Gefen tv®

High-Definition Scaler

GTV-HIDEFS

User Manual

www.gefentv.com

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Rev A2

CONTENTS

1 Introduction

2 Operation Notes

3 Features

4 Panel Descriptions

5 Connecting And Operating The High-Definition Scaler

6 RMT-SR-IR Remote Description

7 High-Definition Scaler Configuration

11 RMT-SR-IR Remote Installation

12 IR Code Configuration

13 Wiring Diagram

14 Specifications

15 Warranty

INTRODUCTION

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

Gefen TV

Gefen TV 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 TV High-Definition Scaler

The Gefen TV 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 Gefen TV 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.

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 cross convert the digital audio to analog audio or cross convert the analog audio to digital audio. 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 TOSLINK is used as the audio input, a digital TOSLINK cable must be connected to the digital output 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

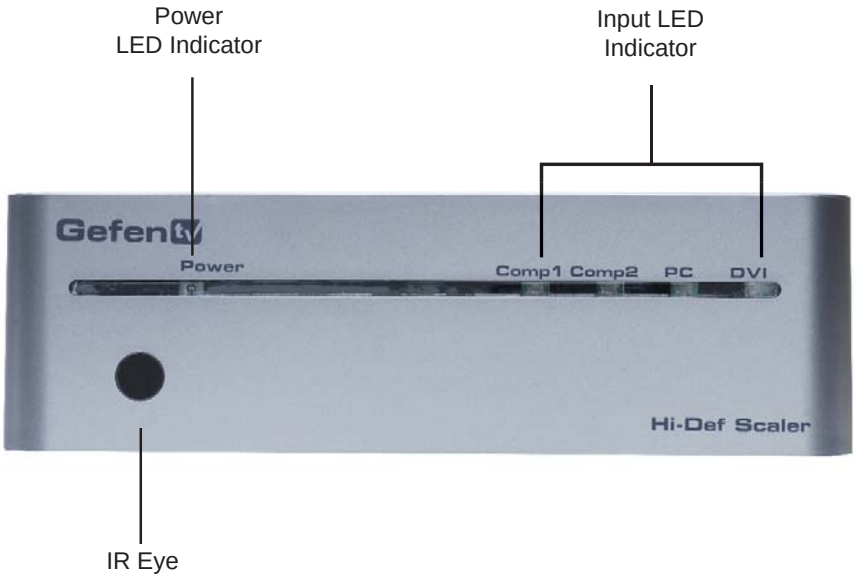
- Both digital and analog inputs are format converted and pixel re-scaled through the HD Mate Scaler. It outputs a large range of formats and resolutions that will easily match the native resolution/ format of your display to ensure highest picture quality.
- DVI compliant input: Operates up to 165Mhz (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 then one frame delay allowing for gaming

Package Includes

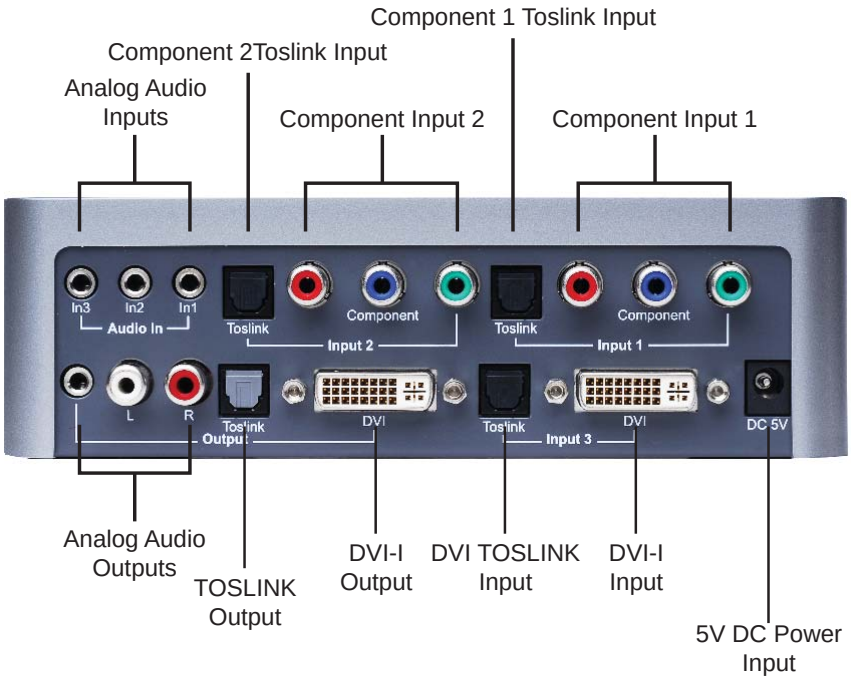
(1) High-Definition Scaler
(1) 6 ft DVI cable (M-M)
(1) 5V DC Power Supply
(1) RMT-SR-IR Remote control
(1) User’s Manual

PANEL DESCRIPTIONS

Front Panel



Back Panel



CONNECTING AND OPERATING THE HIGH-DEFINITION SCALER

How to Connect the High-Definition Scaler

1. Connect the DVI output on the High-Definition Scaler to the display using the supplied DVI cable.

2. Connect either the TOSLINK digital audio output, the stereo mini-jack analog output or the 2 RCA analog audio output to the display or external audio processor using user supplied cables.

3. Connect the sources to the High-Definition Scaler using user supplied cables.

   - Connect one DVI source with analog or digital TOSLINK audio using user supplied DVI, digital TOSLINK or stereo mini-jack cables.

   NOTE: 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.

   - Connect up to two Component sources with analog or digital TOSLINK audio using a user supplied 3 RCA Component video cable, a 2 RCA to stereo mini-jack analog audio cable or a digital audio cable.

NOTE: The High-Definition Scaler does not cross convert the digital audio to analog audio or cross convert the analog audio to digital audio. 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 TOSLINK is used as the audio input, a digital TOSLINK cable must be connected to the digital output for sound to be heard.

4. Plug the 5V DC power supply into the High-Definition Scaler.

5. Press the POWER button on the RMT-SR-IR remote to begin operation of the High-Definition Scaler.

6. Power on the display.

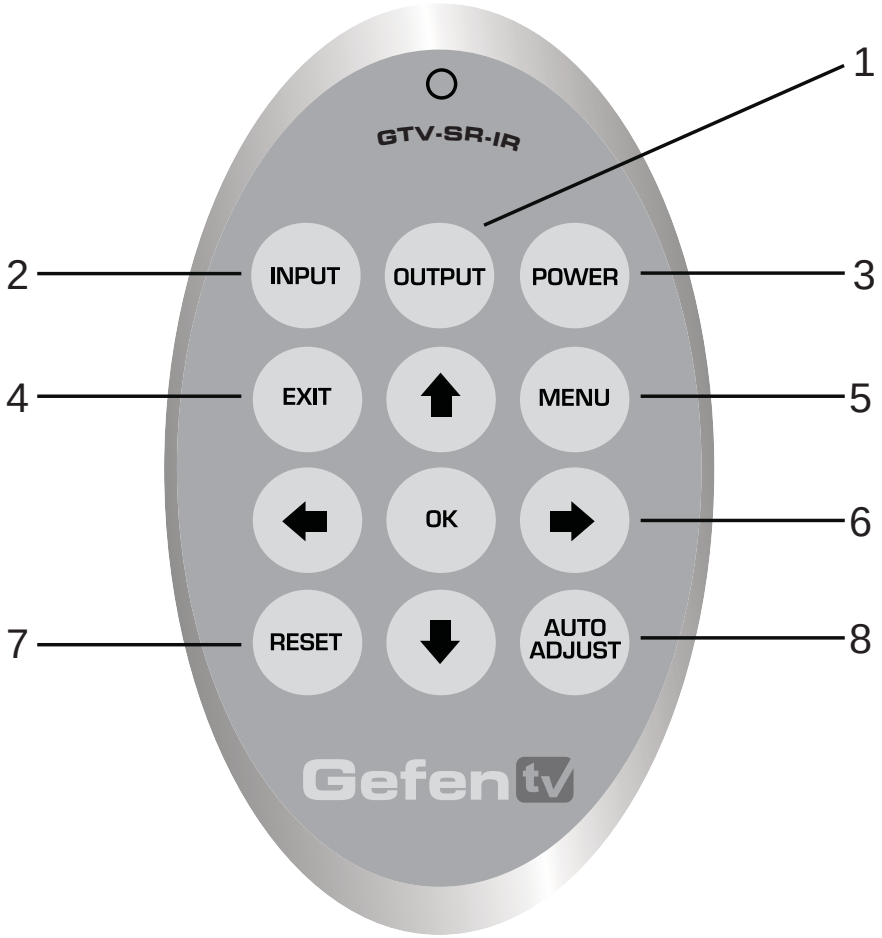
7. Power on the source(s).

NOTE: When initially powering on the DVI source, it is important to have the High-Definition Scaler's output selected to that source to ensure that the EDID is relayed properly.

OPERATING THE HIGH-DEFINITION SCALER

The High-Definition Scaler has a built in GUI for navigating the various functions. The GUI is navigated by the included IR remote control. Please see the RMT-SR-IR Remote Description on the next page for functional information.

RMT-SR-IR REMOTE DESCRIPTION



1. Output - Cycles through the available output resolutions. Please see the section High-Definition Scaler CONFIGURATION / Output on page 8 for the output resolution table.

2. Input - Cycles though all of input sources. The selectable inputs are Composite, S-Video, Component, HDMI 1, and HDMI 2.

3. Power - Turns the unit on and off (standby).

4. Exit - Exits the current menu option and menu system.

5. Menu - Displays the menu system for adjustment of options.

6. Navigation Keys - These include up, down, left, and right buttons for navigating the menu system. The OK button will select specific menu options for adjustment and will also confirm/cycle-through selections.

7. Reset - Resets the input and output resolutions to factory default.

8. Auto Adjust - Sets the display for optimal resolution and aspect ratio based on the display's EDID information and the currently selected sources output resolution.

Entering the Menu System

Pressing the Menu button on the included RMT-SR-IR remote control will display the GUI (graphical user interface) for adjustment options.

The GUI is overlaid onto the outgoing video to the display. Therefore, the selected source must be outputting a compatible resolution for viewing on the display. If video is not visible on the display, the GUI will also fail to be displayed. To correct this, please follow the steps below.

1. Verify that the source is on and outputting a video signal.
2. Verify that the RMT-SR-IR remote channel is in the default position (page 13).
3. Verify that the High-Definition Scaler is selected to the chosen source.
4. Press the Output button on the RMT-SR-IR remote control to cycle through output resolutions until video is displayed.

Navigation

Use the directional buttons to navigate the menu system. Press the OK button to enter a sub category and to select a menu item for adjustment. Press the EXIT button to return to the previous menu. Use the LEFT and RIGHT buttons to adjust selected options. Pressing the EXIT button while in the main menu will exit out of the menu system.

MAIN MENU

The following are the main menu options. Use the UP and DOWN buttons to choose your desired subcategory and press OK to enter it.

VIDEO
COLOR
OUTPUT
OSD
INFORMATION

VIDEO

Picture Mode
Preset and user configurable settings for different viewing scenarios. Preset settings will not allow user adjustment. Only the USER option will allow customized video settings. The USER settings are saved.

Options:

- Standard - useful for general content
- Movie - useful for dimly lit environments
- Vivid - useful for accentuating colors for a more vibrant image
- User - user configurable settings

NOTE: User settings are saved. However, user settings for the digital inputs (HDMI 1 and 2) are linked and user settings for the analog inputs (Composite, S-Video, and Component) are linked. i.e. adjustments to video user settings made on HDMI 1 will be reflected in HDMI 2.

VIDEO CONTINUED

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 to 100 (default 50).

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

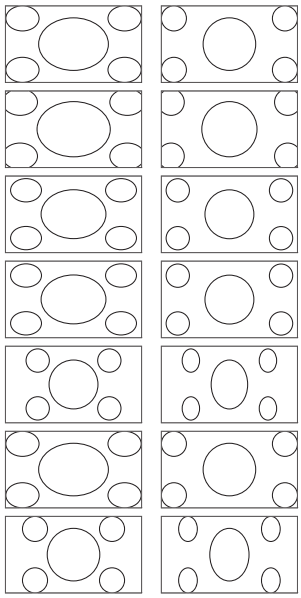
Saturation
Adjusts the saturation in increments of 1 on a scale of 1 to 100 (default 50).

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

Scale
Adjusts the aspect ratio of the video.

Options:

4:3 Source *16:9 Source*



Full - Stretches the image to fill the screen

Overscan - Stretches the image to fullscreen and just beyond the border of the display

Underscan - Stretches the image to fullscreen and just within the border of the screen

Letterbox Underscan - Stretches the image to 16:9 aspect ratio with underscan

Pan Scan Underscan - Stretches the image to 4:3 aspect ratio with underscan

Letterbox Full - Stretches the image to 16:9 aspect ratio without underscan

Pan Scan Full - Stretches the image to 4:3 aspect ratio without underscan

N.R. (Noise Reduction) - Only for Composite and S-Video Inputs
Reduces video noise inherent in analog video signals.

Options:

- Off - default
- Low
- Middle
- High

H-Pos (Horizontal Position)
Adjusts the image's horizontal position on the screen.

Option:

- Adjusts in increments of 1 on a scale of 1 to 100 (default is 50)

VIDEO CONTINUED

V-Pos (Vertical Position)
Adjusts the image's vertical position on the screen.

Options:

- Adjusts in increments of 1 on a scale of 1 to 100 (default is 50)

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
SVGA	800 X 600
XGA	1024 X 768
SXGA	1280 X 1024
UXGA	1600 X 1200
WXGA	1280 x 800 1280 X 768
WSXGA	1680 X 1050
WUXGA	1920 X 1200
Native	Native Resolution of Display

Native
This option will select the native resolution of the connected display based on the EDID from the display.

NOTE: If a resolution that is not supported by the display is selected, the menu GUI will not longer be visible. To correct this, press the OUTPUT button on the RMT-SR-IR remote control until a supported resolution is displayed.

Adjusts in increments of 1 from 1 to 100 (default is 50)

COLOR

Color Tone
Sets the color for the appearance of white. Only the USER option will allow customized settings. The USER settings are saved.

Options:

- Normal - Normal white color appearance (default)
- Warm - Slight red shift to white appearance
- Cool - Slight blue shift to white appearance
- User - User adjustments to Red, Green, and Blue

Red
Adjusts the red color in regards to the appearance of white for the USER setting.

Option:

Adjusts in increments of 1 from 1 to 100 (default is 50)

Green
Adjusts the green color in regards to the appearance of white for the USER setting.

Option:

Adjusts in increments of 1 from 1 to 100 (default is 50)

Blue
Adjusts the blue color in regards to the appearance of white for the USER setting.

Option:

Adjusts in increments of 1 from 1 to 100 (default is 50)

OSD (ON SCREEN DISPLAY)

H-Pos (Horizontal Position)
Adjusts the OSD's horizontal position on the screen.

Options:

- Adjusts in increments of 1 on a scale of 1 to 100 (default is 50)

V-Pos (Vertical Position)
Adjusts the OSD's vertical position on the screen.

Options:

- Adjusts in increments of 1 on a scale of 1 to 100 (default is 50)

Time Out
Adjusts the amount of idle time before the OSD is automatically exited.

Options:

- Adjusts in increments of 1 on a scale of 1 to 100 (default is 10)

Background
Sets the transparency level of the OSD background.

Options:

- Adjusts in increments of ~12.5 on a scale of 1 to 100 (default is 50)

Remote Channel
Sets the remote channel for use with the RMT-SR-IR remote control. If the selected channel in this menu and does not match the channel set in the RMT-SR-IR remote, the unit will cease to respond to IR commands from the remote.

Options:

- Selectable remote channel from 1 to 4 (default is 1)

INFORMATION

This menu will allow the user to view general information. There are no configurable options in this menu.

- Source - Displays current source
- Input - Displays current input source resolution
- Output - Displays current output resolution
- Version - Displays current firmware revision

RMT-SR-IR REMOTE INSTALLATION

1. Remove battery cover from the back of the RMT-SR-IR remote.

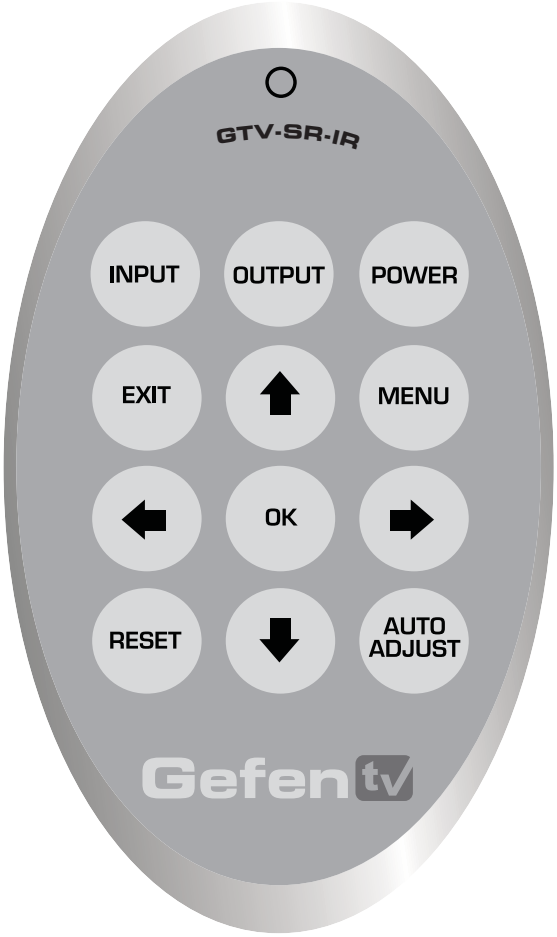
2. Verify that dip switches 1 & 2 are in the down (OFF) position. (See page 13)

3. Insert the battery, hold the battery so that you can see the positive side facing up. The side that is not marked must be facing down.

4. Test the RMT-SR-IR remote by pressing ONLY one button at a time. The indicator light on the remote will flash once each time you press a button.

WARNING:
Do not press multiple buttons simultaneously and do NOT press buttons rapidly. These actions will cause the remote to reset and steps 1-4 will have to be repeated.

Note: The RMT-SR-IR ships with two batteries. Only one battery is required for operation, the other battery is complimentary.



GefenTV IR Remote,
Gefen Part # EXT-SR-IR

The optional IR extender allows you to relocate your HDMI Switcher and still retain IR control. Gefen part# EXT-RMT-IREXT

How to Resolve IR Code Conflicts

In the event that IR commands from other remote controls conflict with the supplied RMT-SR-IR remote control, changing the remote channel will alleviate this issue. The RMT-SR-IR remote control has DIP SWITCHES for configuring the remote channel. The High-Definition Scaler must match the remote channel set in the RMT-SR-IR remote control. Please see page 9 for instruction on how to configure the channel on the High-Definition Scaler. By default, both the High-Definition Scaler and the RMT-SR-IR remote control are set to Channel 1.

Remote

Remote Channel 1:
Default

Remote Channel 2:

Remote Channel 3:

Remote Channel 4:

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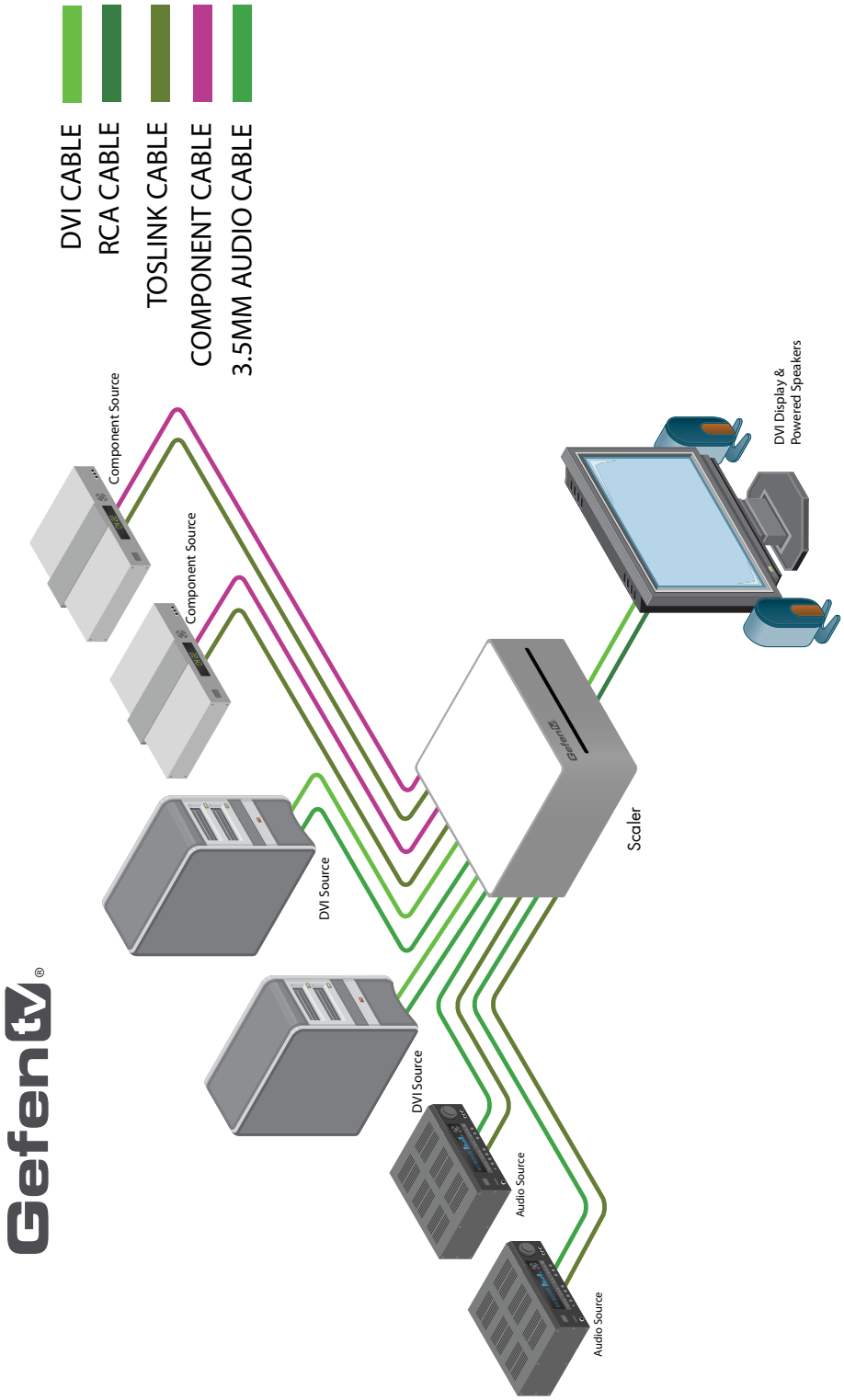

Maximum DVI cable length is 15 ft at 1080P resolution without the use of an EXT-DVI-CAT5-MS

Maximum analog audio and video cable length is 50 ft

SPECIFICATIONS

Digital Video Amplifier Bandwidth ..... 165 MHz

Component Video Bandwidth ..... 350 MHz

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

Input Video Signal ..... 1.2 Volts p-p

Single Link Range ..... 1080p/1920 x 1200

Input/Output DVI Connector ..... DVI-I (29 pin) female

Analog Video Input Connector ..... Two 3 RCA Component

Digital Audio Input Connector ..... Three Optical TOSLINK

Digital Audio Output Connector ..... One Optical TOSLINK

Analog Audio Input Connector ..... Three Stereo Mini-Jack

Analog Audio Output Connector..... One Stereo Mini-Jack and One 2 RCA Stereo

Power Consumption ..... 12 Watts (max)

Dimensions ..... 6.875”W x 2.125”H x 6.875”D

Shipping Weight ..... 6 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.

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Rev A2

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This product uses UL listed power supplies.