Gefen ®

3GSDI SM FO Extender

EXT-3GSDI-FOSM
User Manual

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

3GSDI SM FO Extender is a trademark of Gefen LLC

CONTENTS

Congratulations on your purchase of the 3GSDI SM FO Extender. Your complete satisfaction is very important to us.

Gefen

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

The Gefen 3GSDI SM FO Extender

The 3GSDI SM FO Extender extends 3G-SDI over one single-mode ST-terminated fiber optic cable up to 1.25 miles (2 kilometers). It supports SMPTE-424M (3G-SDI), SMPTE-292M (HD-SDI), and SMPTE-259M (SDI). The 3G-SDI BNC connector and the ST-terminated fiber optic signal transmission provide excellent immunity to electromagnetic interference compared to copper based extension modules. The compact design makes the small modules ideal for fitting neatly behind equipment for a clean installation, and a great way to easily extend any SDI signal.

How It Works

The Sender module plugs into the BNC connector on the SDI source. The Receiver module plugs into the BNC input of the SDI device up to 1.25 miles (2 kilometers) away. Connect one single-mode ST-terminated fiber optic cable from the Sender to the Receiver module. Plug the power connectors from the two power supplies into the locking connectors on the Sender and Receiver modules.

READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE 3GSDI SM FO EXTENDER

- The use of an intermediate cable or adapter is not recommended. Additional coupling devices may deteriorate the signal transmission.

Features

- Supports SMPTE-424M (3G-SDI), SMPTE-292M (HD-SDI), and SMPTE-259M (SDI) specifications

- Extends 3G-SDI up to 1.25 miles (2 kilometers) over one single-mode ST-terminated fiber optic cable

- Locking power connectors

- Robust metal die-cast enclosure for reliable operation in harsh environment

- Fiber optic transmission eliminates electromagnetic interference (EMI)

- Compact Sender and Receiver modules provide a clean, easy installation

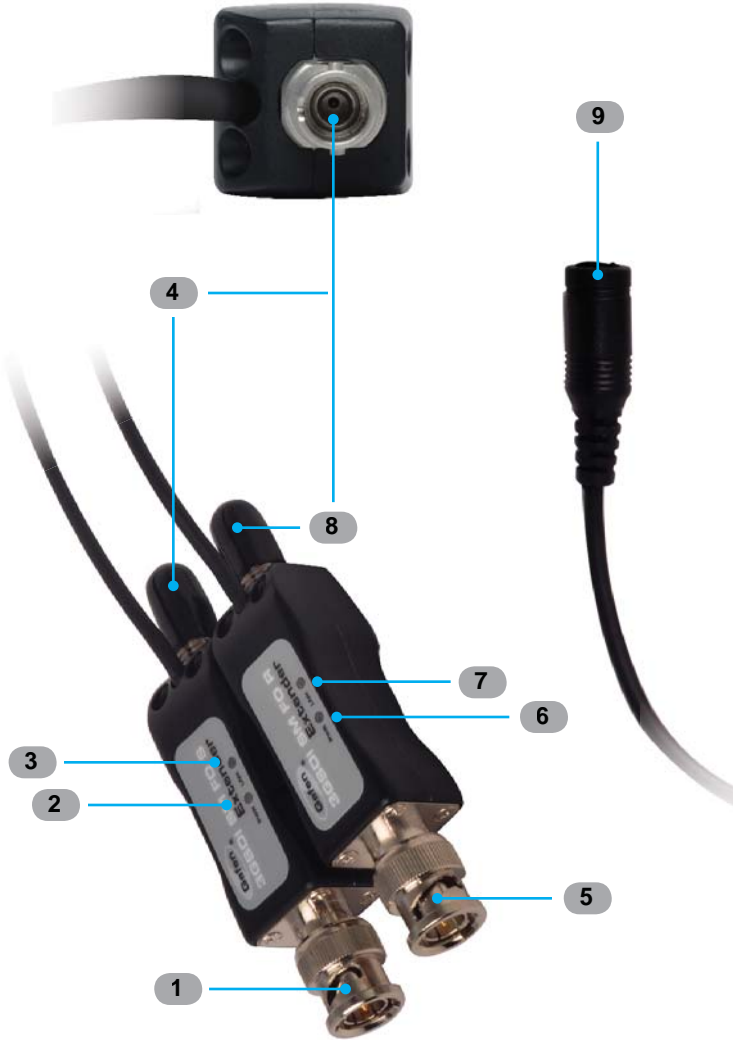- FCC and CE-compliant for EMI/RFI emission

Package Includes

(1) 3GSDI SM FO Extender (Sender Module)
(1) 3GSDI SM FO Extender (Receiver Module)
(2) 5V / 1A DC Power Supplies
(1) Quick-Start Guide

SMPTE Standards Table (Showing Bit Rates for SDI):

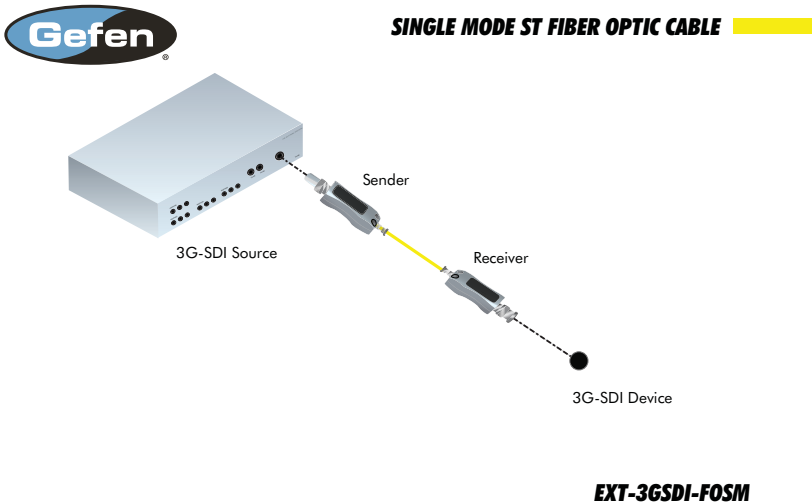| Standard	Name	Bit Rates	Example Video Formats
SMPTE 424M	3G-SDI	2.970 Gbit/s	1080p
SMPTE 292M	HD-SDI	1.485 Gbit/s	720p, 1080i
SMPTE 259M	SD-SDI	270 Mbit/s, 360 Mbit/s 143 Mbit/s and 177 Mbit/s	480i, 576i

1   *3G-SDI BNC Input (Sender)*
Connects the Sender module to the SDI source.

2   *Power Indicator (Sender)*
This LED will glow bright red when the included power supply is connected to the Sender module.

3   *Link Indicator (Sender)*
This LED will glow bright blue when connected to an active SDI source.

4   *ST-Fiber Connector (Sender)*
Connect a single-strand ST-fiber cable between this connector and the ST-fiber connector on the Receiver module. The ST Fiber Connectors on both the Sender and Receiver module are identical. Remove the protective covers from the Sender module before connecting the ST fiber optic cable.

5   *3G-SDI BNC Output (Receiver)*
Connects the Receiver module to the SDI destination.

6   *Power Indicator (Receiver)*
This LED will glow bright red when the included power supply is connected to the Receiver module.

7   *Link Indicator (Receiver)*
This LED will glow bright blue when a single-strand of ST-fiber optic cable is connected between the Sender unit and the Receiver unit and when the Sender unit is connected to an active SDI source.

8   *ST-Fiber Connector (Receiver)*
Connect a single-strand ST-fiber cable between this connector and the ST-fiber connector on the Sender module. The ST-fiber connectors on both the Sender and Receiver module are identical. Remove the protective covers from the Receiver module before connecting the ST fiber optic cable.

9   *5V DC Power Supply Receptacle (Sender / Receiver)*
Connect the included power supplies to both the Sender and Receiver module using these receptacles. Note that each power receptacle has three pins that must be lined up with the holes on the each power supply.

How to Connect the 3GSDI SM FO Extender

1. Connect the Sender of the Gefen 3GSDI SM FO Extender to the 3G-SDI source equipment via the BNC connector.

2. Remove the protective cover from the fiber connector of the Sender module and connect one end of the fiber cable to the connector.

3. Remove the protective cover from the fiber connector of the Receiver module and connect the other end of the fiber cable to the ST connector.

4. Connect the BNC output connector to the SDI destination (display).

5. Connect the included 5V DC power supplies to both the Sender and Receiver module.

Wiring Diagram for the 3GSDI SM FO Extender

SINGLE MODE ST FIBER OPTIC CABLE

Gefen

Sender

3G-SDI Source

Receiver

3G-SDI Device

EXT-3GSDI-FOSM

No picture / display shows a blank screen

•   Ensure that all jacks that are used by the 5V DC power supplies are firmly connected.

•   Ensure that the SDI connector is firmly plugged in to the SDI source and SDI display. Ensure that the Sender and Receiver module parts are connected to the SDI source and SDI display, respectively.

•   Check if the SDI source and SDI display are powered on and properly booted.

•   Reset the system by unplugging and reconecting the Sender module or Receiver module. Re-boot the system while connecting the 3GSDI SM FO Extender.

•   Verify that the fiber cables are not damaged.

Picture is distorted or contains noise

•   Verify the quality of the SDI source and check the length of the fiber cable. The 3GSDI SM FO Extender will work up to a distance of 1.25 miles (2 kilometers) using one single-mode ST-fiber optic cable.

SPECIFICATIONS

Data Rate.. 3 Gbps (max.)

Range.. Up to 1.25 miles (2 kilometers)

Input Impedance... 75 Ω

Signal Level... 800mVp-p +/- 50mV

SDI Connector... BNC, male

Optical Connector.. ST

Number of Fibers.. 1

Propagation Delay (Sender).. 1.5 ns

Propagation Delay (Receiver)... 40 ns

Power Supply (Sender / Receiver)... (1) 5V / 1A DC

Power Budget... 12 dB

Operating Temperature...-4 to +158 °F (-20 to +70 °C)

Relative Humidity.. 5% to 95%

Wavelength (Sender unit)

- 1290 nm (min.)
- 1310 nm (typical)
- 1330 nm (max.)

Wavelength (Receiver unit)

- 1100 nm (min.)
- 1310 nm (typical)
- 1650 nm (max.)

Dimensions (W x H x D) (Sender / Receiver)......................... 0.77" x 0.77" x 1.97"
(20mm x 20mm x 50mm)

Shipping Weight... 1.3 lbs (0.58 kg)

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.

MA-3GSDI-FOSM

This product uses UL or CE listed power supplies.