Gefen ®

4x1 3GSDI Switcher

EXT-3GSDI-441

User Manual

www.gefen.com

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Rev A6

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INTRODUCTION

Congratulations on your purchase of the 4x1 3GSDI Switcher. 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 4x1 3GSDI Switcher

The Gefen 4x1 3GSDI Switcher allows any one of four high-bandwidth 3G-SDI, HD-SDI or SDI sources to be switched to a single output without a switching delay or loss of signal quality. Ideal for cutting equipment costs in the studio by enabling shared signal routing, this product supports source resolutions up to 1080p and has convenient switching methods.

How It Works

Up to four 3G-SDI sources connect to BNC input jacks on one side of the Gefen 4x1 3GSDI Switcher. A single 3G-SDI output connects on the output side. Power is applied to the 4x1 3GSDI Switcher and a vibrant video picture is transmitted to the output device. Any 3G-SDI input source is selectable via the included IR remote control or a selector button on the front panel of the 4x1 3GSDI Switcher. Selection of sources may also be performed by using the RS-232 communications port.

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE 4X1 3GSDI SWITCHER

The 4x1 3GSDI Switcher will accept the following formats:

- SDI - SMPTE 259M-C (270Mbps)

- HD-SDI -SMPTE 292M (1.485, 1.485/1.001 Gbps)

- 3G-SDI-SMPTE 424M/425M (2.97/3.0 Gbps)

Features

- Switches four 3G-SDI sources instantly without signal degradation

- Streamlines equipment by eliminating unnecessary hardware

- Switching is accomplished 3 ways -- by using the optional IR remote, the front panel selector button, or the RS-232 interface.

- Video resolutions up to 1080p are supported

- Backwards compatible with SDI and HD-SDI audio/video formats

- Plug-and-play installation

- Distributes video without latency

Package Includes

(1) 4x1 3GSDI Switcher
(1) IR Remote Control Unit
(1) 5V DC Locking Power Supply
(1) 6ft DB9 Cable (M-F)
(1) User Manual

Front Panel
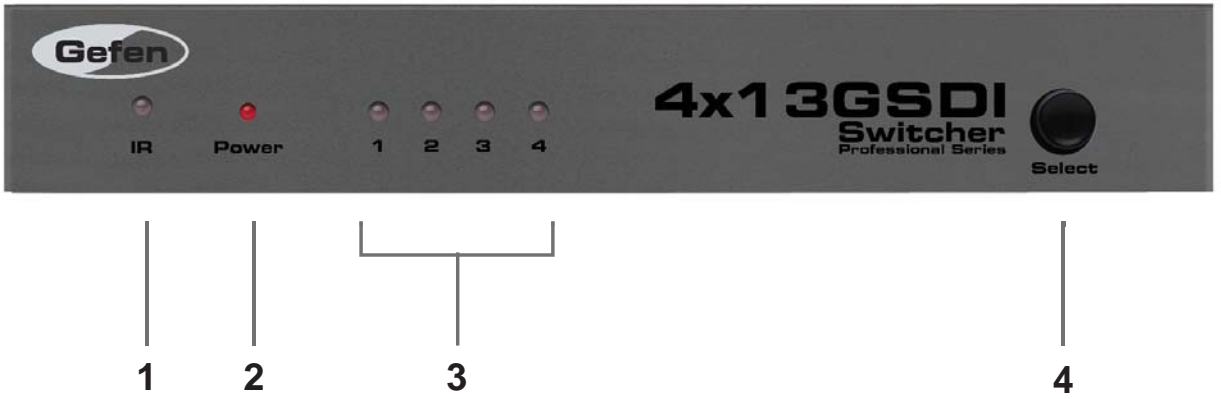
Back Panel

1   ***IR (Infrared) Receiver***
This receiver will accept command for switching between input devices using the included RMT-4IR remote control. Line of sight must be preserved between the remote and unit for proper operation.

2   ***Power LED Indicator***
This LED will become active once the included 5V DC power supply is properly connected between the unit and an open wall power socket.

3   ***Selected Input LED Indicator***
There is a 4 LED array to indicate which source is currently selected on the 4x1 3GSDI Switcher. The currently selected input will be indicated by an active LED.

4   ***3G-SDI Input Source Selector Button***
Pressing this button will manually switch between as many as four SDI sources connected on the rear of the Switcher. The inputs ports (item 5 below) can accept (up to four) 3G-SDI, HD-SDI or SDI capable devices. The selected input source is sent to the single output. Selection of input sources may also be accomplished using the included RMT-4IR remote control or via the RS-232 serial communication port.

5   ***3G-SDI Inputs 1-4***
These inputs ports can accept BNC connections from (up to four) 3G-SDI, HD-SDI or SDI capable devices.

6   ***3G-SDI Output***
This output will accept a single 3G-SDI, HD-SDI or SDI output device with a standard BNC connector.

7   ***RS-232 Serial Communications Port***
This port is used to control input source swithcing on the 4x1 3GSDI Switcher. Please see page 10 for complete details on the serial communication features that are used on this product.

8   ***5V DC Power Receptacle***
This receptacle will require power from the included 5V DC power supply for proper operation. Connect the included power supply between this port and an open wall power socket.

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How to Connect the 4x1 3GSDI Switcher

1. Connect up to four 3G-SDI, HD-SDI or SDI source devices to the 4x1 3GSDI Switcher's inputs using user supplied cables.

2. Connect a single 3G-SDI, HD-SDI or SDI capable device to the 4x1 3GSDI Switcher's outputs using a user supplied cable.

3. Connect the included 5V DC power supply between the 4x1 3GSDI Switcher's power receptacle and an open wall power socket.

4. Initialize (power on) the output device first and the source devices second.

How to Operate the 4x1 3GSDI Switcher

The source input is selectable by using either the included RMT-4IR remote control or the integrated RS-232 serial communication port. The LED indicators on the front panel indicate the currently selected input. If the selected input has no source connected, the LED will be red. If the selected input is connected to a source, the LED will be green.

Please see page 7 for IR Remote Control Unit operation.

Please see page 10 for RS-232 serial communication control operations.

Wiring Diagram for the 4x1 3GSDI Switcher
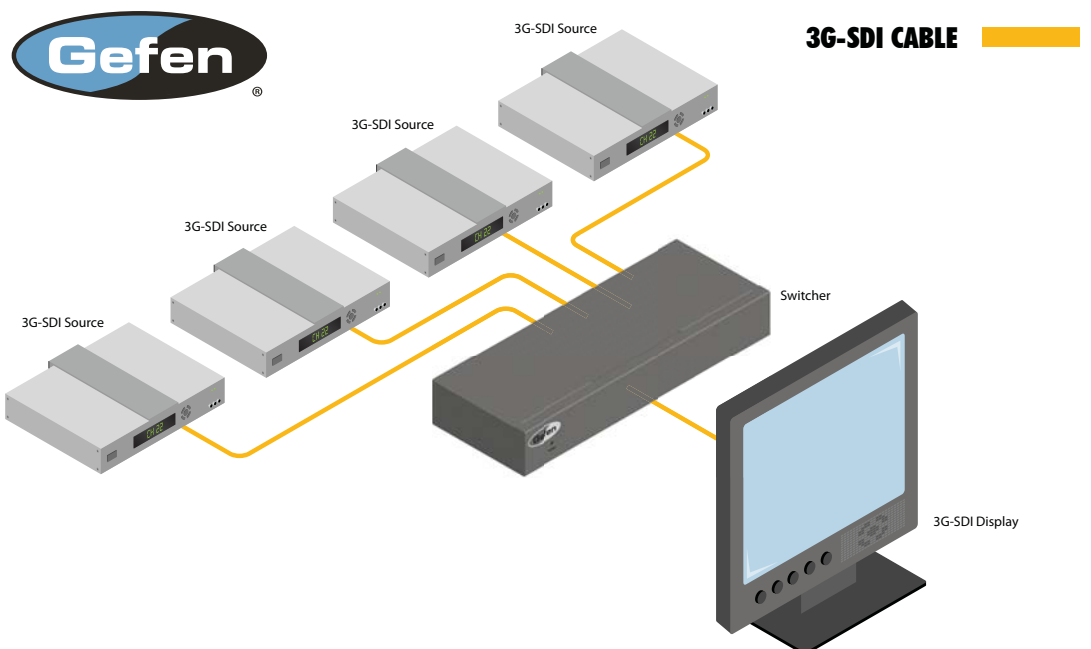
IR REMOTE DESCRIPTION

The included RMT-4IR remote control is used to switch between inputs on the 4x1 3GSDI Switcher. Only one input can be selected at a time and this input is then output to the connected SDI output device.

Example: *Switch to the 3G-SDI source connected to In 3.*

Point the Remote at the 4x1 3GSDI Switcher and press button 3 on the IR Remote Control Unit.

**Table of IR Remote Commands
for the Optional RMT-4IR Remote Unit**

RMT-4IR Button	Source
1	1
2	2
3	3
4	4

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Setting the IR Remote Channel on the RMT-4IR

In the event that IR commands from other remote controls conflict with the supplied IR Remote Control Unit, changing the remote IR channel will fix this issue. The IR Remote Control Unit has a bank of DIP switches for setting the IR channel.

The DIP Switch bank on the IR Remote Control Unit is located underneath the battery cover.

Remote Channel 1: Default

Remote Channel 2:

Remote Channel 3:

Remote Channel 4:

Left: Picture of the opened rear battery compartment of the RMT-4IR remote showing the exposed DIP Switch bank between the battery chambers.

The IR channel selected on the IR Remote Control Unit must match the IR channel assigned to the 4x1 3GSDI Switcher. For example, if you set both DIP switches on the remote to the down position (IR channel 1), you must set the 4x1 3GSDI Switcher to use IR channel 1.

4x1 3GSDI Switcher Configuration

On the bottom of the unit, there is a bank of four (4) DIP switches. Each DIP switch performs a different function.

DIP 1 - Termination Mode

ON - 100Ω Termination

*   Adds a 100Ω termination on the RS-485 line. This DIP switch should only be used when RS-485 is enabled and if the line is to be terminated, usually on the last device in the chain.

OFF (default) - No Termination

*   For normal use and when using the RS-232 protocol.

DIP 2 - RS-232 / RS-485 Protocol

ON - RS-485

*   Sets the product to use the RS-485 serial protocol. DIP switch 1 should be set to the ON position. Refer to DIP switch 1 information, above.

OFF - RS-232

*   Sets the product to use the RS-232 serial protocol.

DIP 3 / DIP 4 - IR Channel

*   The IR channel assigned to the IR Remote Control must match the IR channel assigned to the 4x1 3GSDI Switcher. The factory setting (default) for DIP 3 and DIP 4 are in the OFF position. See page 8 for setting the IR channel on the IR Remote Control Unit.

DIP 3	DIP 4	IR Channel
OFF	OFF	1
ON	OFF	2
OFF	ON	3
ON	ON	4

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

What are the communication port settings?

Bits per second 19200

Data bits 8

Parity .... None

Stop bits 1

Flow Control .... None

ASCII	RMT-4IR Button	Binary	Input (Source)
1	1	0011 0001	1
2	2	0011 0010	2
3	3	0011 0011	3
4	4	0011 0100	4

Commands

Command	Description
?	Returns the current input

?

The ? command returns the currently selected input.

Syntax:

?

Example:

If the currently selected input is Input 2, then "2" will be returned.

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SPECIFICATIONS

Input/Output ....SDI/SMPTE 259M (up to 360 Mb/s)

Input/Output .... HD-SDI/SMPTE 292M (1.485, 1.485/1.001 Gbps)

Input/Output .... 3G-SDI/SMPTE 424M/425M (2.97/3.0 Gbps)

Input Connector..BNC female

Output Connectors..Four (4) BNC female

Power Supply...5V DC

Power Consumption..10 Watts (max.)

Power Connector...Locking

Operating Temperature..0 - 40 °C

Dimensions...3.5" D x 7.5" W x 1.1" H

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.

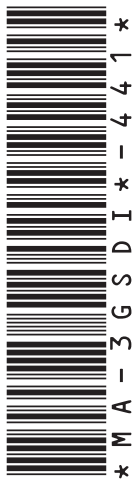For the latest warranty coverage information, please visit Gefen's Warranty web page at http://www.gefen.com/kvm/aboutus/warranty.jsp

PRODUCT REGISTRATION

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

MA-3GSDI-441*

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This product uses UL listed power supplies.

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