CAT5-1600HD

EXT-CAT5-1600HD

User Manual

www.gefen.com

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, Pacific Time

Write To:

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

www.gefen.com
support@gefen.com

Notice

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

CAT5-1600HD is a trademark of Gefen LLC

CONTENTS

INTRODUCTION

Congratulations on your purchase of the CAT5-1600HD. Your complete satisfaction is very important to us.

Gefen

Gefen is a unique product line catering to the growing needs for innovative home theater solutions. We specialize in total integration for your home theater, while also focusing on going above and beyond customer expectations to ensure you get the most from your hardware. We invite you to explore our distinct product line and hope you find your solutions. Don't see what you are looking for here? Please call us so we can better assist you with your particular needs.

The Gefen CAT5-1600HD

Extend DVI and USB 2.0 peripherals with the Gefen CAT5-600HD KVM extender. It will send a single-link DVI video signal plus USB 2.0 over two CAT-6a cables at distances of up to 200 feet (60m) at 1920 x 1200, or up to 150 feet (45m) using CAT-5e cables.

The unit includes a built-in 4-port USB 2.0 hub located on the Receiver unit, providing complete computer access control at the remote location.

How It Works

Connect the host computer's DVI and USB ports to the Sender unit. Connect the remote display and computer peripherals to the Receiver unit. Two CAT-6a (or CAT-5e) cables (for the DVI and for the USB 2.0) extensions connect the Sender and the Receiver units together. Power up the units, and a crisp picture will appear on the display.

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE CAT5-1600HD

- CAT-6a cables can be used up to 200 feet (60 meters).
- CAT-5e cables can be used up to 150 feet (45 meters).
- Shielded (STP) CAT-5e/CAT-6a is recommended. However, unshielded (UTP) CAT-5e/CAT-6a is acceptable.

  NOTE: Shielded cable has an advantage by providing immunity to Electromagnetic Interference (EMI), cell phones and A/C motors.
- The CAT5-1600HD only supports DVI-D signals. Analog DVI content is not supported.

Features

- Extend any DVI source at 1920x1200 up to 200 feet (60 meters) using CAT-6a cable.
- Extends USB 2.0 compliant devices up to 300 feet
- DVI is transmitted digitally for zero signal loss over CAT-5 cable
- Supports video resolutions up to 1080p and 1920x1200.
- HDCP compliant for viewing of copy-protected video content (e.g. Blu-ray)
- Supports the DDWG standard for DVI compliant monitors
- Includes rack ears

Package Includes

(1) CAT5-1600HD Sender Unit
(1) CAT5-1600HD Receiver Unit
(1) 6 ft. DVI cable (M-M)
(1) 6 ft. USB cable (A-B)
(2) 5V DC Locking Power Supplies
(1) Set of Rack Ears
(1) User Manual

Front Panel

Back Panel

SENDER PANEL DESCRIPTIONS

1 ***Power LED***
When this LED is lit, power is correctly supplied to the unit.

2 ***USB Input***
Supplies USB connection from the host computer to the Sender. Connect a USB cable from an available USB port on the computer to this jack.

3 ***Host Connected LED***
When this LED is lit, this indicates that the host computer and the Sender unit are connected together properly.

4 ***CAT-5 USB Link Input***
Connects to the Receiver unit via a length of CAT-5e or CAT-6a cabling. Used for transmission of the USB signal from Sender to Receiver.

5 ***CAT-6 Video Link Input***
Connects to the Receiver unit via a length of CAT-5e or CAT-6a cabling. Used for transmission of the DVI video signal from Sender to Receiver.

6 ***DVI Input***
Connects the computer's DVI video interface output to the Sender unit.

7 ***5V DC Locking Power Connector***
Connect the supplied 5V DC locking power supply here.

Front Panel

Back Panel

RECEIVER PANEL DESCRIPTIONS

1 Power LED

When this LED is lit, power is correctly supplied to the unit.

2 EQ Trim Pot

The EQ 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-5e / CAT-6a cabling brands.

3 USB Outputs

Connect the keyboard, mouse, printer and any USB-compatible accessories (such as an external hard disk drive) to these ports.

4 CAT-5 USB Link Input

Connects to the Receiver unit via a length of CAT-5e or CAT-6a cabling. Used for transmission of the USB signal from Sender to Receiver.

5 Host Link LED

When this LED is lit, this indicates that the host computer and the Sender unit are connected together properly.

6 CAT-6 Video Link Input

Connects to the Sender unit via a length of CAT-5e or CAT-6a cabling. Used for transmission of the DVI video signal from Sender to Receiver.

7 DVI Output

Connect the remote DVI-compliant display device to this port on its input cable.

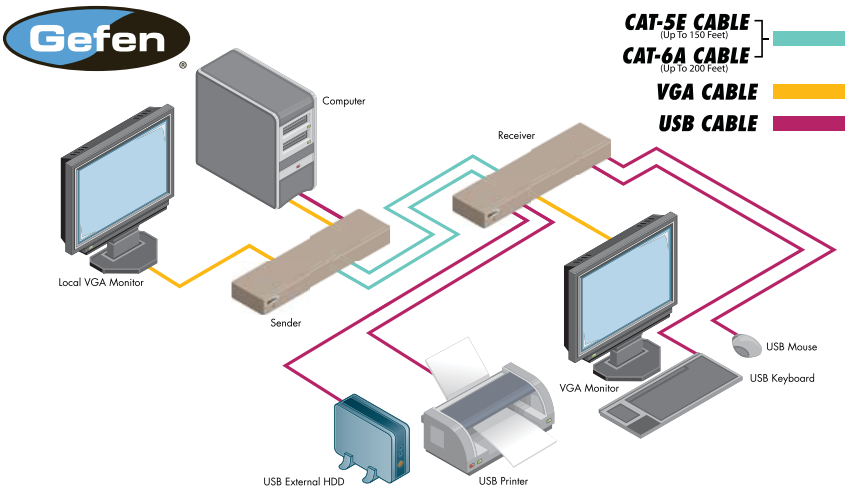
8 5V DC Locking Power Connector

Connect the supplied 5V DC locking power supply here.

How to Connect the CAT5-1600HD

1. Connect the Sender unit to the computer via the included DVI and USB cables.
2. At the remote location, connect the display, mouse, keyboard, printer and any other USB accessory to the Receiver unit (up to 4 USB devices may be connected at one time to the Receiver unit).
3. Connect the Sender and Receiver units together with up to 200 feet of CAT-6a or up to 150 feet using CAT-5e cable.
4. Connect the included 5V DC external power supplies to both the Sender and Receiver units. Gently screw in the threaded locking power connectors, being careful not to overly tighten them.
5. The remote computer can now be controlled from the Receiver unit.

Wiring Diagram for the CAT5-1600HD

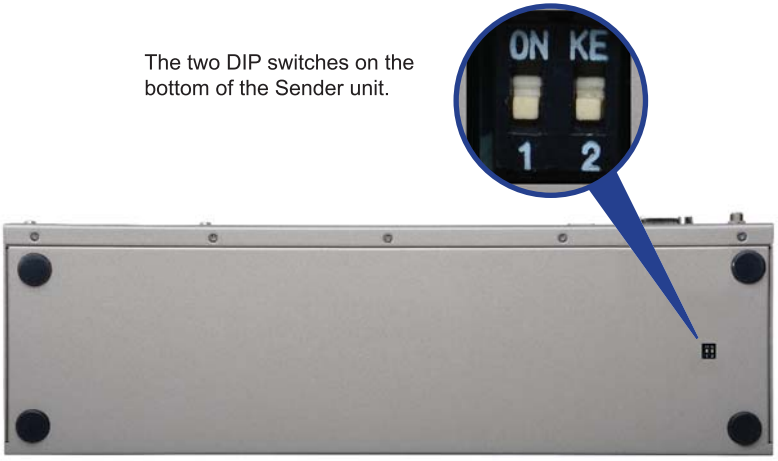


EXT-CAT5-1600HD

Sender Unit

The CAT5-1600HD contains two (2) DIP switches on the bottom of the Sender unit. The follow information outlines the functionality of each DIP switch:

The two DIP switches on the bottom of the Sender unit.



DIP Switch 1 - Green Mode (Default = ON)

- ***ON*** - Disable Green Mode

  When DIP switch 1 on the Sender Unit is set to the ON position, “Green Mode” is disabled. This means that the USB is always powered whether or not there is a signal. This mode will allow the computer to wake up when it is placed in sleep mode.

- ***OFF*** - Enable Green Mode

  If DIP switch 1 is set to the OFF position, then the product is will be placed in “Green Mode”. This means that the unit will not power the USB if the USB cable from the Sender to the computer source is disconnected. In “Green Mode”, the product consumes less than 1 watt of power.

DIP Switch 2 - Not Used

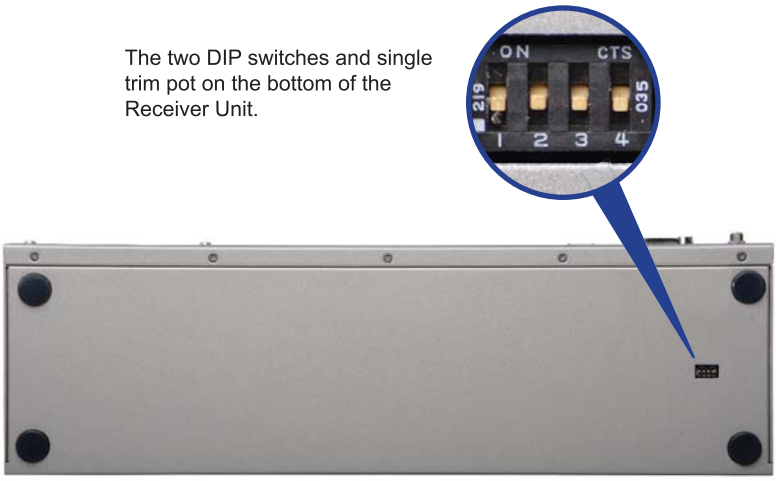
- Reserved for future expansion.

NOTE: DIP switch 1 on *both* the Sender Unit and the Receiver Unit must be set to the OFF position in order to operate in “Green Mode”.

Receiver Unit

The CAT5-1600HD contains four (4) DIP switches on the bottom of the Receiver unit. The follow information outlines the functionality of each DIP switch:

The two DIP switches and single trim pot on the bottom of the Receiver Unit.



DIP Switch 1 - EDID (Default = OFF)

- ***ON*** - Pass-through EDID

  In this mode, the unit copies the downstream EDID to the DVI input of the Sender unit.

- ***OFF*** - Local EDID

  In this mode unit used the built in stored EDID in the Sender unit.

DIP Switch 2: Color Depth (Default = OFF)

- ***ON*** - 12-bit color. In this mode, deep color gets enabled in the EDID.
- ***OFF*** - 8-bit color. In this mode, deep color gets disabled in the EDID. This mode is active only in Internal EDID mode.

DIP Switch 3: Not Used

- Reserved for future expansion.

**DIP switch is only functional when DIP switch 1 is set to OFF (Local EDID).*

DIP Switch 4 - Green Mode (Default = ON)

- ***ON*** - Disable Green Mode

  When DIP switch 1 on the Sender Unit is set to the ON position, “Green Mode” is disabled. This means that the USB is always powered whether or not there is a signal. This mode will allow the computer to wake up when it is placed in sleep mode.

- ***OFF*** - Enable Green Mode

  If DIP switch 1 is set to the OFF position, then the product is will be placed in “Green Mode”. This means that the unit will not power the USB if the USB cable from the Sender to the computer source is disconnected. In “Green Mode”, the product consumes less than 1 watt of power.

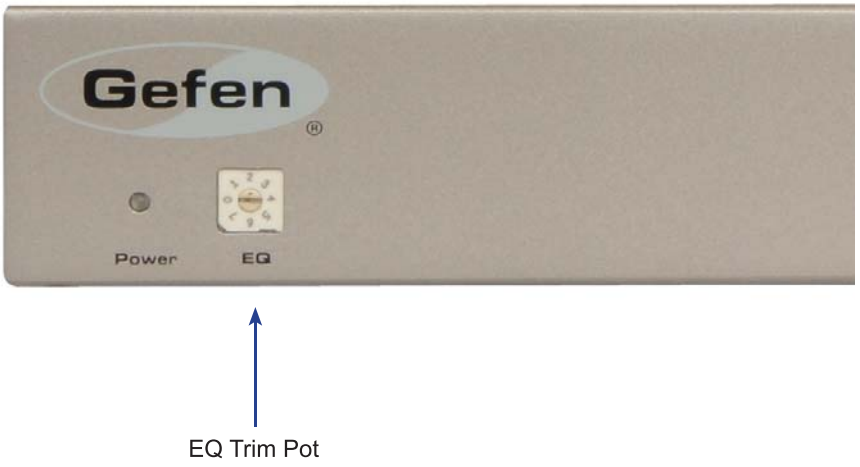
NOTE: DIP switch 1 on *both* the Sender Unit and the Receiver Unit must be set to the OFF position in order to operate in “Green Mode”.

IMPORTANT: After changing the switch positions on DIP switch 1 or 2, the Receiver unit must be power-cycled in order for the changes to take effect.

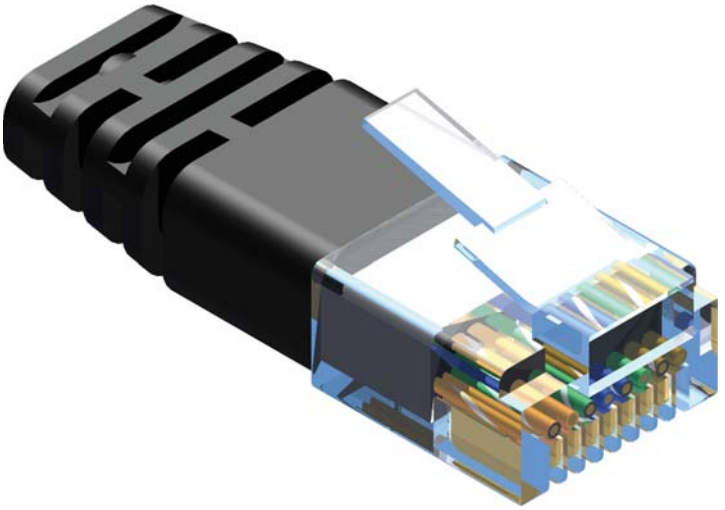
Adjusting the Signal Quality

The CAT5-1600HD has an EQ trim pot on the Receiver Unit to compensate for the extension distance and cable skew found in different CAT-5e / CAT-6a cabling brands. If there is no output video or if output video contains video artifacts and/or video noise such as snow, use the steps below to adjust the EQ trim pot.

1. Insert a small flat-headed tool into the EQ trim pot on the front panel of the Receiver Unit.
2. The trim pot has 8 set positions. Turn the trim pot clockwise until it clicks into the next position. Continue adjusting the trim pot until the issue is resolved.
3. Carefully remove the adjustment tool.



NETWORK CABLE WIRING DIAGRAM



Gefen recommends the TIA/EIA-568-B wiring option. Please adhere to the table below when field-terminating the CAT-5e / CAT-6a cable for use with Gefen products.

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

CAT-5e / CAT-6a cabling comes in stranded and solid core types. Gefen recommends using solid core cabling.

It is recommended to use one continuous run from one end to the other. Connecting through a patch is not recommended.

RACK MOUNT INSTALLATION

Rack mount ears are provided for installation of this unit into a 1U rack mount space.

1. Locate the side screws on the unit.
2. Remove the front 2 screws that are located closest to the front of the unit.
3. Using the removed screws, screw the rack mounting bracket into the unit.
4. Repeat the procedure on the opposite side of the unit.

1

2

3

4

SPECIFICATIONS

Maximum Pixel Clock.....165 MHz

Input Video Signal.....1.2V p-p

Input DDC Signal.....5V p-p (TTL)

DVI Connector.....DVI-I (29 pin) female (DVI-D digital signal only)

USB Input (Sender).....USB type “B” connector

USB Output (Receiver).....four USB type “A” connectors

Link Connectors (2).....RJ-45 Shielded

Power Supply.....5V DC

Power Consumption.....20W (max.) per unit

Dimensions.....17” W x 1.75” H x 4.375” D

Shipping Weight.....7 lbs.

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, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.

MA-CAT5-1600HD

Rev B4

20600 Nordhoff St., Chatsworth CA 91311

1-800-545-6900 818-772-9100 fax: 818-772-9120

www.gefen.com support@gefen.com

This product uses UL listed power supplies.