

# Gefen

®

## HDMI™ 1.3 Over Fiber with IR

EXT-HDMI1.3IR-FO-141

User Manual



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

## ASKING FOR ASSISTANCE

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### Notice

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

**HDMI 1.3 Over Fiber with IR** is a trademark of Gefen LLC  
**HDMI™** is a trademark of HDMI.org

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# INTRODUCTION

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Congratulations on your purchase of the HDMI 1.3 Over Fiber with IR. 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.

## **HDMI 1.3 Over Fiber with IR**

The Gefen HDMI 1.3 Over Fiber with IR system extends Full 1080p HD deep color with multichannel digital audio over a single small strand of fiber optic cable that can easily be hidden in a wall or above a ceiling. Great distances of extension can be obtained thanks to the use of fiber optic cable.

1080p Full HD deep color is displayed at the destination with no signal delays and no EMI (electromagnetic interference) disturbances such as cut-outs and pixilation, phenomena that can happen often with copper cables, especially at long distances. Multichannel digital audio with Dolby TrueHD & DTS Master Audio helps to deliver a full HD audio/video home theater experience wherever it is needed. The IR back channel and RS-232C is carried on the CAT5 cable, providing convenient, local control of video source devices.

## **How It Works**

Install the Sender near your High Definition source and the Receiver at the Display side. Connect HDMI cables from the Sender to your source and from Display to Receiver. Run a single strand of SC fiber optic cable from Sender to Receiver for AV signals, then run a single CAT5 cable from Sender to Receiver for the IR back channel. Plug in the power supplies on the Sender and Receiver, and crisp vibrant HDMI 1.3 video will appear on the Display. IR commands from the remote control to video source equipment are sent across the IR back channel via the CAT5 cable which connects the Sender and Receiver at their RJ45 jacks. RS-232C is extended as well for devices that can be controlled via this protocol at the viewing location.

## **OPERATION NOTES**

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### **READ THESE NOTES BEFORE INSTALLING OR OPERATING THE HDMI 1.3 OVER FIBER WITH IR**

- Use one SC terminated multi-mode fiber optic cable and one industry standard CAT-5, CAT-5e or CAT-6 cables to operate the HDMI 1.3 Over Fiber with IR. Gefen recommends CAT-6 cabling for maximum performance.
- For 1080p video, maximum extension is 1000 feet (330 meters).
- IR repeater functionality is only from the receiving unit to the sending unit. IR data cannot be transmitted from the sending unit to the receiving unit.
- The RS-232C protocol is used for remote control of A/V devices at the extended display device location. The full RS-232 protocol is not supported for this purpose.

# FEATURES

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## Features

- Immune to electro-magnetic interference (EMI)
- Transmits HDMI 1.3 audio/video at full bandwidth
- 1000-foot (330m) extension distance, maximum
- Delivers highest quality signal of any HDMI extension method
- Supports video resolutions up to 1080p, 2K, and 1920 x 1200
- Uses inexpensive and widely available single-strand multimode SC fiber optic cable
- Extends RS-232C control signals from source equipment to the immediate location of the display device
- HDCP Compliant

## HDMI 1.3 Features

- 340 MHz (up to 16 bit YUV 444 supported @ 1080p)
- Deep Color Supported (XV Color Supported)
- Dolby TrueHD & DTS Master Supported
- Lip-Sync Pass Through
- CEC Protocol Pass Through

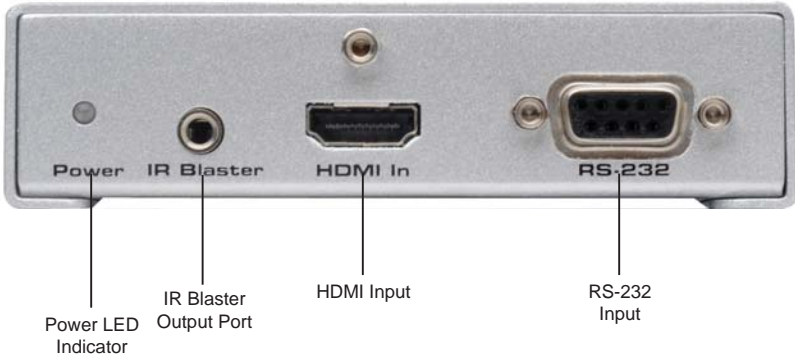
## Package Includes

- (1) HDMI 1.3 Over Fiber with IR - Sender
- (1) HDMI 1.3 Over Fiber with IR - Receiver
- (1) 6 Foot HDMI Cable (M-M)
- (1) 6-Ft DB9 Serial Cable (M-F)
- (2) 5V DC Power Supply
- (1) User's Manual

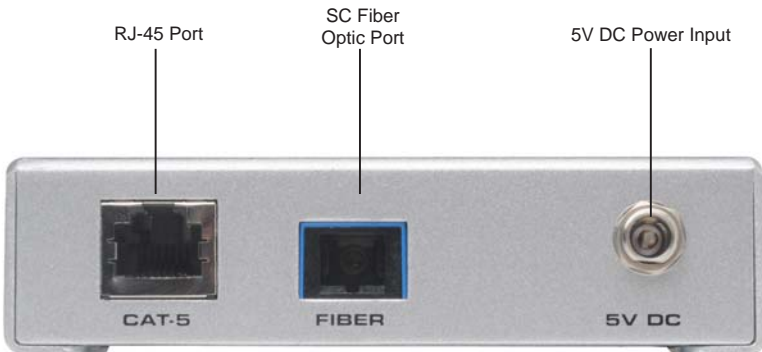
# SENDER PANEL DESCRIPTIONS

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## Front Panel



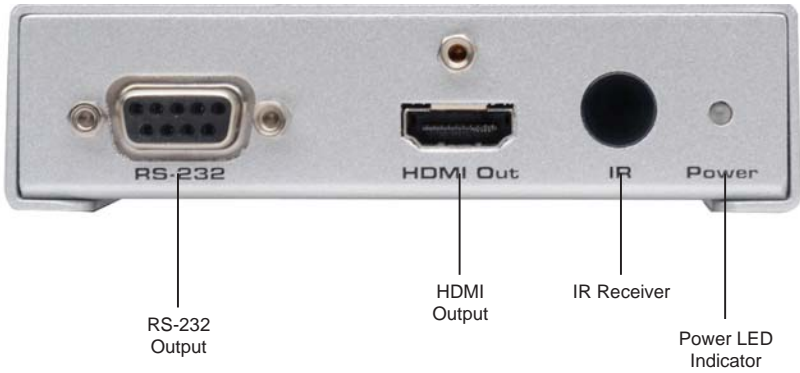
## Back Panel



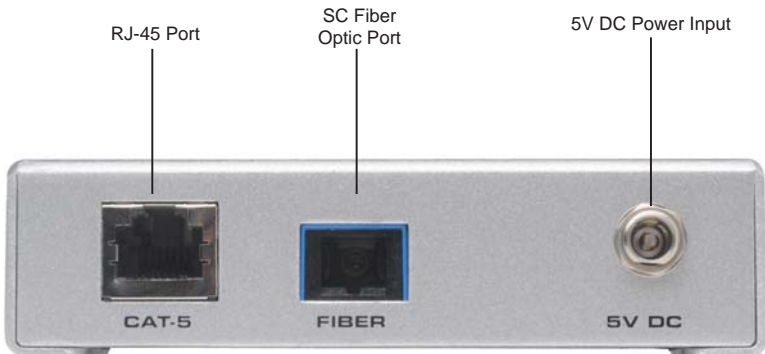
# RECEIVER PANEL DESCRIPTIONS

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## Front Panel



## Back Panel





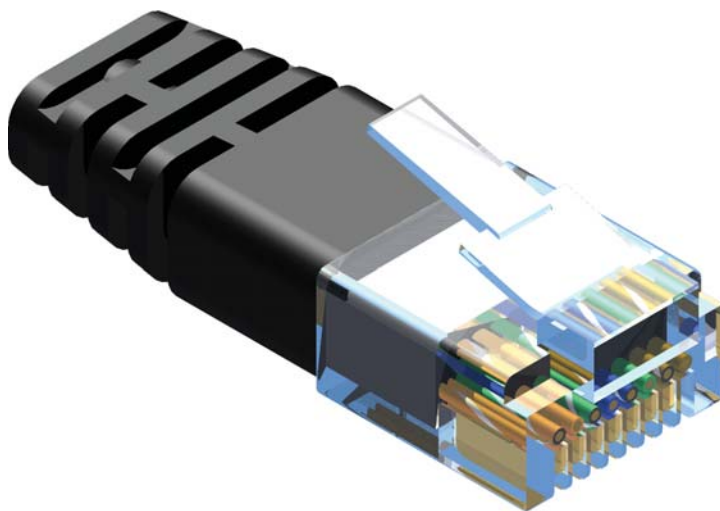
## **CONNECTING AND OPERATING THE HDMI 1.3 Over Fiber with IR**

1. Connect the HDMI source to the HDMI 1.3 Over Fiber with IR sending unit's HDMI input port using the supplied HDMI cable.
2. Connect the RS-232 source to the HDMI 1.3 Over Fiber with IR sending unit's RS-232 input port using the supplied DB-9 serial cable.
3. For IR repeater functionality, please connect the IR emitter's mini-jack (sold separately, part # EXT-2IREMIT) into the HDMI 1.3 Over Fiber with IR sending unit. Place the IR emitter directly on or above the IR receiver of the desired source device.
4. Connect the HDMI 1.3 Over Fiber with IR sending and receiving units together using one user supplied SC terminated multi-mode fiber optic cable and one CAT-5, CAT-5e or CAT-6 cable.

**NOTE:** If field terminating network cable, please adhere to the TIA/EIA568B specification. Please see page 7 for more information.

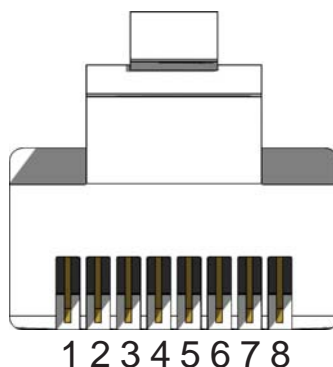
5. Connect the display to the HDMI output port of the HDMI 1.3 Over Fiber with IR receiving unit using a user supplied HDMI cable.
6. Connect the RS-232 device to the RS-232 output port of the HDMI 1.3 Over Fiber with IR receiving unit using a user supplied DB-9 serial cable.
7. Plug the included 5V DC power supplies into the HDMI 1.3 Over Fiber with IR sending and receiving units.
8. Power on the display device first and the source device second. You will now have beautiful HDMI 1.3 video at resolutions of up to 1080p60 on your display device with up to 8 channels of advanced digital HDMI 1.3 audio present.
9. IR commands aimed at the Receiver unit will be intercepted and transmitted back to the Sender unit over the CAT-5 cable. The optional IR Blaster will rebroadcast IR command signals to the source equipment, simulating the local presence of the IR remote control. You will now be able to operate your HDMI source as though you are physically in front of it, while enjoying the convenience of a far away viewing location.

## 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



CAT-5, CAT-5e, and CAT-6 cabling comes in stranded and solid core types. Gefen recommends using solid core cabling. CAT-6 cable is also recommended for best results.

Each cable run must be one continuous run from one end to the other. No splices or use of punch down blocks.

## SPECIFICATIONS

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Video Amplifier Bandwidth .....	340 MHz
HDMI Input/Output Connector .....	type A, 19 pin
Link Connector .....	SC Fiber Optic
CAT5 Connector .....	RJ45
Input Video Signal .....	1.2 Volts p-p
Input DDC Signal .....	5 Volts p-p (TTL)
Power Supply .....	5V DC
Dimensions .....	2.8"W x 4.5"H x 1.2"D (approx)
Shipping Weight .....	5 lbs. (approx)

## WARRANTY

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Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.
2. Customers outside the US are responsible for shipping charges to and from Gefen.
3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, please visit Gefen's Warranty web page at <http://www.gefen.com/kvm/aboutus/warranty.jsp>

## PRODUCT REGISTRATION

**Please register your product online by visiting Gefen's web site at <http://www.gefen.com/kvm/Registry/Registration.jsp>**



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