GefenPRO®

dvi digital visual interface

1080P PROGRESSIVE

32x32 DVI Matrix

GEF-DVI-32432

User Manual

www.gefenpro.com

ASKING FOR ASSISTANCE

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Notice

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INTRODUCTION

Congratulations on your purchase of the 32x32 DVI 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 Gefen 32x32 DVI Matrix

The GefenPRO 32x32 DVI Matrix is a modular design for professionals. Each input can route different resolutions at any time to any display by switching from the included IR Remote, IP control, RS-232, or by using the front-panel push buttons. The front-panel display provides information on routing status. Removable input and output modules and dual (redundant) hot-swappable power supplies allow the Matrix to be used in the most demanding environments, offering maximum flexibility for all applications.

How It Works

The GefenPRO 32x32 DVI Matrix has 32 DVI inputs and 32 DVI outputs. Using DVI cables, connect 32 sources to the DVI input ports on the GefenPRO 32x32 DVI Matrix. Connect the GefenPRO 32x32 DVI Matrix's 32 DVI outputs to the monitors. Connect an Ethernet cable from the network to the RJ-45 connector to use the built-in IP interface to control routing, EDID, and other commands. Connect an RS-232 cable from an RS-232 control device to control the Matrix via RS-232. Plug in the power cord and power on the GefenPRO 32x32 DVI Matrix. The connected monitors will show video according to the routing selection.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE 32X32 DVI MATRIX

- There is no internal scaling in the 32x32 DVI Matrix. All of the attached monitors must be able to display the resolutions output by the source devices. For maximum compatibility it is recommended that only one compatible/common resolution be used by all of the source devices.
- Routing features can be accessed using the serial control interface, Telnet, or the built-in Web Interface. See page 26 - 86 for more information.

IMPORTANT: If the unit is installed in a closed or multi-rack assembly, do not block the ventilation holes of the enclosure.

FEATURES

Features

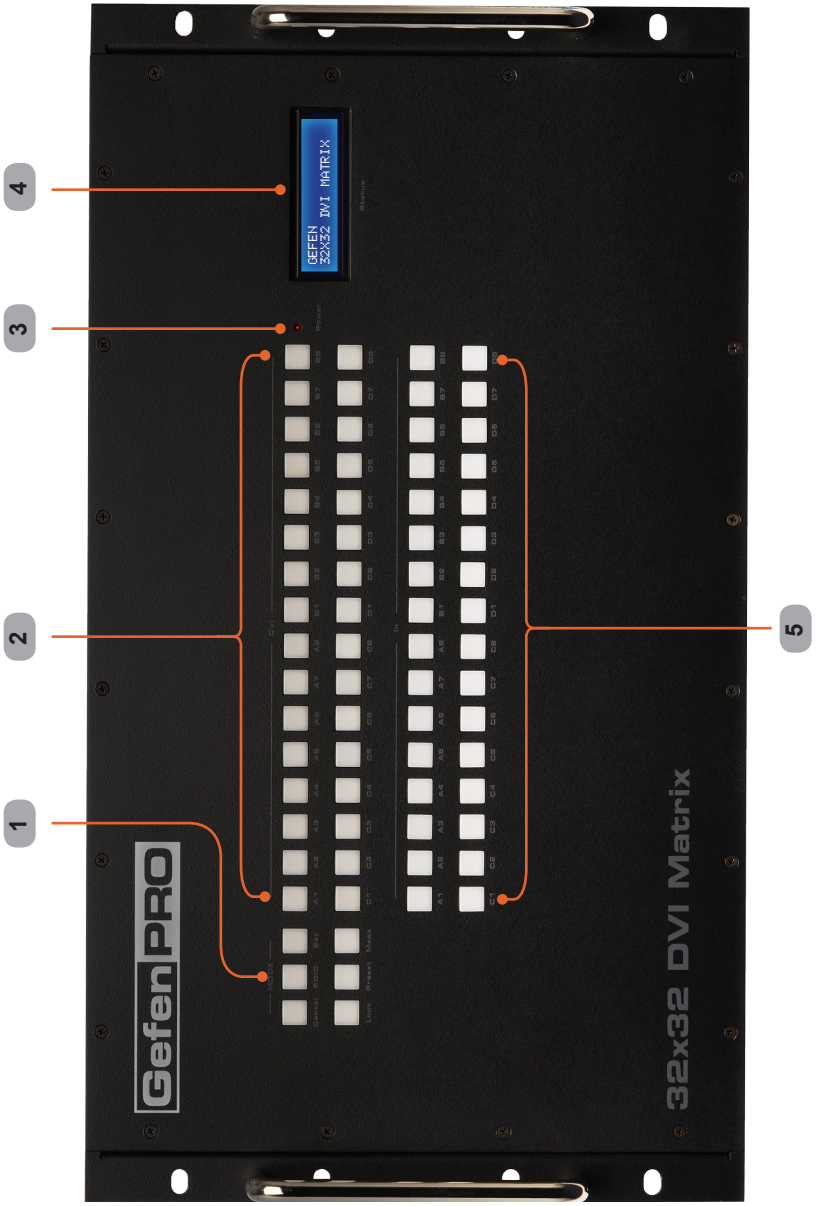
- Combine 32 cross-platform computers and 32 digital displays
- Supports resolutions up to 1080p Full HD and 1920 x 1200
- Advanced EDID management permits upload of custom settings
- RS-232 Serial interface for remote control via a computer or control automation systems
- LCD status window
- Front-panel push buttons for local switching
- IP / Telnet Control with built-in Web server
- Routing states can be stored and recalled at the touch of a button
- Built-in dual (redundant) hot-swappable power supplies
- Output masking command
- Standby mode
- Grounding screw
- Fan module (optional)
- Filter module (optional)
- Power ON / OFF switch
- Supports DDWG standards for DVI
- Rack-mountable

Package Includes

(1) GefenPRO 32x32 DVI Matrix
(2) AC power cords
(1) Quick Start Guide

FRONT PANEL LAYOUT

Front Panel



FRONT PANEL DESCRIPTIONS

Front Panel

1 Mode Buttons
These buttons are used to control other features on the product. See pages 11 - 25 for more information.

2 Output Buttons (1 - 32)
Used for routing an Input to an Output. Each of these buttons represents an Output. See page 11 for more information on routing DVI sources.

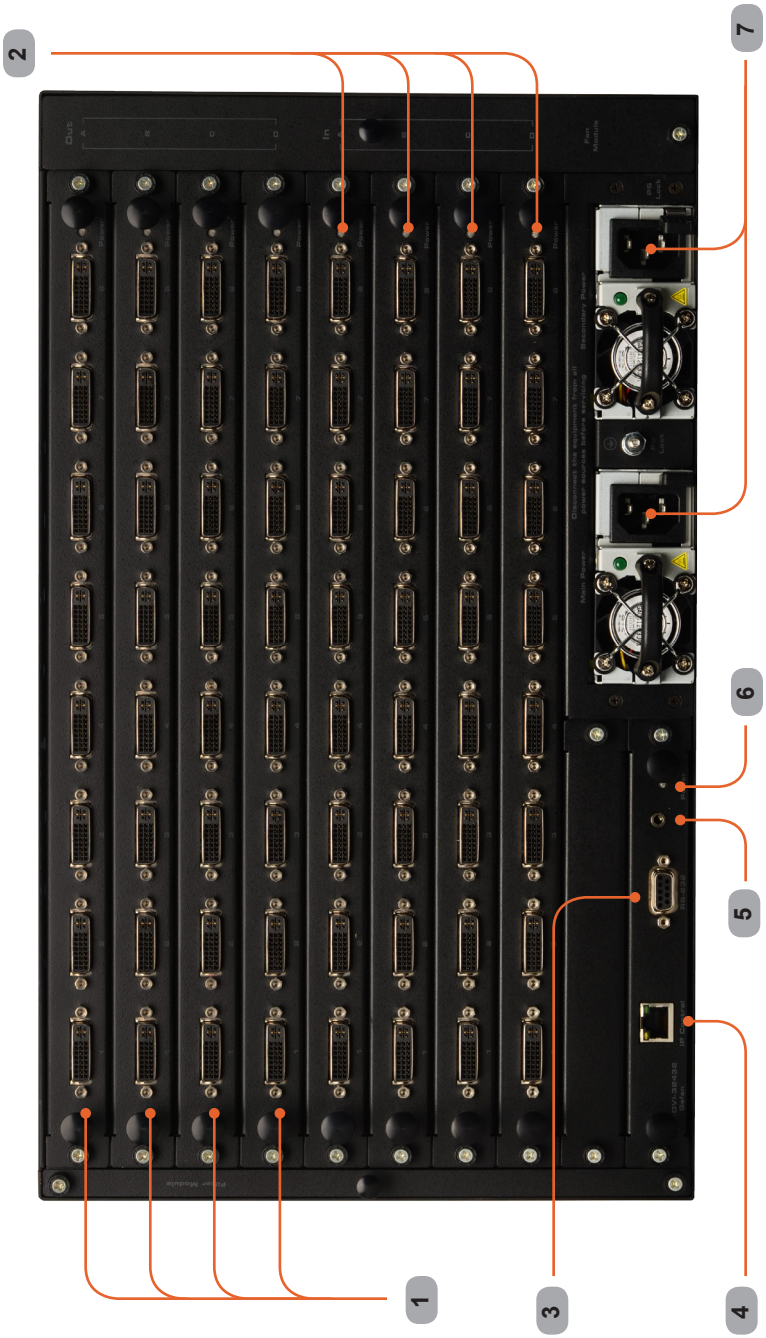
3 Power Indicator
This LED indicator will glow red when the power is turned on.

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

5 Input Buttons (1 - 32)
Used for routing an Input to an Output. Each of these buttons represents an Input. See page 11 for more information on routing DVI sources.

BACK PANEL LAYOUT

Back Panel



BACK PANEL DESCRIPTIONS

Back Panel

1 Out (1 - 32)
Connect DVI displays to these ports.

2 In (1 - 32)
Connect computers or other DVI source devices to these ports.

3 RS-232 Serial Port
Connects to the RS-232 control device. The 32x32 DVI Matrix may be switched remotely using this port. See page 26 for more information.

4 IP / Telnet Control
Connect the 32x32 DVI Matrix to a network in order to use IP / Telnet control.

5 IR
Connect an IR extender to this IR port.

6 Power
This LED indicator glows bright red when the matrix is powered on.

7 Power Supply (1 - 2)
Connect the included AC power cords from these receptacle to an available electrical outlet. The redundant (secondary) power cable should be connected to an electrical outlet on a different circuit. Each power supply is 110/220V AC.

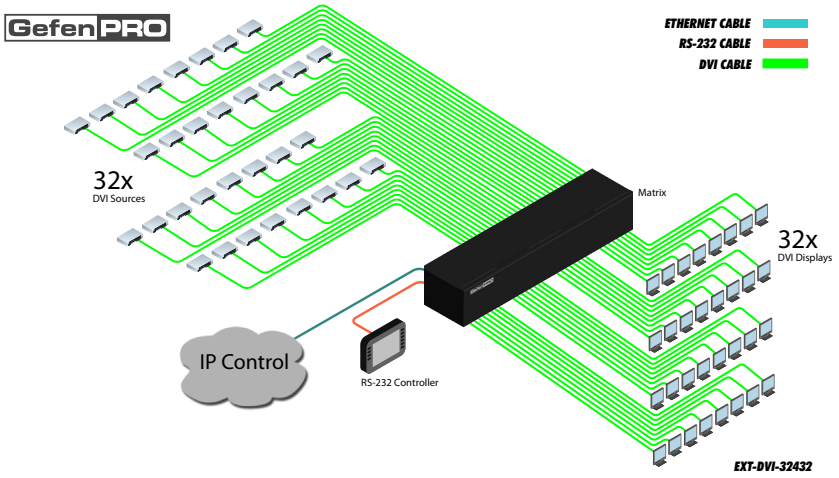
How to Connect the 32x32 DVI Matrix

1. Connect up to 32 DVI source devices to the DVI inputs on the rear panel of the 32x32 DVI Matrix using DVI cables.

2. Connect up to 32 DVI displays to the DVI outputs on the rear panel of the 32x32 DVI Matrix.

3. Connect the included power cord to the power input receptacle on the rear panel of the 32x32 DVI Matrix. Connect the opposite end of the cable into a open wall power socket.

Wiring Diagram for the GefenPRO 32x32 DVI Matrix



WARNING: This product should always be connected to a grounded electrical socket.

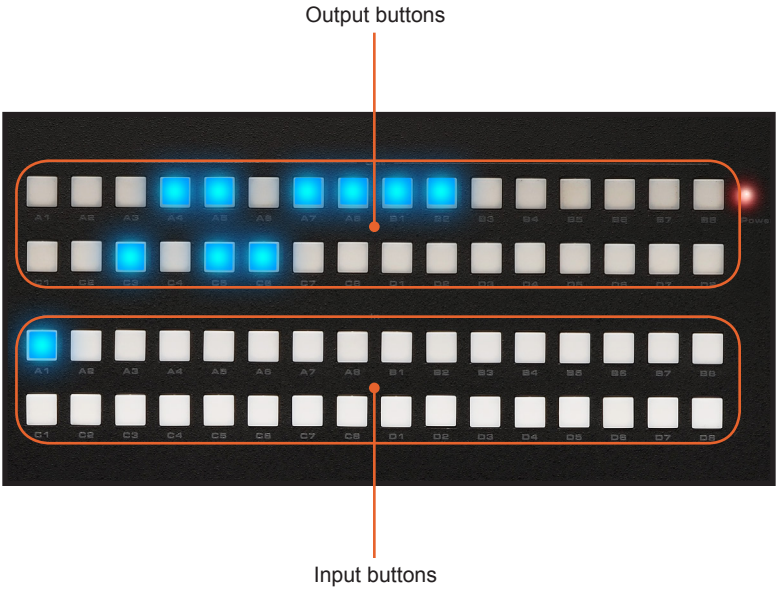
Booting Up / Standby Screen

The front-panel LCD of the 32x32 DVI Matrix is a 16 character 2 line display. This display is used to aid in performing routing commands, as well as displaying additional system information. When the unit is powered on, the following screens are displayed:

After a few moments, the standby screen is displayed:

Displaying the Current Routing State

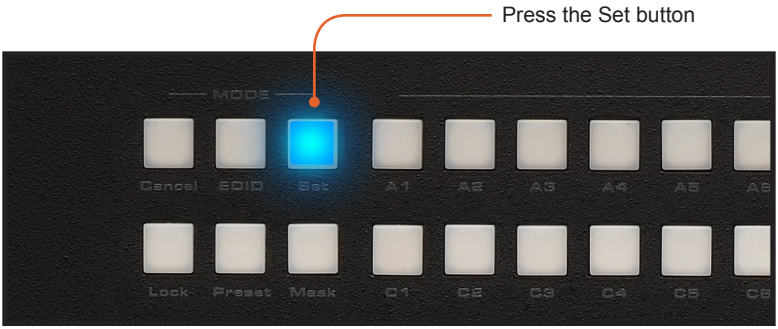
To display the current routing status of the Matrix, press any one of the Input or Output buttons on the front panel.



In the example above, Input A1 is routed to Output A4, Output A5, Output A7, Output A8, Output B1, Output B2, Output B3, Output C3, Output C5, and Output C6. A source does not need to be connected to the Matrix to display the current routing state. By default, all inputs are routed to their respective outputs (e.g. A1 - A1, A2 - A2, C3 - C3, D5 - D5, etc).

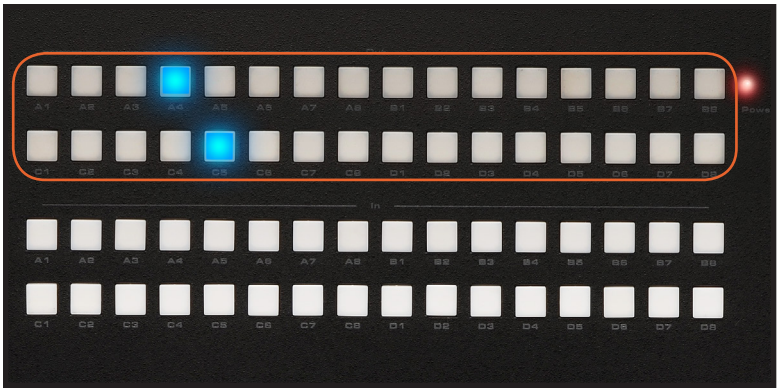
Routing Sources

1. To change the current routing state, press the Set button to activate Routing Mode.

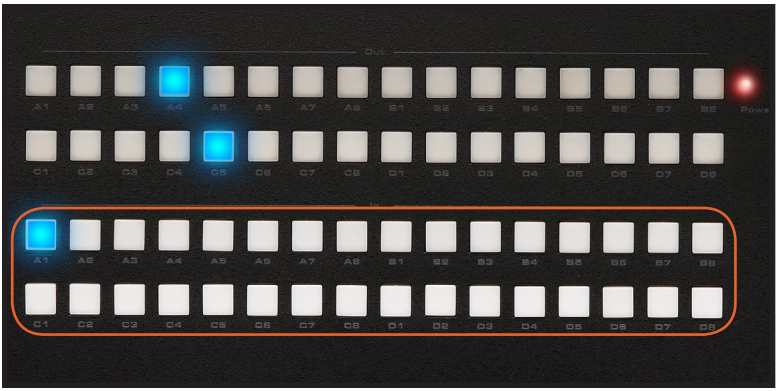


The front-panel LCD will indicate that Routing Mode has been selected:

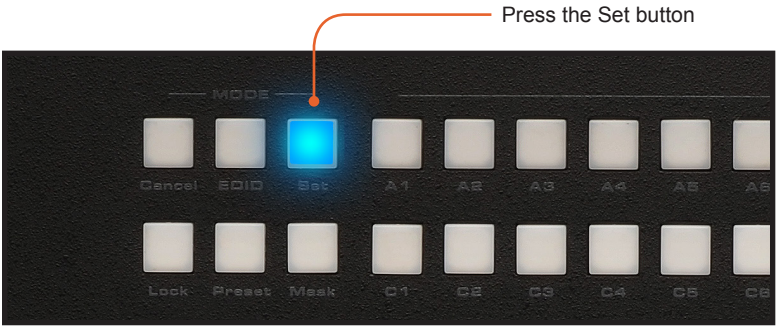
2. Press the desired Output button(s) from the top two rows of push-buttons. One or more Output buttons may be selected.



3. Select any Input from the bottom two rows of buttons (A1 - D8), corresponding to the source to be displayed on the output(s).



4. Press the Set button again to complete the operation.

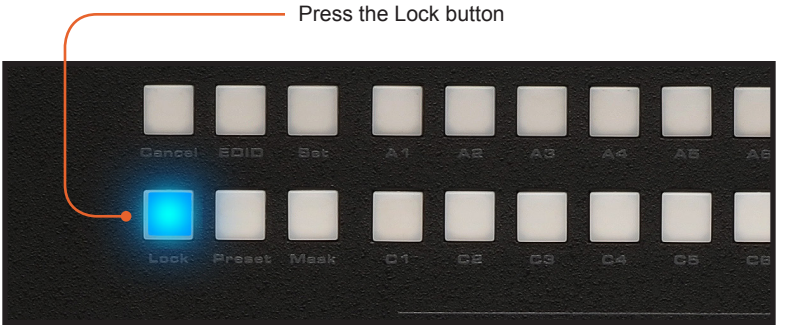


The front-panel LCD display will indicate that the routing process is complete:

System Lock Mode

Locking the Matrix prevents changes to any of the Matrix settings. This feature is useful in case any of the front panel buttons are pressed by accident. Locking the Matrix also prevents changes using the IR Remote Control Unit.

1. Press the Lock button to activate System Lock Mode.

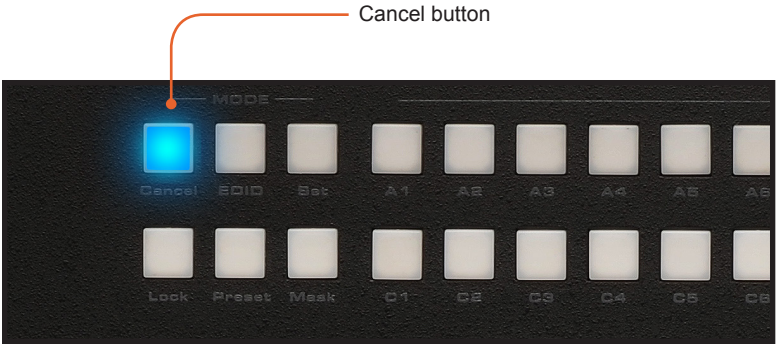


The front-panel LCD screen will display the following while in System Lock Mode:

2. Press the Lock button a second time to deactivate System Lock Mode.

Cancelling a Function

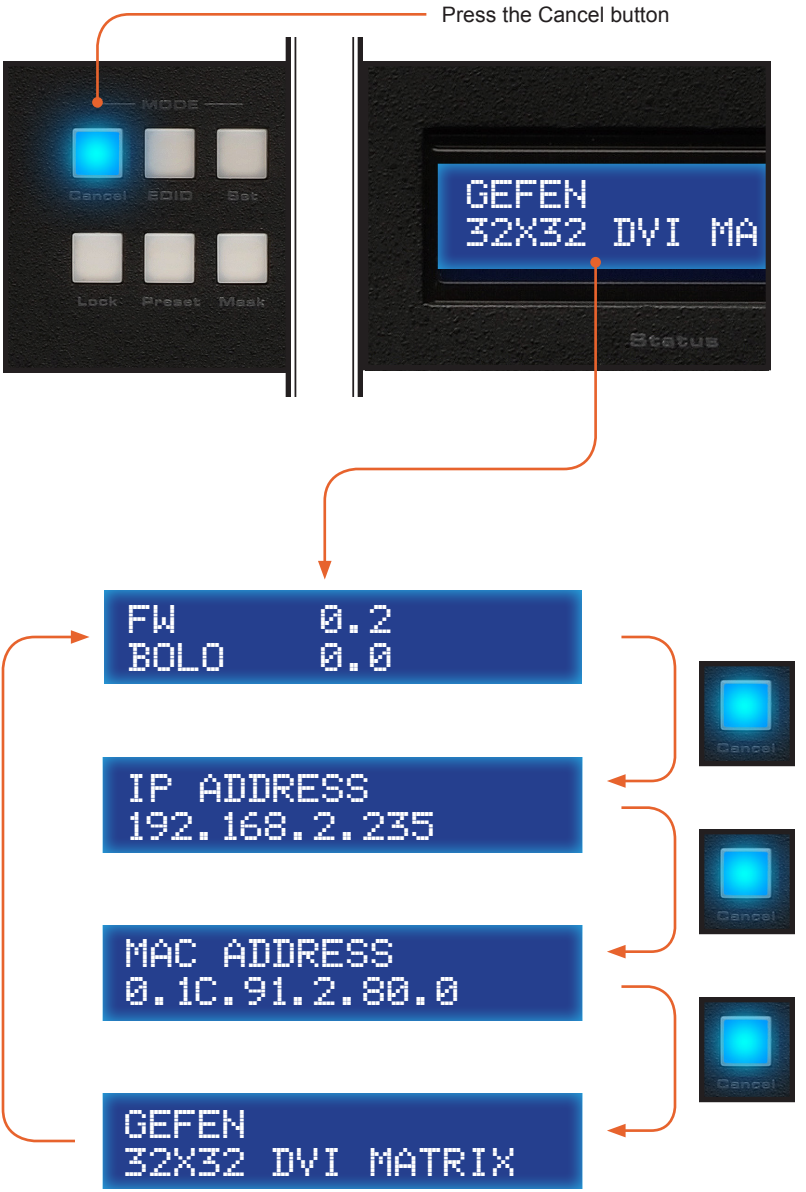
Press the Cancel button, while in any mode, to return to cancel the current function and display the Standby Mode screen.



The 32x32 DVI Matrix front-panel LCD screen as it appears in Standby mode:

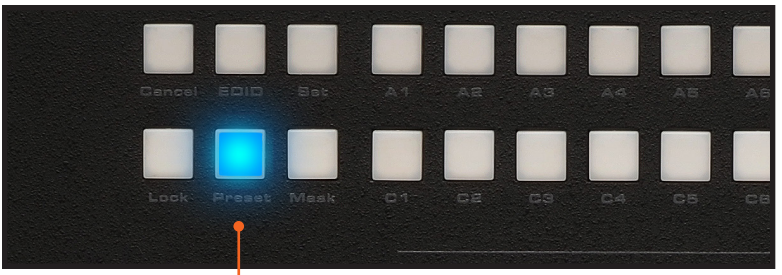
Cycling between Information Screens

Press the Cancel button more than once, while in Standby Mode, to cycle through each of the information screens:



Saving the current Routing State

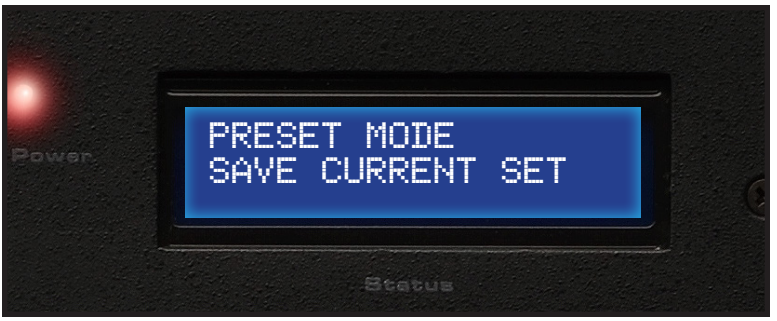
1. Set the routing state (see page 11), then press the PreSet button *twice* to activate Preset Mode.



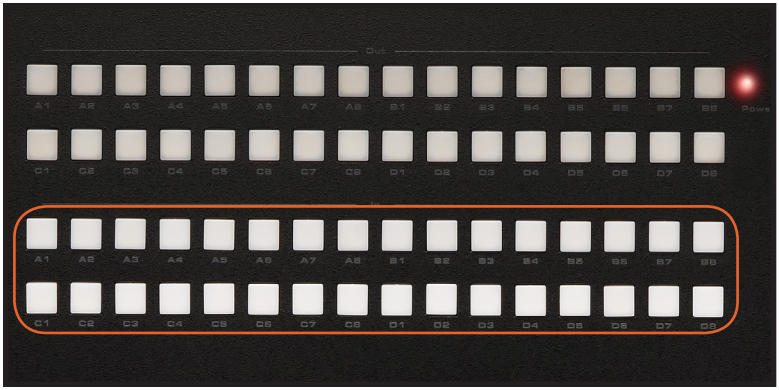
Press the PreSet button *twice*

After pressing the PreSet button once, the following will be displayed on the front-panel LCD screen:

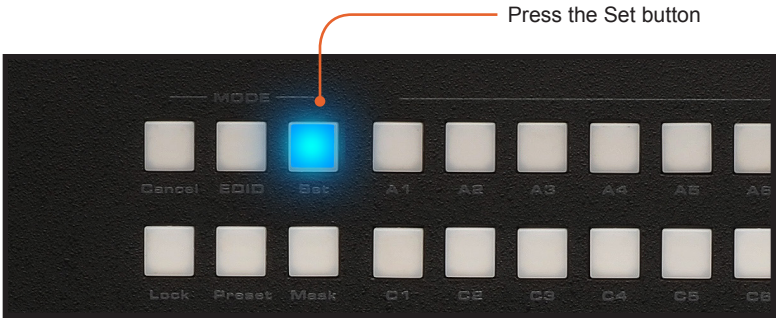
Press the PreSet button again. The following will be displayed on the front-panel LCD screen:



2. Press an Input button (A1 - D8) to store the current routing state.



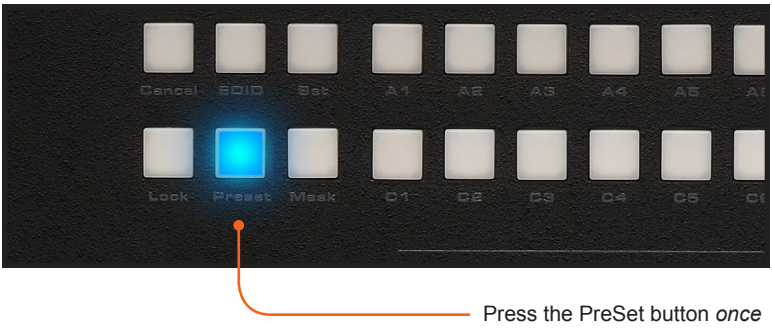
3. Press the Set button to complete the operation. The system will remain in Save Current Preset Mode.



The front-panel LCD screen will indicate that the current routing state has been saved:

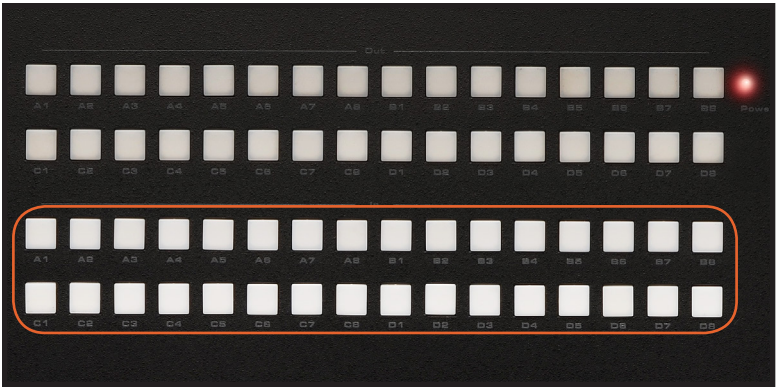
Recalling a stored Routing State

1. Press the PreSet button *once* to activate Recall Preset Mode.

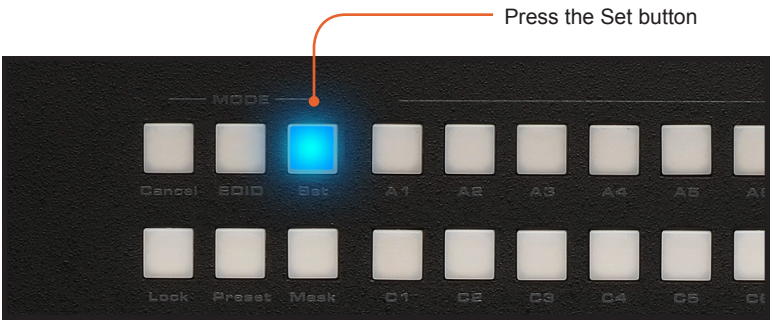


The following will be displayed on the front-panel LCD screen:

2. Press the Input button (A1 - D8) of the routing state to be recalled.



3. Press the Set button to complete the operation. The system will remain in Save Current Preset Mode.

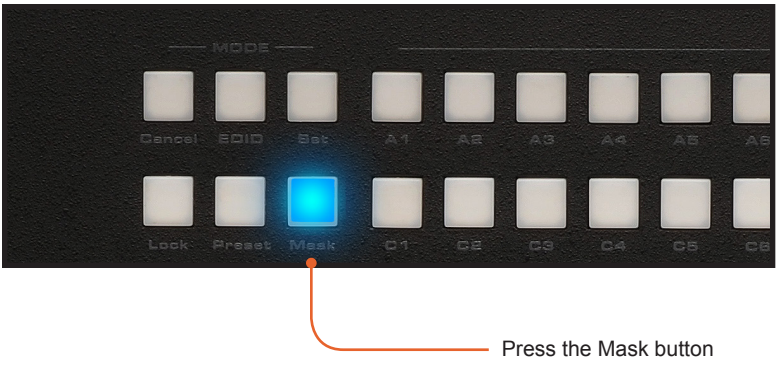


The front-panel LCD screen will indicate that the current routing state has been recalled:

Masking Outputs

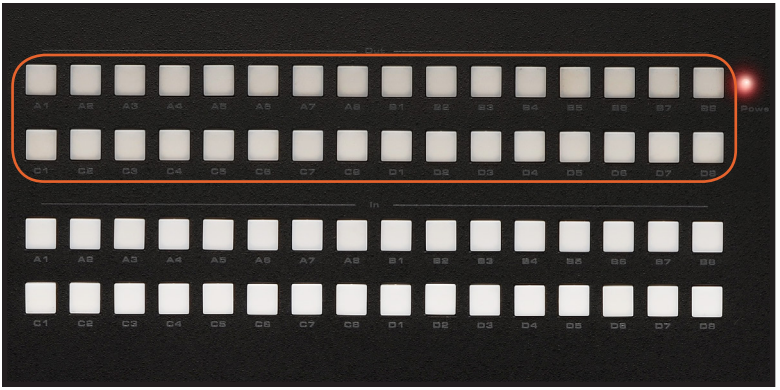
Masking prevents the output device (display, etc) from receiving an output signal, instead of powering-down the output device. The masking process is identical for masking or unmasking outputs.

1. Press the Mask button to activate Mask Mode.

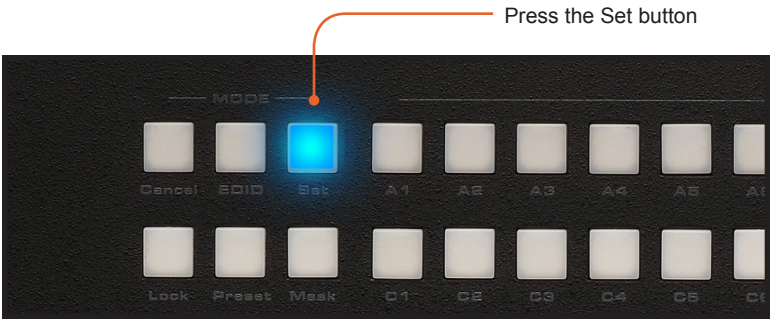


The front-panel LCD screen will indicate that the 32x32 DVI Matrix is in Mask Mode:

2. Select the Output (A1 - D8) to be masked:



3. Press the Set button to complete the operation.

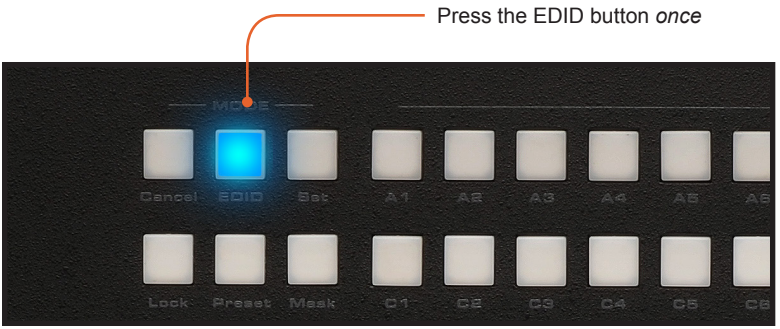


The front-panel LCD screen will indicate that the selected output has been masked:

EDID Management

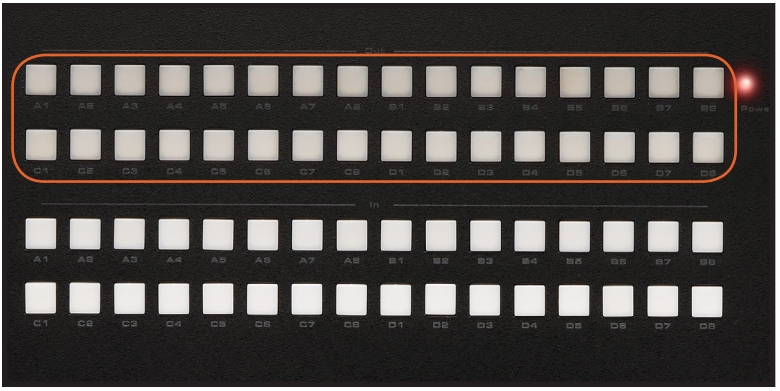
Saving the Downstream EDID data to Local memory:

1. Press EDID button once to activate DSTOLO (Downstream To Local) Mode.

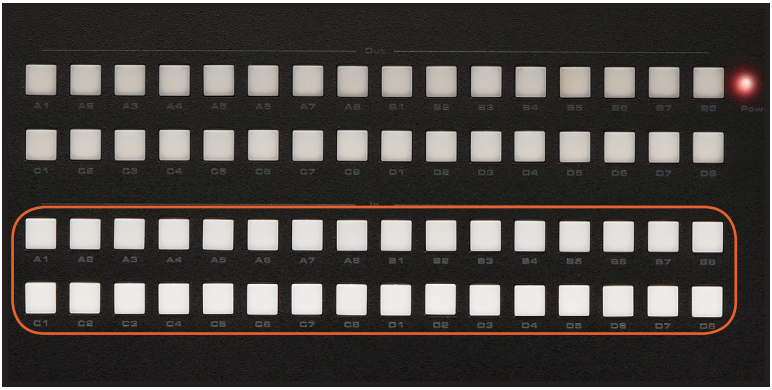


The front-panel LCD display will show the following:

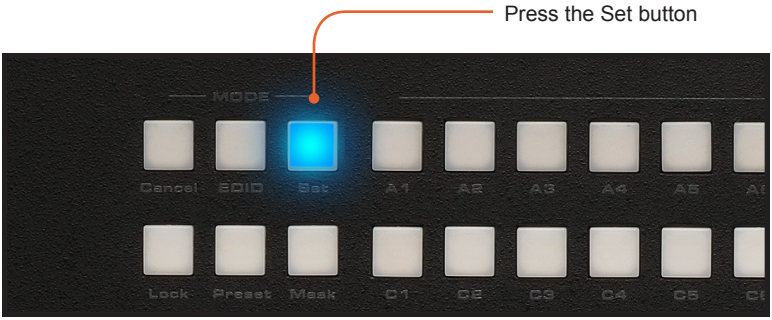
2. Press any Output button (A1 - D8) to select the EDID data source:



3. Press any Input button (A1 - D8) to select the EDID data destination:

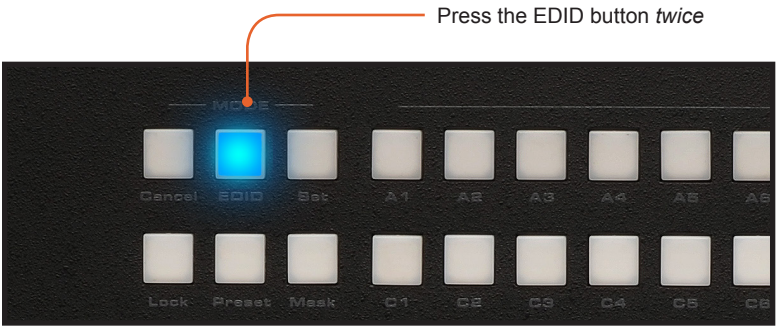


4. Press the Set button to complete the operation.



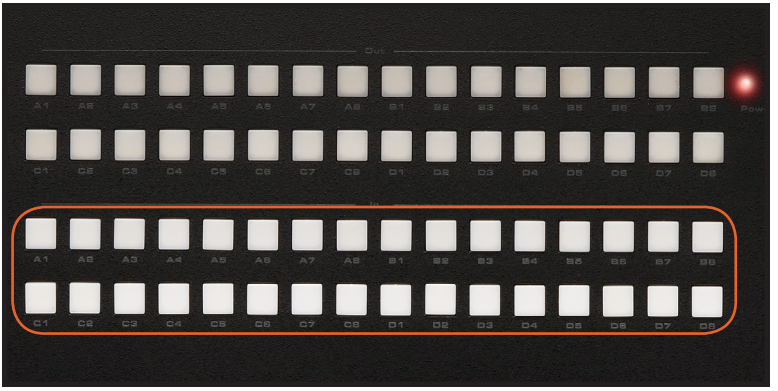
Saving the Default EDID data to Local memory

1. Press the EDID button twice to activate DETOLO (Default To Local) Mode.

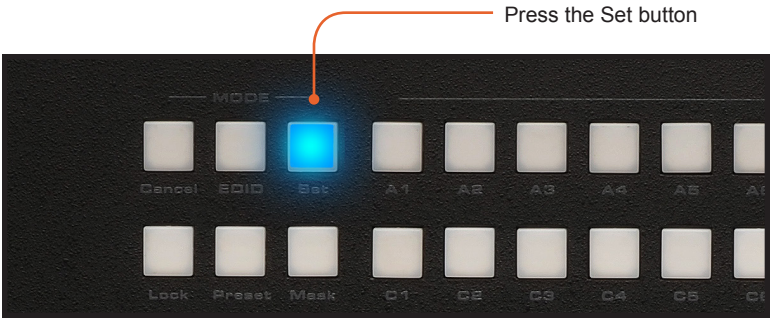


The front-panel LCD will display the following:

2. Press any Input button(s) (A1 - D8) to select the EDID data destination(s).



3. Press the Set button to copy the default EDID to the selected Input.



The front-panel LCD will indicate that the EDID is being copied:

After a few moments, front-panel LCD will indicate that the EDID copy process was completed:

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

IMPORTANT: When sending RS-232 commands, a *carriage return* and a *line feed* character must be included at the end of each line. Telnet / Command Names are case-sensitive.

NOTE: The return value will be displayed when using a terminal-based application, indicating the current value after executing the command.

Configuring the IP Address

The *32x32 DVI Matrix* supports IP-based control using Telnet or the built-in Web-based GUI. To set up IP control, the network settings for the *32x32 DVI Matrix* must be configured via RS-232. The default network settings for the matrix are as follows:

IP Address: 192.168.1.72
Subnet: 255.255.255.0
Gateway: 192.168.1.254
HTTP Port: 80
Telnet Port: 23

1. Connect an RS-232 cable from the PC to the *32x32 DVI Matrix*.

2. Launch a terminal emulation program (e.g. HyperTerminal) and use the following settings:

   Baud Rate: 19200
   Data Bits: 8
   Parity: None
   Stop Bits: 1
   Flow Control: None

> **NOTE:** Depending upon the network, the IP address, subnet mask, gateway IP, Telnet port, and HTTP port will need to be set. Consult your network administrator to obtain the proper settings.

3. Set the IP address for the matrix using the `#sipadd` command (see page 45 for details).

4. Set the subnet mask using the `#snetmask` command (see page 46 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 42 for details).

7. Set the HTTP listening port using the `#set_http_port` command (see page 40 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.

EDID Management

Command	Description
#edidbatolo	Read downstream EDID and stores in any Local Input
#ediddetolo	Set to default EDID on Local Input
#ediddstoba	Read downstream EDID and stores in EDID Bank
#ediddstolo	Read downstream EDID and stores into a Local EDID
#lock_edid	Locks Local EDID and disables auto-loading after power-up
#prbaedid	Read downstream EDID from bank and sends to serial port
#prdsedid	Read downstream EDID and sends to serial port
#predidst	Spools the EDID details to the serial port
#prloedid	Read Input Local EDID and sends to serial port

#edidbatolo Command

The #edidbatolo command reads an EDID from an EDID bank and stores it to any local input.

Syntax:

```
#edidbatolo param1 param2[...param9]
```

Parameters:

param1	EDID bank offset	[1 - 20]
param2 - param9	Input list	[1 - 32]

Notes:

If *param2 = 0*, then the EDID in the specified bank is copied to all 32 DVI inputs. If more than eight inputs need to be specified in order to receive the EDID in the specified bank, the `#edidbatolo` command must be executed twice.

Examples:

```
#edidbatolo 2 5 6 7

Loading EDID bank 2 to locals EDID, please wait......
Finished Loading


#edidbatolo 2 0

Loading EDID bank 2 to all locals EDID, please wait........
Finished Loading
```

#ediddetolo Command

The #ediddetolo command stores the Default EDID in any Local EDID.

Syntax:

```
#ediddetolo param1[...param9]
```

Parameters:

param1 - param9	Input list	[1 - 32]

Notes:

If *param1 = 0*, all inputs will receive the default EDID or use *param1 - param9* to specify individual local inputs which will receive the default EDID. If more than eight inputs need to be specified, then the `#edidbatolo` command must be executed twice.

Examples:

```
#ediddetolo 2 3 4 5 6 7 8 9

Loading default EDID to locals, please wait..........
Finished Loading


#ediddetolo 0

Loading default EDID to all locals EDID, please wait.......
Finished Loading
```

#ediddstoba Command

The #ediddstoba command reads the downstream EDID and stores it to a specified EDID bank.

Syntax:

```
#ediddstoba param1 param2
```

Parameters:

param1	A downstream display	[1 - 32]
param2	EDID bank offset	[1 - 20]

Example:

```
#ediddstoba 1 2

Loading Output 1 EDID to EDID bank 2, please wait........
Finished Loading
```

#ediddstolo Command
The #ediddstolo command reads the downstream EDID and stores it to a local input.

Syntax:

```
#ediddstolo param1 param2[...param9]
```

Parameters:

param1	A downstream display	[1 - 32]
param2 - param9	Input list	[1 - 32]

Notes:

If *param2 = 0*, then the downstream EDID is stored in all 32 DVI inputs. If more than eight inputs need to be specified in order to receive the downstream EDID, the `#edidsdtolo` command must be executed twice.

Examples:

```
#ediddstolo 1 3 8 9 10

Loading Output 1 EDID to locals EDID, please wait........
Finished Loading


#ediddstolo 1 0

Loading Output 1 EDID to all locals EDID, please wait......
Finished Loading
```

#lock_edid Command

The #lock_edid command enables/disables the loading of EDID on each input during a power-cycle.

Syntax:

```
#lock_edid param1
```

Parameters:

param1 EDID lock state [0 - 1]

Value	Meaning
0	Unlocked
1	Locked

Example:

```
#lock_edid 1
Enable lock EDID mode

#lock_edid 0
Disable lock EDID mode
```

#prbaedid Command

The #prbaedid command reads the EDID file from the specified bank.

Syntax:

```
#prbaedid param1
```

Parameters:

param1	Bank	[1 - 20]

Example:

```
#prbaedid 9
0x00 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x4C 0x2D 0xAC 0x06 0x01 0x00 0x00 0x00
0x34 0x13 0x01 0x03 0x80 0x66 0x39 0x78
0x0A 0xEE 0x91 0xA3 0x54 0x4C 0x99 0x26
0x0F 0x50 0x54 0xBD 0xEF 0x80 0x71 0x4F
0x81 0x00 0x81 0x40 0x81 0x80 0x95 0x00
0x95 0x0F 0xB3 0x00 0xA9 0x40 0x02 0x3A
0x80 0x18 0x71 0x38 0x2D 0x40 0x58 0x2C
0x45 0x00 0xA0 0x5A 0x00 0x00 0x00 0x1E
0x66 0x21 0x50 0xB0 0x51 0x00 0x1B 0x30
0x40 0x70 0x36 0x00 0xA0 0x5A 0x00 0x00
0x00 0x1E 0x00 0x00 0x00 0xFD 0x00 0x18
0x4B 0x1A 0x51 0x17 0x00 0x0A 0x20 0x20
0x20 0x20 0x20 0x20 0x00 0x00 0x00 0xFC
0x00 0x53 0x41 0x4D 0x53 0x55 0x4E 0x47
0x0A 0x20 0x20 0x20 0x20 0x20 0x01 0x59
0x02 0x03 0x29 0xF1 0x46 0x90 0x04 0x05
0x03 0x20 0x22 0x23 0x09 0x07 0x07 0x83
0x01 0x00 0x00 0xE2 0x00 0x0F 0xE3 0x05
0x03 0x01 0x6E 0x03 0x0C 0x00 0x20 0x00
0xB8 0x2D 0x20 0xD0 0x04 0x01 0x40 0x00
0x37 0x01 0x1D 0x00 0x72 0x51 0xD0 0x1E
0x20 0x6E 0x28 0x55 0x00 0xA0 0x5A 0x00
0x00 0x00 0x1E 0x01 0x1D 0x80 0x18 0x71
0x1C 0x16 0x20 0x58 0x2C 0x25 0x00 0xA0
0x5A 0x00 0x00 0x00 0x9E 0x8C 0x0A 0xD0
0x8A 0x20 0xE0 0x2D 0x10 0x10 0x3E 0x96
......
......
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x65
```

#prdsedid Command

The #prdsedid command displays the specified downstream EDID.

Syntax:

```
#prdsedid param1                          // COMMAND DOES NOT WORK
                                             PROPERLY
```

Parameters:

param1	A downstream display	[1 - 32]

Example:

```
#prdsedid 1

Read Output EDID 1, please wait....
0x00 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x4C 0x2D 0xAC 0x06 0x01 0x00 0x00 0x00
0x34 0x13 0x01 0x03 0x80 0x66 0x39 0x78
0x0A 0xEE 0x91 0xA3 0x54 0x4C 0x99 0x26
0x0F 0x50 0x54 0xBD 0xEF 0x80 0x71 0x4F
0x81 0x00 0x81 0x40 0x81 0x80 0x95 0x00
0x95 0x0F 0xB3 0x00 0xA9 0x40 0x02 0x3A
0x80 0x18 0x71 0x38 0x2D 0x40 0x58 0x2C
0x45 0x00 0xA0 0x5A 0x00 0x00 0x00 0x1E
0x66 0x21 0x50 0xB0 0x51 0x00 0x1B 0x30
0x40 0x70 0x36 0x00 0xA0 0x5A 0x00 0x00
0x00 0x1E 0x00 0x00 0x00 0xFD 0x00 0x18
0x4B 0x1A 0x51 0x17 0x00 0x0A 0x20 0x20
0x20 0x20 0x20 0x20 0x00 0x00 0x00 0xFC
0x00 0x53 0x41 0x4D 0x53 0x55 0x4E 0x47
0x0A 0x20 0x20 0x20 0x20 0x20 0x01 0x59
0x02 0x03 0x29 0xF1 0x46 0x90 0x04 0x05
0x03 0x20 0x22 0x23 0x09 0x07 0x07 0x83
0x01 0x00 0x00 0xE2 0x00 0x0F 0xE3 0x05
0x03 0x01 0x6E 0x03 0x0C 0x00 0x20 0x00
0xB8 0x2D 0x20 0xD0 0x04 0x01 0x40 0x00
0x37 0x01 0x1D 0x00 0x72 0x51 0xD0 0x1E
0x20 0x6E 0x28 0x55 0x00 0xA0 0x5A 0x00
0x00 0x00 0x1E 0x01 0x1D 0x80 0x18 0x71
0x1C 0x16 0x20 0x58 0x2C 0x25 0x00 0xA0
0x5A 0x00 0x00 0x00 0x9E 0x8C 0x0A 0xD0
......
......
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x65
```

#predidst Command

The #predidst command prints a table that contains details relating to the Local EDID source and the display name.

Syntax:

```
#predidst
```

Parameters:

None

Example:

```
#predidst
Input|Source  |ID  |Monitor name
    1|   1    |SAM |SAMSUNG
    2|   1    |SAM |SAMSUNG
    3|   1    |SNY |SONY
    4|   1    |SNY |SONY
    5|   1    |SAM |SAMSUNG
    6|   1    |SAM |SAMSUNG
    7|   1    |SAM |SAMSUNG
    8|   1    |NEC |NEC
   10|   1    |SAM |SAMSUNG
   11|   1    |SAM |SAMSUNG
   12|   1    |SAM |SAMSUNG
   13|   1    |SAM |SAMSUNG
   14|   1    |SAM |SAMSUNG
   15|   1    |SAM |SAMSUNG
   ...
   ...
   30|   1    |SAM |SAMSUNG
   31|   1    |SAM |SAMSUNG
   32|   1    |SAM |SAMSUNG
```

#prloedid Command

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

Syntax:

```
#prloedid param1
```

Parameters:

param1	Input	[1 - 32]

Example:

```
#prloedid 7

Read local EDID 7, please wait......
0x00 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x1C 0xA6 0x00 0x00 0x00 0x00 0x00 0x00
0x01 0x14 0x01 0x03 0x80 0x34 0x21 0x78
0xEE 0xEE 0x91 0xA3 0x54 0x4C 0x99 0x26
0x0F 0x50 0x54 0xA5 0x4B 0x00 0x81 0x80
0xA9 0x40 0x71 0x4F 0xB3 0x00 0xD1 0x00
0xE1 0x40 0xD1 0xC0 0x31 0x40 0x30 0x2A
0x00 0x98 0x51 0x00 0x2A 0x40 0x30 0x70
0x13 0x00 0x52 0x0E 0x11 0x00 0x00 0x1E
0x00 0x00 0x00 0xFF 0x00 0x47 0x45 0x46
0x45 0x4E 0x5F 0x58 0x50 0x54 0x5F 0x53
0x4C 0x0A 0x00 0x00 0x00 0xFC 0x00 0x47
0x45 0x46 0x45 0x4E 0x5F 0x58 0x50 0x54
0x5F 0x53 0x4C 0x0A 0x00 0x00 0x00 0xFD
0x00 0x38 0x4C 0x1E 0x53 0x11 0x00 0x0A
0x20 0x20 0x20 0x20 0x20 0x20 0x00 0x34
```

IP Configuration

Command	Description
#display_telnet_welcome	Enable / disable the Telnet welcome message on login
#ipconfig	Displays the current IP configuration
#resetip	Resets the IP configuration to factory defaults
#set_http_port	Sets the HTTP listening port
#set_telnet_pass	Sets the Telnet password
#set_telnet_port	Sets the Telnet listening port
#set_telnet_username	Sets the Telnet user name
#sgateway	Sets the IP (router) gateway
#show_telnet_pass	Displays the Telnet password
#show_telnet_username	Displays the Telnet username
#sipadd	Sets the IP Address
#snetmask	Sets the IP subnet mask value
#use_telnet_pass	Enables / disables the Telnet password on login

#display_telnet_welcome Command

Enables / disables the Telnet welcome message on login.

Syntax:

```
#display_telnet_welcome
```

Parameters:

param1 Telnet welcome message state [0 - 1]

Value	Meaning
0	Off
1	On

Examples:

```
#display_telnet_welcome 0
Telnet welcome at login is set to OFF

#display_telnet_welcome 1
Telnet welcome at login is set to ON
```

#ipconfig Command

Prints the current IP configuration on the screen.

Syntax:

```
#ipconfig
```

Parameters:

None

Example:

```
#ipconfig
-------------- TCP/IP settings -------------

MAC add  = 00:1C:91:02:80:18
IP add   = 192.168.2.238
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 OFF
Telnet welcome at login is set to OFF
```

#resetip Command

The #resetip command resets the IP configuration to the factory default setting.

Syntax:

```
#resetip
```

Parameters:

None

Notes:

The default IP address is: `192.168.1.75`
The default IP gateway is: `192.168.1.254`
The matrix must be rebooted after executing this command.

Example:

```
#resetip
Reset ip configuration to factory default


#ipconfig
-------------- TCP/IP settings -------------

MAC add  = 00:1C:91:02:80:18
IP add   = 192.168.1.75
Net Mask = 255.255.255.0
Gateway  = 192.168.1.254
Web Server Port = 80
Telnet Server Port = 23
Telnet password at login is set to OFF
Telnet welcome at login is set to OFF
```

#set_http_port Command

Specifies a new port. The underscore character ("_") must be included when typing the command name.

Syntax:

```
#set_http_port param1
```

Parameters:

param1	Port	[0 - 255]

Notes:

A reboot is required after using this command.

Example:

```
#set_http_port 72
New HTTP port set to: 72


#ipconfig
-------------- TCP/IP settings -------------

MAC add  = 00:1C:91:02:80:18
IP add   = 192.168.1.75
Net Mask = 255.255.255.0
Gateway  = 192.168.1.254
Web Server Port = 72
Telnet Server Port = 23
Telnet password at login is set to OFF
Telnet welcome at login is set to OFF
```

#set_telnet_pass Command

The #set_telnet_pass command specifies a new password. The underscore character ("_") must be included when typing the command name. The password may contain a combination of letters and numbers. Special characters and spaces are not permitted. If a space is required in the password, use the underscore character ("_").

Syntax:

```
#set_http_port param1
```

Parameters:

param1	Password	[20 characters max.]

Notes:

A reboot is required after using this command.

Example:

```
#set_telnet_pass santaclause
Telnet password updated to: santaclause
```

#set_telnet_port Command

Specifies a new Telnet listening port. The underscore character ("_") must be included when typing the command name.

Syntax:

```
#set_telnet_port param1
```

Parameters:

param1	Port	[0 - 255]

Notes:

A reboot is required after using this command.

Example:

```
#set_telnet_port 20
New Telnet port set to: 20
```

#set_telnet_username Command

The #set_telnet_username command assigns the Telnet username for login. The underscore character ("_") must be included when typing the command name. The user name may contain a combination of letters and numbers. Special characters and spaces are not permitted. If a space is required in the user name, use the underscore character ("_").

Syntax:

```
#set_telnet_username param1
```

Parameters:

param1	User name	[20 characters max.]

Example:

```
#set_telnet_username doc_holiday
Telnet login updated to: doc_holiday
```

#sgateway Command

Specifies the new IP gateway. The IP address must be typed using Dot-decimal notation.

Syntax:

```
#sgateway param1
```

Parameters:

param1	IP address

Notes:

A reboot is required after using this command.

Example:

```
#sgateway 192.168.1.1
New IP Gatway set to: 192.168.1.1
```

#show_telnet_pass Command

The #show_telnet_pass command displays the current Telnet password.

Syntax:

```
#show_telnet_pass
```

Parameters:

None

Example:

```
#show_telnet_pass
Telnet password: santaclause
```

#show_telnet_username Command

The #show_telnet_username command displays the current Telnet user name.

Syntax:

```
#show_telnet_pass
```

Parameters:

None

Example:

```
#show_telnet_username
Telnet login: doc_holiday
```

#sipadd Command

The #sipadd command specifies a new IP address. The IP address must be typed using Dot-decimal notation.

Syntax:

```
#sipadd param1
```

Parameters:

param1	IP address

Notes:

A reboot is required after using this command.

Example:

```
#sipadd 192.168.2.127
New IP set to: 192.168.2.127
```

#snetmask Command

The #snetmask command specifies a new net mask. The IP address must be typed using Dot-decimal notation.

Syntax:

```
#snetmask param1
```

Parameters:

param1	IP address

Notes:

A reboot is required after using this command.

Example:

```
#snetmask 255.255.255.0
New IP Mask set to: 255.255.255.0
```

#use_telnet_pass Command

The #use_telnet_pass command enables / disables the Telnet password on login.

Syntax:

```
#use_telnet_pass param1
```

Parameters:

param1 Telnet password use state [0 - 1]

Value	Meaning
0	Off
1	On

Notes:

A reboot is required after using this command.

Example:

```
#use_telnet_pass 0
Telnet password at login is set to OFF


#use_telnet_pass 1
Telnet password at login is set to ON
```

Masking

Command	Description
#maskout	Masks the specified outputs
#unmaskout	Unmasks the specified outputs

#maskout Command

The #maskout command disables (masks) the specified outputs on the matrix.

Syntax:

```
#maskout param1[...param8]
```

Parameters:

param1 - param8	Output	[1 - 32]

Notes:

If *param1 = 0*, all outputs will be masked. If more than eight inputs need to be specified, then the `#maskout` command must be executed twice.

Examples:

```
#maskout 5 6 7
Masking outputs: 5 6 7
Masking Output 5
Masking Output 6
Masking Output 7


#maskout 0
Masked all outputs
Masking all Outputs
```

#unmaskout Command

The #unmaskout command re-enabled (unmasks) the specified outputs on the matrix.

Syntax:

```
#unmaskout param1[...param8]
```

Parameters:

param1 - param8	Output	[1 - 32]

Notes:

If *param1 = 0*, all outputs will be masked. If more than eight inputs need to be specified, then the `#maskout` command must be executed twice.

Examples:

```
#unmaskout 5 6 7
Activate outputs: 5 6 7
Activate Output 5
Activate Output 6
Activate Output 7
```

```
#unmaskout 0
Activate all outputs
Activate all Outputs
```

Routing

Command	Description
#callpreset	Recalls a specified routing / mask state preset
#prpreset	Displays the preset table
#savepreset	Saves the current routing / mask state to a preset
m	Displays the routing status table
r	Routes the specified input to the designated output(s)
s	Routes the specified input to all outputs

#callpreset Command

The #callpreset command recalls a specified routing / mask preset.

Syntax:

```
#callpreset param1
```

Parameters:

param1	Routing preset	[1 - 16]

Notes:

See the #savepreset command for information on how to save a routing / mask preset.

Example:

```
#callpreset 2
Recall Saved Set 2
```

#prpreset Command

The #prpreset command displays the preset table. In the preset table, “A” refers to an “Active” output. “M” refers to a “Masked” output.

Syntax:

```
#prpreset
```

Parameters:

None

Example:

```
#prpreset
Preset table
 Set | Outputs 1-32
  1  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  2  | A 1 A 2 A 3 A 4 A 5 M 6 M 7 M 8 A 9 A10 A11 A12 A13 A14 A15 A16
     | A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27 A28 A29 A30 A31 A32
  3  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  4  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  5  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  6  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  7  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  8  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
  9  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
 ...
 ...
 32  | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
     | A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0
```

#savepreset Command

The #savepreset command saves the current routing and masking state to the specified memory preset.

Syntax:

```
#savepreset param1
```

Parameters:

param1	Routing preset	[1-16]

Notes:

If *param2* = *0*, all outputs will be masked. If more than eight inputs need to be specified, then the `#maskout` command must be executed twice.

Example:

```
#savepreset 2
Saved current as set 2
```

m Command

The m command displays the routing status table.

Syntax:

```
m
```

Parameters:

None

Notes:

Unlike other commands, do not precede the m command with the "**#**' symbol.

Example:

```
m
Routing status table
 Outputs | +0 | +1 | +2 | +3 | +4 | +5 | +6 | +7
    1    |  1 |  2 |  3 |  4 |  5 |  6 |  7 |  8
    9    |  9 | 10 | 11 | 12 | 13 | 14 | 15 | 16
   17    | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24
   25    | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32
Masking status table
 Outputs | +0 | +1 | +2 | +3 | +4 | +5 | +6 | +7
    1    |  A |  A |  A |  A |  A |  M |  M |  M
    9    |  A |  A |  A |  A |  A |  A |  A |  A
   17    |  A |  A |  A |  A |  A |  A |  A |  A
   25    |  A |  A |  A |  A |  A |  A |  A |  A
Monitor HPD status table
 Outputs | +0 | +1 | +2 | +3 | +4 | +5 | +6 | +7
    1    |  H |  L |  L |  L |  L |  L |  L |  L
    9    |  L |  L |  L |  L |  L |  L |  L |  L
   17    |  L |  L |  L |  L |  L |  L |  L |  L
   25    |  L |  L |  L |  L |  L |  L |  L |  L
```

r Command

The r command routes the specified input to the designated output(s).

Syntax:

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

Parameters:

None

Notes:

Unlike other commands, do not precede the r command with the "#' symbol.
If *param2 = 0*, then the specified input will be routed to all outputs (also refer to the s command on the next page). If more than eight inputs need to be specified, then the `r` command must be executed twice.

Examples:

```
r 1 2
Input 1 is routed to outputs: 2
Routing Input 1 to Output 2
```

```
r 1 4 5 6 7 9 10
Input 1 is routed to outputs: 4 5 6 7 9 10
Routing Input 1 to Output 4
Routing Input 1 to Output 5
Routing Input 1 to Output 6
Routing Input 1 to Output 7
Routing Input 1 to Output 9
Routing Input 1 to Output 10
```

```
r 1 0
All outputs are routed to input 1
Routing Input 1 to all Outputs
```

s Command

The s command routes the specified input to the designated output(s).

Syntax:

```
s param1
```

Parameters:

None

Notes:

Unlike other commands, do not precede the s command with the "#' symbol.
If *param1 = 0*, then all inputs will be routed to their respective outputs (e.g. 1-1, 2-2, 3-3, 4-4, 5-5) .

Examples:

```
s 5
Routing Input 5 to all Outputs


s 0
Routing 1-1,2-2,...
```

System

Command	Description
#activebolo	Activates the boot loader
#fadefault	Resets the matrix to factory default settings
#help	Displays the list of available commands or help on a specific command
#lock_fo	Unlocks / locks the +5V power lock state
#reboot	Reboots the matrix
#set_input_name	Specifies a name for the designated input
#set_output_name	Specifies a name for the designated output
#show_temp	Displays the internal board temperatures
#show_ver_data	Displays the current hardware and firmware version
#show_voltage	Displays the internal board voltages
f	Enables / disables +5V on the inputs

#activebolo Command

The #activebolo command activates the boot loader when updating the firmware. Refer to the Firmware Update Procedure beginning on page 67 on how to use this command.

Syntax:

```
#activebolo
```

Parameters:

None

Notes:

This command must be typed and executed twice in order to activate the boot loader.

Example:

```
#activebolo
```

#fadefault Command

The #fadefault command resets the matrix to the factory default settings. Executing this command will erase all local memory EDID banks, reset the matrix to default routing status (1-1, 2-2, etc), and clear all IP settings.

Syntax:

```
#fadefault
```

Parameters:

None

Notes:

A reboot is required after using this command.

Example:

```
#fadefault
Matrix set to factory default, Please wait
Routing 1-1,2-2,...
Activate all Outputs

Loading default EDID to all locals EDID, please wait.......
Finished Loading
```

#fw_upgrade Command

The #fw_upgrade command is not used in this version of firmware. This command will be available in a future release.

Syntax:

This command will be available in a future release.

Parameters:

This command will be available in a future release.

#help Command

The #help command displays help on the specified command.

Syntax:

```
#help [param1]
```

Parameters:

param1	Command (optional)

Notes:

If *param1* is not included, then the full list of commands is displayed.

Example:

```
#help #ediddetolo

Store the default (Internal) EDID to local inputs EDID
Syntax: #ediddetolo param1..param8
Param1 = 0 (All inputs)
Param1..Param8 = 1-32 (Input list)
 e.g: #ediddetolo 5 6 7
```

#lock_fo Command

The #lock_fo command locks / unlocks the +5V 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 unit is restarted. Enabling this feature should be used when attaching fiber optic extenders to the outputs on the matrix.

Syntax:

```
#lock_lo param1
```

Parameters:

param1 State [0 - 1]

Value	Meaning
0	Disable Power Lock
1	Enable Power Lock

Example:

```
#lock_lo 1
Enable lock Power mode

#lock_lo 0
Disable lock Power mode
```

#reboot Command

The #reboot command reboots the 32x32 DVI Matrix. The parameter 10 *must* be included as part of the command. Unlike RS-232, if the #reboot command is entered via Telnet, the Telnet connection will be lost and will need to be manually re-established.

Syntax:

```
#reboot param1
```

Parameters:

param1	10

Example:

```
#reboot 10
The system will reboot itself, please wait


**********************
 GEFEN
 MultiMatrix 32 x 32
 FW version: 0.2.35
**********************

Establish connection with Input Board 1
  Board Type: DVI input 8 channels
  Board SN: 941651
  FW ver:0.1.26
Establish connection with Input Board 2
  Board Type: DVI input 8 channels
  Board SN: 941655
  FW ver:0.1.26
...
...
Establish connection with BP Board
  Board Type: BP
  Board SN: 945889
  FW ver:0.2.30

Init Routing, Please wait
..
Loading Output 1 EDID to all locals EDID, please wait.....
Finished Loading
```

#set_input_name Command

The #set_input_name command names the specified input. This feature makes is easier to keep track of each input (source) device during the routing process. The input name may contain a combination of letters and numbers.
Special characters and spaces are not permitted. If a space is required as part of the input name, use the underscore character ("_").

Syntax:

```
#set_input_name param1 param2
```

Parameters:

param1	Input	[1 - 32]
param2	String (15 characters max.)	

Example:

```
#set_input_name 1 DVD_player
DVD_player is assigned to input 1
```

#set_output_name Command

The #set_output_name command names the specified output. This feature makes is easier to keep track of each output device during the routing process. The output name may contain a combination of letters and numbers.
Special characters and spaces are not permitted. If a space is required as part of the output name, use the underscore character ("_").

Syntax:

```
#set_output_name param1 param2
```

Parameters:

param1	Output	[1 - 32]
param2	String (15 characters max.)	

Example:

```
#set_output_name 2 LCD_display
LCD_display is assigned to output 2
```

#show_temp Command

The #show_temp command displays the temperature for each input and output board inside the matrix.

Syntax:

```
#show_temp
```

Parameters:

None

Example:

```
#show_temp
Temperature result [C deg] for UI board:31
Temperature result [C deg] for BP board
sensor1 (Mindspeed) - 47
sensor2 (power)     - 35
Temperature result [C deg] for Inputs board
Board| 1 | 2
    1|39 |33
    2|37 |31
    3|34 |30
    4|32 |28
Temperature result [C deg] for Outputs board
Board| 1 | 2
    1|44 |38
    2|46 |38
    3|45 |36
    4|43 |36
```

#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
Firmware Realse version 0.2.35
Release date: May 24 2012
Release time: 14:23:39
```

#show_voltage Command

The #show_temp command displays the voltages of each input and output board inside the matrix.

Syntax:

```
#show_temp
```

Parameters:

None

Example:

```
#show_voltage
ADC UI measurment result:
VCC CORE 1.8, Value = 1848 mVolt
PSU1 - DS460
PSU1 PSOK, Value = 3061 mVolt
PSU1 Imon, Value = 258 mV -> 2 A
Power result [mV] for all boards:
Power result [mV] for BP board
5V  |3.3V|1.2V|1.2V
5038|3330|1213|1218
Power result [mV] for Inputs board
Board|3.3/5|1.2/3.3|1.8V
    1| 5070|   3308|1805
    2| 5126|   3336|1814
    3| 5114|   3352|1801
    4| 5128|   3346|1815
Power result [mV] for Outputs board
Board|1/5  |3.3    |1.8V
    1| 5078|   3314|1803
    2| 5106|   3288|1797
    3| 5064|   3354|1795
    4| 5070|   3346|1806
```

f Command

The f command enables / disables 5V on the input. The f command can also be used without parameters to return the state of each input. “ON” is returned if +5V is enabled on the DVI input. “OFF” is returned if +5V is disabled on the DVI input.

Syntax:

```
f param1 param2
```

Parameters:

param1	Input	[1 - 32]
param2	State	[0 - 1]

State	Meaning
0	Disable
1	Enable

Notes:

The f command can also be used without parameters to return the state of each input. “ON” is returned if +5V is enabled on the DVI input. “OFF” is returned if +5V is disabled on the DVI input.

Examples:

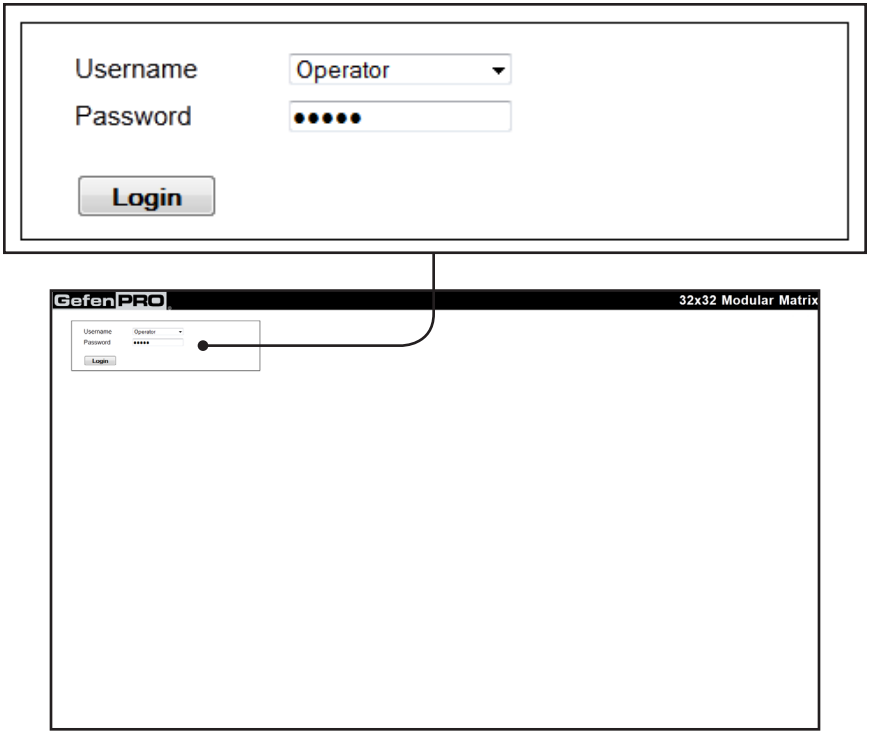
```
f 5 1
Turn on FO input 5
```

```
f
```

```
FO inputs status table
 Board | +0  | +1  | +2  | +3  | +4  | +5  | +6  | +7
   1   | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF
   2   | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF
   3   | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF
   4   | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF
```

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 29. 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.

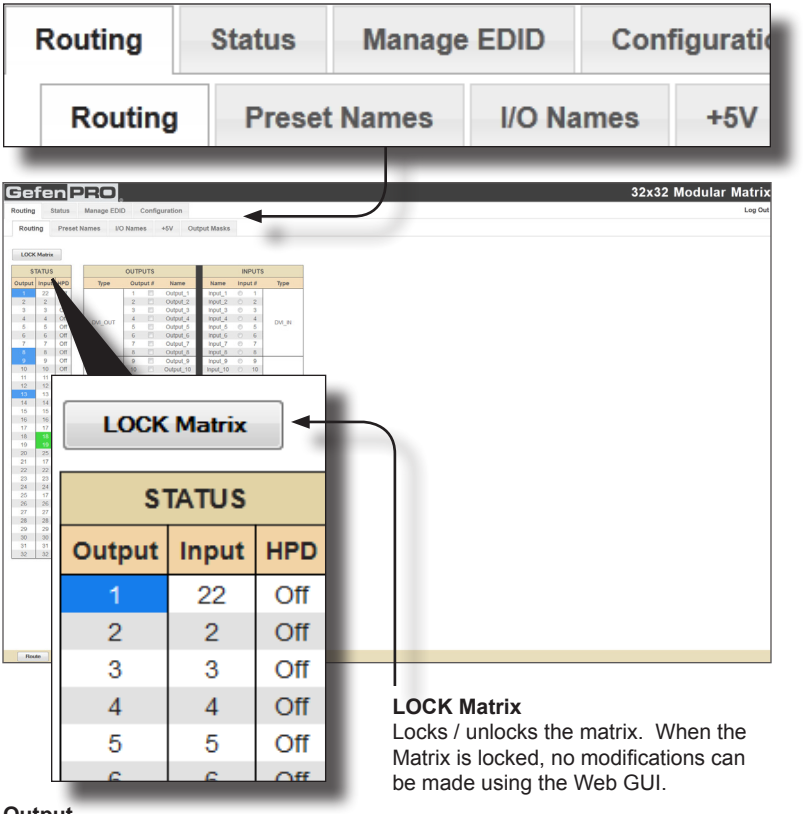
Password
Enter the password for the associated username. The password can be set using the `#set_webui_ad_pass` or `#set_webui_op_pass` commands. See page 38 and 39 for details.

Using the Built-in Web server

The Web GUI is divided into four main pages: **Routing**, **Status**, **Manage EDID**, and **Configuration.** Each of these pages is represented by a tab. Click on the desired tab to open the its page. Each page also has it's own set of tabs which can be accessed. When the Web GUI is opened, the **Routing** page / tab will be displayed.

Routing >> Routing

Tabs
Click a tab to open the desired page.



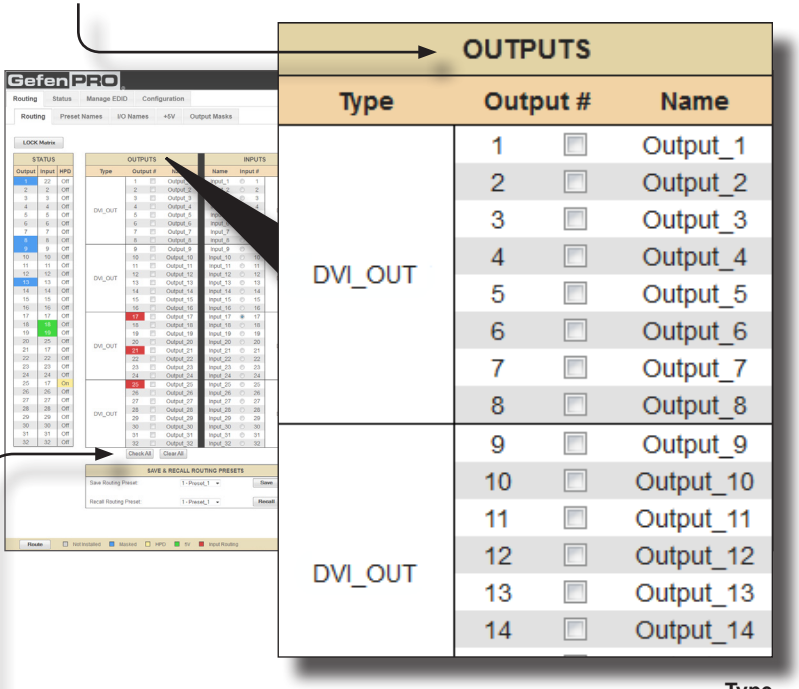
LOCK Matrix
Locks / unlocks the matrix. When the Matrix is locked, no modifications can be made using the Web GUI.

Output
The number of the output. The blue highlight indicates that the output has been masked. See page 75 for more information on masking outputs.

Input
Displays the input that has been routed to the output. In the illustration above, Input 22 has been routed to Output 1.

HPD
Indicates the Hot Plug Detect (HPD) status of the input.

OUTPUTS
Provides information on each Output on the matrix.



Type
Displays the type of output card used in slot.
This matrix can only accept DVI outputs.

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

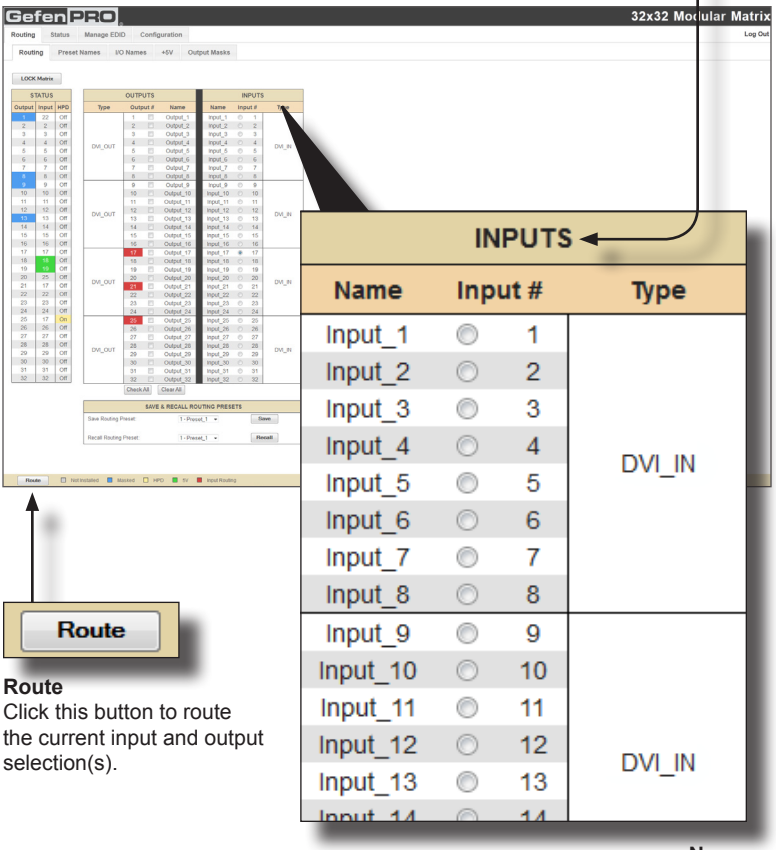
Name
Displays the current name of the output. The name of each output can be changed. See page 62 for details.

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

Clear All
Clears all check marks from the Output # column.

INPUTS

Provides information on each Input on the matrix.



Route

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

Name

Displays the current name of the input. The name of each input can be changed. See page 61 for details.

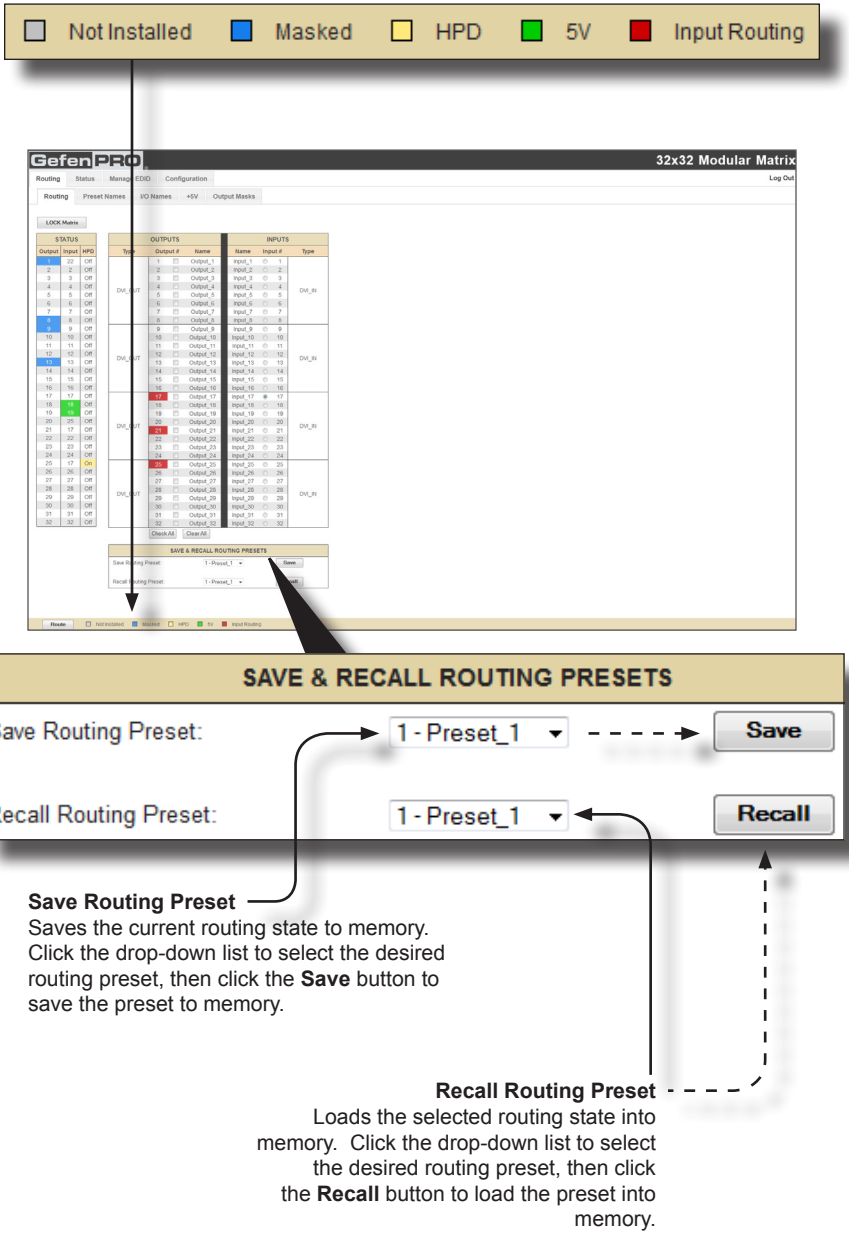
Input #

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

Type

Displays the type of input card used in slot. This matrix can only accept DVI inputs.

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

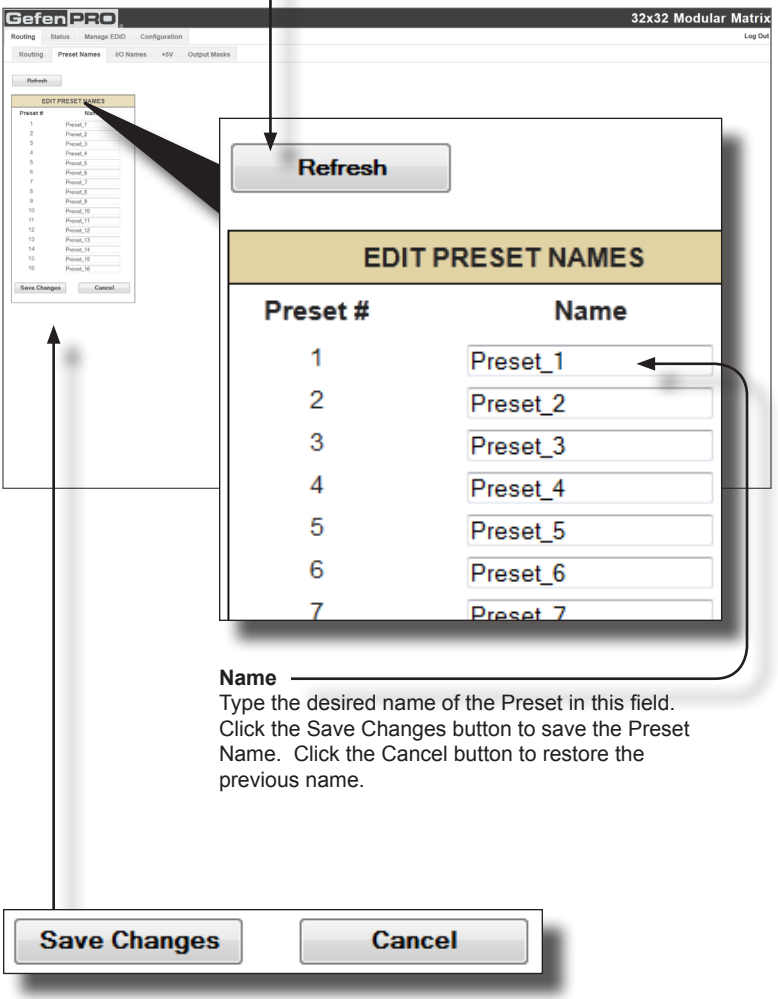


Save Routing Preset
Saves the current routing state to memory. Click the drop-down list to select the desired routing preset, then click the **Save** button to save the preset to memory.

Recall Routing Preset
Loads the selected routing state into memory. Click the drop-down list to select the desired routing preset, then click the **Recall** button to load the preset into memory.

Routing >> Preset Names

Refresh
Updates the Web page to reflect the new Preset Name.



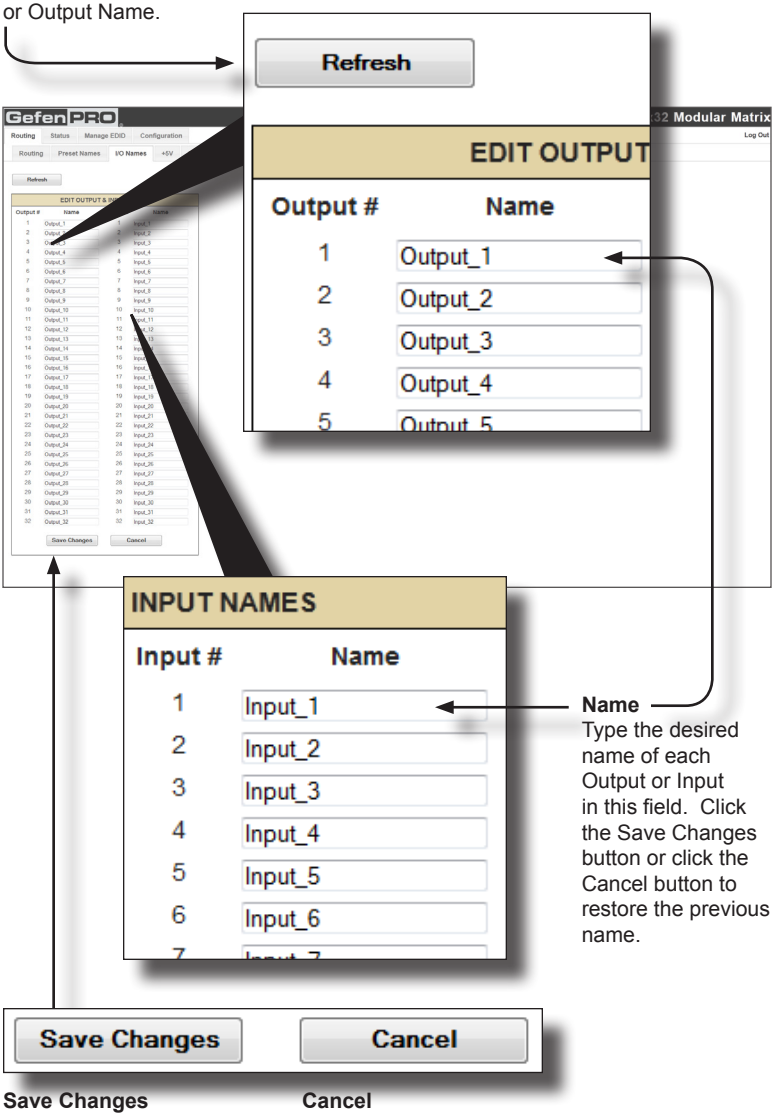
Name
Type the desired name of the Preset in this field. Click the Save Changes button to save the Preset Name. Click the Cancel button to restore the previous name.

Save Changes
Saves the current changes.

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

Routing >> I/O Names

Refresh
Updates the Web page to reflect the new Input and/or Output Name.



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

Save Changes
Saves the current changes.

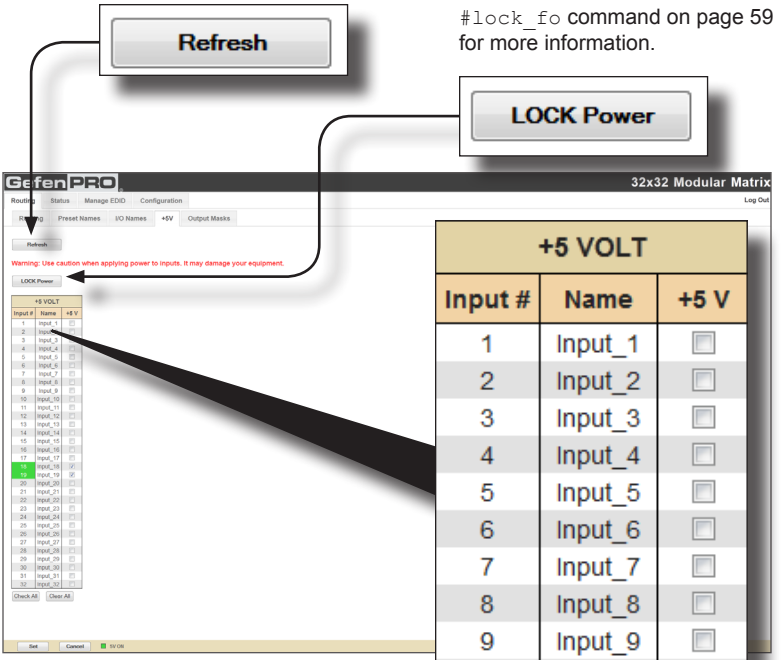
Cancel
Restores the previous names for each Input and/or Output, if a change was made.

Routing >> +5V

WARNING: Use caution when applying power to inputs. If the source device supplies +5V on the input, then enabling the +5V may cause damage to the source and/or the 32x32 DVI Matrix.

Refresh
Updates the Web page to reflect the new Input and/or Output Name.

LOCK Power
Enables/disables the power lock state. See the RS-232 command `#lock_fo` command on page 59 for more information.



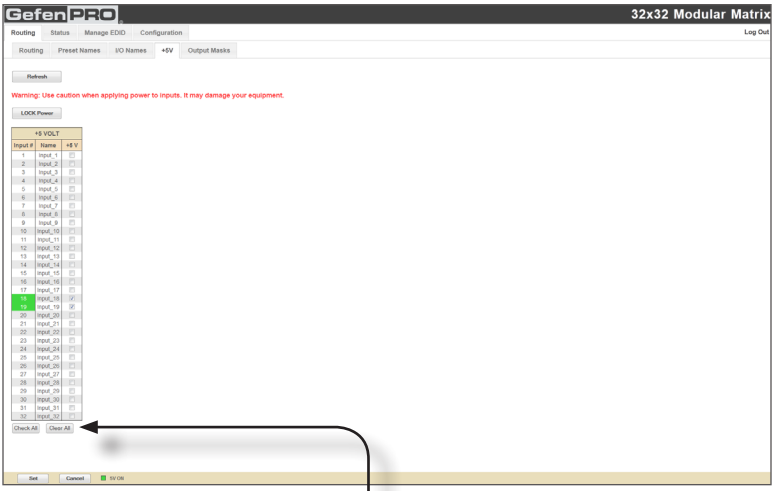
Input #
Indicates the number of each Input. If the input has +5V enabled, it will be highlighted in green (as shown).

Name
The current name of each input.

+5V
Click to select the desired Input(s). Selecting an input does *not* automatically enable the +5V. Use the **Set** button to enable the +5V.

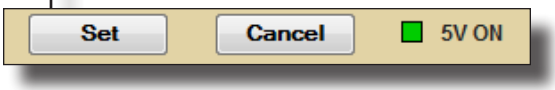
+5 VOLT

Input #	Name	+5 V
1	Input_1	☐
2	Input_2	☐
3	Input_3	☐
4	Input_4	☐
5	Input_5	☐
6	Input_6	☐
7	Input_7	☐
8	Input_8	☐
9	Input_9	☐
10	Input_10	☐
17	Input_17	☐
18	Input_18	☑
19	Input_19	☑
20	Input_20	☐
21	Input_21	☐
22	Input_22	☐



Check All
Places a check mark in each box under the +5V column.

Clear All
Clears all check marks from the +5V column.



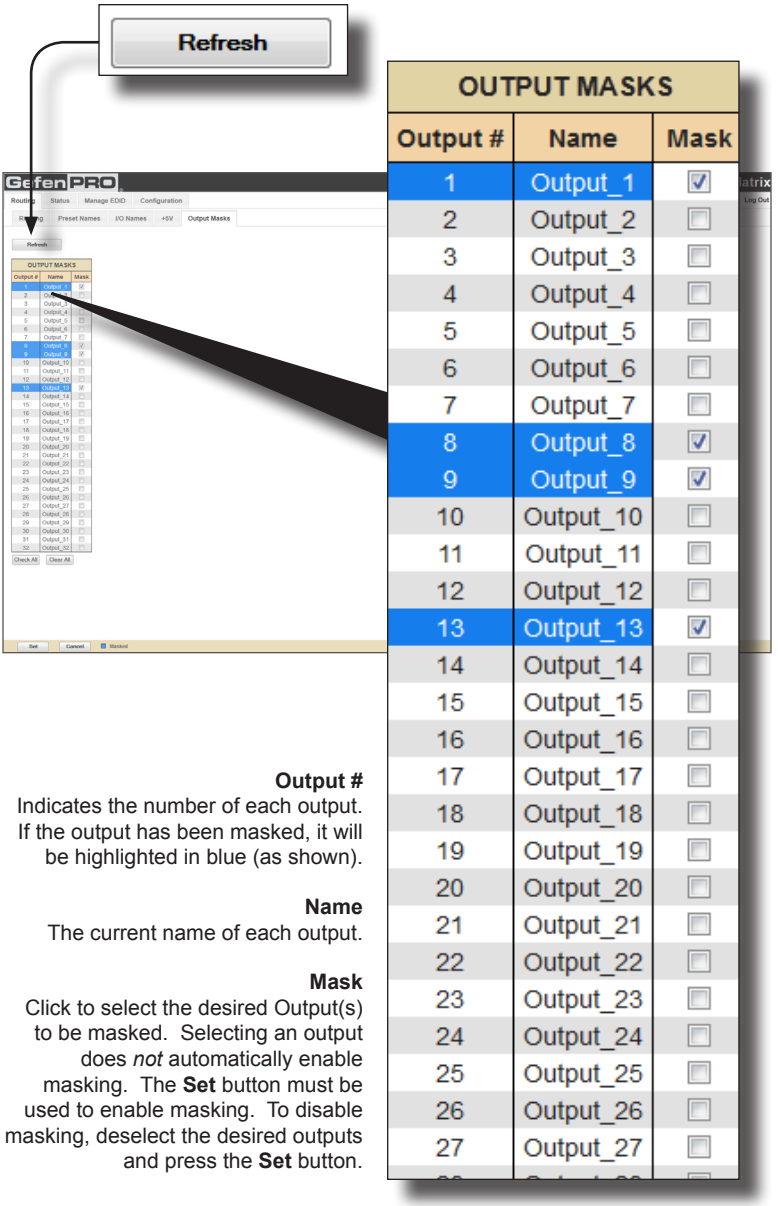
Set
Click this button to enable +5V on the selected input(s). See the previous page for information on selecting inputs.

Cancel
Restores the previous +5V state for each input, if a change was made.

5V ON (legend)
If +5V has been enabled on any of the inputs, these inputs will be highlighted in green. See the previous page for more information.

Routing >> Output Masks

Refresh
Updates the Web page to reflect the new Input and/or Output Name.



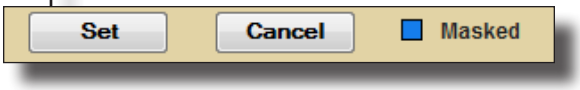
Output #
Indicates the number of each output. If the output has been masked, it will be highlighted in blue (as shown).

Name
The current name of each output.

Mask
Click to select the desired Output(s) to be masked. Selecting an output does *not* automatically enable masking. The **Set** button must be used to enable masking. To disable masking, deselect the desired outputs and press the **Set** button.

Check All
Places a check mark in each box under the **Mask** column.

Clear All
Clears all check marks from the **Mask** column.



Set
Click this button to enable masking on the selected output(s). See the previous page for information on selecting inputs.

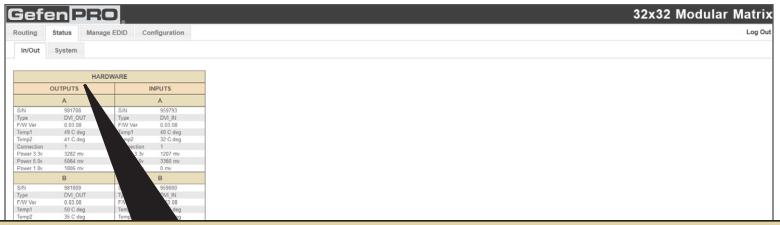
Cancel
Restores the previous masking state for each output, if a change was made.

Masked (legend)
If masking has been enabled on any of the outputs, then these outputs will be highlighted in blue.

Status >> In/Out

The **Status >> In/Out** tab provides information on the hardware and firmware of the 32x32 DVI Matrix. The OUTPUTS column lists each Output Card that is installed. The INPUTS column lists each Input Card that is installed.

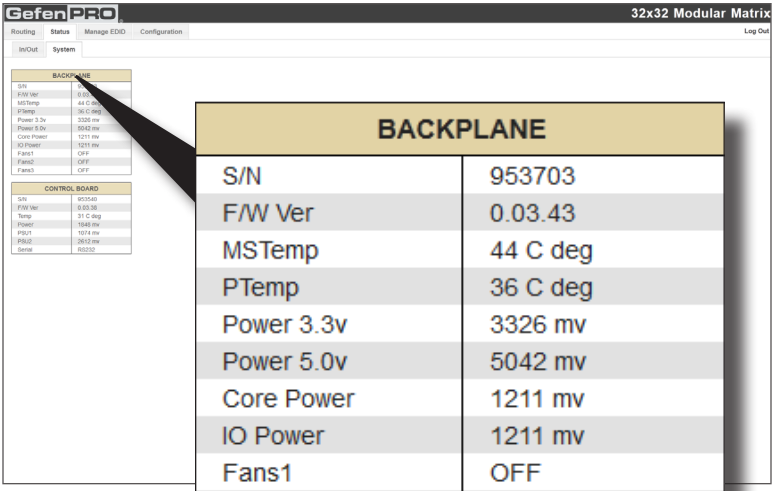
The information presented on this screen is used by Gefen Technical Support for troubleshooting purposes, only.



HARDWARE			
OUTPUTS		**INPUTS**	
A		**A**	
S/N	981708	S/N	959793
Type	DVI_OUT	Type	DVI_IN
F/W Ver	0.03.08	F/W Ver	0.03.08
Temp1	49 C deg	Temp1	40 C deg
Temp2	41 C deg	Temp2	32 C deg
Connection	1	Connection	1
Power 3.3v	3282 mv	Power 3.3v	1207 mv
Power 5.0v	5064 mv	Power 5.0v	3360 mv
Power 1.8v	1806 mv	Power 1.8v	0 mv
B		**B**	
S/N	981809	S/N	959800
Type	DVI_OUT	Type	DVI_IN
F/W Ver	0.03.08	F/W Ver	0.03.08
Temp1	50 C deg	Temp1	37 C deg
Temp2	35 C deg	Temp2	30 C deg
Connection	1	Connection	1
Power 3.3v	3334 mv	Power 3.3v	1204 mv
Power 5.0v	1008 mv	Power 5.0v	3400 mv
Power 1.8v	1814 mv	Power 1.8v	0 mv
C		**C**	

Status >> System

The **Status >> System** tab provides additional detailed information on the 32x32 DVI Matrix hardware. The information presented on this screen is used by Gefen Technical Support for troubleshooting purposes, only.



BACKPLANE	
S/N	953703
F/W Ver	0.03.43
MSTemp	44 C deg
PTemp	36 C deg
Power 3.3v	3326 mv
Power 5.0v	5042 mv
Core Power	1211 mv
IO Power	1211 mv
Fans1	OFF
Fans2	OFF
Fans3	OFF

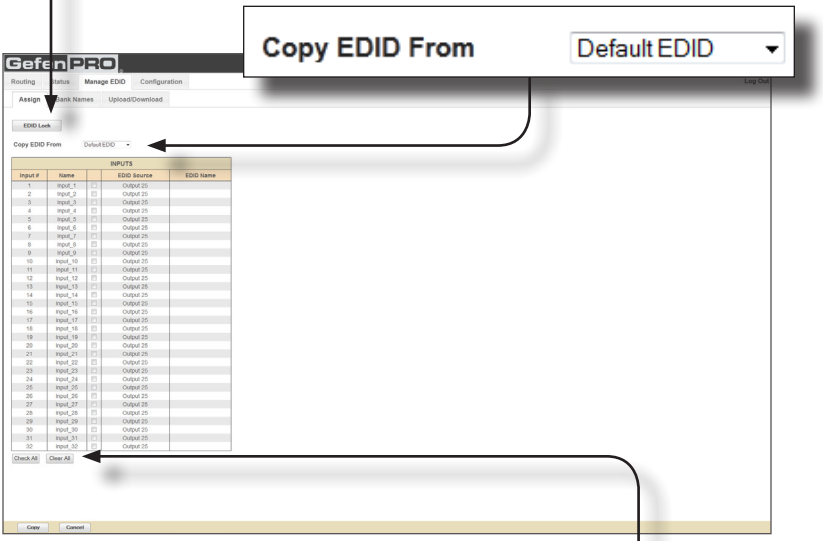
CONTROL BOARD	
S/N	953540
F/W Ver	0.03.38
Temp	31 C deg
Power	1848 mv
PSU1	1074 mv
PSU2	2612 mv
Serial	RS232

Manage EDID >> Assign

EDID Lock
Secures the Local EDID and disables the automatic loading after power-up. See the `#lock_edid` command on page 32 for more information.

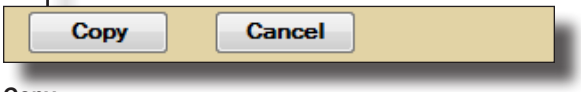
Copy EDID From
Select the EDID from the drop-down list. The EDID will be copied from the selected destination to the desired input(s).

Options:
Default EDID,
Bank_1 ... Bank_20,
Output_1 ... Output_32



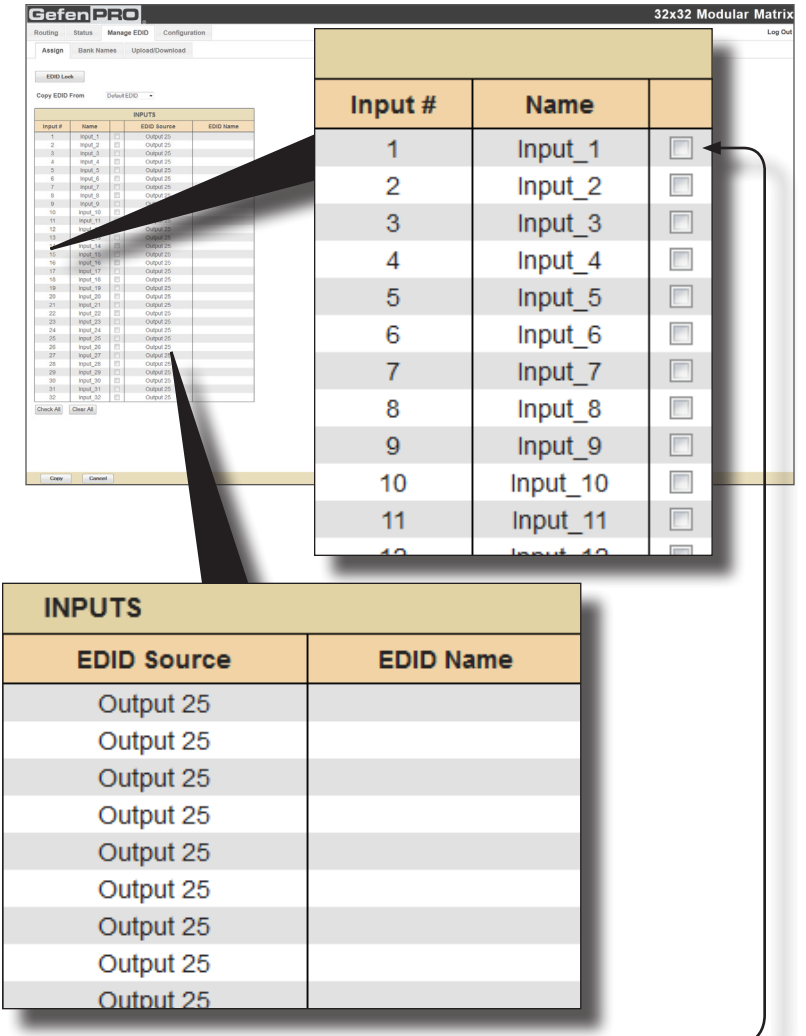
Check All
Places a check mark in all boxes.

Clear All
Clears all check marks from each box.



Copy
Copies the EDID source to the selected input(s).

Cancel
Clears all check marks from each box.



EDID Source
Displays the EDID source used by the input. In the illustration above, the EDID source is Output 25.

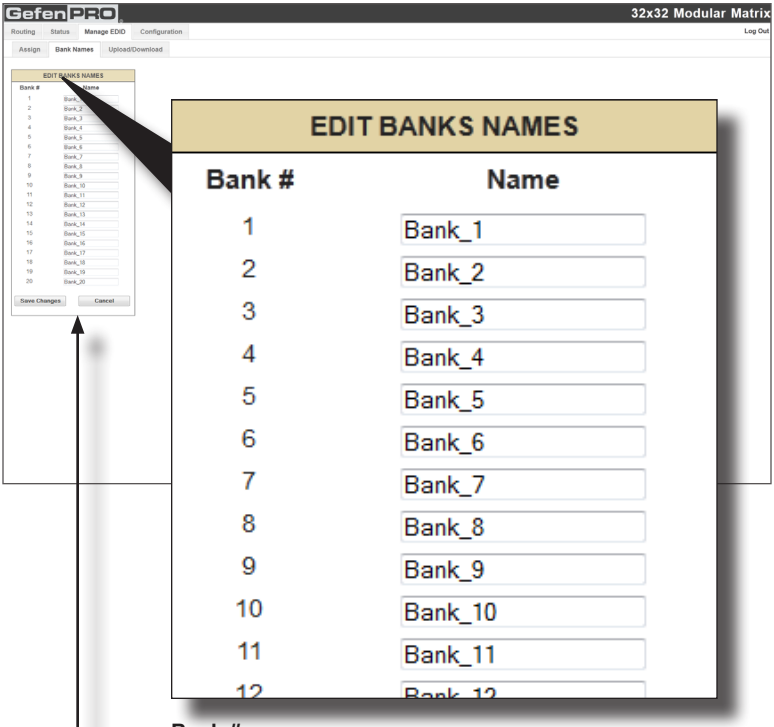
EDID Name
Displays the name of the EDID.

Checkbox
Click to select the Input(s) to where the EDID source will be copied. Selecting an input does *not* automatically copy the EDID source. Click the **Copy** button to copy the EDID to the input.

Input #
Indicates the number of each input.

Name
The current name assigned to each input.

Manage EDID >> Bank Names



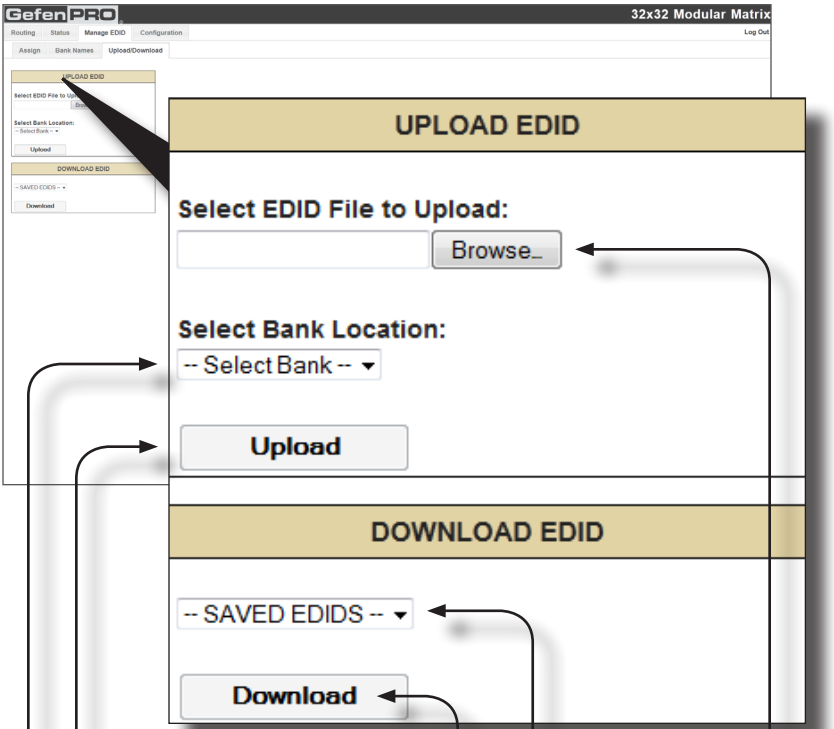
Bank #
Indicates the EDID bank number.

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.

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

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

Options:
Bank_1 ... Bank_20

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).

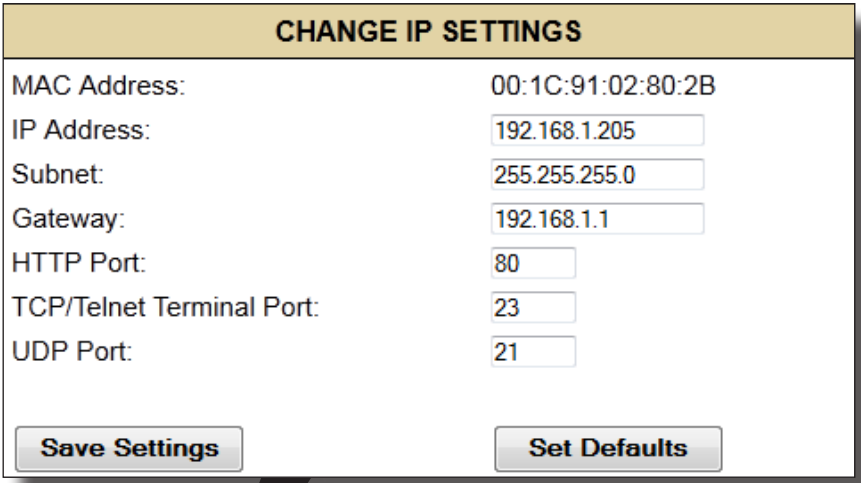
Options:
Bank_1 ... Bank_20,
Output_1 ... Output_32,
Input_1 ... Input_32

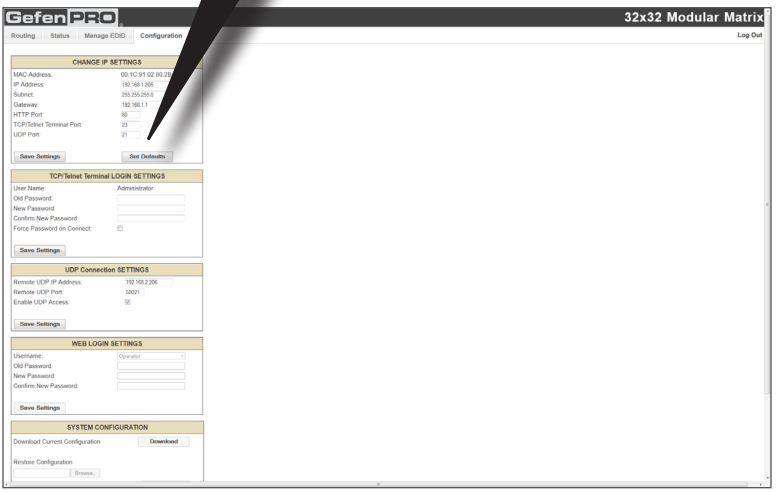
Download
Click this button to download the selected EDID to a file.

Configuration

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

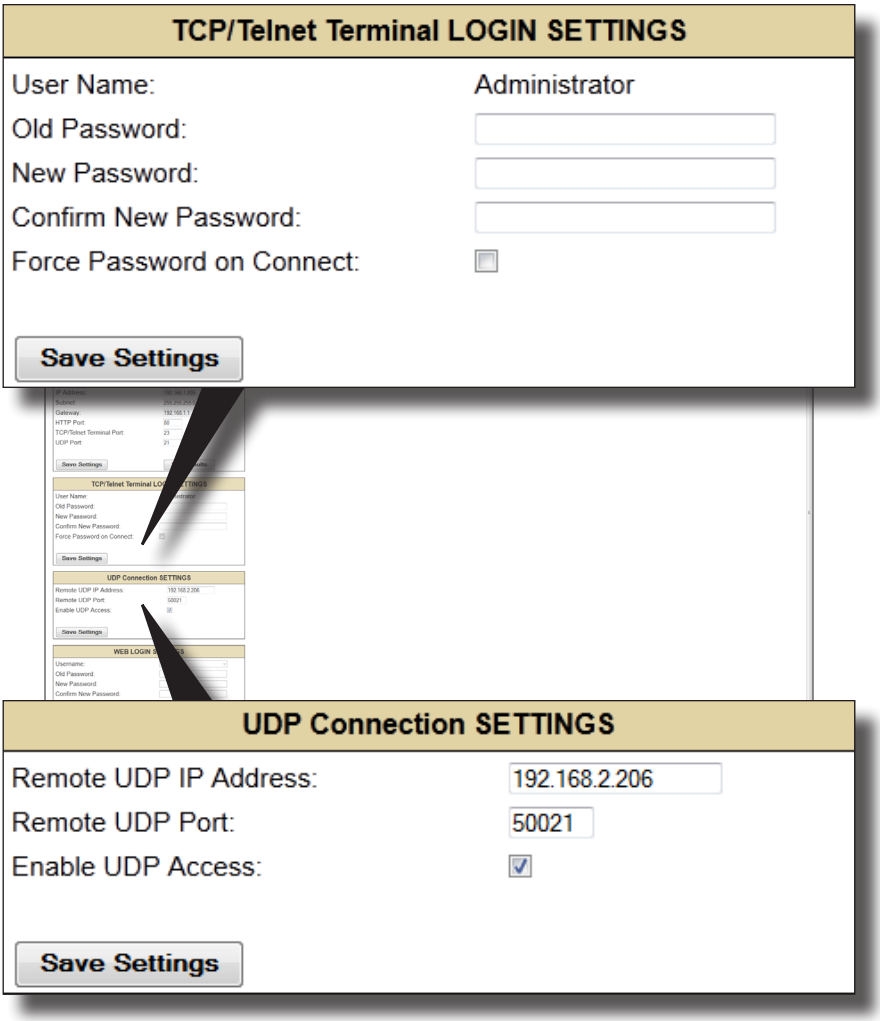
Click the **Save Settings** button to apply changes. Click the Set Defaults button to restore the factory-default IP settings. The 32x32 DVI Matrix must be rebooted for any changes to take effect.





TCP/Telnet Terminal LOGIN SETTINGS
Sets the user name and password for Telnet sessions to the 32x32 DVI Matrix. Click the **Save Settings** button to apply changes.

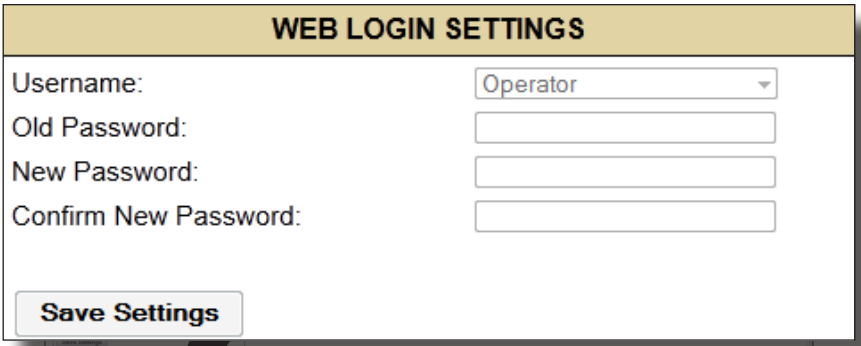
Click the **Force Password on Connect** check box to have the 32x32 DVI Matrix prompt for a password each time a Telnet session is started.

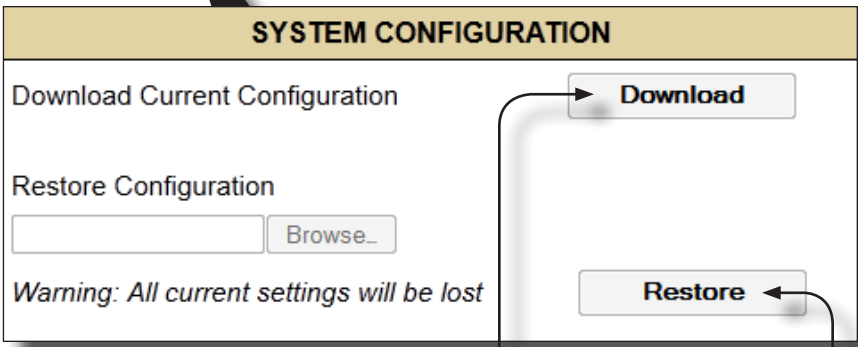


UDP Connection SETTINGS
Sets the remote UDP IP Address and Port. Click the **Save Settings** button to apply changes.

Click the **Enable UDP Access** check box to...

WEB LOGIN SETTINGS
Sets the user name and password for Web Interface sessions using the 32x32 DVI Matrix. Click the **Save Settings** button to apply changes.





SYSTEM CONFIGURATION
Allows saving and loading of configuration files. This feature allows the current state of the 32x32 DVI Matrix to be saved as a file. This file can then be used to restore any previous configuration changes.

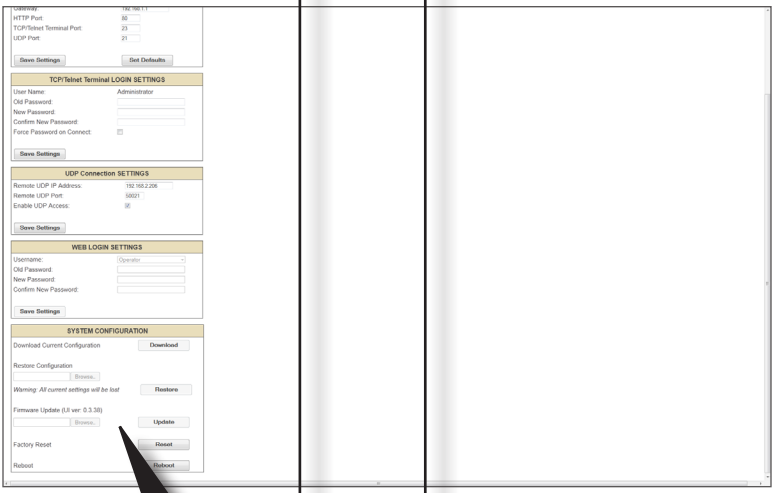
Restore
Uploads the selected configuration file to the 32x32 DVI Matrix.

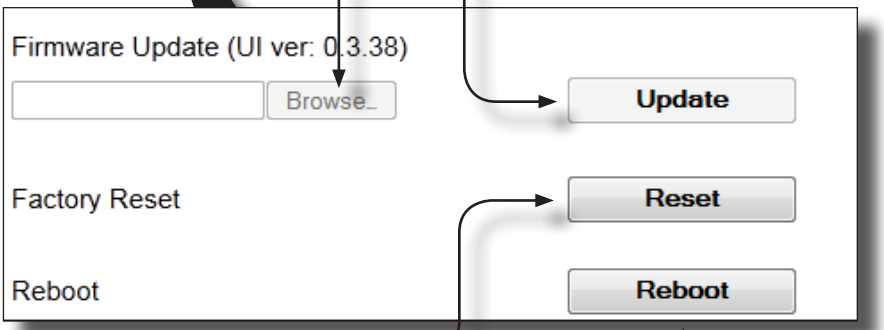
Download
Click this button to download the current configuration to a file.

NOTE: As of this writing, the firmware update procedure is not functional from within the Web interface. The firmware update procedure must be performed using RS-232. See page 87.

Browse...
Selects the firmware file to be used to upgrade the 32x32 DVI Matrix.

Update
Updates the 32x32 DVI Matrix with the selected firmware file.





Reset
Click this button to set the 32x32 DVI Matrix. to factory-default settings.

Reboot
Click this button to reboot the 32x32 DVI Matrix.

Firmware Update Procedure

The following items are required to update firmware:

- Computer running Windows XP
- RS-232 cable (do not use a null-modem cable)
- Firmware files (i.e. .bin files)
- GefenPRO 32x32 DVI Matrix

To begin the update procedure the matrix Boot Loader must be activated. To activate the Boot Loader please follow the procedure below:

1. Power-on the matrix.
2. Connect an RS-232 cable to the PC and open the terminal program using the following settings:

   Baud rate: 19200
   Stop bits: 1
   Data bits: 8
   Flow control: None

3. Type the command: `#activebolo`
4. The following should be displayed on the terminal screen:

```
 The System detect FW on memory: DVI8_IN/OUT boards
To activate this board boot loader please type the command
   again with the parameter 5
To activate other board boot loader please type the
command
   again without any parameters
```

5. Type the command: `#activebolo`

   This will begin the update process of the main board.

6. The following text should appear on the terminal screen:

```
Activate new FW download boot loader
=====================================================
==              Gefen MMTX Boot Loader             ==
==                   v 3.4
==
=====================================================
Program on SPI memory don't match to UI board FW name,
aborting !
Fail on reading UI FW from SPI flash
start serial port boot loader

==================== Main Menu ======================
  Download new program --------------------------- 1
  Cancel ----------------------------------------- 2
=====================================================
```

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

8. A message will appear in the terminal program

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

9. In Hyperterminal, click Transfer > Send file...

10. Click Browse... and select the file: `MMTX_UI_e_0_2_31.bin`

11. Select Ymodem for the protocol.

12. Press Send on the Send File dialog box.

13. A message will appear in Hyperterminal:

```
Programming Completed Successfully!
-----------------------------------
Name: MMTX_UI_e_0_2_31.bin
Size: 403072     Bytes
------------------
```

14. The unit will exit the boot loader screen and return to the standard Hyperterminal window.

15. Repeat steps 3 - 11 for the file: `MMTX_BP_e_0_2_26.bin`

16. A message will appear in Hyperterminal:

```
Download Completed Successfully!
-----------------------------------------
Name: MMTX_BP_e_0_2_26.bin
Size: 47536     Bytes
------------------

Saved new version on Programs memory
Activate Boot loader from application again
with parameters (#activebolo 2)
```

17. The unit will exit the boot loader screen and return to the standard Hyperterminal window.

18. Type the command: `#activebolo`

19. Following text should appear on terminal screen:

```
The System detect FW on memory: BP board
To activate this board boot loader please type the
command
   again with the parameter 2
To activate other board boot loader please type the
command
   again without any parameter
```

20. Type the command: `#activebolo 2`

21. This will load the Back Panel FW into the Memory.

22. The unit will exit the boot loader screen and return to the standard Hyperterminal window.

    Note: If there is any Board Failure message appears at this stage, please ignore it.

23. Repeat steps 3-12 for the file: `MMTX_DVIinout_e_0_1_17.bin`

24. A message will appear in Hyperterminal:

```
Download Completed Successfully!
-----------------------------------------
Name: MMTX_BP_e_0_2_26.bin
Size: 47536     Bytes
------------------

Saved new version on Programs memory
Activate Boot loader from application again
with parameters (#activebolo 5)
```

25. The unit will exit the boot loader screen and return to the standard Hyperterminal window.

26. Type the command: `#activebolo`

27. Following text should appear on terminal screen:

```
The System detect FW on memory: DVI8_IN/OUT boards
To activate this board boot loader please type the command
   again with the parameter 5
To activate other board boot loader please type the command
   again without any parameter
```

28. Type the command: `#activebolo 5`

29. Following text will appear on the terminal window:

```
Forced boot loader activation for DVI8_IN/OUT boards
Please wait.....
```

30. This will load the Input and Output boards FW into the Memory.
This process may take a few minutes to complete.

a. Maximum recommended ambient temperature: 45 ˚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.

d. Connect a bonding wire between an approved safety ground and the grounding screw on the chassis.

SPECIFICATIONS

Maximum Pixel Clock .....165 MHz

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

Video Input Connectors..... (32) DVI-I 29-pin, female (digital only)

Video Output Connectors..... (32) DVI-I 29-pin, female (digital only)

IR Extender.....3.5 mm mini-stereo

Ethernet (IP control) port.....RJ-45 jack (100BaseT)

USB port (firmware updates).....Type B

RS-232 Interface.....DB-9 serial, female

Power Supplies.....(2) 100 - 240V AC (hot-swappable)

Power Consumption .....120W (max.)

Rack-mountable ..... 6U rack space, rack ears included

Dimensions (W x H x D) .....17.25" x 10.5" x 12"
(438mm x 267mm x 305mm)

Shipping Weight .....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.

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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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