



Extend HDMI 200 feet away over CAT-5.



Extends your HDTV signal up to 200 feet (60 meters) away over two CAT-5 cables.

The HDMI CAT-5 Extreme extends your HDTV display up to 200 feet away from your HDTV source using two CAT-5 cables. It is equipped with HDMI (high definition multimedia interface) connectors and is capable of supporting DVI (digital visual interface) equipment when used with a HDMI to DVI Adapter, providing greater flexibility and options when integrating several home theater components.

Features:

- Extends high definition displays up to 200 feet (60 meters) from the source at 1080i
- Extends high definition displays up to 150 feet (45 meters) from the source at 1080p
- Improved compensation for cable skew
- Eliminates equipment noise in the viewing environment
- Supports resolutions up to 1080p, 2K, and 1920 x 1200
- Audio and video are transmitted digitally over the CAT-5e cable for zero signal loss
- HDMI compliant
- HDCP compliant

How It Works

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

Specifications:

- Video Amplifier Bandwidth: 165 MHz
- Single Link Range: 1080P/1920 x 1200
- Input Video Signal: 1.2 Volts p-p
- Input DDC Signal: 5 Volts p-p (TTL)
- HDMI Connector: Type A 19 Pin Female
- Link Connector: RJ-45 Shielded
- Power Supply: 5V DC
- Power Consumption: 20 Watts (max)
- Dimensions: 3.4" D x 3.25" W x 1.25" H
- Shipping Weight: 3 lbs.



HDMI CAT-5
Extreme
USER MANUAL

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.

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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.

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.
- * CAT6 cable is suitable for high resolutions at 50 meters.

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.

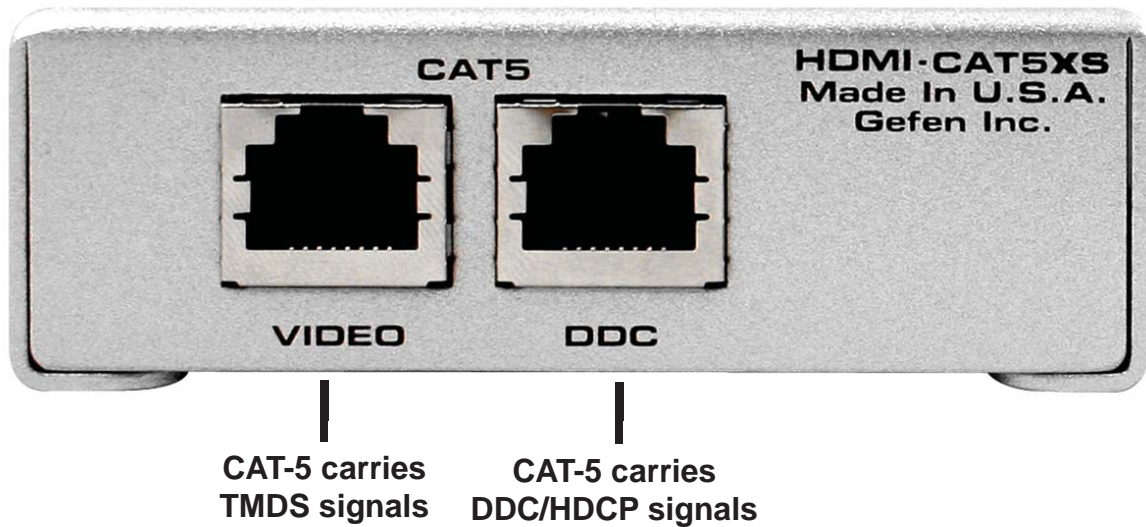
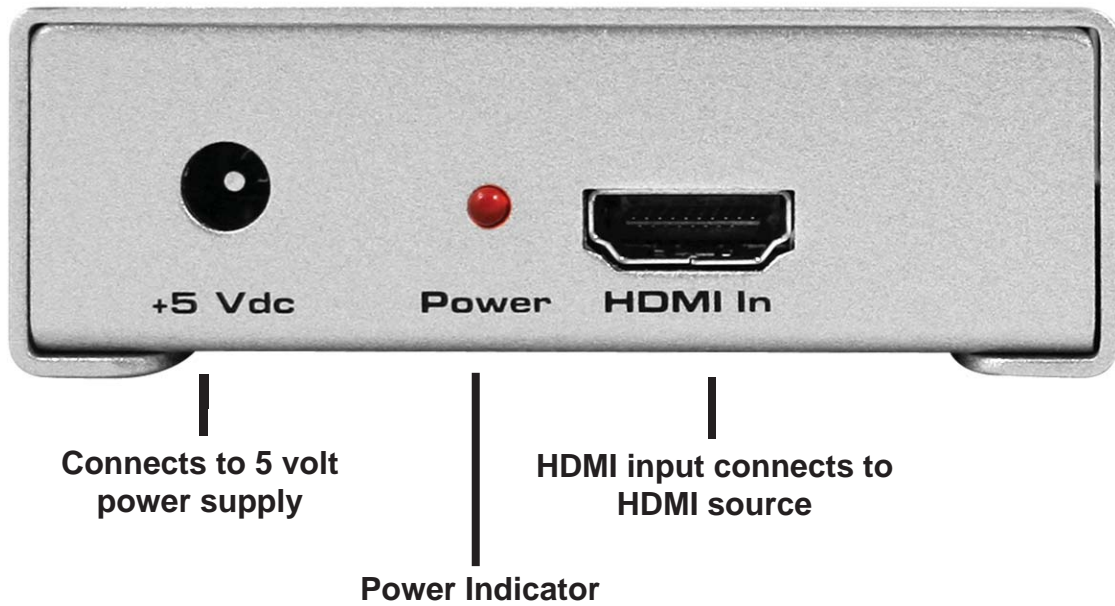
CONTENTS

The HDMI CAT-5 Extreme system consists of:

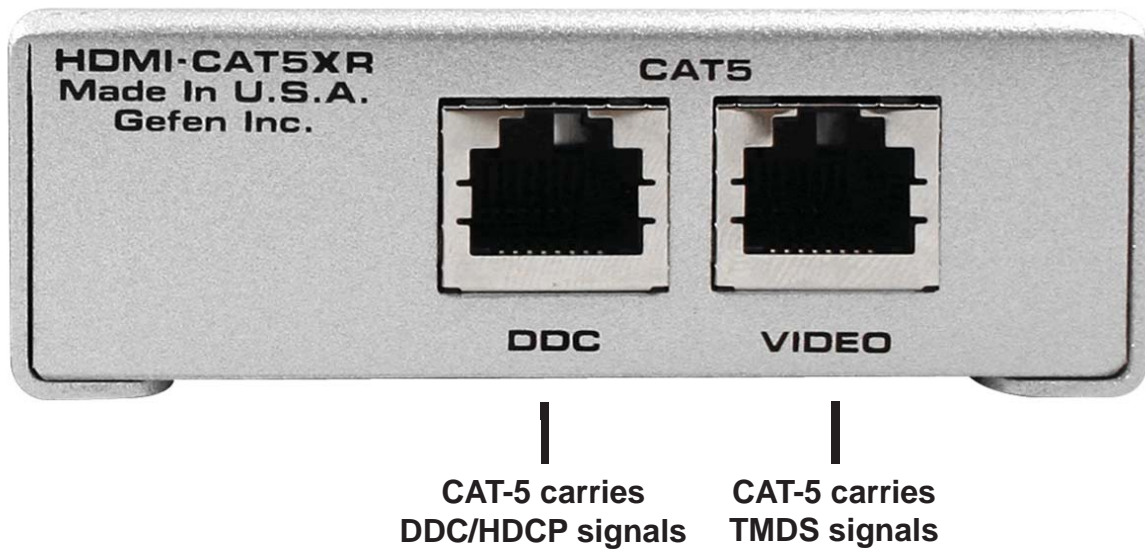
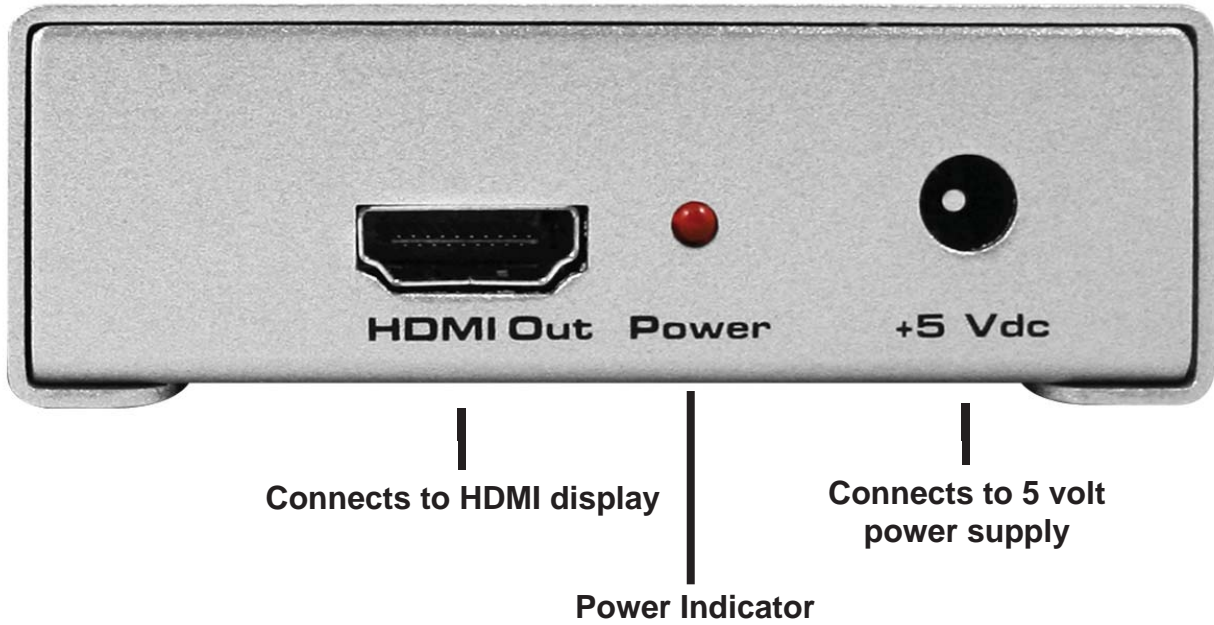
- (1) HDMI CAT-5 Extreme-S
- (1) HDMI CAT-5 Extreme-R
- (1) 6 ft HDMI to HDMI Cable M-M
- (2) HDMI CAT5 Wallmounts
- (2) 5V DC power supply



HDMI CAT-5 EXTREME SENDER FRONT PANEL DESCRIPTIONS



HDMI CAT-5 EXTREME RECEIVER FRONT PANEL DESCRIPTIONS



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)

CAT5 LINK CABLE - WIRING DIAGRAM

RJ-45 Jack



White/Orange

Orange

White/Green

Blue

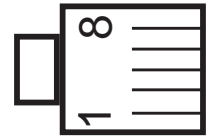
White/Blue

Green

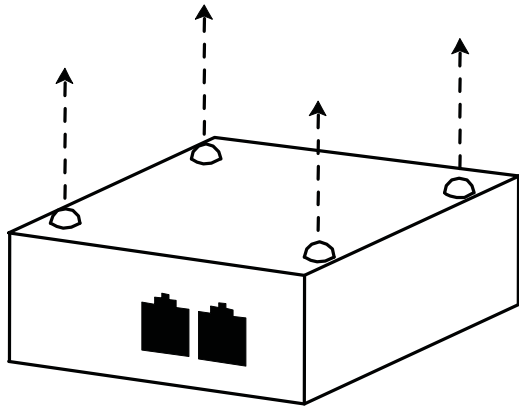
White/Brown

Brown

RJ-45 Jack

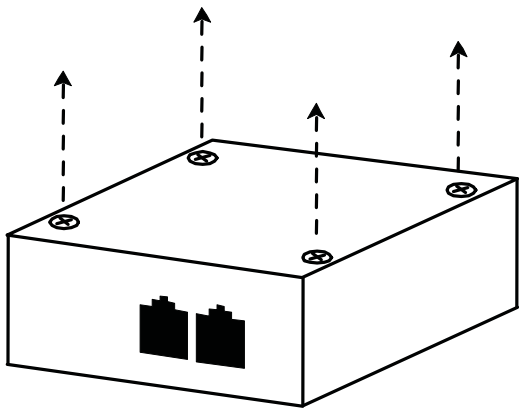


Mounting Plate Installation



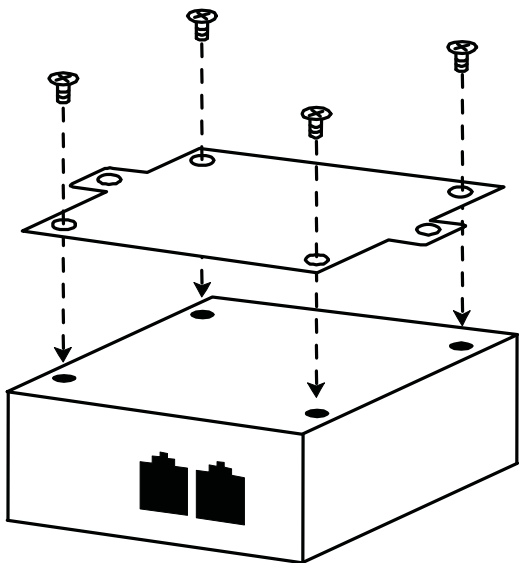
1

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 and terminated in 568a or 568b is the minimum requirement. For resolutions greater than 1280x1024 or 1080i, Gefen recommends solid CAT-6 cables.

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. Try removing the power supply from the receiver side, if the power light turns off then you have your CAT-5 cables crossed. In some setups with grounding issues you will not get a picture with the receiver powered. Test to make sure the units are working with short CAT-5e cables 15-20 feet. You can also make sure you have the correct boost setting configured (refer to page 5).

Occasionally the picture blanks out, how do I fix this?

Flickering or a blinking image is the result of a loss of sync between the display and the source. Try lowering the resolution to see if that helps, if it does, the CAT-5 cables you are using are unable to handle the bandwidth of the higher resolution and thus you are losing sync. Try a shielded CAT-6 cable on the video line to reduce interference. You can also try adjusting the service switches. Usually this is caused by EMI and a shielded CAT-6 with metal RJ-45 connectors with the drain wire soldered to the connectors will resolve the issue. Please refer to the service switch guide on page 5 for the different combinations.

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.

TERMINOLOGY

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 two (2) year from the date of shipment, Gefen Inc. 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 cable must be free from any scratches, markings, and neatly coiled.

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.