

4x2 | Switcher for HDMI 1.3

EXT-HDMI1.3-442

User Manual

Release B6



Important Safety Instructions

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

Warranty Information

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.

Contacting Gefen Technical Support

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Visit us on the Web: www.gefen.com

Technical Support Hours: 8:00 AM to 5:00 PM Monday - Friday, Pacific Time

4x2 Switcher for HDMI 1.3 is a trademark of Gefen, LLC.

Important Notice

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

Operating Notes

- By default, display information from the display connected to HDMI output port 1 is sent back to the source. Therefore, other displays connected to the 4x2 Switcher for HDMI 1.3 must be capable of accepting the timing, resolution, and audio format as supported by the display that is connected to HDMI output port 1. It is recommended that the display with the lowest native resolution be connected to HDMI output port 1. This is to ensure that a compatible video signal will be able to be displayed on all connected monitors. There is a generic EDID programmed into the 4x2 Switcher for HDMI 1.3 that can be used instead. See [EDID Management \(page 11\)](#) for more information.
- When the 4x2 Switcher for HDMI 1.3 is power-cycled or reset, the Input Indicators will briefly flash, displaying the current IR channel setting. See [Setting the Switcher IR Channel \(page 10\)](#) for more information.

Features and Packing List

Features

- Switch easily between any four HDMI / DVI sources
- Outputs are mirrored to two HDMI / DVI displays simultaneously
- Maintains sharp HDTV resolutions up to 1080p Full HD and 2K
- HDMI Features:
 - ▶ 225 MHz (up to 12 bit YUV 444 supported @ 1080p)
 - ▶ Deep Color
 - ▶ Dolby® TrueHD and DTS-HD Master Audio™
 - ▶ Lip-Sync
- 3DTV Pass-Through
- Color Space Conversion
- EDID Management for rapid integration of sources and display devices
- IR Remote Control Unit
- Mono-LOK™ Locking HDMI Connectors
- Supports the use of DVI sources and DVI displays with an HDMI-to-DVI converter cable or adapter
- HDMI and HDCP compliant



Packing List

The 4x2 Switcher for HDMI 1.3 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 4x2 Switcher for HDMI 1.3
- 4 x 6 ft HDMI cables (M-M)
- 1 x IR Remote Control Unit
- 1 x 5V DC Power Supply
- 1 x Quick-Start Guide

Table of Contents

01 Getting Started

Unit Layout	2
Front	2
Back	3
IR Remote Control Unit	4
Front	4
Back	5
Installing the Battery	6
Setting the IR Channel	6
Installation	7
Connection Instructions	7
Sample Wiring Diagram	7

02 Operating the 4x2 Switcher for HDMI 1.3

Setting the Switcher IR Channel	10
EDID Management	11
Selecting the EDID Mode	11
Internal EDID	12
External EDID	13

03 Appendix

Specifications	16
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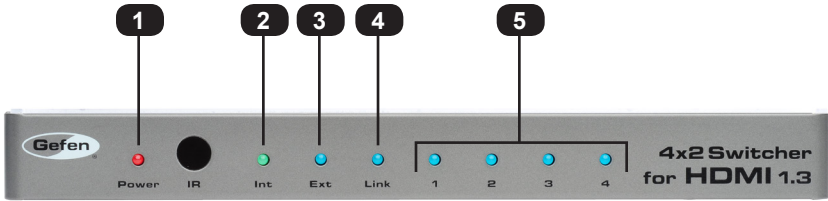
4x2 | Switcher for HDMI 1.3

01 Getting Started

Unit Layout	2
Front	2
Back	3
IR Remote Control Unit	4
Front	4
Back	5
Installing the Battery	6
Setting the IR Channel	6
Installation	7
Connection Instructions	7
Sample Wiring Diagram	7

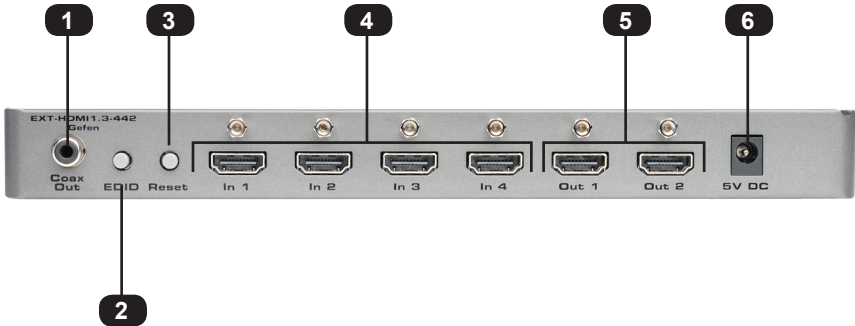
Unit Layout

Front



ID	Name	Description
1	Power	This LED indicator will glow bright red once the included power supply is connected between the unit and an available electrical outlet.
2	Int	This LED indicator will glow bright green when the switcher is using the internal EDID. See EDID Management (page 11) for more information.
3	Ext	This LED indicator will glow bright blue when the switcher is using the external (downstream) EDID. See EDID Management (page 11) for more information.
4	Link	This LED indicator will glow bright blue when an active source device is selected using the included IR remote control unit.
5	Input Indicators (1, 2, 3, 4)	These LED indicators will glow bright blue when an active input source is connected to the associated HDMI input port on the back of the unit.

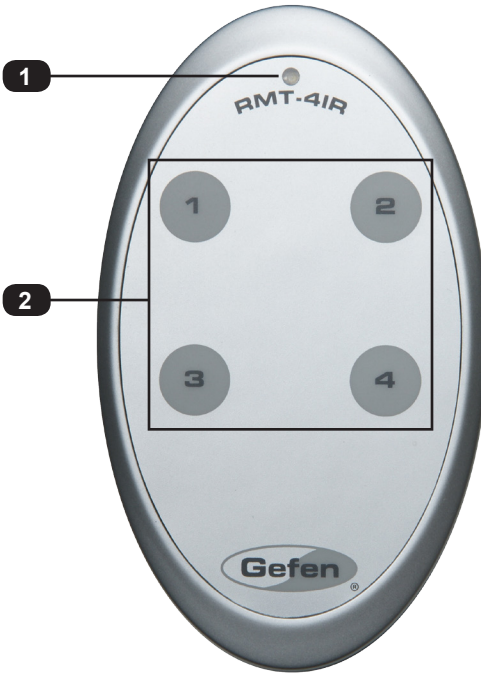
Back



ID	Name	Description
1	Coax Out	Connect an RCA audio cable from this S/PDIF connector to an A/V receiver.
2	EDID	Press this button to toggle between the internal and external EDID. The unit must be power-cycled when the EDID mode is changed. See EDID Management (page 11) for more information.
3	Reset	Press this button to power-cycle the switcher.
4	In (1, 2, 3, 4)	Use the included HDMI cables to connect a Hi-Def source to each of these ports.
5	Out (1, 2)	Connect an HDMI cable from each of these ports to a Hi-Def display.
6	5V DC	Connect the included 5V DC power supply to this power receptacle.

IR Remote Control Unit

Front



ID	Name	Description
1	Activity indicator	This LED flashes bright orange when a key is pressed on the remote.
2	Input Selection (1 - 4)	Press these buttons to switch to the desired input (source).



NOTE: An Activity indicator that flashes quickly while holding down any one of the buttons indicates a low battery. Replace the battery as soon as possible. See [Installing the Battery \(page 6\)](#).

Back

(shown with cover removed)



ID	Name	Description
1	DIP switch bank	Use these DIP switches to set the IR channel of the remote. See Setting the IR Channel (page 6) for more information.
2	Primary battery slot (shown without battery)	Holds the battery for operating the remote. Use only 3V CR2032-type batteries. Make sure that the positive (+) side of the battery is facing up.
3	Alternate battery slot	Allows for the installation of secondary (backup) battery.

Installing the Battery

The IR remote control unit ships with two batteries. Only one battery is required for operation. The second battery is a spare.



WARNING: Use only 3V CR2032-type batteries. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

1. Remove the back cover the IR Remote Control unit.
2. Insert the included battery into the primary battery slot. The positive (+) side of the battery should be facing up.
3. Replace the back cover.

Setting the IR Channel

In order for the included IR remote control to communicate with the 4x2 Switcher for HDMI 1.3, the IR remote control must be set to the same channel as the matrix. See [Setting the Switcher IR Channel \(page 10\)](#) for information on setting the IR channel of the switcher.



IR Channel	DIP settings
0 (default)	
1	
2	
3	

Installation

Connection Instructions

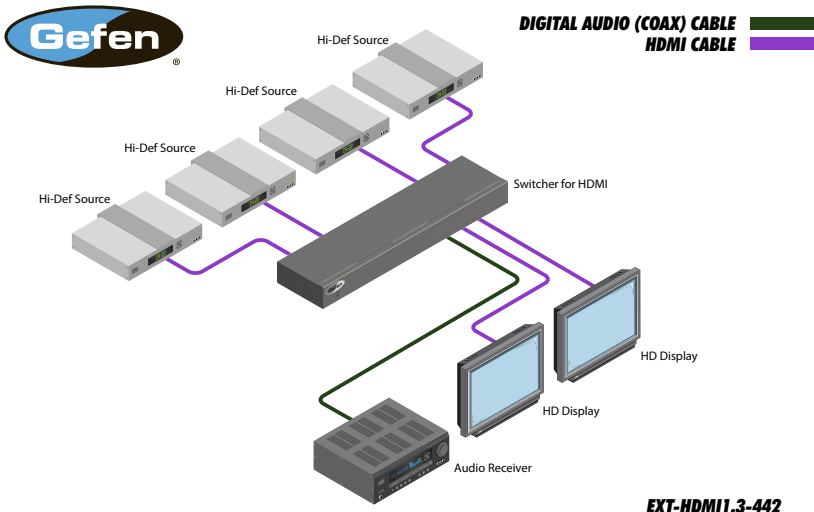
1. Use the included HDMI cables to connect up to four Hi-Def sources to the **In** ports on the back of the switcher.
2. Connect up to two Hi-Def displays to the switcher using the **Out 1** and **Out 2** ports.
3. OPTIONAL: Connect an RCA-type audio cable from the **Coax Out** connector on the switcher to an A/V receiver.

The **Coax Out** S/PDIF connector supports the following audio formats:

- ▶ Linear PCM (2 channel)
- ▶ Dolby Digital® (2 channel / 5.1 channel),
- ▶ DTS Digital Surround™ (2 channel / 5.1 channel)

4. Connect the included 5V DC power supply from the power receptacle of the switcher to an available electrical outlet.

Sample Wiring Diagram



4x2 | Switcher for HDMI 1.3

02 Operating the 4x2 Switcher for HDMI 1.3

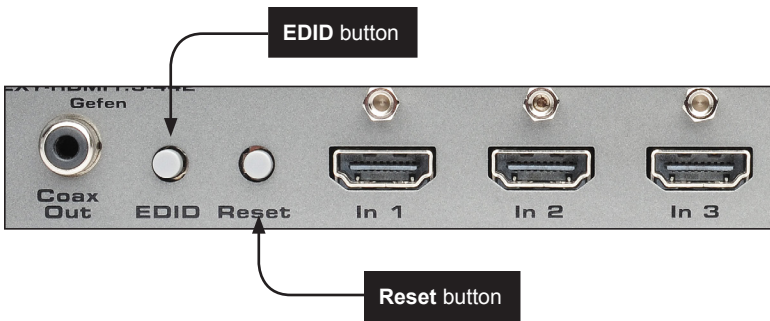
Setting the Switcher IR Channel	10
EDID Management.....	11
Selecting the EDID Mode.....	11
Internal EDID.....	12
External EDID	13

Setting the Switcher IR Channel

In order for the 4x2 Switcher for HDMI 1.3 to communicate with the included IR remote control unit, the switcher *must* be set to the same channel as the IR remote. Use the following procedure to set the IR channel of the switcher.

i **NOTE:** When the 4x2 Switcher for HDMI 1.3 is power-cycled or reset, the Input Indicators will briefly flash, displaying the current IR channel setting.

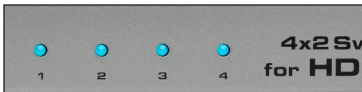
1. Make sure that the 4x2 Switcher for HDMI 1.3 is powered.
2. Press and hold the **EDID** button.



3. While depressing the **EDID** button, press and release the **Reset** button to cycle through each of the IR channel settings.

The current IR channel setting will be displayed by the flashing Input Indicators on the front panel:

Channel 0



Channel 1



Channel 2



Channel 3



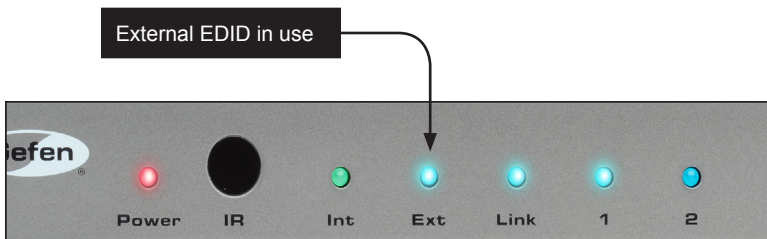
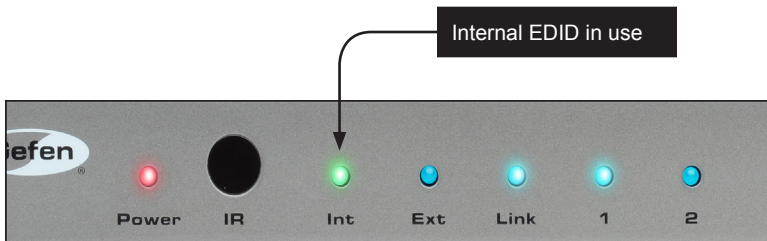
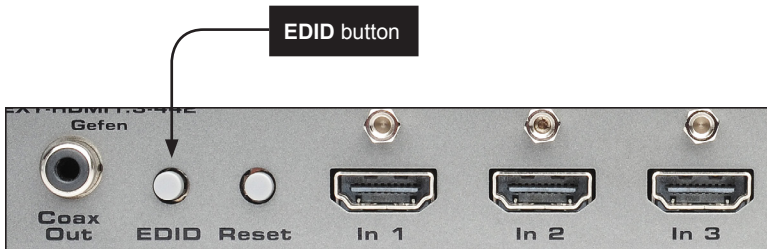
4. After the correct IR channel has been set, release the **EDID** button.

EDID Management

The 4x2 Switcher for HDMI 1.3 features EDID Management. Before the source can send video and/or audio to the display (sink), the source reads the EDID (Extended Display Identification Data) from the sink (display) devices that are connected to the switcher. The EDID contains information about what type of audio/video data that the source can send to each output device. The switcher can use either the downstream EDID (from the display/sink) or the built-in internal EDID.

Selecting the EDID Mode

1. Press and release the **EDID** button, on the back panel, to toggle between internal and external EDID modes.
2. The LED indicators on the front panel will display the current EDID mode.
3. After the desired EDID mode is selected, press the Reset button on the back panel. The switcher must be reset or power-cycled when switching between EDID modes.



Internal EDID

Use this EDID mode if problems are encountered when using the external EDID. The built-in internal EDID provides the source device with a “generic” EDID which can be used by all display (sink) devices.

1. Select the internal EDID mode. Refer to [Selecting the EDID Mode \(page 11\)](#).
2. The **Int** LED indicator on the front panel will be illuminated.
3. Press and release the **Reset** button on the back panel of the switcher to reset the unit. The switcher must be reset (or power-cycled) each time the EDID mode is switched.

The table, below, displays the video timings and audio formats supported by the internal EDID.



NOTE: All sink devices connected to the switcher *must* be compatible with at least one resolution / audio format specified in the internal EDID. If one of the connected displays does not support xvYCC, then this feature is removed from the EDID.

Video Timings	Audio Formats
1280 x 720p @ 50 Hz	LPCM (2CH),
1280 x 720p @ 59.94 / 60 Hz	Dolby Digital (2CH/5.1CH),
1920 x 1080i @ 50 Hz	DTS Digital Surround™
1920 x 1080i @ 59.94 / 60 Hz*	(2CH/5.1CH)
720 x 480p @ 59.94/60 Hz	
720 x 576 @ 50 Hz	
1920 x 1080p @ 50 Hz	
1920 x 1080 @ 59.94 / 60 Hz	
1440 x 480p @ 59.94 / 60 Hz	
1440 x 576p @ 50 Hz	

* *Native resolution*

External EDID

When set to **Ext** mode, EDID data will be fetched from the sink that is connected to the **Out 1** port. It is recommended that the display with the lowest native resolution be connected to the **Out 1** port. This ensures that a compatible video signal will be output to all connected displays.

1. Select the external EDID mode. Refer to [Selecting the EDID Mode \(page 11\)](#).
2. The **Ext** LED indicator on the front panel will be illuminated.
3. Press and release the **Reset** button on the back panel of the switcher to reset the unit. The switcher must be reset (or power-cycled) each time the EDID mode is switched.

When the external EDID is used, the following rules apply:

- ▶ The 4x2 Switcher for HDMI 1.3 will always attempt to read the EDID from the sink device connected to **Out 1** and copy it to **In 1**. **Out 1** is the (default) primary output port.
- ▶ If a sink device is not present on **Out 1**, then the EDID will be read from **Out 2** and copied to **In 1**. Once detected, the subordinate output port will become the new primary output port and the EDID will be copied to the **In 1** port.

This state will be in effect until a sink device is connected to **Out 1** and the switcher is power-cycled or the **Reset** button is pressed.

- ▶ EDID capabilities (timings, audio, color depth, etc.) will be supported by the subordinate sink devices *only* if they are supported by the primary sink device.
- ▶ Operational / compatibility issues may result if the subordinate sink device is unable to support the EDID capabilities of the primary sink device.

4x2 | Switcher for HDMI 1.3

03 Appendix

Specifications	16
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Specifications

Supported Formats

Resolutions (max.)	<ul style="list-style-type: none"> • 1920 x 1200 (WUXGA) • 1080p Full HD
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Electrical

Maximum Pixel Clock	• 225 MHz
Input Video Signal	• 1.2 Volts p-p
Input DDC Signal	• 5 Volts p-p (TTL)
Power Indicator	• 1 x LED, red
Internal EDID Indicator	• 1 x LED, green
External EDID Selector	• 1 x LED, blue
Link Indicator	• 1 x LED, blue
Input Indicators	• 4 x LED, blue
EDID Selection Button	• 1 x Tact-type
Reset Button	• 1 x Tact-type

Connectors

Video Input	• 4 x HDMI Type A, 19-pin, female
Video Output	• 2 x HDMI Type A, 19-pin, female
Audio Output	• 1 x S/PDIF, female

Operational

Power Input	• 5V DC
Power Consumption	• 13 Watts (max.)
Operating Temperature	• +32 to +104 °F (0 to +40 °C)

Physical

Dimensions (W x H x D) (Sender / Receiver)	• 12" x 1.2" x 4.2" (304mm x 30mm x 106mm)
Unit Weight	• 1.4 lb (0.6 kg)



Stretch it. Switch it. Split it. Gefen's got it. ®

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This product uses UL or CE listed power supplies.