



VGA to DVI Scaler/Converter

EXT-VGA-DVI-SC

User Manual



Release A2

Important Safety Instructions

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.

Technical Support

(818) 772-9100 (800) 545-6900
8:00 AM to 5:00 PM Monday - Friday, Pacific Time

Fax

(818) 772-9120

Email

support@gefen.com

Web

<http://www.gefen.com>

Mailing Address

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

Product Registration

Register your product here: <http://www.gefen.com/kvm/Registry/Registration.jsp>

Operating Notes

- By default, the current input and output resolution will be displayed whenever the VGA to DVI Scaler/Converter is disconnected from the source or display or if a change in the video output settings are made. This feature can be disabled through the Display Notify option See [Display Notify \(page 33\)](#).
- Always make sure that the VGA to DVI Scaler/Converter is running the latest firmware. The Gefen Syner-G™ Software Suite is a free downloadable application from Gefen that provides automatic download and installation of firmware upgrades for this product.

Download the application here: <http://www.gefen.com/synerg/>

VGA to DVI Scaler/Converter is a trademark of Gefen, LLC.

© 2015 Gefen, LLC. All Rights Reserved. All trademarks are the property of their respective owners.

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



This product uses UL or CE listed power supplies.

Features

- Converts and scales VGA to DVI
- Input resolutions up to 1920 x 1200 (WUXGA)
- Output resolutions up to 1080p60 and 1920 x 1200 (WUXGA)
- On-screen display (OSD) menu allows easy set-up and control
- Aspect Ratio Control: Full Screen, Panoramic, Letter/Pillar, Extract/Crop
- Test Pattern Generator for quick system configuration
- Gefen Syner-G™ simplifies in-field firmware updates and advanced EDID management including custom input timings
- USB port for use with Gefen Syner-G™
- Wide power supply operating range (6V to 24V DC)
- Locking power supply connector
- Surface mountable



Packing List

The VGA to DVI Scaler/Converter ships with the items listed below. If any of these items are not present in the box when you first open it, immediately contact your dealer or Gefen.

- 1 x VGA to DVI Scaler/Converter
- 1 x 6 ft. VGA cable (M-M)
- 1 x 12V Power Supply
- 1 x Quick-Start Guide

This page left intentionally blank.

1 Getting Started

Introduction.....	2
Installation	4
Connection Instructions.....	4
Sample Wiring Diagram	4

2 Basic Operation

Menu System	8
Displaying the Menu System.....	8
Moving around within the Menu System	9
Output Resolution	12
Contrast.....	14
Brightness	15
Saturation.....	16
Hue.....	17
Color Range	18
Color Temperature	19
Color Balance.....	20
Edge Enhance.....	21
Sharpness	22
Underscan/Overscan	23
Aspect Ratio.....	24
Horizontal Mirror.....	25
Vertical Mirror	27
Horizontal Shift.....	29
Vertical Shift	30
Phase	31
OSD Timeout	32
Display Notify	33
Input Resolution Information	35
F/W Version	36
Factory Reset.....	37
Test Patterns	38
DIP Switch Configuration	40

3 Appendix

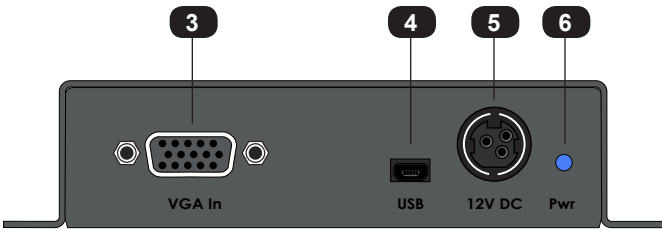
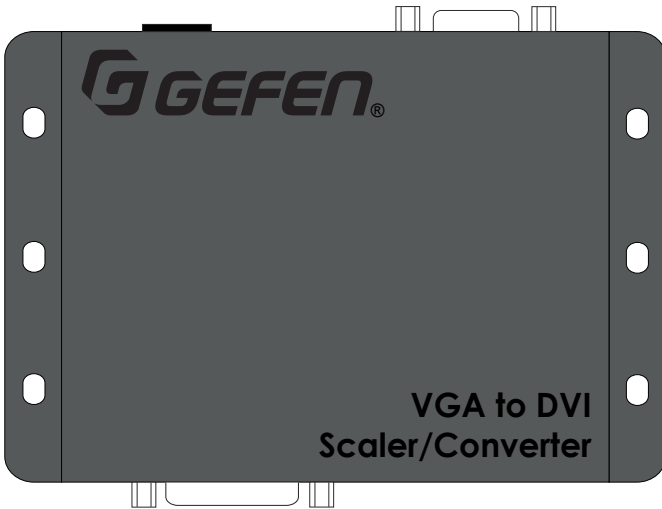
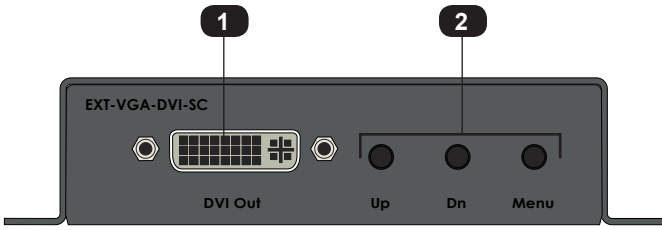
Menu System Summary	44
Default Settings	50
USB Interface	51
Installing the Virtual COM Port	51
Updating the Firmware	53
Surface Mounting Instructions	58
Specifications	59
Index	60

This page left intentionally blank.

VGA to DVI Scaler/Converter

1

Getting Started



ID	Name	Description
1	DVI Out	Use a DVI cable to connect a DVI display to this port.
2	Up, Dn, Menu	These push-buttons are used to change settings within the on-screen menu system. See Menu System (page 8) for more information.
3	VGA In	Connect the included VGA cable from source device (e.g. computer) to this port.
4	USB	This mini-USB port is used for upgrading the firmware.
5	12V DC	Connect the included 12V DC power supply to this power receptacle.
6	Pwr	Under normal operating conditions, this LED indicator will glow bright blue.

Connection Instructions

▶ Video

1. Connect the included VGA cable from the video source (e.g. computer) to the **VGA In** port on the VGA to DVI Scaler/Converter.
2. Connect a DVI cable from the **DVI Out** port to a DVI display.

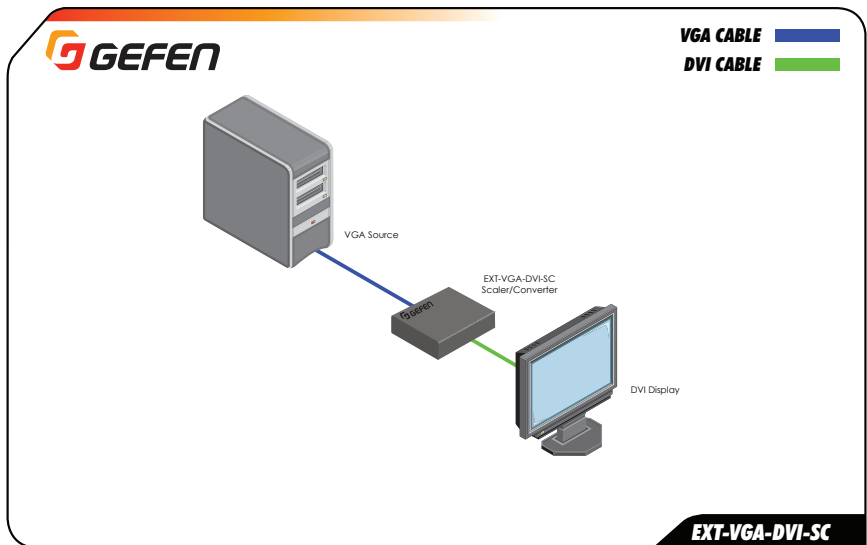
▶ USB (optional Syner-G™ software control)

3. Connect a USB-to-mini USB cable from the VGA to DVI Scaler/Converter to a computer that is running the Syner-G™ Software Suite. To complete this portion of the installation, see [USB Interface \(page 51\)](#). This connection is *required* for updating the firmware.

▶ Power

4. Connect the included power supply to the 12V DC power receptacle and connect the power cord to an available electrical outlet.

Sample Wiring Diagram



This page left intentionally blank.

This page left intentionally blank.

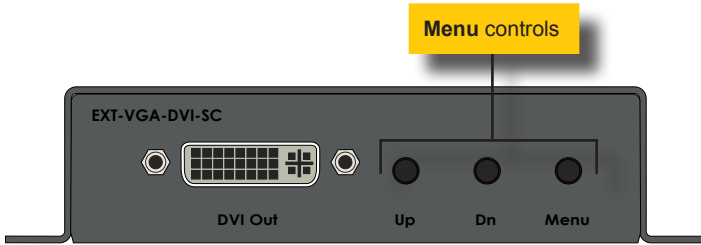
VGA to DVI Scaler/Converter

2 Basic Operation

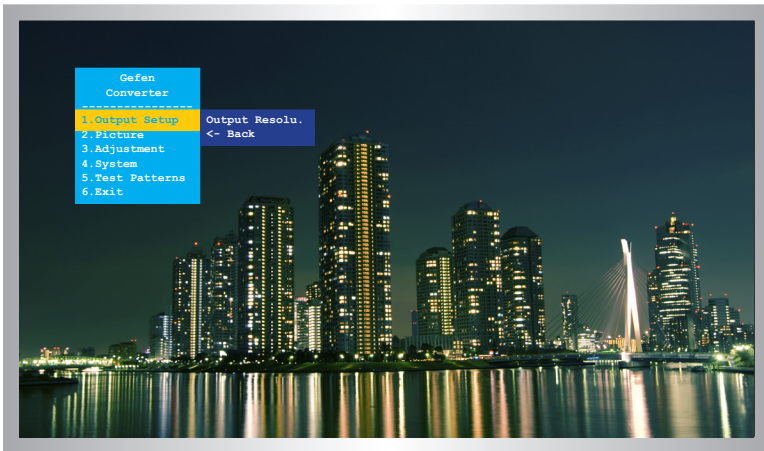
Displaying the Menu System

The VGA to DVI Scaler/Converter uses a built-in menu system to manage and control all video features.

1. To display the menu system, press the **Menu** button on the front panel.



2. The menu system will be displayed in the upper-left corner of the screen, as shown below:

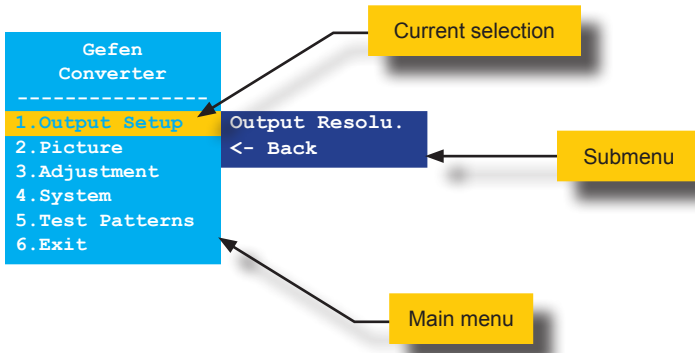


If the menu system is not used within the time interval specified by the OSD Timeout setting, then the menu system will automatically be hidden. By default, the OSD Timeout setting is 5 seconds. See [OSD Timeout \(page 32\)](#) for instructions on setting the OSD Timeout value.

(continued on next page)

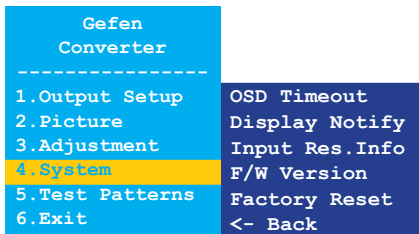
Moving around within the Menu System

1. There are six menu items within the *main menu*: **Output Setup**, **Picture**, **Adjustment**, **System**, **Test Patterns**, and **Exit**.
2. The currently selected item within the main menu will always be highlighted in yellow.
3. Each item within the main menu, with the exception of **Exit**, contains a *submenu*. The submenu, for each item in the main menu, is displayed automatically.



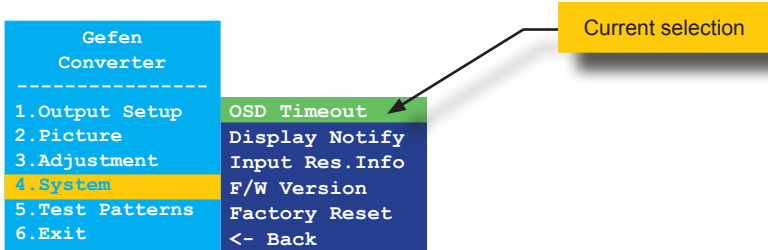
4. Use the **Up** or **Dn** button to highlight the desired item within the main menu.

For example, if we press the **Dn** button three times, the **System** menu item will be highlighted and its submenu will be displayed.

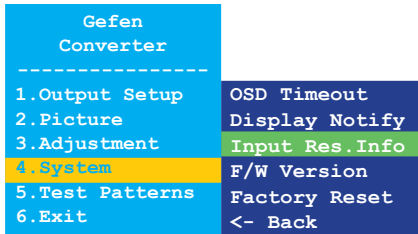


(continued on next page)

- To access the submenu for the highlighted item within the main menu, press the **Menu** button a second time. When a submenu is activated, a green bar is used to indicate the current selection. By default, the top submenu item will always be highlighted once a submenu is activated.



- Use the **Up** or **Dn** button to select the desired option within the submenu.

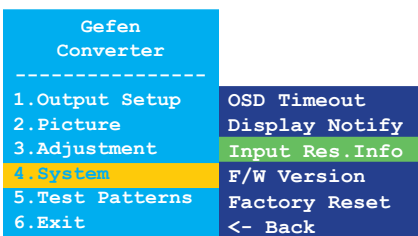


- To select the highlighted submenu item, press the **Menu** button.

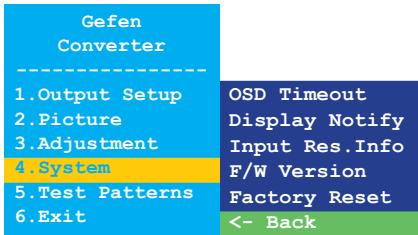
For example, if we press the **Menu** button when the **Input Res. Info** option is highlighted, the menu system will be hidden and the following will be displayed:



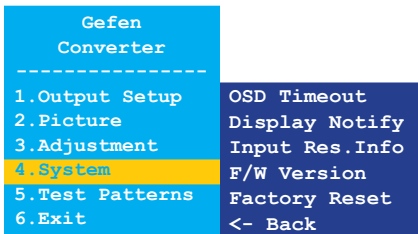
- Press the **Menu** button to return to the menu system.



9. To exit the submenu and return to the main menu, use the **Up** or **Dn** button to highlight the **<- Back** option.



10. Press the **Menu** button to return to the main menu.



11. To exit the menu system, use the **Up** or **Dn** button to highlight the **Exit** option:



12. Press the **Menu** button to select the **Exit** option.
13. The menu system is now hidden. To display the menu system again, press the **Menu** button.



Information

By default, the menu system will automatically time-out if no action is taken within 5 seconds. To exit the menu system manually (before the time-out period), highlight the **Exit** option then press the **Menu** button.

See OSD Timeout (page 32) for more information.

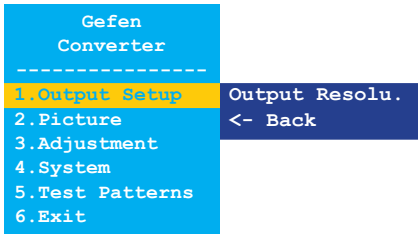
Output Resolution



Warning

Before changing this setting, make sure that the connected display can support the selected output resolution. If an unsupported resolution is selected, the unit will need to be reset using the DIP switch on the bottom of the unit. See [DIP Switch Configuration](#) (page 40) for more information.

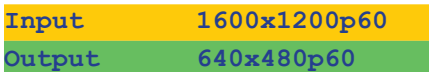
1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Press the **Menu** button to access the **Output Setup** submenu. The **Output Resolu.** option will be highlighted.
3. Press the **Menu** button to select the **Output Resolu.** option.



4. The **Output Resolu.** selection box be displayed:



5. Use the **Up** or **Dn** button to select the desired resolution. For a list of available output resolutions that are supported by the VGA to DVI Scaler/Converter, see [Menu System Summary](#) (page 44).
6. After the desired output resolution is selected, press the **Menu** button to confirm the change.
7. After the output resolution has been changed, the current input and output resolution will be displayed above the **Output Resolu.** selection box:



(continued on next page)



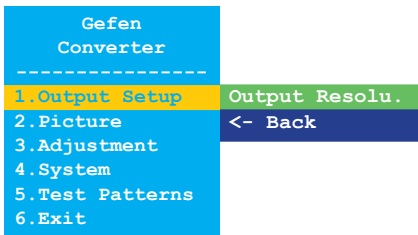
Information

The input/output resolution information dialog will only be displayed if **Display Notify** is set to On. See **Display Notify** (page 33) for more information.

8. After a few seconds, the input and output resolution information dialog will disappear.
9. The **Output Resolu.** dialog is still displayed:

Output Resolu. ◀ [640x480p60] ▶

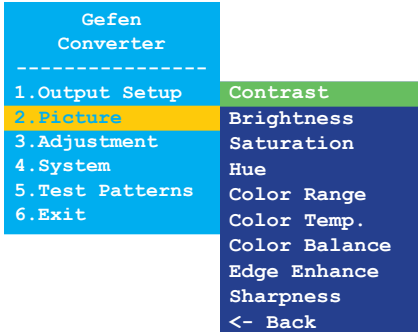
10. Press the **Menu** button to return to the **Output Setup** submenu:



11. Use the **Up** or **Dn** button to select the **<- Back** option.
12. Press the **Menu** button.
13. Use the **Up** or **Dn** button to select the **Exit** option
14. Press the **Menu** button to exit the main menu.

Contrast

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.



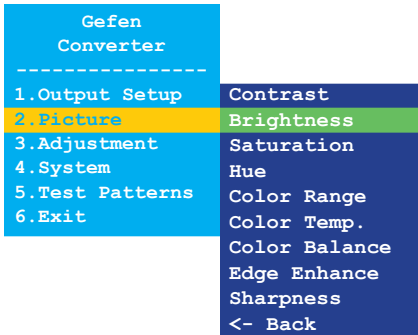
4. Press the **Menu** button to select the **Contrast** option.
5. The **Contrast** selection box will be displayed:



6. Use the **Up** or **Dn** button to set the desired contrast level.
7. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
8. Use the **Up** or **Dn** button to select the **<- Back** option.
9. Press the **Menu** button.
10. Use the **Up** or **Dn** button to select the **Exit** option
11. Press the **Menu** button to exit the main menu.

Brightness

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Brightness** option.



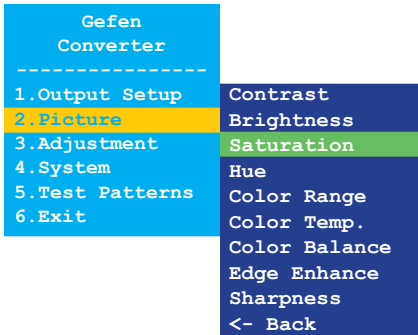
5. Press the **Menu** button to select the **Brightness** option.
6. The **Brightness** selection box will be displayed:



7. Use the **Up** or **Dn** button to set the desired brightness level.
8. Press the **Menu** button to confirm the change and return to **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Saturation

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Saturation** option.



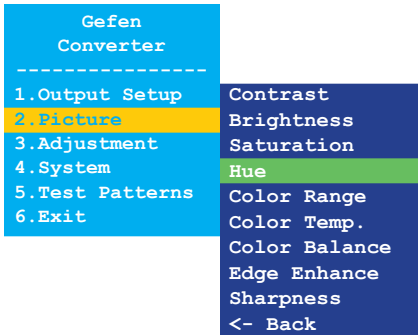
5. Press the **Menu** button to select the **Saturation** option.
6. The **Saturation** selection box will be displayed:



7. Use the **Up** or **Dn** button to set the desired saturation level.
8. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Hue

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Hue** option.



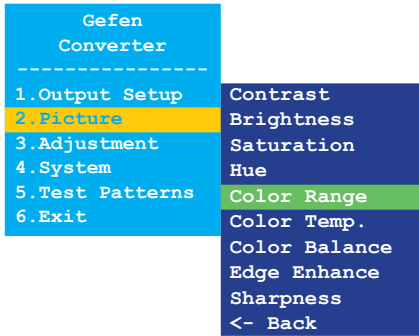
5. Press the **Menu** button to select the **Hue** option.
6. The **Hue** selection box will be displayed:



7. Use the **Up** or **Dn** button to set the desired hue.
8. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Color Range

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Color Range** option.



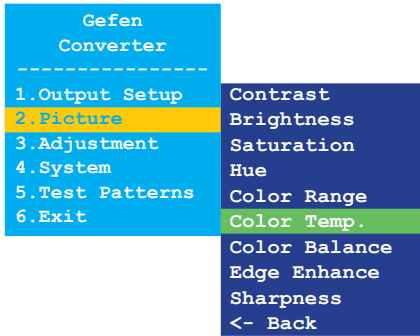
5. Press the **Menu** button to select the **Color Range** option.
6. The **Color Range** selection box will be displayed:

Color Range ◀ Limited ▶

7. Use the **Up** or **Dn** button to select between **Limited** or **Full**.
8. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Color Temperature

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Color Temp.** option.



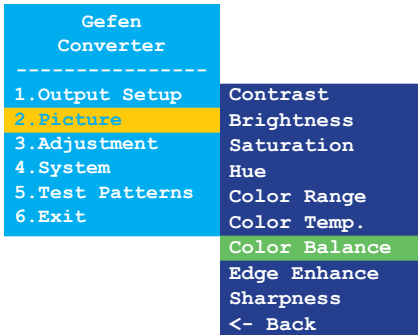
5. Press the **Menu** button to select the **Color Temp.** option.
6. The **Color Temp.** selection box will be displayed:

Color Temp. ◀ Neutral ▶

7. Use the **Up** or **Dn** button to select between **Neutral**, **Cool**, or **Warm**.
8. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Color Balance

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Color Balance** option.



5. Press the **Menu** button to select the **Color Balance** option.
6. The **Color Balance** selection box will be displayed:

Color Balance [Red Ch. 50]

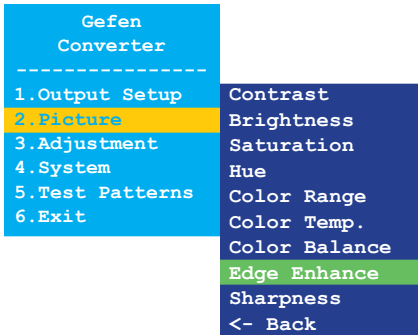
7. Use the **Up** or **Dn** button to switch between **Red Ch.**, **Blue Ch.**, and **Blue Ch.**
8. Press the **Menu** button to select the color channel to adjust.



9. Use the **Up** or **Dn** button to set the desired color balance setting.
10. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
11. Use the **Up** or **Dn** button to select the **<- Back** option.
12. Press the **Menu** button.
13. Use the **Up** or **Dn** button to select the **Exit** option
14. Press the **Menu** button to exit the main menu.

Edge Enhance

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Edge Enhance** option.



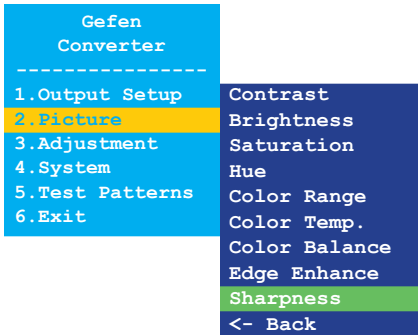
5. Press the **Menu** button to select the **Edge Enhance** option.
6. The **Edge Enhance** selection box will be displayed:

Edge Enhance ◀ [User] ▶

7. Use the **Up** or **Dn** button to select between **User**, **Off**, **Mid**, or **Max**.
8. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Sharpness

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Picture** option.
3. Press the **Menu** button to access the **Picture** submenu. The **Contrast** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Sharpness** option.



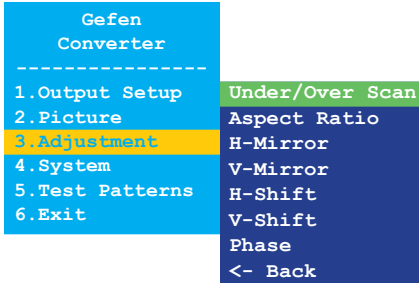
5. Press the **Menu** button to select the **Sharpness** option.
6. The **Sharpness** selection box will be displayed:



7. Use the **Up** or **Dn** button to set the sharpness level. Larger values increase the sharpness of the image.
8. Press the **Menu** button to confirm the change and return to the **Picture** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Underscan/Overscan

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.



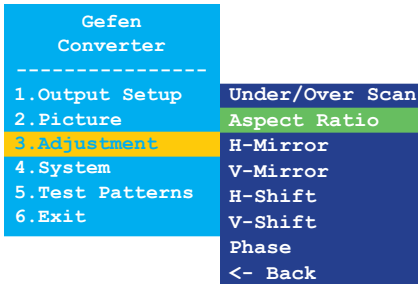
4. Press the **Menu** button to select the **Under/Over Scan** option.
5. The **Under/Over Scan** selection box will be displayed:



6. Use the **Up** or **Dn** button to set the amount of overscan or underscan. Negative values increase the amount of *underscan*. Positive values increase the amount of *overscan*.
7. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
8. Use the **Up** or **Dn** button to select the **<- Back** option.
9. Press the **Menu** button.
10. Use the **Up** or **Dn** button to select the **Exit** option
11. Press the **Menu** button to exit the main menu.

Aspect Ratio

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Aspect Ratio** option.



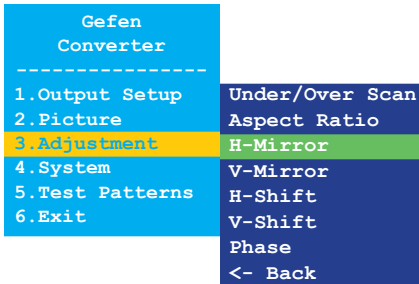
5. Press the **Menu** button to select the **Aspect Ratio** option.
6. The **Aspect Ratio** selection box will be displayed:

Aspect Ratio ◀ [Source] ▶

7. Use the **Up** or **Dn** button to select between **Source**, **16:9**, **4:3**, or **Stretch**.
8. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Horizontal Mirror

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **H-Mirror** option.



5. Press the **Menu** button to select the **H-Mirror** option.
6. The **H-Mirror** selection box will be displayed:



7. Use the **Up** or **Dn** button to toggle between **On** and **Off**. When the **H-Mirror** option is set to **On**, then the picture will be flipped horizontally (about the Y-axis).

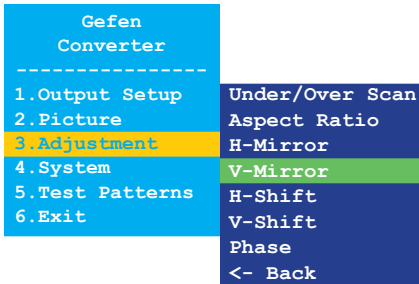


(continued on next page)

8. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Vertical Mirror

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **V-Mirror** option.



5. Press the **Menu** button to select the **V-Mirror** option.
6. The **V-Mirror** selection box will be displayed:



7. Use the **Up** or **Dn** button to toggle between **On** and **Off**. When the **V-Mirror** option is set to **On**, then the picture will be flipped vertically (about the X-axis).

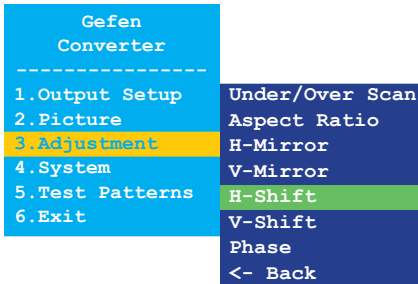


(continued on next page)

8. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Horizontal Shift

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **H-Shift** option.



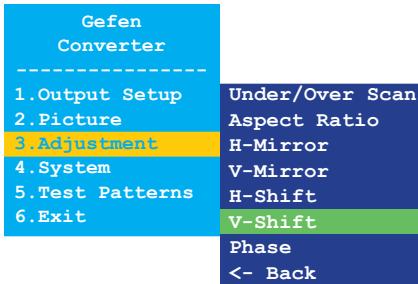
5. Press the **Menu** button to select the **H-Shift** option.
6. The **H-Shift** selection box will be displayed:



7. Use the **Up** or **Dn** button to shift the picture to the left or to the right. Negative values, move the image to the left. Positive values move the image to the right.
8. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Vertical Shift

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **V-Shift** option.



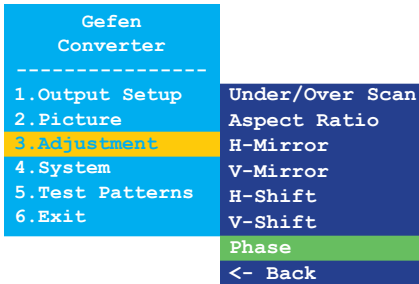
5. Press the **Menu** button to select the **V-Shift** option.
6. The **V-Shift** selection box will be displayed:



7. Use the **Up** or **Dn** button to shift the picture up or down. Negative values, move the image upwards. Positive values move the image downwards.
8. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Phase

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Adjustment** option.
3. Press the **Menu** button to access the **Adjustment** submenu. The **Under/Over Scan** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Phase** option.



5. Press the **Menu** button to select the **Phase** option.
6. The **Phase** selection box will be displayed:



7. Use the **Up** or **Dn** button to adjust the phase.
8. Press the **Menu** button to confirm the change and return to the **Adjustment** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

OSD Timeout

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **System** option.
3. Press the **Menu** button to access the **System** submenu. The **OSD Timeout** option will be highlighted.

Gefen Converter	

1.Output Setup	OSD Timeout
2.Picture	Display Notify
3.Adjustment	Input Res.Info
4.System	F/W Version
5.Test Patterns	Factory Reset
6.Exit	<- Back

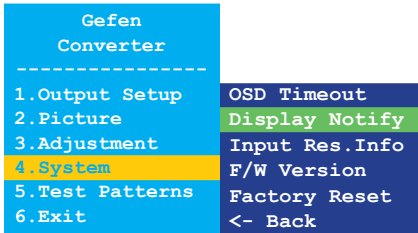
4. Press the **Menu** button to select the **OSD Timeout** option.
5. The **OSD Timeout** selection box will be displayed:

OSD Timeout ◀ 5sec ▶

6. Use the **Up** or **Dn** button to set the OSD timeout to **Off** or from any time interval between 5 and 60 seconds, inclusive. The default setting is 5 seconds.
7. Press the **Menu** button to confirm the change and return to the **System** submenu.
8. Use the **Up** or **Dn** button to select the **<- Back** option.
9. Press the **Menu** button.
10. Use the **Up** or **Dn** button to select the **Exit** option
11. Press the **Menu** button to exit the main menu.

Display Notify

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **System** option.
3. Press the **Menu** button to access the **System** submenu. The **OSD Timeout** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Display Notify** option.



5. Press the **Menu** button to select the **Display Notify** option.
6. The **Display Notify** selection box will be displayed:

Display Notify ◀ [On] ▶

Use the **Up** or **Dn** button to toggle between **On** and **Off**. When **Display Notify** is set to **On**, then the input/output resolution information dialog will be displayed, momentarily, whenever the VGA to DVI Scaler/Converter is disconnected from the source or display:

Input	1600x1200p60
Output	640x480p60

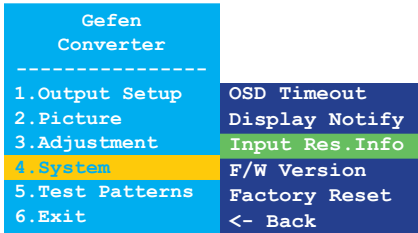
In addition, setting the **Output Resolution** (page 12) also triggers the input/output resolution information dialog. When set to **Off**, the input/output resolution information dialog is never displayed.

(continued on next page)

8. Press the **Menu** button to confirm the change and return to the **System** submenu.
9. Use the **Up** or **Dn** button to select the **<- Back** option.
10. Press the **Menu** button.
11. Use the **Up** or **Dn** button to select the **Exit** option
12. Press the **Menu** button to exit the main menu.

Input Resolution Information

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **System** option.
3. Press the **Menu** button to access the **System** submenu. The **OSD Timeout** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Input Res. Info** option.



5. Press the **Menu** button to select the **Input Res. Info** option.
6. The current input resolution will be displayed in the **Input Res. Info** box.

Input Res. Info ◀ [1600x1200p60] ▶

7. Press the **Menu** button to return to the **System** submenu.
8. Use the **Up** or **Dn** button to select the **<- Back** option.
9. Press the **Menu** button.
10. Use the **Up** or **Dn** button to select the **Exit** option
11. Press the **Menu** button to exit the main menu.

F/W Version

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **System** option.
3. Press the **Menu** button to access the **System** submenu. The **OSD Timeout** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **F/W Version** option.

Gefen Converter	

1.Output Setup	OSD Timeout
2.Picture	Display Notify
3.Adjustment	Input Res.Info
4.System	F/W Version
5.Test Patterns	Factory Reset
6.Exit	<- Back

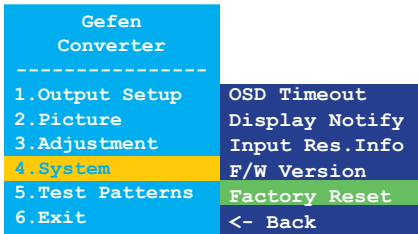
5. Press the **Menu** button to select the **F/W Version** option.
6. The current version of firmware will be displayed in the **F/W Version** box.

F/W Version ◀ [V1.012] ▶

7. Press the **Menu** button to return to the **System** submenu.
8. Use the **Up** or **Dn** button to select the **<- Back** option.
9. Press the **Menu** button.
10. Use the **Up** or **Dn** button to select the **Exit** option
11. Press the **Menu** button to exit the main menu.

Factory Reset

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **System** option.
3. Press the **Menu** button to access the **System** submenu. The **OSD Timeout** option will be highlighted.
4. Use the **Up** or **Dn** button to highlight the **Factory Reset** option.



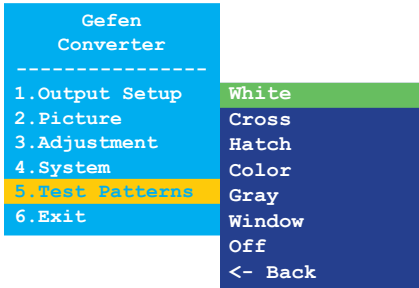
5. Press the **Menu** button to select the **Factory Reset** option.
6. The **Factory Reset** selection box will be displayed.



7. Use the **Up** or **Dn** button to toggle between **No** and **Yes**.
 - ▶ If **Yes** is selected, then the VGA to DVI Scaler/Converter will reset to factory-default settings and will automatically reboot.
 - ▶ If **No** is selected, then the VGA to DVI Scaler/Converter will return to the **System** submenu.
 - a. Use the **Up** or **Dn** button to select the **<- Back** option.
 - b. Press the **Menu** button.
 - c. Use the **Up** or **Dn** button to select the **Exit** option.
 - d. Press the **Menu** button to exit the main menu.

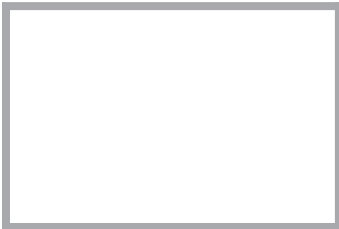
Test Patterns

1. Press the **Menu** button on the front panel. The **Output Setup** option will be highlighted.
2. Use the **Up** or **Dn** button to highlight the **Test Patterns** option.
3. Press the **Menu** button to access the **Test Patterns** submenu. The **White** option will be highlighted.

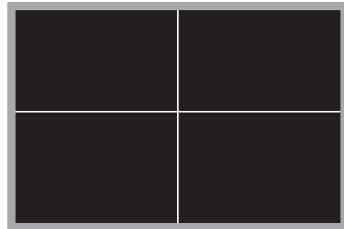


4. Use the **Up** or **Dn** button to highlight the desired test pattern.
5. Press the **Menu** button to select the highlighted test pattern.

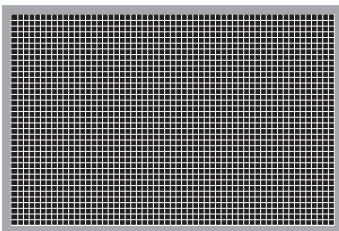
White



Cross



Hatch



Color

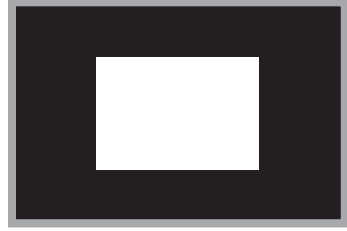


(continued on next page)

Gray



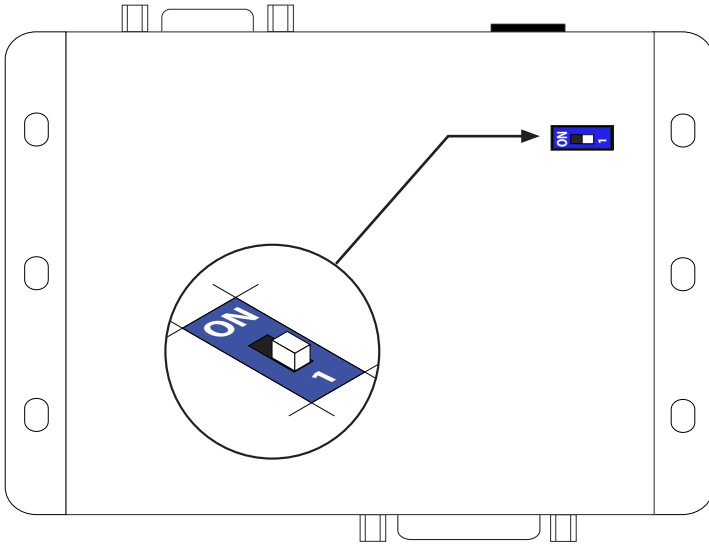
Window



6. Press the **Menu** button to return to the **Test Patterns** submenu and select a different pattern.
7. To disable the pattern and view the source image, select **Off** from the **Test Patterns** submenu.

DIP Switch Configuration

On the bottom panel of the VGA to DVI Scaler/Converter is a single DIP switch. Remove the piece of colored tape to reveal the DIP switch bank.



By default, the DIP switch is in the OFF (1) position. The DIP switch should remain in this position during normal operation.

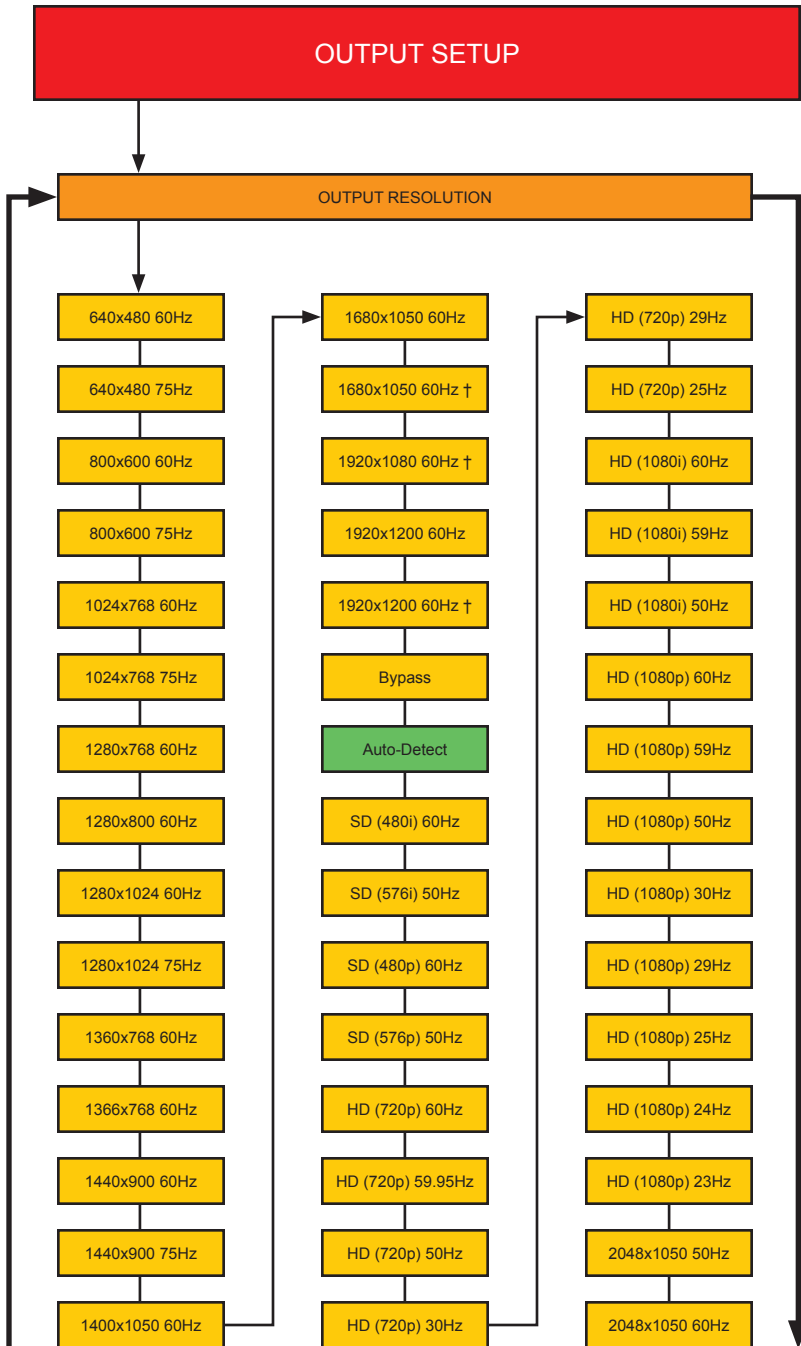
DIP Switch	Description	
1	<p>Factory reset</p> <ul style="list-style-type: none">Toggle the DIP switch from the OFF (1) position to the ON position, then back to the OFF (1) position.	A vertical DIP switch with a blue top section labeled 'ON' and a white bottom section labeled '1'. The switch is currently in the 'ON' position, with the white tab on the left side.
	<p>Normal Operation</p> <ul style="list-style-type: none">DIP switch is in the OFF (1) position.	A vertical DIP switch with a blue top section labeled 'ON' and a white bottom section labeled '1'. The switch is currently in the 'OFF' position, with the white tab on the right side.

This page left intentionally blank.

This page left intentionally blank.

VGA to DVI Scaler/Converter

3 Appendix





Important

Note the following frequency information:

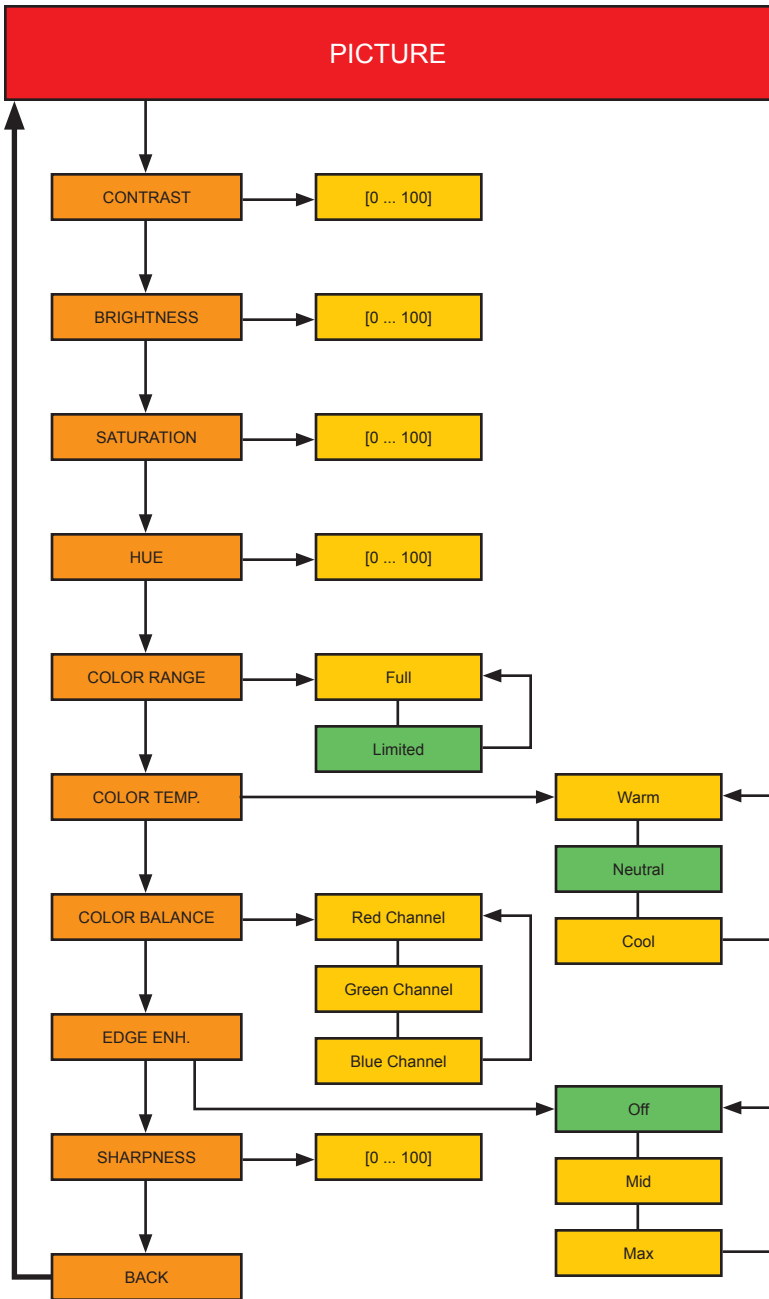
23 Hz = 23.98 Hz

29 Hz = 29.97 Hz

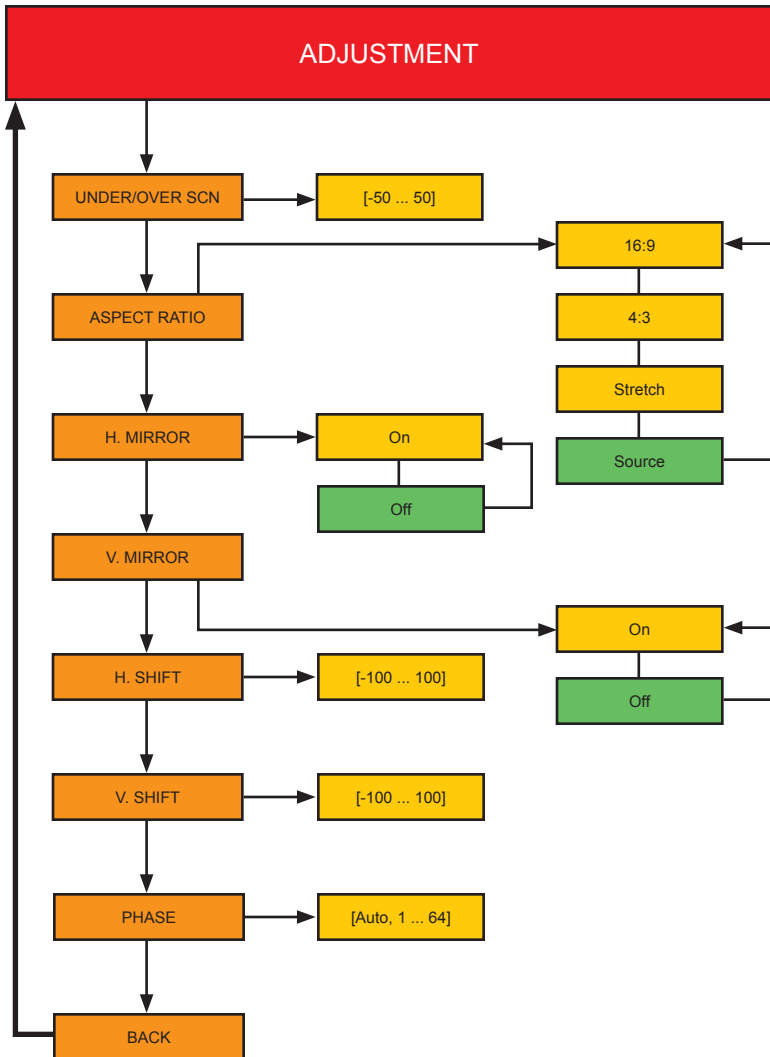
59 Hz = 59.94 Hz

† Denotes output resolution that supports reduced blanking.

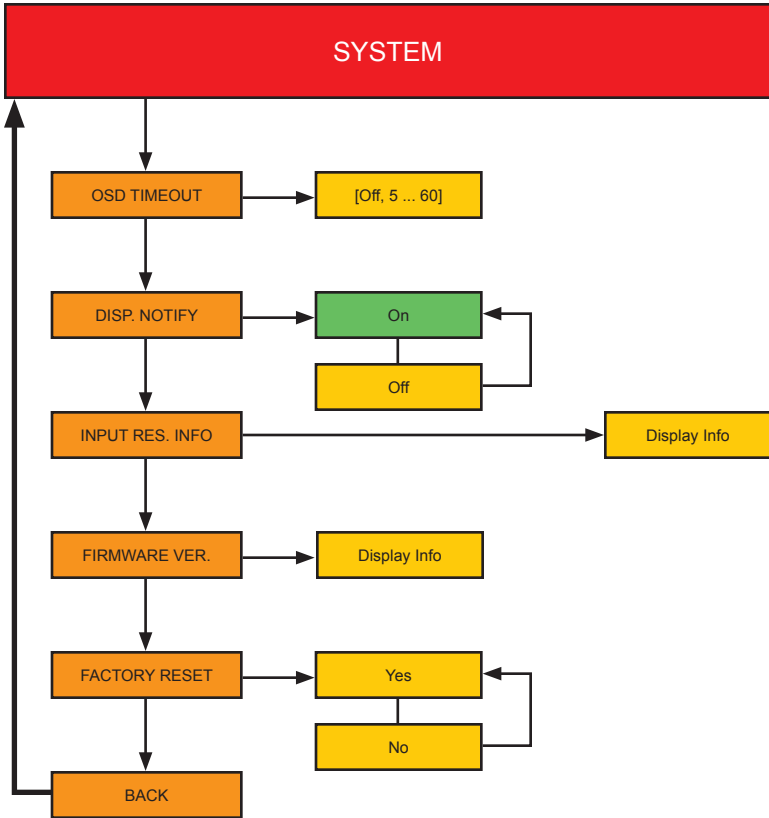
Boxes in green indicate the default setting.



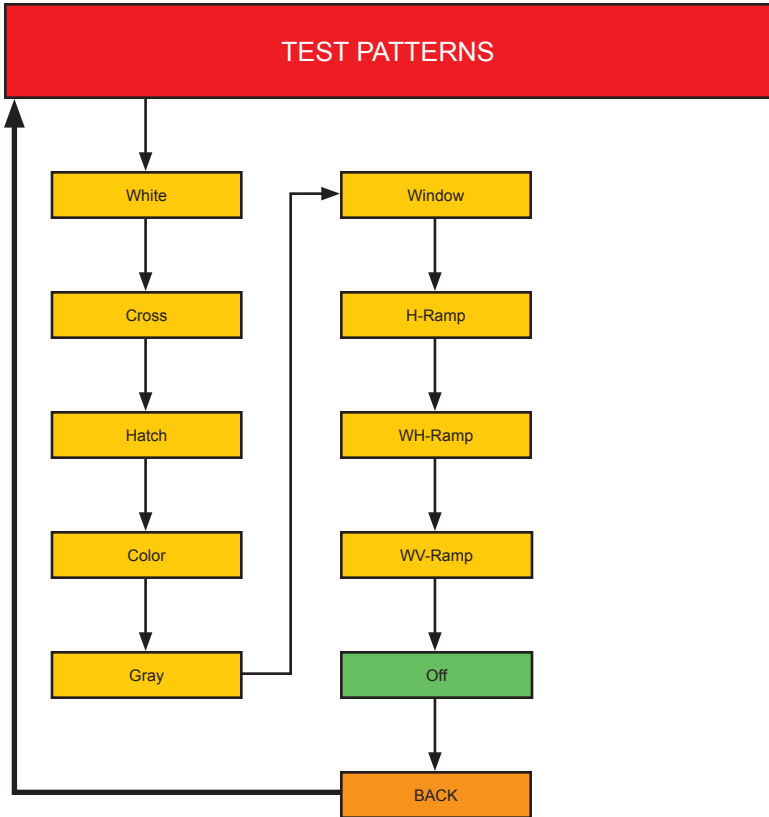
Boxes in green indicate the default setting.



Boxes in green indicate the default setting.



Boxes in green indicate the default setting.



Boxes in green indicate the default setting.

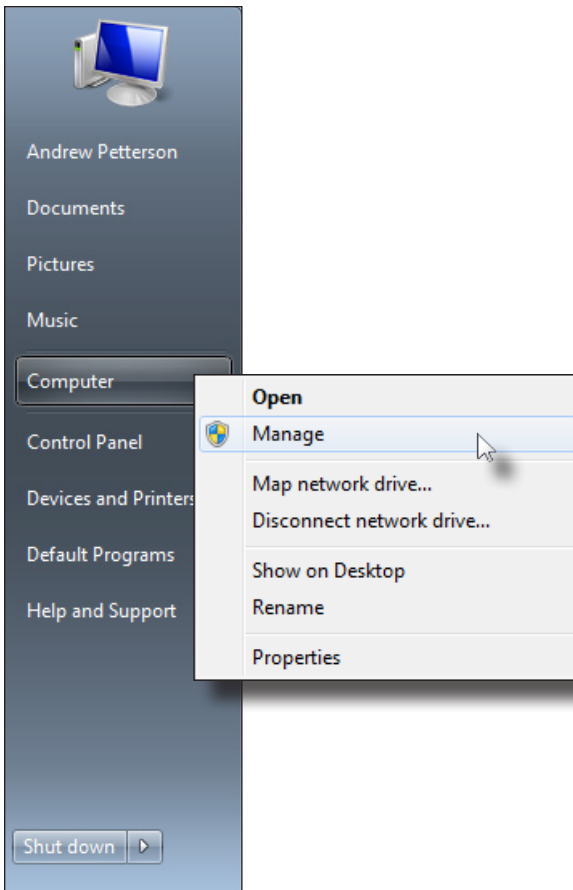


Setting	Value
Aspect Ratio	Source
Brightness	50
Color Balance (Blue Channel)	50
Color Balance (Green Channel)	50
Color Balance (Red Channel)	50
Color Range	Limited
Color Temperature	Neutral
Contrast	50
Display Notifications	On
Edge Enhancement	Off
Horizontal Mirror	Off
Horizontal Shift	Off
Hue	50
OSD Timeout	5 seconds
Output Resolution	Auto-Detect
Phase	Auto
Saturation	50
Sharpness	0
Test Patterns	Off
Under/Over Scan	Off
Vertical Mirror	Off
Vertical Shift	Off

Installing the Virtual COM Port

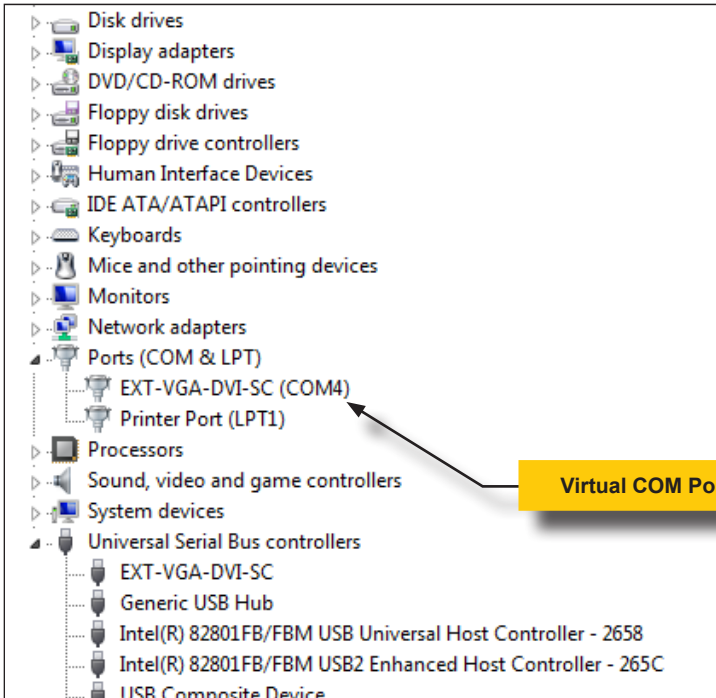
In order to control the VGA to DVI Scaler/Converter using the Syner-G™ Software Suite, a virtual COM port must be installed on the computer that is connected to the VGA to DVI Scaler/Converter.

1. Install the Gefen Syner-G™ Software Suite. This software is available under the **Support > Downloads** section of the Gefen website.
2. Connect a mini-USB-to-USB cable (not included) from the **USB** port on the VGA to DVI Scaler/Converter to an available USB port on the host computer.
3. From the Windows Desktop, click the **Start** button, select **Computer**, then right-click on **Manage**.



6. The **Computer Management** window will open.
7. In the left window pane, under **System Tools**, click **Device Manager**.
8. In the right window pane, locate **Ports (COM & LPT)**. The device **EXT-VGA-DVI-SC** will be displayed along with the COM port.

Use this COM port when configuring the terminal program (e.g. Hyperterminal).



Set the terminal program to the following:

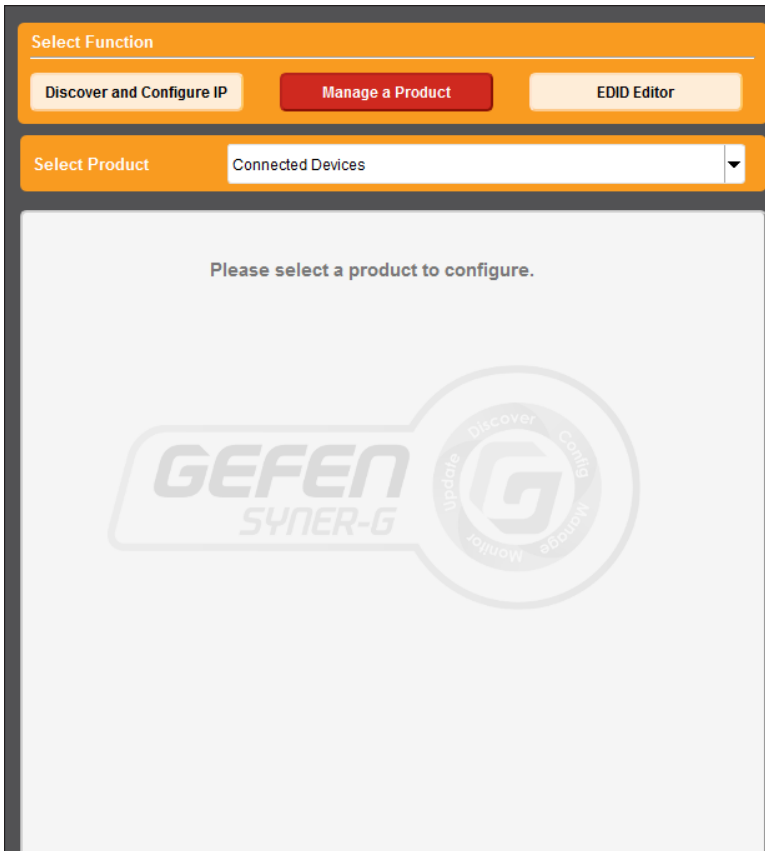
Description	Setting
Baud rate	19200
Data bits	8
Parity	None
Stop bits	1
Hardware flow control	None

The Syner-G™ Software Suite provides an easy way to perform firmware updates. Before launching Syner-G™, make sure that a USB cable is connected between the product and the computer that is running the Syner-G™ software. Refer to the Syner-G™ Software Suite User Manual for more information on using other features with this product.

1. Launch the Syner-G™ Software Suite from the Start Menu or using the shortcut from the Windows Desktop.



2. Click the **Manage a Product** button.



3. Select the product from the **Select your product** drop-down list.



If the product is not detected by Syner-G™, then the product will not be listed in bold type, within the **Select your product** drop-down list. Verify the following:

- ▶ The VGA to DVI Scaler/Converter is connected to the computer that is running the Syner-G™ Software Suite, using a USB-to-Mini USB cable.
- ▶ Make sure that the virtual COM port is installed and functioning correctly under Control Panel. See [Installing the Virtual COM Port \(page 51\)](#) for more information.

4. Click the arrow button next to the **Timings** tab until the **Update** tab is displayed.

The screenshot shows the 'Timings' tab selected in the navigation bar. The interface includes a 'Select Function' section with buttons for 'Discover and Configure IP', 'Manage a Product', and 'EDID Editor'. Below this is a 'Select Product' dropdown menu set to 'VGA to DVI Scaler, COM15'. The 'Output Resolution' is currently set to 'HD (1080p) 60Hz', with a 'Refresh' button next to it. A grid of resolution options is displayed below, including 640x480, 800x600, and 1024x768 at various refresh rates, as well as 1680x1050 and 1920x1080/1200 at various refresh rates. A mouse cursor is pointing at the right arrow button of the 'Timings' tab.

The screenshot shows the 'Update' tab selected in the navigation bar. The interface includes a 'Select Function' section with buttons for 'Discover and Configure IP', 'Manage a Product', and 'EDID Editor'. Below this is a 'Select Product' dropdown menu set to 'VGA to DVI Scaler, COM15'. The 'Update Method' is set to 'USB Serial'. The 'Current Firmware' and 'Latest Firmware' are both displayed as '1.019'. A 'Check at Startup Enabled' button is visible. The 'Last Checked' timestamp is 'Mon Nov 2 16:37:05 2015', with a 'Check for Latest Update' button next to it. A text area displays release notes for version 1.017, dated December 18, 2014, noting it as the first production firmware release. A mouse cursor is pointing at the right arrow button of the 'Update' tab.

- Click the **Start** button to begin downloading the firmware.

Select Function

Discover and Configure IP Manage a Product EDID Editor

Select Product: VGA to DVI Scaler, COM15

Adjust System Test Patterns Timings Manage EDID Update

Product: VGA to DVI Scaler Update Method: USB Serial

Current Firmware: 1.019 Latest Firmware: 1.019 Check at Startup Enabled

Last Checked: Mon Nov 2 16:37:05 2015 Check for Latest Update

```
//=====
Release Notes Version 1.017 --- Decemeber 18, 2014
//=====

- First production firmware release
```

Product Options

None

Download and Install

Download Latest Version to Gefen Syner-G Start

0% Install

Download to Computer Save

Install from File

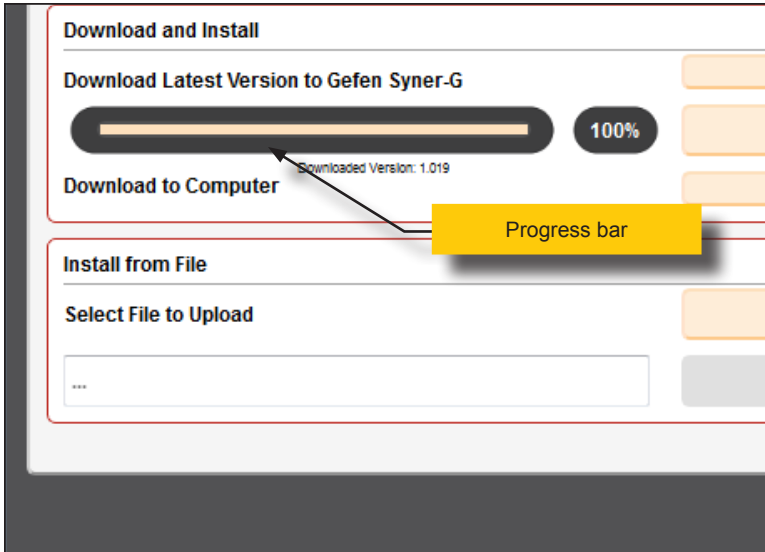
Select File to Upload Browse

... Install

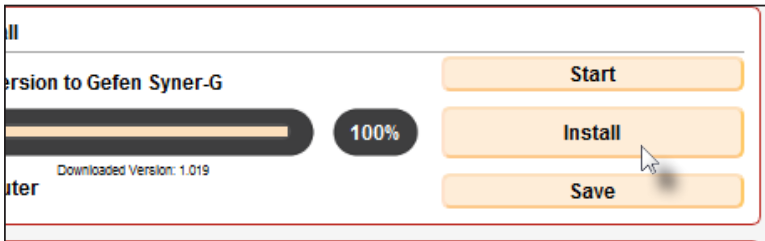
The Syner-G™ Software Suite will automatically download the firmware file for the selected product. This process should take a few seconds.

Once the download process has completed, the progress bar will indicate 100%, as shown on the next page.

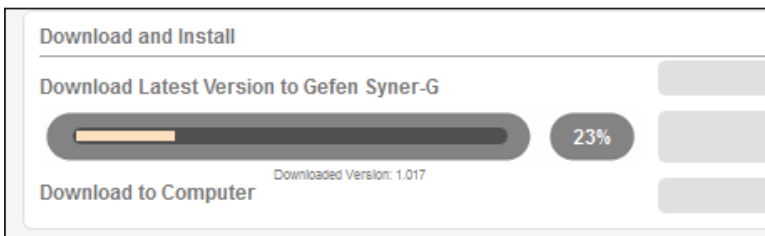
A message will also appear at the bottom of the window, indicating that the firmware file was successfully downloaded.



- Click the **Install** button to begin installing the software.



- The installation process will begin and the progress bar will indicate the current status.

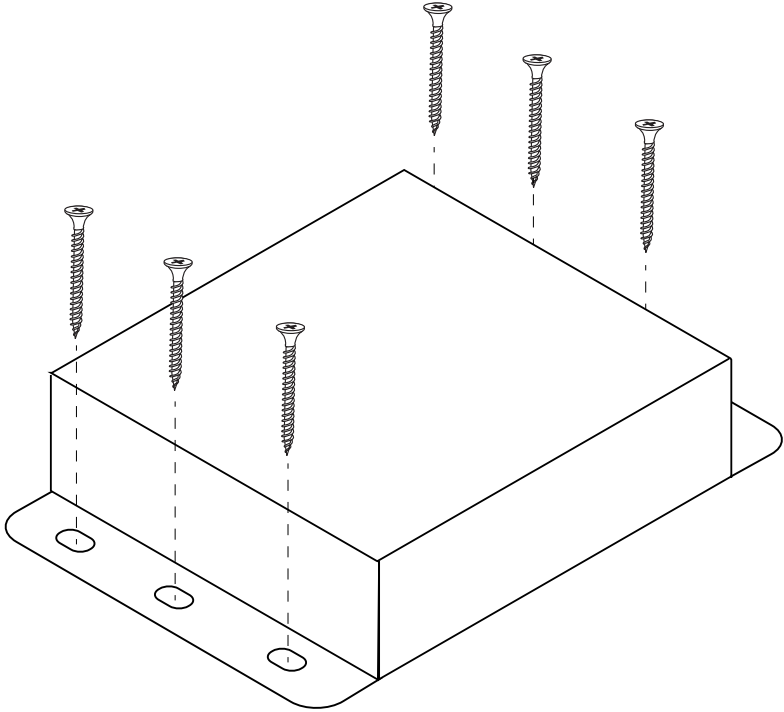


- The firmware update process is completed.

Surface Mounting Instructions

The VGA to DVI Scaler/Converter can be mounted on any flat surface, as shown below (screws not included). There should be an inch or two of clearance between the edges of the unit and any walls or vertical surfaces to allow for enough clearance for connection and disconnection of the video cables.

For installation on a drywall surface, use a #6 drywall screw. When installing, it is recommended to use the center hole on a stud.



Connectors, Controls, and Indicators

Video Input	<ul style="list-style-type: none"> • 1 x VGA HD-15, female
Video Output	<ul style="list-style-type: none"> • 1 x DVI 29-pin, female (digital only)
Power Receptacle	<ul style="list-style-type: none"> • 3-pin, locking
USB	<ul style="list-style-type: none"> • 1 x USB Mini-B, female
Menu	<ul style="list-style-type: none"> • 1 x push button, tact-type
Up	<ul style="list-style-type: none"> • 1 x push button, tact-type
Dn	<ul style="list-style-type: none"> • 1 x push button, tact-type
Power Indicator	<ul style="list-style-type: none"> • 1 x LED, blue

Operational

Maximum Pixel Clock	<ul style="list-style-type: none"> • 165 MHz
Maximum TMDS Clock	<ul style="list-style-type: none"> • 165 MHz
Power Input	<ul style="list-style-type: none"> • 12V DC (nominal) 6V to 24V operating range
Power Consumption	<ul style="list-style-type: none"> • 2W (max.)
Operating Temperature	<ul style="list-style-type: none"> • +32 to +122 °F (0 to +50 °C)
Operating Humidity	<ul style="list-style-type: none"> • 5% to 90% RH, non-condensing
Storage Temperature	<ul style="list-style-type: none"> • -4 to +185 °F (-20 to +85 °C)
Storage Humidity	<ul style="list-style-type: none"> • 0% to 95% RH, non-condensing
MTBF	<ul style="list-style-type: none"> • 50000 Hours

Physical

Dimensions (W x H x D)	<ul style="list-style-type: none"> • 4.9" x 1" x 3.2" (123mm x 26mm x 82mm)
Unit Weight	<ul style="list-style-type: none"> • 0.4 lbs (0.2 kg)

A

Aspect ratio 24

B

Brightness 15

C

Color

balance 20

range 18

saturation 16

temperature 19

COM port

installing 51

Contrast 14

D

Default settings 50

Display notify 33

E

Edge enhance 21

F

Factory reset. *See* Resetting the unit

Features *vi*

Firmware

displaying 36

updating 53

H

Horizontal mirror 25

Horizontal shift 29

Hue 17

I

Input resolution 35

Installation 4

M

Menu system

displaying 8

summary 44

using 9

Mirror

horizontal 25

vertical 27

Mounting Instructions 58

O

Operating Notes *v*

OSD timeout 32

Output

resolution 12

Overscan 23

P

Packing list *vi*

Phase 31

Pixel

active. See Active pixels

Porch

back. See Back porch

front. See Front porch

R

Resolution. *See* Output: resolution

input 35

S

Safety Instructions *ii*

Saturation. *See* Color: saturation

Sharpness 22

Shift

horizontal 29

vertical 30

Specifications 59

T

Table of Contents *viii*

Technical Support *iv*

Test patterns **38**

U

Underscan **23**

Updating the firmware **53**

USB interface **51**

COM port. See COM port: installing

V

Vertical mirror **27**

Vertical shift **30**

Video settings. *See Settings: video*

W

Warranty Information *iii*



20600 Nordhoff St., Chatsworth CA 91311
1-800-545-6900 818-772-9100 fax: 818-772-9120
www.gefen.com support@gefen.com