Gefen

1080P HDMI™ Scaler

USER MANUAL

www.gefen.com

ASKING FOR ASSISTANCE

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Notice

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INTRODUCTION

Congratulations on your purchase of the Gefen 1080P HDMI Scaler. Your complete satisfaction is very important to us. Gefen's line of converters and extenders are designed to make home theater installations more convinient, affordable, and complete.

Our Commitment
Gefen will always offer the finest quality product at the best possible price. Included in that price is a lifetime of free support from a team of outstanding engineers.

Introduction

The Gefen 1080P HDMI Scaler allows you to upscale your standard definition or high definition HDMI sources to resolutions up to 1080p. Anything from set-top boxes, DVD players to the next generation of gaming consoles including the Xbox 360 Elite and Playstation 3 can be plugged into the 1080P HDMI Scaler.

Easy to use on-screen menus accessible through the IR remote control or the buttons on the unit itself allow for effortless setup and image adjustment to accommodate different viewing modes and screen sizes.

FEATURES

- Digital input is format converted and pixel re-scaled through the 1080P HDMI 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/HDCP/HDMI compliant input: Operates up to 165Mhz (Up to UXGA @60Hz)
- Supports digital HD input/output up to 1080p.
- Integrated DVI/HDCP/HDMI compliant receiver.
- 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
- Option to select Audio input from HDMI or TOSlink audio source.
- Operates through on-screen OSD menu control, front panel push buttons, and remote control.
- Aspect Ratio Control
- Digital Audio Delay to match audio/video timing
- Less than one frame delay allowing for gaming
- 48MB frame memory for frame rate conversion.
- Supports DDWG standard for DVI compliant monitors
- HDMI 1.2a compliant

Includes:

(1) 1080P HDMI Scaler
(1) 5V Power Supply
(1) 6 ft HDMI (M-M) cable
(1) User's Manual

PANEL DESCRIPTIONS

Front view

Power Status LED

5V DC Power Input

IR Sensor

HDMI Mono-Lok Input

S/PDIF (Optical) Audio Input

Analog Stereo Audio Input

Back view

Analog Stereo Audio Output

S/PDIF (Optical) Audio Output

HDMI Mono-Lok Output

OSD Menu Button

Menu DOWN Button

Menu UP Button

How to Connect the 1080P HDMI Scaler

Connect your HDMI or DVI (with a DVI to HDMI adapter) source to the input of the 1080P HDMI Scaler. If using a separate audio input, plug it into the 1080P HDMI Scaler by either the Toslink (digital optical) or stereo mini jack inputs. (Note: The Menu button of the 1080P HDMI Scaler will not work without a source plugged in)

Connect your display to the 1080P HDMI Scaler's HDMI output. Audio can either be output by either the TosLINK (digital optical), analog stereo mini jack, or internally on the HDMI output connectors. Connect your desired audio output cable to the 1080P HDMI Scaler.

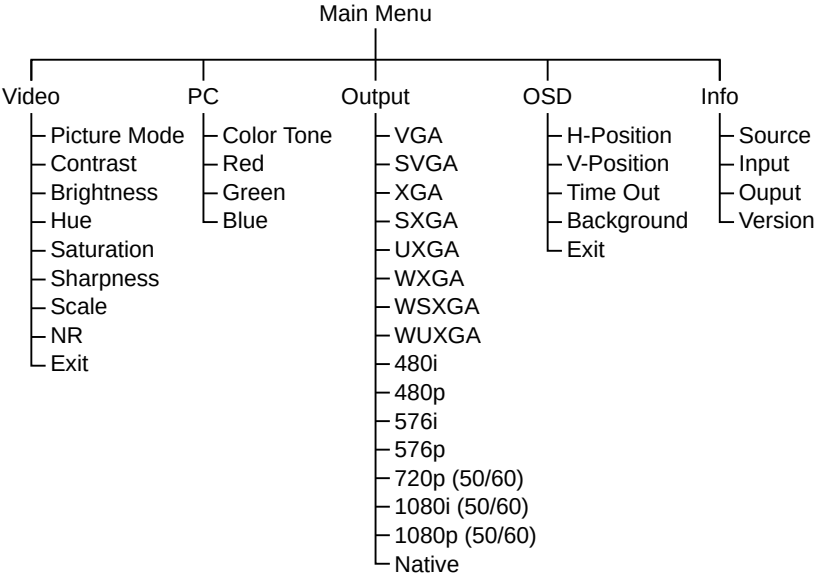
Connect the power supply.

*Note: The default resolution is set to NATIVE mode.

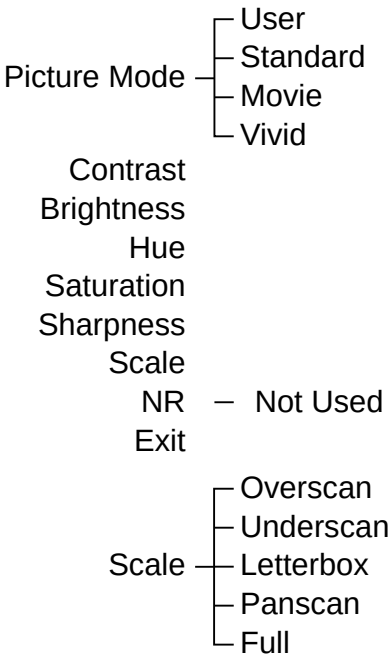
Operating the 1080P HDMI Scaler

Button	Function
MENU	Shows and Hides the On Screen Menu and acts as the confirmation button in all menus
+	Moves menu cursor DOWN the menu / Increases adjustment values
-	Moves menu cursor UP the menu / Decreases adjustment values

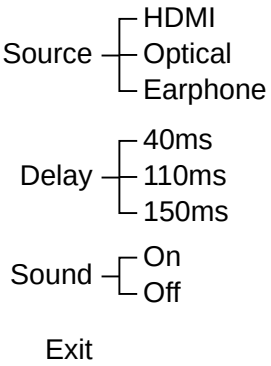
After you power on the unit, press the menu button and it will bring up the main menu as follows:



Video Sub-Menu



Audio Sub-Menu



OPERATION CONTROLS AND FUNCTIONS

Picture mode: There are 4 picture modes for the user to choose from.

User: Select to adjust to your favorite setting and store it.

Standard: Standard factory default setting for optimal display in a normal environment.

Vivid: High saturation picture for optimal display in a bright room.

Movie: Picture for comfortable low brightness display in a dark room.

NOTE: Standard, Vivid, and Movie settings cannot be adjusted. Please use the USER option to use a custom setting that will be saved in the 1080P HDMI Scaler.

Scale: Select overscan when input source is SD or HD video to ensure no black band around screen border. Select underscan when input source is PC signal to ensure full picture content will fall within screen border.

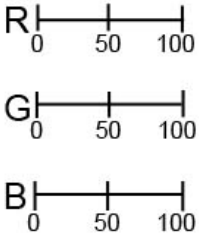
COLOR SETTINGS

User: Select to adjust to your favorite color temperature setting.

Normal: Normal color tone setting where white is pure white.

Warm: Warm color tone makes white a little reddish.

Cool: Cool color tone makes white a little bluish.



Value of normal setting

NOTE: Normal, Warm, or Cool settings cannot be adjusted. Please use the USER option to use a custom setting that will be saved in the 1080P HDMI Scaler.

OSD ADJUSTMENT

H. Position: Adjust the horizontal position of the OSD graphic.
V. Position: Adjust the vertical position of the OSD graphic.
Time out: Set a predetermined Time to turn off OSD menu on the screen.
Background: To select transparent or solid background of OSD graphic.

INFORMATION

Source: Shows current input source and color space
Input: Shows input resolution i.e. XGA.
Output: Shows output resolution i.e. 720p.
Version: Shows firmware version.

USING THE RMT-SR-IR

1. Connect the HDMI/DVI source to the 1080P HDMI Scaler

2. Connect the HDMI/DVI displays to the DVI output, with the proper cable and/or adapter, on the 1080P HDMI Scaler.

3. Connect the 5VDC power supply to the 1080P HDMI Scaler.

4. Controlling the 1080P HDMI Scaler using the RMT-SR-IR:

By Pressing...	Does...
output select	changes between display outputs
power	power the scaler on/off
menu	bring up the on screen menu
exit	allows user to exit the on screen menu
up,down,left,right	allow user to navigate through menu
ok (enter)	allows user to confirm their selection
reset	press the button to reset the unit's firmware setting to the factory default value.

RMT-SR-IR 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.

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. One battery is required for operation, the second battery is complimentary.

INPUT AND OUTPUT RESOLUTIONS

Input: The 1080P HDMI Scaler can accept a wide variety of PC and HD resolutions as follows.

VGA @ (60/72/75/85) / SVGA @ (56/60/72/75/85)
XGA @ (60/70/75/85) / SXGA @ (60/75/85)
UXGA @ 60 (1600x1200)
WXGA @ 60 (1280x800 & 1366x768)
WSXGA @ 60(1680x1050)
WUXGA @ 60(1920x1200)
480i/p @ 50/60Hz
576i/p @ 50Hz
720p @ 50/60Hz
1080i @ 50/60Hz
1080p @ 50//60Hz

Output: The 1080P HDMI Scaler can output a wide variety of PC and HD resolutions as follows.

DVI/HDMI (up to 165 mhz)	Resolution	i/p*	Format
480i	720x480	i	RGBHV
480p	720x480	p	RGBHV
576i	720x576	i	RGBHV
576p	720x576	p	RGBHV
720p @ (50/60)	1280x720	p	RGBHV
1080i @ (25/30)	1920x1080	i	RGBHV
1080p @ (50/60)	1920x1080	p	RGBHV
VGA @ 60	640x480	p	RGBHV
SVGA @ 60	800x600	p	RGBHV
XGA @ 60	1024x768	p	RGBHV
SXGA @ 60	1280x1024	p	RGBHV
UXGA	1600x1200	p	RGBHV
WXGA @ 60	1280x800	p	RGBHV
WSXGA @ 60	1680x1050	p	RGBHV
WUXGA @ 60	1920x1200	p	RGBHV

* i: interlaced p; progressive

Native: When it is selected, the 1080P HDMI Scaler will automatically adjust its
output timing to match the native timing of the display.

SPECIFICATIONS

Digital Video Amplifier Bandwidth..... 165 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 HDMI Connector ..... Type A 19 pin female

Input/Output Digital Audio ..... Optical Toslink

Input/Output Analog Audio Connector.....3.5mm stereo jack

Power Supply ..... 5V DC

Power Consumption ..... 20 Watts (max)

Dimensions ..... 4"W x 1.1"H x 5.75"

Shipping Weight ..... 4 lbs.

TERMINOLOGY

DDC
Short form for Display Data Channel. It is a VESA standard for communication between a monitor and a video adapter. Using DDC, a monitor can inform the video card about its properties, such as maximum resolution and color depth. The video card can then use this information to ensure that the user is presented with valid options for configuring the display.

DDWG
Digital Display Working Group DDWG are the creators of the DVI specification.

DVI
Digital Visual Interface. Connection standard developed by Intel for connecting computers to digital monitors such as flat panels and DLP projectors. A consumer electronics version, not necessarily compatible with the PC version, is used as a connection standard for HDTV tuners and displays. Transmits an uncompressed digital signal to the display. The latter version uses HDCP copy protection to prevent unauthorized copying.

HDCP
High-Bandwidth Digital Content Protection. Created by Intel, HDCP is used with HDTV signals over DVI and HDMI connections and on D-Theater D-VHS recordings to prevent unauthorized duplication of copy written material.

HDMI
The High-Definition Multi-media Interface (HDMI) is an industry-supported, uncompressed, all-digital audio/video interface. HDMI provides an interface between any compatible digital audio/video source, such as a set-top box, DVD player, and A/V receiver and a compatible digital audio and/or video monitor, such as a digital television (DTV).

HDTV
High-Definition Television. The high-resolution subset of our DTV system. The ATSC defines HDTV as a 16:9 image with twice the horizontal and vertical resolution of our existing system, accompanied by 5.1 channels of Dolby Digital audio. The CEA defines HDTV as an image with 720 progressive or 1080 interlaced active (top to bottom) scan lines. 1280:720p and 1920:1080i are typically accepted as high-definition scan rates.

RS-232
Recommended Standard 232. This is the de facto standard for communication through PC serial ports. It can refer to cables and ports that support the RS232 standard.

VESA
Video Electronic Standards Association, a consortium of manufacturers formed to establish and maintain industry wide standards for video cards and monitors. VESA was instrumental in the introduction of the Super VGA and Extended VGA video graphics standards with a refresh rate of 70 Hz, minimizing flicker and helping to reduce user eyestrain and fatigue.