Gefentv

4X1 Gefen TV Switcher

GTV-HDMI1.3-441N

User Manual

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Congratulations on your purchase of the 4x1 GefenTV Switcher. Your complete satisfaction is very important to us.

GefenTV

GefenTV is a unique product line catering to the growing needs for innovative home theater solutions. We specialize in total integration for your home theater, while also focusing on going above and beyond customer expectations to ensure you get the most from your hardware. We invite you to explore our distinct product line and hope you find your solutions.. Don't see what you are looking for here? Please call us so we can better assist you with your particular needs.

The GefenTV Switcher

The GefenTV 4x1 Switcher for HDMI with RS232 switches between any of four Hi-Def sources to one HDTV display. Resolutions up to 1080p Full HD with multichannel digital audio are supported. 3D content can be displayed when connecting a 3DTV and 3D source. The front panel LEDs show the currently selected source. This 4x1 Switcher has an auto-switching feature: If a new source is connected or turned on, the Switcher will automatically switch to that input. The 4x1 Switcher will revert to the previous input once the current device is turned off or disconnected. Any of the four Hi-Def sources can be selected by the push-button, IR remote control, or using the RS-232 control.

How It Works

Connect up to four HDMI sources to the GefenTV 4x1 Switcher for HDMI with RS232 using the supplied cables. Connect the HDTV display to the HDMI output. Connect the 5V power supply to the 4x1 Switcher. Apply power to the source devices and the display. The Hi-Def source is displayed and will follow the current switching selection.

**READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE 4X1 GEFEN TV SWITCHER**

• This product has an auto-switching feature: If a new source is connected
  or turned on, the Switcher will automatically switch to that input. The 4x1
  Switcher will revert to the previous input once the current device is turned off
  or disconnected. Any of the four Hi-Def sources can be selected by using the
  push-button, IR remote control, or using the RS-232 control.

HDMI 1.3 Features

- 225 MHz (up to 12-bit YUV 444 @ 1080p)
- Deep Color
- Dolby TrueHD and DTS HD Master Audio
- Lip-Sync
- CEC Pass-Through

Features

- Supports resolutions up to 1080p Full HD and 1920x1200
- 3DTV Pass-Through
- Supports LPCM 7.1 audio, Dolby Digital Plus, Dolby TrueHD, and DTS-HD Master Audio
- Local Switching / Auto-Switching feature
- RS-232 control
- IR remote control
- Supports DVI sources and DVI displays with an HDMI-to-DVI adapter
- Energy Star Compliant

Package Includes

(1) GefenTV 4x1 Switcher for HDMI with RS232
(4) 6 ft. HDMI cable (M-M)
(1) 6 ft. DB9 Serial Cable (M-F)
(1) IR Remote Control unit
(1) 5V DC Power Supply
(1) User Manual

PANEL LAYOUT

Front Panel

2   **3**   **4**

GefenⓉⓋ®

In 1   In 2   In 3   In 4   ENH

Switcher

1

Back Panel

5

RS-232

GTV-HDMI1.3-441N
Gefen

EQ   Select   HDMI Out   In 1   In 2   In 3   In 4   5V DC

6 7   **8**   **9**   **10**
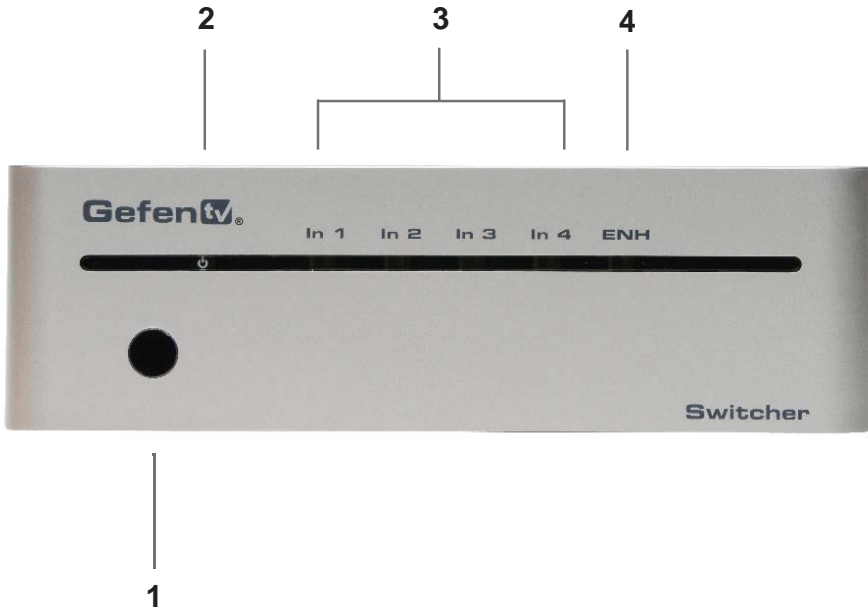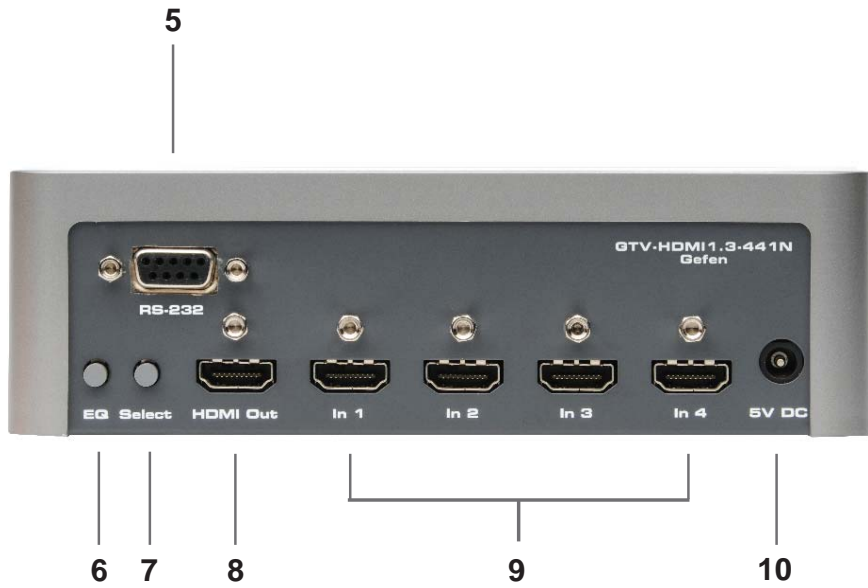
1   ***IR Sensor***
Receives signals from the IR Remote Control.

2   ***Power Indicator***
This LED will turn bright red once the locking power supply has been properly connected.

3   ***Input Indicators (HDMI In 1 - HDMI In 4)***
Displays the current input of the 4x1 Switcher.

4   ***Enhance Indicator***
This LED indicates that EQ (Pre-Emphasis) is active.

5   ***RS-232 Serial Port (Output)***
Connects to the RS-232 control device. The 4x1 may be switched remotely using this port. See page 12 for details.

6   ***EQ (Pre-Emphasis) Button***
Use this button to improve the signal over long cable distances.

7   ***Select Button***
Used to select the input source.

8   ***HDMI Output Port***
Connect an HDTV display to this HDMI port.

9   ***HDMI Input Ports (4)***
Connect a Hi-Def source to these ports.

10 ***5V DC Power Connector***
Connects the included 5V DC power supply to this receptacle.

RMT-4IR Remote
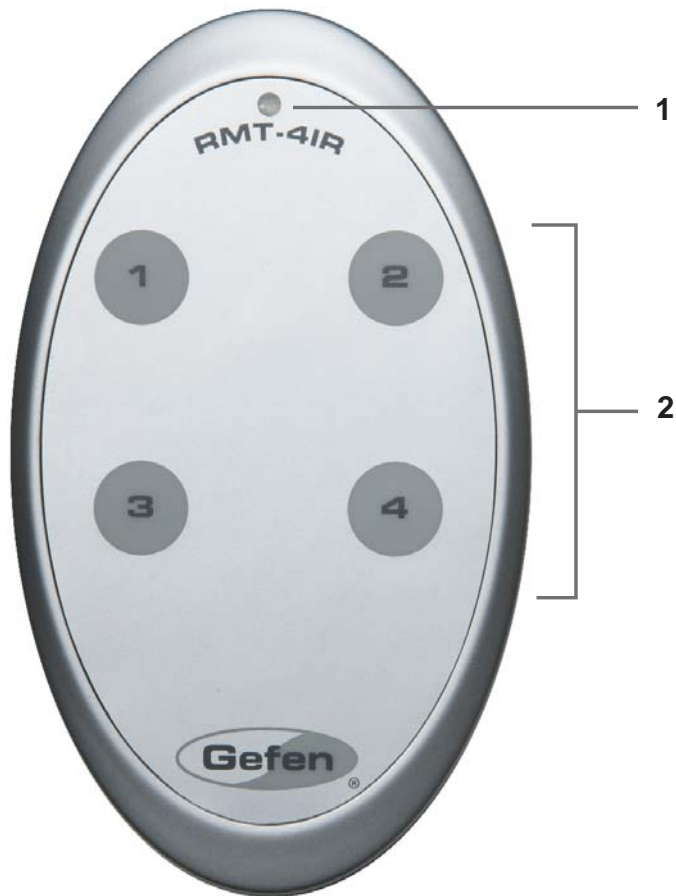
1   ***Activity Indicator***
        This LED will be activated momentarily each time a button is pressed.

2   ***Input Source Selection Buttons (1 - 4)***
        These buttons are used to select which input source is routed to the
        HDTV display.

Installing the IR Remote Control Battery

1.   Remove the battery cover on the back of the IR Remote Control unit.

2.   Insert the included battery into the open battery slot. The positive (+) side of the battery should be facing up.

3.   Replace the battery cover.

The Remote Control unit ships with two batteries. One battery is required for operation and the other battery is a spare.

Battery Slot

Resolving IR Code Conflicts

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

The DIP Switch bank on the IR remote control unit is located underneath the battery cover.
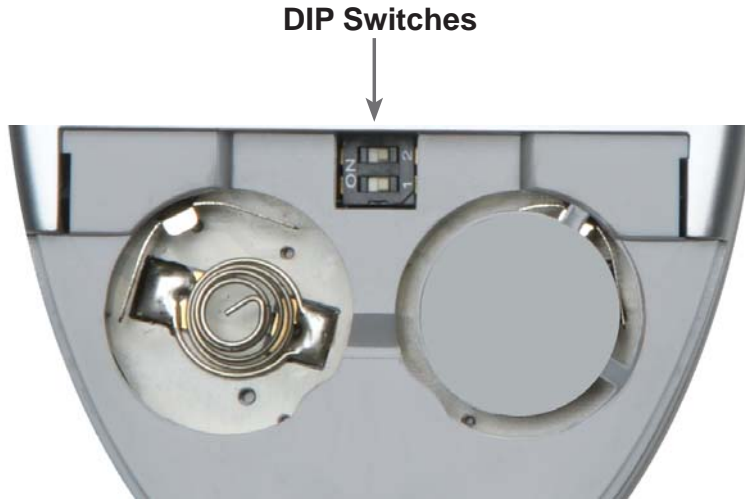
DIP Switches

It is important that the IR channel selected on the remote, match the IR channel on the GefenTV 4x1 Switcher for HDMI 1.3 for proper operation. For example, if you set both DIP switches on the remote to the down position (toward the "1" and "2"), IR channel 0, you must set the GefenTV 4x1 Switcher for HDMI 1.3 to use IR channel 0.

Remote Channel 0: Default

1   2

Remote Channel 1:

1   2

Remote Channel 2:

1   2

Remote Channel 3:

1   2
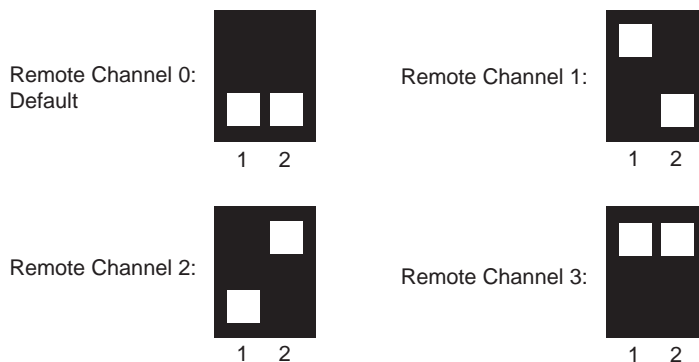
See page 9 for information on how to change the IR channel on the GefenTV 4x1 Switcher for HDMI 1.3.

CHANGING THE IR CHANNEL

Setting The IR Channel

Use the following procedure to set the proper IR channel on the Switcher.

1   Press and hold the **EQ** button for approximately 5 seconds to enter the IR channel selection mode. The currently selected IR channel will by indicated by a flashing blue LED on the Input Indicators (page 5).

2   Press the **Select** button to cycle through each IR channel.

   IMPORTANT: The selected IR channel must be the same as the IR channel set on the IR Remote (see page 8). Refer to the table below for setting the IR channel.

3   Once the proper IR channel has been selected, press the **EQ** button to confirm and exit the IR channel selection mode. The currently selected input source will now be indicated.

IR Channel Table

Input LED	IR Channel
1	0
2	1
3	2
4	3

How to Connect the 4x1 GefenTV Switcher

1. Use the provided HDMI cables to connect the source devices to the HDMI input port of the GefenTV 4x1 Switcher for HDMI 1.3.

2. Use an additional HDMI cable to connect an HDTV to the Output on the Switcher.

3. Connect the included 5V DC locking power supply to the power receptacle on the Switcher.

4. Connect the other end of the power supply to an available power outlet.

Wiring Diagram for the GefenTV 4x1 Switcher for HDMI 1.3

HDMI CABLE

RS-232 CABLE

HDMI Source

HDMI Source

HDMI Source

HDMI Source

HDMI Display

HDMI Switcher

RS-232 Controller

GTV-HDMI1.3-441N
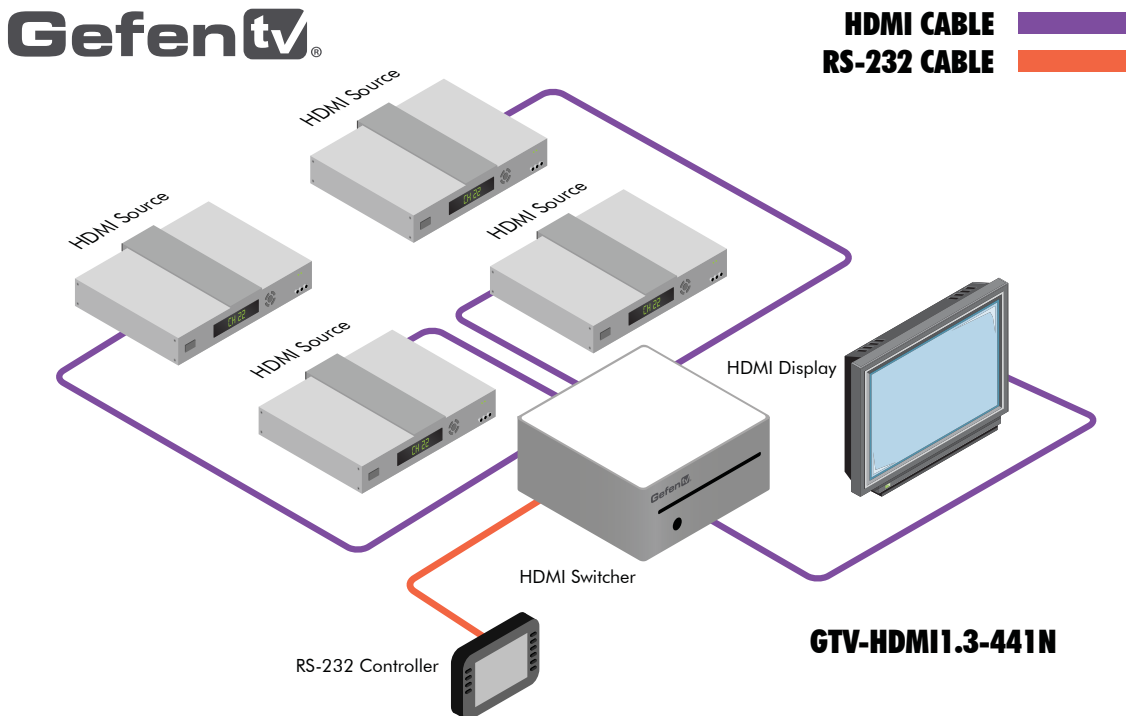
How to control the GefenTV 4x1 Switcher for HDMI 1.3

There are three ways to control the GefenTV 4x1 Switcher for HDMI with RS232:

1. Use the IR Remote Control Unit to select the current source. Each corresponding to a numbered source connected on the back of the Switcher. The corresponding source will be shown on the display.

2. Press the **Select** button on the rear of the unit to cycle through each input source.

3. Send RS-232 commands to the serial port on the rear panel via computer or a control automation device. Page 12 for details.

Automatic Switching

The GefenTV 4x1 Switcher for HDMI 1.3 has an auto-switching feature: If a new source is connected or turned on, the Switcher will automatically switch to that input. The 4x1 Switcher will revert to the previous input once the current device is turned off or disconnected. The remote and input select button will always allow you to switch manually. The IR Remote Control Unit will switch discretely to any input, while the **Select** button will allow you to toggle between inputs.

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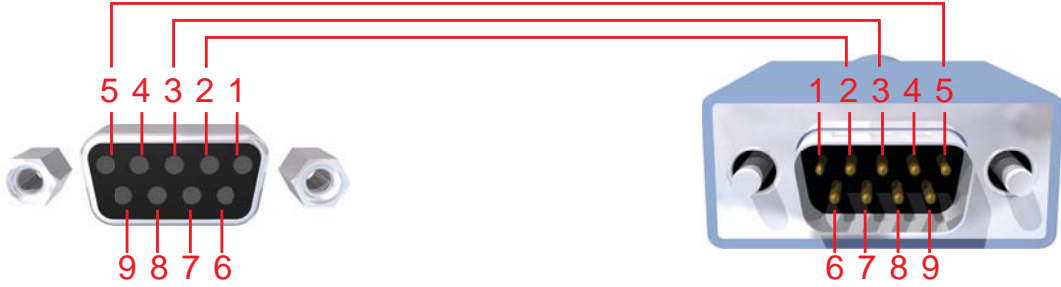
Only Pins 2 (RX), 3 (TX), and 5 (Ground) are used on the RS-232 serial interface

This feature allows for easy long-distance control by computer or integration into automated systems capable of transmitting RS-232 commands. Please use the settings listed below to configure the RS-232 port of the controlling device.

Transmitting appropriate numeric ASCII characters will simulate key presses on the RMT-4IR remote control. All possible control actions are shown as follows:

Table of Commands and Results

ASCII	RMT-4IR Button	Binary	Result
1	1	0011 0001	Selects Input 1
2	2	0011 0010	Selects Input 2
3	3	0011 0011	Selects Input 3
4	4	0011 0100	Selects Input 4

RS-232 Settings

Bits per second 19200

Data bits 8

Parity .... None

Stop bits 1

Flow Control .... None

Commands

These commands are not case-sensitive.

Command	Description
A	Enable Auto-Switching
N	Disable Auto-Switching
S	Get System Status
V	Displays Firmware Version

Command Descriptions:

A Command

The A command enables auto-switching. The Switcher will automatically switch to the last source device that was powered on.

Syntax:

a

Parameters:

None

N Command

The N command disables Auto-Switching.

Syntax:

n

Parameters:

None

S Command

The S command displays the current routing status of the Switcher. The S command will also display the current auto-switching status (A or N). Please see the examples below the syntax description.

Syntax:

s

Parameters:

None

Examples:

s

2A

In the first example above, 2A indicates that Input 2 is selected and Auto Switching Mode is *active*.

s

3N

In the second example above, 3N indicates that Input 3 is selected and Auto Switching Mode is *not active*.

V Command

The V command returns the firmware version.

Syntax:

v

Parameters:

None

SPECIFICATIONS

Video Amplifier Bandwidth ....225 MHz

Input Video Signal .... 1.2 Volts p-p

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

HDMI Input Connectors ....(4) HDMI Type A 19 pin female

HDMI Output Connector .... HDMI Type A 19 pin female

RS-232 Interface.. DB9 female

Power Supply .... 5V DC

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

Operating Temperature.. 0 - 40 °C

Dimensions .... 6.9" W x 2.1" H x 6.9" D

Shipping Weight .... 5 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, 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.