3GSDI to HDMI Converter

EXT-3G-HD-C

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 unit 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 unit 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 unit.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this unit, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this unit to rain or moisture.
13. Unplug this unit during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the unit 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 unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this unit and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

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

- Always make sure that the 3GSDI to HDMI 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/support/download.jsp

- SDI audio will be embedded in the HDMI signal.

3GSDI to HDMI Converter is a trademark of Gefen, LLC.

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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 SDI to HDMI
- Input resolutions up to 1080p60
- Output resolutions up to 1080p Full HD
- HDMI (YCbCr 4:4:4) or DVI (RGB 4:4:4) output modes
- Supports 3G-SDI Levels A and B, Single-Link HD-SDI, and SD-SDI
- Supports up to 10 bit color on input and output
- Up to LPCM 7.1 audio support
- Field configurable via DIP switch settings
- Mini USB port for use with Gefen Syner-G™ for in-field firmware updates
- Wide power supply operating range (6V to 24V DC)
- Locking power supply connector
- 1/4-20 industry-standard camera gear attachment thread on bottom
- Surface-mountable using the included detachable bracket

HIGH-DEFINITION MULTIMEDIA INTERFACE

Packing List

The 3GSDI to HDMI 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 3GSDI to HDMI Converter
- 1 x Surface Mounting Bracket
- 1 x 12V Power Supply
- 1 x Quick-Start Guide

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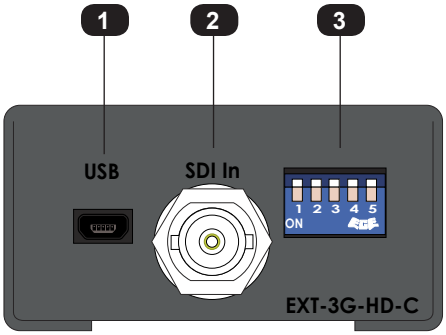
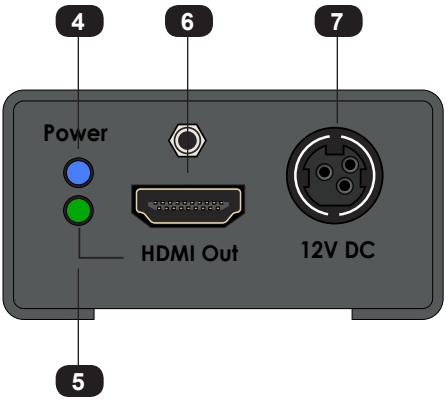
3GSDI to HDMI Converter

1 Getting Started


1
2
3
USB
SDI In
1 2 3 4 5
ON
EXT-3G-HD-C

GEFEN
3GSDI to HDMI
Converter


4
6
7
Power
HDMI Out
12V DC
5

ID	Name	Description
1	USB	This mini-USB port is used for upgrading the firmware and controlling the product using the Syner-G™ Software Suite. See USB Interface (page 12) and the User Manual for the Syner-G™ Software Suite for more information.
2	SDI In	Connect a BNC cable from the SDI source to this port.
3	DIP switches	Use these DIP switches to set the operating mode of the converter. See DIP Switches (page 8) for more information.
4	Power	When the 3GSDI to HDMI Converter is powered, this LED indicator will glow solid blue. When power is disconnected, this LED indicator will turn off.
5	HDMI Out (Indicator)	This LED indicator will glow solid green when an HDMI cable is connected to the **HDMI** port. If the HDMI cable is disconnected, then this LED indicator will turn off.
6	HDMI Out	Connect an HDMI cable from this port to an HD display.
7	12V DC	Connect the included 12V DC power supply to this power receptacle.

Connection Instructions

► **Video**

1. Connect a BNC cable from the SDI source to the **SDI In** port on the 3GSDI to HDMI Converter.

2. Connect an HDMI cable from an HD display to the **HDMI Out** port on the 3GSDI to HDMI Converter.

> **Information**
>
> SDI audio will be embedded in the HDMI signal.

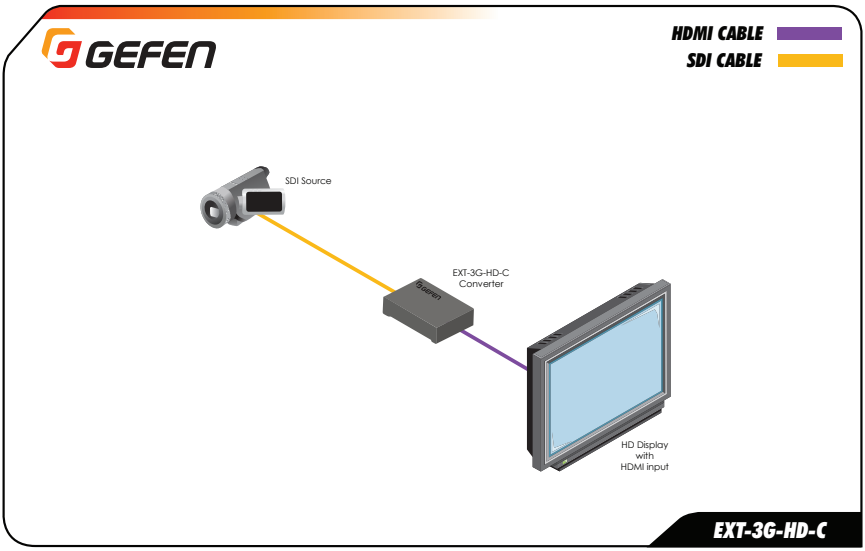
► **USB (optional Syner-G™ software control)**

3. Connect a USB-to-mini USB cable from the HDMI to 3GSDI Converter to a computer that is running the Syner-G™ Software Suite. To complete this portion of the installation, see Verifying the USB Driver (page 12). 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



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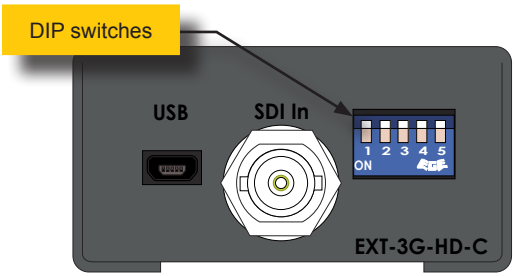
3GSDI to HDMI Converter

2 Basic Operation

DIP Switches

The 3GSDI to HDMI Converter comes uses a bank of five DIP switches to control audio output, color depth, EDID, and video modes.



DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	Description
ON	-	-	-	-	Auto EDID mode on
OFF	-	-	-	-	Auto EDID mode off
-	ON	-	-	-	HDMI mode
-	OFF	-	-	-	DVI mode
-	-	ON	-	-	10-bit color depth
-	-	OFF	-	-	8-bit color depth
-	-		OFF	OFF	No Audio
	-	-	OFF	ON	2-channel audio
-	-	-	ON	OFF	6-channel audio
-	-	-	ON	ON	8-channel audio

DTS-HD Master Audio™ and Dolby® TrueHD are not supported.

Indicates factory-default settings.

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3GSDI to HDMI Converter

3 Appendix

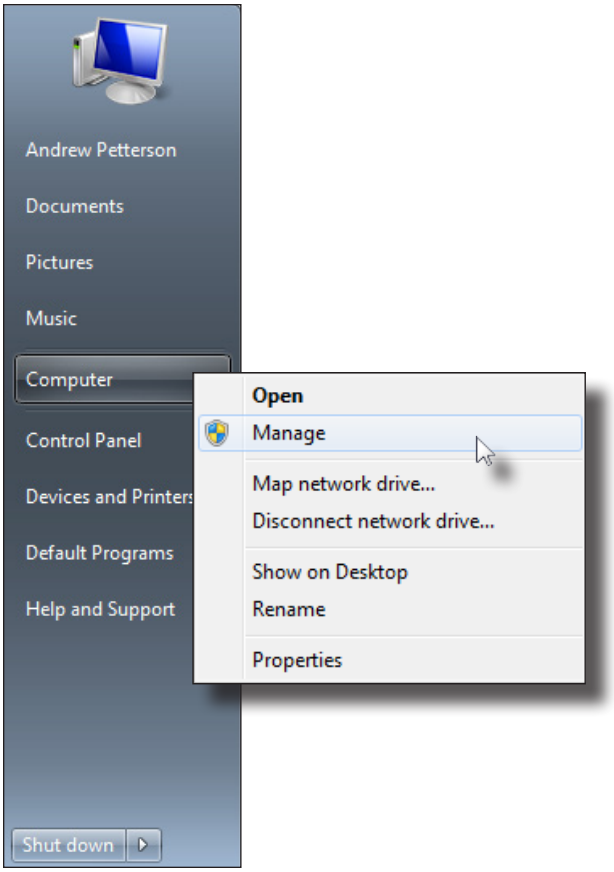
Verifying the USB Driver

In order to control the 3GSDI to HDMI Converter using the Syner-G™ Software Suite, a USB driver must be installed on the computer that is connected to the 3GSDI to HDMI Converter. The driver is automatically installed when the Syner-G™ Software Suite is installed.

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 3GSDI to HDMI 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**.

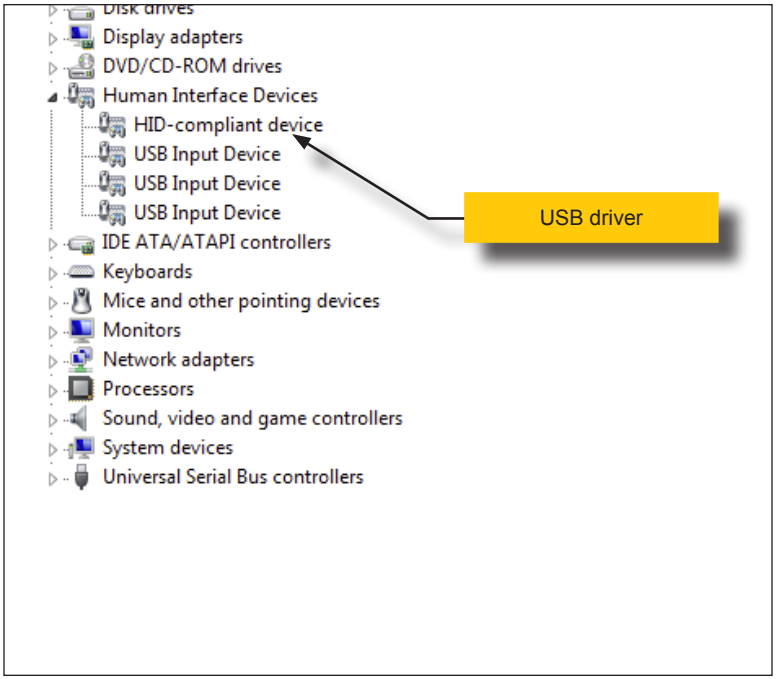


4. The **Computer Management** window will open.

5. In the left window pane, under **System Tools**, click **Device Manager**.

6. In the right window pane, locate **Human Interface Devices**.
   The device `HID-compliant device` will be displayed

   This indicates that the HDMI to 3GSDI Converter has been detected.

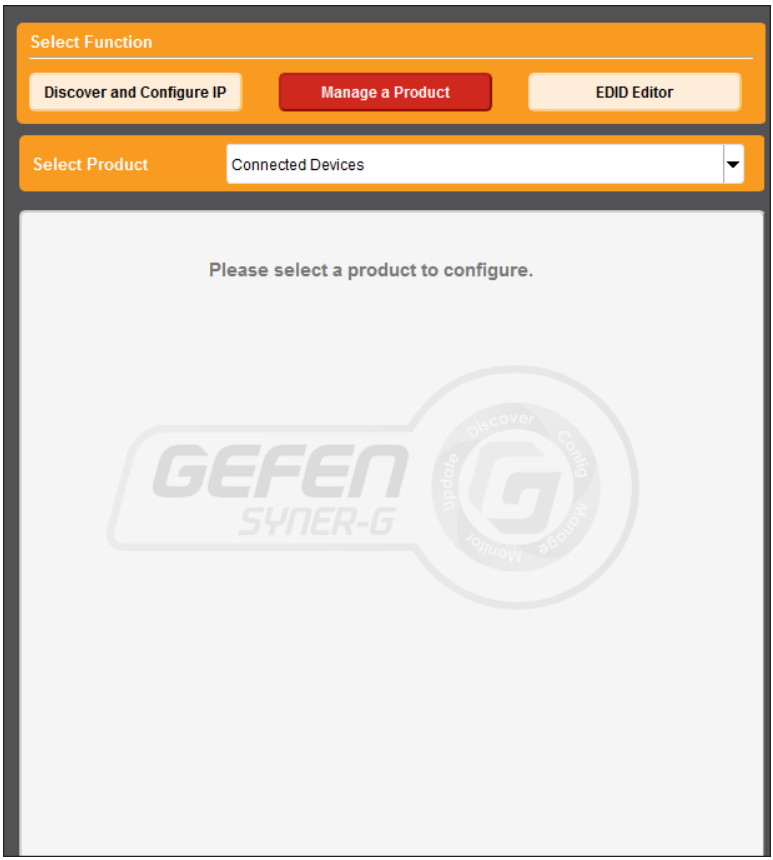


Updating the Firmware

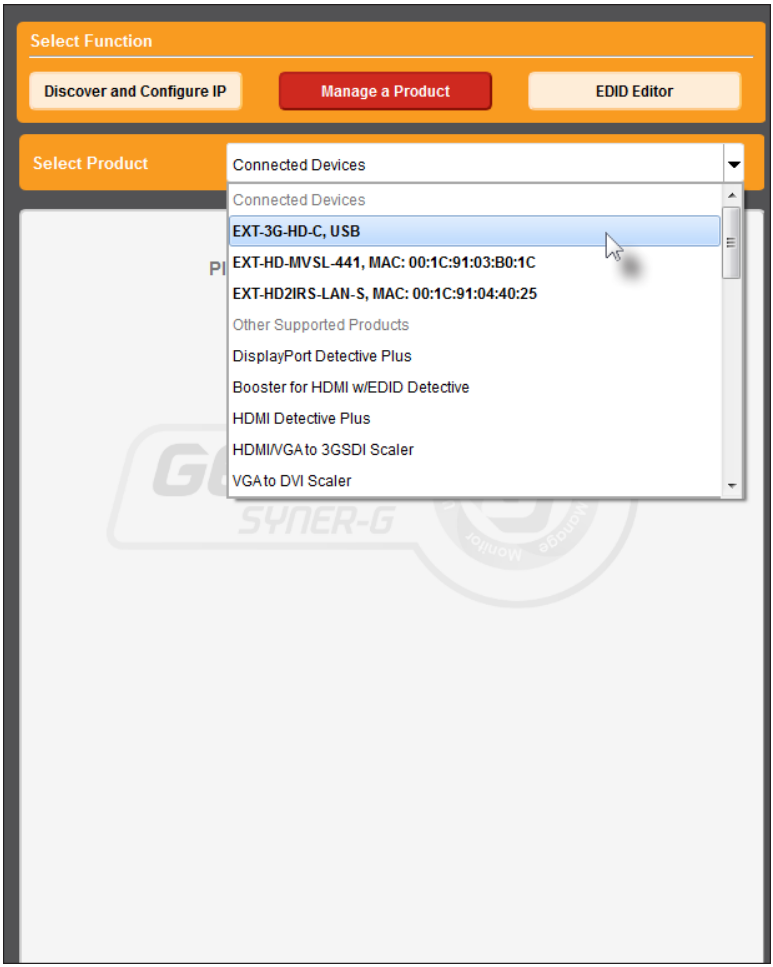
The Syner-G™ Software Suite provides an easy way to perform firmware updates. Before launching Syner-G™, makre sure that a USB cable is connected between the product and the computer that is running the Syner-G™ software. Refer to the Syner-G™ Software Suite User Manual for more information on using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



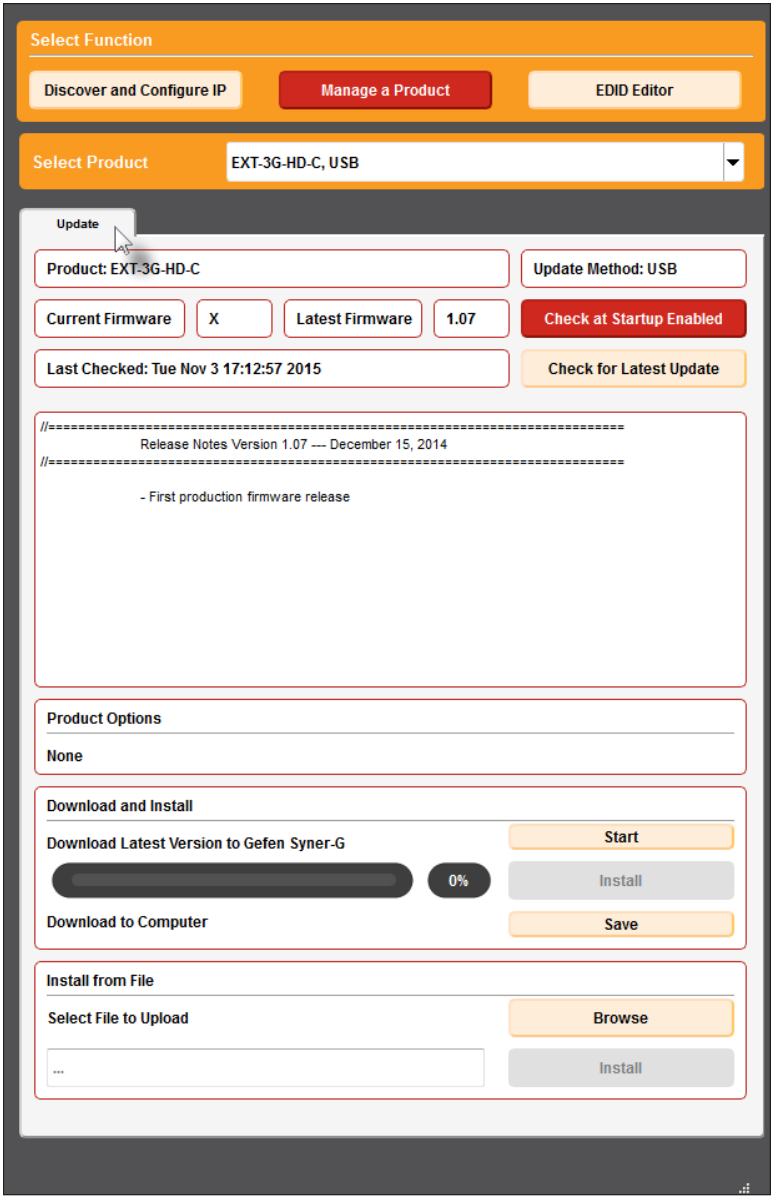
3. Select the product from the **Select your product** drop-down list.



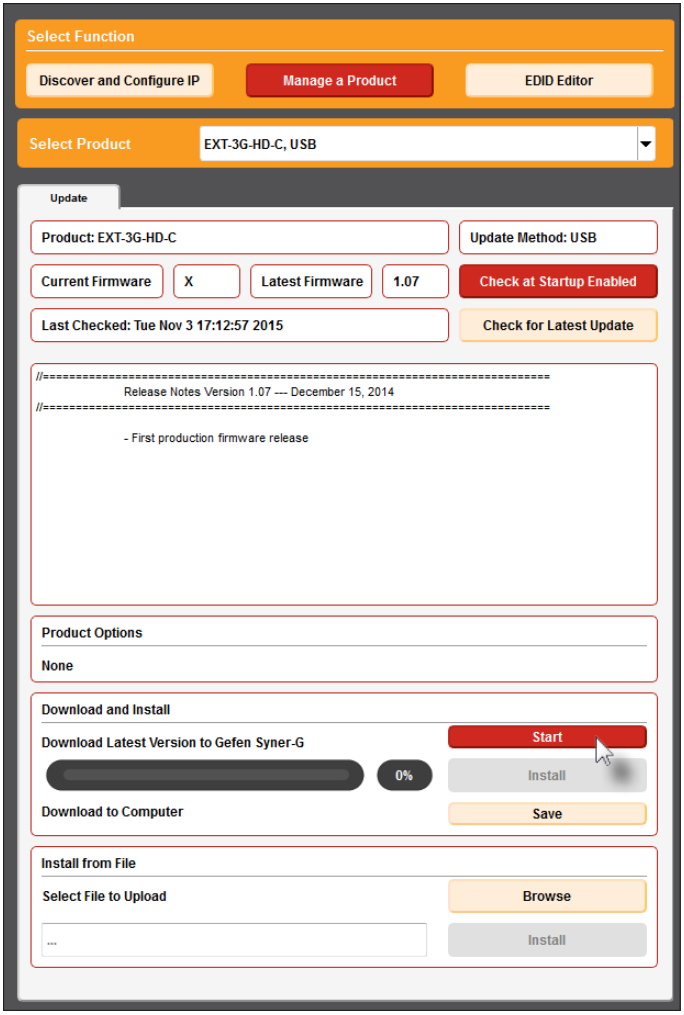
If the product is not detected by Syner-G™, then the product will not be listed in bold type, within the **Select your product** drop-down list. Verify the following:

- The 3GSDI to HDMI Converter is powered and connected to the computer that is running the Syner-G™ Software Suite, using a USB-to-Mini USB cable.
- Make sure that the USB driver is installed and functioning correctly under Control Panel. See Verifying the USB Driver (page 12) for more information.

4. The **Update** tab will be displayed.



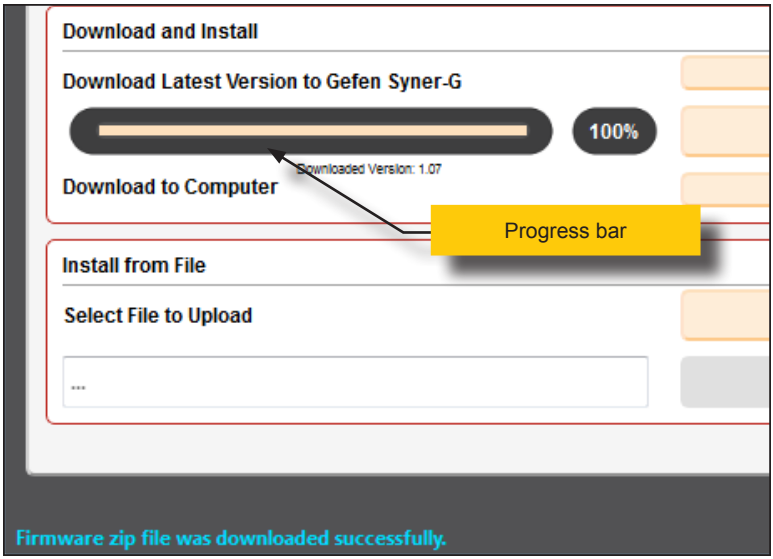
5. Click the **Start** button to begin downloading the firmware.



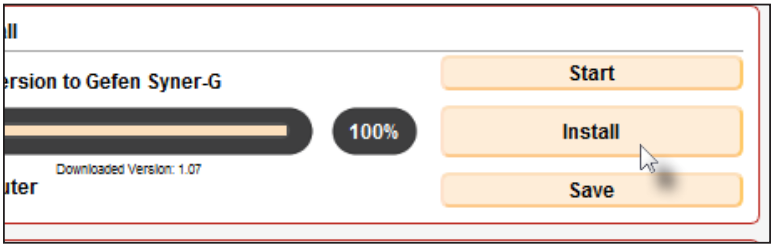
The Syner-G™ Software Suite will automatically download the firmware file for the selected product. This process should take a few seconds.

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

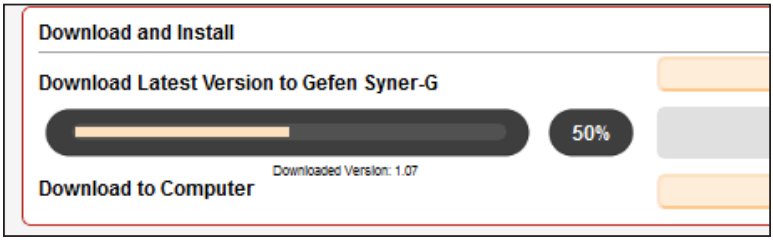
A message will also appear at the bottom of the window, indicating that the firmware file was successfully downloaded.



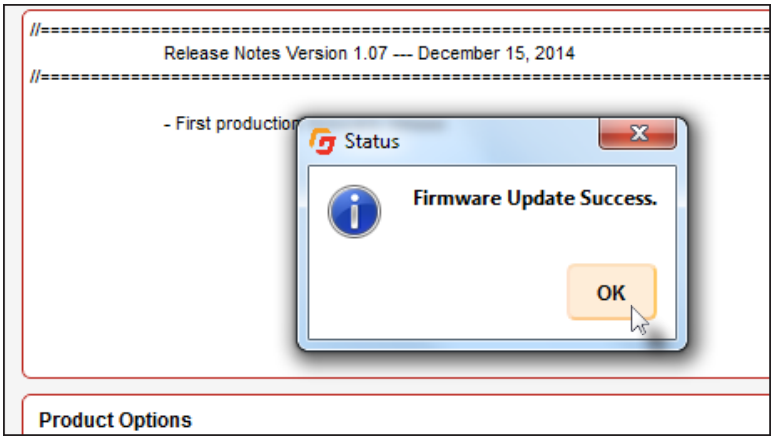
6. Click the **Install** button to begin installing the software.



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



8. After the firmware update process has completed, the following message will be displayed.



9. Click the **OK** button to dismiss the message box.

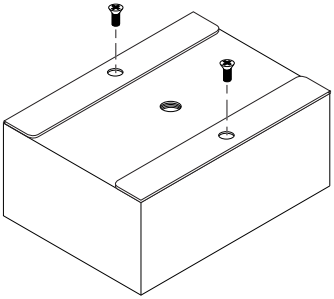
10. The procedure is now complete.

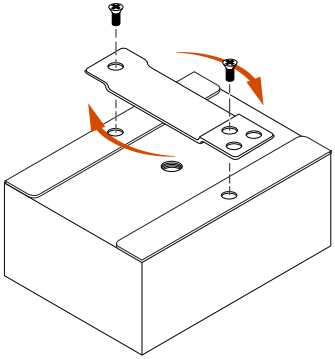
The 3GSDI to HDMI Converter can be mounted on any flat surface using the included mount or on a camera tripod. Mounting screws are not included.

Flat Surface

1. Remove the two screws on the bottom of the unit.

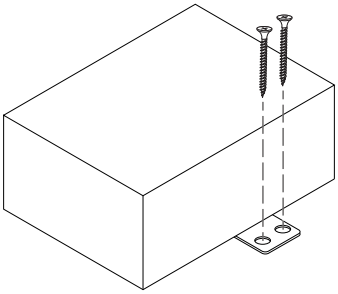
2. Place the included mount, as shown, so that it rests between the two flanges. Note that the mount can be placed in either direction, as shown by the arrows.





3. Replace the two enclosure screws and tighten to secure the mount to the unit.

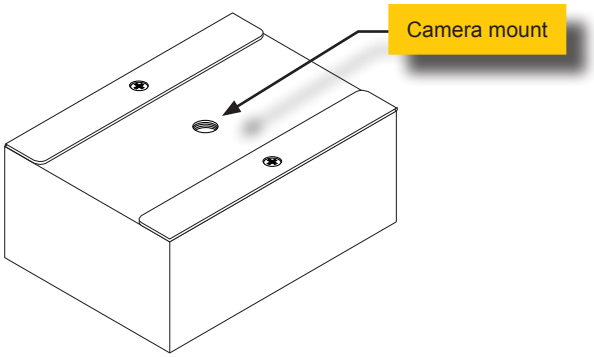
4. Mount the unit, as shown (screws not included).



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

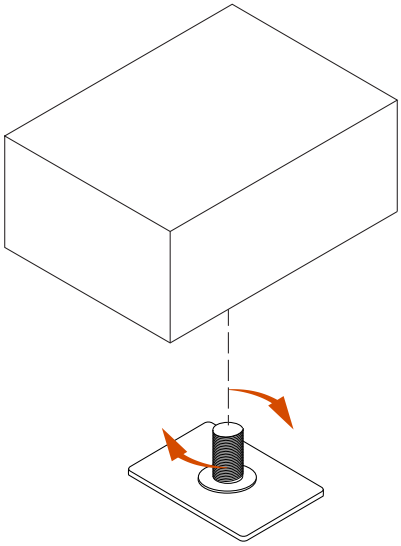
Camera Mount

1. The center hole is used to mount the 3GSDI to HDMI Converter to a camera tripod.



2. Mount the 3GSDI to HDMI Converter on a camera mount using a 1/4” 20-thread screw.

3. Hand-tighten the mounting screw, from the bottom, until the 3GSDI to HDMI Converter is secure. Do not overtighten the screw.



Supported Input Formats	
3GSDI	• SMPTE 425M 1080p 50 / 59.94 / 60 Hz
HDSDI	• SMPTE 296M 720p 50 / 59.94 / 60 Hz • SMPTE 274M 1080i 25 / 29.97 / 30 Hz 1080p 23.98 / 24 / 25 / 29.97 / 30 Hz
SDSDI	• NTSC • PAL

Connectors, Controls, and Indicators	
Video Input	• 1 x SDI BNC-type, female
Video Output	• 1 x HDMI Type A 19-pin, female, locking
USB	• 1 x Mini-B, female
Configuration Switches	• 5 x DIP-type
HDMI Indicator	• 1 x LED, green
Power Indicator	• 1 x LED, blue
Power Receptacle	• 1 x 3-pin, locking
Power	• 1 x LED, blue

Operational	
Maximum Pixel Clock	• 150 MHz
Maximum TMDS Clock	• 225 MHz
Power Supply	• 12V DC, nominal • 6V to 24V DC, operating range
Power Consumption	• 2W, maximum
Operating Temperature	• +32 to +122 °F (0 to +50 °C)
Operating Humidity	• 5% to 90% RH, non-condensing
Storage Temperature	• -4 to +185 °F (-20 to +85 °C)
Storage Humidity	• 0% to 95% RH, non-condensing
MTBF	• 50000 hours

Physical	
Dimensions (W x H x D)	• 2.9” x 1.2” x 2.3” (74mm x 30mm x 59mm)
Unit Weight	• 0.3 lbs. (0.15kg)

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