

Gefen

®

Cat5 • 5500HD

EXT-CAT5-5500HD
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 PST (Pacific Standard Time)

Write To:

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

support@gefen.com
www.gefen.com

Notice

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

The CAT5 5500HD is a trademark of Gefen, LLC

© 2010 Gefen, LLC. All rights reserved.

All trademarks are the property of their respective owners. `

Rev X3

TABLE OF CONTENTS

- 1** Introduction and Operation Notes
- 2** Features
- 3** How It Works / Front Panel Layouts
- 4** CAT5•5500HDS Back Panel Layout
- 5** CAT5•5500HDS Back Panel Function Descriptions
- 6** CAT5•5500HDR Back Panel Layout
- 7** CAT5•5500HDR Back Panel Functions Descriptions
- 8** Link Cable Wiring Diagrams
- 9** CAT5•5500HD - Wiring Diagram
- 10** Service Switch Usage Guide
- 11** Troubleshooting Guide
- 12** Terminology
- 13** Specifications
- 14** Warranty

INTRODUCTION

Thank you for purchasing the Gefen CAT5•5500HD series

The Gefen CAT5•5500HD allows users the benefits of extending dual DVI displays and USB beyond the desktop. In a growing number of applications, broadcast stations and production facilities need to locate a computer remotely from the keyboard, mouse, and video monitor. A CPU may need to be shared between several users, for example, or moved to another room because of annoying fan noise.

The CAT5•5500HD series can be used to extend computers with noisy fans, printers, hard drives, scanners, cameras, keyboards, mouse, and any other USB. With the potential to cover the distance of 150 feet, industry standard Category 5 (CAT-5) cables are used for the extension of all the devices.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE CAT5•5500HD SYSTEM

- * The CAT5•5500HD units are housed in a metal box for better RF shielding.
- * Your CAT-5 cable should not exceed 200 feet.

FEATURES

Features

- Uses CAT-5 cable for DDC and control signals
- Extends any DVI (Digital Video Interface) compliant device up to 200 ft from the computer
- 200 ft extension at 1280x1024
- 150 ft extension at 1920x1200
- Saves space on your desktop
- Increases productivity
- Eliminates computer noise where you work
- Supports VESA Standard resolutions and HDTV resolutions
- Supports DDWG standard for DVI compliant monitors
- HDCP Compliant

HOW IT WORKS

CONTENTS

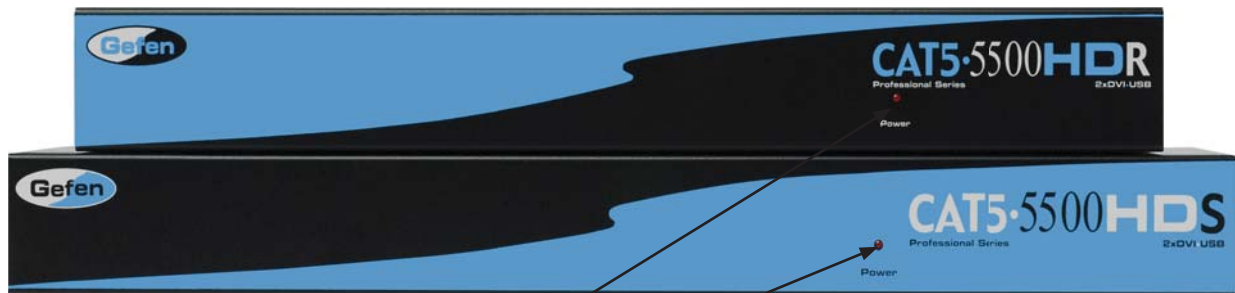
The CAT5•5500HD system consists of:

- (1) CAT5•5500HDS sender unit
- (1) CAT5•5500HDR receiver unit
- (2) 5 VDC power supplies
- (2) DVI cable M-M (6FT)
- (1) USB cable (6FT)
- (1) Set of Rack Ears
- (1) User Manual

HOW IT WORKS

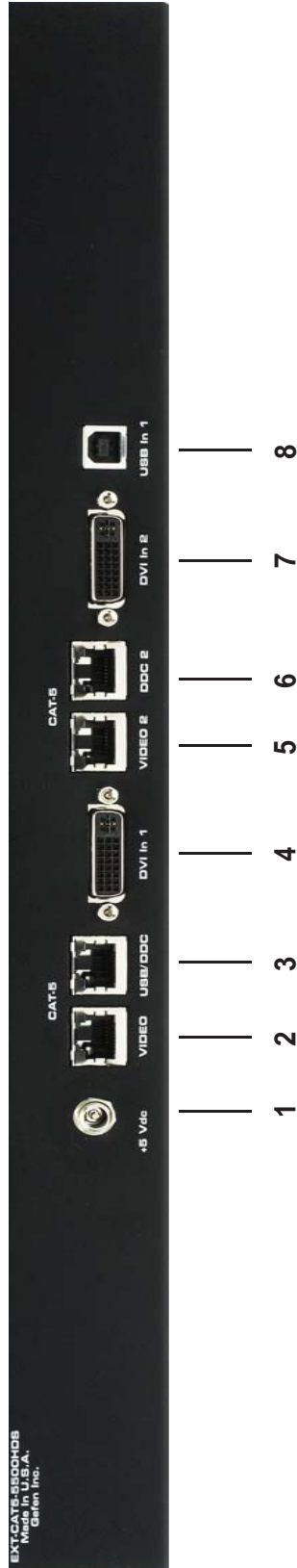
The CAT5•5500HD sender unit sits next to your computer. The cables supplied with the CAT5•5500HD connects your DVI source(s) and USB to the send unit. The CAT5•5500HD receiver unit sits next to your DVI displays - up to 200 feet away. The displays and USB plug into the back of the CAT5•5500HD receiver unit. Four CAT-5 cables connect the CAT5•5500HD-S and the CAT5•5500HD-R units to each other.

FRONT PANEL LAYOUTS (SENDER & RECEIVER)



Power LED Indicators
(will glow red when unit is powered)

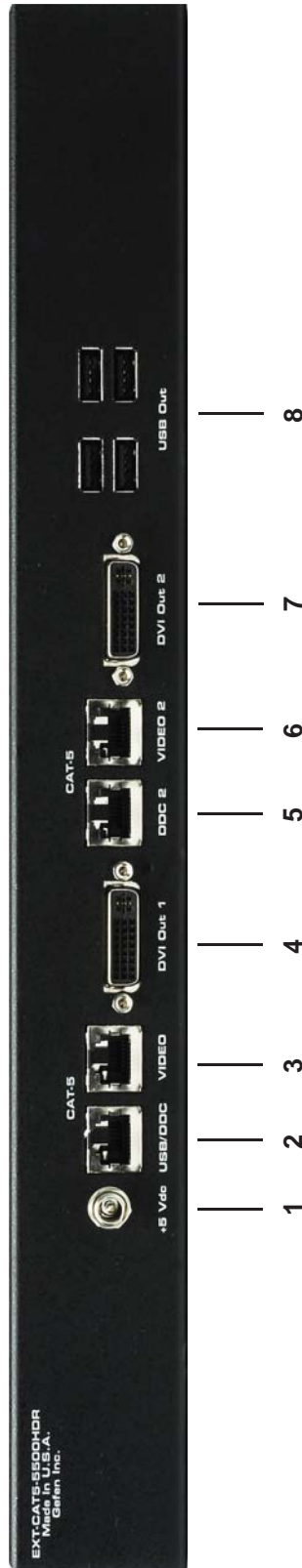
Sender



CAT5•5500HDS BACK PANEL FUNCTIONS

- 1 **POWER** - 5 VDC external power supply
- 2 **CAT5 Video 1** - RJ-45 input extends DVI input 1 with CAT-5 cable
- 3 **CAT5 USB/DDC1** - RJ-45 input extends USB and DDC1 signals with CAT-5 cable
- 4 **DVI IN 1** - DVI Input connects to your computer
- 5 **CAT5 Video 2** - RJ-45 input extends DVI input 2 with CAT-5 cable
- 6 **CAT5 USB/DDC2** - RJ-45 input extends USB and DDC2 signals with CAT-5 cable
- 7 **DVI IN 2** - DVI Input connects to your computer
- 8 **USB IN** - USB Input from computer

Receiver



CAT5•5500HDR BACK PANEL FUNCTIONS

- 1 POWER** - 5 VDC external power supply
- 2 CAT5 USB/DDC1** - RJ-45 input extends USB and DDC1 signals with CAT-5 cable
- 3 CAT5 Video 1** - RJ-45 input extends video input 1 with CAT-5 cable
- 4 DVI OUT 1** - DVI output connects to the monitor 1 for local video
- 5 CAT5 USB/DDC2** - RJ-45 input extends USB and DDC2 signals with CAT-5 cable
- 6 CAT5 Video 2** - RJ-45 input extends video input 2 with CAT-5 cable
- 7 DVI OUT 2** - DVI output connects to the monitor 2 for local video
- 8 USB OUT** - USB Output to devices

CAT5 LINK CABLE - WIRING DIAGRAM

RJ-45 Jack



White/Orange

Orange

White/Green

Blue

White/Blue

Green

White/Brown

Brown

RJ-45 Jack



1

2

3

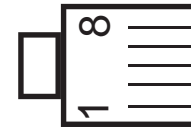
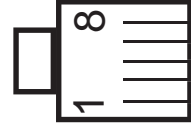
4

5

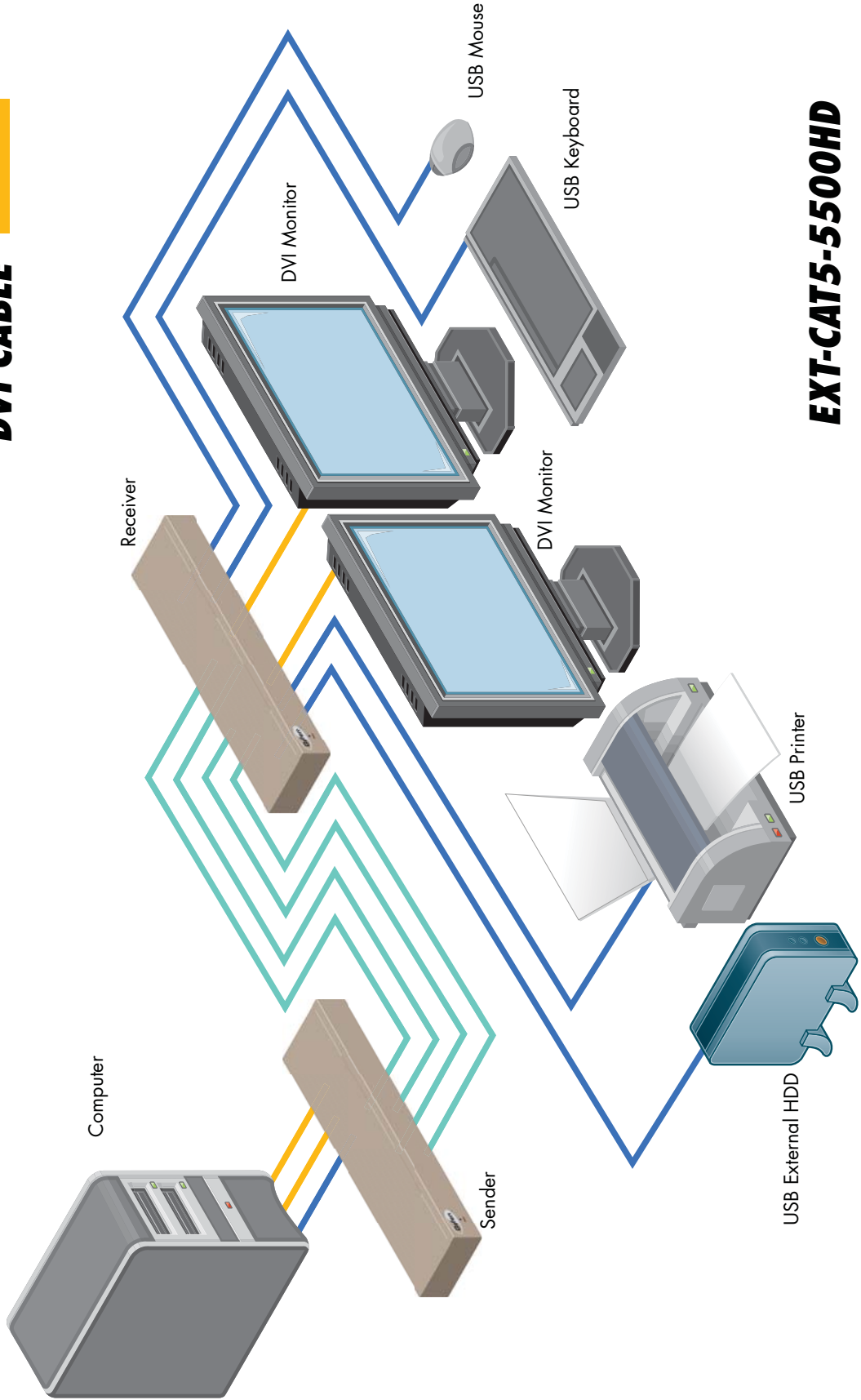
6

7

8



CAT-5 CABLE
(Up To 330 Ft)
USB CABLE
DVI CABLE



EXT-CAT5-5500HD

SERVICE SWITCH USAGE GUIDE

Gefen CAT5 Extreme products (sender and receiver) both contain a pair of service switches (also called dip switches) located underneath the unit. These service switches are used to select from sets of configurations that will equalize the signal to best match the conditions in your setup. For the CAT5•5500HD, there are 1 set of switches for each monitor under both the sender and receiver units. The switches are hidden beneath black stickers. Each bank of dip switches have 4 switches. Switches 3 and 4 are not used. (*Note: Adjustments should be done with sources and display on.)

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 8 for details)

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. 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 10).

I'm getting no video on the screens using ADC to DVI adapters, what is wrong?

ADC to DVI adapters remove the necessary 5V line that the extenders require on the input to operate. To enable the 5V you will need to open up the sender unit. Next to each DVI input connector will be a jumper that needs to be shorted to enable 5V to the input. This should only be enabled when using a ADC to DVI Adapter otherwise damage to your video card may result.

How can I fix the flickering picture?

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 10 for the different combinations.

Can I run the CAT-5 cable through a patch bay?

No, the signal will not transmit reliably.

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 DVI specification.

DVI

Digital Visual Interface. Connection standard developed by Intel for connecting computers to digital monitors such as flat panels and DLP projectors. A consumer electronics version, not necessarily compatible with the PC version, is used as a connection standard for HDTV tuners and displays. Transmits an uncompressed digital signal to the display. The latter version uses HDCP copy protection to prevent unauthorized copying

USB

Universal Serial Bus. An external peripheral interface standard for communication between a computer and external peripherals over a cable using bi-serial transmission.

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.

PS/2

A port type developed by IBM for the purpose of connecting a keyboard or mouse to a PC. The PS/2 port has a mini DIN plug containing 6 pins. PS/2 ports are used so that the serial port can be used by another device. The PS/2 port is often called the mouse port.

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)

DVI Connector:DVI-I (29 pin) female (digital only)

USB Input:USB type "B" connector

USB Output:two USB type "A" connectors

Link Connector:RJ-45 Shielded

Power Supply:5V DC

Power Consumption:20 Watts (max) each power supply

Dimensions(S):4.2"D x 8.4"W x 1.6"H

Dimensions(R):4.2"D x 17.1" W x 1.6"H

Shipping Weight:7 lbs

WARRANTY

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 - cat 5 - 5500Hd *

Rev X3

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.