Home Theater Scaler Plus

USER MANUAL

www.gefen.com

ASKING FOR ASSISTANCE

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

Fax   (818) 772-9120

Technical Support Hours:
8:00 AM to 5:00 PM Monday thru Friday.

Write To:

Gefen Inc.
C/O Customer Service
20600 Nordhoff St.
Chatsworth, CA 91311

support@gefen.com
www.gefen.com

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

The Home Theater Scaler Plus is a trademark of Gefen Inc.

TABLE OF CONTENTS

INTRODUCTION

Thank you for purchasing the Home Theater Scaler.

The Home Theater Scaler Plus supports two component sources with analog audio and two HDMI sources with digital audio. The analog audio from the component input is digitized and outputted to the HDMI connection as well as the digital audio outs. The HDMI inputs also have separate digital audio inputs, so you can use DVI sources and separate digital audio. The Home Theater Scaler will embed the digital audio into the HDMI output as well as the digital audio outs.

The Gefen Home Theater Scaler Plus 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 HD Mate Scaler.

Note: The switching is done by using the RMT-SR-IR remote control. Any HDTV with DVI inputs can be connected to the HDMI output of the Home Theater Scaler by using a HDMI to DVI adapter, if the cable being used is DVI.

OPERATION NOTES

**READ THESE NOTES BEFORE INSTALLING
OR OPERATING THE HOME THEATER SCALER PLUS**

• When powering the sources, the display needs to point to the source input.

• The Home Theater Scaler PLUS works with all DVI and HDMI displays.

• The Home Theater Scaler PLUS is fully HDCP compliant.

• The Home Theater Scaler PLUS has a 15-foot limit on how far it can transmit the HDCP (copyright protection) codes out of the HDMI output jack to the display. Connections to displays at distances longer than 15 feet should use a true HDCP-boosting (repeating) solution such as our CAT5-based HDMI signal extender devices (Gefen part number EXT-HDMI-CAT5X). A simple add-on booster attached to the HDMI output cable will not prevent signal loss.
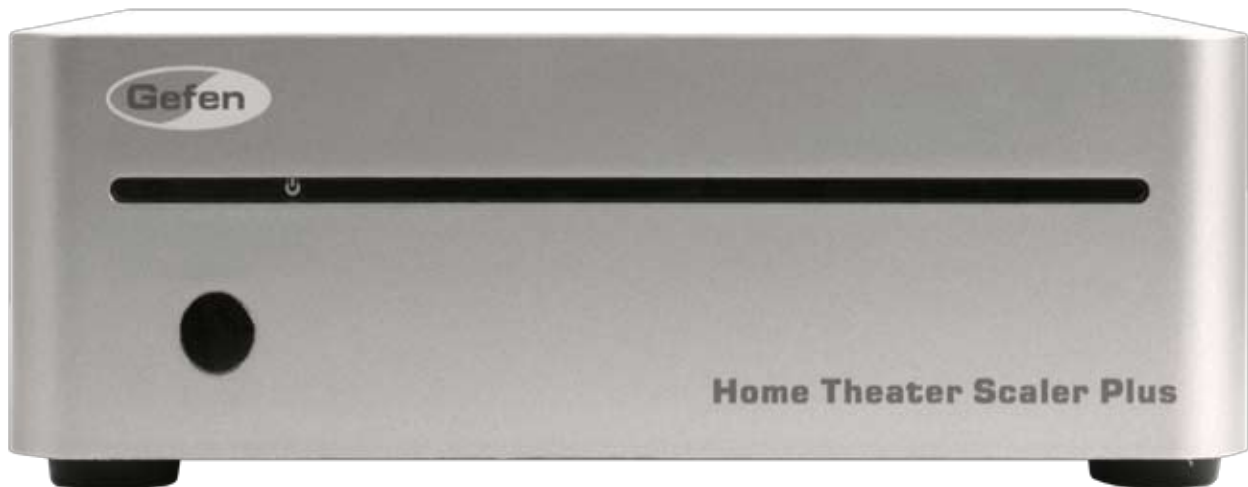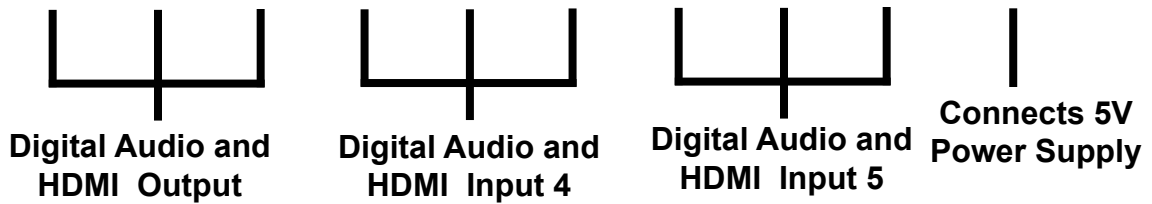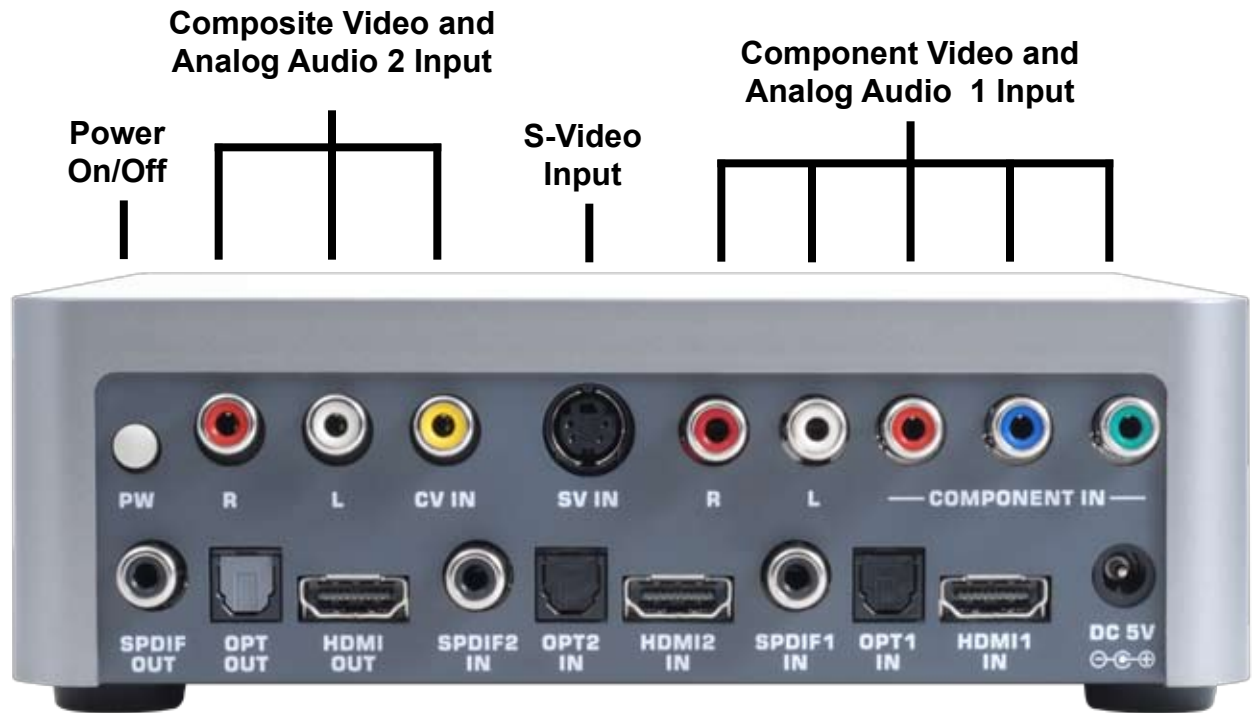
Features

- Allows display to view any source at any time

- 3D noise reduction on analog inputs only.

- Supports digital HD output up to 1080p.

- Dual 3-D motion video adaptive de-interlacers with smooth low-angle edge.

- Option to select Audio input from HDMI or TOSlink/SPDIF audio source.

- Supports HDCP compliant devices

- Integrated 8-bit triple-ADC/PLL.

- Operates through on-screen OSD menu control and remote control.

- 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

Includes:

(1) Home Theater Scaler PLUS
(1) 6 ft HDMI cable (M-M)
(1) 5V Power Supply
(1) IR Remote control
(1) User's Manual

PANEL LAYOUT

Power On/Off

Composite Video and Analog Audio 2 Input

S-Video Input

Component Video and Analog Audio 1 Input

PW   R   L   CV IN   SV IN   R   L   —COMPONENT IN—

SPDIF OUT   OPT OUT   HDMI OUT   SPDIF2 IN   OPT2 IN   HDMI2 IN   SPDIF1 IN   OPT1 IN   HDMI1 IN   DC 5V

Digital Audio and HDMI Output

Digital Audio and HDMI Input 4

Digital Audio and HDMI Input 5

Connects 5V Power Supply

Gefen

Home Theater Scaler Plus

IR Extender Eye

OPERATION CONTROLS AND FUNCTIONS

The Home Theater Scaler Plus accepts S-video, composite, component, PC and HDMI inputs with audio on each. The formats supported by these inputs are as follows:

COMPONENT	YPbPr	480p @ 50/60Hz 576i @ 50Hz 720p @ 50/60Hz 1080i @ 50/60Hz 1080p @ 50//60Hz
	YCbCr	480i @ 60Hz 576i @ 50Hz
Composite	YUV	480i
S-Video	Y/C	480i

HDMI INPUT:	Digital	VGA @ (60/72/75/85)/SVGA @ (56/60/72/75/85)/ XGA @ (60/70/75/85)/SXGA @ (60/75/85)/UXGA @ 60/ WXGA @ (1280x800)/WSXGA @ 60(1680x1050)/ WUXGA @ 60(1920x1200)/1360x768

When connecting to a component source (either SD or HD resolution) use a 3RCA to 3RCA cable to connect the YPbPr or YCbCr output of a DVD or Set Top Box to the y-Cb/Pb-Cr/Pr input connector of the Home Theater Scaler PLUS.

When connecting to an DVI source, use an DVI to HDMI cable (or adaptor) to connect the DVI output of a STB or DVD to the HDMI input connector of the Home Theater Scaler PLUS.
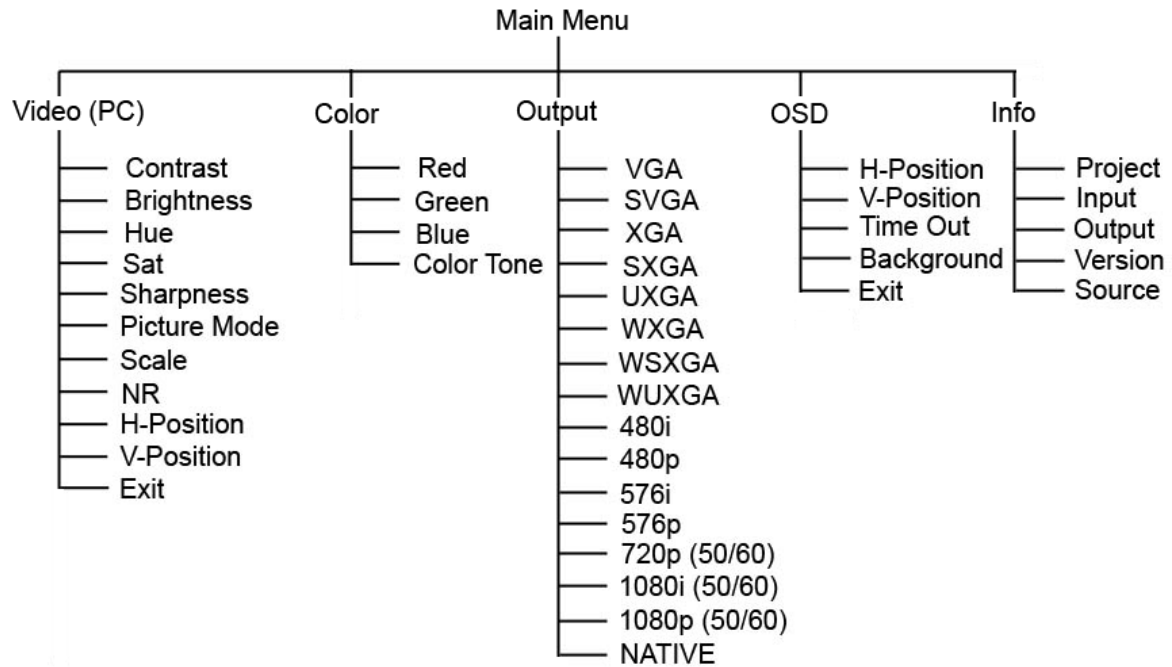
The Home Theater Scaler PLUS can automatically detect the input resolution of all three inputs.

When connecting to a HDMI source, use an HDMI cable to connect the HDMI output of a STB or DVD to the HDMI input connector of the Home Theater Scaler PLUS.
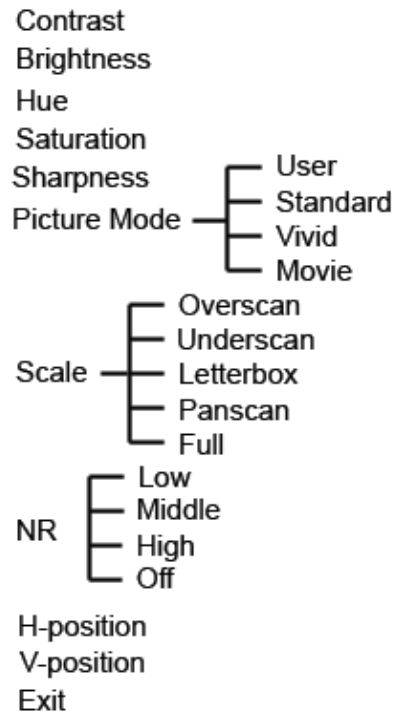
The Home Theater Scaler PLUS can automatically detect the input resolution of all five inputs.

OPERATION CONTROLS AND FUNCTIONS

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

```
                                    Main Menu

Video (PC)          Color         Output            OSD             Info
├── Contrast        ├── Red        ├── VGA           ├── H-Position   ├── Project
├── Brightness      ├── Green      ├── SVGA          ├── V-Position   ├── Input
├── Hue             ├── Blue       ├── XGA           ├── Time Out     ├── Output
├── Sat             └── Color Tone ├── SXGA          ├── Background    ├── Version
├── Sharpness                      ├── UXGA          └── Exit         └── Source
├── Picture Mode                   ├── WXGA
├── Scale                          ├── WSXGA
├── NR                             ├── WUXGA
├── H-Position                     ├── 480i
├── V-Position                     ├── 480p
└── Exit                           ├── 576i
                                   ├── 576p
                                   ├── 720p (50/60)
                                   ├── 1080i (50/60)
                                   ├── 1080p (50/60)
                                   └── NATIVE
```

Video (or PC): When Video is selected, a sub menu as shown below, will come up.

```
Contrast
Brightness
Hue
Saturation
Sharpness                    ┌── User
Picture Mode ────────────────┤── Standard
                             ├── Vivid
                             └── Movie
                   ┌── Overscan
                   ├── Underscan
Scale ─────────────┤── Letterbox
                   ├── Panscan
                   └── Full
           ┌── Low
           ├── Middle
NR ────────┤── High
           └── Off
H-position
V-position
Exit
```

OPERATION CONTROLS AND FUNCTIONS

Picture mode: There are 4 picture modes for customer 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.

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.

Noise Reduction: This function only works when input is analog RGB or component, It will not work for HDMI input. There are four settings that will Noise Reduction-Off, Low, Middle, and High. The Noise Reduction will remove the noise that results from the analog to digital conversion and digital scaling process.

H & V position: To adjust for the best horizontal and vertical position of the picture in the screen.
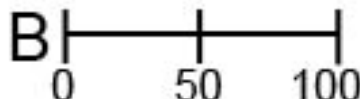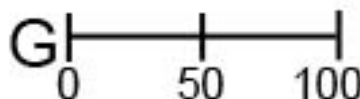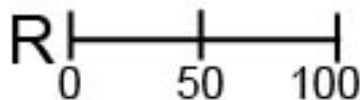
COLOR SETTINGS

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

OUTPUT SETTINGS

Output: The Home Theater Scaler Plus 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 Home Theater Scaler PLUS will automatically adjust its output timing to match the native timing of the display.

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 predetemined Time to turn off OSD menu on the screen.
Background: To select transparent or solid background of OSD graphic.

INFORMATION

Project: Show product model number.
Input: Show input resolution i.e. XGA.
Output: Show output resolution i.e. 720p.
Date: Show date of firmware version.

USING THE HOME THEATER SCALER PLUS

1. Connect all the sources to the HDMI, Composite, S-Video and/or Component Inputs to the Home Theater Scaler.

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

3. Connect the 5VDC power supply to the Home Theater Scaler PLUS.

4. Controlling the Home Theater Scaler using the RMT-SR-IR:

By Pressing Buttons...	Does...
input select	changes between sources
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.
auto adjust	press the button to optimize the position of the picture (picture centering) on the screen.

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 fl ash 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.
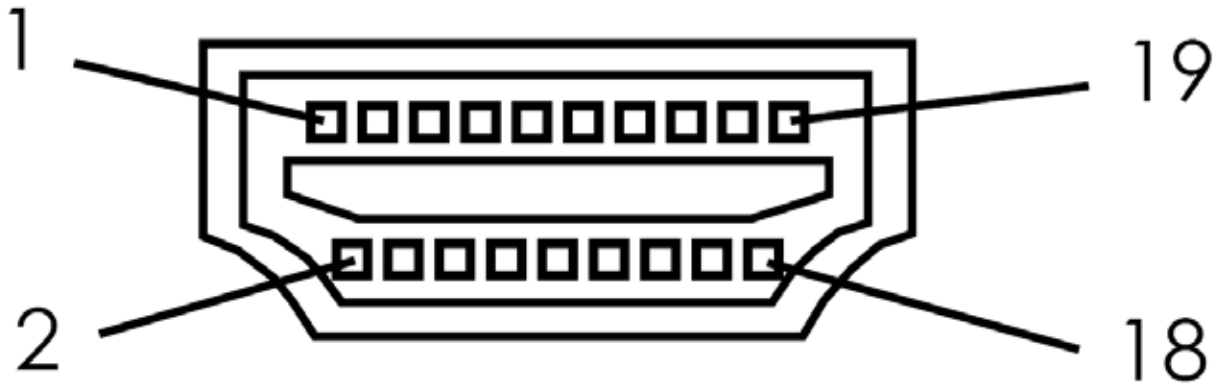
Note* The RMT-SR-IR ships with two batteries. One battery is required for operation,

HDMI Pin Out

Pin #	Function Assignment	Pin #	Function Assignment
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2-	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0-	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock-
13	CEC	14	Reserved (N.C. on device)
15	SCL	16	SDA
17	DDC/CEC Ground	18	+5V Power
19	Hot Plug Detect		

SPECIFICATIONS

Digital Video Amplifier Bandwidth..1.65 Gbps

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 HDMI Connector..Type A 19 pin female

Analog Video Connector 1..3 RCA Component

Analog Video Connector 1...1 RCA Composite or 1 S-video

Digital Audio Connector..Optical TOSlink and Coax SPDIF

Analog Audio Connector...2 RCA

Power Supply..5V DC

Power Consumption...20 watts (max)

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

Shipping Weight...6 lbs.