

# gofanco<sup>®</sup>

**PRO-MatrixWall44**  
4x4 HDMI Matrix with Video Wall Function

## User's Guide



Congratulations for owning a gofanco product. Our products aim to meet all your connectivity needs wherever you go.

Have fun with our products!

Please read this manual carefully before first use.

If you need more information about our products, please visit [www.gofanco.com](http://www.gofanco.com).

For technical support, please email us at [support@gofanco.com](mailto:support@gofanco.com).

For drivers/manuals download, please go to <http://www.gofanco.com/download>.

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## 1. Safety and Notice

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

The **PRO-MatrixWall44 4x4 HDMI Matrix with Video Wall Function** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the PRO-MatrixWall44 should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

## 2. Introduction

The **PRO-MatrixWall44 4x4 HDMI Matrix with Video Wall Function** provides the most flexible and cost effective solution in the market. The new PRO-MatrixWall44 can be used as a conventional matrix switch, routing up to 4 different HDMI video sources to any monitor independently or be used as videowall processor, splitting a chosen image from any of the 4 sources to 4 displays. On top of that, it can work as “combo” gear, showing any individual input source in fullscreen on any selected display while other displays are working in video wall mode.

## 3. Features

- HDCP compliant
- Allows any HDMI display to view any HDMI source at any time
- Supports 7.1 channel digital audio
- Supports default HDMI EDID and display EDID learning
- The matrix master can switch any HDMI input to any output by push button, IR remote control, RS-232 control, and Ethernet control
- Easy installation with rack-mounting and wall-mounting design
- Fast response time for channel switch
- Four HDMI outputs from 640x480 to 1920x1200
- Supports HDMI/ DVI input, from 640x480 to 1920x1080@60, interlaced or progressive
- Resize, position, zoom, rotation, fade-in fade-out output video
- Each HDMI output has an independent controllable display area
- User-selectable output settings, up to 1920x1200
- Image parameters and layouts are automatically saved in the flash memory and can be recalled for later use
- Several Image parameters and layouts can be saved in computers and can be loaded for later use
- Software control through RS-232 and Ethernet
- Firmware upgradable to support new features and technology enhancements
- Supports individual propagation delay on each display to have the best visual perception

## 4. Specifications

Item		Description
<b>Technical</b>		
Role of usage		4x4 HDMI Matrix with Video Wall Function
HDCP compliance		Yes
Video bandwidth		Single-link 225MHz [6.75Gbps]
Video support		480i / 480p / 720p / 1080i / 1080p60 / 1920x1200@60Hz 30-bit color
Video Format Support		HDMI/DVI
Audio support		Surround sound (up to 7.1ch) or stereo digital audio
ESD protection		Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]
Input		4x HDMI / 1x RS-232 / 1x Ethernet
Output		4x HDMI
Control		RS-232 / Ethernet / Front Panel
Input TMDS signal		1.2 Volts [peak-to-peak]
HDMI connector		Type A [19-pin female]
RS-232 connector		DE-9 [9-pin D-sub female]
RJ-45 connector		WE/SS 8P8C
<b>Mechanical</b>		
Housing		Metal enclosure
Dimensions [L x D x H]	Model	440 x 257 x 44mm [17.3" x 10.1" x 1.7" ]
	Package	526 x 318 x 156mm [1'7" x 12.5" x 6.1"]
	Carton	543 x 335 x 344mm [1'8" x 13.2" x 1'1"]
Weight	Model	2820g [6.2 lbs]
	Package	3827g [8.5 lbs]
Fixedness		1RU rack-mounting case with ears
Power supply		12V 5A DC
Power consumption		15 Watts [max]
Operation temperature		0~40°C [32~104°F]
Storage temperature		-20~60°C [-4~140°F]
Relative humidity		20~90% RH [no condensation]

## 5. Package Contents

- 1x PRO-MatrixWall44
- 1x DC 12V 5A
- 1x Installation software CD
- 1x Rack-mounting ear set
- 1x User Manual

## 6. Hardware Installation

### Before Installation

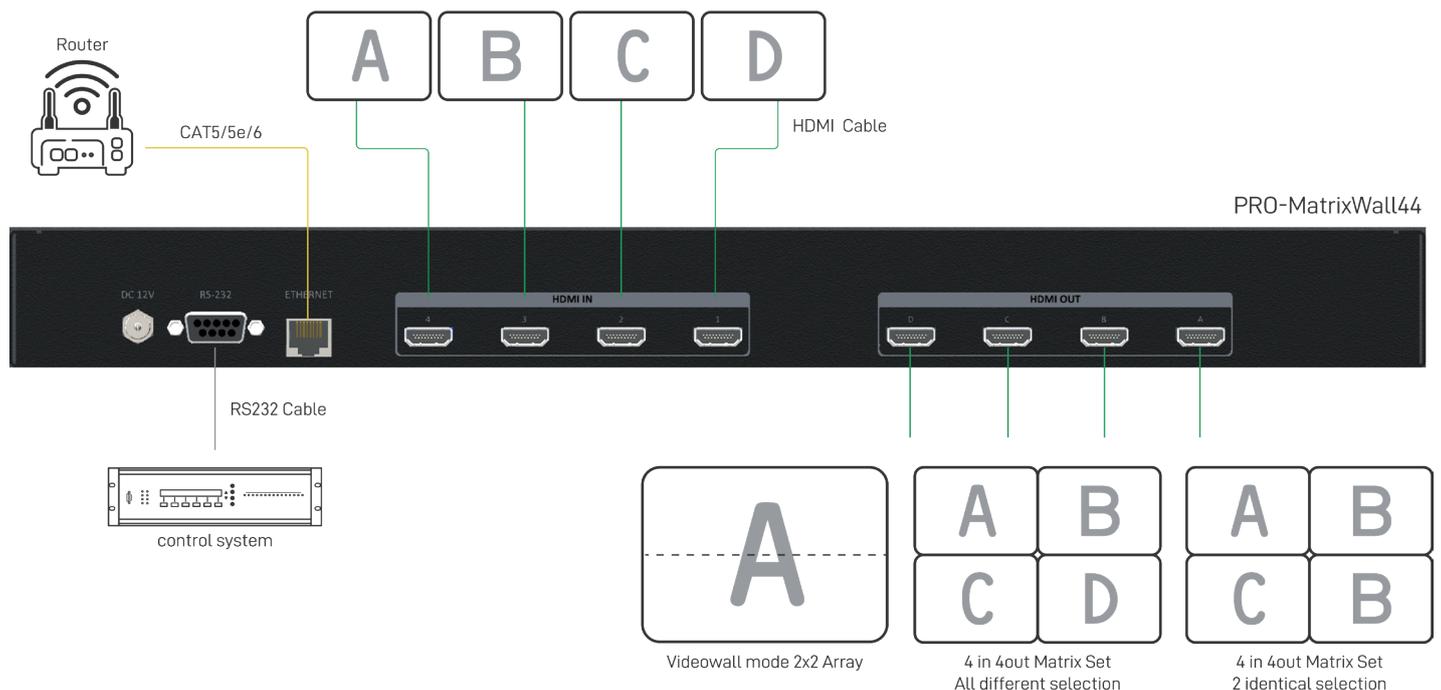
- Place the product in an even and stable location.
- Do not place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power supply unit with correct specifications. Improper power adapter can cause product malfunction or fire hazard.
- Do not twist or pull the cable ends by force.

### Hardware Installation

PRO-MatrixWall44 as master

1. Connect all sources to HDMI Inputs on the 4x4 HDMI Matrix PRO-MatrixWall44.
2. Connect all displays to HDMI Outputs on the 4x4 HDMI Matrix PRO-MatrixWall44.
3. Connect the +12V 5A DC power supply to the 4x4 HDMI Matrix PRO-MatrixWall44.

## 7. Connection Diagram



## 8. Panel Description

### Front Panel



#### 1. Control Buttons:

- Button 1 – Fast switch to 1x1
- Button 2 – Fast switch to 2x2
- Button 3 – Fast switch to 1x4
- Button 4 – Fast switch to 4x1
- Button 5 – Fast switch to Quad view mode
- Button 6 – Lock the device function
- Button 7 – For factory reset

#### 2. Power Status: Power indicator LED

3. **LOCK LED:** When user turn on the lock function, the light will shine.

4. **Selected Source Status LED:** When users use port channel push button, the indicator LED will show the selected source

5. **Source Select Push Button:** Select input channel

### Rear Panel



6. **+12V DC:** 12V DC power jack

7. **RS-232:** RS-232 control port

8. **Ethernet:** Ethernet control port

9. **INPUT 1-4:** HDMI inputs

10. **Output 1-4:** HDMI outputs

## 9. Operation Approach

### Software Operation

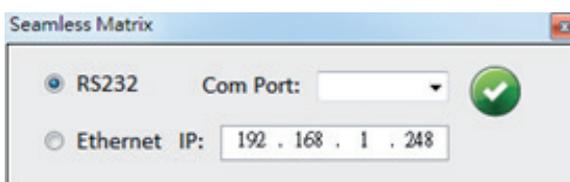
#### System Requirement and Precautions

1. When powering off the PRO-MatrixWall44, please stay unpowered at least 5 to 10 seconds to allow power capacitors to discharge.
2. The PRO-MatrixWall44 provides software control program which runs under Microsoft Windows XP, 7, 8, 10 through RS-232 serial control.
3. Before launching the software, make sure you have secured the connection between your computer COM port and the PRO-MatrixWall44.

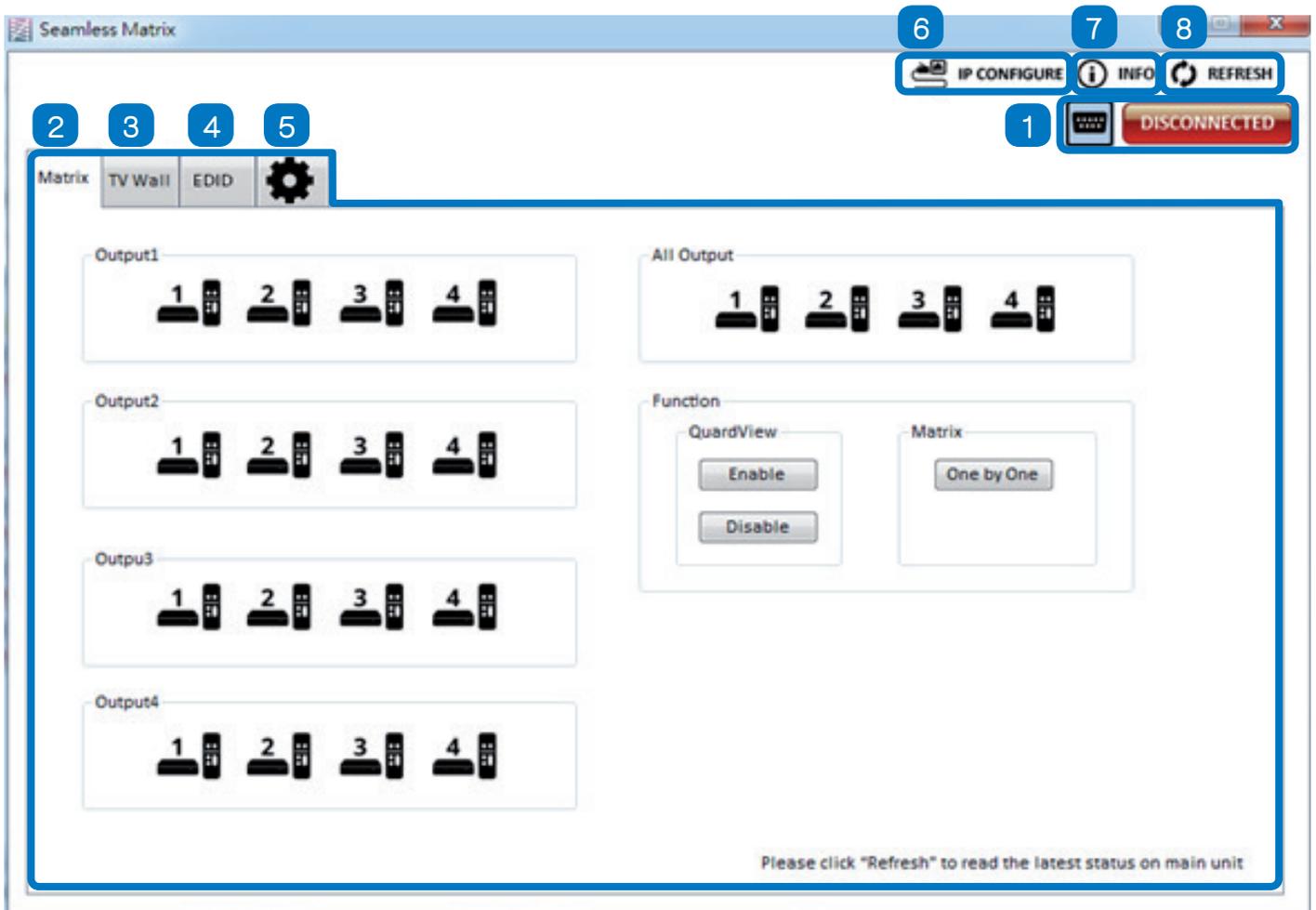
#### Start the software control program

Launch the software and the following dialog will pop up. It has two ways to control the PRO-MatrixWall44 device (under Microsoft Windows 7, please run as administrator).

1. RS-232 Connection: Select correct COM port and click the OK button.
2. Ethernet Connection: Enter the device IP address and click the OK button.



After the software control setting is accomplished, it will enter directly to the control interface.



## Control Interface

### 1. Connection Status: Show the connect information

Show the connect information and status. If you use USB control Mode to connect device, the graph is . For IP control, the graph of Ethernet is .

### 2. Matrix

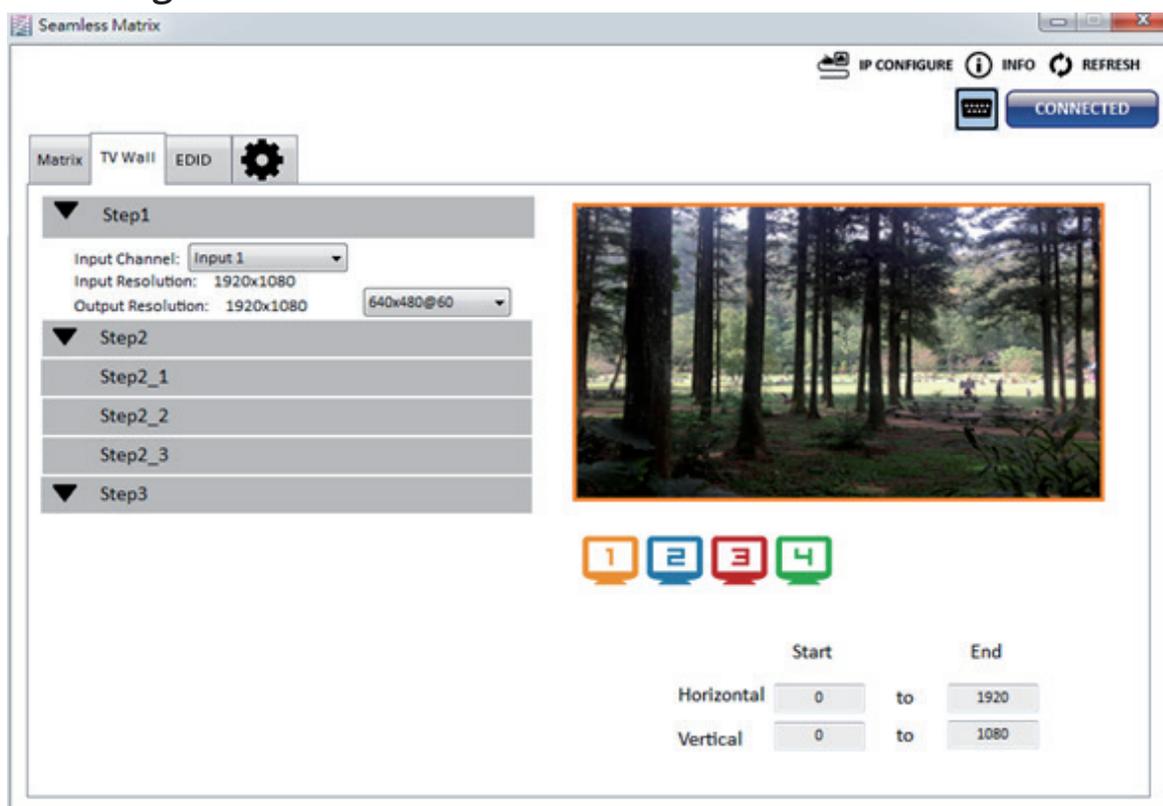
You can assign arbitrary video source and switch quad view mode here.

**\*When you enable the quad view function, the other matrix function is not available.**

### 3. TV Wall

(1) Step 1: check input channel (video wall source), input resolution and choose output resolution

Firstly, you should select the video source which you want to use video wall function. The different colors of frame represent the different output TVs. The information of coordinate shows the position of output TV. When setting the different resolution, the coordinate of output will also be changed.



## (2) Step 2: output setting

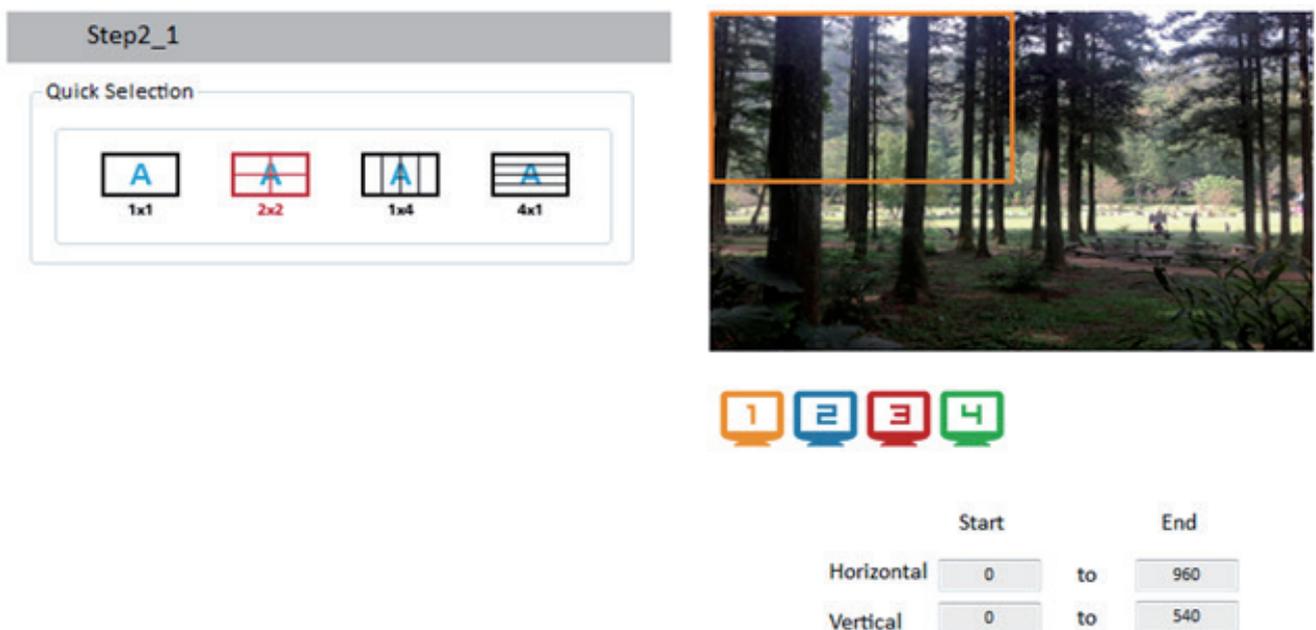
In here, it has three modes can set up the output TV resolution, position, size and split screen. The details of different mode are description in step 2-1, 2-2 and 2-3.

**\*Note that when you want to change another mode, you need to back to the step 2 to change.**

- Quick Selection
- From file
- Custom define

## (3) Step 2-1: quick selection

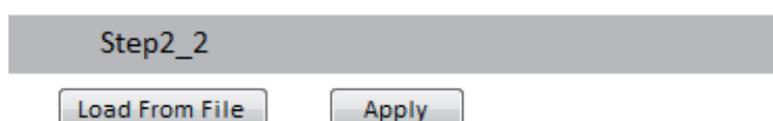
If you choose the Quick Selection mode in step 2, this window will automatically pop up. In this mode, you can select default screen split.



	Start		End
Horizontal	0	to	960
Vertical	0	to	540

## (4) Step 2-2:

You can load and read configuration from the existing file on your PC/laptop.



(5) Step 2-3: custom define

In Custom define mode, you can define how to cut in both directions and the part you want to show on output TV. If you want to understand or estimate which part you may select, you can select the Grid button to show grid on the graph. After the setting, please click the button. Besides, you also can click the button to save the configuration for future usage. You can adjust the output position by setting coordinates.

**Step2\_3**

Horizontal cut:   Grid  None

Vertical cut:

Number:   SAVE AS

Coordinate

	start	end	
Horizontal:	<input type="text" value="0"/>	<input type="text" value="960"/>	
Vertical:	<input type="text" value="0"/>	<input type="text" value="540"/>	

(6) Step 3: adjust image

**Step3**

Up  Down  Right  Left

Zoom In/Out:  Pixel

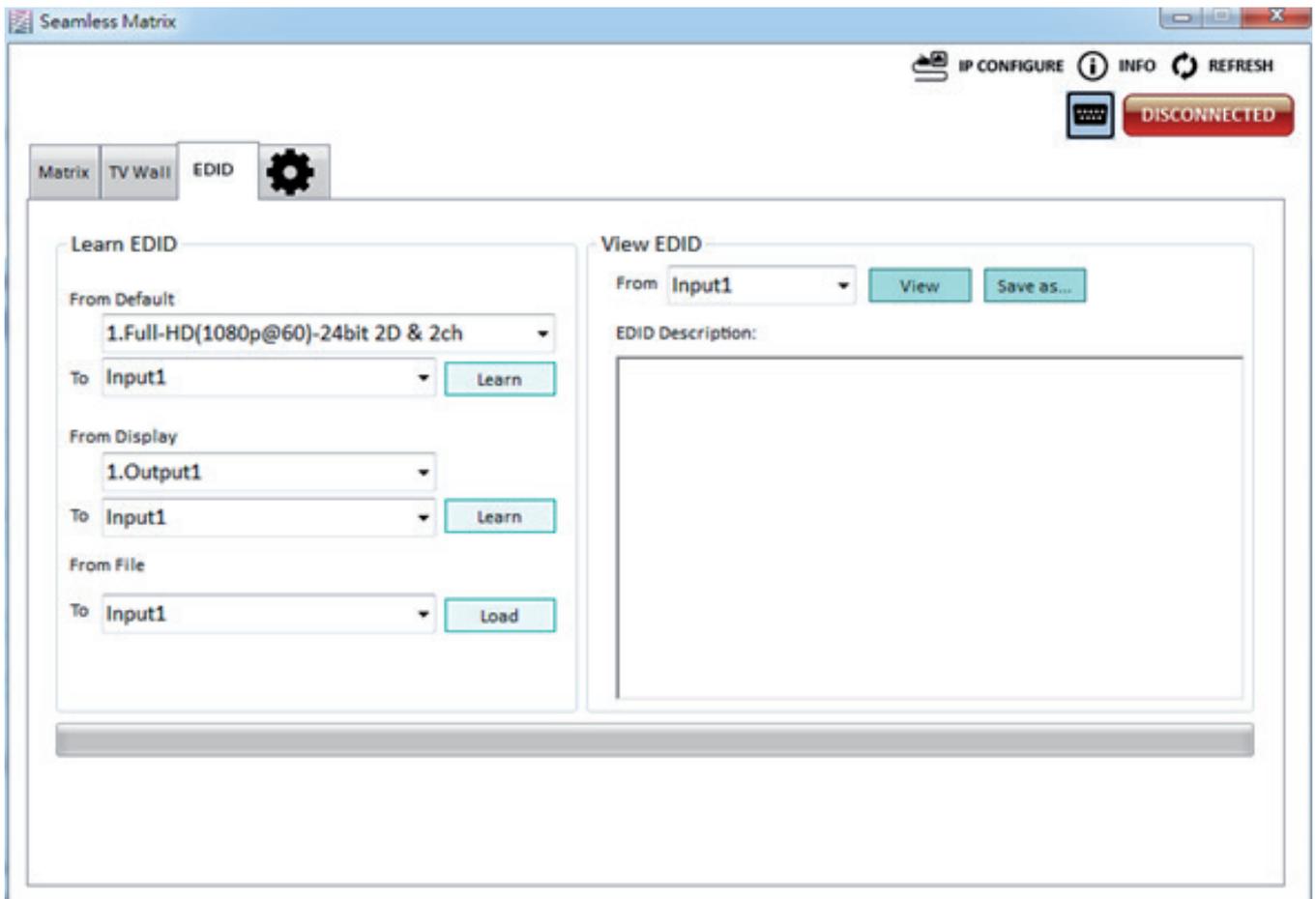
Horizontal shift:  Pixel

Vertical shift:  Pixel

CLEAR

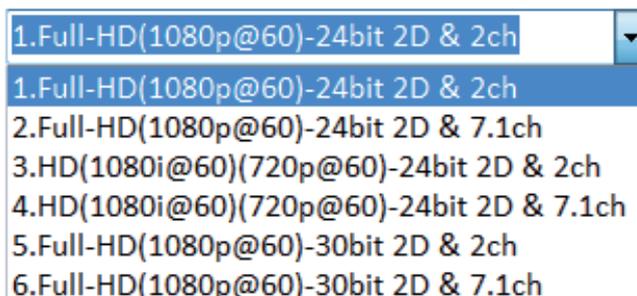
- Zoom In/Out: You can change pixel size from the edge of image by clicking and button (the edge of image has four directions). After adjusting the image, the rest of this image will be auto-scaled to fulfill the screen.
- Horizontal shift/ Vertical shift: You can arbitrarily move the image on each screen in horizontal direction or vertical direction. Move one pixel at a time.

## 4. EDID (Extended Display Identification Data)



### (1) Learn EDID from the default

- Select Default EDID (1-6 default EDID).



- Click  button to learn default EDID.

## (2) Learn EDID from Display

- Select the output.
- Select the input.
- Click  button to learn display EDID to input.

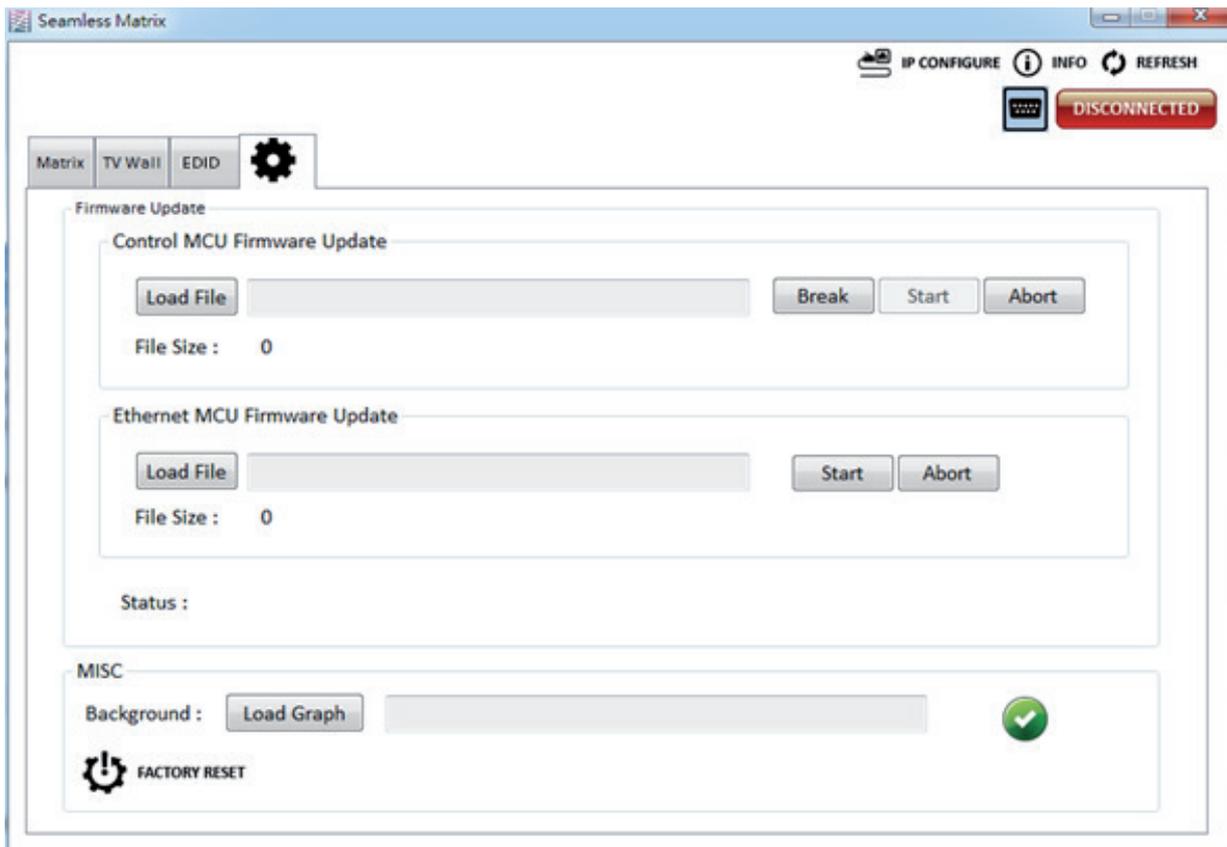
## (3) Learn EDID from File

- Select the input.
- Click  button to select the EDID file and write it into input.

## (4) View EDID content

- Select the EDID input source (Input, Output or From File).
- Click  button to read the EDID description and analysis
- Click  button to save the EDID as a file in the connected computer.

## 5. Advanced Setting



### (1) Firmware Update

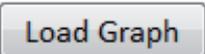
Before you start to update, please make sure you have secured the connection between your computer COM port and the device

- Control MCU Firmware Update
  1. Click the **Load File** button to select the file which you want to write into device
  2. Click the **Break** button to switch to firmware update mode
  3. Power cycle device to into the bootloader entry
  4. Click the **Start** button and the control MCU firmware will start to update
  5. After updating, please power cycle the device

## (2) MISC

You can change the default diagram (TV Wall diagram) on this software.

**\*The file suffix of picture should be .bmp.**

- Click  button to select the graph.
- After loading the graph step, please click  button to write this graph into device.

## (3) Factory Reset

**\*If you use Ethernet mode to control the device, the factory reset function cannot use.**

- Click  button to do factory default reset.
- This default reset process will take about 5~15 seconds.

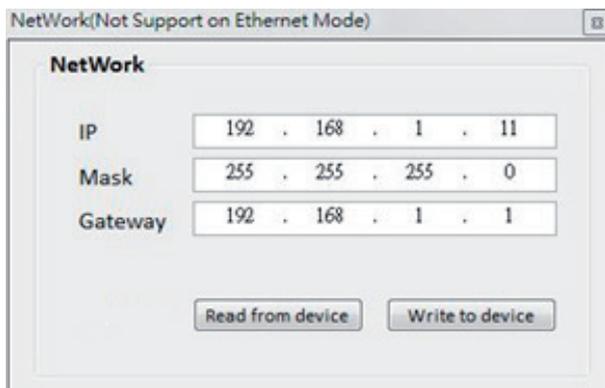


- After pop-up a dialog indicates complete, please restart this machine.

## 6. IP Configure

You also can use the Ethernet to control software program. First, you should click the  IP CONFIGURE button to setup network set. Next, you can read the Ethernet setting from device and manually set to device. After the step of IP configuration, please restart the machine.

**\*This function does not support user use Ethernet mode to set.**



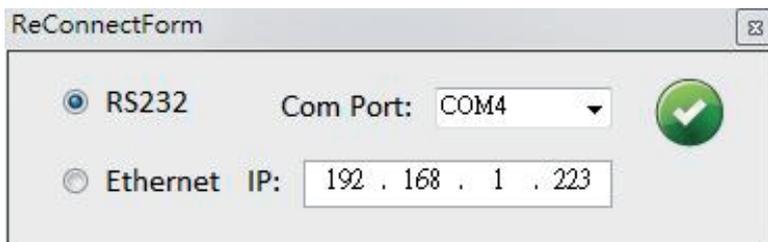
## 7. Info

Read the software and firmware version.



## 8. Refresh

When you click this button, it can refresh the device status. If you want to use other mode to reconnect the device. You can click  or  button to update the control connection. A "ReConnectForm" window will pop up for you to select the approach to connect this device.



## 10. EDID Learning

The EDID learning function is only necessary whenever you encounter any display on the HDMI output port that cannot play audio and video properly. Because the HDMI sources and displays may have various level of capability in playing audio and video, the general principle is that the source will output the lowest standards in terms of audio format and video resolutions to be commonly acceptable among all HDMI displays. In this case, a 720p stereo HDMI signal output would be probably the safest choice. Nevertheless, the user can force the matrix to learn the EDID of the lowest capable HDMI display among others to make sure all displays are capable to play the HDMI signals normally.

There is a **method** to do EDID Learning as below,

Software Control: Please refer to the **Operation Approach\ Software Control**

There are **six embedded default EDIDs** as below,

1. Full-HD(1080p@60)-24bit 2D & 2ch
2. Full-HD(1080p@60)-24bit 2D & 7.1ch
3. HD(1080i@60) (720p@60)-24bit 2D & 2ch
4. HD(1080i@60) (720p@60)-24bit 2D & 7.1ch
5. Full-HD(1080p@60)-30bit 2D & 2ch
6. Full-HD(1080p@60)-30bit 2D & 7.1ch

## 11. Limited Warranty

The SELLER warrants the **PRO-MatrixWall44 4x4 HDMI Matrix with Video Wall Function** free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit 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 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

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

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. Also, the technical information contained herein regarding the **PRO-MatrixWall44 features and specifications is subject to change without further notice.**

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