GefenPRO

8x8 DVI Dual Link Matrix

GEF-DVI-848DL

User Manual

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CONTENTS

Congratulations on your purchase of the GefenPRO 8x8 DVI Dual Link Matrix. Your complete satisfaction is very important to us.

GefenPRO

In the realm of video distribution, certain features are invaluable in a commercial or broadcast environment. Accommodations such as a build-in power supply and flat black rack-mount enclosures set GefenPRO apart from our traditional products. Complex distribution units allow for professional DVI, 3G-SDI, and HDMI signals to be routed and converted easily and seamlessly, while being backed up by a renowned and dependable technical support team. Gefen invites you to explore the GefenPRO product line and hopes that you find the solution that fits your needs.

The GefenPRO 8x8 DVI Dual Link Matrix

This product simplifies the process of routing up to eight DVI sources to any of eight DVI monitors without losing quality or resolution. The GefenPRO 8x8 DVI Dual Link Matrix provides a simple, reliable, and highly effective method of streamlining any installation using multiple sources and outputs, taking the hassle out of managing multiple connections. Each DVI source is accessible from any monitor by using the front-panel buttons, IR remote unit, built-in RS-232, or using IP Control.

How It Works

The GefenPRO 8x8 DVI Dual Link Matrix has eight DVI inputs and eight DVI outputs. Using the supplied DVI dual link cables, connect 8 sources to the DVI input ports on the GefenPRO 8x8 DVI Dual Link Matrix. Connect the GefenPRO 8x8 DVI Dual Link Matrix to the monitors. Plug in the power cord and power-on the GefenPRO 8x8 DVI Dual Link Matrix. The connected monitors will show video according to the routing selection.

NOTE: The GefenPRO 8x8 DVI Dual Link Matrix only supports DVI-D. The DVI connectors on the 8x8 DVI Dual Link Matrix have all 29 pins.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR
OPERATING THE GEFENPRO 8X8 DVI DUAL LINK MATRIX

- The 8x8 DVI Dual Link Matrix does not support HDCP content.

- When the Matrix is used for the first time, make sure that a DVI monitor is powered and connected to one of the DVI outputs on the 8x8 DVI Dual Link Matrix before applying power. By default, the Local EDID is read from the connected monitor and is copied to all 8 DVI inputs once the Matrix has been turned on. If a monitor is not detected by the Matrix at power-on, a default (internal) EDID of 640x480 will be used. This functionality can be disabled using the Secure Local EDID function through RS-232 control. See page 20 for more information.

- There is no internal scaling in the 8x8 DVI Dual Link Matrix. Each monitor attached to the Matrix must be able to display the resolutions output by the source device(s). For maximum compatibility it is recommended that only one common resolution be used by each source device.

- Advanced EDID features are accessible through the RS-232 serial command set.

Features

- Increases productivity

- Supports resolutions up to 1920x1200 (Single Link) and 3840x2400 (Dual Link)

- Front panel control buttons for local switching

- Serial RS-232 interface for remote control via a computer or control automation devices

- Discrete IR remote control switching

- Advanced EDID management permits upload of custom internal or external EDID settings

- Supports DDWG standards for DVI

- Built-in power supply

- Output masking command

- Standby mode

- Energy Star compliant

- Grounding pin

- IR Sensor

- IR Extender

- Status LCD (shows routing status)

- Firmware upgrade via RS-232

- Power On/Off switch

- Rack-mountable

Package Includes

(1) GefenPRO 8x8 DVI Dual Link Matrix
(8) 6-foot DVI Dual Link cables (M-M)
(1) 6-foot serial DB9 cable (M-F)
(1) IR Remote Control Unit
(1) AC Power Cord
(1) User Manual

Front Panel

Front Panel

1 **Control Buttons**
These buttons are used to navigate the LCD menu system. See pages 9 and 10 for more information.
◄   - Left
►   - Right
Select   - Select

2 **Cancel Button**
This button is used to cancel a routing change in progress.

3 **IR Window**
Receives signals from the IR Remote Control unit.

4 **Power Indicator**
This LED indicator will glow red when the power is turned on.
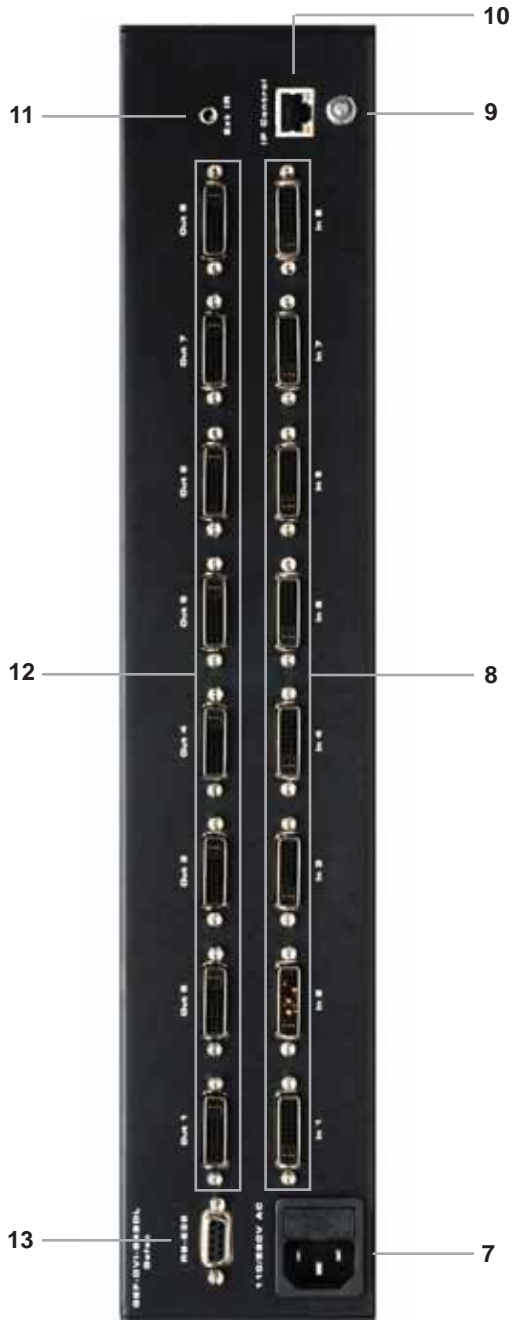
5 **Power Switch**
Turn the power on or off using this switch.

6 **LCD Display**
Displays the current routing status of the Matrix and is also used to manage source routing.

Back Panel

6

Back Panel

7   *AC 110/220V (50/60 Hz) Power Receptacle*
Connect the included AC power cord from this receptacle to an available electrical outlet.

8   *DVI Input Ports 1-8*
Connect DVI source devices to these ports.

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 Matrix. The grounding wire should be attached from the grounding terminal to an approved ground path.

10 *IP Control Interface*
Connect to this port to control the 8x8 DVI Dual Link Matrix using IP Control. See page 31 for details.

11 *IR Extender Port*
Connect an IR extender cable to this port (Gefen part no. EXT-RMT-EXTIR).

12 *DVI Output Ports 1-8*
Connect DVI monitors to these ports.

13 *RS-232 Serial Port*
Connects to the RS-232 control device. The 8x8 DVI Dual Link Matrix may be switched remotely using this port. See page 16 for more information.

How to Connect the 8x8 DVI Dual Link Matrix

1. Connect up to 8 DVI Dual Link source devices to the inputs on the rear panel of the 8x8 DVI Dual Link Matrix using the supplied DVI dual link cables.

2. Connect up to 8 DVI Dual Link monitors to the outputs on the rear panel of the 8x8 DVI Dual Link Matrix with user-supplied DVI dual link cables.

3. Connect the included AC power cable to the power receptacle on the rear panel of the 8x8 DVI Dual Link Matrix and connect the opposite end of the power cable into an available electrical outlet.

4. Power on the monitors and the source devices. Turn on the 8x8 DVI Dual Link Matrix by pressing the power switch on the front panel.

How to Operate the 8x8 DVI Dual Link Matrix
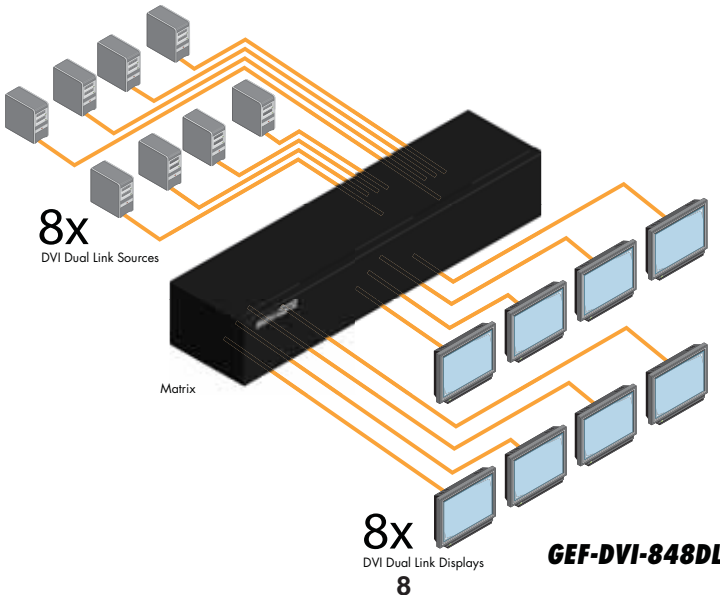
The 8x8 DVI Dual Link Matrix offers a number of control options. The following methods can be used to control basic routing functions:

1. Front Panel Control Buttons - Pages 9 and 10

2. IR Remote Control - Pages 11 - 14

3. RS-232 Serial Control - Pages 16 - 30

GefenPRO

DVI DUAL LINK CABLE

8x
DVI Dual Link Sources

Matrix

8x
DVI Dual Link Displays

GEF-DVI-848DL

Main Display

The **Main Display** of the 8x8 DVI Dual Link Matrix is a 16 character 2 line display. This display will show the Standby Screen and will also be used to aid in performing routing commands. When the unit is powered on, the following screen is displayed:

```
GEFEN
8X8DL DVI MATRIX
```
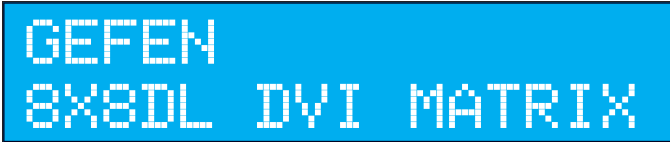
This screen will display the company and product name.

Pressing the ◄ button on the front panel will display the current firmware version:

```
MATRIX FIRMWARE
1.7
```

Pressing the ◄ button a second time will display the bootloader version:

```
BOOT LOADER
1.5
```
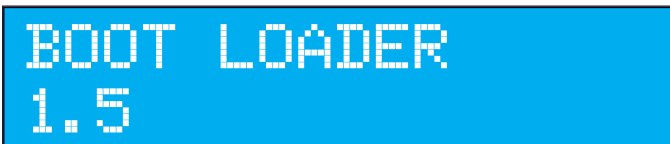
Pressing the ◄ button once again will display the Standby screen.

NOTE: The **Cancel** button can be pressed at any time to return to the Standby screen.

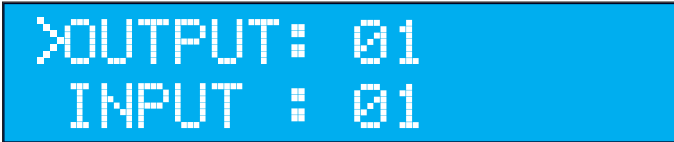## Displaying the Routing Status

From the Standby Screen, press the **Select** button. The arrow next to OUTPUT indicates that pressing the ◄ or ► will cycle through the current routing state of each output. The example below shows that Input 1 is routed to Output 1.

```
>OUTPUT: 01
 INPUT : 01
```

Pressing the ► button again will display the routing state of Output 2 and so on.
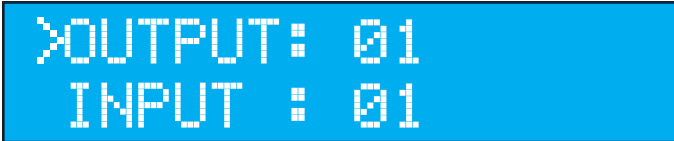
```
>OUTPUT: 02
 INPUT : 02
```

Routing Sources
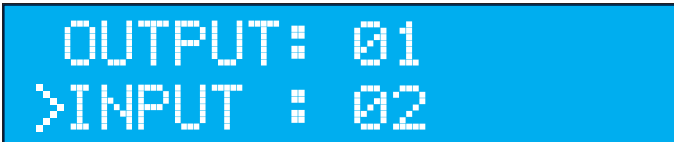
Example:
Route the source device connected to In 2 to the monitor connected to Out 1.

1. From the Standby Screen, press the **Select** button on the front panel to display the routing status screen.

```
>OUTPUT: 01
 INPUT : 01
```

2. Press the **Select** button again to move the arrow cursor to next to INPUT.

3. Press the ► button to route Input 2 to Output 1. The source device connected to In 2 is now routed to the monitor connected to Out 1.

```
 OUTPUT: 01
>INPUT : 02
```

4. Press the **Cancel** button to return to the Standby Screen.

RMT-16IR
Remote Control Unit
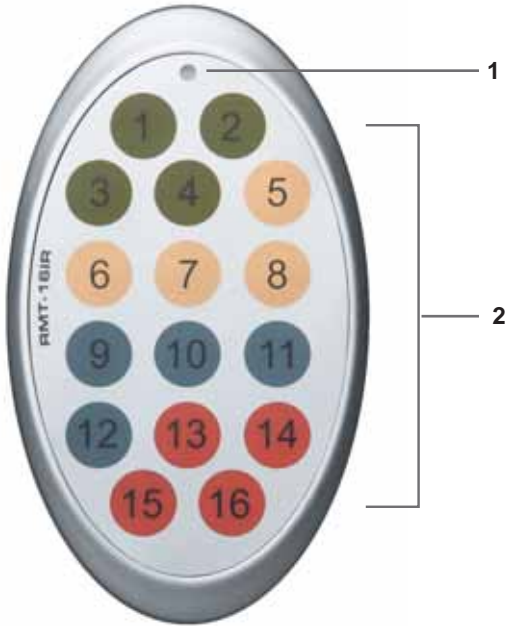
1   *Activity Indicator*
     This LED will be activated momentarily each time a button is pressed.

2   *Monitor and Source Selection Buttons*
     These buttons are used to select which source is routed to a monitor.

See page 14 for information on using the IR Remote Control unit.

Installing the RMT-16IR Battery

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

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

3. Replace the battery cover.

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

IR Code DIP Switches

Empty Battery Slot

How to Resolve IR Code Conflicts

In the event that IR commands from other remote controls interfere with the supplied IR Remote Control unit, changing the IR channel on the IR Remote Control unit will fix the problem. The IR Remote Control unit has a bank of DIP switches used for setting the IR channel.

The DIP switch bank is located underneath the battery cover.

Remote Channel 0:
Default

1   2

Remote Channel 1:

1   2

Remote Channel 2:

1   2

Remote Channel 3:

1   2

Left: Picture of the opened rear battery compartment of the IR remote showing the exposed DIP Switch bank between the battery chambers.
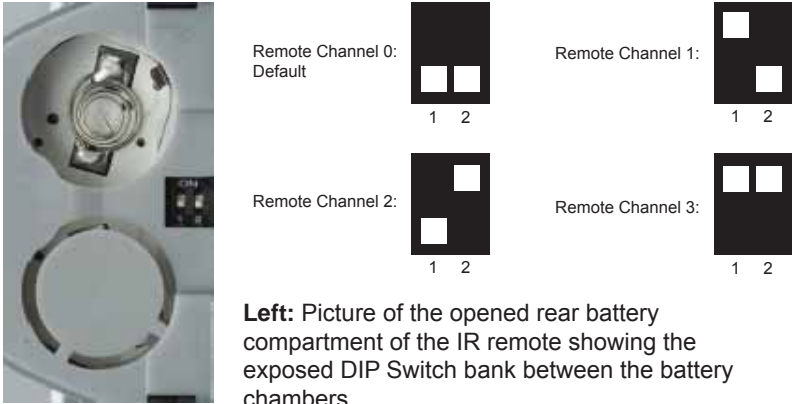
It is important that the IR channel on the Remote Control unit, matches the IR channel set on the 8x8 DVI Dual Link Matrix. For example, if both DIP switches on the IR Remote Control unit are set to IR channel 0 (both DIP switches down), then the 8x8 DVI Dual Link Matrix must also be set to IR channel 0. See page 28 on how to change the IR channel on the 8x8 DVI Dual Link Matrix.

USING THE IR REMOTE CONTROL UNIT

IR Remote Control Key Mapping

Each input and output on the 8x8 DVI Dual Link Matrix is represented by a button on the IR Remote Control unit. The table below lists the corresponding inputs and outputs.

Remote Button	Monitor / Source
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Routing Sources using the IR Remote Control unit

Issuing a routing command is a two step process. The first step is to select the monitor where the source will be routed. The second step is to select the source.

Example 1
Route the source device connected to In 7 to the monitor connected to Out 3.

1.   Press button 3 (monitor 3) on the IR remote control unit.

2.   Press button 7 (source 7) on the IR remote control unit.

The source connected to In 7 will be routed to the monitor connected to Out 3.

Example 2
Route the source device connected to In 1 to the monitor connected to Out 1.

1.   Press button 1 (monitor 1) on the IR remote control unit.

2.   Press button 1 (source 1) on the IR remote control unit.

The source connected to In 1 will be routed to the monitor connected to Out 1.

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

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

Why is EDID so important with the 8x8 DVI Dual Link Matrix?

The 8x8 DVI Dual Link Matrix is a complex piece of technology that replicates and switches between multiple inputs and outputs. Each connected source device will require one EDID to read. EDID management is carefully handled by the 8x8 DVI Dual Link Matrix to provide a single EDID for each source to read.

What options do I have to manage the EDID in the 8x8 DVI Dual Link Matrix?

First, it is important to note that each source device can only output one video/audio signal type. This includes resolutions and timings. When multiple devices/monitors are used, such as with the 8x8 DVI Dual Link Matrix, it is important to use devices/monitors that have similar or compatible resolutions and features. This will ensure that the single video/audio signal produced by the source device is accepted by all of the connected output devices/monitors.

The user has the option, through utilization of the RS-232 serial interface, to choose how the unit will manage the EDID from multiple DVI devices/monitors. Therefore the user has some control over the resolutions and features that the source devices will output. The 8x8 DVI Dual Link Matrix has a Local EDID management mode that will control how the EDID information is handled.

How do I change EDID modes in the 8x8 DVI Dual Link Matrix?

EDID modes are managed via the RS-232 serial communications port. See page 17 for more information on the RS-232 serial communication features.

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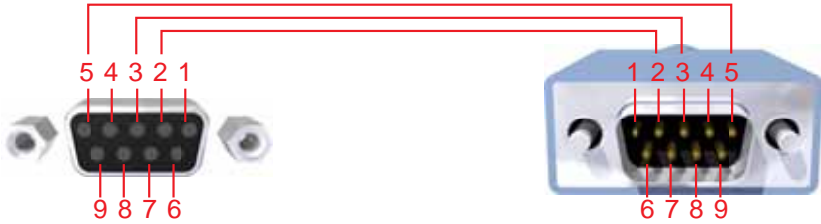
Only Pins 2 (RX), 3 (TX), and 5 (Ground) are used on the RS-232 serial interface

RS232 Settings

Bits per second 19200

Data bits 8

Parity .... None

Stop bits 1

Flow Control .... None

RS-232 Features

RS-232 remote functions are used to control of this product's features. Features include input to output routing, EDID storage, EDID management, etc. These functions are available only through the use of the serial port.

Functions Syntax

The syntax for each function is always the same:

Character as the start flag → Function name → Space (_) as function name end flag → Parameter 1 → Space → Parameter n → Carriage Return (\r) →

Sample:

#FunctionName_param1_param2_param3_param4...\r

Syntax is NOT case sensitive.

EDID Management

Function	Description
#EDIDDSTOLO	Read downstream EDID and stores into a Local EDID
#EDIDDSTOBA	Read downstream EDID and stores in EDID Bank
#EDIDBATOLO	Read downstream EDID and stores in any Local Input
#EDIDDETOLO	Sets Local EDID to Default EDID
#LOCKEDID	Secures Local EDID
#LOEDIDTOLO	Load EDID file using serial port to one of the local memories
#PRLOEDID	Read Input Local EDID and sends to serial port
#PRDSEDID	Read downstream EDID and sends to serial port
#PRBAEDID	Read EDID from an EDID bank and sends to serial port
#PREDIDST	Prints EDID details

#EDIDDSTOLO Function

The #EDIDDSTOLO function reads the downstream EDID and stores it to a Local EDID input.

Syntax:

```
#EDIDDSTOLO param1 param2 [param3...param9]
```

Parameters:

param1	A downstream monitor	[1 - 8]
param2	Input list	[1 - 8]

Notes:

If *param2 = 0*, then the downstream EDID is stored to all 8 DVI inputs.

Examples:

```
#EDIDDSTOLO 2 1 2 3 4 5    inputs 1-5 use display 2 EDID

#EDIDDSTOLO 3 0           all inputs use display 3 EDID
```

#EDIDDSTOBA Function

The #EDIDDSTOBA function reads the downstream EDID and stores it to a specified EDID bank.

Syntax:

```
#EDIDDSTOBA param1 param2
```

Parameters:

param1	A downstream monitor	[1 - 8]
param2	EDID bank offset	[1 - 5]

#EDIDBATOLO Function

The #EDIDBATOLO function reads the downstream EDID and stores it to any local input.

Syntax:

```
#EDIDBATOLO param1 param2 [param3...param9]
```

Parameters:

param1	EDID bank offset	[1 - 5]
param2	Input	[1 - 8]

Notes:

If *param2 = 0*, then the EDID in the specified bank is copied to all eight inputs.

#EDIDDETOLO Function

The #EDIDDETOLO function stores the Default EDID (640x480) in the specified Local EDID inputs.

Syntax:

```
#EDIDDETOLO param1 param2 param3...param9
```

param1	Input	[1 - 8]

Notes:

If *param1 = 0*, then all 8 DVI inputs will be set to the Default EDID.

#LOCKEDID Function

The #LOCKEDID function secures the Local EDID and disables the automatic loading of the downstream EDID after the Matrix is powered on.

Syntax:

```
#LOCKEDID param1
```

Parameters:

param1   Input   [0 - 1]

Value	Meaning
0	Disable
1	Enable

#LOEDIDTOLO Function

The #LOEDIDTOLO function loads an external EDID via RS-232 to any Local EDID input bank.

Syntax:

```
#LOEDIDTOLO param1 param2 param3
```

Parameters:

param1   Input   [1 - 8]

param2   EDID size   [1 - 2]

Value	Meaning
1	128 byte EDID
2	256 byte EDID

param3   eco   [0 - 1]

Notes:

Set *param1* to a value of 0 in order to specify all inputs. When using HyperTerminal, *param3* must be set to 1.

#PRDSEDID Function

The #PRDSEDID function reads the downstream EDID and sends it to the serial port.

Syntax:

```
#PRDSEDID param1
```

Parameters:

param1   A downstream monitor   [1 - 8]

#PRLOEDID Function

The #PRLOEDID function reads the local EDID of a specified input and spools it to the serial port.

Syntax:

```
#PRLOEDID param1
```

Parameters:

param1   A specified Input   [1 - 8]

#PRBAEDID Function

The #PRBAEDID function reads the EDID file from the specified bank and sends to serial port.

Syntax:

```
#PRBAEDID param1
```

Parameters:

param1   Input   [1 - 5]

#PREDIDST Function

The #PREDIDST function reads the downstream EDID. This function displays a table containing details relating to the Local EDID and the monitor name.

Syntax:

```
#PRDSEDID
```

Parameters:

None

IP Configuration

Function	Description
#PRWEBADD	Displays the Web configuration
#RSTIP	Set IP configuration to default
#SIPADD	Specifies a new IP address
#SNETMASK	Specifies a new net mask
#SGATEWAY	Specifies the new gateway
#SPORT	Specifies a new port

#PRWEBADD Function

The #PRWEBADD displays the IP address, net mask, gateway, MAC address, and port on the screen.

Syntax:

```
#PRWEBADD
```

Parameters:

None

#RSTIP Function

The #RSTIP function sets the IP configuration to the default settings.

Syntax:

```
#RSTIP
```

Parameters:

None

Notes:

A reboot is required after restoring the default IP settings.

#SIPADD Function

The #SIPADD function specifies a new IP address.

Syntax:

```
#SIPADD param1 param2 param3 param4
```

Parameters:

param1	IP address	[0 - 255]
param2	IP address	[0 - 255]
param3	IP address	[0 - 255]
param4	IP address	[0 - 255]

Notes:

A reboot is required after the new IP address is set.

#SNETMASK Function

The #SNETMASK function specifies a new net mask.

Syntax:

```
#SNETMASK param1 param2 param3 param4
```

Parameters:

param1	IP address	[0 - 255]
param2	IP address	[0 - 255]
param3	IP address	[0 - 255]
param4	IP address	[0 - 255]

Notes:

A reboot is required after the new net mask has been set.

#SGATEWAY Function

Specifies the new IP gateway.

Syntax:

```
#SGATEWAY param1 param2 param3 param4
```

Parameters:

param1	Gateway address	[0 - 255]
param2	Gateway address	[0 - 255]
param3	Gateway address	[0 - 255]
param4	Gateway address	[0 - 255]

Notes:

A reboot is required after the gateway address has been assigned.

#SPORT Function

Specifies a new port.

Syntax:

#SPORT param1

Parameters:

param1   Port   [0 - 255]

Notes:

A reboot is required after the new port has been created.

General Functions

Function	Description
#ACTIVEBOLO	Enables the boot loader
#FADEFAULT	Set matrix to default settings
#LOCKPOWER	Toggles the lock power state
#MASKOUT	Blanks selected outputs
#RMTIRADD	Set the remote IR channel
#STBYMODE	Sets the Matrix to Standby Mode

#ACTIVEBOLO Function

The #ACTIVEBOLO function enables the boot loader allowing the Matrix to be updated with firmware using RS-232.

Syntax:

#ACTIVEBOLO

Parameters:

None

Notes:

*The #*ACTIVEBOLO *command must be typed twice in order to activate the boot loader.*

#FADEFAULT Function

The #FADEFAULT function sets all Local EDIDs and routing settings to default, turns off all FO 5V to inputs, sets IR address to 0, and disables #LOCKPOWER, and #LOCKEDID.

Syntax:

#FADEFAULT

Parameters:

None

#LOCKPOWER Function

The #LOCKPOWER enables/disables the power lock state. Enabling this feature will store the 5V status for each input prior to shutting the unit down. This preserves the 5V state when the Matrix is restarted.

Syntax:

```
#LOCKPOWER param1
```

Parameters:

param1   State   [0 - 1]

Value	Meaning
0	Disable Power Lock
1	Enable Power Lock

#MASKOUT Function

The #MASKOUT function allows blanking or selected outputs.

Syntax:

```
#MASKOUT param1 param2
```

Parameters:

param1   Output   [1 - 8]

param2   Output   [1 - 8]

Notes:

The current masking state will be lost if power is lost.

#RMTIRADD Function

The #RMTIRADD function set the remote IR channel.

Syntax:

#RMTIRADD param1

Parameters:

param1   IR channel   [0 - 3]

#STBYMODE Function

The #STBYMODE function disables / enables standby power mode.

Syntax:

#STBYMODE param1

Parameters:

param1   Disable / Enable   [0 - 1]

Value	Meaning
0	Disable Standby Mode
1	Enable Standby Mode

RS-232 SERIAL CONTROL

Commands

Command	Description
R	Routing command
S	Routes a single input to all outputs
M	Returns the current routing status of matrix
F	Toggle 5V fiber optic extender feature

R Command

The R command allows specific routing of inputs and outputs.

Syntax:

```
r param1 param2
```

Parameters:

| *param1* | DVI Ouput | [1 - 8] |
| *param2* | DVI Input | [1 - 8] |

S Command

The S command routes a single input to all 8 DVI outputs.

Syntax:

```
s param1
```

Parameters:

| *param1* | Input | [1 - 8] |

Notes:

Setting *param1* to a value of 0 will place the matrix in *one-to-one mode*. This means that Input1 will be routed to Output1, Input2 will be routed to Output2, and so on.

M Command

The M command displays the current routing status of the matrix.

Syntax:

m

Parameters:

None

F Command

The F command returns the state of pin 14 of the DVI inputs.

Syntax:

f param1 param2

Parameters:

param1	DVI input	[1 - 8]
param2	State	[0 - 1]

Notes:

"High" is returned if +5V is enabled on the DVI input. "Low" is returned if +5V is disabled on the DVI input.

The 8x8 DVI Dual Link Matrix supports IP-based control using an integrated Web interface. To access this feature, an IP address, subnet, gateway, and port number need to be set on the 8x8 DVI Dual Link Matrix (**Default IP: 192.168.0.70 Subnet: 255.255.255.0 Gateway: 192.168.0.1 Port: 80**). Consult the network administrator to obtain the proper IP address and settings for this product to properly communicate on the network.

The IP control setting can be configured via the RS-232 control interface. Once this has been accomplished, access to the Web Interface is possible.

Simply type the IP address that was assigned to the product in a web browser to access the **Matrix Status Page**. It should look like the image below.

View Matrix Status

The **View Matrix Status** will display the current status and can also be used to create routes.

To create a new route, follow the steps below:

1. Select which outputs will display the source by clicking on each check box.

2. Select the radio button of the input that will be routed to each output.

3. Click the SWITCH button to update the new routing configuration.

This page will automatically refresh every minute. However, at anytime the "Refresh" button can be pressed to refresh the status of the Matrix.

Manage EDID

The **Manage EDID** page is used to see the status of the EDID saved in the local storage location for each input. This section has additional tabs for advanced EDID functions. These tabs are:

•   SET INPUT TO DEFAULT EDID

•   UPLOAD EDID (Future Implementation)

•   DOWNLOAD EDID (Future Implementation)

•   COPY EDID

•   EDID LOCK STATE

This page will automatically refresh every minute. However, at anytime the REFRESH button can be pressed to return the current status of the Matrix.

Manage EDID - Set Input to Default EDID

Pressing the SET INPUT TO DEFAULT EDID button will display additional options. The following page will open.

On this page, local memory locations can be selected to receive the built-in EDID stored in the 16x16 DVI Matrix. To set an input's local memory location to the default EDID follow the steps below.

1. Select any number of inputs by clicking on the desired checkboxes.

2. Click on the **Set Default EDID** button to update the change(s).

Note: After this command is complete the Web Interface will return to the VIEW MATRIX STATUS page.

This page will automatically refresh every minute. However, the REFRESH button can be pressed at any time to return the current status of the Matrix.

Manage EDID - Copy EDID

Pressing the COPY EDID button will display additional options. The following page will open.

On this page, the user can select an EDID from either the local memory locations (Input) or from a monitor that is currently attached to any output and copy that EDID to any other LOCAL memory location. This will permits control of what EDID information will be passed to each source connected to the 16x16 DVI Matrix.

To copy an EDID follow the steps below.

1. Select an EDID from the **Select Source to Copy from** section. An EDID can be selected from a monitor connected to one of the outputs or from an EDID already loaded into one of the local memory locations (Input). It should be noted that only one EDID can be selected for copying.

2. Select the local memory locations that will receive the selected EDID under the **Select Input(s) to Copy** to section. Mulitple local memory locations can be specified during this step.

3. Click on the **Set EDID** button to initiate the change(s).

This page will automatically refresh every minute. However, at anytime the **Refresh** button can be pressed to refresh the status of the Matrix.

NOTICE: UPLOAD EDID and DOWNLOAD EDID features are not supported at the time of this writing.

Manage EDID - EDID Lock State

The 8X8 DVI Dual Link Matrix allows the Local EDID to be preserved after the unit has been powered off. Once enabled, this will function will prevent the 8x8 DVI Dual Link Matrix from reading the EDID of a monitor, when the matrix is powered on.

The EDID Lock State can be enabled (ON) or disabled (OFF). The EDID Lock State is used.

1. Once the Local EDID has been stored, press the EDID LOCK STATE web button.

2. Select the ON radio button from the dialog and press Update EDID Lock State.

The 8x8 DVI Dual Link Matrix can be powered-down and the Local EDID will be preserved. To disable the EDID LOCK STATE feature, select the OFF radio button in the Web interface and press the Update EDID Lock State button. Once the EDID LOCK STATE has been disabled (OFF), the 8x8 DVI Dual Link Matrix will read and use the EDID of the monitor connected to the matrix.

Masking

The **Masking** page is used to hide an output from displaying any video. From this page, all outputs can be set to "Active" or "Mask". When an output is set to "Active", it will function normally. When an output is set to "Mask", it will not output any video. To set the "Active" or "Mask" mode, follow the steps below.

1.   Select either "Active" or "Mask" for any number of desired outputs.

2.   Press the "Submit" button to initiate the change(s).

After this command is complete the user will be returned to the **Main Page**.

This page will automatically refresh every minute, however, at anytime the "Refresh" button can be pressed to refresh the status of the matrix.

NOTE: All masked outputs will become active if the unit is power-cycled.

IP Configuration

The **IP Configuration** page is used to set the IP settings that will be used to access the Web interface. The following items can be configured from this menu.

• IP Address (Default: 192.168.0.70)

• Subnet (Default: 255.255.255.0)

• Gateway (192.168.0.1)

• Port (Default: 80)

To change these settings follow the steps below.

1. Enter the desired network information into the fields provided.

2. Press the "Save" button to initiate the change(s).

Note: After this command is complete the user will be returned to the **Main Page**. Setting made on this page will not take effect until the unit is restarted. Please disconnect power from the unit and reconnect power for changes to take effect.

At anytime, the "Reset" button can be pressed to return the IP settings to their defaults.

Backup / Restore

The **Backup/Restore** page is used to backup and restore complete setup configurations. This feature will be implemented in a future release.

Power Management

The **Power Management** page is used to set optional +5V power on an input to power specific optional devices. The current status of this feature for each input can be viewed on this page. To set this feature for each input follow the steps below.

1.   Select the +5V option, either "On" or "Off" for each desired input.

2.   Click on the "Update" button to initiate the change(s).

Note: After this command is complete the user will be returned to the **Main Page**.

This page will automatically refresh every minute, however, at anytime the "Refresh" button can be pressed to refresh the status of the matrix.
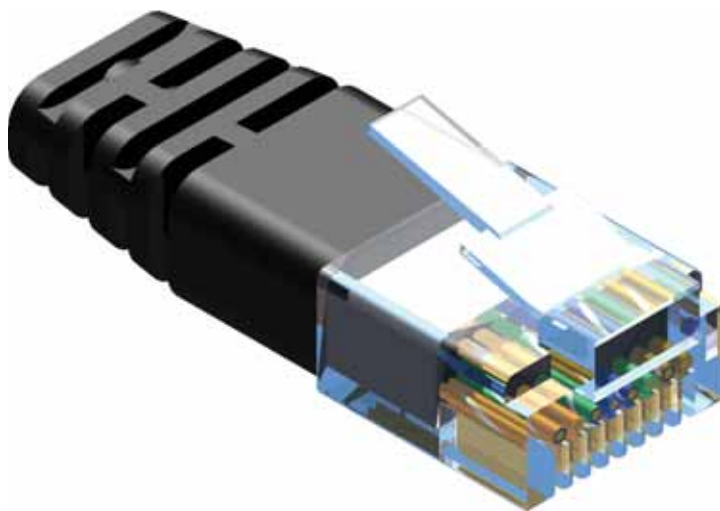
Gefen recommends the TIA/EIA-568-B wiring option. Please adhere to the table below when field-terminating the cable for use with Gefen products.

Pin	Color
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown

Cabling comes in stranded and solid core types. Gefen recommends using solid core cabling.

It is recommended to use one continuous run from one end to the other. Connecting through a patch is not recommended.

Firmware Update Procedure

To Begin the update procedure the unit's Boot Loader must be activated. To activate the Boot Loader follow the procedure below:

If the unit is already powered on, the following RS-232 command can be used to activate the Boot Loader:

1. Connect RS-232 cable to PC and activate the Hyper Terminal program.

2. Type the command: #ACTIVEBOLO\r

3. Re-type the command: #ACTIVEBOLO\r

If the unit is not powered on, follow the instructions below to activate the Boot Loader:

1. Connect RS-232 cable to PC and activate the Hyper Terminal program.

2. Make sure Hyperterminal is set to the following:

    a. Baud rate = 19200
    b. Stop bits = 1
    c. Data bits = 8
    d. Flow control = None

3. Press the following three buttons on the front panel of the Matrix simultaneously, while powering-on the unit:

    a. select
    b. < (left cursor)
    c. > (right cursor)

Once the Boot Loader is activated the following message should appear:

```
DVI8x8 Boot Loading

================= Main Menu ==========================

Download new program -------------------------------- 1

Cancel ---------------------------------------------- 2

======================================================
```

FIRMWARE UPDATE

Follow the on-screen instructions to complete the firmware update process:

1. Press [1] on the computer keyboard to begin downloading program to the temporary memory.

2. A message will appear in Hyperterminal:

   ```
   Waiting for the file to be sent ... (press 'a' to abort)
   ```

3. In Hyperterminal, click Transfer > Send File...

4. Click Browse... and select the .BIN file to be uploaded (e.g. DVI8X8_uIP_1_7.bin)

5. Select Ymodem for the protocol.

6. Press Send on the Send File dialog box.

7. A message will appear in Hyperterminal:

   ```
   Programming Completed Successfully!
   ```

RACK MOUNT SAFETY INFORMATION

Instructions addressing suitable installation of the equipment in a rack are required to be supplied by the equipment manufacturer. The installation instructions should include, as a minimum, the following elements:

1. Tmra - A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

2. General Hazards - Through the use of simple statements, the following topics should be addressed. These potential hazards are considered common to most rack installation:

    a. Elevated Operating Ambient Temperature - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be great than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

    b. Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

    c. Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

    d. Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

    e. Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

SPECIFICATIONS

Video Amplifier Bandwidth ....2 x 165 MHz

DVI Connector .... DVI-I 29 Pin Female (digital only)

RS-232 connector.. DB-9 serial (F)

IR Extender..3.5mm Mini-Stereo

IP Control Connector..RJ-45

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

Power Supply ....AC 110/220V (Internal), IEC connector

Power Consumption ....90 Watts (max)

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

Dimensions ....17.25" W x 3.5" H x 12" D

Shipping Weight ....21 lbs.

Certifications...UL (power supply), RoHS, CE

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, please visit Gefen's Warranty web page at http://www.gefen.com/kvm/aboutus/warranty.jsp

PRODUCT REGISTRATION

Please register your product online by visiting Gefen's web site at http://www.gefen.com/kvm/Registry/Registration.jsp

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