



1080P
PROGRESSIVE

HDMI[®]
HIGH-DEFINITION MULTIMEDIA INTERFACE

8x8 Matrix for HDMI w/8 ELR-POL Outputs

GEF-HDFST-848-8ELR
User Manual

www.gefenpro.com

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INTRODUCTION

Congratulations on your purchase of the GefenPRO 8x8 Matrix for HDMI w/8 ELR Outputs. Your complete satisfaction is very important to us.

About Gefen

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. Please visit <http://www.gefen.com> for the latest offerings in High-Definition signal solutions or call us between the hours of 8:00 am and 5:00 pm Monday-Friday, Pacific Standard Time for assistance with your A/V needs. We'll be happy to assist you.

The GefenPRO 8x8 Matrix for HDMI w/8 ELR-POL Outputs

The GefenPRO 8x8 Matrix for HDMI with 8 ELR-POL Outputs and Bidirectional IR routes up to eight Hi-Def sources at resolutions up to 1080p Full HD with Deep Color and multi-channel digital audio to any of eight HD displays, using FST to speed up HDCP authentication process. Each of the included ELR-POL Receivers units are used to extend HDMI to eight locations, using Gefen ELR (Extra Long Range) and POL (Power Over Line) technologies. ELR is based on HDBaseT® and allows the extension of HDMI using a single CAT-5e cable. POL eliminates the need to externally power the Receiver units. The GefenPRO 8x8 Matrix for HDMI w/8 ELR-POL Outputs supports 3DTV pass-through and 8 channel digital audio formats such as Dolby® TrueHD and DTS-HD Master Audio™. Each source is accessible at all times from any display location by using the included IR Remote, the RS-232 port, IP control (Telnet or Web GUI), or by using the front-panel push buttons. Bidirectional IR allows the source to be controlled from the viewing location. The display can be controlled from the source location using IR commands. 3D content can be displayed when connecting a 3DTV and 3D source.

How It Works

Using HDMI cables, connect the Hi-Def sources to the eight HDMI inputs on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. Connect up to eight HD displays to the included Receiver units, also using HDMI cables. Use a single CAT-5e cable, up to 330 feet (100 meters), to connect each of the Receiver units to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. Connect the included AC power cord to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs and connect it to an available electrical outlet. Power to each of the Receiver units is delivered from the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. To control each Hi-Def source from the display location, connect an IR Extender to the IR Ext jack on each Receiver unit. Connect an IR Emitter to the corresponding IR Out for each source input on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs and place the IR emitter over the IR sensor of the Hi-Def source. Point the IR remote at the IR Extender (at the display location) to control the Hi-Def source. To control the display placed near the Receiver unit, connect the IR Emitter output from an automation device to the corresponding IR Input on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. Connect an IR emitter to the IR Out on each Receiver unit, and attach the IR emitter to the IR sensor of the display.

INTRODUCTION

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

- EDID contains the A/V capabilities of a display device in regards to video resolutions and audio formats supported. This information is used by the source device to determine the format of the A/V signal on the outputs. The *8x8 Matrix for HDMI w/8 ELR-POL Outputs* incorporates advanced EDID management to ensure compatibility with all sources and display devices. See pages 31 for more details.
- The GefenPRO *8x8 Matrix for HDMI w/8 ELR-POL Outputs* can detect the presence of Deep Color (12-bit signal) automatically and will disable Deep Color EDID features across all other outputs if any connected device or display is not capable of processing Deep Color. This automatic behavior ensures compatibility among all output devices in a mixed-device environment. This feature cannot be disabled.
- To take full advantage of the IR capability of the 8x8 Matrix for HDMI w/8 ELR-POL Outputs, the following are required: (8) 6-ft mini stereo audio cable (Gefen part no. CAB-AUDIO-6), (16) IR emitters (Gefen part no. EXT-IREMIT), and (8) IR extender modules (Gefen part no. EXT-RMT-EXTIRN).
- The **IR In** ports (including **IR In All**) are designed to accept an electrical IR connection from third-party automation devices. These ports will not work with Gefen IR extenders.
- The **IR Ext** port, on the Receiver units, are designed to work with the Gefen EXT-RMT-EXTIRN extender. This port will not work with the electrical IR connection from an automation control device.

INTRODUCTION

Supported HDMI Features

- Resolutions up to 1080p Full HD
- HDCP compliant
- 12-bit Deep Color
- x.v. Color
- LPCM 7.1 audio, Dolby® TrueHD, and DTS-HD Master Audio™
- 3DTV pass-through
- Lip-Sync pass-through

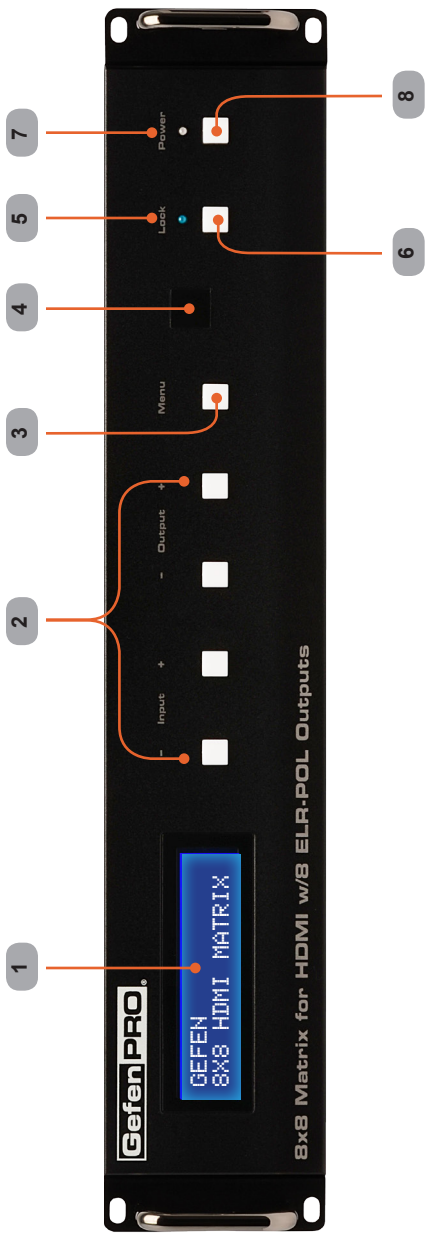
Features

- Routes any eight Hi-Def sources to any eight HD displays independently
- Sends and Receives IR signals from any of the 8 remote locations to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs
- Includes eight ELR-POL receiver units
- ELR technology allows extension up to 330 feet (100 meters)
- POL feature provides power to each ELR receiver
- HDBaseT® technology
- Gefen FST speeds up the HDCP authentication process
- Fast and Slow FST Modes
- Advanced EDID Management for rapid integration of sources and displays
- Ability to save and recall presets
- Supports DVI sources and displays
- Field-upgradeable firmware via IP or RS-232
- Front Panel Switching
- IR Control of the 8x8 Matrix for HDMI w/8 ELR-POL Outputs via front panel sensor and from each Receiver
- Serial (RS-232) control
- IP Control via Web Server and Telnet
- Rack mountable (2U tall, rack ears included)
- Internal power supply with detachable IEC AC cord
- Back panel master power switch

Package Includes

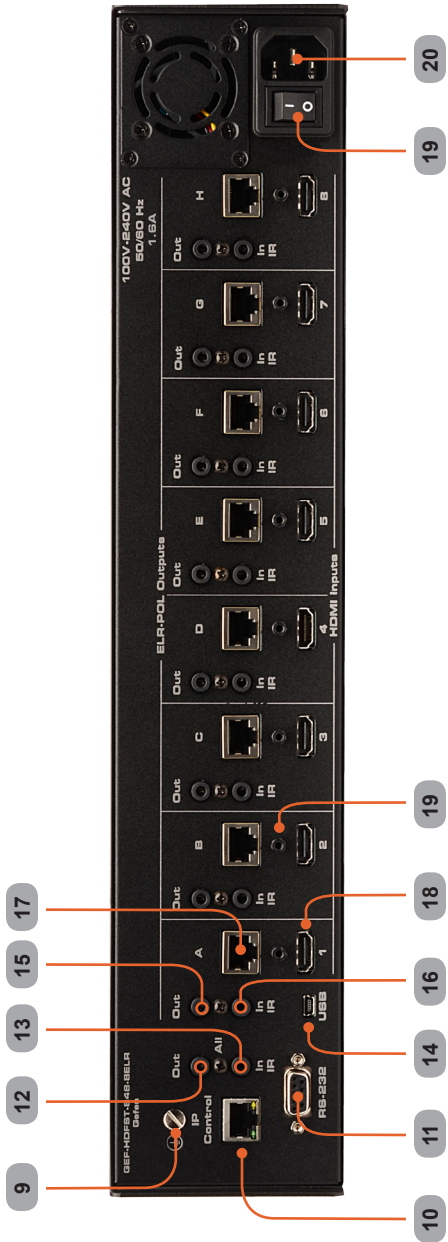
- (1) 8x8 Matrix for HDMI w/8 ELR-POL
- (8) Extender for HDMI ELR-POL w/ Bidirectional IR (Receiver Unit)
- (1) IR Remote Control
- (1) AC Power Cord
- (1) Rack ears set
- (1) Quick-Start Guide

Front



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Back



INTRODUCTION

Front

1 LCD Display

This is a two-line, sixteen-character display that shows status information and is also used to manage display / source routing.

2 Navigation Buttons

Used for routing and adjusting settings of the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*. See the information beginning on page 15 for details on using these buttons.

3 Menu

Press this button to display routing, switching mode, and IP address information.

4 IR Sensor

Receives signals from the IR Remote Control.

5 Lock Indicator

This LED glows bright blue when the front panel is locked.

6 Lock Button

Pressing this button temporarily locks the front panel controls.

7 Power Indicator

This LED indicator will glow bright blue when the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is powered on. When the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is in standby mode, this LED indicator will glow bright red. The power switch, on the back of the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*, must be switched to the ON position in order for this LED indicator to function.

8 Power Button

Press this button to power-on and power-off the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*.

INTRODUCTION

Back

9 *Grounding Terminal*

Provides a discharge path to ground in case a short circuit occurs between the “hot” lead of the power supply and the enclosure of the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. The grounding wire should be attached from the grounding terminal to an approved ground path.

10 *IP Control*

Connect an Ethernet cable to this port to control the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* using IP Control. See page 33 for more information on configuring the 8x8 Matrix for HDMI w/8 ELR-POL Outputs for IP control.

11 *RS-232*

Connect an RS-232 cable from this DB-9 connector to the RS-232 control device. See page 32 for more information.

12 *IR Out (All)*

Connect an IR emitter to this jack (Gefen part no. EXT-IREMIT).

13 *IR In (All)*

Connect a mini-mono 3.5mm cable from this port to an automation system with an electrical IR output. This port does not work with Gefen IR extenders.

14 *USB*

Service port for manufacturer use only.

15 *IR Out (A - H)*

Connect an IR Emitter (Gefen part no. EXT-IREMIT) cable from each of these jacks and each source device.

16 *IR In (A - H)*

Connect a mini-mono 3.5mm cable between each of these ports and an automation system with electrical IR outputs. These ports do not work with Gefen IR extenders.

17 *ELR-POL Outputs (A - H)*

Connect a CAT-5e (or better) cable from each of these jacks to the ELR-POL In jacks on the ELR-POL Receiver units.

18 *HDMI Inputs (1 - 8)*

Connect a Hi-Def source to each of these ports using HDMI cables.

19 *Power Switch*

Turn the power ON or OFF using this switch.

20 *110/220 AC Power Receptacle*

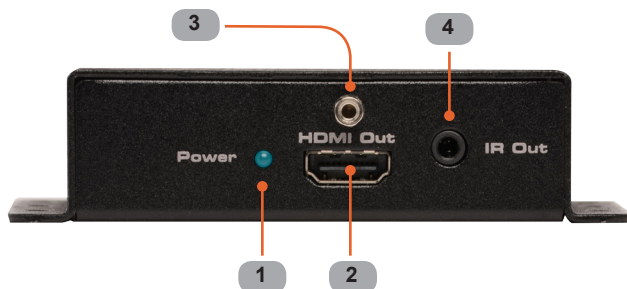
Connect the included AC power cord to this receptacle and connect the plug to an available electrical outlet.

INTRODUCTION

Top



Front



Back



INTRODUCTION

Top / Front / Back

1 **Power Indicator**

This LED indicator will glow bright blue when the 8x8 Matrix for HDMI w/8 ELR-POL Outputs is powered and the ELR-POL Receiver unit is connected to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs using CAT-5e (or better) cable.

2 **HDMI Out**

Connect an HD display to the HDMI Out port using an HDMI cable.

3 **HDMI Locking Connector**

Used to lock the HDMI cable in place.

4 **IR Out**

Connect an IR Emitter (Gefen part no. EXT-IREMIT) cable from this jack to the HD display.

5 **IR Ext**

Connect an IR Extender (Gefen part no. EXT-RMT-EXTIRN) cable to this jack. This port will not work with the electrical IR connection from an automation control device.



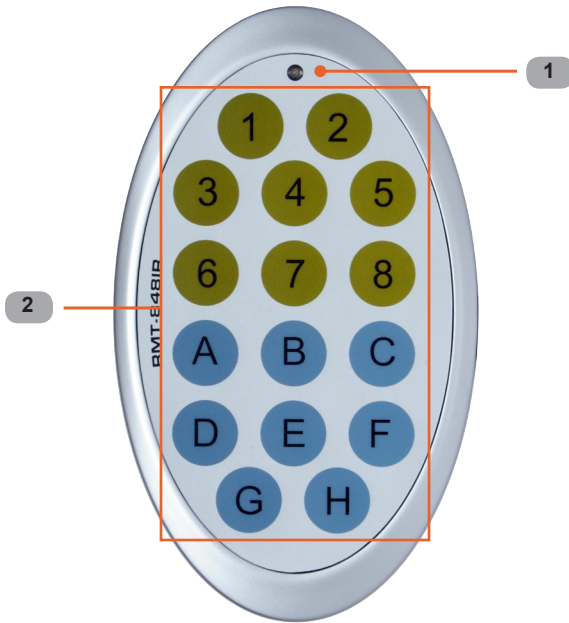
WARNING: Do not connect an automation system to the IR Ext jack on the ELR-POL Receiver unit. Doing so may cause damage to the automation system.

6 **ELR-POL In**

Connect a CAT-5e (or better) cable from this jack to one of the ELR-POL jacks on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs.

INTRODUCTION

Layout and Description (RMT-848IRN)



- 1** ***LED Button Press Indicator***
This LED will be activated momentarily each time a button is pressed.
- 2** ***Display and Source Selection Buttons***
These buttons are used to select which source is routed to a display. See page 25 for more information on using the IR remote control.



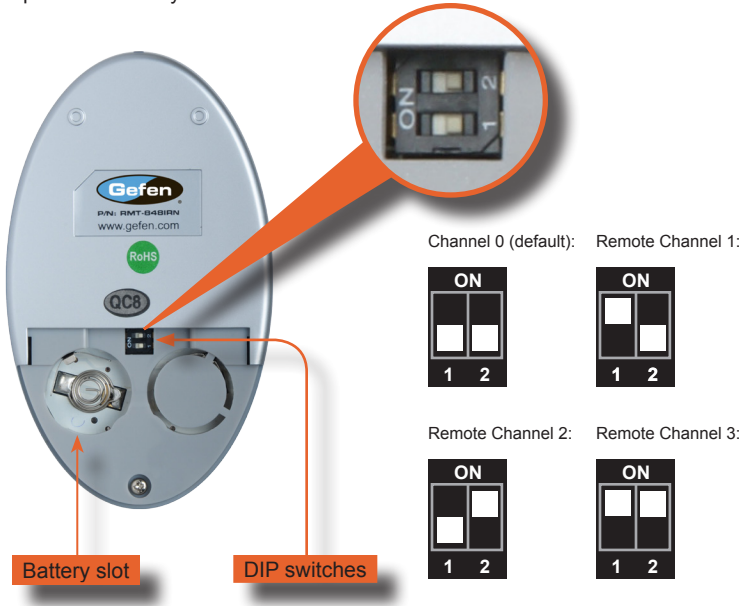
NOTE: An Activity Indicator that flashes quickly while holding down any one of the 16 buttons indicates a low battery. Replace the IR Remote Control battery as soon as possible.

INTRODUCTION

Installing the Battery

The Remote Control unit ships with two batteries (CR2032 lithium battery). One battery is required for operation and the other battery is a spare.

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.



Setting the IR Channel

The IR channel on the IR Remote Control must match the IR channel used by the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*. For example, if both DIP switches on the IR Remote Control unit are set to IR channel 0 (both DIP switches down), then the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* must also be set to IR channel 0. See pages 23 and 83 for information on how to change the IR channel on the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*.



WARNING: Risk of explosion if battery is replaced by an incorrect type. Use only 3V lithium batteries CR-2032.

CONNECTING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

How to Connect the 8x8 Matrix for HDMI w/8 ELR-POL Outputs

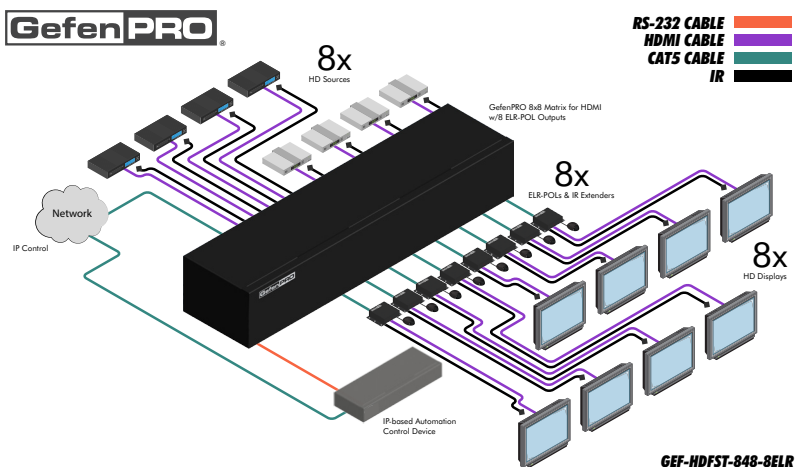
1. Connect up to eight Hi-Def sources to the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* using HDMI cables.
2. Connect up to eight HD displays to the supplied ELR-POL Receiver units using HDMI cables.
3. Connect each ELR-POL Receiver unit to the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* using CAT-5e (or better) cables.



NOTE: When connected to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs, each ELR-POL Receiver unit is powered over the CAT-5e cable. No external power supplies are required for the ELR-POL Receiver units.

4. IR Control: For details on using the bidirectional IR feature on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs, see page 27.
5. Connect the AC power cord to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs and connect the plug to an available electrical outlet.

Wiring Diagram for the 8x8 Matrix for HDMI w/8 ELR-POL Outputs



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Main Display

The **Main Display** of the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is a 16 character 2 line display. This display shows the current routing status of the 8x8 Matrix for HDMI w/8 ELR-POL Outputs and is also used to display additional system information. When the unit is powered on, the following screen is displayed:



```
GEFEN  
8X8 HDMI MATRIX
```

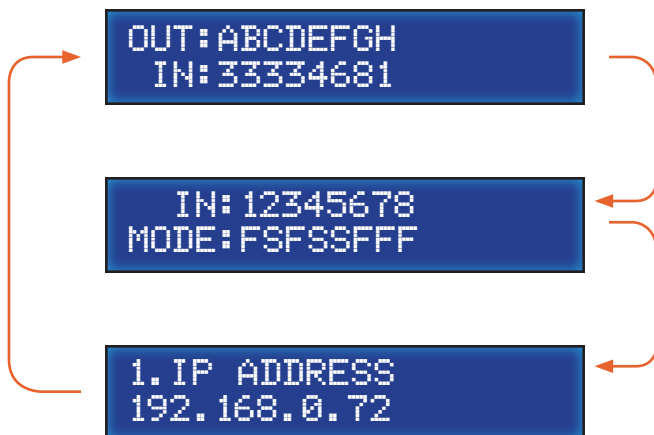
After a few moments, the status screen is displayed. The status screen is shown below:



```
OUT: ABCDEFGH  
IN: 33334681
```

Displaying Additional Information

Consecutively pressing the **Menu** button, on the front panel, will cycle through other screens such as FST mode and IP information:



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Determining the Current Routing State

In the example below, the first row (OUT) represents each HDMI output on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. The bottom row (IN) represents each HDMI input on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. Together, these two rows display the current routing state.

Starting on the bottom row, we can see that Input 3 has been routed to Outputs A, B, C, and D. Continuing on, Input 4 is routed to Output E, Input 6 is routed to Output F, Input 8 is routed to Output G, and finally Input 1 is routed to Output H.

Note that each output (A - H) specified in the LCD display, corresponds to each of the HDMI inputs (1 - 8) on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs.



If all inputs are routed to their respective outputs, the front-panel display will appear as follows:



This is referred to as a "1-to-1" routing state. This is the factory (default) setting for the 8x8 Matrix for HDMI w/8 ELR-POL Outputs.

OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Routing Sources

Selecting the Output

1. To select the output, press the **Output -** or **Output +** button once. The routing state for Output A will be displayed.



2. Press the **Output -** or **Output +** button to cycle through the routing state for each output. Consecutively pressing the **Out +** button will cycle through each output, from left to right.



**OPERATING THE
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3. Consecutively pressing the **Output -** button will cycle through each output, from right to left.



Changing the Source

4. Once the desired output has been selected, press the **Input +** or **Input -** button. Consecutively pressing the **Input +** button will increment the input value by a factor of 1 (within a range of 1 - 8). For example, if Input 4 was originally routed to Output D, then pressing the **Input +** button will route Input 5 to Output D.



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

- Consecutively pressing the **Input** - button will decrease the input value by a factor of 1 (within a range of 1 - 8). For example, if Input 3 was originally routed to Output D, pressing the **Input** - button will route Input 2 to Output D.



To change the routing status of another output, press the **Output +** or **Output -** buttons to navigate to the desired output. Use the **Input +** or **Input -** buttons to change the source.

- Press the **Menu** button to return to the Routing Screen.



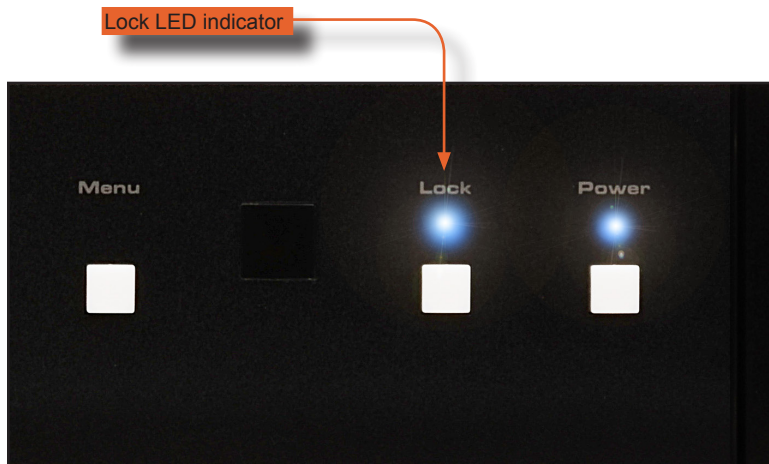
NOTE: If the Menu button is not pressed after a routing change has been made, then the 8x8 Matrix for HDMI w/8 ELR-POL Outputs will automatically return to the Routing Screen after about 20 seconds.

OPERATING THE 8x8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Locking / Unlocking the Front Panel

To prevent an accidental routing change or power-down (by pressing the **Power** button), the front-panel buttons on the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* can be locked. Locking the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* also disables many RS-232 / Telnet commands.

1. Press the **Lock** button on the front-panel:



The Lock LED will glow bright blue to indicate that the front-panel buttons on the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* have been locked.

If any buttons (other than the **Lock** button) are pressed while the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is Locked, the following message will be displayed:



2. To unlock the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*, press the **Lock** button a second time.

OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS



Fast Switching Technology

Fast Switching Technology (FST) is a Gefen software implementation for HDMI products. FST was created to improve the lengthy HDMI authentication process, based on the HDMI and HDCP specifications.

FST provides quicker audio/video source switching and greatly improves the overall audio/video system behavior and performance when more than one HD display is used in the system setup.

FST allows connecting / disconnecting or turning ON / OFF of HD displays without having these activities affect other Hi-Def sources routed to any other HD display in the same system.

Fast Mode:

Setting the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* to **Fast Mode** will improve performance when connecting / disconnecting Hi-Def sources, and powering ON / OFF HD displays.

NOTE: When switching from **Slow Mode** to **Fast Mode**, the HD displays connected to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs will blink momentarily.



NOTE: When switching from Slow Mode to Fast Mode, the HD displays that are connected to the Matrix will blink, momentarily. This is normal operation.

Slow Mode:

When set to **Slow Mode**, the 8x8 Matrix for HDMI w/8 ELR-POL Outputs will follow the standard authentication process, based on the HDMI and HDCP specifications. **Slow Mode** is recommended when the source does not support multiple devices.

OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Determining the Current Switching Mode

Each HDMI input can be set to **Fast Mode** or **Slow Mode**. It is recommended that each HDMI input be set to **Fast Mode** for best performance.

1. Consecutively press the **Menu** button on the front panel until the switching modes screen is displayed.

The first row (IN) represents each HDMI input on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. The bottom row (MODE) represents the current switching mode of each HDMI input.



Selecting the Input

2. To change the switching mode on an HDMI input, press the **Output -** (or **Output +**) button once. The switching mode for Input 1 will be displayed:



The letter **F** indicates that the HDMI input is using Fast Mode switching. If the HDMI input is set to Slow Mode switching, a letter **S** will be displayed under the input.

OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

- Press the **Output -** or **Output +** button again to cycle through the routing state for each output. Consecutively pressing the **Output +** button will cycle through each input, from left to right, starting with Input 1:



NOTE: In Routing mode, the **Output +** and **Output -** buttons cycle through each *output*. In Switching mode, these same buttons are used to cycle through each *input*.



- Consecutively pressing the **Output -** button will cycle through each output, from right to left:



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Changing the Switching Mode

- Once the desired input has been selected, press the **Input +** or **Input -** button to toggle between Fast or Slow switching mode.



To change the switching mode of another input, press the **Output +** or **Output -** button to navigate to the desired input. Press the **Input +** or **Input -** button to toggle the switching mode between Fast (F) or Slow (S).

- Press the **Menu** button to return to the Switching mode Screen.



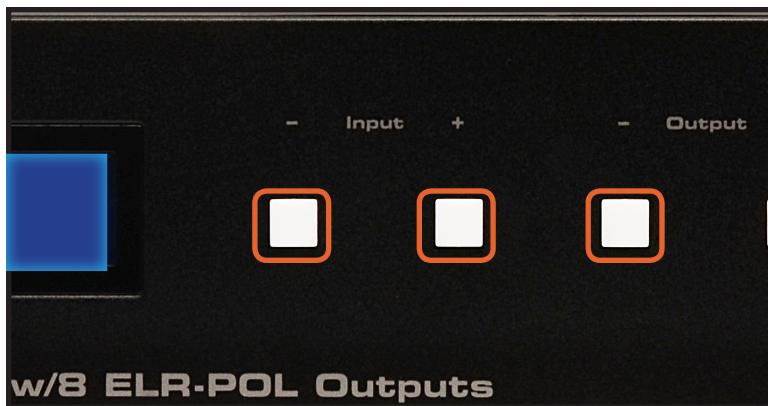
- Press the **Menu** button a second time to return to the Routing screen.

OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Setting the IR Channel on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs

In order for the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* to communicate with the included IR Remote Control, both the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* and the IR Remote Control must be set to the same IR channel. Follow the procedure outlined below to set the IR channel on the *8x8 Matrix for HDMI w/8 ELR-POL Outputs*.

1. From the Routing screen, simultaneously press the **Input -**, **Input +**, and the **Output -** buttons to display the IR address screen. The current IR address will be displayed along with the DIP switch settings for the IR remote control:



2. Use the **Input +** (or **Input -**) button to change the IR channel. Press the **Input -** button to decrease the IR channel value. Press the **Input +** button to increase the IR channel value.



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

3. After setting the IR address, make sure that the DIP switches on the IR Remote Control are set according to the information in the LCD display. See page 11 for information on setting the IR channel for the IR Remote Control unit.



In this case, the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is set to IR channel 1. Therefore, DIP switch 1 on the IR Remote Control must be set to the ON position and DIP switch 2 must be set to the OFF position.

4. Press the **Menu** button to return to the Routing screen.



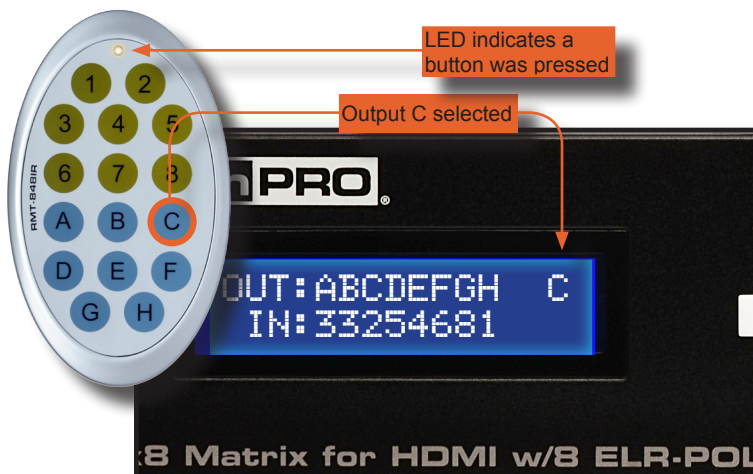
OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Routing Sources using the IR Remote Control

Buttons **1 - 8** on the IR remote control correspond to each HDMI input (Input 1 - 8) on the 8x8 Matrix for HDMI w/8 ELR-POL Outputs. Buttons **A - H** correspond to each HDMI output (Output A - H). To route a source to a display, press the desired output first, then press the input.

Routing Example: Route Input 4 to Output C

1. Select Output C by pressing button **C** on the IR Remote Control. The letter C will appear in the upper right-hand corner of the LCD display:



2. Select Input 4 by pressing button **4** on the IR Remote Control. The number 4 will appear in the lower right-hand corner of the LCD display:



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

3. After the input and output have been selected on the IR Remote Control, the numbers on the far right-hand of the LCD display will disappear and the new routing state will be displayed in the LCD display:



8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

IR Control

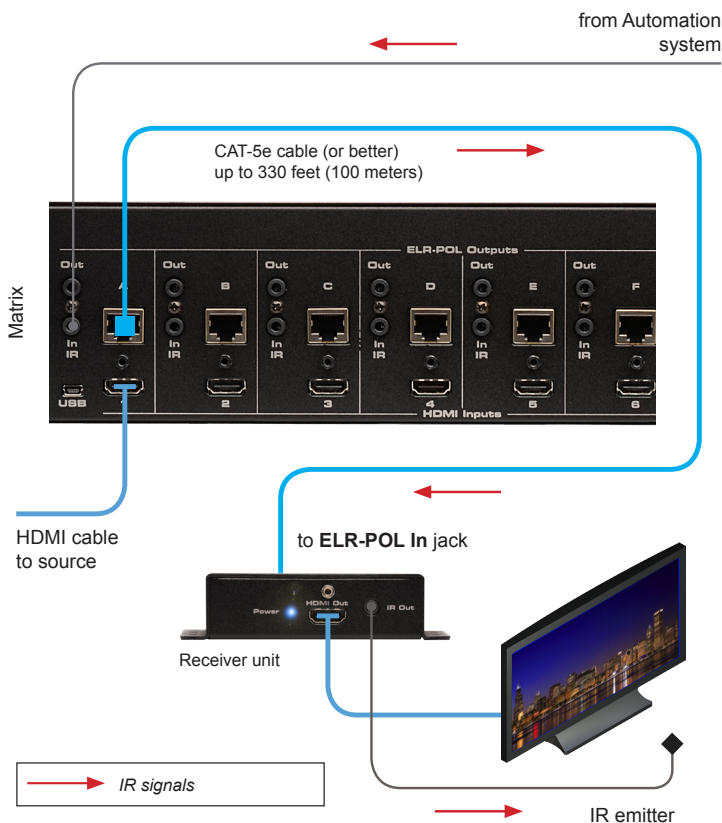


IMPORTANT: The IR In ports are designed to accept an electrical IR connection from third-party automation devices. These ports will not work with Gefen IR extenders.

Controlling the Display from the Source Location

The following installations require up to (8) 6-ft mini stereo audio cables (Gefen part no. CAB-AUDIO-6), (16) IR emitters (Gefen part no. EXT-IREMIT), and (8) IR extender modules (Gefen part no. EXT-RMT-EXTIRN).

1. Connect the 3.5mm mini-stereo end of the IR cable from each **IR In** port on the matrix to the automation system. Refer to the user documentation that came with your automation system for details. Up to eight IR cables can be connected to the matrix, to control each display (sink) device, independently.
2. Connect an IR emitter from the **IR Out** jack on each Receiver unit to the IR sensor of each display.



OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

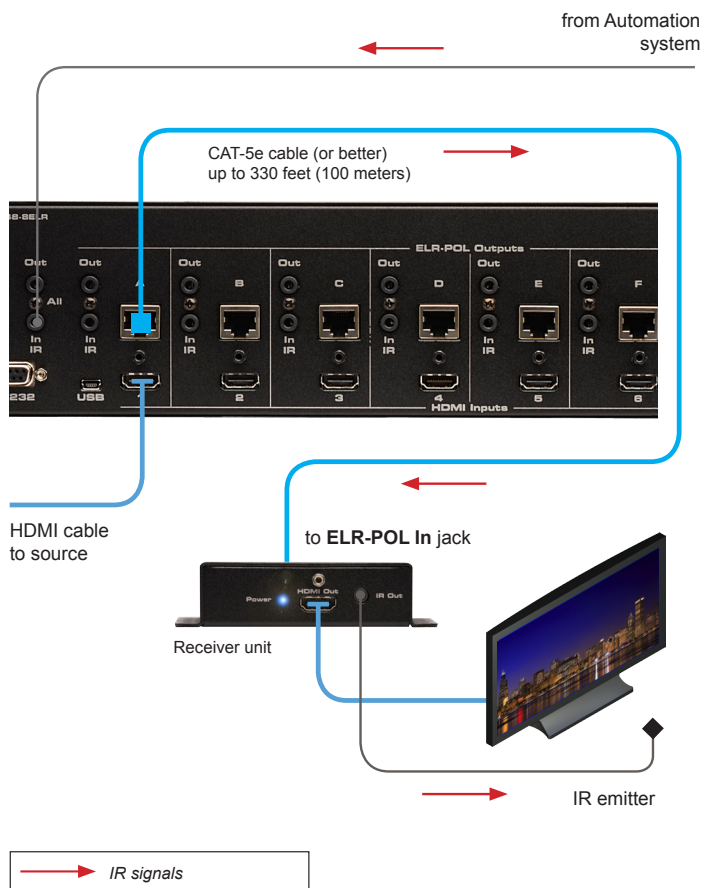
Controlling Multiple Displays Simultaneously



IMPORTANT: The **IR In** ports are designed to accept an electrical IR connection from third-party automation devices. These ports will not work with Gefen IR extenders.

1. Connect the 3.5mm mini-stereo end of the IR cable from the **IR All In** port on the matrix to the automation system.
2. Connect an IR emitter from the **IR Out** jack on each Receiver to the IR sensor of each display.

When an IR command is sent from the automation system, the command will be sent to each Receiver unit that is connected to the matrix. This operation occurs independently of the current routing status.



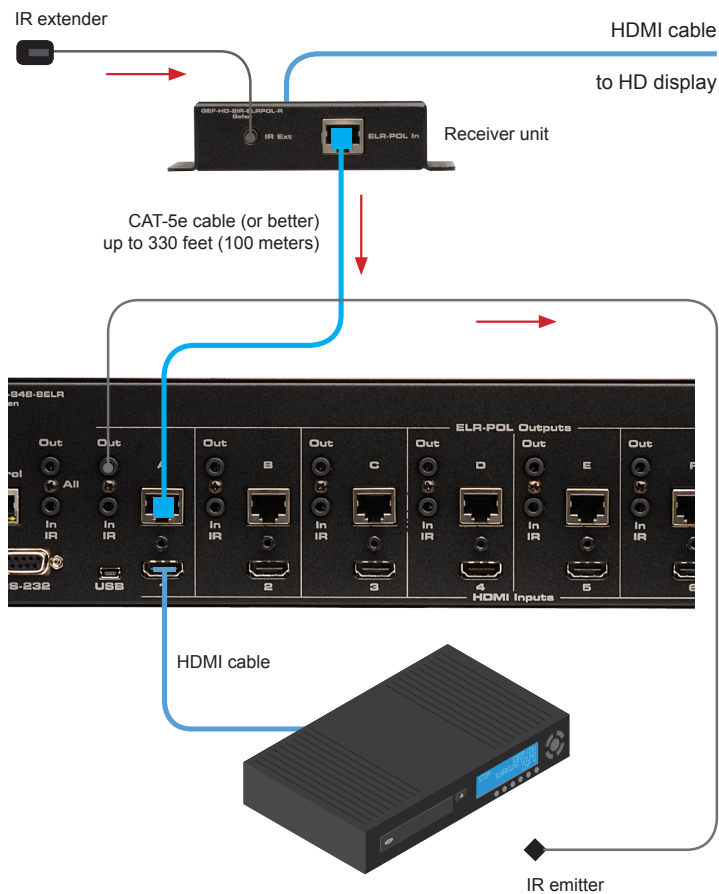
OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

Controlling a Source from the Display Location



IMPORTANT: The **IR Ext** port, on the Receiver unit, is designed to work with the Gefen EXT-RMT-EXTIRN extender. It will not work with the electrical IR connection from an automation control device.

1. Connect an IR extender to the **IR Ext** port on each Receiver unit.
2. Connect an IR emitter from the **IR Out** jack on the matrix to the IR sensor of each source device. Up to eight IR emitters are supported.



→ IR signals

OPERATING THE 8X8 MATRIX FOR HDMI W/8 ELR-POL OUTPUTS

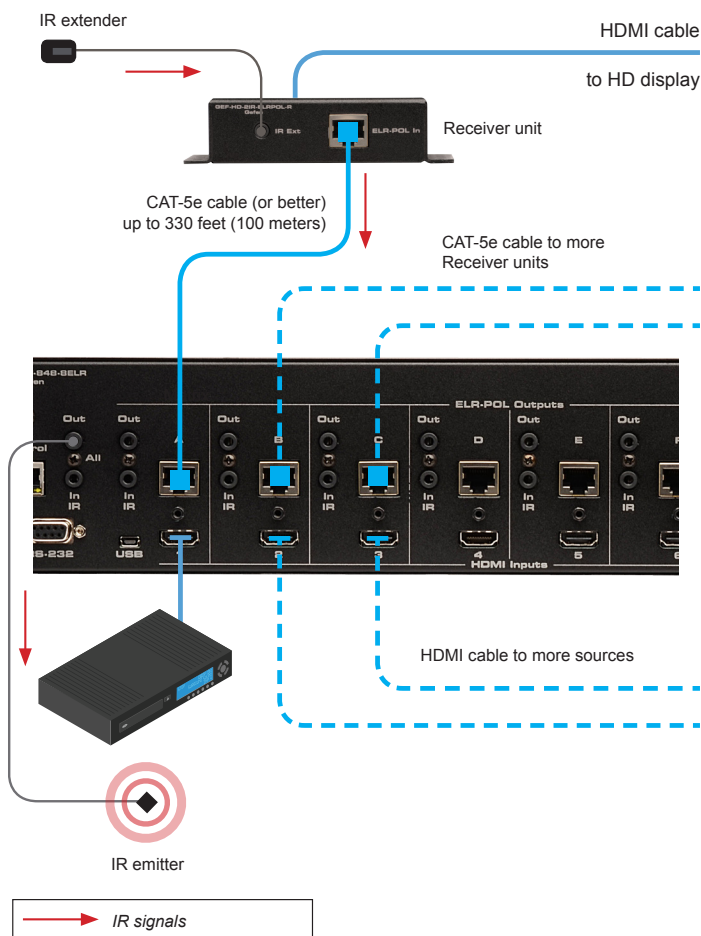
Controlling all Sources from any Display Location



IMPORTANT: The **IR Ext** port, on the Receiver unit, is designed to work with the Gefen EXT-RMT-EXTIRN extender. It will not work with the electrical IR connection from an automation control device.

1. Connect an IR extender to the **IR Ext** port on each Receiver unit.
2. Connect an IR emitter from the **IR Out All** jack on the matrix.

Using this method, any source device can be controlled (using its associated IR remote) from any of the display (Receiver) locations. Make sure that a clear line-of-sight exists between the IR sensor on each source device and the IR emitter. If an IR sensor is blocked, then IR control will be interrupted.



External EDID Management

The *8x8 Matrix for HDMI w/8 ELR-POL Outputs* features EDID Management. Before the source can send video or audio signals, the source device reads the EDID (Extended Display Identification Data) from the output devices connected to the Splitter. The EDID contains information about what type of audio/video data that the source can send to each output device.

The *8x8 Matrix for HDMI w/8 ELR-POL Outputs* routes multiple sources to multiple output devices. This involves reading EDID data from more than one device. Management of the EDID data is important to maintain compatibility between all devices.

The following EDID features are copied from Output A:

- Supported Resolutions
- 3D Support
- Audio Features

Display Connections:

- If a device is not connected to Output A, then no EDID changes are made, meaning that the previous EDID information will be used. This state will be in effect until a display is connected to Output A and the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is power-cycled.
- EDID is built from Output A to the Input. The audio block will be copied from Output A. EDID-copying is performed only when the *8x8 Matrix for HDMI w/8 ELR-POL Outputs* is reset or power-cycled.

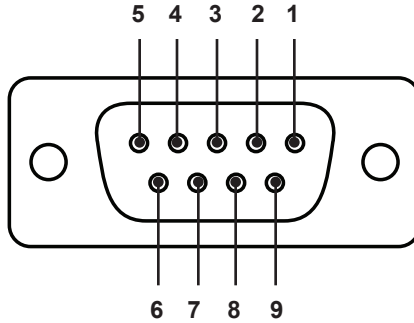
Dynamic EDID

The *8x8 Matrix for HDMI w/8 ELR-POL Outputs* also incorporates a “dynamic” EDID. This feature is useful if different displays (different manufacturers, different models, etc) are used within a setup.

When an input is set to *Dynamic EDID*, the input will use the EDID of the last selected output during the routing process. The order in which outputs are routed are important when using *Dynamic EDID*. See page 73 for examples on using the *Dynamic EDID* feature.

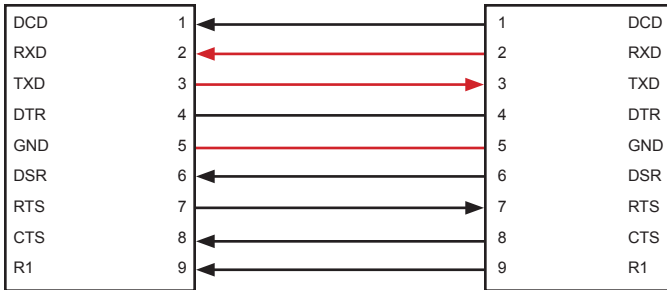
RS-232 SERIAL CONTROL

RS-232 Interface



RS-232 Controller

Matrix



Only TXD, RXD, and GND are used.

RS232 Settings

Baud rate19200
 Data bits 8
 Parity bits None
 Stop bits1
 Flow Control None



IMPORTANT: When sending RS-232 commands, a carriage return must be included at the end of the command. A space *must* be included between the command and the parameter.

IP CONFIGURATION

IP Configuration

The 8x8 Matrix for HDMI w/8 ELR-POL Outputs supports IP-based control using Telnet, UDP, or the built-in Web-based GUI. To set up IP control, the network settings must be configured via RS-232. The default network settings for the matrix are as follows:

IP Address:	192.168.1.72	UDP IP Address:	192.168.1.80
Subnet:	255.255.255.0	UDP Port:	50008
Gateway:	192.168.1.254	UDP Remote Port:	50007
HTTP Port:	80		
Telnet Port:	23		

1. Connect an RS-232 cable from the PC to the matrix. Also make sure to connect an Ethernet cable between the LAN and the matrix.
2. Launch a terminal emulation program (e.g. HyperTerminal) and use the RS-232 settings listed on page 32.



NOTE: Depending upon the network, all related IP, Telnet, and UDP settings will need to be assigned. Consult your network administrator to obtain the proper settings.

3. Set the IP address for the matrix using the `#sipadd` command (see page 48 for details).
4. Set the subnet mask using the `#snetmask` command (see page 49 for details).
5. Set the gateway (router) IP address using the `#sgateway` command (see page 43 for details).
6. Set the Telnet listening port using the `#set_telnet_port` command (see page 40 for details).
7. Set the HTTP listening port using the `#set_http_port` command (see page 38 for details).
8. Power-cycle the matrix to reboot and complete all IP setting changes.
9. Type the IP address that was specified in step 3, in a web browser to access the Web GUI or use the same IP address to Telnet to the matrix.

UDP Configuration

1. Set the UDP remote IP address for the matrix using the `#set_udp_remote_ip` command (see page 52 for details).
2. Set the UDP listening port for the matrix using the `#set_udp_port` command (see page 51 for details).
3. Set the UDP remote port for the matrix using the `#set_udp_remote_port` command (see page 52 for details).

IP / Telnet Configuration

Command	Description
<i>#display_telnet_welcome</i>	Set Telnet welcome message on login
<i>#ipconfig</i>	Displays all TCP/IP settings
<i>#resetip</i>	Resets IP configuration to factory settings
<i>#set_http_port</i>	Sets the Web server listening port
<i>#set_telnet_pass</i>	Prompts for password when using Telnet
<i>#set_telnet_port</i>	Sets the Telnet listening port
<i>#set_webui_ad_pass</i>	Sets the Web UI administrator password
<i>#set_webui_op_pass</i>	Sets the Web UI operator password
<i>#sgateway</i>	Sets the IP gateway address
<i>#show_gateway</i>	Displays the gateway address
<i>#show_http_port</i>	Displays the HTTP listening port
<i>#show_ip</i>	Displays the IP address of the Matrix
<i>#show_mac_addr</i>	Displays the MAC address of the Matrix
<i>#show_netmask</i>	Displays the netmask address
<i>#show_telnet_port</i>	Displays the Telnet listening port
<i>#show_telnet_username</i>	Displays the Telnet user name
<i>#show_ver_data</i>	Displays the hardware / software version
<i>#sipadd</i>	Sets the IP address of the matrix
<i>#snetmask</i>	Sets the IP network mask
<i>#use_telnet_pass</i>	Use password during Telnet sessions

#display_telnet_welcome Command

The #display_telnet_welcome command sets (enables/disables) the Telnet welcome message on login.

Syntax:

```
#display_telnet_welcome param1
```

Parameters:

param1 State [0 ... 1]

State	Meaning
0	Do not display welcome message
1	Display welcome message

Example:

```
#display_telnet_welcome 1
#Telnet Welcome Screen is Enable
```

```
#display_telnet_welcome 0
#Telnet Welcome Screen is Disable
```

#ipconfig Command

The #ipconfig command displays the current TCP/IP settings for the matrix.

Syntax:

```
#ipconfig
```

Parameters:

None

Example:

```
#ipconfig
```

```
----- TCP/IP settings -----
```

```
MAC add   = 00:1C:91:01:50:07
```

```
IP add    = 192.168.1.72
```

```
Net Mask  = 255.255.255.0
```

```
Gateway   = 192.168.2.1
```

```
Web Server Port = 80
```

```
Telnet Server Port = 23
```

```
Telnet password at login is set to ON
```

```
Telnet welcome at login is set to ON
```

#resetip Command

The #resetip command resets all TCP/IP settings to factory defaults.

Syntax:

```
#resetip
```

Parameters:

None

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#resetip
```

```
IP Configuration Was Reset To Factory Defaults.
```

After rebooting the matrix, the IP settings will be cleared. Running the #ipconfig command will display the updated information:

```
#ipconfig
```

```
IP: 192.168.1.72
```

```
SUBNET: 255.255.255.0
```

```
GATEWAY: 192.168.1.254
```

#set_http_port Command

The #set_http_port command sets the Web server listening port. The default port setting is 80. Also see the #show_http_port on page 44.

Syntax:

```
#set_http_port param1
```

Parameters:

<i>param1</i>	Port	[0 ... 65535]
---------------	------	---------------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_http_port 70
```

```
HTTP Communication Port 70 Is Set. Please Reboot The Unit.
```

#set_telnet_pass Command

The #set_telnet_pass command sets the Telnet password. The maximum length of the password is 20 characters. The password is case-sensitive. The default Telnet password is Admin.

Syntax:

```
#set_telnet_pass param1
```

Parameters:

<i>param1</i>	Password
---------------	----------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_telnet_pass OK_Corral
```

```
TELNET Interface Password Is Set.
```

#set_telnet_port Command

The #set_telnet_port command sets the Telnet listening port. The default port value is 23.

Syntax:

```
#set_telnet_port param1
```

Parameters:

<i>param1</i>	Port	[0 ... 65535]
---------------	------	---------------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_telnet_port 20
```

Telnet Communication Port 20 Is Set. Please Reboot The Unit.

#set_webui_ad_pass Command

The #set_webui_pass command sets the Administrator password for the Web interface. The maximum length of the password is 8 characters.

Syntax:

```
#set_webui_ad_pass param1
```

Parameters:

<i>param1</i>	Password
---------------	----------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_webui_ad_pass reindeer  
Web UI Administrator Password Is Set.
```

#set_webui_op_pass Command

The #set_webui_pass command sets the Operator password for the Web interface. The maximum length of the password is 8 characters.

Syntax:

```
#set_webui_op_pass param1
```

Parameters:

<i>param1</i>	Password
---------------	----------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_webui_op_pass reindeer  
Web UI Operator Password Is Set.
```

#sgateway Command

The #sgateway sets the IP gateway (router) address. Dot-decimal notation must be used when specifying the IP address. The default Gateway IP address is 192.168.1.1.

Syntax:

```
#sgateway param1
```

Parameters:

<i>param1</i>	IP gateway
---------------	------------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#sgateway 192.168.2.1
```

```
GateWay Address 192.168.2.1 Is Set. Please Reboot The Unit.
```

#show_gateway Command

The #show_gateway command shows the current gateway address.

Syntax:

```
#show_gateway
```

Parameters:

None

Example:

```
#show_gateway  
GATEWAY ADDRESS IS: 192.168.2.1
```

#show_http_port Command

The #show_http_port command shows the current HTTP listening port.

Syntax:

```
#show_http_port
```

Parameters:

None

Example:

```
#show_http_port  
HTTP COMMUNICATION PORT IS: 80
```

#show_ip Command

The #show_ip command shows the current IP address of the Matrix.

Syntax:

```
#show_ip
```

Parameters:

None

Example:

```
#show_ip
```

```
IP ADDRESS IS: 192.168.1.72
```

#show_mac_addr Command

The #show_mac_addr command shows the MAC address of the Matrix.

Syntax:

```
#show_mac_addr
```

Parameters:

None

Example:

```
#show_mac_addr
```

```
MAC ADDRESS IS: 00-12-0e-f1-7a-ea
```

#show_netmask Command

The #show_netmask shows the netmask address.

Syntax:

```
#show_netmask
```

Parameters:

None

Example:

```
#show_netmask  
NET MASK ADDRESS IS: 255.255.255.0
```

#show_telnet_port Command

The #show_telnet_port command shows the current Telnet listening port.

Syntax:

```
#show_telnet_port
```

Parameters:

None

Example:

```
#show_telnet_port  
TELNET COMMUNICATION PORT IS: 23
```

#show_telnet_username Command

The #show_telnet_username command returns the user name required for login.

Syntax:

```
#show_telnet_username
```

Parameters:

None

Example:

```
#show_telnet_username
```

```
User Name For TELNET Is : Admin
```

#show_ver_data Command

The #show_ver_data command displays the current hardware and firmware version.

Syntax:

```
#show_ver_data
```

Parameters:

None

Example:

```
#show_ver_data
```

```
SOFTWARE AND HARDWARE VERSION: v3.1A PCB-1707*B
```

#sipadd Command

The #sipadd command sets the IP address of the matrix. Dot-decimal notation must be used when specifying the IP address.

Syntax:

```
#sipadd param1
```

Parameters:

<i>param1</i>	IP address
---------------	------------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#sipadd 192.168.1.238
```

```
IP Address 192.168.2.238 Is Set. Please Reboot The Unit.
```


#snetmask Command

The #snetmask command sets the IP network subnet mask. Dot-decimal notation must be used when specifying the IP network mask. The default subnet mask is: 255.255.255.0

Syntax:

```
#snetmask param1
```

Parameters:

<i>param1</i>	Subnet mask
---------------	-------------

Notes:

The matrix must be rebooted after executing this command.

Syntax:

```
#snetmask 255.255.0.0
```

```
NetMask Address 255.255.0.0 Is Set. Please Reboot The Unit.
```

#use_telnet_pass Command

The #use_telnet_pass command requires or disables Telnet login credentials. The default setting is disabled (param1 = 0).

Syntax:

```
#use_telnet_pass param1
```

Parameters:

param1

State

[0 ... 1]

Value	Meaning
0	Disable password
1	Enable (force) password

Example:

```
#use_telnet_pass 1
```

```
Telnet Interface Password Is Enable
```

```
#use_telnet_pass 0
```

```
Telnet Interface Password Is Disable
```

UDP Configuration

Command	Description
<code>#set_udp_port</code>	Sets the local UDP listening port
<code>#set_udp_remote_ip</code>	Sets the remote UDP IP address
<code>#set_udp_remote_port</code>	Sets the remote UDP port
<code>#show_udp_port</code>	Displays the current UDP port
<code>#show_udp_remote_ip</code>	Displays the current remote UDP IP address
<code>#show_udp_remote_port</code>	Displays the current UDP remote port
<code>#use_udp_enable</code>	Enables / disables UDP access

#set_udp_port Command

The `#set_udp_port` command sets the local UDP listening port. The default port value is 50008.

Syntax:

```
#set_udp_port param1
```

Parameters:

<i>param1</i>	Port	[1 ... 65535]
---------------	------	---------------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_udp_port 10
```

```
New UDP listening port set to: 10
```

#set_udp_remote_ip Command

The #set_udp_remote_ip command sets the remote UDP IP address. The default port value is 192.168.1.80.

Syntax:

```
#set_udp_remote_ip param1
```

Parameters:

<i>param1</i>	IP Address
---------------	------------

Notes:

The matrix must be rebooted after executing this command.

Example:

```
#set_udp_remote_ip 192.168.1.20
REMOTE UDP IP ADDRESS 192.168.1.20 IS SET.
```

#set_udp_remote_port Command

The #set_udp_remote_port command sets the remote UDP port. The remote port 50007.

Syntax:

```
#set_udp_remote_port param1
```

Parameters:

<i>param1</i>	Port
---------------	------

Notes:

The matrix must be rebooted after executing this command.

Syntax:

```
#set_udp_remote_port 4096
REMOTE UDP COMMUNICATION PORT 4096 IS SET.
```

#show_udp_port Command

The #show_udp_port command displays the current UDP port.

Syntax:

```
#show_udp_port
```

Parameters:

None

Example:

```
#show_udp_port
```

```
UDP COMMUNICATION PORT IS: 1024
```

#show_udp_remote_ip Command

The #show_udp_remote_ip command displays the current remote UDP IP address.

Syntax:

```
#show_udp_remote_ip
```

Parameters:

None

Example:

```
#show_udp_remote_ip
```

```
REMOTE UDP IP ADDRESS IS: 192.168.5.50
```

#show_udp_remote_port Command

The #show_udp_remote_port command displays the current remote UDP port.

Syntax:

```
#show_udp_remote_port
```

Parameters:

None

Example:

```
#show_udp_remote_port
REMOTE UDP COMMUNICATION PORT IS: 4023
```

#use_udp_enable Command

The #use_udp_enable command enables / disables UDP. Default value is disabled.

Syntax:

```
#use_udp_enable param1
```

Parameters:

param1

State

[0 ... 1]

Value	Meaning
0	Disable UDP
1	Enable UDP

Example:

```
#use_udp_enable 1
UDP ACCESS IS ENABLE
```

Routing / Naming / Presets

Command	Description
<i>#lock_matrix</i>	Locks / unlocks the Matrix
<i>#recall_preset</i>	Recalls a routing / mask preset
<i>#save_preset</i>	Saves the current routing/masking state to a preset
<i>#set_bank_name</i>	Sets the name of the specified EDID bank
<i>#set_input_name</i>	Specifies a name for an input
<i>#set_output_name</i>	Specifies a name for an output
<i>#set_preset_name</i>	Sets the name of the specified routing preset
<i>#show_bank_name</i>	Displays the specified EDID bank name
<i>#show_input_name</i>	Displays the specified input name
<i>#show_output_name</i>	Displays the specified output name
<i>#show_preset_name</i>	Displays the specified routing preset
<i>#show_r</i>	Displays the current routing state of the specified output
<i>r</i>	Routes the specified inputs to the specified outputs
<i>s</i>	Routes all outputs are routed to the specified input

#lock_matrix Command

The #lock_matrix command locks / unlocks the Matrix. When the Matrix is locked, all functions are disabled including the front panel, RS-232, and Telnet.

Syntax:

```
#lock_matrix param1
```

Parameters:

param1

Value

[0 ... 1]

Value	Meaning
0	Unlock Matrix
1	Lock Matrix

Example:

```
#lock_matrix 1  
MATRIX IS LOCKED
```

```
#lock_matrix 0  
MATRIX IS UNLOCKED
```


#recall_preset Command

The #recall_preset command recalls a routing preset. Any masked outputs will also be recalled. The underscore character ("_") must be included when typing the command name.

Syntax:

```
#recall_preset param1
```

Parameters:

<i>param1</i>	Preset	[1 ... 8]
---------------	--------	-----------

Example:

```
#recall_preset 1
RECALLED THE ROUTING STATE SAVES TO PRESET 1
```

#save_preset Command

The #save_preset command saves the current routing state to the specified preset. Any masked outputs will also be saved as part of the current routing state. The underscore character ("_") must be included when typing the command name.

Syntax:

```
#save_preset param1
```

Parameters:

<i>param1</i>	Preset	[1 ... 8]
---------------	--------	-----------

Example:

```
#save_preset 1
CURRENT ROUTING STATE IS SAVED TO PRESET/INPUT 1
```

#set_bank_name Command

The #set_bank_name command names the specified bank. The bank name can be up to 8 characters in length. Special characters and spaces are not permitted. If needed, use the underscore character (" _ ") to separate characters.

Syntax:

```
#set_bank_name param1
```

Parameters:

<i>param1</i>	Bank	[1 ... 8]
<i>param2</i>	Name	

Example:

```
#set_bank_name 2 Dell_30
```

#set_input_name Command

The #set_input_name command provides a name to the selected input. For example, "Input 1" could be renamed as "DVD_Player". The maximum string length for *param2* is 15 characters. Special characters and spaces are not permitted. If needed, use the underscore character (" _ ") to separate characters.

Syntax:

```
#set_input_name param1 param2
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
<i>param2</i>	Name	

Example:

```
#set_input_name 5 Blu_ray  
Blu_ray NAME IS ASSIGNED TO INPUT 5
```

#set_output_name Command

The #set_output_name command provides a name to the selected output. For example, "Output A" could be renamed as "HDDisplay". The maximum string length for *param2* is 8 characters. Special characters and spaces are not permitted. If needed, use the underscore character ("_") to separate characters.

Syntax:

```
#set_output_name param1 param2
```

Parameters:

<i>param1</i>	Output	[A ... H]
<i>param2</i>	Name	

Example:

```
#set_output_name C Sony_XBR7
Sony_XBR7 NAME IS ASSIGNED TO OUTPUT C
```

#set_preset_name Command

The #set_preset_name command names the specified preset. The preset name can be up to 8 characters in length. Special characters and spaces are not permitted. If needed, use the underscore character ("_") to separate characters.

Syntax:

```
#set_preset_name param1 param2
```

Parameters:

<i>param1</i>	Preset	[1 ... 8]
<i>param2</i>	Name	

Example:

```
#set_preset_name 3 BluRayAmp
BluRayAmp NAME IS ASSIGNED TO PRESET 3
```

#show_bank_name Command

The #show_bank_name command displays the name of the specified bank.

Syntax:

```
#show_bank_name param1
```

Parameters:

<i>param1</i>	Bank	[1 ... 8]
---------------	------	-----------

Example:

```
#show_bank_name 2  
THE NAME FOR BANK 2 IS: Dell_30
```

#show_input_name Command

The #show_input_name command displays the name for the specified input.

Syntax:

```
#show_input_name param1
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Example:

```
#show_input_name 5  
THE NAME FOR INPUT 5 IS: Blu_ray
```

#show_output_name Command

The #show_output_name command shows the name provided to the specified input using the #set_output_name command.

Syntax:

```
#show_output_name param1
```

Parameters:

<i>param1</i>	Output	[1 ... 8]
---------------	--------	-----------

Example:

```
#show_output_name C  
THE NAME FOR OUTPUT C IS: Sony_XBR
```

#show_preset_name Command

The #show_preset_name command displays the name of the specified routing preset.

Syntax:

```
#show_preset_name param1
```

Parameters:

<i>param1</i>	Preset	[1 ... 8]
---------------	--------	-----------

Example:

```
#show_preset_name 3  
THE NAME FOR PRESET 3 IS: BluRayAmp
```

#show_r Command

The #show_r command shows the current routing status of the specified output. The name assigned to the output and input will be included in parentheses.

Syntax:

```
#show_r param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Example:

```
#show_r c  
OUTPUT C (Sony_XBR) IS ROUTED TO INPUT 4 (INPUT4)
```

r Command

The **r** command routes the specified input to the specified outputs. If *param2* is set to 0, then the specified input is routed to all outputs. Unlike other commands, do not precede the **r** command with the “#” symbol.

Syntax:

```
r param1 param2[...param9]
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
<i>param2</i>	Outputs	[A ... H]

Examples:

```
r 7 A C D F G H
```

INPUT 7 IS SET TO OUTPUTS A, C, D, F, G, H

```
r 2 0
```

INPUT 2 IS SET TO ALL OUTPUTS.

s Command

The s command routes the specified input to all outputs. Unlike other commands, do not precede the r command with the “#” symbol.

Syntax:

s param1

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Examples:

s 2

INPUT 2 IS SET TO ALL OUTPUTS.

Command	Description
<i>#help</i>	Displays all available commands
<i>#show_fw</i>	Displays the Matrix firmware version
<i>#show_hpd</i>	Displays the HPD status of the specified output
<i>#show_rsense</i>	Displays the RSENSE status of the specified output
<i>m</i>	Displays the current matrix routing status in table format
<i>n</i>	Displays the routing status for the specified output

#show_fw Command

The #show_fw command displays the current firmware version of the Matrix.

Syntax:

```
#show_fw
```

Parameters:

None

Example:

```
#show_fw
```

```
FIRMWARE VERSION = GEF-HDFST-848-8ELR v3.1G
```

#show_hpd Command

The #show_hpd command displays the HPD (Hot-Plug Detect) status of the specified output. The name assigned to the output will be included in parentheses.

Syntax:

```
#show_hpd param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Examples:

```
#show_hpd C
```

```
HPD OF OUTPUT C(Sony_XBR) IS HIGH
```

```
#show_hpd A
```

```
HPD OF OUTPUT A(OUTPUT1) IS LOW
```

#show_rsense Command

The #show_rsense command displays Rsense status of the specified output.

Syntax:

```
#show_rsense param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Notes:

If the output has been renamed using the #set_output_name command, then the name assigned to the output will be included in parentheses.

Examples:

```
#show_rsense A  
RSENSE OF OUTPUT A(OUTPUT1) IS LOW
```

```
#show_rsense C  
RSENSE OF OUTPUT C(Sony_XBR) IS HIGH
```

m Command

The m command displays the current matrix routing status in table format. Unlike other commands, do not precede the m command with the “#” symbol.

Syntax:

m

Parameters:

None

Example:

m

Out: A B C D E F G H

In: 1 2 1 2 2 2 2 2

ALL OUTPUTS ARE UNMASKED

MATRIX IS UNLOCKED

n Command

The n command displays the current input-output routing state for the specified output. Unlike other commands, do not precede the n command with the “#” symbol.

Syntax:

```
n param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Notes:

If *param1* = 0, then the routing status for all outputs will be displayed.

Examples:

```
n A
```

```
A3
```

```
n 0
```

```
A1B2C1D2E2F2G2H2
```

Command	Description
<i>#fst_fast</i>	Sets the specified inputs to Fast switching mode
<i>#fst_slow</i>	Sets the specified inputs to Slow switching mode
<i>#show_fst</i>	Displays the current switching mode for the specified input

#fst_fast Command

The `#fst_fast` command sets the specified inputs to Fast switching mode.

Syntax:

```
#fst fast param1
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Notes:

If *param1* = 0, then all inputs will be set to Fast switching mode.

Example:

```
#fst_fast 1
INPUT 1 IS SET TO FST FAST MODE
```



NOTE: See page 19 for more information on the FST feature.

#fst_slow Command

The #fst_slow command sets the specified inputs to Slow switching mode.

Syntax:

```
#fst_slow param1
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Notes:

If *param1* = 0, then all inputs will be set to Slow switching mode.

Example:

```
#fst_slow 1  
INPUT 1 IS SET TO FST SLOW MODE
```

#show_fst Command

The #show_fst command sets the specified inputs to Slow switching mode.

Syntax:

```
#show_fst param1
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Notes:

If *param1* = 0, then the switching mode status for all inputs will be displayed.

Example:

```
#show_fst 1  
INPUT 1(INPUT1) IS IN FAST SWITCHING MODE
```

Masking

Command	Description
<i>#echo</i>	Enables / disables RS-232 feedback
<i>#fdefault</i>	Resets the matrix to factory defaults
<i>#hdcpc</i>	Disables HDCP on the specified input
<i>#hpd_pulse</i>	Cycles the HPD line on the specified input
<i>#lock_edid</i>	Locks the local EDID when powering the matrix
<i>#mask</i>	Masks the specified outputs
<i>#power</i>	Powers the matrix on or off
<i>#reboot</i>	Reboots the matrix
<i>#set_edid</i>	Copies EDID data between inputs, outputs, and banks
<i>#set_ir</i>	Sets the IR channel of the matrix
<i>#show_hdcpc</i>	Displays the HDCP status on the specified input
<i>#show_ir</i>	Displays the current IR channel of the matrix
<i>#show_mask</i>	Displays the output masking status
<i>#show_out_colordpt</i>	Shows the highest color depth supported by the display based on the EDID
<i>#show_out_res</i>	Shows the highest resolution supported by the display based on the EDID
<i>#unmask</i>	Unmasks the selected outputs

#echo Command

The #echo command enables / disables serial port (terminal) echo.

Syntax:

```
#echo
```

Parameters:

param1

Value

[0 ... 1]

Value	Meaning
0	Disable feedback
1	Enable feedback

Examples:

```
#echo 1
```

```
LOCAL ECHO IS ON
```

```
#echo 0
```

```
LOCAL ECHO IS OFF
```

#fadefault Command

The #fadefault command disables the EDID lock state, sets the default routing state (1-1, 2-2, 3-3, etc.), resets the input and output names to the default names (e.g. Output A, Input 1), and resets the IP configuration to the default settings.

Syntax:

```
#fadefault
```

Parameters:

None

Syntax:

```
#fadefault

MATRIX WAS RESET TO FACTORY DEFAULTS
LOCAL ECHO IS ON
ALL OUTPUTS ARE UNMASKED
ALL INPUTS ARE SET TO FST FAST MODE
HTTP Communication Port 80 Is Set.
Telnet Communication Port 23 Is Set.
UDP Echo Server Communication Port 23 Is Set.
Remote UDP IP Address 192.168.5.50 Is Set.
Remote UDP Communication Port 4023 Is Set.
UDP Access is Enable
Telnet Interace Password Is Disable
TELNET User Name Admin Is Set.
TELNET Interface Password Is Set.
Telnet Welcome Screen Is Enable
Web UI Operator Password Is Set
Web UI Administrator Password Is Set
ALL INPUTS HDCP ENABLE.
INPUT NAME INIT....
OUTPUT NAME INIT....
CURRENT ROUTING STATE IS SAVED TO PRESET 1
CURRENT ROUTING STATE IS SAVED TO PRESET 2
CURRENT ROUTING STATE IS SAVED TO PRESET 3
CURRENT ROUTING STATE IS SAVED TO PRESET 4
CURRENT ROUTING STATE IS SAVED TO PRESET 5
CURRENT ROUTING STATE IS SAVED TO PRESET 6
CURRENT ROUTING STATE IS SAVED TO PRESET 7
CURRENT ROUTING STATE IS SAVED TO PRESET 8

BANK NAME INIT....
PRESET NAME INIT....

MATRIX WILL REBOOT SHORTLY *REBOOT UNIT IN 2 SECONDS
```

#hdcv Command

The #hdcv command disables HDCP detection on the selected input.



NOTE: Some computers will enable HDCP if an HDCP-compliant display is detected. Set *param2* = 1 to force the computer to ignore detection of an HDCP-compliant display. Setting *param2* = 0 does **not** decrypt HDCP content.

Syntax:

```
#hdcv param1 param2
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
<i>param2</i>	Value	[0 ... 1]

Value	Description
0	Disable
1	Enable

Examples:

```
#hdcv 2 0
INPUT 2 HDCP IS DISABLE
```

```
#hdcv 0 1
ALL INPUTS HDCP ARE ENABLE
```

#hpd_pulse Command

The #hpd_pulse command cycles the HPD line on the specified input. Issuing this command is identical to physically disconnecting and reconnecting the cable between the source and the matrix.

Syntax:

```
#hpd_pulse param1
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Notes:

Set *param1* = 0 to cycle the HPD line on all inputs.

Examples:

```
#hpd_pulse 1
```

```
HPD PULSE HAS BEEN SENT TO INPUT 1
```

```
#hpd_pulse 0
```

```
HPD PULSE HAS BEEN SENT TO ALL INPUTS
```

#lock_edid Command

The #lock_edid command secures the Local EDID by disabling the automatic loading of the downstream EDID after the matrix is powered.

Syntax:

```
#lock_edid param1
```

Parameters:

param1

Value

[0 ... 1]

Value	Description
0	Disable
1	Enable

Examples:

```
#lock_edid 0
```

Disable Lock EDID mode

#mask Command

The #mask command masks the specified outputs. If *param1* is set to 0, then all outputs are masked.

Syntax:

```
#mask param1[...param9]
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Examples:

```
#mask c f
OUTPUTS C, F ARE MASKED
```

```
#mask 0
ALL OUTPUTS ARE MASKED
```

#power Command

The #power command toggles the power state on the matrix.

Syntax:

```
#power param1
```

Parameters:

param1

State

[0 ... 1]

Value	Meaning
0	Power matrix OFF
1	Power matrix ON

Example:

```
#power 0  
MATRIX IS OFF
```

```
#power 1  
MATRIX IS ON
```

#reboot Command

The #reboot command reboots the matrix.

Syntax:

#reboot

Parameters:

None

Example:

#reboot

MATRIX WILL REBOOT SHORTLY *REBOOT UNIT IN 2 SECONDS

GEF-HDFST-848-8ELR v3.1G

A1B2C3D4E5F6G7H8

#set_edid Command

The #set_edid command sets the specified EDID type to an input or bank.

Syntax:

```
#set_edid param1 param2 param3 param4
```

Parameters:

param1 Source type [STRING]

String	Description
default	Uses default EDID
dynamic	Uses Dynamic EDID
bank	Uses EDID bank
output	Uses EDID on Output (sink)

param2 Source number [0 ... 8]

Value	Description
0	Default EDID
1 ... 8	EDID Bank
1 ... 8	Output

param3 Target type [STRING]

String	Description
input	Specifies an input
bank	Specifies an EDID bank

param2 Target number [1 ... 8,
1 ... 8]

Value	Description
1 ... 8	Input
1 ... 8	EDID Bank

(continued on next page)

Notes:

If *param1* = default or *param1* = dynamic, set *param2* = 0.

Using Dynamic EDID

When *param1* = dynamic, the specified input will be set to *Dynamic EDID*. This can be observed by accessing the Manage EDID tab, in the Web interface (see page 101). When an input is set to *Dynamic EDID*, the input will use the EDID of the last selected output during the routing process. The order in which outputs are routed are important when using *Dynamic EDID*. See the example below.

Examples:

Using Dynamic EDID:

```
#set_edid dynamic 0 input 4
COPY DYNAMIC EDID TO INPUT4.
```

In the example above, Input 4 is set to *Dynamic EDID*. If the following routing command is issued, then the EDID from Output C will be used (not Output B) by Input 1.

```
r 4 2 3
INPUT 4 IS SET TO OUTPUTS B, C
```

However, if we wanted to use the EDID from Output B, we would write the command as:

```
r 4 3 2
INPUT 4 IS SET TO OUTPUTS C, B
```

Since Output B was the last output that was specified, this will be the EDID that Input 4 will use.

This second example does not use Dynamic EDID but uses the EDID from the specified downstream sink (display, etc):

```
#set_edid Output A input 3
COPY OUTPUTA EDID TO INPUT3.
```

#set_ir Command

The #set_ir set the IR channel for the matrix. The associated DIP switch settings for the IR remote control unit are returned. See page 11 for details on setting the IR channel for the IR remote control.

Syntax:

```
#set_ir param1
```

Parameters:

<i>param1</i>	Channel	[0 ... 3]
---------------	---------	-----------

Example:

```
#set_ir 2
```

```
IR CHANNEL IS SET TO CHANNEL 2
```

#show_hdcv Command

The #show_hdcv command displays the HDCP status on the specified input

Syntax:

```
#show_hdcv param1
```

Parameters:

<i>param1</i>	Input	[1 ... 8]
---------------	-------	-----------

Notes:

Set *param1* = 0 to displays the HDCP status of all inputs.

Examples:

```
#show_hdcv 3  
INPUT 3 HDCP IS ENABLED
```

```
#show_hdcv 0  
INPUT 1, 3, 4 HDCP ARE ENABLED
```

#show_ir Command

The #show_ir displays the current IR channel for the matrix.

Syntax:

```
#show_ir
```

Parameters:

None

Example:

```
#show_ir  
CURRENT IR CHANNEL IS: 2
```

#show_mask Command

The #show_mask command shows the mask status for the specified output.

Syntax:

```
#show_mask param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Example:

```
#show_mask d  
OUTPUT D IS UNMASKED  
  
#show_mask c  
OUTPUT C (Sony_XBR) IS MASKED
```

#show_out_colordpt Command

The #show_out_colordpt command displays the highest color depth supported by the specified display based on the EDID.

Syntax:

```
#show_out_colordpt param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Example:

```
#show_out_colordpt a  
12 BITS HDMI
```

If no display (sink) signal is detected, then the #show_out_colordpt will return the following:

```
#show_out_colordpt a  
NO SIGNAL
```

#show_out_res Command

The #show_out_res command displays the highest resolution supported by the specified display based on the EDID.

Syntax:

```
#show_out_res param1
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Example:

```
#show_out_res c
1080P 60HZ HDMI
```

If no display (sink) signal is detected, then the #show_out_colordpt will return the following:

```
#show_out_res c
NO SIGNAL
```

#unmask Command

The #unmask command unmask the specified outputs. If *param1* is set to 0, then all outputs are unmasked.

Syntax:

```
#unmask param1[...param9]
```

Parameters:

<i>param1</i>	Output	[A ... H]
---------------	--------	-----------

Examples:

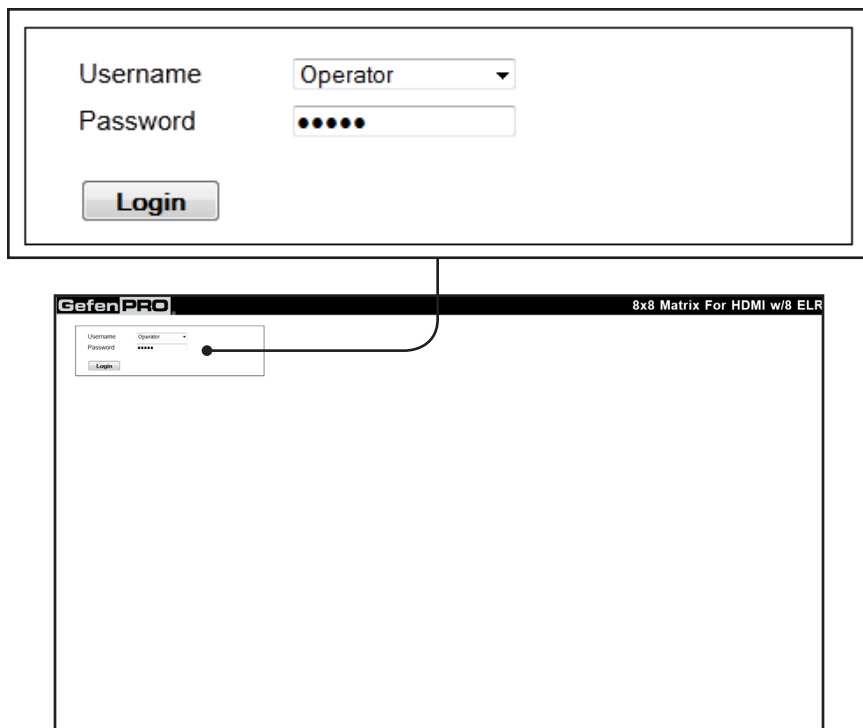
```
#unmask d
OUTPUT F IS UNMASKED
```

```
#unmask 0
ALL OUTPUTS ARE UNMASKED
```


WEB INTERFACE

Using the Built-in Web server

Access the built-in Web server by entering the IP address of the matrix that was specified in step 3 on page 33. Once connected to the matrix, the login screen will be displayed.



Username

Select the username from the drop-down list.

Options:

Operator, Administrator

Administrator login provides unrestricted access to all features and settings. Operator login limits access to matrix routing, display information, and routing preset features.

Password

Enter the password for the associated username. The password can be set using the `#set_webui_ad_pass` or `#set_webui_op_pass` commands. See page 46 and 47, respectively, for details on these commands. See page 109 for instructions on changing the password using the Web GUI.

WEB INTERFACE

The Web GUI is divided into four main pages: **Main**, **I/O Setup**, **Manage EDID**, and **Configuration**. Each main page is represented by a tab at the top-most portion of the screen. The **Main**, **I/O Setup**, and **Manage EDID** pages have their own set of sub-tabs. Click on the desired tab / sub-tab to open the desired page.



NOTE: In order to view all four tabs at the top of the screen, the user must be logged in as “Administrator”. If logged-in as “Operator”, only the **Main** tab will be visible.

Main >> Routing

Status

Displays the current routing status of the matrix.

Status	
Output	Input #
1	4
2	1
3	10
4	3
5	8
6	1
7	2
8	1

The screenshot shows the Gefen PRO web interface. The top navigation bar includes tabs for Main, I/O Setup, Manage EDID, and Configuration. The Routing sub-tab is selected. The main area displays a matrix of outputs and inputs. A 'Status' table is overlaid on the right, showing the current routing status. A 'Save & Recall Routing Presets' dialog is also visible.

Input

Click the radio button next to the desired input to be routed. Only one input can be selected at a time.

Name

Displays the current name of the input. The name of each input can be changed. See page 97 for more information.

Inputs		
Input #		Name
<input type="radio"/>	1	Input_1
<input type="radio"/>	2	Input_2
<input type="radio"/>	3	Input_3
<input type="radio"/>	4	Input_4
<input type="radio"/>	5	Input_5
<input type="radio"/>	6	Input_6
<input type="radio"/>	7	Input_7
<input type="radio"/>	8	Input_8
<input type="radio"/>		Mask / Unmask

WEB INTERFACE

Lock Matrix

Locks / unlocks the matrix. When the matrix is locked, no modifications can be made using the Web GUI. When the matrix is locked, the button text will read “Unlock Matrix” and a red bar will appear across the top portion of the screen with the text “Matrix is LOCKED”. Click the “Unlock Matrix” button to unlock the matrix.

Lock Matrix

8x8 Matrix For HDMI w/8 ELR

Log Out

Main

IO Setup

Manage EDID

Configuration

Routing

IO Status

Display Info

Lock Matrix

Status

Output	Input #	Name	Output	Input #	Name
1	4	Output_1	1	1	Input_1
2	1	Output_2	2	2	Input_2
3	10	Output_3	3	3	Input_3
4	3	Output_4	4	4	Input_4
5	8	Output_5	5	5	Input_5
6	1	Output_6	6	6	Input_6
7	2	Output_7	7	7	Input_7
8	1	Output_8	8	8	Input_8

Check All

Clear All

Route

Save & Recall Routing Presets

Save Routing Preset

1: Preset_1

Save

Recall Routing Preset

Preset_1

Preset_2

Preset_3

Preset_4

Preset_5

Preset_6

Preset_7

Preset_8

Legend

Provides color-coded information on the status of each Input and Output.

Active

HDCP

Inactive

Fail

Input Routing

8x8 Matrix For HDMI w/8 ELR

Log Out

Main

IO Setup

Manage EDID

Configuration

Routing

IO Status

Display Info

Matrix is LOCKED.

Unlock Matrix

Unlock Matrix

Status

Output	Input #	Name	Output	Input #	Name
1	4	Output_1	1	1	Input_1
2	1	Output_2	2	2	Input_2
3	10	Output_3	3	3	Input_3
4	3	Output_4	4	4	Input_4
5	8	Output_5	5	5	Input_5
6	1	Output_6	6	6	Input_6
7	2	Output_7	7	7	Input_7
8	1	Output_8	8	8	Input_8

Check All

Clear All

Route

Save & Recall Routing Presets

Save Routing Preset

1: Preset_1

Save

Recall Routing Preset

Preset_1

Preset_2

Preset_3

Preset_4

Preset_5

Preset_6

Preset_7

Preset_8

(continued on next page)

Name

Displays the current name of each output. The name of each input can be changed. Refer to the `#set_input_name` command on page 58 for details on naming inputs.

Output

Click to place a check mark in the box and select the desired output. Multiple outputs can be selected at a time.

The screenshot shows the GefenPRO web interface. A modal window titled "Outputs" is open, displaying a table with 8 rows. Each row has a "Name" column (Output_1 to Output_8) and an "Output" column (1 to 8). To the right of each row is a checkbox. Below the modal, there are three buttons: "Check All", "Clear All", and "Route".

Outputs	
Name	Output
Output_1	1
Output_2	2
Output_3	3
Output_4	4
Output_5	5
Output_6	6
Output_7	7
Output_8	8

Below the modal, there are three buttons:

- Check All**: Places a check mark in each box under the Output # column.
- Clear All**: Clears all check marks from the Output # column.
- Route**: Click this button to route the current input and output selection(s).

Check All

Places a check mark in each box under the Output # column.

Clear All

Clears all check marks from the Output # column.

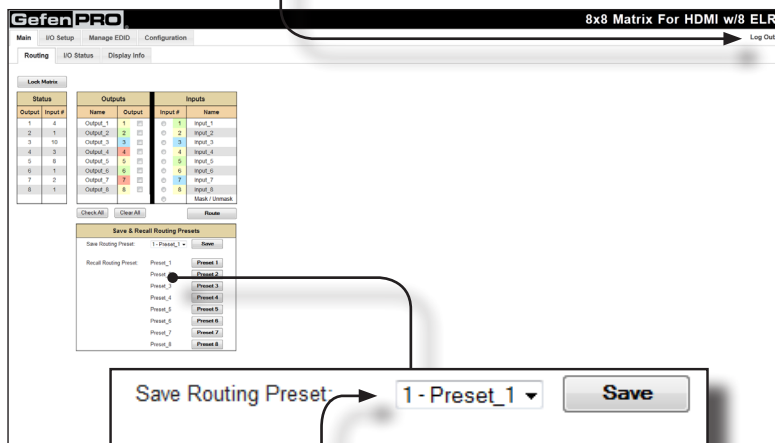
Route

Click this button to route the current input and output selection(s).

Log Out

Log Out

Click here to terminate the current Web session and return to the login page.



Save Routing Preset

Saves the current routing state to memory. Click the drop-down list to select the desired routing preset, then click the **Save** button to save the preset to memory.

Recall Routing Preset

Loads the selected routing state into memory. Click the desired button to load the desired routing preset into memory.

WEB INTERFACE

Main >> I/O Status

GefenPRO 8x8 Matrix For HDMI w/8 ELR

Main I/O Setup Manage EDD Configuration Log Out

Routing I/O Status Display Info

		Output							
		1	2	3	4	5	6	7	8
Name	Output_1	Output_2	Output_3	Output_4	Output_5	Output_6	Output_7	Output_8	
RSENSE	Off	On	On	Off	On	On	Off	On	
Mask	Off	On	On	Off	On	On	Off	On	
HPD	High	High	High	High	High	High	High	High	
HDCP	Active	Inactive	Active	Active	Active	Active	Active	Active	
POL	On	Off	On	Off	On	Off	On	Off	

Output					
	1	2	3	4	5
Name	Output_1	Output_2	Output_3	Output_4	Output_5
RSENSE	Off	On	On	Off	On
Mask	Off	On	On	Off	On
HPD	High	High	High	Low	High
HDCP	Active	Inactive	Active	Fail	Active
POL	On	Off	On	Off	On

Output
Displays the state of each output for each of the following: Output name, RSENSE, Mask, HPD (Hot-Plug Detect), HDCP, and POL.

Input					
	1	2	3	4	5
Name	Input_1	Input_2	Input_3	Input_4	Input_5
Color Depth	10bit	10bit	12bit	10bit	10bit
Color Space	RGB	RGB	YUV	RGB	RGB
HDCP	No	Yes	Yes	Yes	No
3D	No	Yes	Yes	Yes	Yes
Active Signal	No	No	Yes	No	Yes
Vertical Resolution	1600	1024	1920	1024	1024
Horizontal Resolution	1200	768	1200	768	768
Progressive / Interlaced	i	i	p	i	i

Input

Displays the state of each input for each of the following: Input name, Color Depth, Color Space, HDCP, 3D, Active Signal, Vertical Resolution, Horizontal Resolution, Progressive / Interlaced, and Refresh Rate.

Main >> Display Info

Choose EDID

Select the EDID from the drop-down list. The selected EDID will be copied from the selected EDID Bank or Output to the desired input(s) and used by the source.

Options:

Default EDID, Bank 1 ... Bank 8, Output A ... Output H

Choose EDID Default EDID ▼

GefenPRO 4x4 Matrix For HDMI w/4 ELR

Main | IO Setup | Manage EDID | Configuration | Log Out

Routing | IO Status | **Display Info**

Choose EDID Default EDID ▼

Feature	
24Hz Frame Rate	TRUE
Max Resolution	1080P@60Hz
Max Color Depth	12 bit
3D Capable	FALSE
Mode (DVI/HDMI)	HDMI
Max Audio Channels	2 Ch

Audio Formats	
LPCM	TRUE
DTS-HD	FALSE
DTS Digital Surround	FALSE
Dolby Digital (AC3)	FALSE
Dolby TrueHD	FALSE

Feature	
24Hz Frame Rate	TRUE
Max Resolution	1080P@60Hz
Max Color Depth	12 bit
3D Capable	FALSE
Mode (DVI/HDMI)	HDMI
Max Audio Channels	2 Ch

Audio Formats	
LPCM	TRUE
DTS-HD	FALSE
DTS Digital Surround	FALSE
Dolby Digital (AC3)	FALSE
Dolby TrueHD	FALSE

Feature / Audio Formats

Displays the capabilities of the display (or sink device), based on the EDID.

WEB INTERFACE

I/O Setup >> Preset Names

Gefen PRO 8x8 Matrix For HDMI w/8 ELR

Main I/O Setup Manage EDID Configuration
Preset Names I/O Names HPD Control FST HDCP Log Out

Edit Preset Names

Preset #	Name
1	Preset_1
2	Preset_2
3	Preset_3
4	Preset_4
5	Preset_5
6	Preset_6
7	Preset_7
8	Preset_8

Save Changes **Cancel**

Name
Type the desired name of the Preset in this field.
Click the **Save Changes** button to save the Preset Name.
Click the **Cancel** button to restore the previous name.

Save Changes **Cancel**

Save Changes
Saves the current changes.

Cancel
Restores the previous names for each Preset, if a change was made.

I/O Setup >> I/O Names



Edit Output & Input Names

Output	Name	Input #	Name
1	<input type="text" value="Output_1"/>	1	<input type="text" value="Input_1"/>
2	<input type="text" value="Output_2"/>	2	<input type="text" value="Input_2"/>
3	<input type="text" value="Output_3"/>	3	<input type="text" value="Input_3"/>
4	<input type="text" value="Output_4"/>	4	<input type="text" value="Input_4"/>
5	<input type="text" value="Output_5"/>	5	<input type="text" value="Input_5"/>
6	<input type="text" value="Output_6"/>	6	<input type="text" value="Input_6"/>
7	<input type="text" value="Output_7"/>	7	<input type="text" value="Input_7"/>
8	<input type="text" value="Output_8"/>	8	<input type="text" value="Input_8"/>

Save Changes
Saves the current changes.

Cancel
Restores the previous names for each Preset, if a change was made.

Name
Type the desired name of each Output or Input in these fields. Click the **Save Changes** button or click the **Cancel** button to restore the previous name.

WEB INTERFACE

I/O Setup >> HPD Control

Gefen PRO 8x8 Matrix For HDMI w/8 ELR

Main I/O Setup Manage EDD Configuration

Preset Names I/O Names **HPD Control** FST HDCP

HPD Control

Input #	Name	
1	Input_1	Pulse
2	Input_2	Pulse
3	Input_3	Pulse
4	Input_4	Pulse
5	Input_5	Pulse
6	Input_6	Pulse
7	Input_7	Pulse
8	Input_8	Pulse

HPD Control

Input #	Name	
1	Input_1	Pulse
2	Input_2	Pulse
3	Input_3	Pulse
4	Input_4	Pulse
5	Input_5	Pulse
6	Input_6	Pulse
7	Input_7	Pulse
8	Input_8	Pulse

Pulse

Click the Pulse button to cycle the HPD line on the desired input. This is the equivalent of physically disconnecting and reconnecting the HDMI cable between the source device and the matrix.

I/O Setup >> FST

Fast Switching Technology

FST	Input #	Name
<input checked="" type="checkbox"/>	1	Input_1
<input type="checkbox"/>	2	Input_2
<input checked="" type="checkbox"/>	3	Input_3
<input type="checkbox"/>	4	Input_4
<input checked="" type="checkbox"/>	5	Input_5
<input type="checkbox"/>	6	Input_6
<input checked="" type="checkbox"/>	7	Input_7
<input type="checkbox"/>	8	Input_8

FST

Click to select / deselect the desired input(s). Inputs with a check mark will *enable* the FST feature. Use the **Set** button to save changes.

Check All

Places a check mark in each box under the FST column.

Clear All

Clears all check marks from the FST column.

Set

Click this button to save changes for all input(s). The Web GUI will display a prompt to verify the selected operation.

Cancel

Cancel the current operation and ignores changes for each input, if a change was made.

I/O Setup >> HDCP



NOTE: Some computers will enable HDCP if an HDCP-compliant display is detected. Use the Disable feature to force the computer to ignore detection of an HDCP-compliant display. Note that using the Disable feature does **not** decrypt HDCP content.

Disable	Input #	Name
<input checked="" type="checkbox"/>	1	Input_1
<input type="checkbox"/>	2	Input_2
<input type="checkbox"/>	3	Input_3
<input checked="" type="checkbox"/>	4	Input_4

Check All Clear All Set Cancel

Disable

Click to select / deselect the desired input(s). Inputs with a check mark will *disable* the HDCP feature. Use the **Set** button to save changes.

Check All

Places a check mark in each box under the Disable column.

Clear All

Clears all check marks from the Disable column.

Set

Click this button to save changes for all input(s). The Web GUI will display a prompt to verify the selected operation.

Cancel

Cancels the current operation and ignores changes for each input, if a change was made.

Manage EDID >> Assign

Lock EDID

Secures the Local EDID and disables the automatic loading after power-up. See the `#lock_edid` command on page 77 for more information.



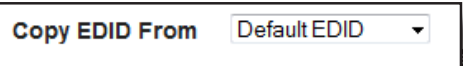
Copy EDID From

Select the EDID from the drop-down list. The EDID will be copied from the selected destination to the desired input or EDID bank.

Options:

Default EDID, Bank 1 ... Bank 8,

Output A ... Output H



GetenPRO | Home | Settings | Manage EDID | Configuration | Log Out

Assign | Bank Names | Upload/Download

Lock EDID

Copy EDID From: **Default EDID**

Copy EDID To: **Output**

Copy EDID To - Please select from the Inputs/Banks below

Inputs					
Copy To	EDID Modes	Input #	Name	EDID Source	EDID Name
<input type="checkbox"/>	Load Output	1	Input_1	Default	1
<input type="checkbox"/>	Custom	2	Input_2	Default	2
<input type="checkbox"/>	Load Output	3	Input_3	Default	3
<input type="checkbox"/>	Custom	4	Input_4	Default	4
<input type="checkbox"/>	Load Output	5	Input_5	Default	5
<input type="checkbox"/>	Custom	6	Input_6	Default	6
<input type="checkbox"/>	Custom	7	Input_7	Default	7
<input type="checkbox"/>	Custom	8	Input_8	Default	8

Banks			
Copy To	Input #	Name	EDID Name
<input type="checkbox"/>	1	Bank 1	1
<input type="checkbox"/>	2	Bank 2	2
<input type="checkbox"/>	3	Bank 3	3
<input type="checkbox"/>	4	Bank 4	4
<input type="checkbox"/>	5	Bank 5	5
<input type="checkbox"/>	6	Bank 6	6
<input type="checkbox"/>	7	Bank 7	7
<input type="checkbox"/>	8	Bank 8	8

(continued on next page)

WEB INTERFACE

GefenPro 8x8 Matrix For HDMI w/8 ELR

Main JIG Setup Manage EDID Configuration Log Out

Assign Bank Names Upload/Download

Look EDID

Copy EDID From: OutPut:EDID

Copy EDID To: Please select from the Inputs/Banks below

Copy To	EDID Modes	Input #	Name	EDID Source	EDID Name
<input type="checkbox"/>	Last Output	1	Input_1	aDefault	2
<input type="checkbox"/>	Custom	2	Input_2	bDefault	3
<input type="checkbox"/>	Last Output	3	Input_3	Default	4
<input type="checkbox"/>	Custom	4	Input_4	Default	5
<input type="checkbox"/>	Last Output	5	Input_5	Default	6
<input type="checkbox"/>	Custom	6	Input_6	Default	7
<input type="checkbox"/>	Custom	7	Input_7	Default	8
<input type="checkbox"/>	Custom	8	Input_8	Default	9

Check All Clear All

Copy To	Input #	Name	EDID No
<input type="checkbox"/>	1	Bank 1	10
<input type="checkbox"/>	2	Bank 2	1
<input type="checkbox"/>	3	Bank 3	2
<input type="checkbox"/>	4	Bank 4	3
<input type="checkbox"/>	5	Bank 5	4
<input type="checkbox"/>	6	Bank 6	5
<input type="checkbox"/>	7	Bank 7	6
<input type="checkbox"/>	8	Bank 8	7

Check All Copy

EDID modes:

If the EDID Mode is set to *Last Output*, then the EDID source will be set to Dynamic EDID. See pages 81 - 82 for details on using Dynamic EDID.

If the EDID Mode is set to *Custom*, then the EDID of the display that is connected to Output A will be used.

Copy To

Click to select the desired input(s).

Inputs					
Copy To	EDID Modes	Input #	Name	EDID Source	EDID Name
<input type="checkbox"/>	Last Output	1	Input_1	aDefault	2
<input type="checkbox"/>	Custom	2	Input_2	bDefault	3
<input type="checkbox"/>	Last Output	3	Input_3	Default	4
<input type="checkbox"/>	Custom	4	Input_4	Default	5
<input type="checkbox"/>	Last Output	5	Input_5	Default	6
<input type="checkbox"/>	Custom	6	Input_6	Default	7
<input type="checkbox"/>	Custom	7	Input_7	Default	8
<input type="checkbox"/>	Custom	8	Input_8	Default	9

Check All Clear All

EDID Modes

Click the drop-down list to select the EDID mode.

Check All

Places a check mark in each box under the **Copy To** column.

Clear All

Clears all check marks from the **Copy To** column.

Options:

Custom, Last Output

WEB INTERFACE

Gefen Pro 8x8 Matrix For HDMI w/8 ELR

Main HDMI Setup Manage EDID Configuration

Assign Bank Names Upload/Download

Look EDID

Copy EDID From: Default EDID

Copy EDID To: Please select from the Inputs/Banks below

Copy To	EDID Model	Input #	Name	EDID Source	EDID Name
<input type="checkbox"/>	Load Output	1	Input_1	Default	2
<input type="checkbox"/>	Custom	2	Input_2	Default	3
<input type="checkbox"/>	Load Output	3	Input_3	Default	4
<input type="checkbox"/>	Custom	4	Input_4	Default	5
<input type="checkbox"/>	Load Output	5	Input_5	Default	6
<input type="checkbox"/>	Custom	6	Input_6	Default	7
<input type="checkbox"/>	Custom	7	Input_7	Default	8
<input type="checkbox"/>	Custom	8	Input_8	Default	9

Check All Clear All

Copy To	Input #	Name	EDID Name
<input type="checkbox"/>	1	Bank 1	10
<input type="checkbox"/>	2	Bank 2	1
<input type="checkbox"/>	3	Bank 3	2
<input type="checkbox"/>	4	Bank 4	3
<input type="checkbox"/>	5	Bank 5	4
<input type="checkbox"/>	6	Bank 6	5
<input type="checkbox"/>	7	Bank 7	6
<input type="checkbox"/>	8	Bank 8	7

Check All Clear All Copy Cancel

Copy To
Click this button to copy the specified EDID to the selected inputs / banks.

Cancel
Restores the previous EDID state for each input, if a change was made.

Check All

Places a check mark in each box under the **Copy To** column.

Clear All

Clears all check marks from the **Copy To** column.

Manage EDID >> Bank Names

Edit Banks Names

Bank #	Name
1	Bank 1
2	Bank 2
3	Bank 3
4	Bank 4
5	Bank 5
6	Bank 6
7	Bank 7
8	Bank 8

Save Changes **Cancel**

Bank

Indicates the EDID bank number.

Name

Type the desired name of the EDID bank in this field.
Click the **Save Changes** button to save the bank name.
Click the **Cancel** button to restore the previous name.

Save Changes

Saves the current name change to the EDID bank(s).

Cancel

Restores the previous names for each EDID bank, if a change was made.

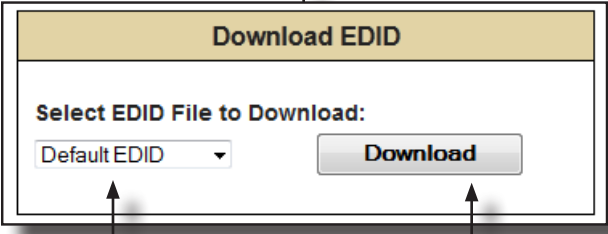
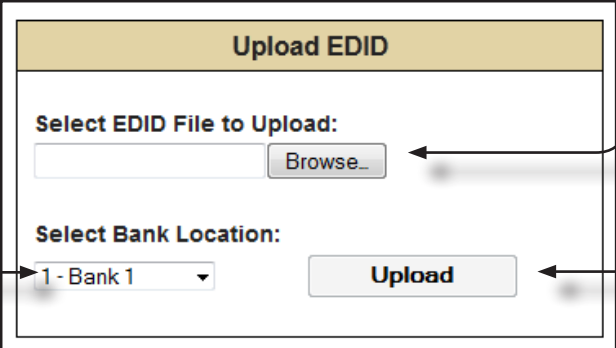
Manage EDID >> Upload / Download

Upload
Click this button to upload the EDID to the specified bank.

Select Bank Location
Click this drop-down list to select the bank to where the EDID will be uploaded.

Options:
Bank 1 ... Bank 8

Browse...
Click this button to select the EDID file to be uploaded.



Drop-down list
Click this box to select the EDID that is to be saved to a file. The EDID file will be saved in binary format (.bin).

Download
Click this button to download the selected EDID to a file.

Options:
Bank 1 ... Bank 8, Output A ... Output H,
Input 1 ... Input 8

Configuration >> Change IP Settings

The screenshot shows the GefenPRO web interface. The main page has a navigation bar with 'Main', 'IO Setup', 'Manage EDD', and 'Configuration'. The 'Configuration' tab is active. A 'Change IP Settings' dialog box is open, displaying the following fields and values:

Field	Value
MAC Address:	00:1C:91:02:80:21
IP Address:	127.0.0.1
Subnet:	255.255.255.1
Gateway:	192.168.5.1
Port:	88
TCP/Telnet Terminal Port:	23
UDP Port:	50007

At the bottom of the dialog box are two buttons: 'Save Settings' and 'Set Defaults'.

Change IP Settings

Assigns the IP address, subnet, gateway, HTTP listening port, Telnet port, and UDP port. The MAC address cannot be changed.

Save Settings

Saves the current settings for the Change IP Settings. After clicking this button, the Web interface will display a dialog indicating that the matrix must be rebooted for changes to take effect.

Set Defaults

Click this button to restore the factory-default IP settings. After clicking this button, the Web interface will display a dialog indicating that the matrix must be rebooted for changes to take effect.

Configuration >> Telnet Login Settings

Gefen PRO 8x8 Matrix For HDMI w/8 ELR

Main IO Setup Manage EDID Configuration Log Out

Change IP Settings

MAC Address: 00-1C-91-02-00-21
IP Address: 127.0.0.1
Subnet: 255.255.255.0
Gateway: 192.168.0.1
Port: 80
TCP/Telnet Terminal Port: 23
UDP Port: 6007

Save Settings Set Defaults

Telnet Login Settings

Old Password: *****
New Password:
Confirm New Password:
Force Password on Connect: ☐
Show Login Message on Connect: ☐

Save Settings

UDP Connection Settings

Remote UDP IP Address: 192.168.0.137
Remote UDP Port: 6008
Enable UDP Access: ☐

Telnet Login Settings

Old Password:

New Password:

Confirm New Password:

Force Password on Connect: ☐

Show Login Message on Connect: ☐

Save Settings

Old Password

Type the current (old) password in this field.

New Password

Type the new password in this field.

Force Password on Connect

Click this check box to have the matrix prompt for a password each time a Telnet session is started.

Show Login Message on Connect

Click this check box to have the matrix display the Telnet welcome message each time a Telnet session is started. The welcome message appears as: "Welcome to GEF-HDFST-848-8ELR TELNET"

Save Settings

Saves the current changes to the Telnet Login Settings.

Configuration >> UDP Connection Settings

The screenshot shows the Gefen PRO web interface. The top navigation bar includes 'Main', 'I/O Setup', 'Manage EDID', and 'Configuration'. The 'Configuration' tab is active. The main content area displays several configuration sections: 'Change IP Settings', 'Telnet Login Settings', 'UDP Connection Settings', and 'Web Login Settings'. The 'UDP Connection Settings' section is highlighted with a callout box. The callout box contains the following fields: 'Remote UDP IP Address' (192.168.2.137), 'Remote UDP Port' (50008), and 'Enable UDP Access' (checked). A 'Save Settings' button is located at the bottom right of the callout box.

UDP Connection Settings

Remote UDP IP Address: 192.168.2.137

Remote UDP Port: 50008

Enable UDP Access: ☒

Save Settings

Remote UDP IP Address

Type the remote UDP IP address in this text box.

Remote UDP Port

Enter the remote UDP port in this text box.

Enable UDP Access

Check this box to enable UDP access. If this box is unchecked, the UDP access will be unavailable.

Configuration >> Web Login Settings

Web Login Settings

Username:

Operator

Old Password:

•••••

New Password:

Confirm New Password:

Save Settings

Save Settings

Get Defaults

Telnet Login Settings

Old Password:

•••••

New Password:

Confirm New Password:

Force Password on Connect:

☐

Show Login Message on Connect:

☐

Save Settings

UDP Connection Settings

Remote UDP IP Address:

192.168.2.131

Remote UDP Port:

50000

Enable UDP Access:

☐

Save Settings

Web Login Settings

Username:

Operator

Old Password:

•••••

New Password:

Confirm New Password:

Save Settings

System Configuration

Download Current Configuration

Download

Restore Configuration

Browse

Warning: All current settings will be lost

Restore

Firmware Update (SJT ver: 0.2.28)

Update

Factory Reset

Reset

Reboot

Reboot

Username

Click this drop-down list to select the username to be changed.

Old Password

Type the current (old) password in this field.

New Password

Type the new password in this field.

Confirm Password

Re-type the new password in this field.

Save Settings

Saves the current changes to the Web Login Settings.

Configuration >> System Configuration

System Configuration

Download Current Configuration

Restore Configuration

Warning: All current settings will be lost

Firmware Update (UI ver: 0.2.28)

Factory Reset

Reboot

Download

Restore

Update

Reset

Reboot

Serial Login Settings

Old Password: *****
New Password:
Confirm New Password:
Force Password on Connect: (Y)
Show Login Message on Connect: (N)
Save Settings

UDP Connection Settings

Remote UDP IP Address: 192.168.2.137
Remote UDP Port: 50009
Enable UDP Access: (N)
Save Settings

Web Login Settings

Username: Operator
Old Password: *****
New Password:
Confirm New Password:
Save Settings

System Configuration

Download Current Configuration **Download**

Restore Configuration **Restore**

Warning: All current settings will be lost

Firmware Update (UI ver: 0.2.28)
Update

Factory Reset **Reset**

Reboot **Reboot**

Download Current Configuration

Click this button to download the current configuration to a file.

System Configuration

Download Current Configuration

Restore Configuration

Warning: All current settings will be lost

Firmware Update (UI ver: 0.2.28)

Factory Reset

Reboot

Browse

Click this button to select the firmware file to be uploaded. See the next for details on updating the firmware.

Browse

Click this button to select the saved configuration file to be loaded into memory.

Restore

Uploads the selected configuration file to the matrix.

Update

Updates the matrix with the selected firmware file.

Reset

Click this button to set the matrix to factory-default settings. The IP settings are preserved.

Reboot

Click this button to reboot the matrix.

FIRMWARE UPDATE

Firmware Update Procedure (over IP)



IMPORTANT: *DO NOT* power-off or disconnect the AC power cord from the matrix, at any time, during the firmware upgrade process.

1. Make sure the 8x8 Matrix for HDMI w/8 ELR-POL Outputs is powered.
2. Connect an Ethernet cable between the matrix and the computer running the Web GUI.
3. Go to the **Configuration** tab in the Web GUI and click the **Browse...** button under the **System Configuration** section.
4. Select the firmware file and click the **Update** button
5. The matrix will prompt you to verify that you want to overwrite the current firmware. Click the **OK** button on the Web GUI dialog to begin uploading the firmware file.
6. Once the firmware file has been uploaded, the matrix will verify the firmware content. The front-panel LCM will display the following if the firmware passes:

CONTENT CHECK:
PASS

7. After the firmware file integrity has been verified, the matrix will begin the upgrade procedure. The upgrade progress will be displayed in the front-panel LCM.

-F/W UPDATE-
35%

8. After the matrix has been updated, the unit will automatically initiate a countdown to reboot. The **Power** button can be pressed to bypass the countdown without harming the upgrade process. The LCM will display the following message:

FINISHED
REBOOT IN 52 SEC

9. After the matrix reboots, the firmware upgrade process will be complete.

FIRMWARE UPDATE

Firmware Update Procedure (over USB)



IMPORTANT: *DO NOT* power-off or disconnect the AC power cord from the matrix, at any time, during the firmware upgrade process.

1. Download the firmware update from the Support section of the Gefen Web site.
2. Power-ON the 8x8 Matrix for HDMI w/8 ELR-POL Outputs.
3. Connect a USB cable between the computer and the 8x8 Matrix for HDMI w/8 ELR-POL Outputs.

It is unnecessary to disconnect any cables from the 8x8 Matrix for HDMI w/8 ELR-POL Outputs during the update process.

4. Once the computer is able to connect to the 8x8 Matrix for HDMI w/8 ELR-POL Outputs, a Removable disk icon will be displayed under My Computer. The following will be displayed on the front-panel LCD:



USB CONNECTED...

5. Extract the firmware file from the .ZIP file and drag the .bin file to the Removable Disk. The 8x8 Matrix for HDMI w/8 ELR-POL Outputs will indicate that the firmware is being copied.



USB UPLOADING...

6. Once the firmware has been successfully copied, the following message will be displayed:



USB UPLOAD DONE
PLZ REMOVE USB..

7. Disconnect the USB cable from the computer.

(continued on next page)

FIRMWARE UPDATE

8. The matrix will verify the firmware content. The front-panel LCM will display the following if the firmware passes:




CONTENT CHECK:
PASS

9. After the firmware file integrity has been verified, the matrix will begin the upgrade procedure. The upgrade progress will be displayed in the front-panel LCM.



-F/W UPDATE-
35%

10. After the matrix has been updated, the unit will automatically initiate a countdown to reboot. The **Power** button can be pressed to bypass the countdown without harming the upgrade process.



FINISHED
REBOOT IN 52 SEC

11. After the matrix reboots, the firmware upgrade process will be complete.

RACK MOUNT SAFETY INFORMATION

- a. Maximum recommended ambient temperature: 40 °C (104 °F).
- b. Increase the air flow as needed to maintain the recommended temperature inside the rack.
- c. Do not exceed maximum weight loads for the rack. Install heavier equipment in the lower part of the rack to maintain stability.

SPECIFICATIONS

Maximum Pixel Clock.....	225 MHz
Video Input Connectors (Matrix).....	(8) HDMI Type A, 19-pin, female, locking
Video Output Connectors (Matrix).....	(8) ELR-POL RJ-45, female
ELR-POL Connector (Receiver).....	(1) RJ-45, female
Video Output Connector (Receiver).....	(1) HDMI Type A 19-pin, female, locking
USB Port (Matrix).....	Mini-B, female
Ethernet Port (Matrix).....	(1) RJ45, female, 10/100 BaseT
RS-232 Port (Matrix).....	(1) DB-9, female
IR Extender Port (Matrix).....	(1) 3.5mm mini-stereo jack
IR Input Port (Matrix).....	(9) 3.5mm mini-stereo jacks
IR Output Port (Matrix).....	(9) 3.5mm mini-mono jacks
IR Extender Port (Receiver).....	(1) 3.5mm mini-stereo jack
IR Output Port (Receiver).....	(1) 3.5mm mini-mono jack
Power Supply.....	100V to 240V AC 50/60 Hz, Internal
Power Consumption (Matrix).....	200W (max.)
Operating Temperature.....	+32 to 104 °F (0 to + 40 °C)
Rack mounting requirements (Matrix).....	Standard 19" rack, 2U high
Dimensions (W x H x D) (Matrix).....	17.25" x 3.5" x 12" (440mm x 89mm x 305mm)
Dimensions (W x H x D) (Receiver).....	4.4" x 1.1" x 3.35" (110mm x 27mm x 85mm)
Shipping Weight (1 Matrix with 8 Receivers).....	40 lbs. (18 kg)

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.

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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

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- jQuery

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www.gefenpro.com support@gefenpro.com



This product uses UL or CE listed power supplies.