Gefen

®

HDSDI to DVI Scaler Single-Link

EXT-HDSDI-2-DVISSL

User Manual

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Notice
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CONTENTS

Congratulations on your purchase of the HDSDI to DVI Scaler. Your complete satisfaction is very important to us.

Gefen

Gefen delivers innovative, progressive computer and electronics add-on solutions that harness integration, extension, distribution and conversion technologies. Gefen's reliable, plug-and-play products supplement cross-platform computer systems, professional audio/video environments and HDTV systems of all sizes with hard-working solutions that are easy to implement and simple to operate.

The Gefen HDSDI to DVI Scaler

The HDSDI to DVI Scaler is the newest revision of our HD-SDI conversion line incorporating SD/HD-SDI mode conversion scaled to DVI-D. Resolutions of up to 1080p are supported over the DVI link for those that want true "High Definition". Performance has been greatly enhanced due to Gennum's VXP Scaler onboard; allowing for new features such as: Color and Gamma Correction, Noise Reduction, Detail Enhancement, Aspect Ratio Selection, Pattern Generator Mode, and Multiple Language Menu Support.

How It Works

HD-SDI devices are connected to the HD-SDI input and DVI devices are connected to the DVI output. When the source, display and the Scaler are powered and connected, video signals are converted to the proper format.

READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE HDSDI TO DVI SCALER

- On power up, the HDSDI to DVI Scaler will automatically detect the input format of the input. The unit is controlled using the included eight-button remote.

- Pressing the OUTPUT button cycles the HDSDI to DVI Scaler through the following output modes: 640x480 - 800x600 - 720p - 1080i

- Other functions and output modes can be accessed through the onscreen menu.

- To Restore I/O settings, recycle the power on the Scaler.

- To bring up the on-screen menu, press the MENU button. Navigation is done using the UP, DOWN, LEFT, RIGHT and ENTER buttons.

- The SOURCE button selects the input source

Note: Both DIP switches under the remote battery cover must initially be in the OFF position to communicate with the Scaler. For more information, please see page 10 for RMT-8HDS-IR Installation instructions.

Features

- 10-bit resolution for greater precision and dynamic range

- Proprietary 10-bit motion adaptive video de-interlacing with edge interpolation for HD/SD formats.

- Advanced noise reduction and detail enhancement

- Maximum active image size of 2048 samples x 2048 lines PBP processing for various combinations of video and graphics with alpha blending

- Fully integrated sprite based multi-plane OSD controller.

- Frame rate conversion to and from any refresh rate

- Pattern mode with color bars and cross hatch patterns

- Color correction

- Limited/full RGB selection

- Detail Enhancement

- Brightness Adjustment

- Gamma Selection

- Aspect Ratio Select

- Custom Timing output mode

- French/English Menu Set

- RS-232 upgradeable firmware

- RS-232 and/or I/R Control

- Lifetime support includes two-year manufacturer's warranty and free technical support for the lifetime of the product.

- Rack Mountable

Package Includes

(1) HDSDI to DVI Scaler
(1) RMT-8HDS-IR Remote Control
(1) 5V DC Locking Power Supply
(1) User's Manual

Front Panel

1   **2**

8

Back Panel

3   **4**   **5**   **6**   **7**   **9**

1   ***Infrared Sensor***
Point the supplied remote control at this port to access

2   ***Power LED***
When this is lit, the unit is powered on

3   ***5V DC Locking Power Input***
Connect the supplied low-voltage power supply cord into this socket

4   ***Analog L Audio Output***
Connect Left channel Analog Audio amplifier here

5   ***Analog R Audio Output***
Connect Right channel Analog Audio amplifier here

6   ***HD-SDI Input***
Input HD-SDI here

7   ***HD-SDI Loop Output***
Connect the SDI loop output here

8   ***RS-232 Input***
Connect RS-232 control cord here

9   ***DVI Output***
Connect the display here

RMT-8HDS-IR

1

2

3   **9**

4

5   **8**

6   **7**
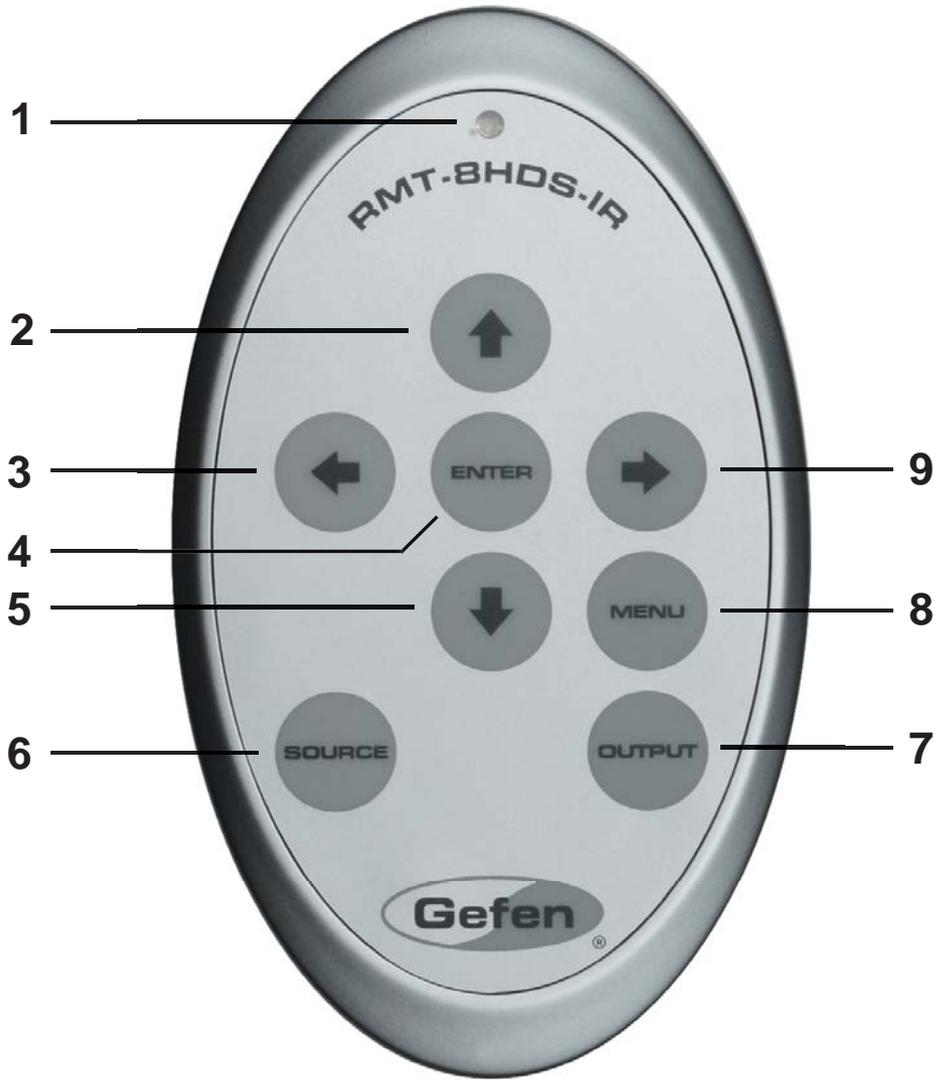
1   ***I/R Sensor***
The LED will light up every time a button is pushed on the remote control.

2   ***Up Arrow Button***
Use this to navigate up the OSD (On-Screen Display)

3   ***Left Arrow Button***
Use this to navigate left on the OSD

4   ***ENTER Button***
Use this button to Accept Operation / Return to Menu

5   ***Down Arrow Button***
Use this to navigate down on the OSD

6   ***SOURCE Button***
(Not used in this system)

7   ***OUTPUT Button***
Cycles through the following input modes: 480i, 576i, 720p, and 1080i

8   ***MENU Button***
Show / Hide OSD (On-Screen Display)

9   ***Left Arrow Button***
Use this to navigate left on the OSD

How to Connect the HDSDI to DVI Scaler

1. Connect an HD-SDI source to the HDSDI to DVI Scaler.

2. Connect a suitable HD-SDI-compliant display to the output of the scaler.

3. Connect an audio power amplifier to the L/R phono outputs (analog audio).

4. Connect a DVI-compliant display to the DVI output.

5. Connect the supplied 5V DC power supply.

Wiring Diagram for the HDSDI to DVI Scaler

Gefen

HDSDI CABLE

DVI CABLE

HDSDI Source

Converter

DVI Monitor

EXT-HDSDI-2-DVISSL
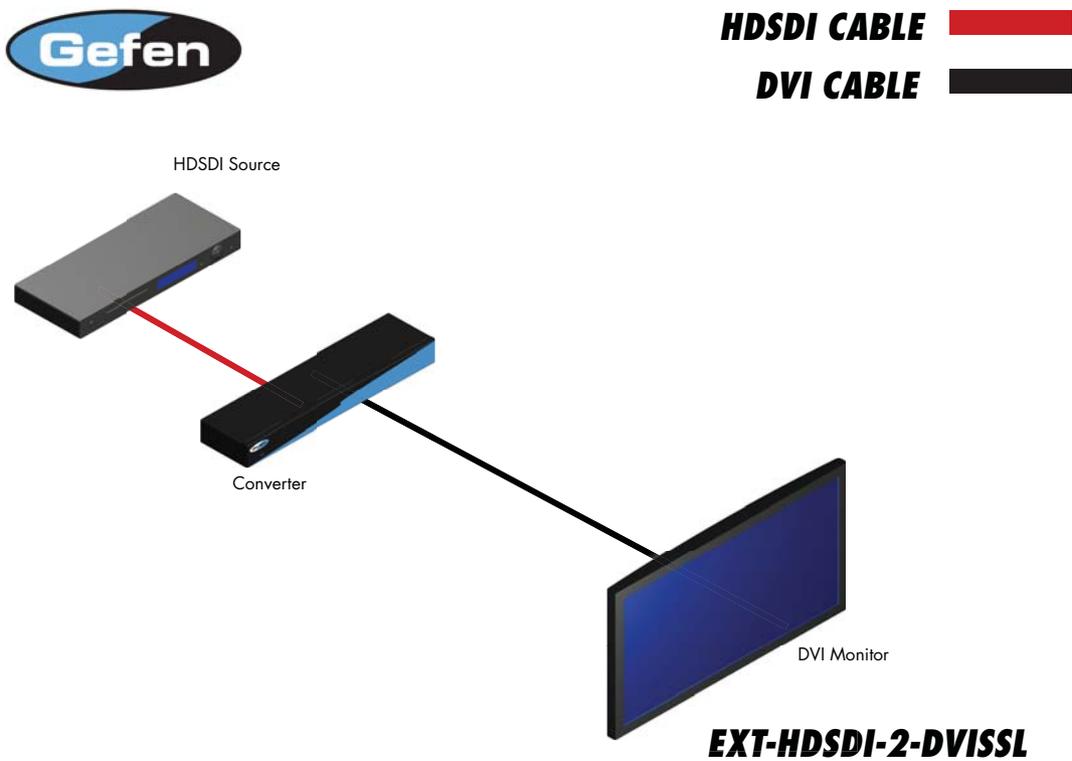
SUPPORTED INPUT/OUTPUT RESOLUTIONS

Input Video Formats Supported:

480i	720p/50	1080p/23.98	1080sf/30
480p	720p/59.94	1080p/24	2K-p/23.98
576i	720p/60	1080p/25	2K-p/24
576p	1035i/59.94	1080p/29.97	2K-sf/23.98
720p/23.98	1035i/60	1080p/30	2K-sf/24
720p/24	1080i/50	1080sf/23.98	
720p/25	1080i/50M	1080sf/24	
720p/29.97	1080i/59.94	1080sf/25	
720p/30	1080i/60	1080sf29.97	

Output Video Formats Supported:

480i	720p/50	1080p/23.98	2K-p/23.98
480p	720p/59.94	1080p/24	2K-p/24
576i	720p/60	1080p/25	
576p	1035i/59.94	1080p/29.97	
720p/23.98	1035i/60	1080p/30	
720p/24	1080i/50	1080p/50	
720p/25	1080i/50M	1080p/50M	
720p/29.97	1080i/59.94	1080p/59.94	
720p/30	1080i/60	1080p/60	

Output Graphic Formats Supported:

640x350/85	1024x768/75	1280x1024/85	1920x1200/60
640x400/85	1024x768/85	1360x768/60	2048x1080
640x480/60	1280x854	1366x768/60	
640x480/75	1152x864/75	1366x923/50	
640x480/85	1280x768/60	1440x900/60	
800x600/60	1280x960/60	1440x1080/60	
800x600/75	1280x960/85	1600x1024	
800x600/85	1280x1024/60	1600x1200/60	
1024x768/60	1280x1024/75	1680x1050/60	

1. Remove battery cover from the back of the RMT-8HDS-IR remote.

2. Verify that DIP switches 1 and 2 are in the down (OFF) position.

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-8HDS-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-8HDS-IR ships with two batteries. One battery is required for operation, the second battery is complimentary.

The following are the DIP switch combinations that correspond to the Remote Code menu option on the HDSDI to DVI Scaler (please see Menu Functions section on page 13 for more information).

Remote Channel 0:

1   2

Remote Channel 1:

1   2

Remote Channel 2:

1   2

Remote Channel 3:

1   2
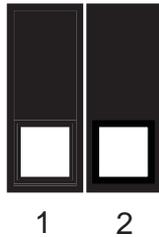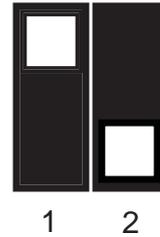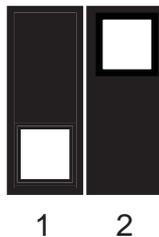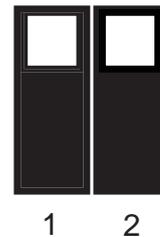
Aspect:

- *Full Screen:*
  Stretches input to fill the Monitor.

- *Letter / Pillar Box:*
  Sets the aspect ratio to fit a letter or pillar box format.

- *Panoramic:*
  Panoramic Zoom feature etc.

- *Extract:*
  Feature to magnify the signal.

- *Extract Size:*
  Adjusts signal magnification.

- *Horizontal / Vertical Position:*
  Moves the magnified signal Horizontally and Vertically.

- *Through:*
  Feature to crop the signal.

- *Horizontal / Vertical Size:*
  Horizontally and Vertically contracts or expands the cropping viewport.

- *Horizontal / Vertical Position:*
  Move the signal Horizontally or Vertically inside the cropping viewport.

- *Layout:*
  Feature to Resize Image resolution.

- *Size and Position:*

- *Horizontal / Vertical Size:*
  Adjust Horizontal or Vertical resolution.

- *Horizontal / Vertical Position:*
  Move image Horizontally or Vertically.

Picture:
Image Color:

- *Contrast:*
  Individually adjust the contrast for red, green and blue.

- *Brightness:*
  Individually adjust the brightness for red, green and blue.

- *Black level:*
  Adjust black levels between 0 (default) and 100.

Detail Enhancement:

- *Detail Enhancement:*
  Digitally enhance the signal.

- *Noise Threshold:*
  Adjusts noise allowed in detail enhancement.

- *Noise Reduction:*
  Digitally reduce signal noise.

- *Motion Threshold*
  Controls cadence sensitivity.

Input Video Format:

- *Auto-Detect by default:*
  Signal can be forced to a specific High-definition resolution (please see page 9 for details).

Input Graphic Format:

- *Auto Detect by default:*
  Signal can be forced to a specific computer resolution (please see page 9).

Clean Aperture:

- *Horizontal and Vertical Size:*
  Stretch image Horizontally or Vertically

- *Horizontal and Vertical Position:*
  Move image in view port Horizontally or Vertically

- *Remote Channel:*
  Changes the I/R code of the Scaler to one of 4 settings between 0 and 3 (which in turn set the I/R frequency in use). The I/R code must be set the same in both I/R remote and Scaler. The Remote uses DIP Switches; the Scaler uses this menu function (please see the RMT-8HDS-IR Installation on page 10 for more information).

Input Color Range:

- 16 - 235
  Forces input to limited-range RGB.

- 0 - 255
  Forces input to full-range RGB.

- Auto
  Color range used is dependent upon the input color range.

Output:

- *Output Format:*
  Select the desired output resolution (please see page 9).

- *Genlock Reference:*
  Genlock Reference:
  Synchronizes the DVI input video source with an external SDI input source
  or reference signal. The SDI output will be genlocked. Note that the input
  and output frequencies must be multiples of one another.

- *Language:*
  Set menu to display English or French text.

Gamma Correction:

- *Default:*
  Set for Default Gamma settings: *sRGB*

- *Custom:*
  Enables Gamma Coefficient menu item as the current Gamma coefficient.

- *Gamma Coefficient:*
  (0.3 - 3.0); Default set at 1.0.

Patterns:

- *Color Bars:*
  Display color bar video pattern.

- *Cross Hatch:*
  Display cross hatch video pattern.

SPECIFICATIONS

Input Video Bandwidth..1.485 Gbps

Output Video Bandwidth...1.65 Gbps (DVI-D)

Maximum Input Resolution...2048x1080p24

Maximum Output Resolution..1920x1200@60Hz

Audio Output...2-channel Analog Audio

Power Supply...5V DC (Locking)

Shipping Weight...5 lbs

Dimensions...6.5"W x 1"H x 6.75"H

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 - EXT - HDSDI - 2 - DVI SSL *

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This product uses UL listed power supplies.