Gefen

®

Extender for
DVI and RS232
Over
One Fiber Optic Cable

EXT-DVIRS232-1FO
User Manual

www.gefen.com

ASKING FOR ASSISTANCE

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Extender for DVI and RS232 Over One Fiber Optic Cable
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Rev A2

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Congratulations on your purchase of the Extender for DVI and RS232 Over One Fiber Optic Cable. 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 Extender for DVI and RS232 Over One Fiber Optic Cable

The Extender for DVI and RS232 over One Fiber Optic cable is a complete solution allowing DVI and RS-232 to be extended to a monitor, touch-screen display, or other DVI device up to 1640 feet (500 meters) from the source. A single strand SC fiber optic cable is used for the long distance extension, providing excellent protection from background electromagnetic interference (EMI), preserving both DVI and RS-232 signal integrity. Locking DVI, RS-232, and power connectors ensure secure connections.

How It Works

The Sender unit is placed near the DVI source and the Receiver unit near the Display. Connect the supplied DVI cable between the Sender unit and the DVI source. Connect a second DVI cable between the Receiver unit and the display. Connect the RS-232 cable from the RS-232 source to the Sender unit. Connect the RS-232 cable between the Receiver unit and the RS-232 connection on the display side. Connect a single strand of multi-mode SC-terminated fiber optic cable between the Sender and Receiver unit. Connect the power supplies to both the Sender and Reciever unit.

**READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE EXTENDER FOR DVI AND RS232 OVER ONE FIBER
OPTIC CABLE**

- When HDCP content is passed-through, DVI can only be extended up to 1000 feet (300 meters).

- RS-232 data is bi-directional for direct commands and echo function or status information. See page 13 for information on RS-232 settings.

> ⚠️ **IMPORTANT:** Before connecting the power supplies to the Sender unit and the Receiver unit, see page 12 for information on calibrating the Extender.

- When changing fiber optic cables, the calibration procedure must be repeated.

Features

• Extends DVI up to 1640 feet (500 meters)

• Supports HD resolutions up to 1080p Full HD

• Supports VESA resolutions up to 1920 x 1200

• RS-232 port for automation

• Locking power supplies

Package Includes

(1) Sender unit (EXT-DVIRS232-1FOS)
(1) Receiver unit (EXT-DVIRS232-1FOR)
(1) 6 ft. Dual Link DVI cable (CAB-DVIC-DL-06MM)
(1) 6 ft. RS-232 cable (CAB-DB9-6MF)
(2) 5V / 2A DC Locking Power Supplies (EXT-PS52AULP)
(1) Quick-Start Guide

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Front
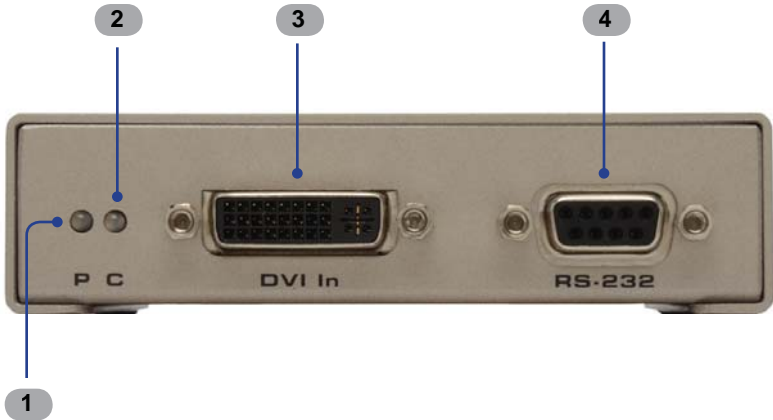
Back

1   ***P (Power Indicator)***
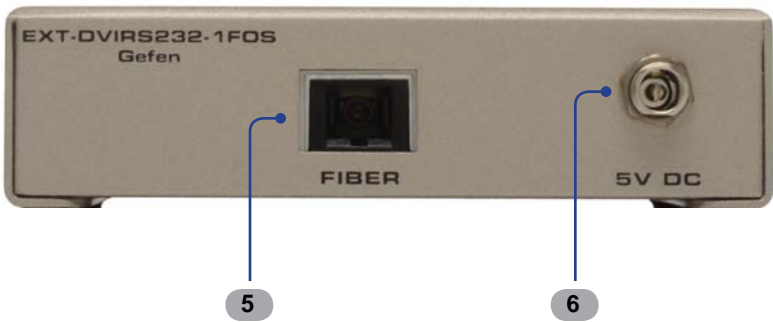This two-color LED will turn bright red once the included 5V DC locking power supply has been properly connected to the unit and the locking power supply has been connected to an available wall outlet. This LED will turn bright green once the Sender unit and Receiver unit are communicating correctly.

2   ***C (Calibration Indicator)***
This LED will alternate from red to green during the calibration procedure. The LED will turn solid green once the calibration procedure has been completed. See page 12 for more information on the calibration procedure.

3   ***DVI In***
Connect a computer or other DVI source to this DVI port.

4   ***RS-232***
Connect an RS-232 cable from this port to the controlling device.

5   ***Fiber***
This connector accepts a single strand of SC-terminated fiber optic cable that will link the Sender unit and Receiver unit together. The Gefen Extender for DVI and RS232 Over One Fiber Optic Cable will only accept multi-mode fiber optic cables.

6   ***5V DC***
Connect the included 5V DC Locking Power Supply to this receptacle.

Front

1   2   3

RS-232   DVI Out   C P

4

Back

EXT-DVIRS232-1FOR
Gefen

5V DC   FIBER

5   6

6
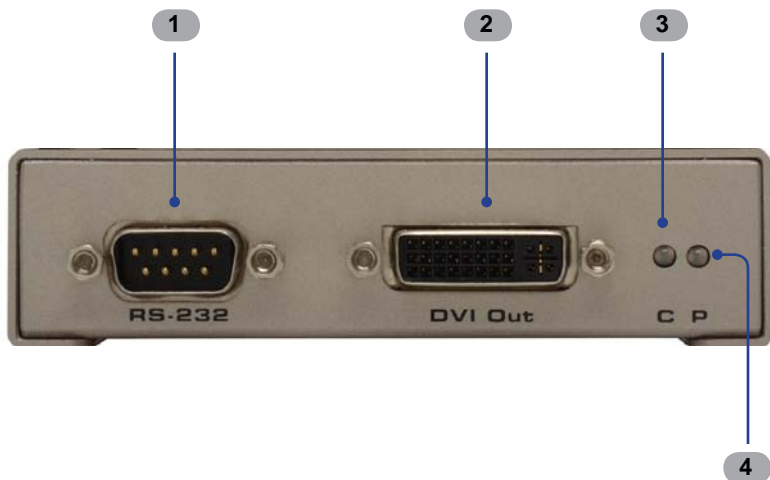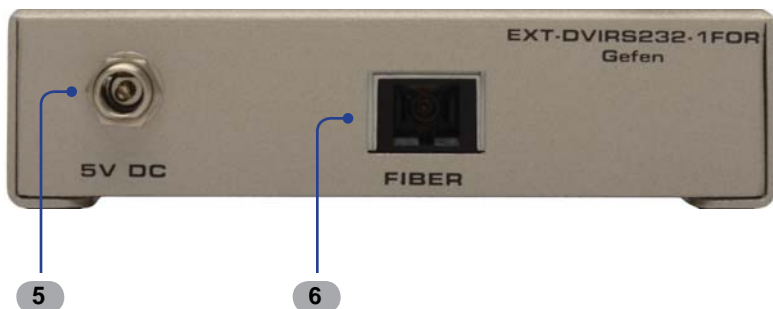
1   **RS-232**
Connect an RS-232 cable from this port to the RS-232 device.

2   **DVI Out**
Connect a DVI display to this DVI port.

Calibration Indicator
This LED will alternate from red to green during the calibration procedure. The LED will turn solid green once the calibration procedure has been completed. See page 12 for more information on the calibration procedure.

3   **Power Indicator**
This two-color LED will turn bright red once the included 5V DC locking power supply has been properly connected to the unit and the locking power supply has been connected to an available wall outlet. This LED will turn bright green once the Sender unit and Receiver unit are communicating correctly.

4   **5V DC Locking Power Connector**
Connect the included 5V DC Locking Power Supply to this receptacle.

*5*   **Fiber Optic Connector (SC-Type)**
This connector accepts a single strand of SC-terminated fiber optic cable that will link the Sender unit and Receiver unit together. The Gefen Extender for DVI and RS232 Over One Fiber Optic Cable will only accept multi-mode fiber optic cabling.
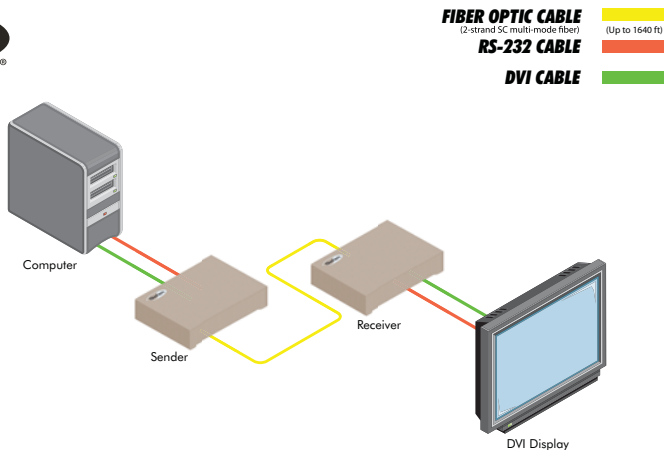
How to Connect the
Extender for DVI and RS232 Over One Fiber Optic Cable

1. Connect the computer (or other DVI source) to the Sender unit using the included Locking Dual Link DVI cable.

2. Connect the DVI display to the Receiver unit using a Dual Link DVI cable.

3. Connect an SC-terminated fiber optic cable to the Sender unit. Connect the opposite end of the fiber cable to the Receiver unit.

4. OPTIONAL: Connect an RS-232 cable from the RS-232 serial port on the controlling device to the RS-232 port on the Sender unit. Connect another RS-232 serial cable from the RS-232 port on the Receiver unit to the RS-232 port of the RS-232 device.

> **IMPORTANT:** Before connecting the power supplies to the Sender unit and the Receiver unit, see page 12 for information on calibrating the Sender unit and Receiver unit.

Wiring Diagram for the
Extender for DVI and RS232 Over One Fiber Optic Cable

FIBER OPTIC CABLE
(2-strand SC multi-mode fiber) (Up to 1640 ft)
RS-232 CABLE
DVI CABLE

Computer

Sender

Receiver

DVI Display

EXT-DVIRS232-1FO

> **ATTENTION:** This product should always be connected to a grounded electrical socket.

DIP Switches

On the bottom of the Sender unit and Receiver unit are a bank of four (4) DIP switches. These DIP switches provide control over EDID, Deep Color, and unit Calibration.

It may be necessary to remove the strip of tape to expose the DIP switches. To change the DIP switch settings, move the appropriate DIP switch to its ON or OFF position using a small pointed object. The DIP switches and their functions are shown below.

Sender unit
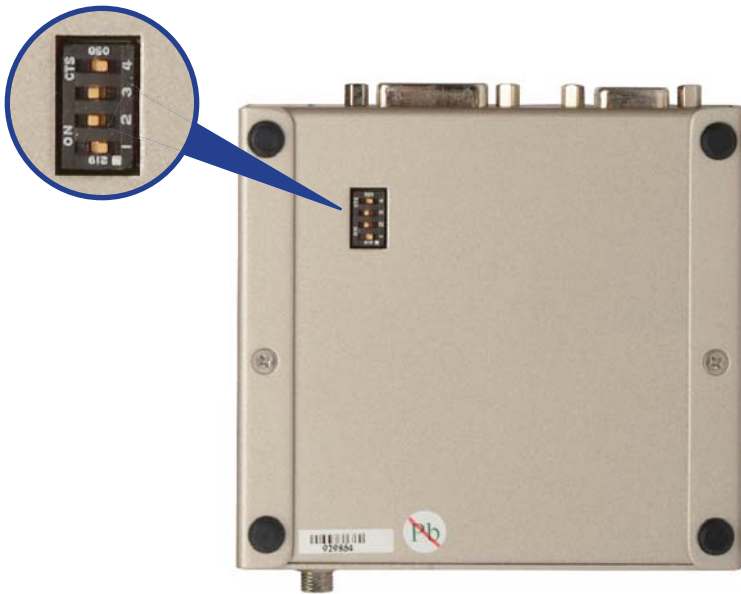
DIP 1 - EDID Mode

- *OFF - Local EDID*

    When Local EDID mode is used, the EDID will be assembled by copying all video and audio features of the connected device. Deep Color support will be manually controlled: If Deep Color is supported by the display(s), DIP 2 should be set to the ON position (see DIP 2 - Deep Color, below). By default, the unit is shipped with DIP 1 in the OFF position.

- *ON - Pass-Through EDID*

    Allows all video and audio features of the connected devices to be passed to the source device without control over Deep Color.

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DIP 2 - Deep Color

> **NOTE:** DIP switch 2 is only functional when DIP switch 1 is set to the OFF position.

- *OFF - Enables Deep Color support (12-bit color)*

    Enables Deep Color support. In Pass-through EDID Mode, setting DIP 2 to the OFF position has no effect since all EDID information is passed through.

- *ON - Forces 8-bit Color*

    Disables Deep Color in the EDID. Deep Color management is only available when Local EDID is being used.

DIP 3 - Calibration Mode

- *OFF - Enables Calibration Mode*

    Enables Calibration Mode. Make sure to set DIP switch 3 on both the Sender unit and Receiver unit when calibrating the Extenders. See page 12 for details.

- *ON - Calibration Mode Lock*

    Locks the calibration settings. Set DIP switch 3 on both the Sender unit and Receiver unit to the ON position after the calibration process has completed. See page 12 for details on the calibration process.

Receiver unit

DIP 1 - Not Used

• Reserved for future expansion.

DIP 2 - Not Used

• Reserved for future expansion.

DIP 3 - Calibration Mode

• *OFF - Enables Calibration Mode*

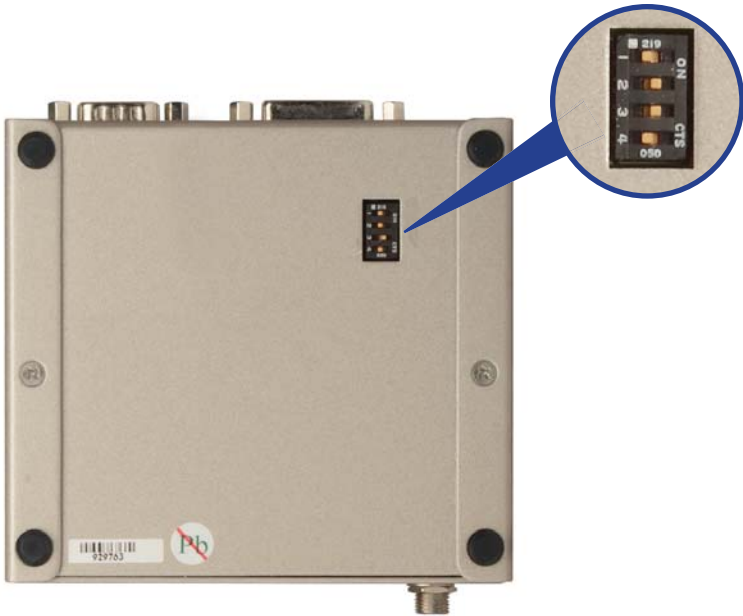   Enables Calibration Mode. Make sure to set DIP switch 3 on both the
   Sender unit and Receiver unit when calibrating the Extenders.

• *ON - Calibration Mode Lock*

   Locks the calibration settings. Set DIP switch 3 on both the Sender unit and
   Receiver unit to the ON position after the calibration process has completed.

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Calibrating the Sender unit and Receiver unit

> **IMPORTANT:** Before beginning the calibration process, make sure that the Sender unit and Receiver are **not** powered.

1. Make sure DIP switch 3 on both the Sender unit and the Receiver unit are in the OFF position (see pages 9 and 11).

2. Connect one end of the fiber cable to the Sender unit. Connect the other end of the fiber cable to the Receiver unit.

3. Connect the 5V DC Locking Power Supplies to the Sender unit and the Receiver unit. Do not overtighten the locking connectors. Plug the power cord into an available electrical outlet.

The LED indicators on both the Sender unit and Receiver unit will alternate from red to green during the calibration process. The calibration process can take up to 120 seconds to complete.

After the calibration process has finished, the LED indicators on both the Sender unit and the Receiver unit will turn solid green. Set DIP switch 3 to the ON position on both the Sender unit and the Receiver unit to lock the calibration settings.

> **NOTE:** If the fiber optic cable is changed, follow steps 1 - 3 to repeat the calibration procedure.

Troubleshooting

*   If the Sender unit and Receiver unit did not complete the calibration process, the indicator LEDs on both Sender unit and Receiver unit will be red. Check the fiber connections carefully and cycle the power on both the Sender unit and the Receiver unit and repeat the calibration procedure.

*   When the indicator LED at one unit is GREEN and the other is RED, cycle power on the unit with the RED indicator. It is also recommended to cycle power on both the Sender unit and the Receiver unit to perform a full calibration.

*   If the calibration procedure continues to fail, contact Gefen Technical Support under the **Asking For Assistance** section at the beginning of this manual.

RS-232 SERIAL CONTROL
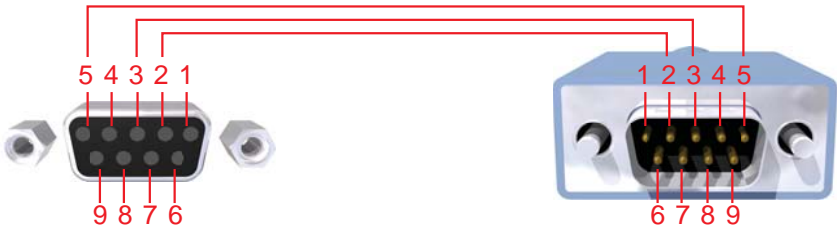
Only Pins 2 (RX), 3 (TX), and 5 (Ground) are used on the RS-232 serial interface

RS232 Settings

Bits per second 19200
Data bits 8
Parity .... None
Stop bits 1
Flow Control .... None

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SPECIFICATIONS

Maximum Pixel Clock.. 165 MHz

Input Video Signal... 1.2 Volts p-p

Input DDC Signal.. 5 volts p-p (TTL)

DVI Input Connectors..................................... (1) DVI-I, 29-pin, female (digital only)

Link Connector.. SC fiber

Power Supply.. 5V DC

Power Consumption... 10 Watts per unit (max.)

Operating Temp... 0° - 40° C

Dimensions.. 3.4" D x 5.0" W x 1.25" H

Shipping Weight.. 4 lbs.

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-DVIRS232-1F0

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