



# **HDMI CAT-5**

## **Extreme**

**USER MANUAL**

## ASKING FOR ASSISTANCE

---

### **Technical Support:**

Telephone (818) 884-6294  
(800) 545-6900

Fax (818) 884-3108

### **Technical Support Hours:**

9:00 AM to 5:00 PM Monday through Friday.

### **Write To:**

Gefen Inc.  
C/O Customer Service  
6265 Variel Ave.  
Woodland Hills, CA 91367-9897

### **Notice**

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

**The HDMI CAT-5 Extreme** is a trademark of Gefen Inc.

## TABLE OF CONTENTS

---

- 1** Introduction
- 2** HDMI CAT-5 Extreme Sender Front Panel Descriptions
- 3** HDMI CAT-5 Extreme Receiver Front Panel Descriptions
- 4** How To Connect The HDMI CAT-5 Extreme
- 5** Dip Switch Usage Guide
- 6** CAT5 Link Cable - Wiring Diagram
- 7** Mounting Plate Installation
- 8** Frequently Asked Questions
- 9** Terminology
- 10** Specifications
- 11** Warranty

## **OPERATION NOTES**

---

### **READ THESE NOTES BEFORE INSTALLING OR OPERATING THE HDMI CAT-5 EXTREME EXTENDER**

- The HDMI CAT-5 Extreme is housed in a metal box for better RF shielding.
- Your CAT-5 cable should not exceed 200 feet.
- If you do not need DDC or HDCP data you can use a single CAT-5 cable for the video only. The DDC will not be connected. (For further information, see our Terminology section on page 9.) If HDCP is required, both CAT-5 cables must be used between the sender and receiver units.
- If the source requires EDID present, you can use the Gefen DVI Detective to provide EDID information.

## INTRODUCTION

---

The HDMI CAT-5 Extreme sender unit sits next to your computer, DVD player or any set-top box with a HDMI output. The cable supplied with the HDMI CAT-5 Extreme connects your HDMI source to the send unit. The HDMI CAT-5 Extreme receiver unit sits next to your HDMI display - up to 200 feet away. The display plugs into the back of the HDMI CAT-5 Extreme receiver unit. Two CAT-5 cables connect the HDMI CAT-5 Extreme-S and the HDMI CAT-5 Extreme-R units to each other.

### CONTENTS

The HDMI CAT-5 Extreme system consists of:

- HDMI CAT-5 Extreme-S
- HDMI CAT-5 Extreme-R
- 1x 6 ft HDMI to HDMI Cable M-M
- 2x HDMI CAT5 Wallmounts
- 2x 5V DC power supply



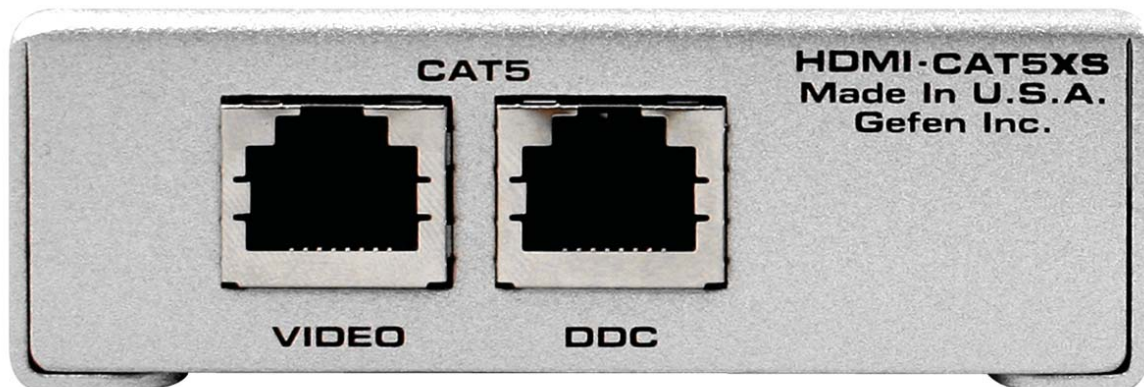
## HDMI CAT-5 EXTREME SENDER FRONT PANEL DESCRIPTIONS



Connects to 5 volt  
power supply

Power Indicator

HDMI input connects to  
HDMI source



CAT-5 carries  
TMDS signals

CAT-5 carries  
DDC/HDCP signals

## HDMI CAT-5 EXTREME RECEIVER FRONT PANEL DESCRIPTIONS



Connects to HDMI display

Power Indicator

Connects to 5 volt  
power supply



CAT-5 carries  
DDC/HDCP signals

CAT-5 carries  
TMDS signals

## HOW TO CONNECT THE HDMI CAT-5 EXTREME

---

- 1 Connect your display to the HDMI CAT-5 Extreme receiver unit.
- 2 Connect your source to the HDMI CAT-5 Extreme sender unit
- 3 Connect your CAT-5 cables between the sender and the receiver
- 4 Plug the 5V power supply into the HDMI CAT-5 Extreme sender and receiver unit
- 5 You should now have picture. If you do not see a picture, try unplugging and re-plugging the HDMI input on the HDMI sender unit. Make sure your CAT-5 cables are not crossed. Recycle the power on the unit.

\* If problems persist try adjusting the Dip Switches by following the Dip Switch Usage Guide.



## SERVICE SWITCH USAGE GUIDE

---

The Senders and Receivers of the Gefen CAT5 Extreme products both contain a set of service switches (also called dip switches) located underneath each unit. Peeling back the silver sticker will reveal the service switch bay. These service switches are used to boost and equalize the signal to best match the conditions in your setup. (\*Note: Adjustments should be done with sources and display on. Switches 3 and 4 are not used.)

Sender Dip Switch Settings		
Setting	Switch 1	Switch 2
No Boost	OFF	ON
Normal Boost (Default)	OFF	OFF
Strong Boost	ON	OFF
Undefined	ON	ON

Receiver Dip Switch Settings		
Setting	Switch 1	Switch 2
No EQ (Default)	OFF	OFF
EQ Setting 2	ON	OFF
EQ Setting 3	OFF	ON
Maximum EQ	ON	ON

### Adjustment Guidelines:

- 1) Strong boost should not be used on stranded cables. Strong boosting will cause pixels or no picture on these cables.
- 2) Using the wrong settings will not damage the units; it will either produce no image or a noisy image.
- 3) To eliminate the possibility of cross talk and interference, cables must be terminated with 568B scheduling. (See page 6 for details)

RJ-45 Jack

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

White/Orange

Orange

White/Green

Blue

White/Blue

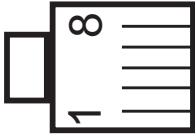
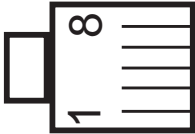
Green

White/Brown

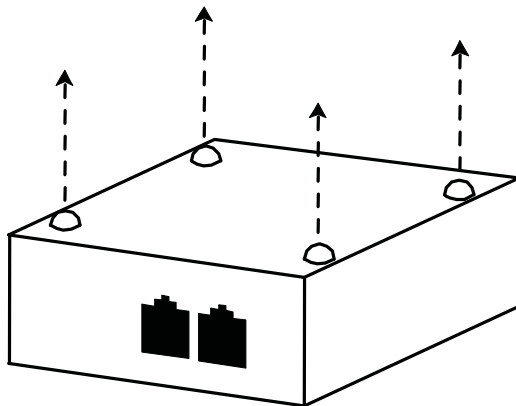
Brown

RJ-45 Jack

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

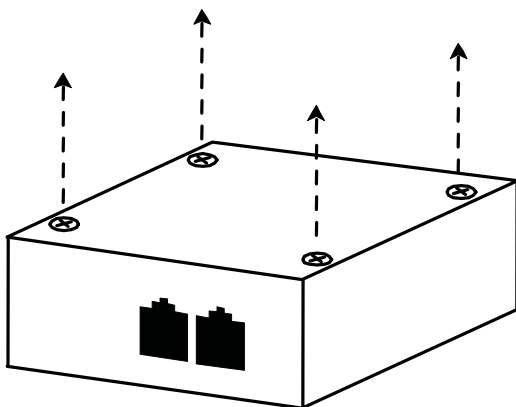


# Mounting Plate Installation



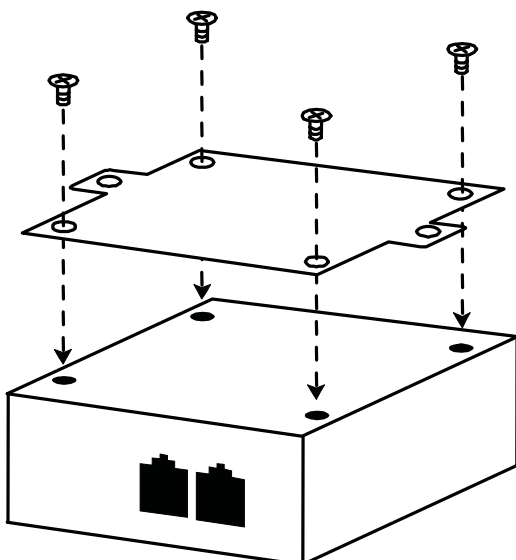
**1**

Remove the rubber feet covering the screws off the bottom of the unit.



**2**

Remove the screws.



**3**

Line up the mounting plates and screw it on to the unit.

### Frequently Asked Questions

***What kind of CAT-5e cable should I be using?***

Solid core CAT-5e cable rated at 350 Mhz 568a or 568b is the minimum requirement. CAT-6 cables are also a viable cable to use.

***I'm getting no video on the screens, what can I check?***

First thing to check is make sure that the video CAT5 is linked to the other video CAT5 port and the same with the DDC ports. Test to make sure the units are working with short CAT-5e cables 15-20 feet. Please refer to the Service Switch Usage Guide on page 5.

***How can I fix an occasionally flickering or flashing picture?***

A flickering or a flashing image is the result of Electromagnetic Interference (EMI). Try a shielded CAT-5e or CAT-6 cable on the DDC to reduce interference.

***Why is there a green or pink tint to my picture?***

A tint of green or pink in the picture is a result of incorrect colorspace being transmitted. This can be resolved by recycling power on your devices including the extender. If this does not help, the DDC data containing the colorspace is not being transmitted correctly due to loss in the CAT5 cable, try replacing the DDC cable.

### ***CAT-5***

Category 5 cable, commonly known as Cat 5, is an unshielded twisted pair type cable designed for high signal integrity. The actual standard defines specific electrical properties of the wire, but it is most commonly known as being rated for its Ethernet capability of 100 Mbit/s. Its specific standard designation is EIA/TIA-568. Cat 5 cable typically has three twists per inch of each twisted pair of 24 gauge copper wires within the cable.

### ***CAT-5e***

Similar to Cat 5 cable, but is enhanced to support speeds of up to 1000 megabits per second.

### ***DDC***

Short form for Display Data Channel. It is a VESA standard for communication between a monitor and a video adapter. Using DDC, a monitor can inform the video card about its properties, such as maximum resolution and color depth. The video card can then use this information to ensure that the user is presented with valid options for configuring the display.

### ***DDWG***

Digital Display Working Group DDWG are the creators of the HDMI specification.

### ***HDMI***

The High-Definition Multi-media Interface (HDMI) is an industry-supported, uncompressed, all-digital audio/video interface. HDMI provides an interface between any compatible digital audio/video source, such as a set-top box, DVD player, and A/V receiver and a compatible digital audio and/or video monitor, such as a digital television (DTV).

### ***HDCP***

High-Bandwidth Digital Content Protection. Created by Intel, HDCP is used with HDTV signals over HDMI and HDMI connections and on D-Theater D-VHS recordings to prevent unauthorized duplication of copy written material.

### ***HDTV***

High-Definition Television. The high-resolution subset of our DTV system. The ATSC defines HDTV as a 16:9 image with twice the horizontal and vertical resolution of our existing system, accompanied by 5.1 channels of Dolby Digital audio. The CEA defines HDTV as an image with 720 progressive or 1080 interlaced active (top to bottom) scan lines. 1280:720p and 1920:1080i are typically accepted as high-definition scan rates.

### ***VESA***

Video Electronic Standards Association, a consortium of manufacturers formed to establish and maintain industry wide standards for video cards and monitors. VESA was instrumental in the introduction of the Super VGA and Extended VGA video graphics standards with a refresh rate of 70 Hz, minimizing flicker and helping to reduce user eyestrain and fatigue.

## SPECIFICATIONS

---

Video Amplifier Bandwidth .....	1.65 Gbps
Input Video Signal .....	1.2 volts p-p
Input DDC Signal .....	5 volts p-p (TTL)
Single Link Range .....	1080p / 1920 x 1200
HDMI Connector Type .....	Type A 19 pin female
Link Connector .....	RJ-45
Power Consumption .....	20 watts (max)
Power Supply .....	5V DC
Dimensions .....	3.4" W x 1.25" H x 3.25" D
Shipping Weight .....	3 lbs.

## WARRANTY

---

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

If equipment fails because of such defects and Gefen Inc. is notified within one (1) year from the date of shipment, Gefen System 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 shipment 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.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen Inc. assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen Inc., 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 HDMI CAT-5 Extreme features and specifications is subject to change without notice.

\* ma - HDMI - cat 5X\*