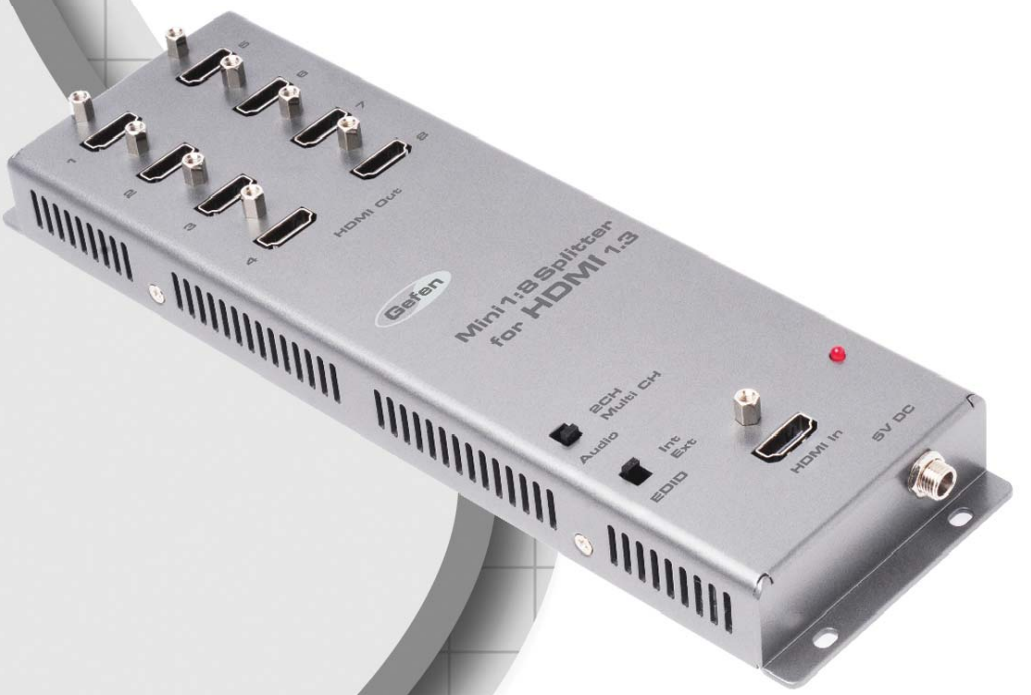
Mini 1:8 HDMI 1.3 Splitter

EXT-MHDMI1.3-148

User Manual



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ASKING FOR ASSISTANCE

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Notice

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INTRODUCTION

Congratulations on your purchase of the Mini 1:8 Splitter for HDMI 1.3. Your complete satisfaction is very important to us.

Gefen, Inc.

Gefen caters 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 Gefen Mini 1:8 Splitter for HDMI 1.3

The Mini 1:8 Splitter for HDMI 1.3 is a compact and lightweight wall-mounted alternative to our rack-mounted HDMI 1.3 splitters. The Mini 1:8 Splitter for HDMI 1.3 sends one source of HDMI digital high definition audio/video to 8 HDMI-compliant displays at the same time. It supports all HDMI equipment such as DVD players, satellite set-top boxes, and all HDMI displays. Features include transmission of high-def, deep color video resolutions up to 1080p@60 Hz combined with advanced lossless digital audio formats for pristine sound reproduction.

How It Works

Connect your HDMI video source to the Mini 1:8 Splitter for HDMI 1.3's input using the supplied HDMI cable. Connect up to 8 HDMI-compliant displays to the unit's 8 HDMI outputs. Once connected and powered, the source signal will be seen on all eight displays at the same time.

Note:

This Splitter will attempt to identify and configure connected displays by capturing their EDID data (resolution/capability information that is unique to a particular display). If EDID data is unavailable, the Splitter can use a pre-programmed standard EDID that is compatible with most displays. A bank of 2 EDID function switches on the front panel allows selection of EDID type (internal or external) and 2-channel or multichannel audio.

All displays that cannot show the same video resolution(s) as the Primary Display connected to Output #1 may fail to show a picture. Secondary displays follow the Primary by sharing the resolution and capability information (EDID) obtained from the Primary Display.

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE MINI 1:8 SPLITTER FOR HDMI 1.3

- The Mini 1:8 Splitter for HDMI 1.3 features EDID selection that may impact the resolutions/features that are available for use. Please see the EDID Mode section on page 6 for more information on the usage of this feature.

- HDMI 1.3 Features:
  225 MHz (up to 12 bit YUV 444 @ 1080p)
  Deep Color (XV Color)
  Dolby TrueHD & DTS-HD Master Audio
  Color Space Conversion
  CEC Pass Through and xvYCC
  Lip-Sync Pass Through

- The Mini 1:8 Splitter for HDMI 1.3 features an automatic Deep Color detection function that will determine if all connected devices/displays are Deep Color capable. If a single connected device/display is not capable of Deep Color, this feature will not be available for use. This automatic detection cannot be disabled.

- Please note that a momentary loss of video will occur on all output devices when either a display is attached, removed, or turned off/on when using the EXTERNAL EDID Mode. This occurrence is unavoidable due to the nature of the automatic Deep Color detection features built into this unit. If this momentary video dropout is undesired, please utilize the INTERNAL EDID Mode which will alleviate this momentary video dropout.

FEATURES

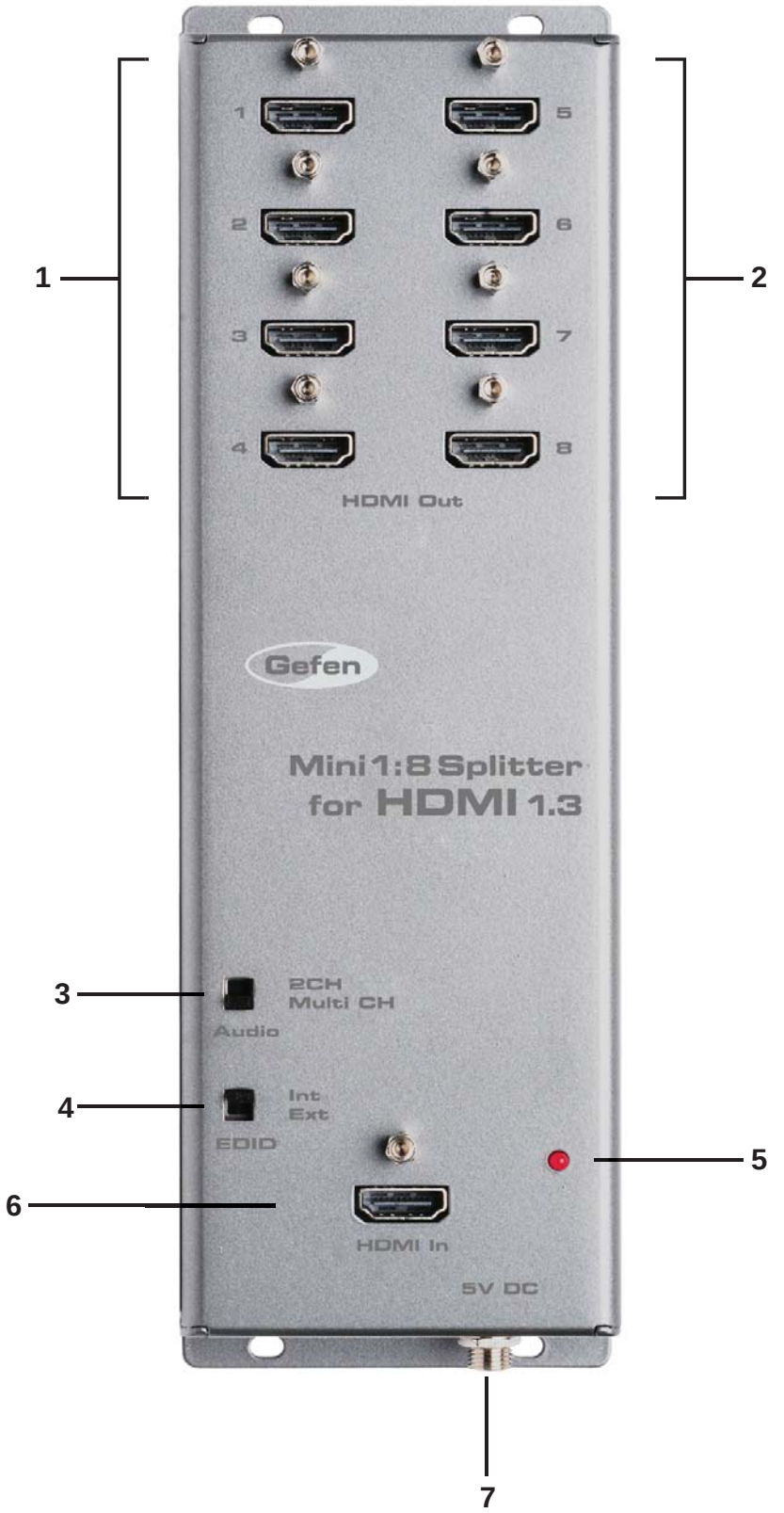
Features

- Simultaneously displays a single HDMI 1.3 source on up to 8 HDMI-compliant monitors without signal loss
- Maintains high resolution video - beautiful, sharp HDTV resolutions up to 1080p@60 Hz
- EDID Detection/Adjustment for rapid integration of source and displays
- Supports LPCM 7.1 audio, Dolby Digital Plus, Dolby TrueHD, and DTS-HD Master Audio
- Supports DVI source and DVI displays using HDMI-to-DVI converter cable
- HDCP keysets allow each output to work independently when connecting to a display
- HDMI input/output cables may be up to 10/15 meters with 1080p/8-bit resolution
- HDMI input/output cables may be up to 6/10 meters with 1080p/12-bit resolution
- HDMI and HDCP compliant

Package Includes

(1) Mini 1:8 Splitter for HDMI 1.3
(1) 6- foot Locking HDMI cable
(1) 5V DC Power Supply
(1) User’s Manual

PANEL LAYOUT



PANEL DESCRIPTIONS

1 HDMI Outputs 1-4

Connect an HDMI capable device to any of these output ports. The device attached to output port 1 will be used to read EDID when the EXTERNAL EDID mode is selected.

NOTE: All devices connected to any of the output ports must be capable of accepting at least one resolution listed in the EDID of the device connected to output port 1 when using the EXTERNAL EDID mode. All devices connected to any output port must be capable of accepting at least one resolution listed in the pre-programmed EDID (resolutions are listed on page 9) when using the INTERNAL EDID mode.

2 HDMI Output Ports 5-8

Connect an HDMI capable device to any of these output ports. Please read the note above.

3 Audio Channel Selection Switch

This switch will modify the EDID to specify the number of supported audio channels when using the INTERNAL EDID mode. This setting will not affect the EDID information when using the EXTERNAL EDID mode.

4 EDID Mode Selection Switch

This switch will control the location of the EDID that will be sent to the source device. The options are EXTERNAL and INTERNAL. Please see page 6 for more information.

5 Power Indicator LED

This LED will become active once the included 5V DC power supply has been properly connected to the unit and a power source.

6 HDMI Input Port

Connect an HDMI source device to this input port. The signal from this port will be replicated to all HDMI output ports. HDMI 1.3 is supported. Please see the Operation Notes section on page 2 for supported HDMI 1.3 features.

7 5V DC Power Input Receptacle

Connect the included 5V DC power supply between this receptacle and a power source. Only use the power supply supplied with this unit.

How to Connect the Mini 1:8 Splitter for HDMI 1.3

1. Connect an HDMI source device to the HDMI input port on the Mini 1:8 Splitter for HDMI 1.3 using the **INCLUDED** HDMI cable.

2. Connect up to 8 HDMI capable devices to the output ports on the Mini 1:8 Splitter for HDMI 1.3 using **USER** supplied HDMI cables.

NOTE: Always connect one HDMI output device to output port 1 when using the EXTERNAL EDID mode. Please read the Operation Notes (page 2) and EDID Modes (page 6) for more information about EDID handling and routing.

3. Connect the included 5V DC power supply between the power input receptacle and an open wall power socket.

How to Operate the Mini 1:8 Splitter for HDMI 1.3

The Mini 1:8 Splitter for HDMI 1.3 does not require any configuration to begin splitting the incoming HDMI input signal. However, depending on the features required by the user, the EDID Mode and Audio Channel Selection switches may need to be adjusted. Please see the following section for more information on the usage of these switches.

EDID Modes

The Mini 1:8 Splitter for HDMI 1.3 features automatic and manual EDID adjustments to maximize compatibility of all attached devices. First it is necessary to understand EDID and what it is used for.

EDID. What is it and what is it used for?

Under normal circumstances, analog (i.e. VGA computer) and digital (i.e. Blu-ray player) source devices will require information about a connected device/display to assess what resolutions and features are compatible. This required information is read from a standardized file called the EDID (Extended Display Information Data). Almost all types of output devices/displays (computer monitor, HDTV, A/V receiver) will carry and transmit its EDID to a connected source. The source will then read this EDID file and make the necessary adjustments to ensure that only compatible features are released to the device/display. A source can only accept and read one EDID from a connected device/display. Likewise, the source can only output one resolution and audio type for a connected device/display to use.

Why is EDID so important with the Mini 1:8 Splitter for HDMI 1.3?

The Mini 1:8 Splitter for HDMI 1.3 is complex piece of technology that replicates a single input signal to multiple outputs. The single source device will require one EDID to read. Multiple devices/displays can be connected to the outputs on the Mini 1:8 Splitter for HDMI 1.3, each with its own EDID, so management of this information is key to ensure that maximum compatibility is maintained between all devices.

EDID MANAGEMENT

What options do I have managing EDID in the Mini 1:8 Splitter for HDMI 1.3?

It is important to understand that the EDID contains much more than just listings of supported resolutions and audio formats. However, resolutions and audio formats are the two key types of information that a user will need to understand how to use these EDID management functions.

Common problems that a user may encounter while using a splitter can be:

1. Video may not be visible on all output devices/displays.
   (This usually caused by a device/display not being compatible with the currently used output resolution.)

2. Audio may not be heard on all output devices/displays.
   (This usually caused by a device/display not being compatible with the currently used output audio format.)

These issues arise from resolution/audio incompatibilities between the different devices/displays connected to the splitter.

The Mini 1:8 Splitter for HDMI 1.3 can use one of two sources to acquire and transmit an EDID.

EXTERNAL MODE: This mode will use the EDID from the device/display connected to the HDMI output port 1. All resolutions and audio formats specified in this EDID will be passed to the source device.

NOTE: All other HDMI capable devices/displays connected to the other output ports **MUST** be compatible with at least one resolution/audio format supported by the device/display connected to HDMI output port 1. It is recommended to set, on the source device, a common resolution and audio format shared by all attached devices/displays. This is to ensure a compatible signal is output to all connected devices/displays.

- To use this mode, set the EDID Mode Switch on the front panel to the **EXT** position.

This mode should be used in scenarios where a particular resolution or audio format is required by the output devices/displays.

3. **INTERNAL MODE**: This mode will use a preset EDID that is stored in the Mini 1:8 Splitter for HDMI 1.3. All resolutions and audio formats specified in this EDID will be passed to the source device. Many common resolutions and audio formats are supported by this EDID. For a complete listing of the resolutions and audio formats listed in this EDID please see page 9.

Continued from the previous page

NOTE: All other HDMI capable devices/displays connected to the output ports **MUST** be compatible with at least one resolution/audio format specified in this EDID. It is recommended to set, on the source device, a common resolution and audio format shared by all attached devices/displays. This is to ensure a compatible signal is output to all connected devices/displays.

-To use this mode, set the EDID Mode Switch on the front panel to the **INT** position.

This mode should be used in most scenarios.

Audio Channel Selection

The Mini 1:8 Splitter for HDMI 1.3 features a switch that will modify the supported audio formats listed in the pre-programmed EDID. This feature is useful for limiting the output of the source device to either 2 or multi-channel audio formats.

NOTE: This selector switch will only affect the pre-programmed EDID in the INTERNAL (INT) EDID Mode.

The Mini 1:8 Splitter for HDMI 1.3 can use either of the following settings for audio format support:

1. **2 Channel:** This setting will limit the audio formats listed in the pre-programmed EDID to 2 channel LPCM. For a full listing of the audio formats in this mode please see page 9.

   -To use this mode, set the Audio Selection Switch on the front panel to the **2 CH** position.

   This mode is useful in scenarios where all output devices/displays are HDTV monitors that only support 2 channel LPCM. This setting will ensure that all connected devices will receive and produce sound.

2. **Multi-Channel:** This setting will enable all common audio formats in the pre-programmed EDID. For a full listing of the audio formats in this mode please see page 9.

   -To use this mode, set the Audio Selection Switch on the front panel to the **Multi CH** position.

   This mode is useful in scenarios where the output devices/displays are varying devices (i.e. HDTV display and audio receivers). Please note that sound may not be heard from all output devices/displays if a shared common audio format is not used by the source device.

INTERNAL EDID SPECIFICATIONS

Listed Resolutions:

Resolution	Interlaced (I) Progressive (P)	Timing (Hz)	Aspect Ratio
640x480	P	59.94/60	4:3
720x480	I	59.94/60	4:3
720x480*	P	59.94/60	4:3
1280x720	P	59.94/60	16:9
1920x1080	I	59.94/60	16:9
1920x1080	P	59.94/60	16:9
1920x1080	P	23.97/24	16:9
720x576	I	50	4:3
720x576	P	50	4:3
1280x720	P	50	16:9
1920x1080	I	50	16:9
1920x1080	P	50	16:9
720x480	P	59.94/60	16:9
720x576	P	50	16:9

*Naitive resolution

Listed Audio Formats In Multi Channel Mode:

Format	Supported Channels	Sampling Rates
LPCM	2	32/44.1/48/88.2/96/176.4/192
LPCM	8	32/44.1/48/88.2/96/176.4/192
AC-3	6	32/44.1/48
DTS	7	32/44.1/48.88.2/96
Dolby Digital Plus	8	32/44.1/48
Dolby TrueHD	8	44.1/48/88.2/96/176.4/192
DTS-HD MA	8	44.1/48/88.2/96/176.4/192

Listed Audio Formats In 2 Channel Mode:

Format	Supported Channels	Sampling Rates
LPCM	2	32/44.1/48/88.2/96/176.4/192

AUTOMATIC DEEP COLOR DETECTION

Automatic Deep Color EDID Features

The Mini 1:8 Splitter for HDMI 1.3 features an automatic EDID modification feature that will evaluate all connected devices/displays for Deep Color compatibility. Regardless of the selected EDID Mode, if an output device/display that is connected does not support the HDMI 1.3 specified Deep Color feature, all EDID Deep Color features will be removed. This will maximize compatibility in a mixed output device environment. This feature is automatic and cannot be disabled.

SPECIFICATIONS

Single Link Bandwidth ..... 225 MHz

Input Video Signal ..... 1.2 volts p-p

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

Maximum Video Resolution ..... 1080p@60 Hz with up to 12-bit Deep Color

HDMI Connector ..... type A 19 pin female; (1) input, (8) output

Power Supply ..... 5V DC

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

Dimensions ..... 4”W x 11”H x 1.2”D

Operating Temperature ..... 0-40 degrees C

Compliancy: RoHS, CE, and UL Certified; Complies with US/EU Standards
HDMI 1.3, HDMI 1.2, HDCP 1.1 and DVI 1.0 Compliant

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, 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-EXT-MHDMI1.3-148

Rev A1

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This product uses UL listed power supplies.