

# Gefentv<sup>®</sup>



**1080P**  
PROGRESSIVE

## High-Definition Scaler

**GTV-HIDEFS**  
**User Manual**

**gefentv.com**



## ASKING FOR ASSISTANCE

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### Notice

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# CONTENTS

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- 1 Introduction
- 2 Operation Notes
- 3 Features
- 4 Panel Layout
- 5 Panel Descriptions
- 7 IR Remote Control
  - 7 Layout and Descriptions
  - 9 Installing the Battery
  - 9 Setting the IR Channel
- 10 Connecting the High-Definition Scaler
  - 11 Wiring Diagram
- 12 Operation the High-Definition Scaler
  - 12 Menu System
- 17 Specifications
- 18 Warranty

# INTRODUCTION

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Congratulations on your purchase of the High-Definition Scaler. Your complete satisfaction is very important to us.

## **GefenTV**

GefenTV 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 GefenTV High-Definition Scaler**

The GefenTV High-Definition Scaler allows you to upscale and switch your standard definition or high definition component sources to resolutions up to 1080p. Anything from set-top boxes, DVD players to the next generation of gaming consoles including the Xbox 360 and PS3 can be plugged into the GefenTV High-Definition Scaler.

## **How It Works**

You simply connect all your components and your display. Easy to use on-screen menus are accessible through the IR remote control. The IR remote control allows for effortless setup and image adjustment to accommodate different viewing modes and screen sizes to perfect your final picture.

## OPERATION NOTES

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### READ THESE NOTES BEFORE INSTALLING OR OPERATING THE HIGH-DEFINITION SCALER

- The DVI input on the High-Definition scaler will accept an DVI-D (digital) or a DVI-A (analog) video source (connect a VGA and DVI monitor simultaneously using a DVI-I to VGA and DVI-D adapter. Part# ADA-DVI-2-DVIVGA). The output video signal is DVI-I (analog and digital) and can accommodate either a DVI-D, or DVI-A display. The video format cross-conversion of analog to digital and digital to analog is done within the High-Definition Scaler.
- The High-Definition Scaler does not convert digital audio to analog audio or vice versa. If analog audio is supplied to the High-Definition Scaler, an analog audio cable must be connected to the analog output for sound to be heard. If digital audio is supplied to the High-Definition Scaler, an optical cable must be connected to the TOSLINK™ audio output connector in order for sound to be heard.
- Compatible with all HDMI\* (Video only) and DVI displays.
- HDMI 1.2 compliant

\*When used with a DVI to HDMI adapter

# FEATURES

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## Features

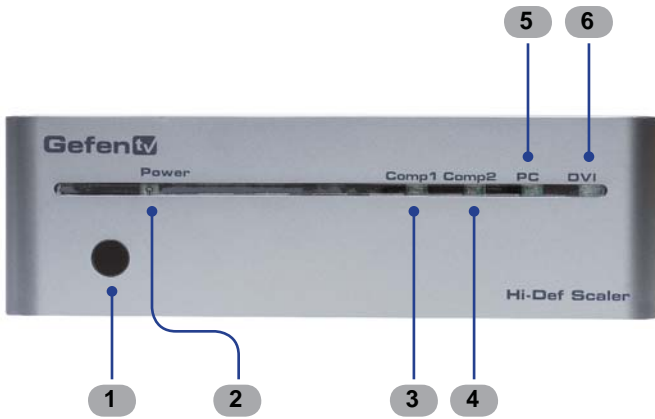
- Both digital and analog inputs are format converted and pixel re-scaled through the HD Mate Scaler. It outputs a large range of formats and resolutions that will easily match the native resolution/ format of your display to ensure highest picture quality.
- DVI compliant input: Operates up to 165Mhz (Up to UXGA @60Hz)
- Supports digital HD output up to 1080p.
- Integrated 8-bit triple-ADC/PLL.
- Integrated DVI compliant receiver.
- Dual high quality scaling engines.
- Dual 3-D motion video adaptive de-interlacers with smooth low-angle edge.
- Automatic 3:2 pull-down & 2:2 pull-down detection and recovery.
- High performance frame rate conversion engine.
- The Proprietary Advanced Color Engine technology gives: Brilliant and fresh color, Intensified contrast and details, Vivid skin tone, Sharp edge, Accurate and independent color control
- 3D noise reduction on analog inputs only.
- Operates through on-screen OSD menu control and remote control.
- DVI-I input and output accepts both analog and digital video
- Aspect Ratio Control
- Digital Audio Delay to match audio/video timing
- Less than one frame delay allowing for gaming

## Package Includes

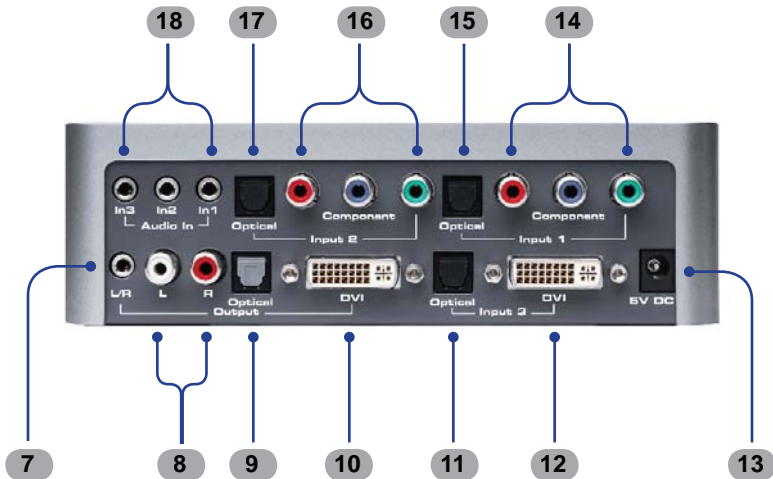
- (1) High-Definition Scaler
- (1) 6 ft. DVI cable (M-M)
- (1) 5V DC Power Supply
- (1) IR Remote Control unit
- (1) User Manual

# PANEL LAYOUT

## Front Panel



## Back Panel





## PANEL DESCRIPTIONS

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### Front Panel

- 1 IR Sensor**  
Receives IR commands from the included IR Remote Control Unit.
- 2 Power**  
This LED indicator glows bright red when the scaler is powered.
- 3 Comp1**  
This LED will glow bright blue to indicate that Input 1 (Component video + Optical audio) is the selected input source.
- 4 Comp2**  
This LED will glow bright blue to indicate that Input 2 (Component video + Optical audio) is the selected input source.
- 5 PC**  
This LED will glow bright blue to indicate that Input 3 (DVI-A video + Optical audio) is the selected input source. When this input is selected, the scaler will only pass analog video (DVI-A). Use a VGA-to-DVI adapter to connect the VGA source to Input 3.
- 6 DVI**  
This LED will glow bright blue to indicate that Input 3 (DVI video + Optical audio) is the selected input source.

### Back Panel

- 7 3.5mm Mini-Stereo Jack (Output)**  
Connect a 3.5mm mini-stereo cable from this jack to the audio/video output device.
- 8 L / R (Output)**  
Connect a L/R RCA-type stereo cable from these ports to the audio/video output device.
- 9 Optical (Output)**  
Connect an optical cable from this TOSLINK™ connector to the TOSLINK™ input of the audio/video device.
- 10 DVI (Output)**  
Connect a DVI cable from this port to an HDTV display.
- 11 Optical (Input 3)**  
Connect an optical cable from this TOSLINK™ connector to the TOSLINK™ connector or the source device.

## PANEL DESCRIPTIONS

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**12 DVI (Input 3)**

Connect a DVI cable from this port to the DVI source device.

**13 5V DC**

Connect the included power supply to this power receptacle.

**14 Input 1 (Component)**

Connect three RCA-type cables from the source device to these RCA connectors.

**15 Input 1 (Optical)**

Connect an optical audio cable from this TOSLINK™ connector to the TOSLINK™ connector on the source device.

**16 Input 2 (Component)**

Connect three RCA-type cables from the source device to these RCA connectors.

**17 Input 2 (Optical)**

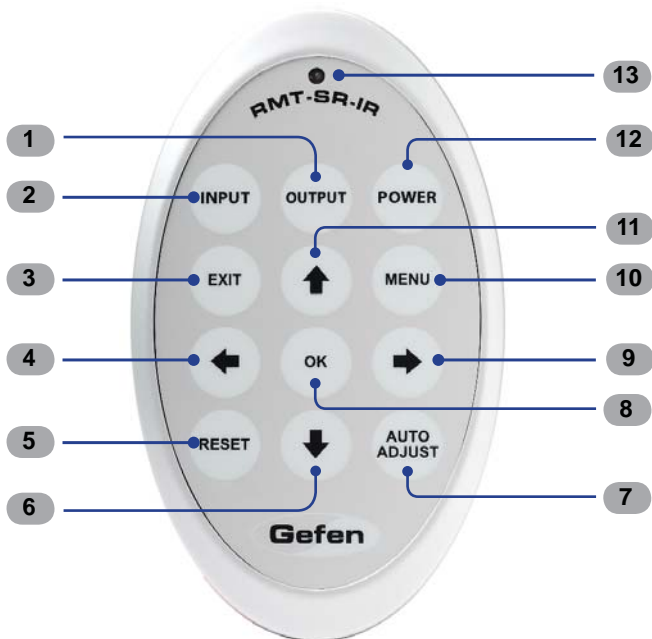
Connect an optical audio cable from this TOSLINK™ connector to the TOSLINK™ connector on the source device.

**18 Audio In**

Connect up to three 3.5mm mini-stereo cables to each of these 3.5mm mini-stereo jacks. The High Definition Scaler will use either the Optical (TOSLINK™) input or the analog audio inputs (3.5mm mini-stereo jacks), depending upon which source is connected.

# IR REMOTE CONTROL

## Layout and Descriptions



- 1 Output**  
Cycles through the available output resolutions. See the Output Resolution Table on page 15 for more information.
- 2 Input**  
Cycles through each of the audio/video input sources: Input 1 (Component / Optical), Input 2 (Component / Optical), PC (DVI-A / Optical), and DVI (DVI-I / Optical).
- 3 Exit**  
Exits the current menu option or menu system within the on-screen display (OSD).
- 4 ◀**  
Moves the cursor to the left within the menu system.
- 5 Reset**  
Resets the input and output resolutions to factory default settings.



**NOTE:** An Activity Indicator that flashes quickly while holding down any one of the 16 buttons indicates a low battery. Replace the IR Remote Control battery as soon as possible.

## IR REMOTE CONTROL

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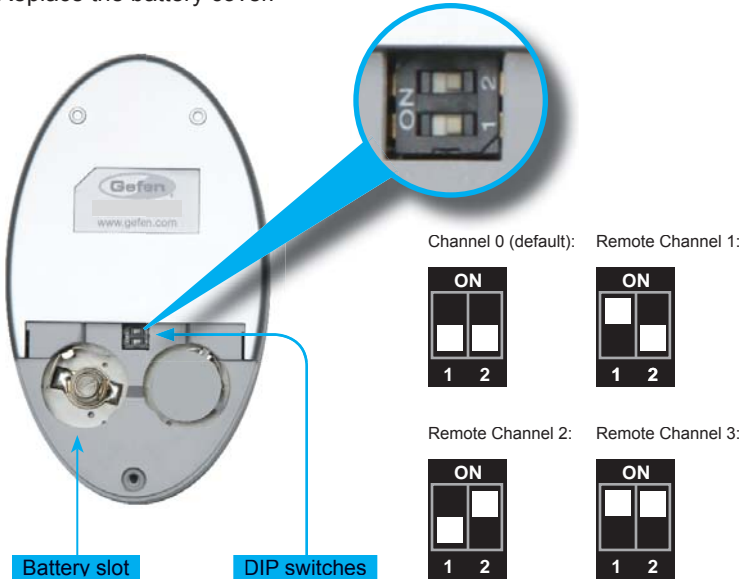
- 6     ▼  
      Moves the cursor down within the menu system.
  
- 7     **Auto Adjust**  
      Sets the display for optimal resolution and aspect ratio based on the EDID of the display.
  
- 8     **OK**  
      Sets the display for optimal resolution and aspect ratio based on the EDID of the display.
  
- 9     ►  
      Moves the cursor to the right within the menu system.
  
- 10    **Menu**  
      Displays the menu system.
  
- 11    ▲  
      Moves the cursor up within the menu system.
  
- 12    **Power**  
      Toggles power on and off.
  
- 13    **LED Indicator**  
      This LED will be activated momentarily each time a button is pressed.

# IR REMOTE CONTROL

## Installing the Battery

The Remote Control unit ships with two batteries. One battery is required for operation and the other battery is a spare.

1. Remove the battery cover on the back of the IR Remote Control unit.
2. Insert the included battery into the open battery slot. The positive (+) side of the battery should be facing up.
3. Replace the battery cover.



## Setting the IR Channel

The IR channel on the IR Remote Control must match the IR channel used by the *High-Definition Scaler*. For example, if both DIP switches on the IR Remote Control unit are set to IR channel 0 (both DIP switches down), then the *High-Definition Scaler* must also be set to IR channel 0. See page 16 for information on how to change the IR channel on the *High-Definition Scaler*.



**WARNING:** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

# CONNECTING THE HIGH-DEFINITION SCALER

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## How to Connect the High-Definition Scaler

1. Connect the DVI output on the High-Definition Scaler to an HDTV display using a DVI cable.
2. Connect audio cables from the Output section of the scaler to the audio video source using L/R RCA-type cables and/or a 3.5mm mini-stereo cable.
3. Connect a DVI source to the DVI input (Input 3) on the High-Definition Scaler using the included DVI cable.



**NOTE:** The DVI input on the High-Definition Scaler supports both digital (DVI-D) and analog (DVI-A) signals. To connect a VGA source to the High-Definition Scaler, use a VGA-to-DVI adapter (Gefen part no. ADA-DVI-2-DVIVGA). After making all the necessary connections, use the PC input (see page 4 and 5) to make the VGA source the active input source.

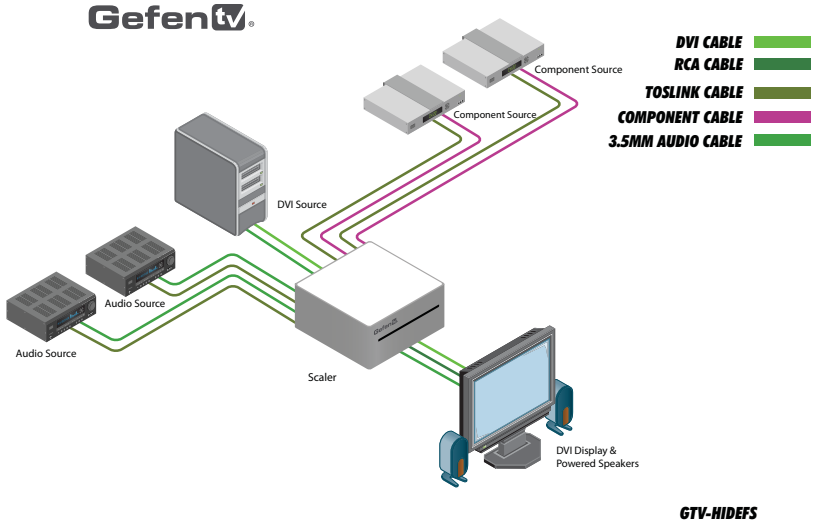
4. Connect a Component video source to Input 1, using Component cables.
5. Connect an optical audio cable between the TOSLINK™ connector of Input 1 of the scaler and the source device.
6. Connect a secondary Component video source to Input 2, using Component cables.
7. Connect a secondary optical audio cable between the TOSLINK™ connector of Input 2 of the scaler and the source device.
8. Optionally connect up to three 3.5mm mini-stereo cables between the 3.5mm mini-stereo jacks on the scaler and the source device(s).
9. Connect the included 5V DC power supply to the power receptacle on the High-Definition Scaler.
10. Connect the AC power cord to the power supply and connect the power cord to an available electrical outlet.
11. Press the Power button on the IR remote control to power the scaler.



**IMPORTANT:** When using a DVI source, make sure to select the DVI input on High-Definition Scaler before powering the DVI source. This will ensure that the EDID is read properly by the High-Definition Scaler.

# CONNECTING THE HIGH-DEFINITION SCALER

## Wiring Diagram for the High-Definition Scaler



# OPERATING THE HIGH-DEFINITION SCALER

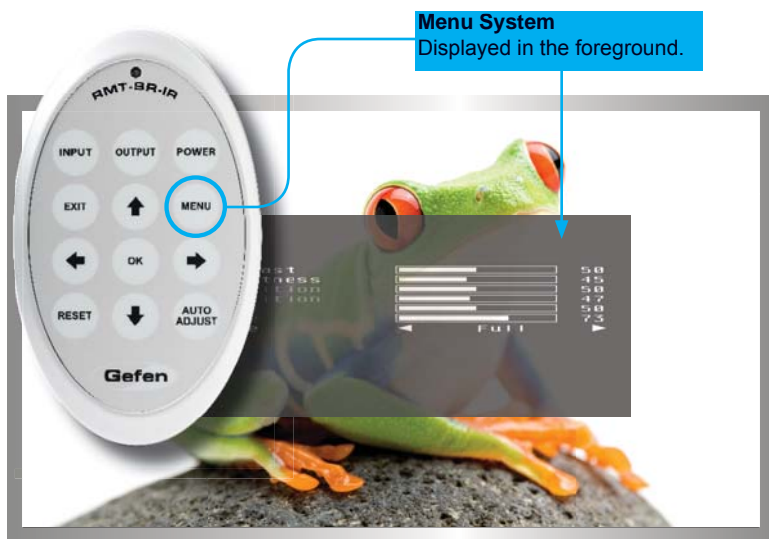
## Menu System

The High-Definition Scaler has a built in menu system for navigating the various scaling and display function. The IR Remote Control unit is used to navigate within the menu system.

### *Entering the Menu System*

1. Point the included IR Remote Control unit at the High-Definition Scaler and press the **Menu** button.

The menu system should appear on the display and appear to “float” above the currently selected input source.



If video is not visible on the display, then the menu system will not be displayed. Make sure to check the following:

- Verify that the source device is powered and is producing an output signal.
- Make sure that the IR Remote Control unit is set to the correct IR channel. See pages 9 and 16 for information on setting the IR channel.
- Make sure that the High-Definition Scaler is selected to the correct source device.
- The output resolution may be incompatible with the display. Press the Output button on the IR Remote Control to cycle through the output resolutions until video is displayed.



# OPERATING THE HIGH-DEFINITION SCALER

## Navigation

Use the ▲ and ▼ arrow buttons on the IR Remote Control unit to navigate between each menu category and menu option.



Press the OK button to enter the selected menu category. Once the highlighted menu category has been selected, the first menu item in the list will be highlighted in color.



Use the ◀ and ▶ arrow buttons to increase or decrease values within each menu option.

Press the **Exit** button to return to the menu category. Press the **Exit** button again to exit the menu system.

# MENU SYSTEM

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## *Main Menu*

Presets and other settings can be configured by the user for different viewing scenarios. Preset settings cannot be adjusted. Select the User option to customize video settings. All user settings are saved.

The following categories and menu items are available within the menu system:

- PC
- Color
- Output
- OSD
- Information

## **Video**

### Contrast

Adjusts the contrast in increments of 1 on a scale of 1 to 100 (default 50).

### Brightness

Adjusts the brightness in increments of 1 on a scale of 1 to 100 (default 50).

### H-Position

Adjusts the image's horizontal position on the screen.

### V-Position

Adjusts the image's vertical position on the screen.

### Clock

### Phase

### Scale

Adjusts the aspect ratio of the video.

### Scale

- Full - Stretches the image to fill the screen
- Overscan - Stretches the image to full screen and just beyond the title and action safe frames.
- Underscan - Scales the image to fit under the title and action safe frame boundaries.
- Letterbox Underscan - Scales the image to fit under the title and action safe frame boundaries using the letterbox format.
- Pan Scan Underscan - Scales the image to fit under the title and action safe frame boundaries using the Pan-and-scan format.
- Letterbox Full - Scales the image to 16:9 (no underscan).
- Pan Scan Full - Scales the image to 4:3 (no underscan).

# MENU SYSTEM

## Color

### Color Temp.

- Normal - used for most situations
- Movie - Useful for dimly lit environments
- Vivid - Produces vibrant colors
- User - Allows the user to configure each setting

### Red

Adjusts the red component in increments of 1. Range is 1 - 100.

### Green

Adjusts the green component in increments of 1. Range is 1 - 100.

### Blue

Adjusts the blue component in increments of 1. Range is 1 - 100.

### Exit

Exits the Color menu system.

## Output

This menu sets the output resolution for all video sources. The OUTPUT button on the RMT-SR-IR remote control cycles through these resolutions when pressed.

VGA	640 x 480	576i	720 x 576
SVGA	800 x 600	576p	1024 x 576
XGA	1024 x 768	720p50	1280 x 720
SXGA	1280 x 1024	1080i50	1920 x 1080
UXGA	1600 x 1200	1080p50	1920 x 1080
480i	640 x 480	WXGA	1280 X 768
480p	720 x 480	WSXGA	1680 X 1050
720p60	1280 x 720	WUXGA	1920 X 1200
1080i60	1920 x 1080	WXGA+	1440 x 900
1080p60	1920 x 1080	Native*	Native Resolution

### *Native\**

The *native* resolution is based on the EDID of the display.



**NOTE:** If the display does not support the selected resolutions, then the menu system will not be displayed. Consecutively press the **Output** button on the IR Remote Control to cycle through the available resolutions until a compatible resolutions is accepted by the display.

# MENU SYSTEM

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## OSD

### H-Position

Adjusts the horizontal position of the menu system as it appears on the display. Larger values move the menu system toward the top of the screen. Smaller values move the menu system toward the bottom of the screen.

### V-Position

Adjusts the vertical position of the menu system as it appears on the display. Larger values move the menu system to the right side of the screen. Smaller values move the menu system to the left side of the screen.

### Time Out

Sets the idle time delay before the menu system automatically closes.

### Background

Sets the transparency value of the menu system background.

### Remote Channel

Sets the remote channel for use with the IR Remote Control unit. If the IR channel on the on the High-Definition Scaler does not match the IR channel used by the remote, then the High-Definition Scaler will not respond to any IR commands. See page 9 for information on setting the IR channel on the IR Remote Control unit.

### Exit

Exit the OSD menu.

## Information

This menu option provides general information on the state of the High-Definition Scaler:

- Source - Displays the currently selected source.
- Input - Displays the current input resolution used by the source
- Output - Displays the current output resolution used by the High-Definition Scaler.
- Version - Displays the current version of firmware.

## SPECIFICATIONS

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Maximum Pixel Clock .....	165 MHz
Component Video Bandwidth .....	350 MHz
Video Input Connectors.....	(1) DVI-I 29-pin, female; (2) 3x RCA-type
Audio Input Connectors.....	(3) TOSLINK™; (3) 3.5mm mini-stereo
Audio Output Connectors.....	(1) TOSLINK™; (1) 3.5mm mini-stereo; (1) 2x RCA-type
Power Supply.....	5V DC
Power Consumption .....	12W (max.)
Dimensions .....	6.875"W x 2.125"H x 6.875"D
Shipping Weight .....	6 lbs.

## WARRANTY

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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](http://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.**





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This product uses UL or CE listed power supplies.