GefenPRO

3GSDI Fiber Optic Extender

GEF-3GSDI-FO-141

User Manual

www.gefenpro.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 through Friday, Pacific Time
For 24 / 7 support, see the back of the product for the support number

Write To:

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

www.gefenpro.com
support@gefenpro.com

Notice

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

3GSDI Fiber Optic Extender is a trademark of Gefen LLC

© 2011 Gefen, LLC. All rights reserved.
All trademarks are the property of their respective owners.

CONTENTS

1 Introduction

2 Operation Notes

3 Features

4 Connector Layout

5 Connector Descriptions

6 Connecting and Operating The 3GSDI Fiber Optic Extender

7 Troubleshooting

8 Specifications

9 Warranty

INTRODUCTION

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

GefenPRO

In the realm of video distribution, certain features are invaluable in a commercial or broadcast environment. Accommodations such as a build-in power supply and flat black rack-mount enclosures set GefenPRO apart from our traditional products. Complex distribution units allow for professional DVI, 3G-SDI, and HDMI signals to be routed and converted easily and seamlessly, while being backed up by a renowned and dependable technical support team. Gefen invites you to explore the GefenPRO product line and hopes that you find the solution that fits your needs.

The GefenPRO 3GSDI Fiber Optic Extender

The GefenPRO 3GSDI Fiber Optic Extender is a miniature digital video data transport system over fiber optic cable supporting 1080p for 3G-SDI and HD-SDI. It converts a one-channel SMPTE-424M 3G-SDI, SMPTE-292M HD, or SMPTE-259M serial digital video signal over extended distances up to 19 miles (30 kilometers).

How It Works

The Sender receives the SDI input signal and converts the SMPTE-424M / 292M / 259M SDI signals to optical data. The Receiver unit collects the optical data from the fiber cable and converts it to an SDI signal.

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE 3GSDI FIBER OPTIC EXTENDER

- The GefenPRO 3GSDI Fiber Optic Extender will connect two 3G-SDI devices using an ST-terminated fiber cable to a distance of up to 12 miles (20 kilometers.). HD-SDI can be extended up to 19 miles (30 kilometers). The input has automatic equalization and the output is automatically re-clocked.

- 3G-SDI can be extended up to 1640 feet (500 meters) when using multi-mode fiber.

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

Features

- Extends 3G-SDI up to 12 miles (20 kilometers) using single-mode fiber.
- Transports Multi-rate HD-SDI Digital Video over one fiber optic cable.
- Supports SMPTE-424M (3G-SDI), SMPTE-292M (HD-SDI), or SMPTE-259M (SDI) specifications.
- Automatic Input Equalization
- Output Clock Recovery
- Latch-Locking Power Connector
- 3G-SDI BNC input connector and ST-terminated fiber optical connector
- Robust metal die-casting enclosure for harsh environments

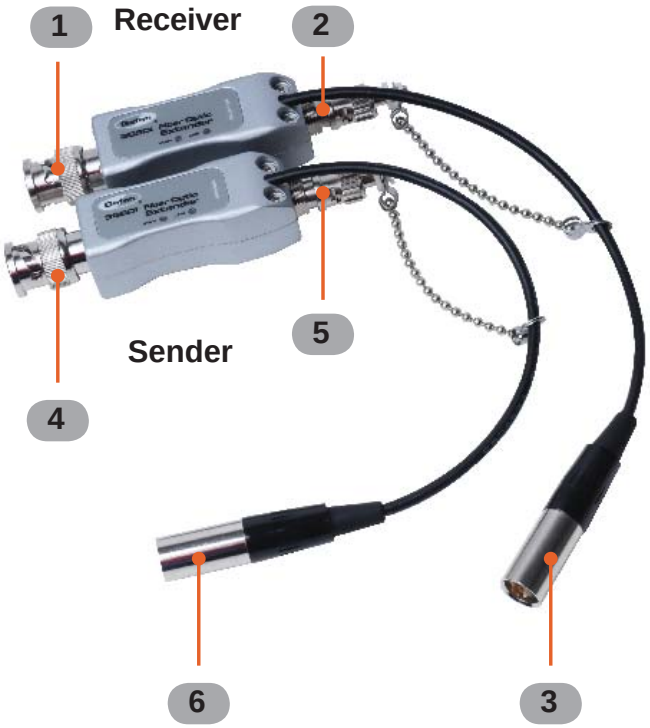
Package Includes

(1) GefenPro 3GSDI Fiber Optic Extender - Sender Unit
(1) GefenPro 3GSDI Fiber Optic Extender - Receiver Unit
(2) 5 V DC Power Supplies
(1) User manual

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

CONNECTOR LAYOUT



(shown with protective cover)

CONNECTOR DESCRIPTIONS

1 ***BNC Output Connector***
Connect the Receiver to the input of the SDI display.

2 ***ST Fiber Connector Input***
Connect the ST-terminated fiber cable to this connector.

3 ***5 V DC Power Supply Connector (Receiver)***
Connect this cable to the included 5 V DC power supply.

4 ***BNC Input Connector***
Connect the Sender to the output of the SDI source.

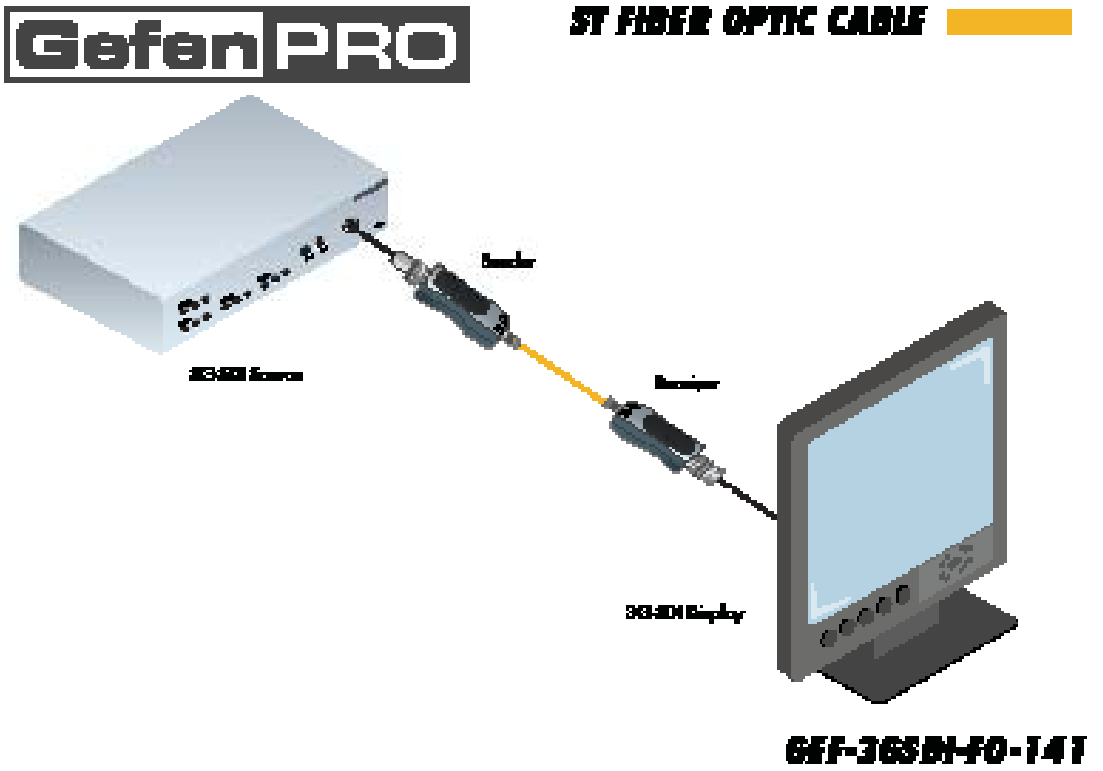
5 ***ST Fiber Connector Output***
Connect the ST-terminated fiber cable to this connector.

6 ***5 V DC Power Supply Connector (Sender)***
Connect this cable to the included 5 V DC power supply.

How to Connect the 3GSDI Fiber Optic Extender

1. Connect the Sender of the GefenPRO 3GSDI Fiber Optic Extender to the 3G-SDI source equipment via the BNC connector.
2. Remove the locking protective cover from the fiber connector of the Sender and connect one end of the fiber cable to the ST connector of the Sender.
3. Remove the locking protective cover from the fiber connector of the Receiver and connect the other end of the fiber cable to the ST connector of the Receiver.
4. Connect the BNC output connector to the SDI display device.
5. Connect the included 5 V DC power supplies to both the Sender and Receiver.

GEF-3GSDI-FO-141 Connection Diagram



TROUBLESHOOTING

No picture / display shows a blank screen

- Ensure that all jacks that are used by the 5 V 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 reconnecting the Sender SDI module or Receiver SDI module. Re-boot the system while connecting the 3G-SDI Fiber Optic 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 Fiber Optic Extender will extend 3G-SDI up to a distance of 12 miles (20 kilometers) using single-mode fiber. HD-SDI can be extended up to a distance of 19 miles (30 kilometers) using single-mode fiber. 3G-SDI can be extended to a maximum of 1640 feet (500 meters) using multi-mode fiber.

SPECIFICATIONS

Signal Formats.....SMPTE-424M 3G HD-SDI, SMPTE-292M HD-SDI, SMPTE-259M SDI

Input Impedance.....75 Ω

Data Rate.....3.0 Gbps (max.)

Signal Level.....800 mV p-p (± 50 mV)

Input Connector.....BNC Female

Output Connector.....BNC Female

Optical Fiber Connector.....ST

Number of Fibers.....1

Power Supply.....5 V DC

Power Consumption.....2.5 W (max.)

Power Budget.....16 dB

Operating Temperature..... - 20 ~ 80 °C

Dimension.....0.77” W x 0.77” H x 1.97” D

Shipping Weight.....2 lbs.

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, please visit Gefen's Warranty web page at http://www.gefen.com/kvm/aboutus/warranty.jsp

PRODUCT REGISTRATION

Please register your product online by visiting Gefen's web site at http://www.gefen.com/kvm/Registry/Registration.jsp

ma-GEF-3GSDI-FO-141

Rev A3

20600 Nordhoff St., Chatsworth CA 91311

1-800-545-6900 818-772-9100 fax: 818-772-9120

www.gefenpro.com support@gefenpro.com

This product uses UL listed power supplies.