ZENTY

Zenty | Professional A/V Solution Provider

User Manual [V1.0]

8x8 4K 60Hz HDMI Matrix Switch

ZT-115 | ZT-MT88A

HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

RoHS compliant

CE FC

Table of Contents

1. Introduction

The Zenty ZT-MT88A is the ultimate Audio-Visual solutions for consumers looking to integrate multiple source devices to multiple displays, such as for use in a restaurant or bar, a church or conference centers. With this matrix users can connect up to 8 4K source devices, and route to any of their 8 connected displays.

Each output has an individual SPDIF output, allowing for the audio to be extracted to a separate destination such as a sound bar, AV receiver, or Surround Sound System. Experience the best quality picture by using this matrix, which can support 4K HDR and YUV 4:4:4 Chroma subsampling. Match the display settings of your devices to that of your display using the EDID copy feature of this Matrix, which can set using RS-232 or IP control. When connected to the Matrix, you can set your EDID settings, control your Input and Output assignments, as well as your SPDIF output settings, and more.

It switches one of eight Ultra HD source to any destination with HDCP content protection. For ease of setup, the matrix includes a PC application for EDID configurations. HDMI 2.0 significantly increases bandwidth with some up to 18Gbps and adds key enhancements to enhance your video and audio experience. This matrix is ideal for residential and commercial applications where a number of AV sources must be shared to reduce the installed equipment footprint and to reduce the costs associated with multiple, redundant devices.

2. Applications

- Video/TV wall display
- Security surveillance and control
- Commercial advertising
- University lecture hall
- Retail sales and demonstration

3. Package Contents

- (1) x HDMI Matrix

- (1) x 12V DC Power Supply

- (1) x Remote Control

- (1) x IR Ext. Receiver Cable

- (1) x Mounting Kit

- (1) x User Manual

4. System Requirements

- HDMI source equipment such as media players, video game consoles or set-top boxes

- HDMI receiving equipment such as HDTVs, monitors or audio amplifiers

- The use of "Premium High-Speed HDMI" cables is highly recommended

5. Features

- HDMI 2.0 version (Supports 4K@60Hz YUV4:4:4)

- Bandwidth up to 18Gbps

- HDCP 2.2 Input | HDCP 2.2 output

- HDCP 1.4 input, HDCP 1.4 output

- Supports HDR | HDR10 | Dolby Vision

- 8 x HDMI Inputs, 8 x HDMI outputs, with 8 x SPDIF Audio

- Any one of the 8 Ultra HD sources can be routed to any one of the 8 Ultra HD displays

- Supports Dolby True HD and DTS-HD master audio

- Micro-USB interface for user to upgrade firmware

- Controllable via front-panel buttons, IR remote, RS232, TCP/IP, Web GUI Control

- 1U rack design, easy installation

6. Specifications

Bandwidth	18Gbps
Resolution	Up to 4K 60Hz 4:4:4
Video Input Connectors	8 x HDMI Type A [19-pin female]
Video Output Connectors	8 x HDMI Type A [19-pin female]
RS-232 Serial Port	DB9
Ethernet Port (IP Control)	RJ45
IR Ext. Port	1 x 3.5mm Stereo Jack
Rack-Mountable	Rack Ears Included
Dimensions (W x H x D)	440mm x 220mm x 44.5mm 17.32" x 8.67" x 1.75"
Net Weight	2.8kg | 6.17lbs.
Operating Temperature	32°F ~ 104°F | 0°C ~ 40°C
Storage Temperature	14°F ~ 140°F | -10°C ~ 60°C
Power Consumption	23W (Max)

7. Operation Controls and Functions

7.1 Front Panel
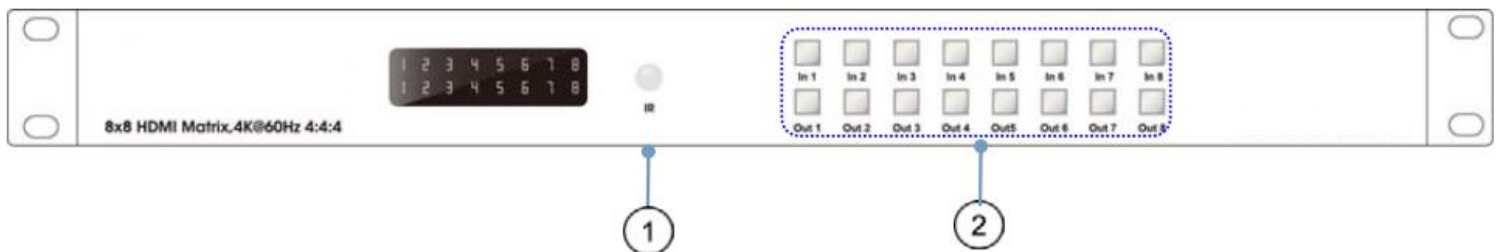
1. **IR WINDOW:** Accepts IR signals from the included IR remote for control of this unit only.

2. **OUTPUT 1~8 & INPUT 1~8:** Press output keys (1~8) to select output source; then press input buttons to select input source (1~8). Users can also could press and hold Input & Output buttons for

3 second to set up below functions:

Locking & Unlocking: Press and hold the Input8 for 3 seconds to lock all button functions on the front panel. Press and hold Input8 for 3 seconds again to release the lock function.

Checking & Setting IP Address / DHCP: Press and hold the Input7 for 3 seconds to enter into the mode of checking IP address and DHCP. Press and hold Input5 for 3 seconds to Exit. Press below buttons shortly to revise the IP address and DHCP accordingly.

Press Input1 button to let cursor move LEFT

Press Input2 and/or Output2 button to revise the data

Press Input3 button to let cursor move RIGHT

Press Output1 button to confirm revising

Checking & Setting EDID: Press and hold the Input6 for 3 seconds to enter into the mode of checking EDID. Press and hold Input5 for 3 seconds to Exit. Press below buttons shortly to revise the EDID accordingly.

Press Input2 and/or Output2 button to revise the data

Press Output1 button to confirm revising

7.2 Rear Panel
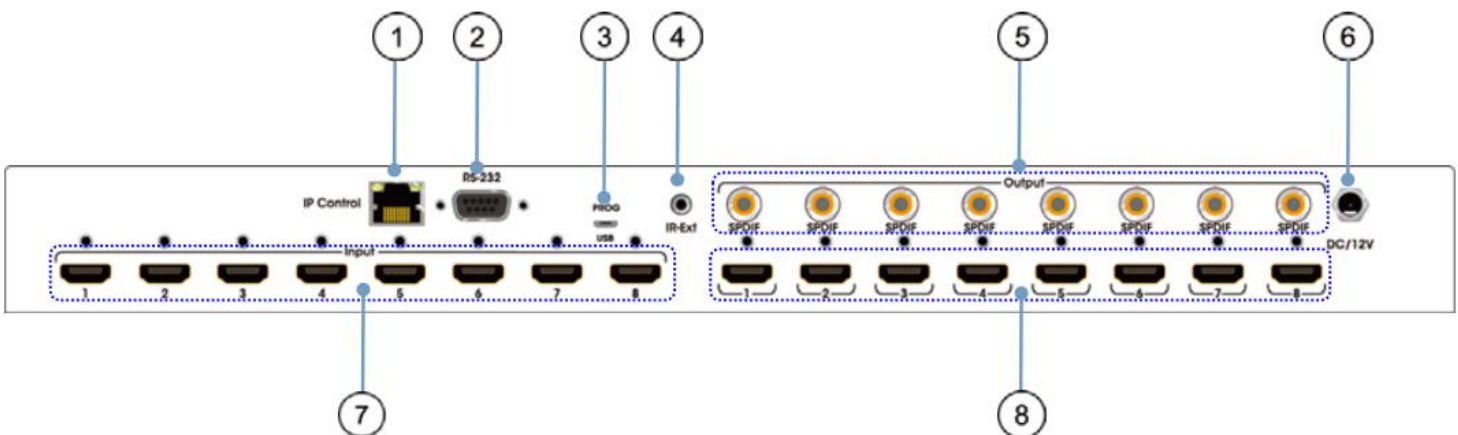
1. IP CONTROL: Connect directly, or through a network switch, to your PC or laptop to control the unit via telnet/Web GUI.

2. RS232: Connect directly to a PC, laptop or other serial control device to send RS-232 commands to control the unit

3. MICRO USB: This slot is reserved for firmware update use only

4. IR IN: Connect to the provided IR Extender to extend the IR control range of the unit. Ensure that the remote being used is within direct line-of-sight of the IR Extender.

**5. SPDIF Audio Output:** Audio output is from the selected HDMI source

6. DC POWER: Plug the 12V DC power adapter into the unit and connect it to an AC wall outlet for power.

7. INPUT 1~8: Connect to HDMI source equipment such as media players, game consoles or set-top boxes. DVI sources are supported with the use of an HDMI to DVI adapter.

8. OUTPUT 1~8: Connect to HDMI TVs, monitors or amplifiers for digital video and audio output.

7.3 Remote Control Description

① Standby Mode.
② OUTPUT-X select INPUT-Y:
  Press OUTPUT-X (X means 1 to 8 of outputs)
  Press INPUT-Y (Y means 1 to 8 of inputs)
③ All outputs select INPUT-Y:
  Press ALL button in zone OUTPUT
  Press INPUT-Y button (Y means 1 to 8 of inputs),
  then INPUT-Y switched to ALL OUTPUTS.
④ Cancel Button: Cancel the switching operation
⑤ PTP button: Mirror all inputs and outputs
  (Ex. Input 1 to output 1, input 2 to output 2, etc):
 Press PTP button in Zone OUTPUT.
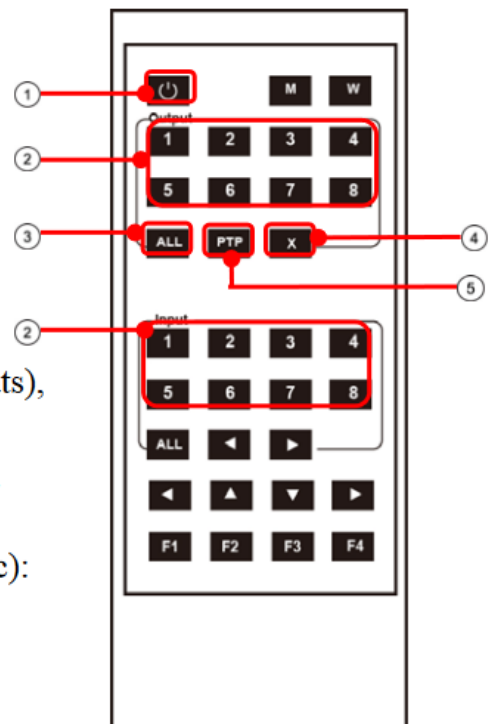
## 7.4 RS232 Control

RS232 Pin Assignment

Matrix			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

Software Control

- Connect the 8x8 Matrix to PC with a RS232 cable, open the software on your PC. On the COM Setting session, select the COM port according to your PC and click "Connect" to get connected.

- On this COM setting session, you can also change the Device name, Device name support up to 16 characters. Save or edit your status by clicking the Edit button.

- Come to Port Set session to select or switch your input sources for each output, We can read the current status by clicking the "Status" button, or "Clear" our historical operating record by clicking "Clear" button. The right down blank shows the operating history.
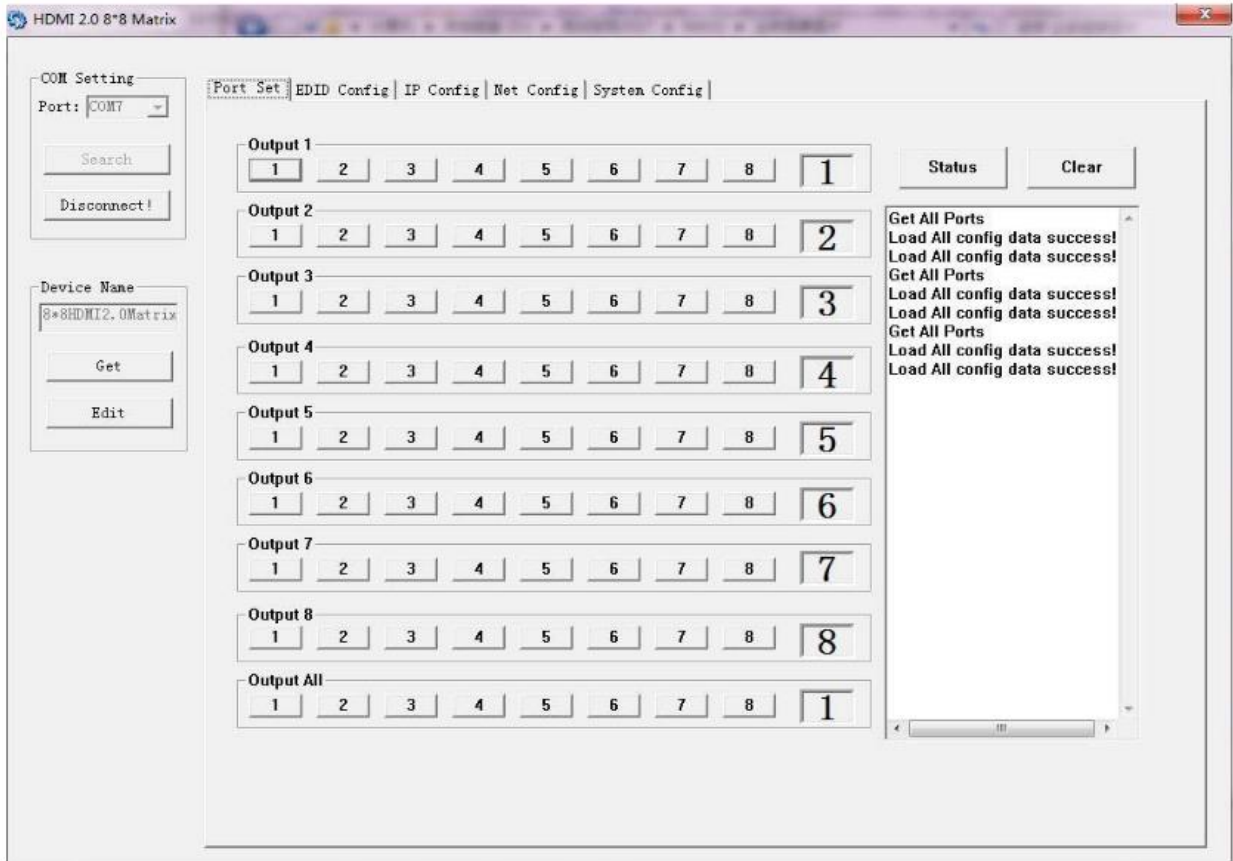
- The EDID session helps us to Read and Configure EDID for each input, such as HDR, 3D, Data rates and Audio channel.
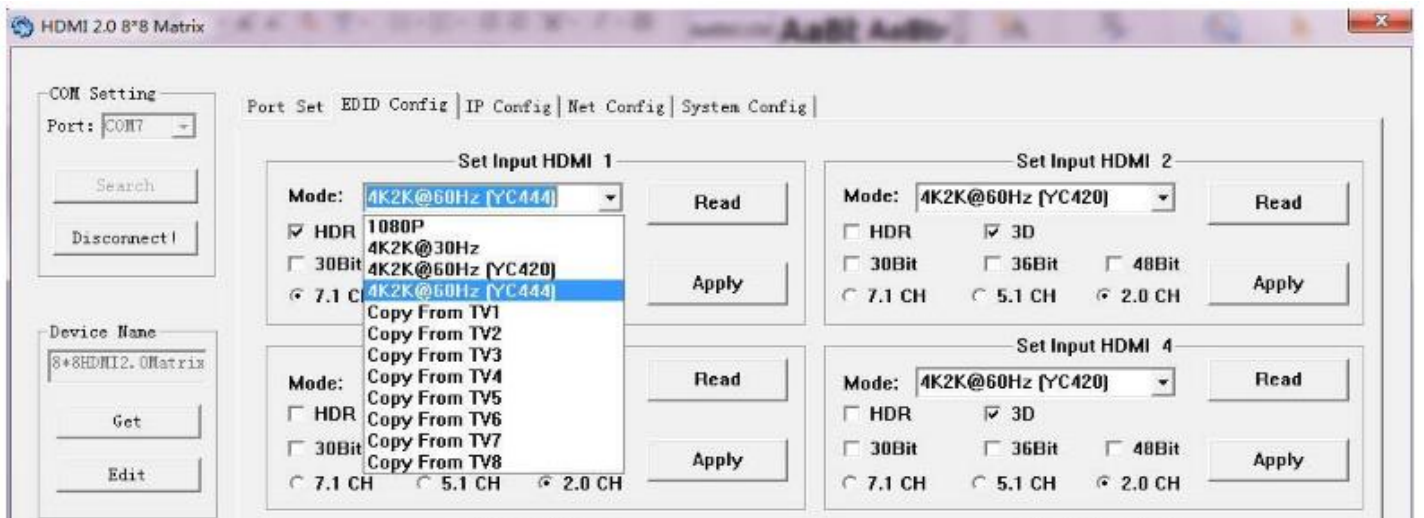
- The IP configure session helps to read and configure the IP address and MAC of the Matrix. Check DHCP if you want the router to assign an IP for the Matrix automatically.
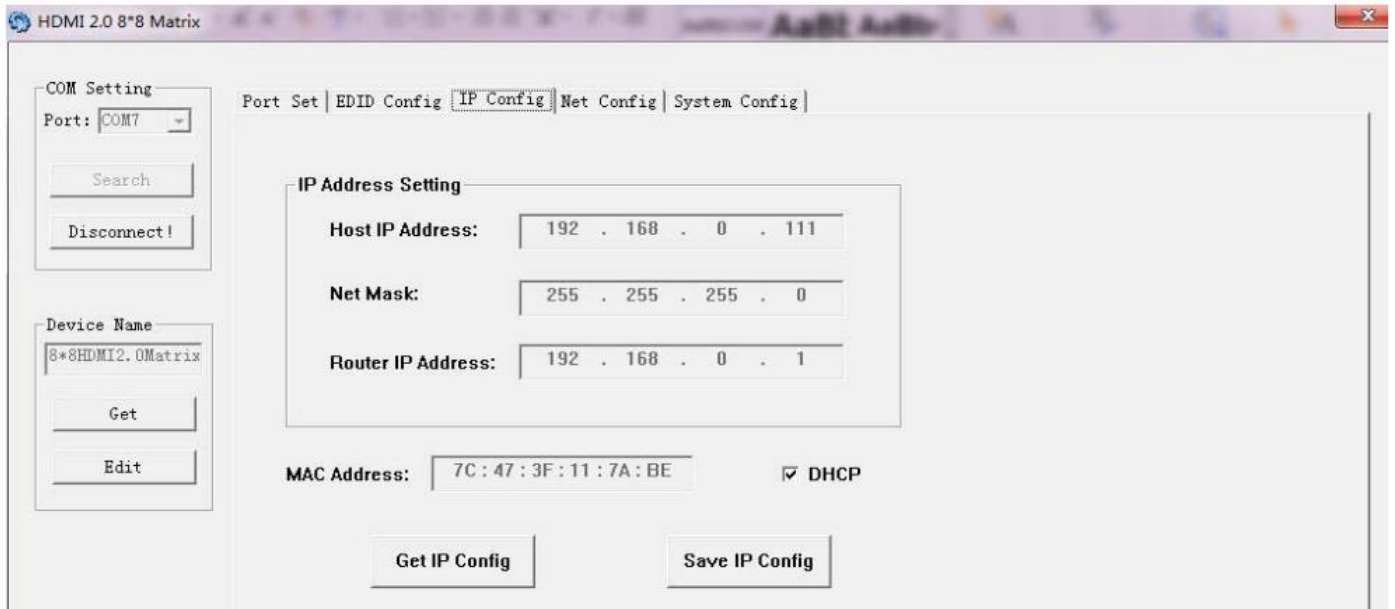

- The Net Config session allows us to configure the PC and Matrix in the same LAN with the IP Address and connection.

- Click "Net config" → "Connect" → "Search Device" → "Sel Device Number" → "Connect" then you can see the device name, it means successful connection.
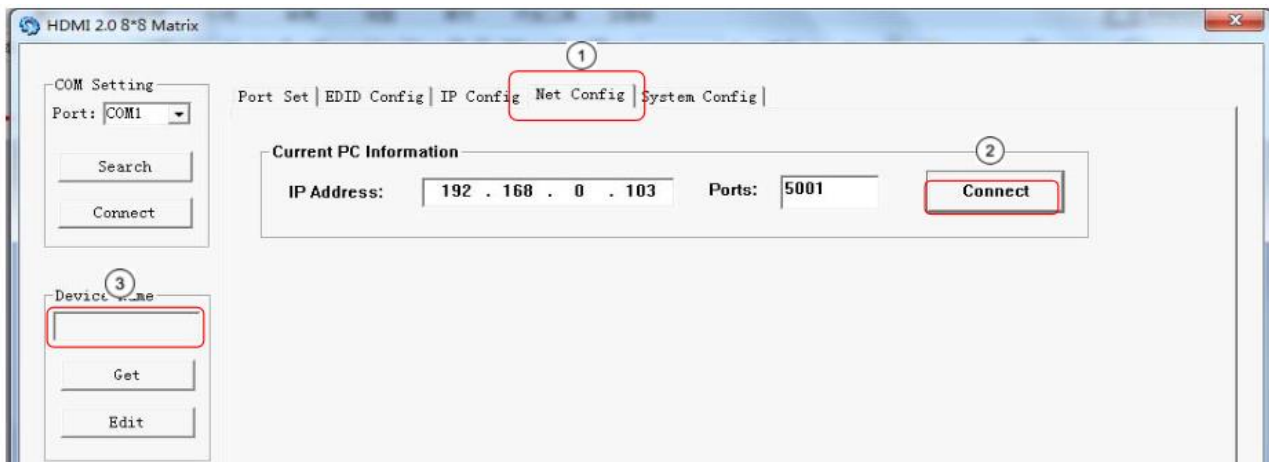
- You can also click "IE", easy and click to enter into web
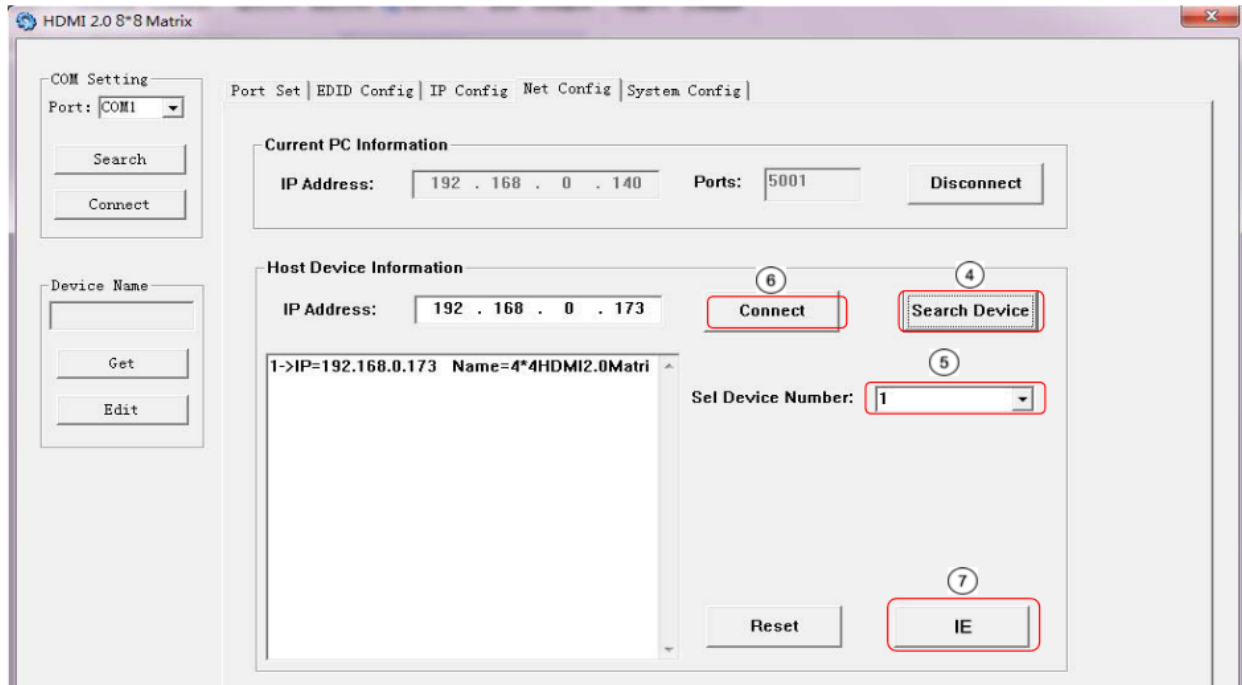
- The last session is System Config, which allows power ON/OFF or reset, default the Matrix.
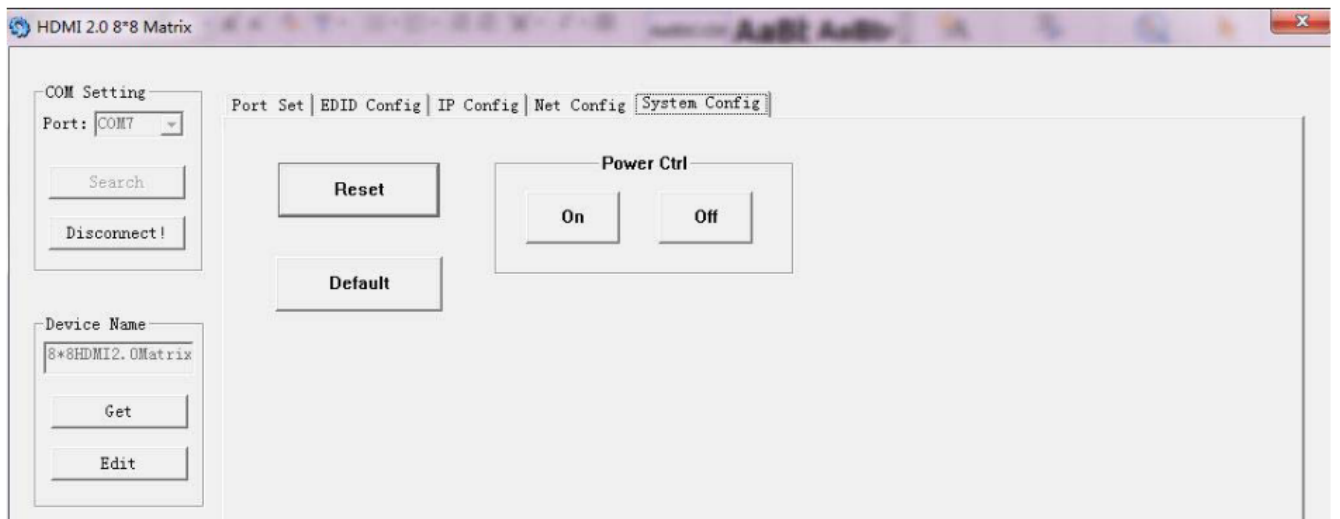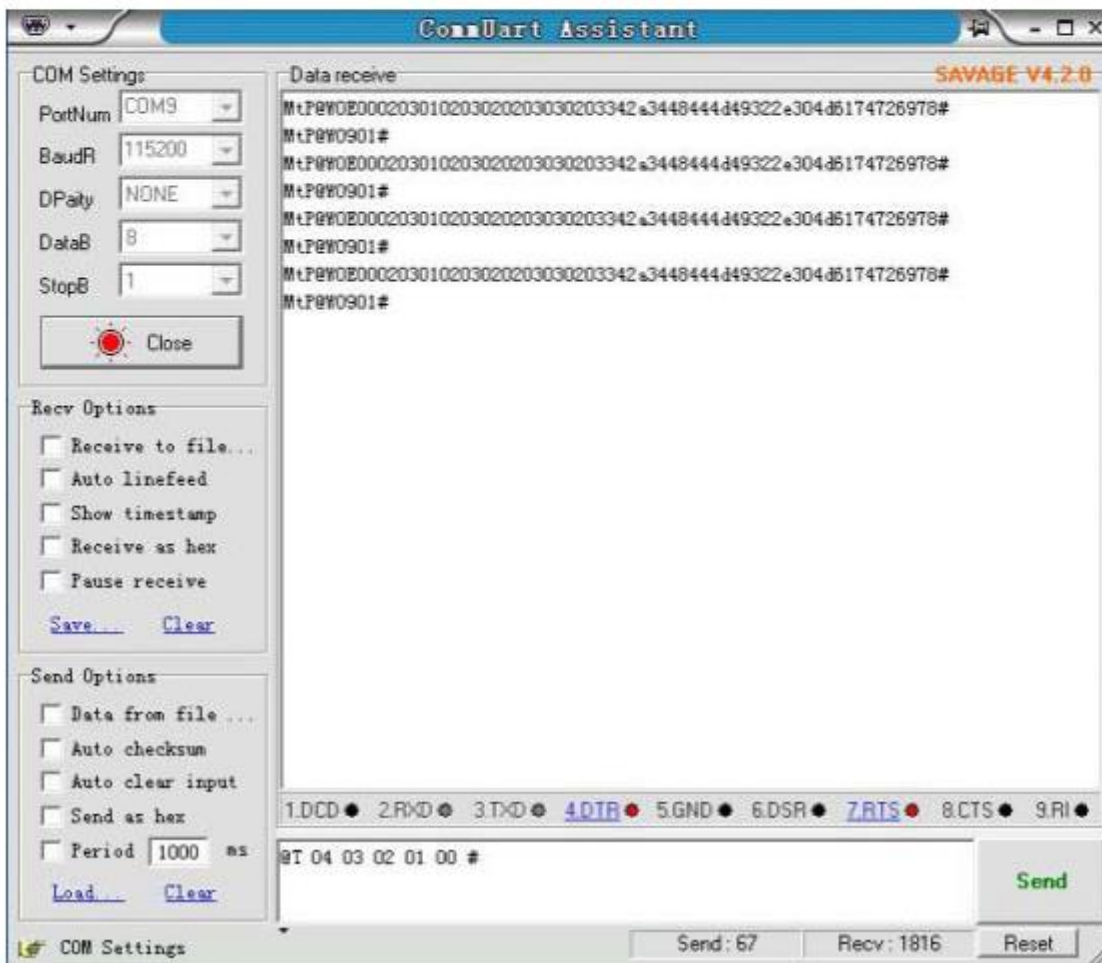
Command Control

1). Open CommUart Assistant.

2). Comport setting:

Baud Rate:	115200 bps
Parity:	None
Data Bits:	8 bit
Stop Bits:	1 bit
TCP/UDP Port:	5000

3). Enter Port Command in Send options.

4). Command

Command	Function	Note
@T 04 00 01 02 03 ⸱⸱	PTP Function	Mirror all inputs and outputs (Ex. Input 1 to output 1, input 2 to output 2, etc)
@T 50 #	Reboot	
@T 51 #	Restore Factory Setting	
@T 0F 00 #	Standby	00: Standby Mode 01: Cancel "Standby Mode"

5). Select HDMI input for HDMI output

Command	Description
00	Output1
01	Output2
02	Output3
03	Output4
11	Output5
12	Output6
13	Output7
14	Output8
04	All Output
00	Input1
01	Input2
02	Input3
03	Input4
04	Input5
05	Input6
06	Input7
07	Input8

E.g: @T 00 00 #: Output 1 display Input1
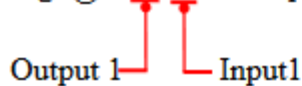
Output 1 ⌐ ⌐ Input1

6). EDID Setting

@T XX AA BB #:

Parameter Description:

XX for configuration of **"INPUT EDID"**

Command	05	06	07	08	15	16	17	18
Description	Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8

AA for selecting **"Video Mode"**

Command	00	01	02	03
Description	1080P	4K2K_30	4K2K_60(YC420)	4K2K_60(YC444)

BB for selecting belowing function

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
HDR	48Bit	36Bit	30Bit	7.1CH	5.1CH	2CH	3D
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

"1" : select the function, "0" : not select the function.

E.g: 11001001: HDR, 48Bit, 7.1CH, 3D

Chang Binary code "11001001" to hexadecimal format "C9".

E.g: @T 05 03 C9 #

The EDID of input 1 is: 4K2K_60(YC444)、HDR、48Bit、7.1CH、3D.

7.5 Web Control

1. Connect the HDMI Matrix and PC to the LAN under the Matrix DHCP Mode.

2. Open the PC tool (included in the provided CD)

3. Search the IP address of the HDMI Matrix. (Default Matrix IP address is: 192.168.1.168)

4. Open a web browser and enter the IP address you searched, then enter the following credentials:

Default User name: Admin

Default Password: Admin

Port Setting Page

EDID Setting Page

IP Configuration Page

| Port Set | EDID Config | IP Config | Port Name Set | Login Info | Firmware Upgrade |

Port Name Set

Input1:	input1	OK	Cancel	Output1:	output1	OK	Cancel
Input2:	input2	OK	Cancel	Output2:	output2	OK	Cancel
Input3:	Input3	OK	Cancel	Output3:	Output3	OK	Cancel
Input4:	Input4	OK	Cancel	Output4:	Output4	OK	Cancel
Input5:	Input5	OK	Cancel	Output5:	Output5	OK	Cancel
Input6:	Input6	OK	Cancel	Output6:	Output6	OK	Cancel
Input7:	Input7	OK	Cancel	Output7:	Output7	OK	Cancel
Input8:	Input8	OK	Cancel	Output8:	Output8	OK	Cancel

Port Name Setting Page

| Port Set | EDID Config | IP Config | Port Name Set | Login Info | Firmware Upgrade |

Login Info

Current user id: _____

Current password: _____

New user id: _____

New password: _____

Modify

Login info setting Page

| Port Set | EDID Config | IP Config | Port Name Set | Login Info | Firmware Upgrade |

Firmware Upgrade

File   Choose a file

BROWSE...

START UPGRADE

Firmware Upgrade Page

## 7.6 Firmware Update

Connect 8x8 HDMI Matrix to PC or laptop with Micro USB cable after matrix is powered on. Open the "updated software' which has been downloaded in our CD. And then click "Search" → "Port Sel" (to choose correct port) → "Connect" (It will show "S3RLC" when connect successfully) → "Load FW File" → "Update" Please do not power off or disconnect when it is updating the FW file.
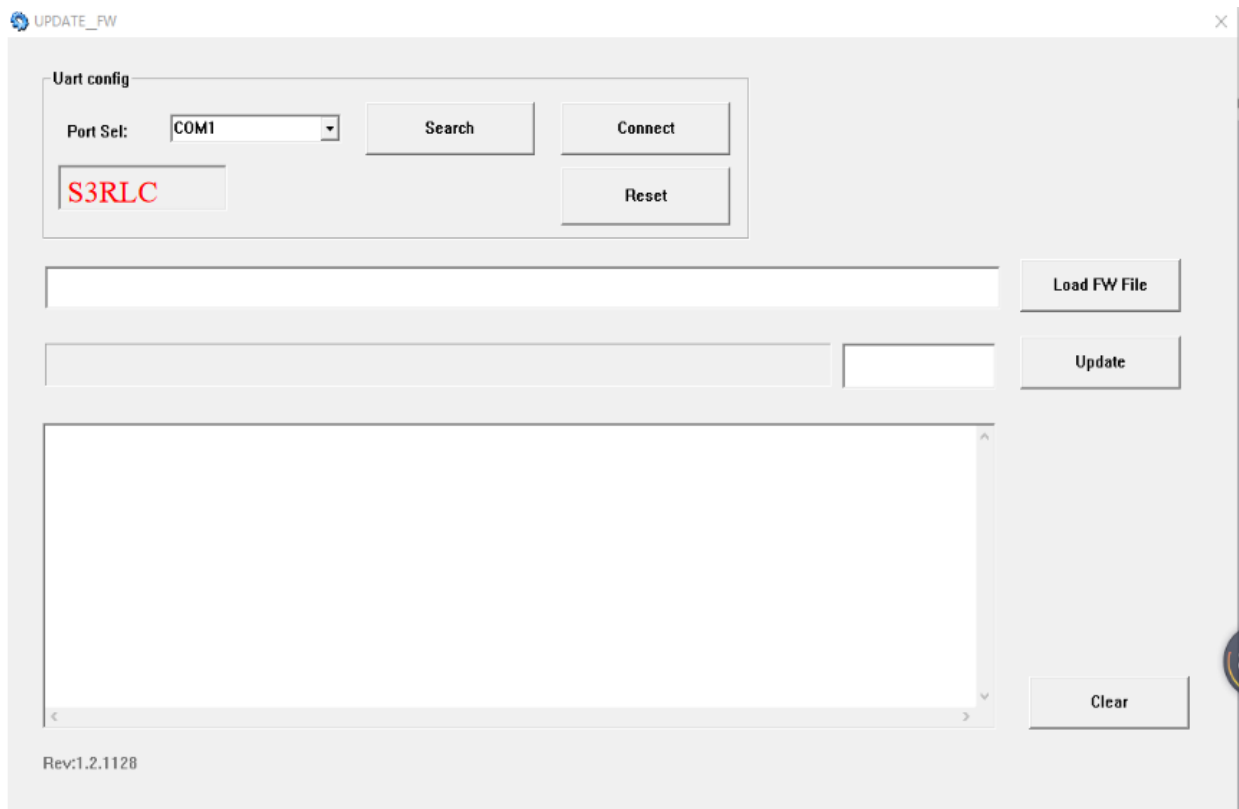
8. Connection Diagram
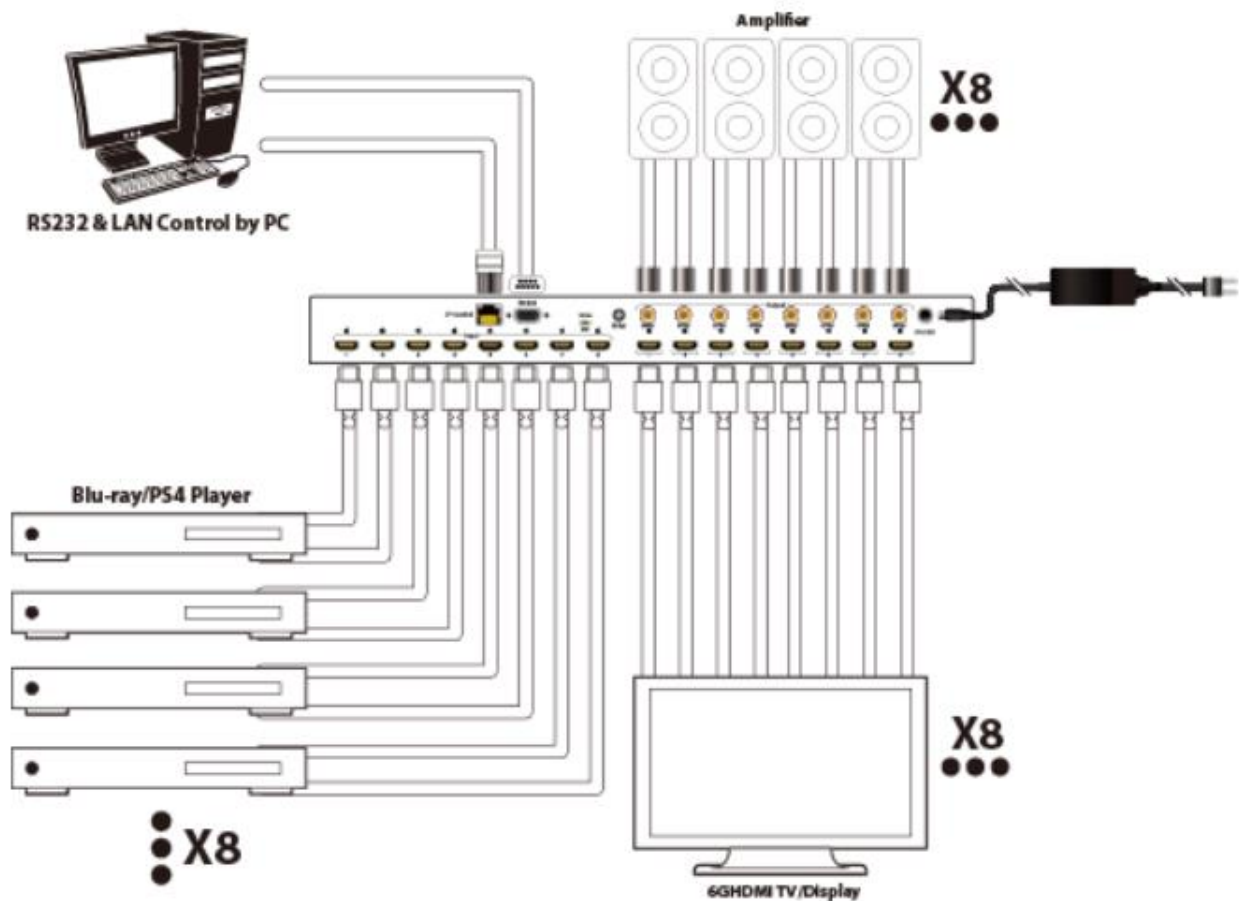
9. Warranty

If your product does not work properly because of a defect in materials of workmanship, our company (referred to as "the warrantor") will, for the length of the period indicated as below, "Parts and Labor (5) Years", which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" limited warranty period, there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers products purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

10. Mail-In Service

When shipping the unit, carefully pack and send it prepaid, adequately insured, and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

11. Limited Warranty Limits and Exclusions

This Limited Warranty ONLY COVERS failures due to defects in material or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, mis-adjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributed to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTAIL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.) PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

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