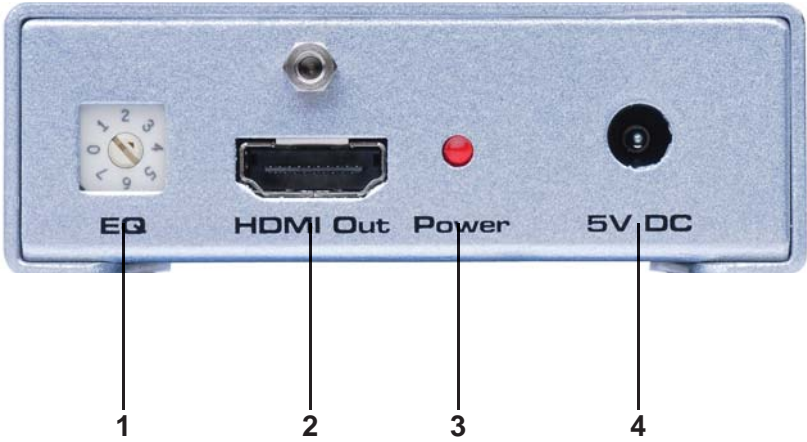
This input will accept a single HDMI source for extension. This input features a Mono•Lok connector (Gefen part# CAB-HDMI-LCK-XXMM) for a secure cable connection. This input will accept a standard or Mono•Lok style HDMI cable.

4 Link RJ45 Port

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

RECEIVER PANEL LAYOUT

Front Panel



Back Panel



RECEIVER PANEL DESCRIPTIONS

1 Equalization Adjustment

This 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 HDMI Input With Mono•Lok Secure Connector

This input will accept a single HDMI source for extension. This input features a Mono•Lok connector (Gefen part# CAB-HDMI-LCK-XXMM) for a secure cable connection. This input will accept a standard or Mono•Lok style HDMI cable.

3 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.

4 5V DC Power Receptacle

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

5 Link RJ45 Port

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

CONNECTING AND OPERATING THE EXTENDER FOR HDMI 1.3 OVER ONE CAT6

How to Connect the Extender for HDMI 1.3 over one CAT6

1. Connect a HDMI cable (one is supplied) between the HDMI output on a HDMI source device and the HDMI input on the *Extender for HDMI 1.3 over one CAT6 sending unit*.
2. Connect a single CAT-6a cable between the sending and receiving units.

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

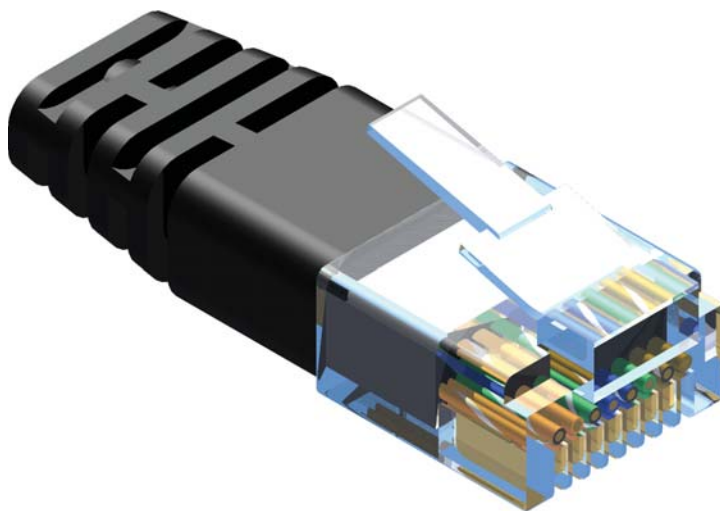
3. Connect a HDMI cable (user supplied) between the HDMI input on a HDMI capable output device (i.e. HDMI display) and the HDMI output on the *Extender for HDMI 1.3 over one CAT6 receiving unit*.
4. Connect the included 5V DC power supplies (two are included) between the sending and receiving units and open wall power sockets.
5. Initialize the HDMI output device (i.e. HDMI display) first and the HDMI source device last.

How to Equalize the Extender for HDMI 1.3 over one CAT6

The *Extender for HDMI 1.3 over one CAT6 receiving unit* has a equalization Trim 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 has video artifacting and/or video noise, please use the steps below to adjust the equalization Trim Pot.

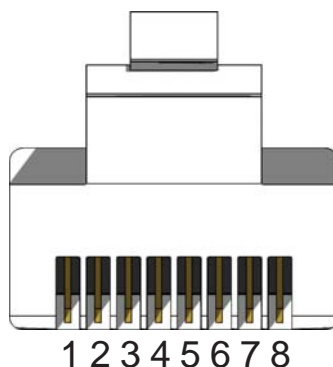
1. Insert a small flat head tool into the Trim Pot on the front panel of the *receiver unit*.
2. Turn the Trim Pot in a clockwise fashion until it comes to a stop. Do not force the Trim Pot beyond this point. Doing so may break the Trim Pot.
3. Slowly turn the Trim Pot counter-clockwise in millimeter increments until the image stabilizes and all video noise disappears.
4. Carefully remove the adjustment tool.

NETWORK CABLE WIRING DIAGRAM



Gefen has specifically engineered their products to work with the TIA/EIA-568-B specification. Please adhere to 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 be one continuous run from one end to the other. No splices or use of punch down blocks.

SPECIFICATIONS

Video Amplifier Bandwidth	225 MHz
Single Link Range	1080p/60, 12 bit color depth, 1920x1200 max. res
Input DDC Signal	5 Volts p-p (TTL)
Input Video Signal	1.2 Volts p-p
HDMI Connector	Type A, 19 Pin Female
Link Connector	RJ-45 Shielded
Power Supply	5V DC
Power Consumption	10 Watts (max. per unit)
Dimensions	2" W x 1" H x 2.1" D
Shipping Weight	3 lbs.