HDTVMT0404VL1 User Manual

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

SURGE PROTECTION DEVICE RECOMMENDED

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

Introduction:

The HDTVMT0404VL1 HDBaseT 4×4 Matrix for HDMI routes four Hi-Def sources to any four HDTV displays, supporting 1080p Full HD up to 4K plus all 3D formats, along with multichannel digital audio formats such as Dolby® True HD and DTS-HD® Master Audio™. Based on HDBaseT Lite chipset inside, the output distance can reach up to 70m via Cat5e/ Cat6. Each source can be routed to any display using the front-panel push buttons, IR remote control, RS-232 interface, or via TCP/IP.

Features:

- Supports resolutions up to 1080p@60HZ,48-bit deep color, 4k@30HZ
- HDBaseT Lite chipset inside for the output distance up to 70m.
- Matrix can power the remote receivers, with POE, no power supply needed for the receivers.
- Allows any source to be displayed on multiple displays at the same time
- Allows any HDMI display to view any HDMI source at any time
- Dolby TrueHD and DTS-HD master audio pass through HDMI output
- Advanced EDID management for rapid integration of sources and displays
- Front-panel LCD display for status feedback
- Multiple switching mode, push-in button, IR remote control, RS-232 control, and TCP/IP control
- Easy installation with rack-mounting ears
- Full 3D pass- through.
- HDCP compliant

Panel Descriptions

Front Panel
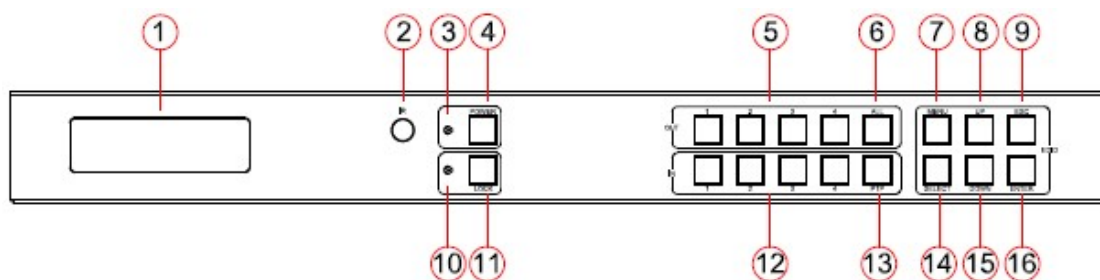
1. LCD display---Show the status of input-output selection, EDID info and so on.

2. IR receiver window----Receive the IR from the remote control of HDTVMT0404VL1.

3. Power LED indicator---Indicate the status of the power for the matrix.

4. Power button---Press to power on/off the matrix.

5. HDMI output selection button 1 to 4---Press to select the output from 1 to 4.

6. All button for HDMI outputs---Press to select all of the outputs from 1 to 4.

7. Menu button---Press to enter EDID set mode. Three EDID segments will display on the LCD panel formatted as: INPUT VIDEO AUDIO, for example: IN1 1080P 2.0CH, means to set 1080P 2.0CH EDID to INPUT1. The blinking segment is the one can be changed currently. Segment content items as below:

INPUT	VIDEO	AUDIO	Note
IN1	1080I	2.0CH.	
IN2	1080P	5.1CH	
IN3	3D	7.1CH	
IN4	4K2K	NONE	
IN5	D1024		D1024=DVI 1024 x 768
IN6	D1080		D1080=DVI 1920 x 1080
IN7	D1200		D1200=DVI 1920 x 1200
IN8	OUT1		OUT1=Copy OUTPUT1 EDID to INPUTx
ALL	OUT2		ALL=Set EDID to ALL INPUTs OUT2=Copy OUTPUT2 EDID to INPUTx
	OUT3		OUT3=Copy OUTPUT3 EDID to INPUTx
	OUT4		OUT4=Copy OUTPUT4 EDID to INPUTx
	OUT5		OUT5=Copy OUTPUT5 EDID to INPUTx
	OUT6		OUT6=Copy OUTPUT6 EDID to INPUTx
	OUT7		OUT7=Copy OUTPUT7 EDID to INPUTx
	OUT8		OUT8=Copy OUTPUT8 EDID to INPUTx

8. Up selection button--- Press to change segment's value.

9. ESC---Press to quit EDID set mode.

10. Lock LED indicator---Indicate the status of Lock.

11. Lock button---Press to lock the buttons of the front panel.

12. HDMI input selection button 1 to 4---Press to select the input from 1 to 4.

13. PTP button---Press to mirror all inputs and outputs (e.g. output 1 to input1, output 2 to input2 and so on).

14. Selection button---Press to select segment to change setting. Selected segment will be blinking.

15. Down selection button---Press to change segment's value.

16. Enter button--- Press to set EDID to specified INPUT or copy EDID from specified OUTPUT to specified INPUT.

Back Panel

5. RJ45 ----TCP/IP control

6. RS232 port----Connect to this port for control from a computer

1. IR inputs 1 to 8 ---- 3.5mm stereo phone-jack

2. IR outputs 1 to 8 ---- 3.5mm stereo phone-jack

3. IR extension receiver input ---- 3.5mm stereo phone-jack

4. Coaxial audio outputs 1 to 8---- RCA connectors

7. HDMI inputs 1 to 8----Connect HDMI sources

8. HDMI outputs 1 to 8----Output for displays, AVR etc.

9. IR receiver window----Receive the IR from the remote control of MT0808-HA1

10. Power port---Use included DC adaptor to power the matrix switcher.

Remote Control Description
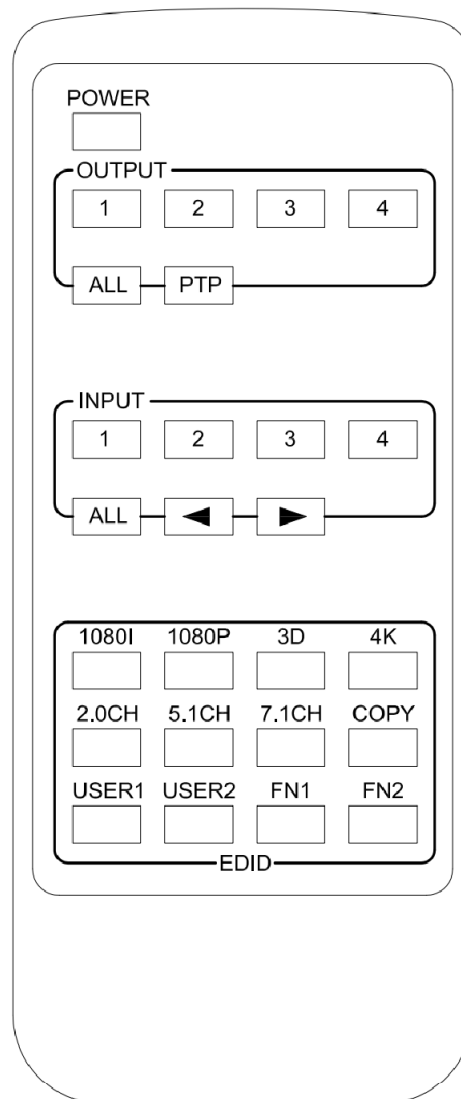
Output and Input select

A.   OUTPUT-X select INPUT-Y:

1. Press OUTPUT-X (X means 1 to 4 of outputs)→Press INPUT-Y (Y means 1 to 4 of inputs)

2. Press OUTPUT-X (X means 1 to 4 of outputs)→ press the left and right arrow buttons to select the input.

B. All outputs select INPUT-Y: Press ALL button in zone OUTPUT→Press INPUT-Y button (Y means 1 to 4 of inputs), then INPUT-Y switched to ALL OUTPUTS

C. Mirror all inputs and outputs (Ex. Input 1 to output 1, input 2 to output 2, etc): Press PTP button in Zone OUTPUT

EDID Set Up
A. Fixed EDID to INPUT-Y/ALL
   Press 1080I/1080P/3D/4K→Press 2.0CH/5.1CH/7.1CH→INPUT-Y/ALL button in Zone INPUT
B. Copy EDID of OUTPUT-X to INPUT-Y/ALL
   Press COPY button→Press OUTPUT-X button→Press INPUT-Y/ALL button
C. User defined EDID to INPUT-Y/ALL
   Press USER1/USER2 button→Press INPUT-Y/ALL
NOTE: Pressing button sequence should be finished in 5 seconds, otherwise, operation discarded.

Application Diagram
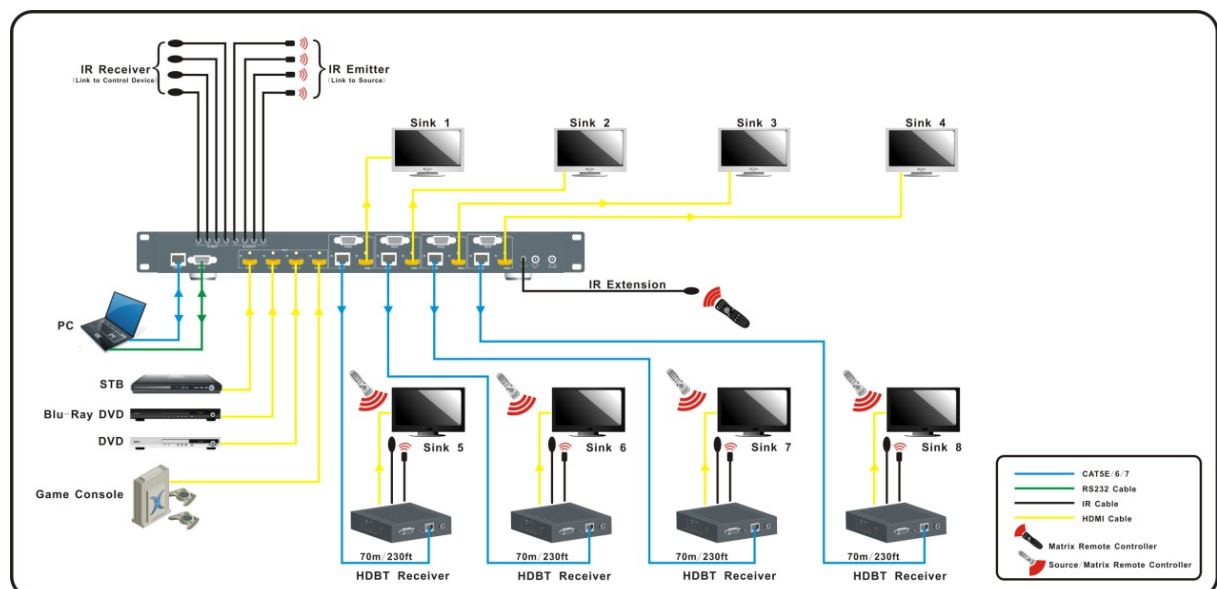
Specifications:

Bandwidth:	2.97Gbps
Video Input Connectors:	4x HDMI Type A, 19-pin, female, locking
Video Output Connectors:	4x HDMI Type A, 19-pin, female, locking， 4x RJ-45 connector
RS-232 serial port:	5x DB-9, female
TCP/IP Control:	1x RJ-45, female
IR Input ports:	5x 3.5mm stereo jack
IR Output ports:	4x 3.5mm stereo jack
Rack-Mountable:	1 U rack height, rack ears included
Dimensions (W x H x D):	428mm x 245mm x 43mm , without feet
Shipping Weight:	2.7kg
Operating Temperature:	32°F to 104°F (0°C to 40°C)
Storage Temperature :	-4°F to 140°F (-20°C to 60°C)
Power Supply:	12V/5A DC (main), 12V/5A DC (POH)

Package Contents:

1. 1x HDTVMT0404VL1
2. 2x 12V DC power supply
3. 1x Remote control
4. 4x IR Transmitter,
5. 5x IR Receiver.
6. 1x mounting kit.
7. 1x User manual.
8. 1x CD for control software.

RS-232 Pin Assignment

HDTVMT0404VL1			Remote Control Console	
PIN	Assignment		PIN	Assignment
1	NC		1	NC
2	Tx		2	Rx
3	Rx		3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 57600 bps

Data Bit: 8-bit

Parity: None

Stop Bit: 1-bit

Flow Control: None

GUI Control

PC System: Microsoft Windows Operation System

Installation

4x4 HDMI Matrix controller is a green software. You just need to copy "4x4 HDMI Matrix Controller vx.x.exe" to the PC which is used to control the Matrix by RS232 COM or TCP to complete installation.

Preparation

1. Connect PC and Matrix by RS232 cable or UTP cable
2. Power up Matrix (It will take about 5 seconds to be ready with "Di" beep sound)
3. Double click "4x4 HDMI Matrix Controller vx.x.exe" icon to run it

How to control Matrix

Common information

Click to select tab page

① COM port or TCP connect status
② Control command process status
③ Prompt message display area
④ Date and Time display

"General" page
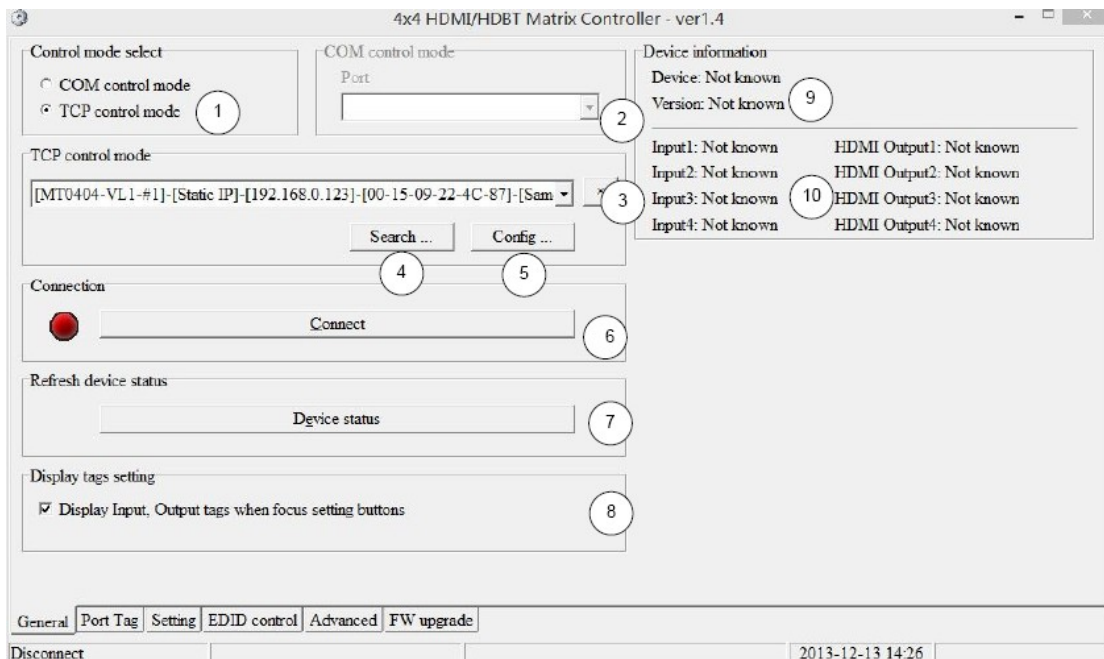
① Select control mode: RS232 COM mode (Auto COM ports detected) or TCP mode
② List detected COM ports
③ List all Matrix devices after search operation
④ Click to search all Matrix devices that connected in same subnet
⑤ Click to configuration the selected Matrix's TCP control configurations
⑥ Click to connect or disconnect PC and Matrix (Connection will be established

automatically before control commands sending)

⑦ Click to refresh device status: include device information displayed in ⑨ area and

Input/output port connection status in ⑩ area.

NOTE: Tab pages cannot be changed during control command is processing.

⑧ To enable or disable Input/output tags displaying when setting buttons on "Setting" page focused

⑨ Device information display area

⑩ Input/output port connection status

Set TCP control configuration

Click Config button to show TCP configuration window.
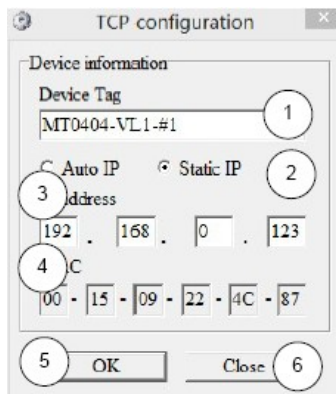
① Set tag to identify Matrix device

② Set IP mode: Subnet should support DHCP protocol when set Auto IP mode, then Matrix

device will obtain IP automatically. Otherwise, set Static IP mode and designate a useable

IP for Matrix device

③ Set IP address, not editable when Auto IP mode selected. Note: The last IP BYTE's range

is 2-252.

④ Matrix device MAC address

⑤ Click OK to set configuration. If configuration is set OK, Matrix devices will be searched out

again

⑥ Click to Close the window and configuration cancelled

"Port Tag" page

① Input port tags

② Click to edit Input port tags

③ Output port tags

④ Click to edit Output port tags
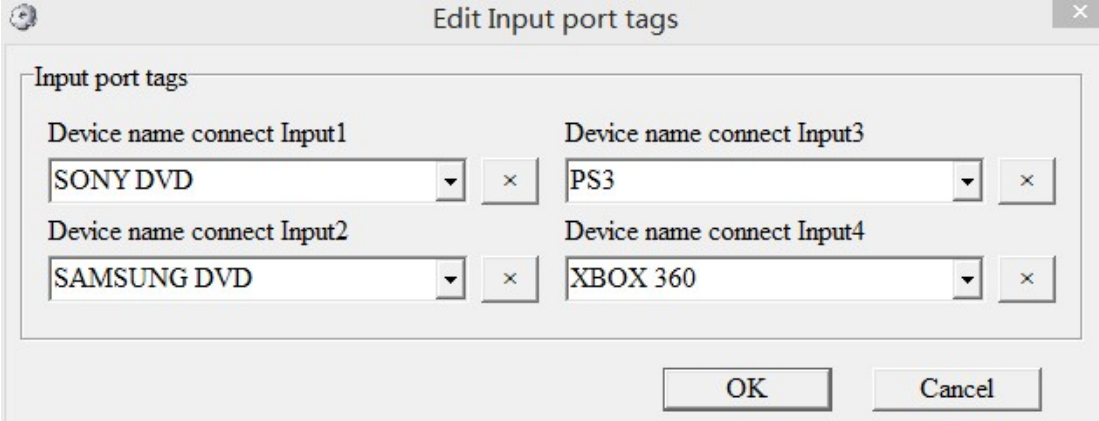
NOTE: Edit boxes are read only, click "Edit" button to pop up window to edit the tags.

One set of Input/output port tags can be set for Matrix device when COM control mode selected.

Input/output port tags can be set for respective Matrix device according to device's MAC address.

Edit Input port tags

After action of ②, edit form will pop-up as below:
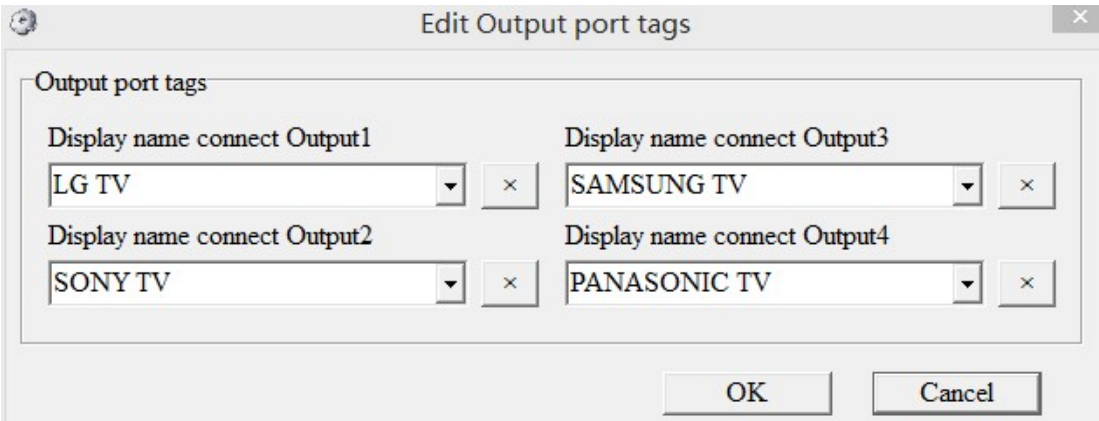
Define tags for respective Input port, then devices connect the Input ports can be easily remembered.

Click buttons with "×" caption to delete tag which is no use any more, if tag is still used by any other Input port, delete action will be discarded.

Edit Output port tags

After action of ④, edit form will pop-up as below:

Define tags for respective Output port, then displays connect the Output ports can be easily remembered.

Click buttons with "×" caption to delete tag which is no use any more, if tag is still used by any other Output port, delete action will be discarded.

"Setting" page
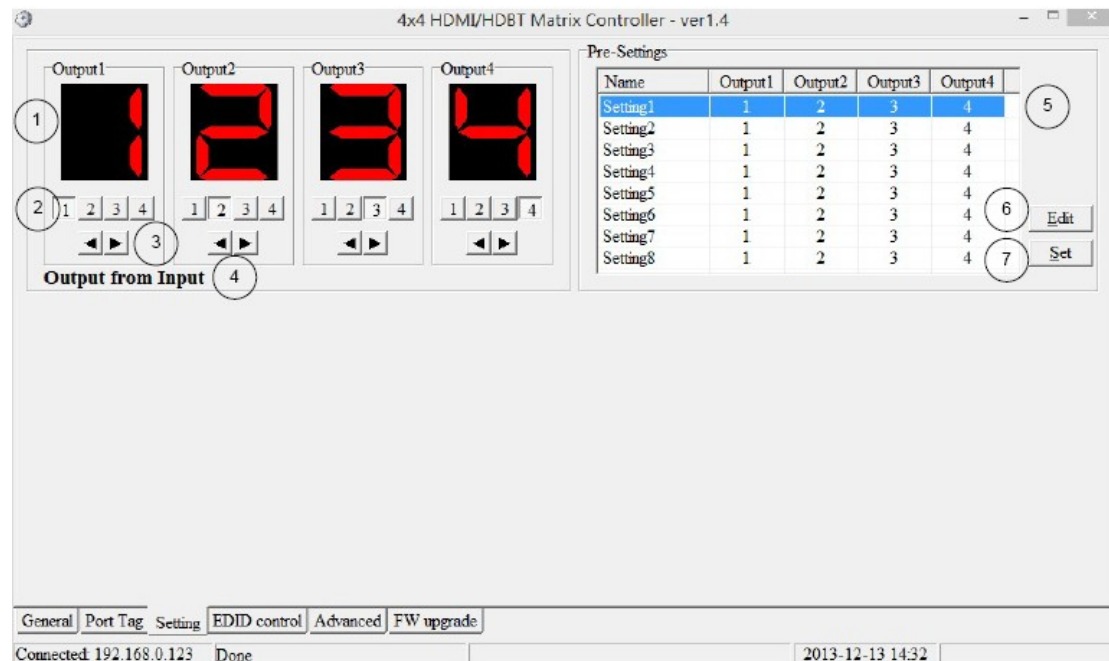
① LED which displays Input number for respective Output port

② Click to select Input port for respective Output port

③ Click to select previous or next Input port for respective Output port

④ Display Output from Input with tag information when mouse moves over ② buttons

⑤ Pre-Setting items: Default is Port to Port

⑥ Click to edit selected pre-setting item

⑦ Set selected pre-setting item to Matrix

NOTE: When Change to this "Setting" page, software will try to refresh source selection status of Output port.

Pop-up tag messages

When "Display Input, Output tags when focus setting buttons" checkbox on "General" page is checked and Input/output port tag has been defined, tag messages will pop up like as:
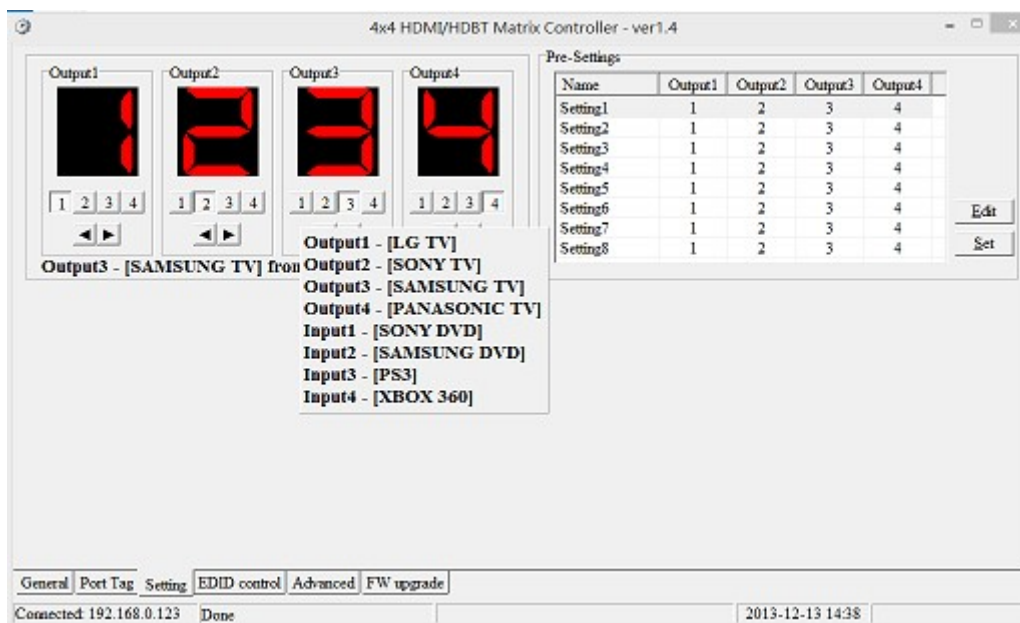
Pop-up Menu

When mouse moves over ② setting buttons, and click mouse right button, menu will pop up like as:
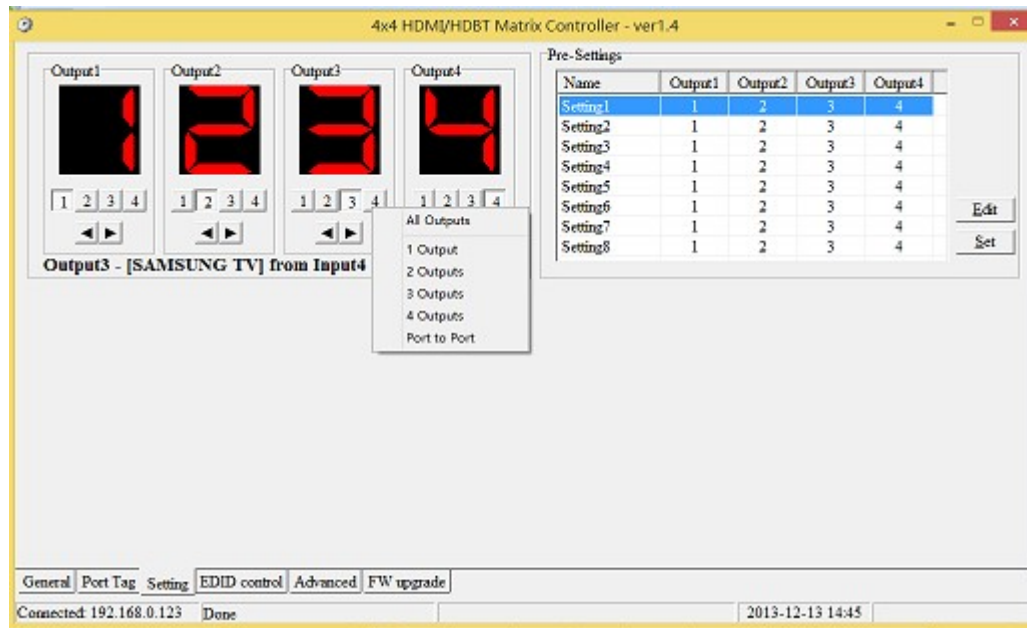
All Outputs: All Outputs from same Input

"1 Output" to "4 Outputs": Set current Output (where mouse right clicked) and the next x-1 (x range is from 1 to 4, set total x Outputs at the same time) Output(s) from same Input

Port to Port: Output1 from Input1, Output2 from Input2, Output3 from Input3, etc.

Edit selected pre-setting item

After action of ⑥, edit form will pop-up as below:
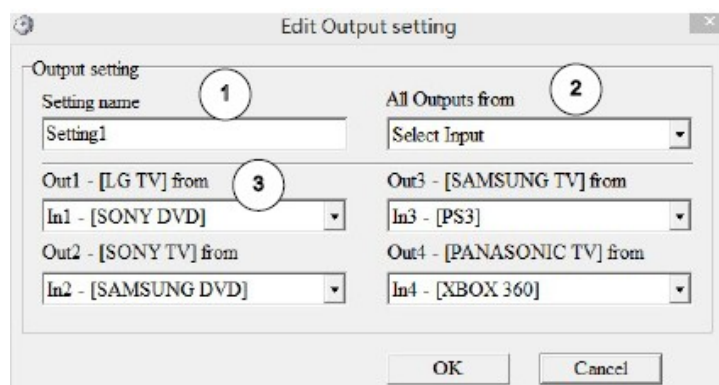
① Pre-Setting name
② Set all Output ports from same Input
③ Select Input for respective Output

"EDID control" page

① Set EDID mode for selected Input port or All Input ports, click "Set" button to complete action.

   NOTE: When set User1/User2 EDID mode, should Download EDID content to User1 Memory/User2 Memory first. User1/User2 default EDID content is 1080p, Stereo Audio 2.0.

② Copy EDID from Output port to selected Input port or All Input ports, click "Copy" button to complete action.

③ Read EDID content from Output port and display in grid, click "Read" button to complete action.

④ Save EDID content which displayed in grid to binary file (file extension is ".bin")

⑤ Open EDID binary file and display in grid

⑥ Download EDID content which displayed in grid to selected Input port or All Input ports, click "Download" button to complete action. When User1 Memory/User2 Memory selected, download EDID content to respective memory then User1/User2 EDID mode can be set.

⑦ EDID content displaying grid

   NOTE: EDID content displayed in grid is read only.

⑧ Click to clear EDID content displayed in grid

"IR Configuration" page

To enable or disable IR control function. When box checked, IR control function enabled, otherwise, IR control function disabled. This setting is not memorized. IR control function is always enabled after power up.

"FW upgrade" page

① Click to open firmware file (file extension is ".fw").
② Firmware upgrade progress
③ Click the button to upgrade firmware.

NOTE: If failure occurs during upgrading firmware process, the following steps SHOULD be done sequentially to establish next upgrading procedure:

1.   Power down the Matrix
2.   Close the 4x4 HDMI Matrix Controller
3.   Re-power up the Matrix, then wait for 10 seconds to ensure the Matrix is ready
4.   Run 4x4 HDMI Matrix Controller, open firmware file and upgrade again

④ Firmware upgrading messages display
⑤ Click to clear the messages displayed in the memo box.

DIP for EDID Setting

[DIP]=0000: HDMI 1080p@60Hz, Audio 2CH PCM
[DIP]=0001: HDMI 1080p@60Hz, Audio 5.1CH PCM/DTS/DOLBY
[DIP]=0010: HDMI 1080p@60Hz, Audio 7.1CH PCM/DTS/DOLBY/HD
[DIP]=0011: HDMI 1080i@60Hz, Audio 2CH PCM
[DIP]=0100: HDMI 1080i@60Hz, Audio 5.1CH PCM/DTS/DOLBY
[DIP]=0101: HDMI 1080i@60Hz, Audio 7.1CH PCM/DTS/DOLBY/HD
[DIP]=0110: HDMI 1080p@60Hz/3D, Audio 2CH PCM
[DIP]=0111: HDMI 1080p@60Hz/3D, Audio 5.1CH PCM/DTS/DOLBY
[DIP]=1000: HDMI 1080p@60Hz/3D, Audio 7.1CH PCM/DTS/DOLBY/HD
[DIP]=1001: HDMI 4K2K, Audio 2CH PCM
[DIP]=1010: HDMI 4K2K, Audio 5.1CH PCM/DTS/DOLBY
[DIP]=1011: HDMI 4K2K, Audio 7.1CH PCM/DTS/DOLBY/HD
[DIP]=1100: DVI 1280x1024@60Hz, Audio None
[DIP]=1101: DVI 1920x1080@60Hz, Audio None
[DIP]=1110: DVI 1920x1200@60Hz, Audio None

NOTE1：The port will only read the DIP switch settings on power-up. The device must be powered off and then back on again for it to implement any change of the DIP switch settings.