1:8 DVI Distribution Amplifier

EXT-DVI-148
User Manual

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Congratulations on your purchase of the 1:8 DVI Distribution Amplifier. 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 HDMI 1.3 Over One Fiber with IR

The 1:8 DVI Distribution Amplifier is the perfect solution for anyone who needs to send one source of digital high definition video to multiple displays at the same time. It supports all DVI equipment, such as computers, HD-DVD players and satellite set top boxes and all DVI displays. DVI (Digital Visual Interface) is a common connector used throughout the industry to connect digital video displays to video sources. In operation, the digital video source is connected to the distribution amplifier on one side. On the other side, eight video outputs are available to be used in part or in full. Once the unit is connected and powered, your video source is routed to up to eight digital displays at the same time.

For home theater applications, the unit is HDCP (high bandwidth digital content protection) compliant, making it effective for use with all HDTV displays. HDCP is a standard "key" encoded into the DVI signal to prevent video data from being pirated. HDCP was strongly endorsed by the entertainment industry. If a source device is HDCP coded and is connected to a HDTV display or projector via DVI without the proper HDCP decoding mechanism, the picture is relegated to "snow" or in some cases, a very low (480p) resolution. In order to see protected content, the source, the display and any device in between must be equipped with DVI connections that can enable HDCP using "software key" decoding.

How It Works

Simply connect your DVI video source to the 1:8 DVI Distribution Amplifier input using the supplied DVI cable. Then connect up to eight DVI displays to the unit's eight DVI outputs. Once connected and powered, your video source will be seen on all eight displays at the same time.

**READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE 1:8 DVI DISTRIBUTION AMPLIFIER**

- When using the 1:8 DVI Distribution Amplifier, it is important to use devices/ displays that have similar or compatible resolutions/features. This will ensure that the single video/audio signal produced by the source device is accepted by all of the connected output devices/displays. See page 7 for more information.

Features

- Distributes easily up to eight DVI/HDMI displays

- Maintains 480i, 480p, 720p, 720i, and 1080i, 1080p resolutions

- Maintains highest DVI single link video resolution

- Maintains highest DVI digital audio signal

- Supports HDCP compliant devices

- DVI or DVI to HDMI cables are used to connect the inputs and switcher output

- Installs in seconds

Package Includes

(1) 1:8 DVI Distribution Amplifier
(1) 6 ft. DVI cable (M-M)
(1) 24VDC Power Supply
(1) Rack Ears
(1) Quick Start Guide

Front

Back

1:8 DVI Distribution Amplifier
HDCP COMPLIANT

Power

DVI Out

Gefen

EXT-DVI-148
Balun

DVI In

24 VDC
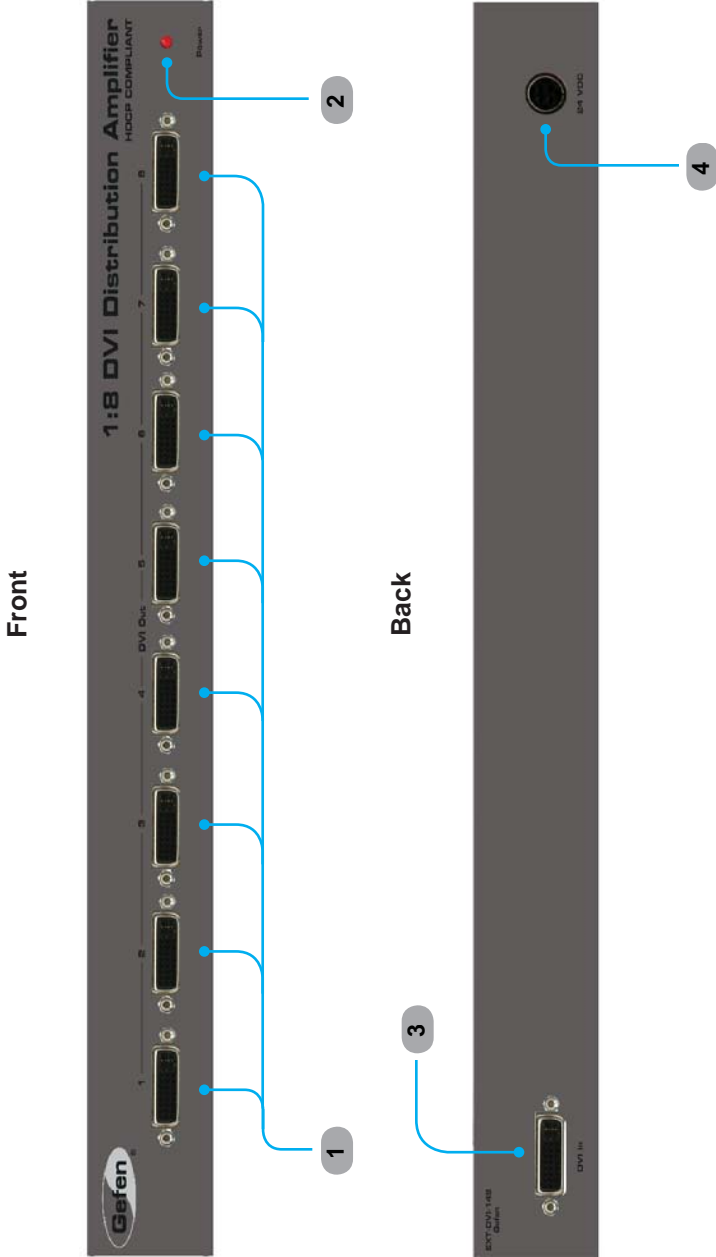
1   ***DVI Out (1 - 8)***
Connect a DVI display to each of these DVI ports.

2   ***Power***
This LED indicator will glow bright red when the included power supply is connected to the *1:8 DVI Distribution Amplifier* and the AC power cord is connected to an available electrical outlet.

3   ***DVI In***
Connect the computer (or other DVI source) to this DVI port.

4   ***24 VDC***
Connect the included 24V DC power supply to this power receptacle and connect the AC power cord to an available electrical outlet.

How to Connect the 1:8 DVI Distribution Amplifer

1. Connect a computer (or other DVI source) to the DVI input on the back panel of the *1:8 DVI Distribution Amplifier* using the included DVI cable.

2. Connect up to eight DVI displays to the DVI outputs on the front panel of the *1:8 DVI Distribution Amplifier.*

3. Connect the included 24V DC power supply to the power receptacle on the back panel of the *1:8 DVI Distribution Amplifier.* Connect the opposite end of the AC power cord into an available electrical outlet.

Wiring Diagram for the 1:8 DVI Distribution Amplifier
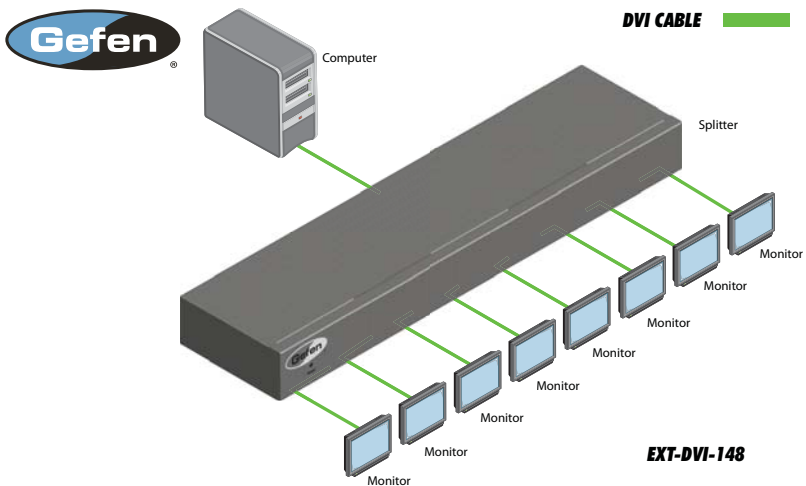
EDID: What is it and what is it used for?

Under normal circumstances, an source device (digital and analog) will require information about a connected device/display to assess what resolutions and features are available. The source can then cater its output to send only resolutions and features that are compatible with the attached device/display. This information is called EDID (Extended Display Information Data) and a source device can only accept and read one EDID from a connected device/display. Likewise, the source an only output one resolution for use by a connected device/display.

Why is EDID so important with the 1:8 DVI Distribution Amplifier?

The *1:8 DVI Distribution Amplifier* is complex piece of technology that replicates and switches between multiple inputs and outputs. Each connected source device will require one EDID to read. EDID management is carefully handled by *1:8 DVI Distribution Amplifier* to provide a single EDID for each source to read.

What options do I have to manage the EDID in the 1:8 DVI Distribution Amplifier?

First, it is important to note that each source device can only output one video/audio signal type. This includes resolutions and timings. When multiple devices/displays are used, such as with the *1:8 DVI Distribution Amplifier*, it is important to use devices/displays that have similar or compatible resolutions/features. This will ensure that the single video/audio signal produced by the source device is accepted by all of the connected output devices/displays.

The user has the option, through a combination of DIP switch settings within the *1:8 DVI Distribution Amplifier*, to choose how the unit will manage the EDID from multiple HDMI devices/displays. Therefore the user has some control over the resolutions/features that the source devices will output. The *1:8 DVI Distribution Amplifier* has a multiple EDID management modes that will control how the EDID information from multiple devices/displays are combined, ignored, and routed.

How do I change EDID modes in the 1:8 DVI Distribution Amplifier?

There is an bank of 8 DIP switches located on the main-baord inside of the *1:8 DVI Distribution Amplifier*. DIP switches 1, 2, and 5 are used in different combinations to manage the EDID modes.

To access these DIP switches it will be required to open the unit. To do this, remove all screws on the underside and side of the unit. Remove all HEX screws on the rear panel. This includes the screws above each DVI port. Carefully slide the unit apart.

EDID Modes

The diagrams below illustrate the DIP switch bank for each EDID mode. Use DIP switches 1, 2, and 5 to select the desired EDID management mode.

EDID Mode 0
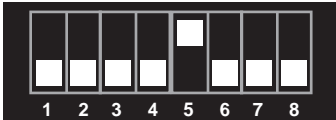
- EDID is copied from the first DVI output.

EDID Mode 1

- Same as EDID Mode 0 and adds basic audio support.

EDID Mode 2

- Same as EDID Mode 0 and adds full audio support.

EDID Mode 3

- EDID is generated based on the common video features of all the connected devices.

EDID Mode 4

• Same as EDID Mode 3 and adds basic audio support.
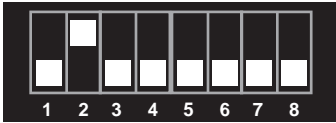
EDID Mode 5

• Same as EDID Mode 3 and adds full audio support.

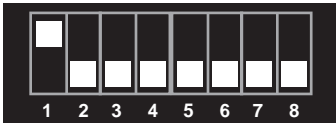**EDID Mode 6**

• EDID is generated based on the common video features of all the connected devices.

EDID Mode 7 (Default Setting)

• EDID is passed unmodified from the device connected to the first active DVI output port.

SPECIFICATIONS

Maximum Pixel Clock...165 MHz

Input Video Signal..1.2 volts p-p

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

Input Video Connector.....................................(1) DVI, 29-pin, female (digital only)

Output Video Connector..................................(8) DVI, 29-pin, female (digital only)

Power Consumption ....60W (max.)

Power Supply ....24V DC

Dimensions (W x H x D) ....17" x 1.6" x 5.4" (432mm x 41mm x 137mm)

Shipping Weight ....6 lbs. (2.7 kg)

Rack Mountable.. 1U rack space

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-DVI-148

This product uses UL listed power supplies.