

# HDMI to Composite / S-Video Scaler

GTV-HDMI-2-COMPSVIDN

User Manual  
Release A3



**Gefen**tv®

# Important Safety Instructions

## GENERAL SAFETY INFORMATION

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this product and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

## Warranty Information

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.**

# Contacting Gefen Technical Support

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

Telephone: (818) 772-9100  
(800) 545-6900

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Email: [support@gefentv.com](mailto:support@gefentv.com)

Visit us on the Web: [www.gefentv.com](http://www.gefentv.com)

Technical Support Hours: 8:00 AM to 5:00 PM Monday - Friday, Pacific Time

**HDMI to Composite / S-Video Scaler** is a trademark of Gefen, LLC.

### **Important Notice**

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

## Operating Notes

- The HDMI To Composite/S-Video Scaler converts HDTV input resolutions of 480p@50 / 60Hz, 576p@50 / 60Hz, 480i@50 / 60Hz, 576i@50 / 60Hz, 720p@50 / 60Hz, 1080i and 1080p at 50/60Hz to either NTSC 480i or PAL 576i.
- Supported PC input resolutions include 640x480@60Hz, 800x600@60Hz, 1024x768@60Hz, 1280x1024@60Hz, and 1600x1200@60Hz.
- Both the digital and analog audio outputs are active at all times when using 2-channel LPCM. The HDMI To Composite / S-Video Scaler will not down-mix multi-channel digital audio formats to 2 channel analog stereo. See [Supported Audio Formats](#) for more information.
- This device supports both NTSC and PAL video standards. This device maintains the aspect ratio of the original signal.
- Please be sure to set the proper output format for your television. NTSC 60Hz is commonly used in the United States and Japan, while PAL 50Hz is commonly used in European countries. Using the improper format will result in an unrecognizable picture and may damage your TV set.
- The HDMI To Composite / S-Video Scaler is HDMI 1.2 Compliant.
- HDCP encrypted HDMI sources are not supported by this device. If HDCP content is used, then the outgoing video signal will result in a black screen.

# Features and Packing List

## Features

- HDMI to Composite / S-Video conversion plus scaling
- HDMI pass-through
- Supports 480i to 1080p HDMI input resolutions at 50/60 Hz.
- Outputs 480i / 576i signal for Composite/S-Video Display devices
- Supports both NTSC and PAL formats

## Packing List

The *HDMI to Composite / S-Video Scaler* ships with the items listed below. If any of these items are not present in your box when you first open it, immediately contact your dealer or Gefen.

- 1 x HDMI To Composite / S-Video Scaler
- 1 x 6 ft. HDMI cable (M-M)
- 1 x 5V DC power supply
- 1 x Quick-Start Guide



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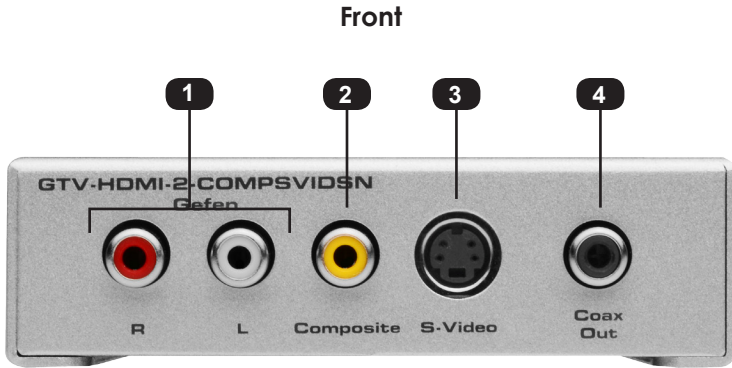


# HDMI to Composite / S-Video Scaler

## 01 Getting Started

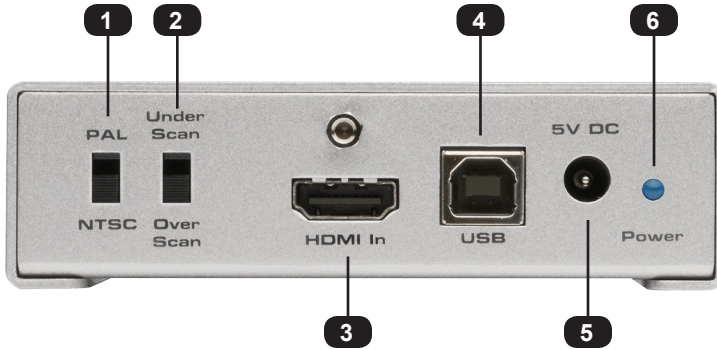
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# Panel Layout



ID	Name	Description
1	R / L	Connect two RCA-type cables from these outputs to the display, audio amplifier, or A/V receiver. See <a href="#">Supported Audio Formats</a> for a list of available audio output formats.
2	Composite	Connect an RCA-type cable from this output to the Composite input on the display or A/V receiver.
3	S-Video	Connect an S-Video cable between this output and the S-Video input on the display or A/V receiver.
4	Coax Out	Connect an RCA-type cable from this output to the S/PDIF connector on a receiver or audio amplifier. See <a href="#">Supported Audio Formats</a> for a list of available audio output formats.

## Back



ID	Name	Description
1	PAL / NTSC	Switches between NTSC and PAL output. Make sure that you use the proper output for the television. Using the wrong format will result in an unrecognizable picture and may damage your television. See <a href="#">NTSC and PAL Modes</a> for details.
2	Under Scan / Over Scan	Switches between underscan and overscan modes. See <a href="#">Underscan and Overscan Modes</a> for more information.
3	HDMI In	Connect an HDMI cable from the Hi-Def source to this connector.
4	USB	Used to upgrade the firmware. See <a href="#">Firmware Upgrade Procedure</a> for information on upgrading the firmware.
5	5V DC	Connect the included 5V DC power supply to this power receptacle.
6	Power	This LED indicator will glow bright blue when the power supply is connected between the unit and an available electrical outlet.

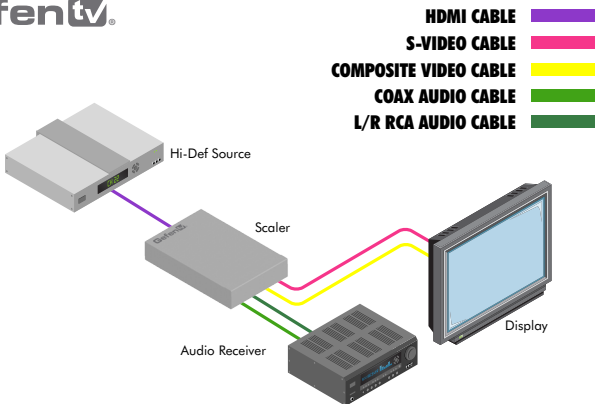
# Installation

## Connecting the HDMI to Composite / S-Video Scaler

1. Connect the included HDMI cable from the Hi-Def source to the HDMI connector of the *HDMI to Composite / S-Video Scaler*.
2. Connect a Composite cable (RCA-type) between the *HDMI to Composite / S-Video Scaler* and the Composite input on the display or A/V receiver. Optionally connect an S-Video cable from the *HDMI to Composite / S-Video Scaler* to the display or an A/V receiver. Both the Composite and S-Video outputs are active at all times.
3. Connect two RCA-type cables (usually part of the Composite cable) between the L and R connectors on the *HDMI to Composite / S-Video Scaler* and the L and R connectors on the display or A/V receiver.
4. Connect the included 5V DC power supply to the power receptacle on the *HDMI to Composite / S-Video Scaler* and connect the power cord to an available electrical outlet.

### Sample Wiring Diagram

Gefentv<sup>®</sup>



**GTV-HDMI-2-COMPSVIDSN**







# HDMI to Composite / S-Video Scaler

## 02 Operating the HDMI to Composite / S-Video Scaler

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# Configuration

## Underscan and Overscan Modes

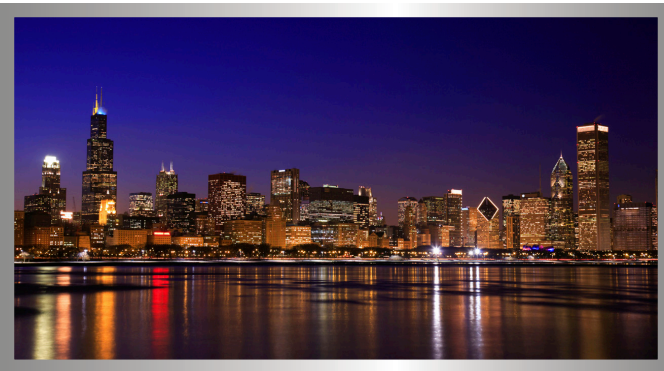
- Over Scan

Scales the image beyond the normal display area. Set the **Under Scan / Over Scan** switch to the **Over Scan** position to correct an image that is displayed under the limits of the vertical and horizontal display area.

“Underscan” image



Corrected image using **Over Scan**



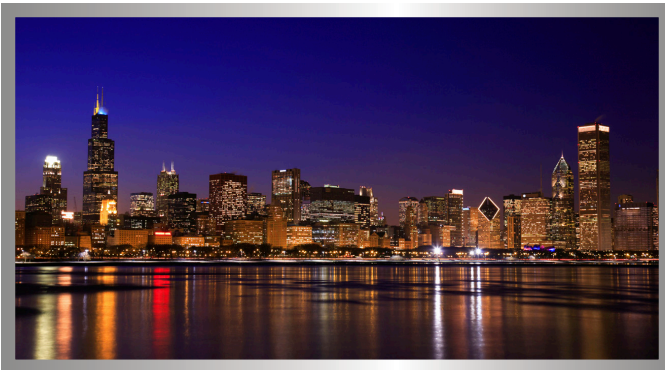
- Under Scan

Set the **Under Scan / Over Scan** switch to the **Under Scan** position to correct an image that is displayed beyond the limits (shown in blue) of the vertical and horizontal display area.

“Overscan” image



Corrected image using **Under Scan**



## NTSC and PAL Modes

When connecting the *HDMI to Composite / S-Video Scaler* between a source and a display, it is important to know which broadcast standard is being used in your region. Set the **NTSC / PAL** switch to the appropriate format. NTSC and PAL formats are not compatible with one another.

NTSC	PAL
Canada	Afghanistan
Chile	Algeria
Costa Rica	Argentina
Cuba	Austria
Dominican Republic	Australia
Ecuador	Bangladesh
Japan	Belgium
Mexico	Brazil
Nicaragua	Bulgaria
Panama	China
Peru	Denmark
Philippines	Finland
Puerto Rico	Germany
South Korea	Hong Kong
Taiwan	Iceland
U.S.A.	India
	Indonesia
	Iraq
	Ireland
	Israel
	Italy
	Jordan
	Kenya
	Kuwait
	Liberia
	United Kingdom
	United Arab Emirates
	Yugoslavia
	Zambia
	Zimbabwe

## Supported Audio Formats

Both the **Coax** and **R / L** audio outputs on the *HDMI to Composite / S-Video Scaler* are active at all times. This allows both audio outputs to be used at the same time. However, only 2-channel LPCM is supported on the **R / L** audio output. The table, below, provides a list of compatible audio formats for each output.

Audio Format	Coax Out	R / L
Dolby® Digital	Yes	No
DTS®	Yes	No
Multichannel LPCM	No	No
2-channel LPCM	Yes	Yes



# HDMI to Composite / S-Video Scaler

## 03 Appendix

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# Firmware Upgrade Procedure

The following items are required to upgrade the firmware:

- GefenTV HDMI to Composite / S-Video Scaler.
- Firmware files (downloaded from the Gefen Web site)
- Computer running Windows® XP or better.
- USB cable (A-B)

1. Download the firmware upgrade from the Support section of the Gefen Web site.
2. Power-OFF the *HDMI to Composite / S-Video Scaler*.

It is unnecessary to disconnect any cables from the *HDMI to Composite / S-Video Scaler* during the upgrade process.



**IMPORTANT:** The *HDMI to Composite / S-Video Scaler* must be POWERED OFF before connecting the USB cable to the computer.

3. Connect a USB cable between the computer and the *HDMI to Composite / S-Video Scaler*.
4. Power-ON the *HDMI to Composite / S-Video Scaler* by connecting the power.
5. Once the computer is able to connect to the *HDMI to Composite / S-Video Scaler*, a Removable disk icon will be displayed.
6. Extract the firmware file from the .ZIP file and drag the .bin file to the Removable Disk.
7. Disconnect the USB cable from the computer.
8. The firmware upgrade process is complete.



# Specifications

Supported Formats	
Audio (input)	<ul style="list-style-type: none"> <li>• 2-channel LPCM</li> <li>• Multichannel LPCM</li> <li>• Dolby® Digital</li> <li>• DTS®</li> </ul>
Video (input)	<ul style="list-style-type: none"> <li>• 480i / 60 Hz</li> <li>• 576i / 50 Hz</li> <li>• 480p / 60 Hz</li> <li>• 576p / 50 Hz</li> <li>• 720p / 50 or 60 Hz</li> <li>• 1080i / 50 or 60 Hz</li> <li>• 1080p / 50 or 60 Hz</li> <li>• 640 x 480 / 60 Hz</li> <li>• 800 x 600 / 60 Hz</li> <li>• 1024 x 768 / 60 Hz</li> <li>• 1280 x 1024 / 60 Hz</li> <li>• 1600 x 1200 / 60 Hz</li> </ul>

Electrical	
Maximum Pixel Clock	<ul style="list-style-type: none"> <li>• 225 MHz</li> </ul>
Underscan / Overscan Switch	<ul style="list-style-type: none"> <li>• 1 x slide-type</li> </ul>
NTSC / PAL Switch	<ul style="list-style-type: none"> <li>• 1 x slide-type</li> </ul>
Power Indicator	<ul style="list-style-type: none"> <li>• 1 x LED, blue</li> </ul>

Connectors	
Video Input	<ul style="list-style-type: none"> <li>• 1 x HDMI Type A, 19-pin, female, locking</li> </ul>
Video Output	<ul style="list-style-type: none"> <li>• 1 x Composite, RCA-type, female</li> <li>• 1 x S-Video, female</li> </ul>
Audio Output	<ul style="list-style-type: none"> <li>• 1 x L/R analog audio (2 x RCA-type, female)</li> <li>• 1 x S/PDIF (Coax), RCA-type, female</li> </ul>
USB	<ul style="list-style-type: none"> <li>• 1 x Type B (firmware upgrade only)</li> </ul>

(continued on next page)

Operational	
Horizontal Frequency Range	• 31 - 70 kHz
Vertical Frequency Range	• 50 - 60 Hz
Power Input	• 1 x 5V DC
Power Consumption	• 7.5W (max.)

Physical	
Dimensions (W x H x D)	• 4.1" x 1.2" x 7.1" (104mm x 30mm x 180mm)
Unit Weight	• 1.71 lbs (0.78 kg)





Stretch it, Switch it, Split it, Control it.  
Gefen's got it. ®

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This product uses UL or CE listed power supplies.