



# Remotely control your computer

## Optional Accessories



CAT-5 Cables

## CAT5-9000

The CAT5-9000 extends VGA, PS/2, RS-232 and audio up to 330 feet.

### How It Works

The CAT5-9000S sender sits next to your computer. Cables supplied with the CAT5-9000 connect your CPU to the sender. The CAT5-9000R receiver sits next to the monitors, keyboard/mouse, RS232 and audio devices - up to 330 feet away. Monitors, keyboard, mouse, audio and RS232 plug into the back of the receiver. Three CAT-5 extension cables connect the sender and the receiver units to each other.

**Note:** The CAT5-9000 does not extend USB. Visit the [CAT-5-9000I](#) page for additional USB extension features.

### Features:

- Extends any VGA display up to 330 feet (100 meters)
- Maintains 1920 x 1200 resolution video
- Extends RS-232, PS/2 and audio in/out devices up to 330 feet
- Uses three CAT-5e cables
- Rackmountable

### Specifications:

- Video Amplifier Bandwidth: 350 MHz
- Input Video Signal: 1.2 volts p-p
- Input Sync Signal: 5 volts p-p (TTL)
- Horizontal Frequency Range: 15 - 70 KHz
- Vertical Frequency Range: 30 - 170 Hz
- Video In: HD-15 male
- Video out: HD-15 female
- Audio Connector: mini-phone Stereo 3.5mm
- Link Connector: RJ-45 Shielded
- RS232 Connector: DB9
- PS/2 Connectors: 6 pin Mini-DIN
- Power Supply: 5V DC
- Power Consumption Per unit: 20 watts
- Dimensions: 8.5"W x 2"H x 4"D
- Shipping Weight: 14 lbs.

### Package Includes:

- CAT5-9000S Sender Unit
- CAT5-9000R Receiver Unit
- One 6ft VGA cables
- Two PS/2 (m-m) cables
- One 6ft Audio cable
- Two 5 VDC power supply



EXT-CAT5-9000



**CAT5•9000**  
USER MANUAL

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

## ASKING FOR ASSISTANCE

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### 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.

### Write To:

Gefen, Inc.  
c/o Customer Service  
20600 Nordhoff Street  
Chatsworth, CA 91311

[www.gefen.com](http://www.gefen.com)  
[support@gefen.com](mailto:support@gefen.com)

### Notice

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

**CAT5•9000** is a trademark of Gefen Inc.  
**Macintosh** is a trademark of Apple Computer Inc.

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# INTRODUCTION

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Thank you for purchasing the new extend•it CAT5•9000 series by Gefen, Inc.

The extend•it CAT5•9000 by Gefen allows users the benefits of extending VGA, PS/2, RS232, and audio signals beyond the desktop. In a growing number of applications, broadcast stations and production facilities there is a 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•9000 series can be used to extend computers with noisy fans, printers, and hard drives. With the potential to cover the distance of 330 feet, industry standard Category 5 (CAT-5) cables are used for the extension of all the devices. One can connect additional CAT5•9000 series to the same computer, allowing access to the same computer from other locations up to 330 feet apart.

## CONTENTS

The CAT5•9000 system consists of:

- (1) CAT5•9000S sender unit
- (1) CAT5•9000R receiver unit
- (2) 5VDC power supply
- (1) VGA M-F cables (6FT)
- (2) PS/2 cable (6FT)
- (1) Audio cables (6FT)
- (1) User Manual

## HOW IT WORKS

In its most basic application, the CAT5•9000S sender unit resides next to the computer. Supplied with the system, VGA, PS/2, and audio cables connect the computer to the CAT5•9000S sender unit.

The CAT5•9000R receiver unit are placed next to the monitors and keyboard, mouse, speakers, and RS232 devices, at the remote location. The monitor, keyboard, mouse, and other devices are connected to the CAT5•9000R similar to the way they are connected to the back of the computer (PC or Macintosh).

Industry standard Category 5 (CAT-5) cables are used to link CAT5•9000S sender and CAT5•9000R receiver units together. The video and audio 1 signals are extended by one CAT-5 cable. Audio 2 and audio in is extended with a second CAT5 cable, and RS232, and PS/2 signals are extended with a for CAT5 cable.

## OPERATION NOTES

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### READ THESE NOTES BEFORE INSTALLING OR OPERATING THE CAT5•9000 SYSTEM

- Use industry standard Category-5 (CAT-5) cable to operate the CAT5•9000 system. CAT-5 E cable is preferred.
- When monitors are used in the local and remote locations, the video monitors must be able to use the same resolution. This pertains to monitors placed remotely, and those divided between local and remote locations. The video monitors will not initialize correctly at start-up if they are unable to sync the same resolution of the local monitors.
- Please connect all the cables between the computer and the CAT5•9000S before power up the CAT5•9000S unit.
- The CAT5•9000 units are housed in a metal box for better RF shielding.

## CAT5•9000S FRONT PANEL DESCRIPTION

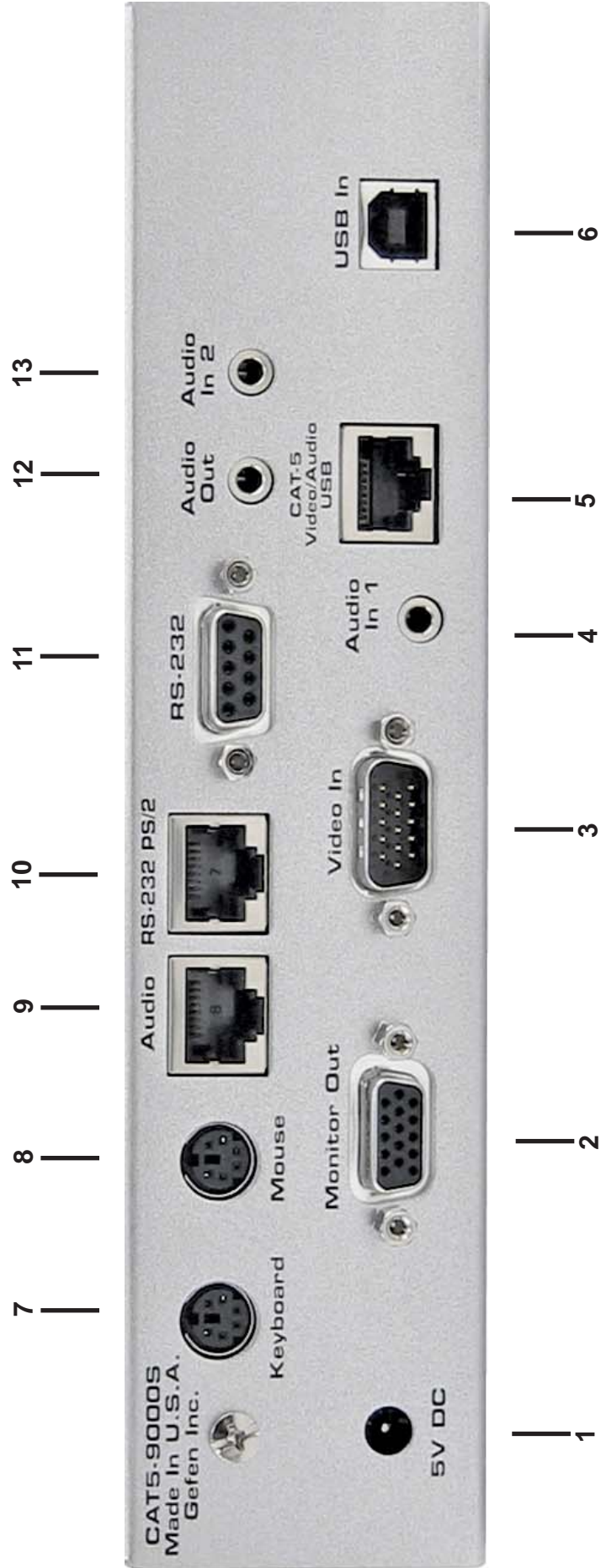
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### Front Panel Function Description

- 1 **POWER ON INDICATOR** - Indicates that the unit is plugged in and powered on

# CAT5-9000S BACK PANEL LAYOUT



## CAT5•9000S BACK PANEL DESCRIPTIONS

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- 1 **POWER** - 5 VDC external power supply
- 2 **MONITOR 1** - HD15 output connects to local monitor 1
- 3 **VIDEO IN 1** - HD15 input from computer
- 4 **AUDIO IN 1** - Audio Mini Jack input from computer
- 5 **CAT-5 USB/VID/AUD** - RJ-45 input extends video, and audio 1 with CAT-5 cable
- 6 **USB IN - NOT USED**
- 7 **KEYBOARD** - Mini din PS/2 connector connects to PC for keyboard controls
- 8 **MOUSE** - Mini din PS/2 connector connects to PC for mouse controls
- 9 **CAT-5 AUD** - RJ-45 input extends audio out and audio 2 with CAT-5 cable
- 10 **CAT-5 SERIAL/PS-2**- RJ-45 input extends RS232, and PS/2 keyboard and mouse with CAT-5 cable
- 11 **RS232** - DB-9 input from computer
- 12 **AUDIO OUT** - Audio Mini Jack input from computer
- 13 **AUDIO IN 2** - Audio Mini Jack input from computer

## CAT5•9000R FRONT PANEL DESCRIPTIONS

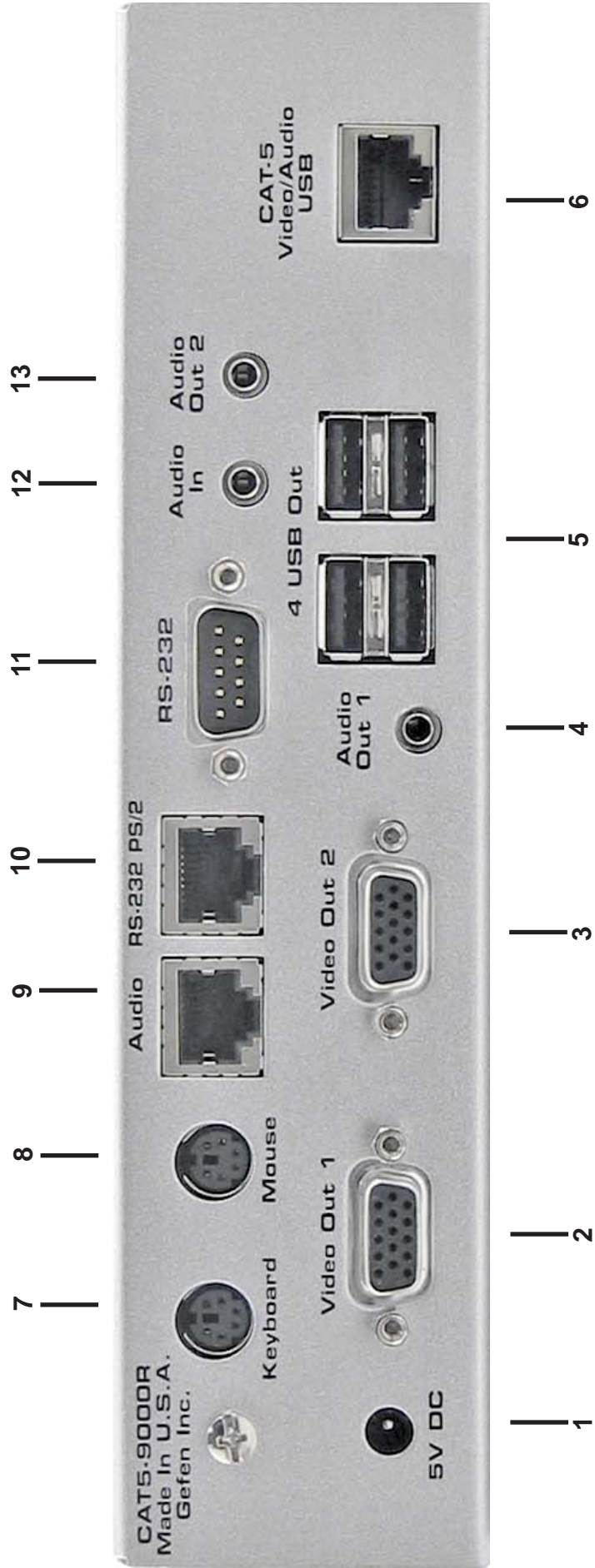
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### Front Panel Function Description

- 1 **BRIGHTNESS** - Adjusts the brightness for the monitor
- 2 **POWER ON INDICATOR** - Indicates that the unit is plugged in and powered on

# CAT5•9000R BACK PANEL LAYOUT



## CAT5•9000R BACK PANEL DESCRIPTIONS

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- 1 **POWER** - 5 VDC external power supply
- 2 **VIDEO OUT 1** - HD15 output connecting to the video monitor 1
- 3 **VIDEO OUT 2** - HD15 output connecting to the video monitor 2
- 4 **AUDIO OUT 1** - Audio mini jack connects to speakers
- 5 **USB OUT - NOT USED**
- 6 **CAT-5 VID1/USB** - RJ-45 input connects CAT-5 cable to receive extended video, and audio 1 signals
- 7 **KEYBOARD** - PS/2 output connects to the keyboard
- 8 **MOUSE** - PS/2 output connects to the mouse
- 9 **CAT-5 AUDIO** - RJ-45 input connects CAT-5 cable to receive extended audio in and audio 2 signals
- 10 **CAT-5 SERIAL PS/2** - RJ-45 input connects CAT-5 cable to receive extended RS-232 and PS/2 signals
- 11 **RS232** - DB-9 connector connects to RS-232 devices
- 12 **AUDIO IN** - Audio mini jack connects to microphone
- 13 **AUDIO OUT 2** - Audio mini jack connects to speakers

**RJ-45 Jack**



**White/Orange**

**Orange**

**White/Green**

**Blue**

**White/Blue**

**Green**

**White/Brown**

**Brown**

**RJ-45 Jack**



**1**

**2**

**3**

**4**

**5**

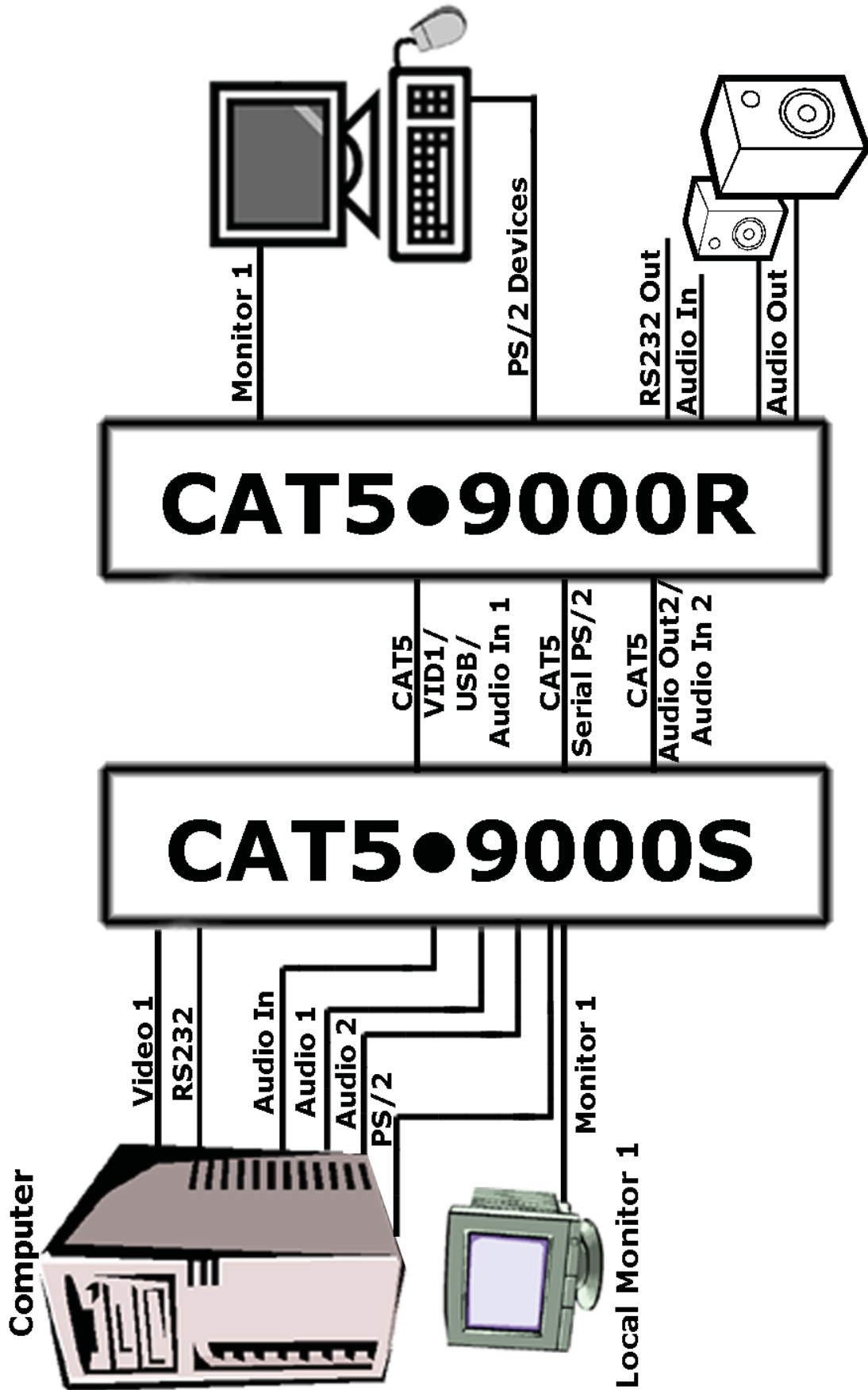
**6**

**7**

**8**



WIRING DIAGRAM



# CAT5 CABLE LENGTH SETUP

Jumper settings are used to set the focus of the picture and characters to the best possible sharpness. The jumpers in the CAT5•9000R are set at the factory as shown in the diagram below. The first step to adjusting the video is to have the CAT5•9000S and CAT5•9000R connected together with the CAT-5 cable that is going to be used in the installation. Then set your computer to the resolution and refresh rate that you will be using most frequently be using. Then open up the CAT5•9000R by unscrewing the bottom three screws on back end of the box. Then two screws on each side of the box and the top. That is 9 screws in total that need to be removed. Lastly the 4 hex bolts around the Monitor Out port and the Video In port need to also be removed. After that look at some text on the monitor and set the jumpers to the recommended jumper setting based on the length of your CAT-5 cable. If you still see some smearing try moving all the jumpers up or down one from the recommended setting. If you see smearing of just one color adjust an individual jumper for the color that is smearing (it can be two colors). Repeat the same steps for monitor 2

## Recommended Jumper Settings

Cable length

0-132 feet

**\*As shown in picture**

133-198 feet

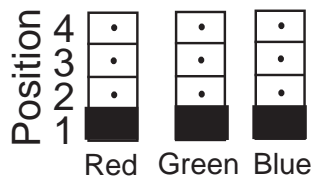
199-264 feet

265-330 feet



## Jumper Settings

Video 1 on the left



## SPECIFICATIONS

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Video Amplifier Bandwidth .....	350 MHz
Actual Bandwidth .....	120 MHz
Input Video Signal .....	1.2 Volts p-p
Video In .....	HD-15
Focus/Brightness Control .....	25 to 450 FT
Video out .....	HD-15
Link Connector .....	RJ-45
PS/2 Keyboard Connectors .....	8 Pin MiniDin
PS/2 Mouse Connectors .....	8 Pin MiniDin
Power Consumption .....	1.45 Amps
Power Supply .....	5VDC (External)
Dimensions .....	8"W x 1.95"H x 4"D
Rack Mountable .....	1 Rack Space
Shipping Weight .....	9 Lbs

## WARRANTY

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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 CAT5•9000 features and specifications is subject to change without notice.