9x9 Seamless 4K HDMI Matrix
3x3 Video Wall 4K Processor

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.
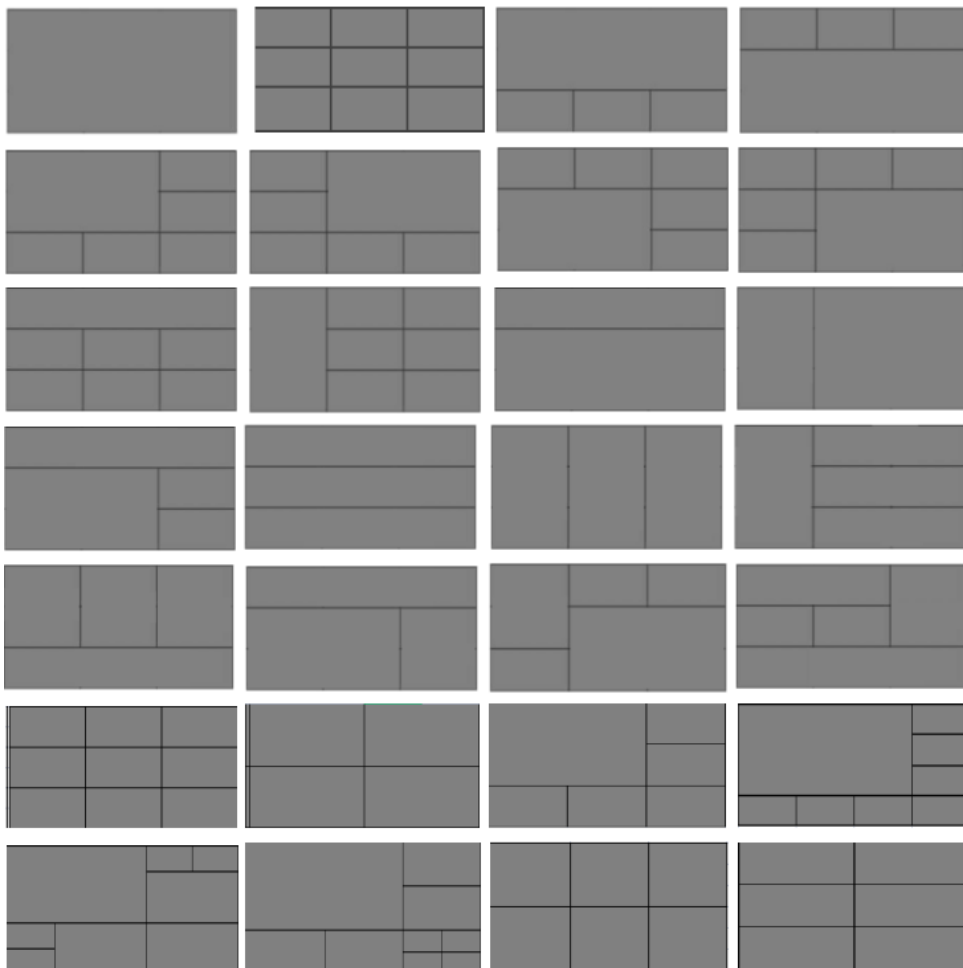
Table of Content

Dear Customer

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1. Features

- 9xHDMI input; 9xHDMI output max resolution up to HDMI 1.4v 4K30Hz
- Support video signal seamless switching; Video wall; Multi-Viewer; Preset setting, etc
- Support Balanced Audio Extraction
- Support Panel Button, IR, TCP/IP control, RS232 Commands control
- With Built-in EDID (4K30Hz, 1080P, 4K60hz Beta, User)
- HDCP 2.2/1.4 compliant
- Support Micro USB for firmware updating
- Video wall mode (Max 3x3) support adjust the screen edge

2. Package Contents

❶ Main Unit x1
❷ Power Adapter DC24V2A x1
❸ Remote Controller x1
❹ Disk (User manual; Update software; Command list) x1

3. Specifications

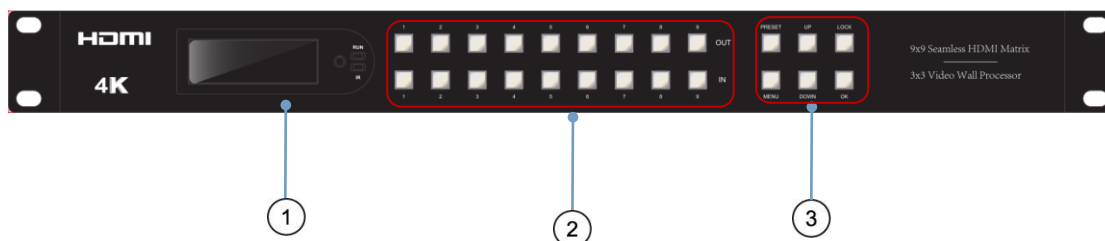|	
Operating Temperature Range	-5 to +40°C(23 to +104 °F)
Storage Temperature Range	-10 to +60°C(-14 to +140 °F)
Operating Humidity Range	5 to 90 % RH (no condensation)
HDMI Input	9 x HDMI In
HDMI Output	9 x HDMI Out
Audio output	Analog (Balanced audio)
Video Format Supported	4k@30Hz/1080P/1080i/720P/576P/480P/576i/480i
HDCP Compliant	HDCP2.2 and HDCP1.4
Control way	Panel button/Remote/TCP/IP/RS232
Audio Format Supported	PCM, Dolby5.1/7.1, DTS5.1/7.1 digital audio
USB	Firmware update
Dimensions	1U Rack Design L482.6 x W273.7 x H44 mm
Mass (Main Unit)	4 KG

VESA Resolution List

Rate	Resolution	Supported	Mark
60Hz	640×480	√	
	800×600	√	
	1024×768	√	
	1280×768	√	
	1280×1024	√	
	1600×1200	√	
	1680×1050	√	
	1920×1080	√	
	1280×720	√	
	1360×768	√	
	1920×1200	√	

Testing Resolution List

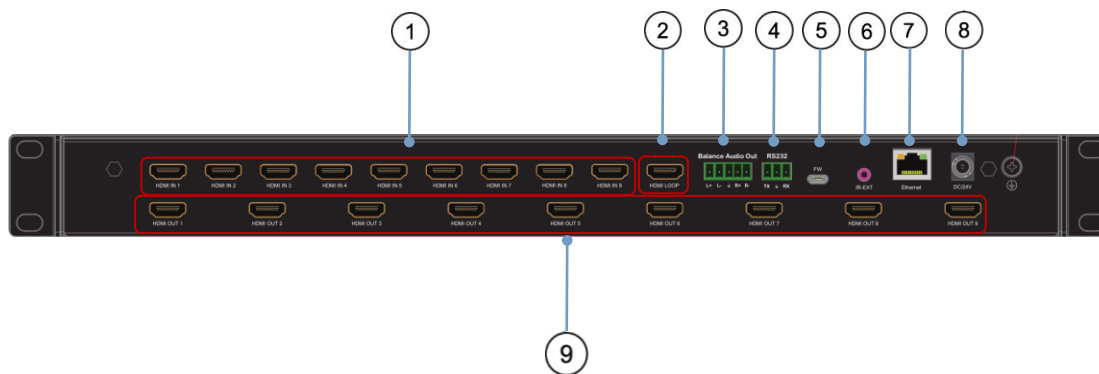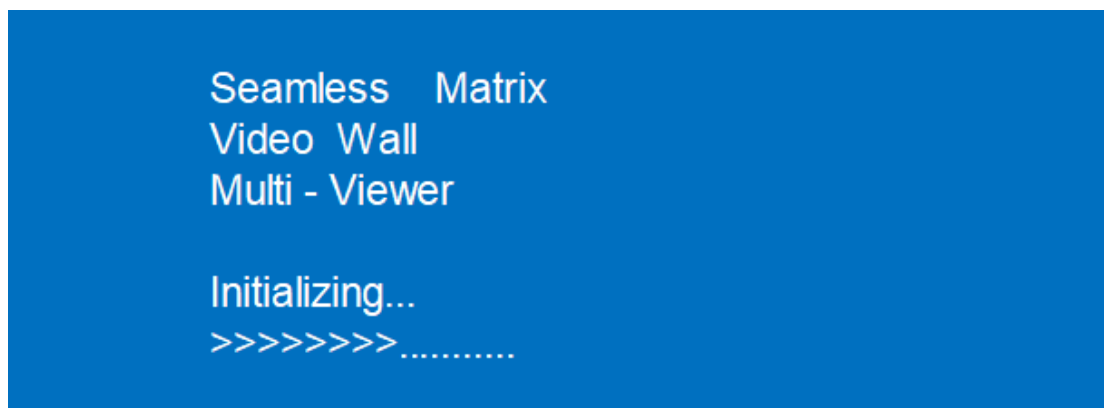| Rate	I/P	Resolution	Supported	Mark
50Hz	I	576i	√	
	P	576P	√	
	P	720P	√	
	P	1080P	√	
	I	1080i	√	
	P	4K (Beta)	√	
60Hz /59.94Hz	I	480i	√	
	P	480P	√	
	P	720P	√	
	P	1080P	√	
	P	4K (Beta)	√	
30/29.97Hz	P	720P	√	
	P	1080P	√	
	P	4K	√	
24Hz	P	720P	√	
	P	1080P	√	
	P	4K2K	√	
25Hz	P	720P	√	
	P	1080P	√	
	P	4K2K	√	

Panel Descriptions

FRONT:

❶ LED Display

❷ OUT AND IN PUT 1~9 (When switching, press Output first, then press Input)

❸ Function button: PRESET; MENU; UP; DOWN; LOCK; OK

Channel	Button method
Any Key	The first operation of the button can wake up the screen and do the command
Output 1-9	Press the Output button to select the output, press again means cancel the selection; Long press means selecting all, again means cancel selecting
Input 1-9	Press the input button to select the input (only when selected the output, then input can be effected) Long press input to enter video wall mode
Menu	Function button: Enter menu or back to the last menu
OK	Function button: Confirm
UP	UP
DOWN	DOWN
PRESET	Select the preset mode, Long press to Save the preset
LOCK	Long press: LOCK the button; long press again to UNLOCK

REAR:

❶ HDMI Input port

❷ HDMI Loop out port

❸ Balanced Audio Output port

❹ RS232 interface: Commands control

❺ FW interface: used for firmware upgrade

❻ IR EXT: Remote control

❼ ETHERNET port (TCP/IP): Control the product

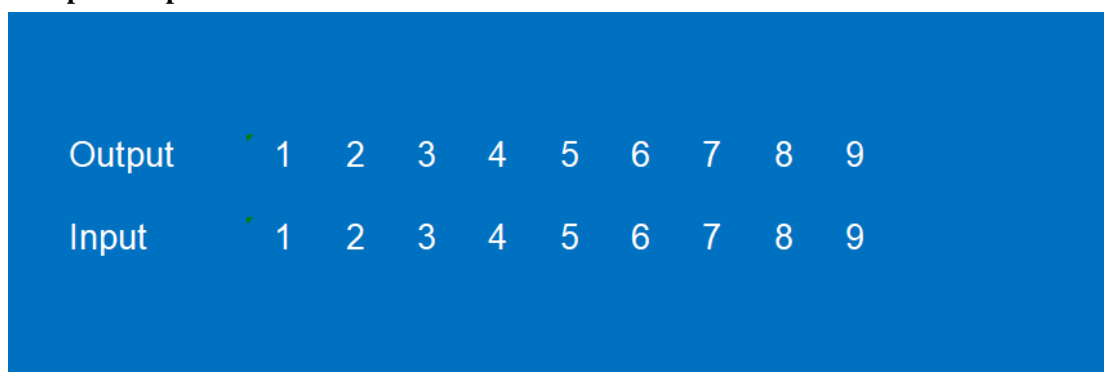❽ DC input interface: DC power input, external power adapter

❾ HDMI Output port

Enter system interface

4.1. Video switching operation

The signal switch includes 9 switching channels, which can be configured as input/output according to the requirements, forming a matrix of 1 x 9 ~ 9 x 1, which can switch any input signal to 1 output or all output.

The specific operation is as follows:

Input/output channel interface

Switch the input to the output

Operation format: "Output channel" + "input channel"

❶ Switch Output 1 to Input 5

Operation: Press the Output area's number "1" + Press the Input area's number "5" to complete the switch

❷ Switch Output 2 5 8 to Input 7

Operation: Press the Output area's number: "2""5""8" + Press the Input area's number "7" to complete the switch
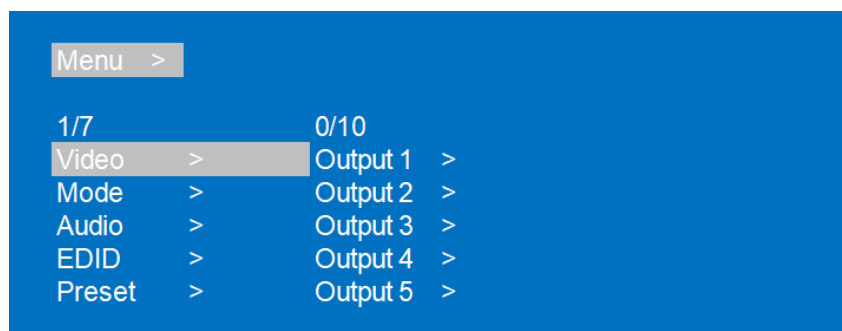
❸ Switch All output to Input 4

Operation: Long press any number at Output area + Press the Input area's number "4" to complete the switch

❹ Enter Input 2's video wall mode

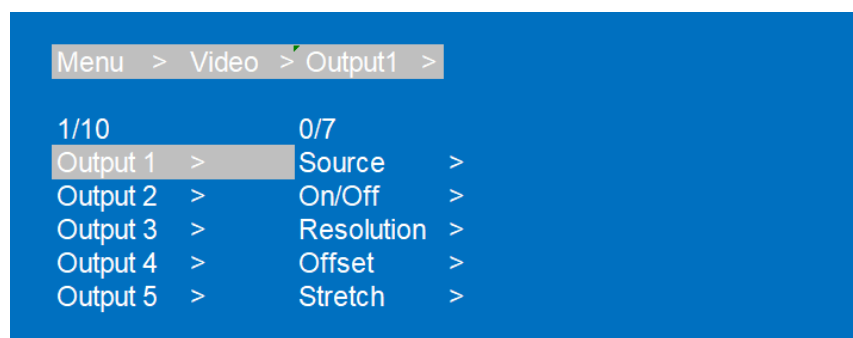Operation: Long press the Input area's number "2" to complete the switch

4.1.1. Video Control

The video interface had ten sub-menus: Out 1~9 and ALL.

Video Interface

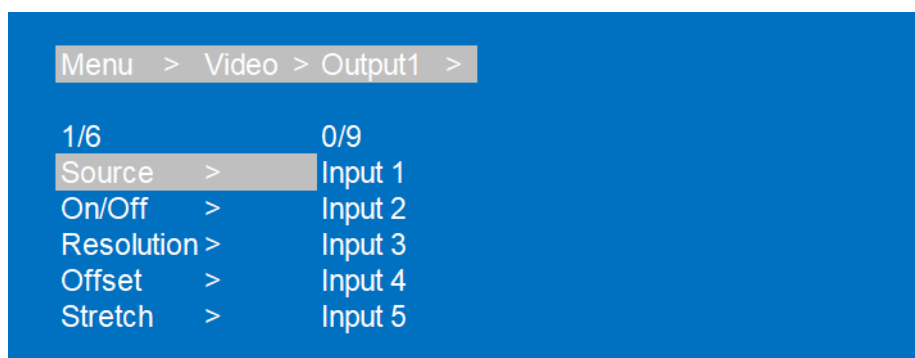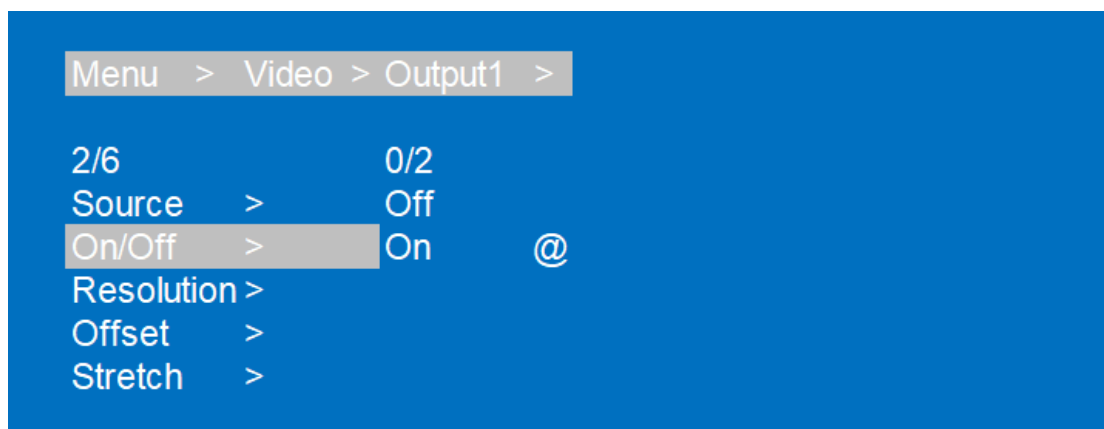After selecting the "Output", there will have 7 sub-menus.

Output Interface

A. Video Switch:

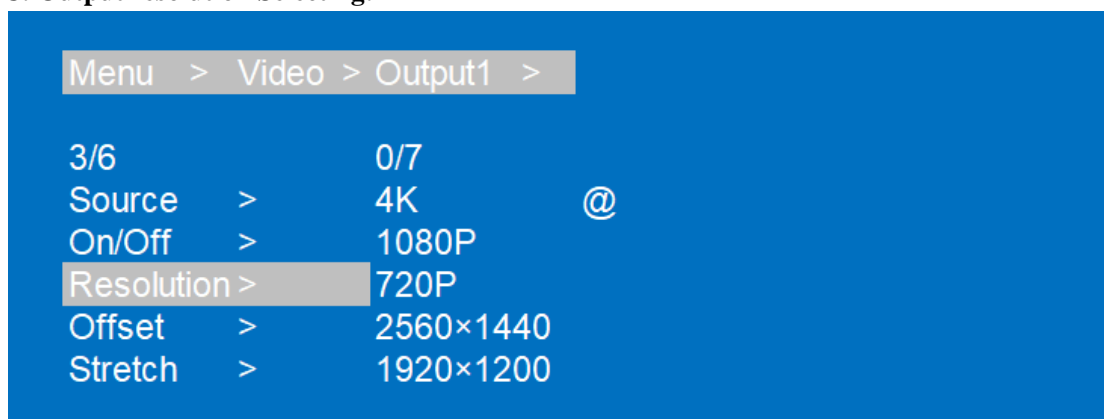**Switch any output to any input or switch all output to the same input**

❶ Choose "Video" in the menu and press "OK"

❷ Press "UP" and "DOWN" to select the OUT1 to 10 (OUT10 for ALL), then press "OK"

❸ Choose the Input signal by using "UP" and " DOWN" under "Source" section, then press "OK"

to complete the SWITCHING

Switch Interface

B. Video On/Off control:

Menu	>	Video > Output1	>
2/6		0/2	
Source	>	Off	
On/Off	>	On	@
Resolution	>		
Offset	>		
Stretch	>		

Video On/Off Interface

C. Output resolution Selecting:

Menu	>	Video > Output1	>
3/6		0/7	
Source	>	4K	@
On/Off	>	1080P	
Resolution	>	720P	
Offset	>	2560×1440	
Stretch	>	1920×1200	

Resolution Format Interface

The output resolutions are 4K, 1080P, 720P, 2560x1440, 1920x1200, 1360x768, and AUTO
(AUTO is the resolution supported by the automatic identification of the back-end TV).
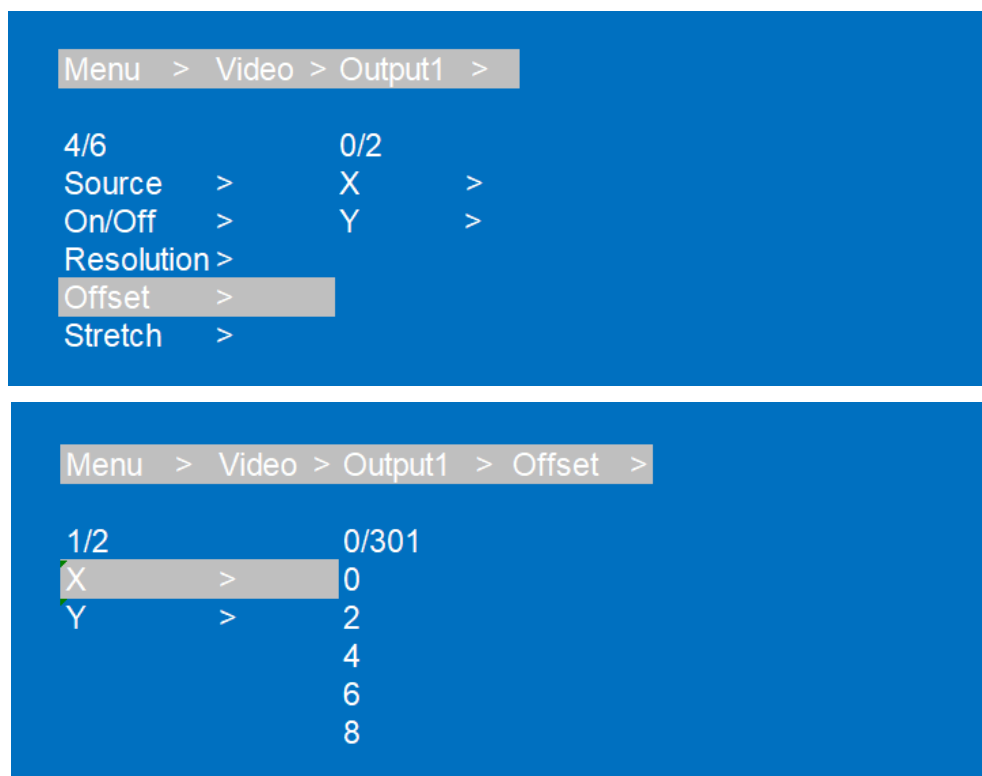The default setting is AUTO.

D. Offset Section:

Selecting offsets for any or all output's video (Offset is applicable to the video wall mode)

The specific operation is as follows:

❶ Under Video wall mode, choose "Video" and press "OK" button in MENU

❷ Select the output that you want to adjust, then press "OK"

❸ Select "Offset" section, press "OK"

❹ Select "X" or "Y" to adjust the Video wall

Note: "X" "Y" have 301 sub-terms, MIN:0, MAX:6000

Menu > Video > Output1 >

4/6	0/2
Source >	X >
On/Off >	Y >
Resolution >	
Offset >	
Stretch >	

Menu > Video > Output1 > Offset >

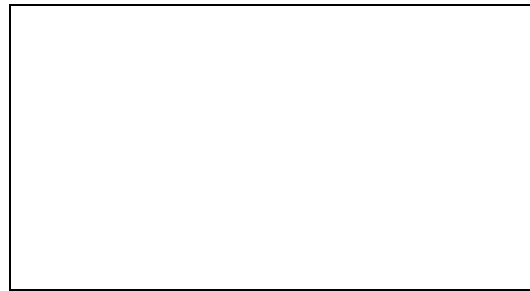| 1/2	0/301
X >	0
Y >	2
	4
	6
	8

Offset section Interface

E. Stretch section setting

Adjust one or all of the output video screen size.

Start for (0,0) End for (6000, 6000). Adjusting and cropping requires to set starting and Ending.
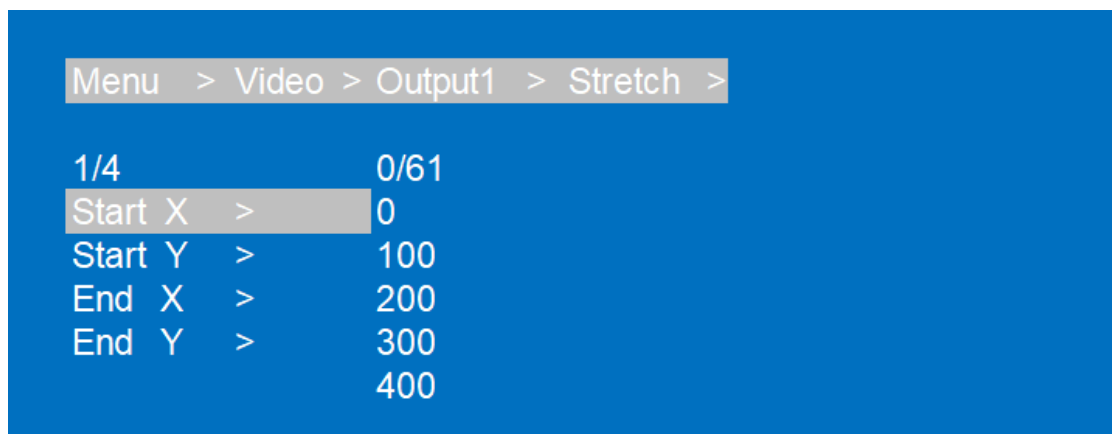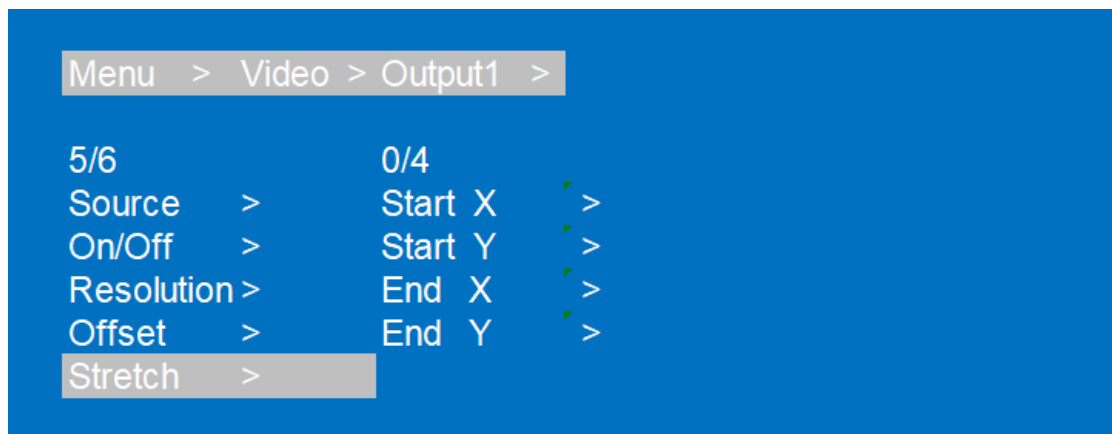
Start (0 , 0)

END (6000 , 6000)

Take the Out1 image size set to 1/4 at the TOP LEFT corner as example:

❶ Choose "Video" in the menu and press "OK"

❷ Press "UP" and "DOWN" to select the OUT1, then press "OK"

❸ Select "CH0", press "OK" to get Sub-terms " CROP" and "ZOOM"

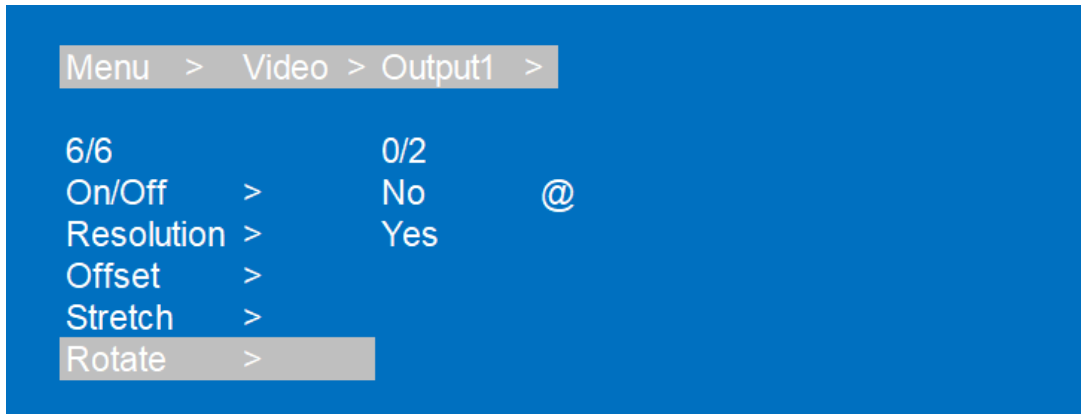❹ First select "Stretch" to set Start X:0; Start Y: 0; End X: 3000; End Y: 3000. Then press "OK"

Note: (there are 61 sub-items in each coordinate, the minimum is 0, the maximum is 6000, and the interval of each value is 100. When selected, the bottom color will turn white. When selected, the default is upper left Start (0,0), lower right End (6000,6000), midpoint (3000,3000).)

Menu > Video > Output1   >

5/6   0/4
Source   >   Start X   >
On/Off   >   Start Y   >
Resolution >   End   X   >
Offset   >   End   Y   >
Stretch   >

Menu   > Video > Output1   > Stretch >

1/4   0/61
Start X   >   0
Start Y   >   100
End   X   >   200
End   Y   >   300
                       400

Stretch Interface
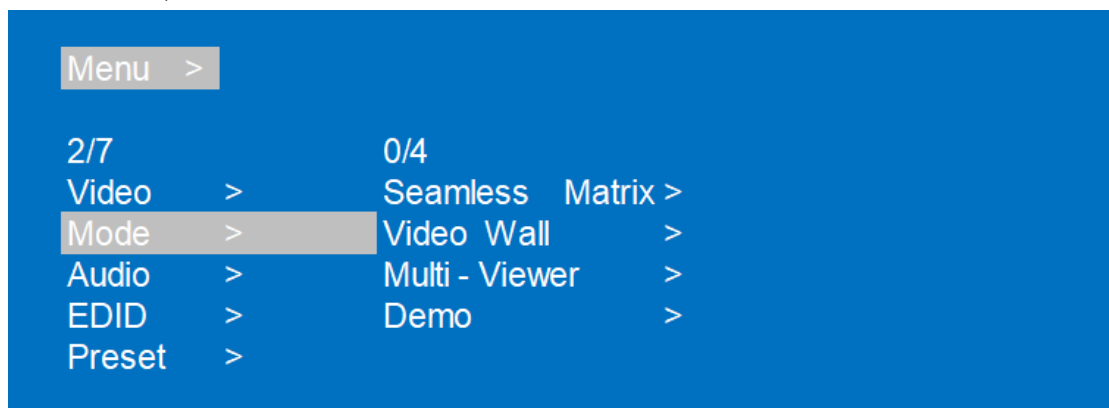
F. Rotate Section setting:

One key rotation function, you can choose one or all the output of one key rotation, rotation 180 degrees.
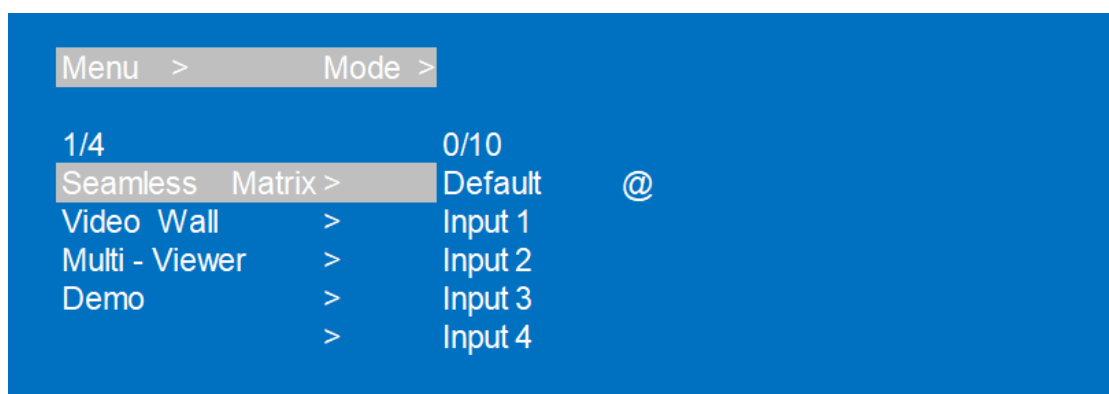

Rotation Interface

4.2. Mode Control:

The control interface of Mode has four sub-menus: Seamless Matrix; Video Wall; Multi-Viewer; Demo

Mode Interface

A. Seamless Matrix
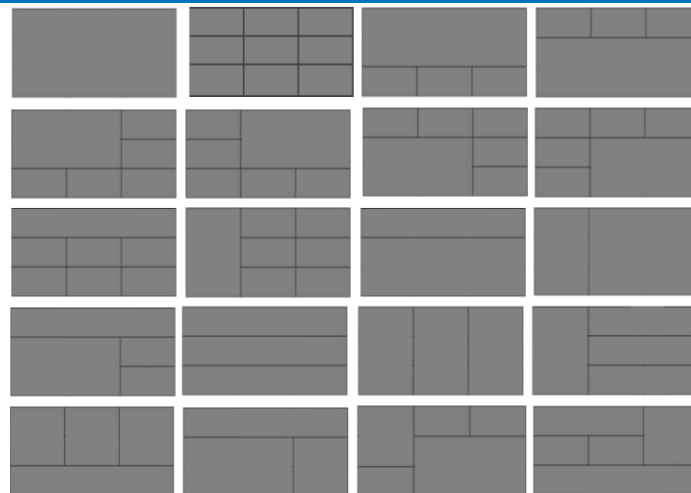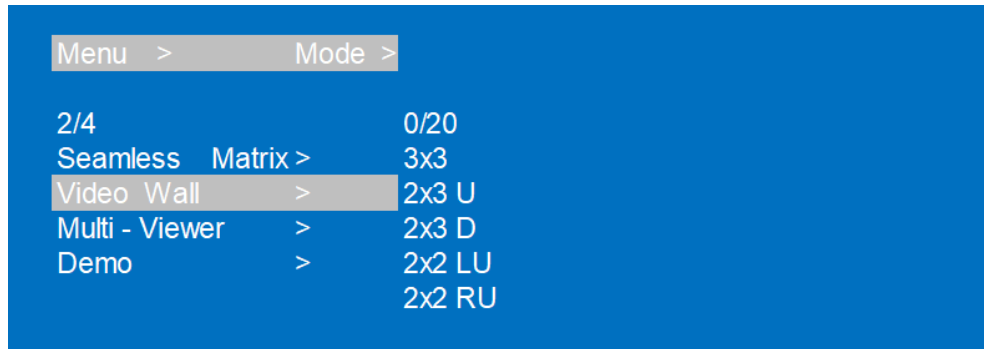
Seamless Switch all the video.

Seamless Matrix Interface

B. Video wall Mode

There are 20 preset scenes in the Mode.
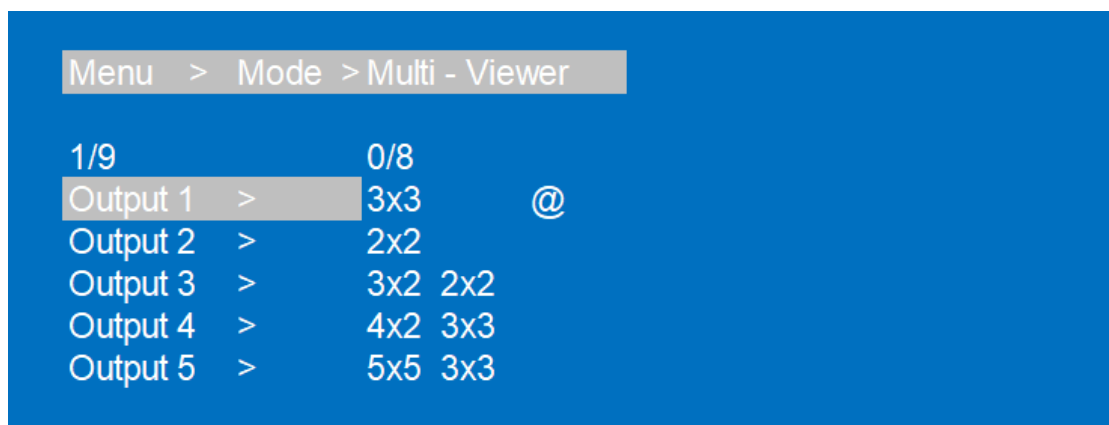
Explanation:

2x3 U means 2x3 Video wall on the TOP Side
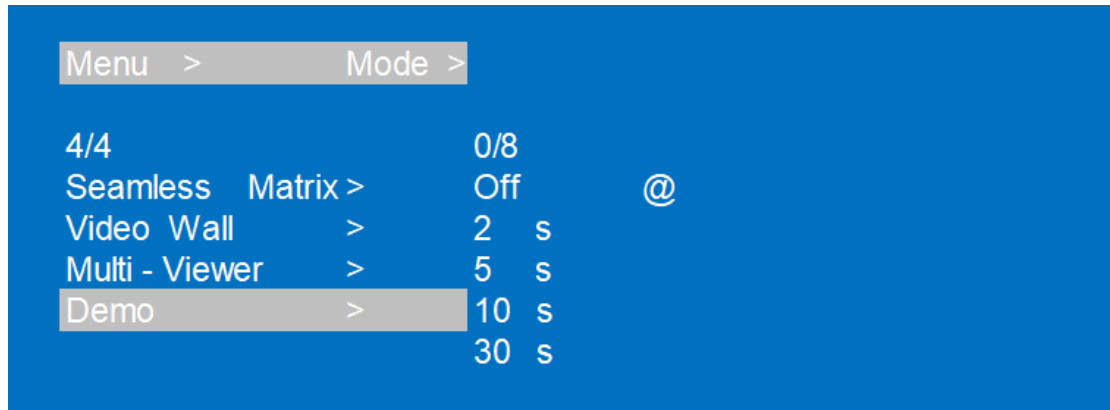
2x2 LD means 2x2 Video wall is on the Left Down side

Menu   >   Mode >

2/4   0/20
Seamless   Matrix >   3x3
Video Wall   >   2x3 U
Multi - Viewer   >   2x3 D
Demo   >   2x2 LU
                            2x2 RU

Video Wall Interface

C. Multi-Viewer Mode

With 8 presets under the Multi-Viewer Mode

Menu   > Mode > Multi - Viewer

1/9   0/8
Output 1   >   3x3   @
Output 2   >   2x2
Output 3   >   3x2 2x2
Output 4   >   4x2 3x3
Output 5   >   5x5 3x3

D. Demo

After selecting this mode, then will switch under Seamless Matrix, Video wall and Multi-viewer mode. You can choose to set the demo switching time: 2S, 5S, 10S, 30S, 60S, 180S, 600S, or select Off to turn off.

5. Audio Setting
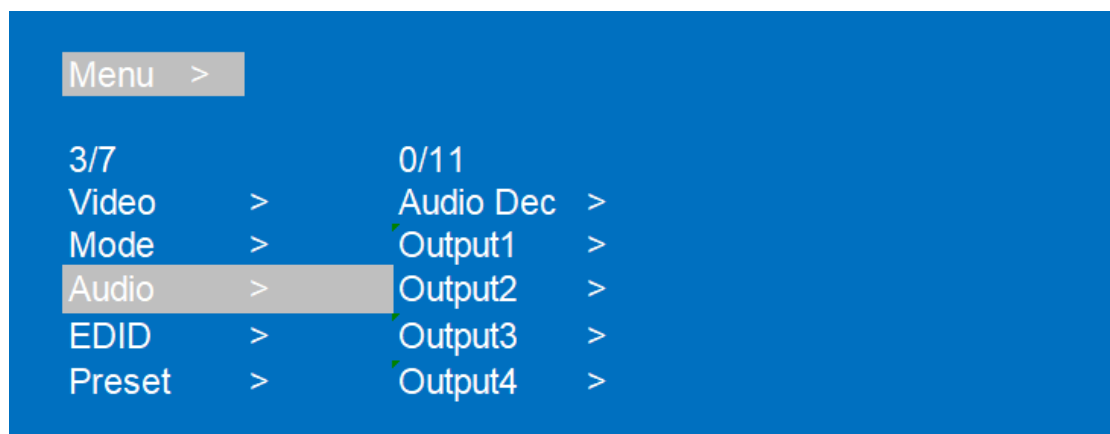
There are 11 sub-menus in the Audio Control Interface:
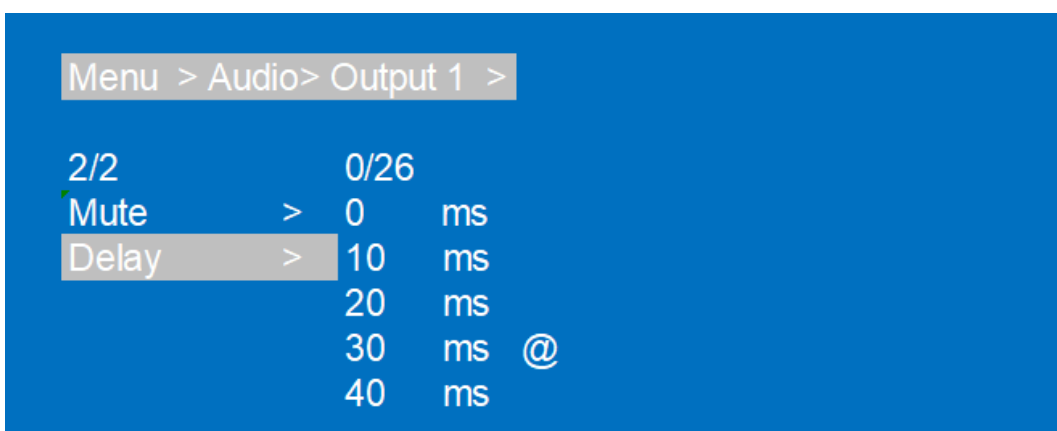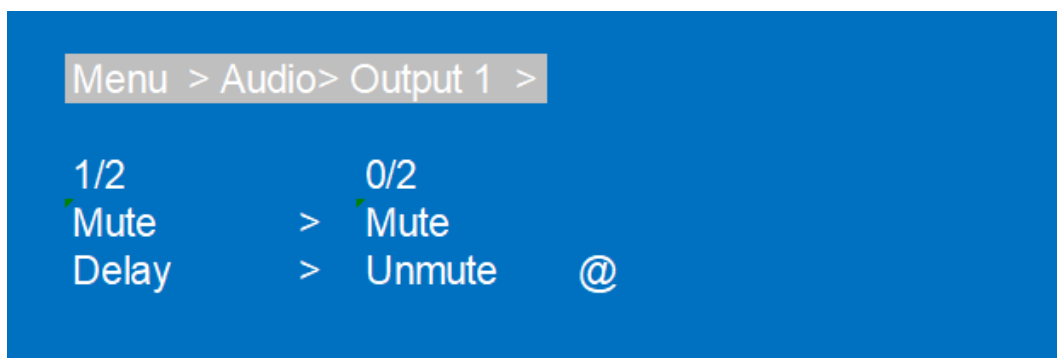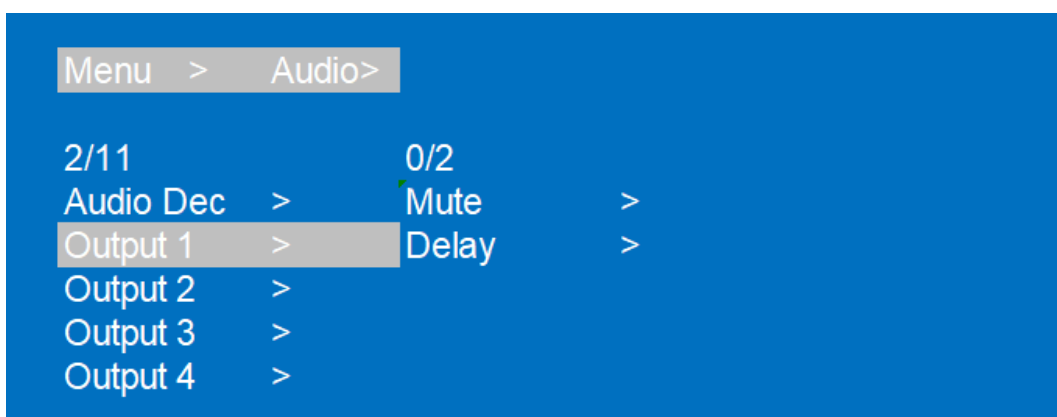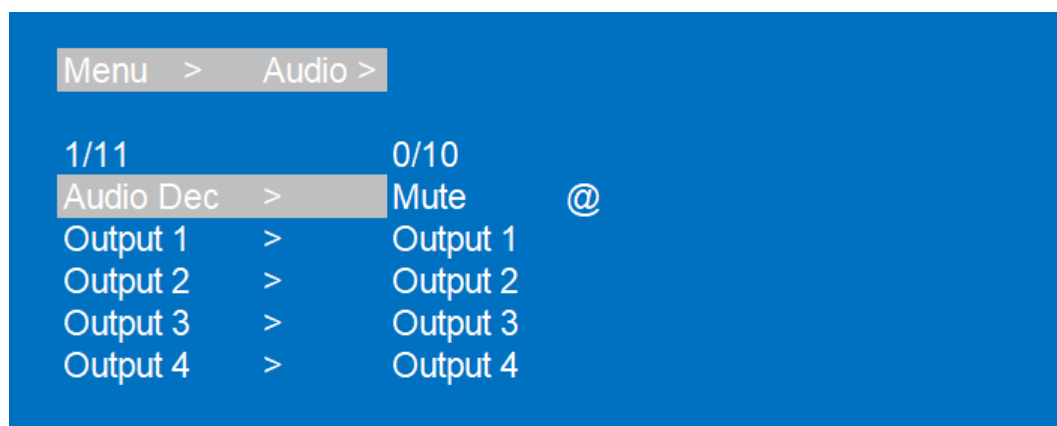
5.1. OUT 1~9

5.2. ALL

5.3. Rear Ports (Audio Extractor)

Audio Setting interface can set each or all output together. Mute, Un-mute or Delay, Rear Ports can be selected.
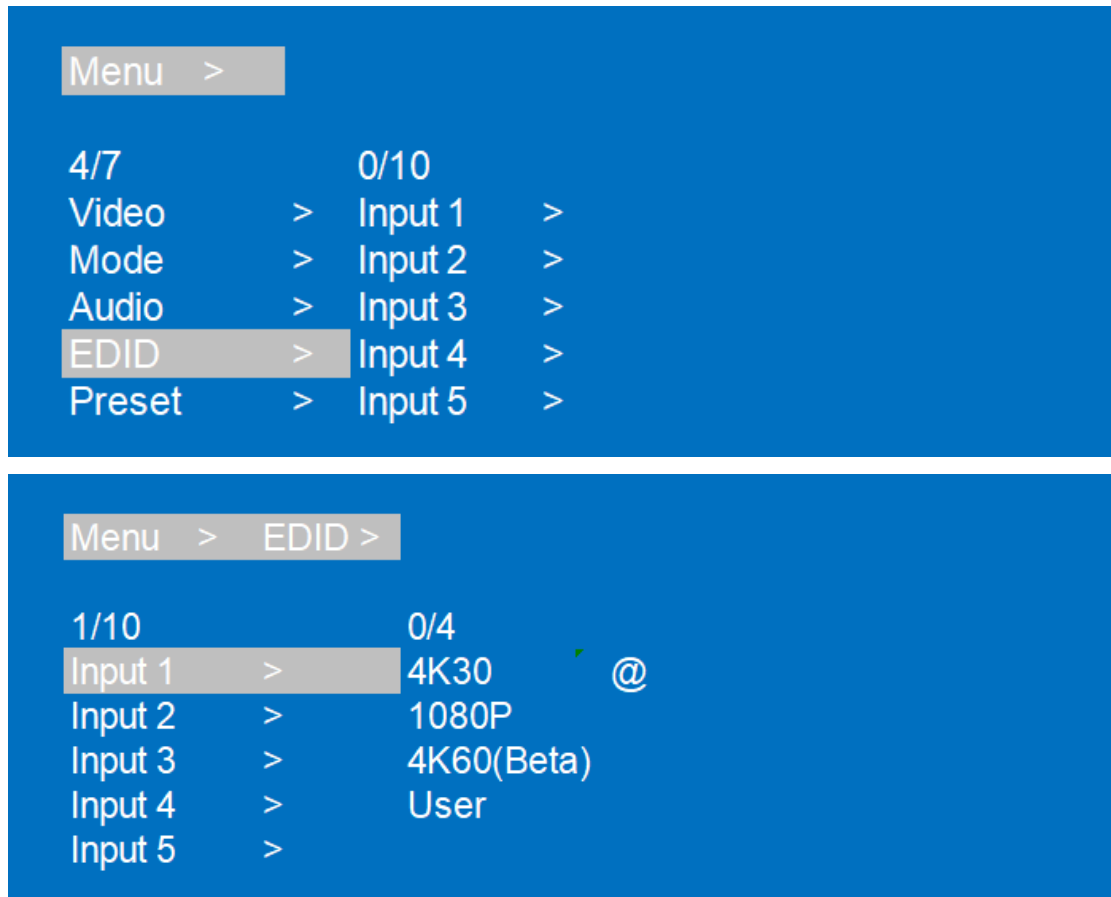
```
Menu    >    Audio >

1/11                0/10
Audio Dec    >      Mute        @
Output 1     >      Output 1
Output 2     >      Output 2
Output 3     >      Output 3
Output 4     >      Output 4
```

```
Menu    >    Audio>

2/11                0/2
Audio Dec    >      Mute          >
Output 1     >      Delay         >
Output 2     >
Output 3     >
Output 4     >
```

```
Menu  > Audio> Output 1  >

1/2                0/2
Mute         >     Mute
Delay        >     Unmute     @
```

```
Menu  > Audio> Output 1  >

2/2                0/26
Mute         >     0      ms
Delay        >     10     ms
                   20     ms
                   30     ms   @
                   40     ms
```

Audio Interface

6. EDID Setting

Set each input ports' EDID, there are four resolutions of Built-In EDID: 4K30hz; 1080P60hz; 4K60(Beta); User
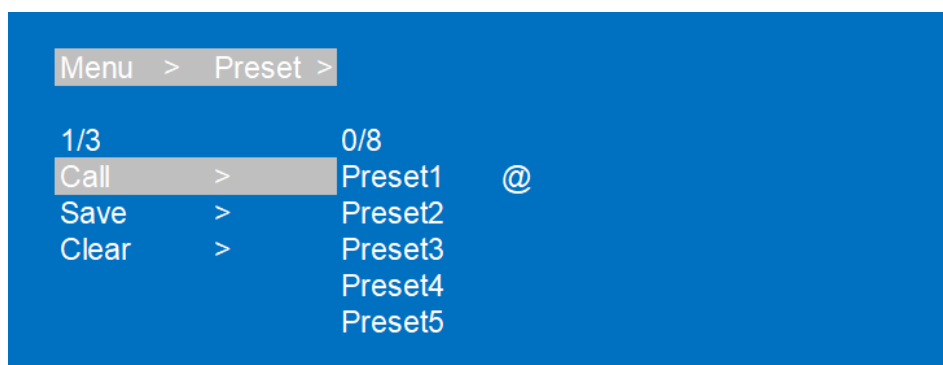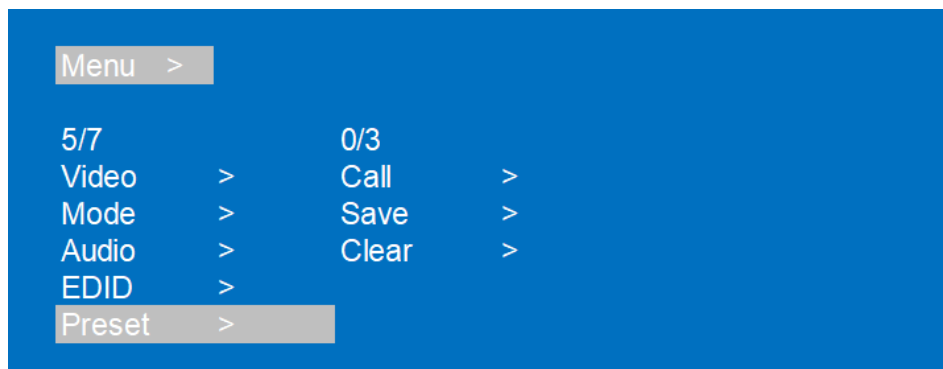

EDID Interface

7. Preset setting

7.1. Call: Call the preset video

7.2. Save: Save the preset setting

7.3. Clear: Remove the setting

Total can save 8 different video setting, modify the preset name need to login in WEB page. Then will synchronize to product.
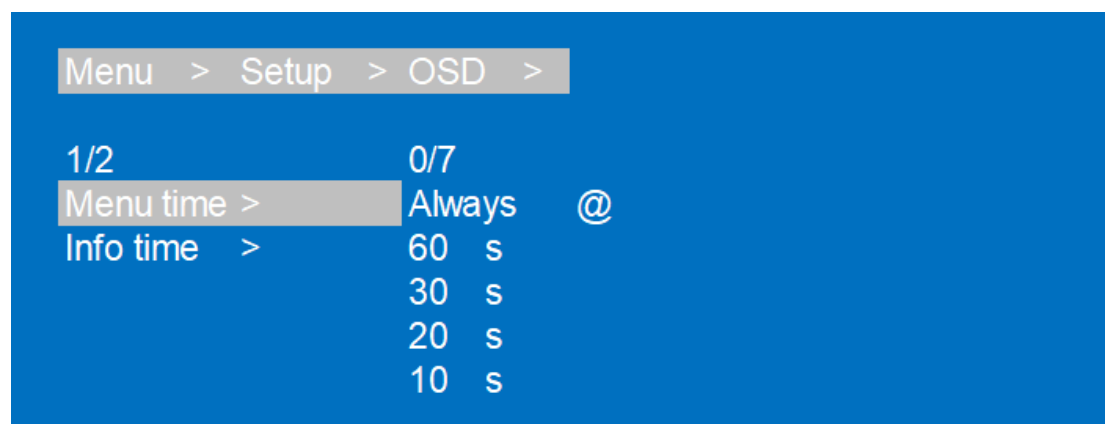
Preset Interface

8. Setup Section

8.1. OSD Setting

OSD setting with 2 sub-menu:

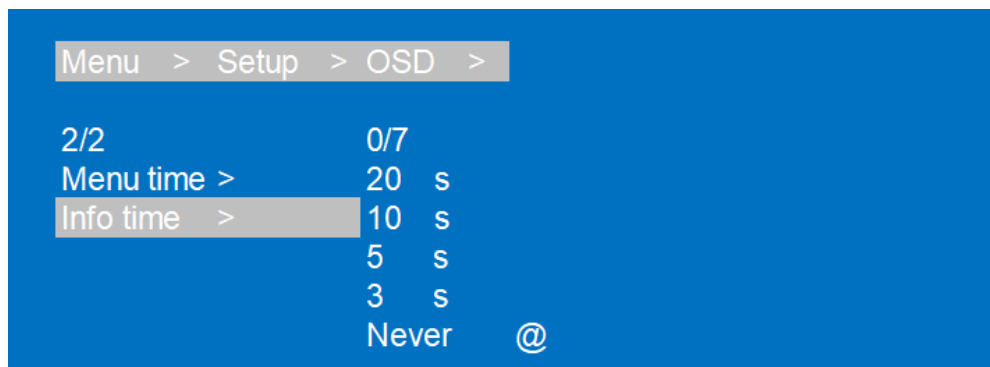Menu time: Timing OSD setting in Menu interface

Always means the OSD info will be showed all the time;

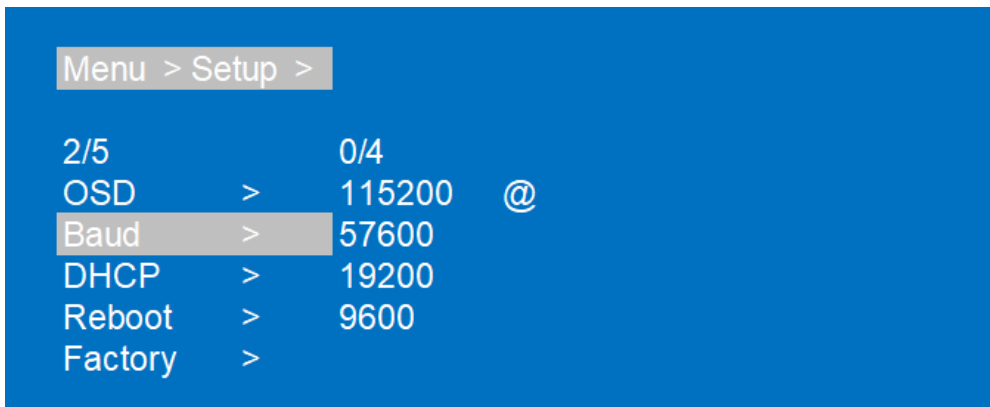60s means the OSD info will be turn off after 60 seconds.

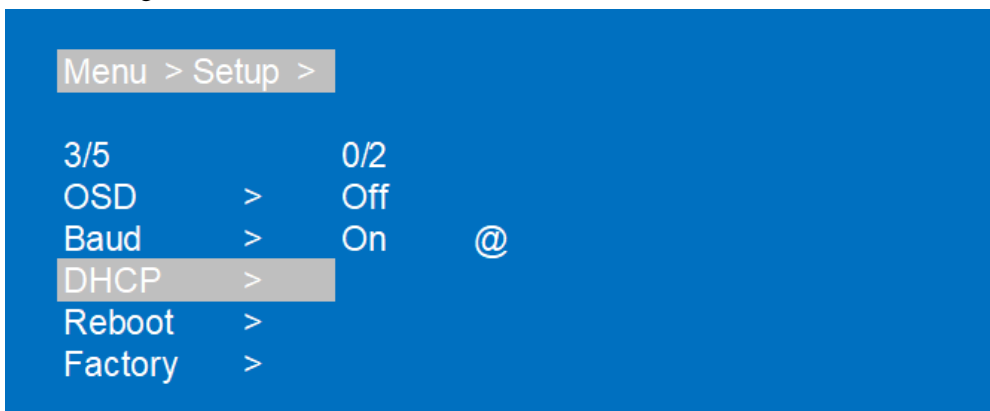Info time: Timing OSD setting in Resolution information

In Info time setting, with an option "Never" means the Info OSD won't be showed.
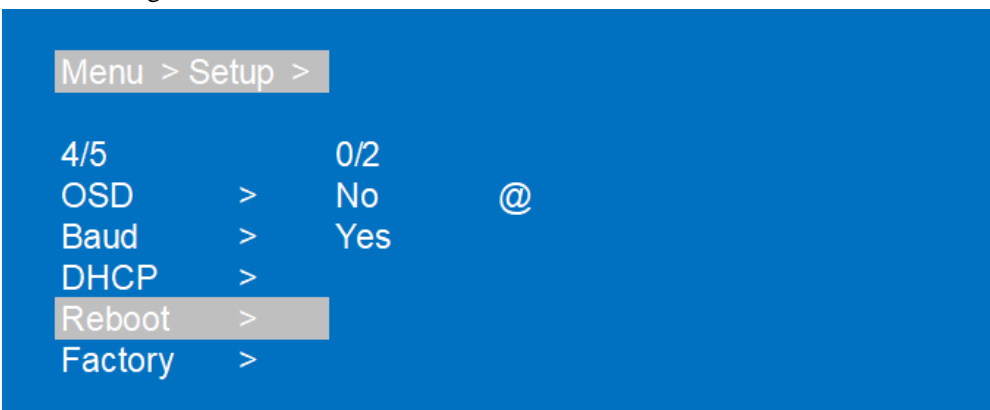
8.2. Baud Rate Setting (Default: 115200)

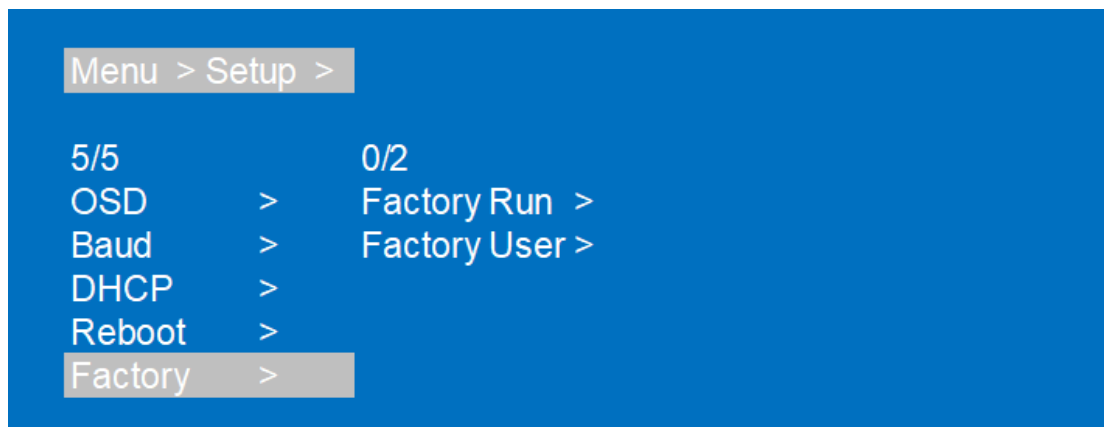8.3. DHCP Setting (Default: DHCP Off)

8.4. Reboot Setting

8.5. Factory Setting

It is an initialization setting for the device function. There are two factory settings:

1. Factory-Run

2. Factory-User
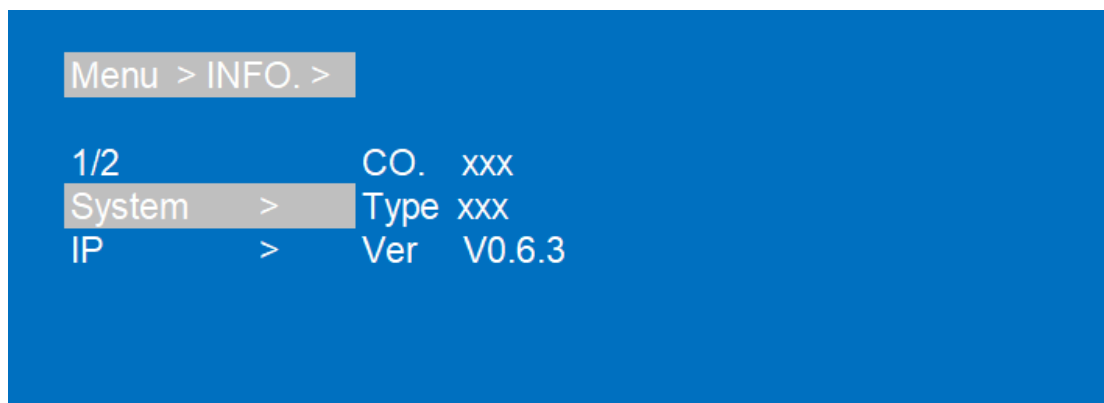
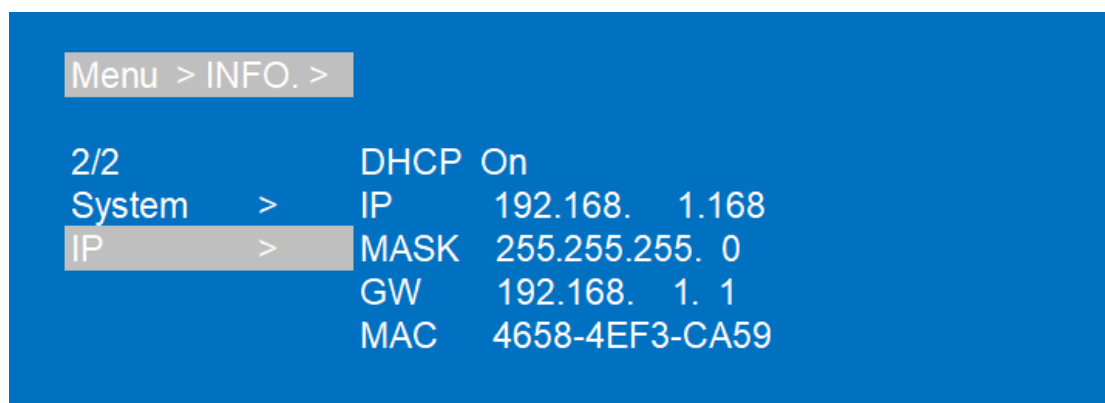Factory-Run is the recovery operation data. (Keep the Preset setting)

Factory-User can restore the factory settings for all settings.

```
Menu > Setup >

5/5              0/2
OSD      >       Factory Run  >
Baud     >       Factory User >
DHCP     >
Reboot   >
Factory  >
```

9. Info Section

Query device information, such as IP information, system information, each device MAC is different

```
Menu > INFO. >

1/2              CO.  xxx
System   >       Type xxx
IP       >       Ver  V0.6.3
```

Menu > INFO. >

2/2   DHCP On
System   >   IP   192.168.   1.168
IP   >   MASK   255.255.255. 0
                         GW   192.168.   1. 1
                         MAC   4658-4EF3-CA59

10. Remote Controller

⏻ : Standby or power on
🔇 : Mute button
⏮ : Return to upper level
⏭ : Move to next level
⏹ : (N/A)
⏯ : (N/A)
USB : Seamless switch under "Matrix" Mode；
AV : Video wall switch；
VGA : (N/A)
HDMI : (N/A)
⌂ : Menu
ALL : All output
▲ : Up
◀ : Menu
OK : OK
▶ : Right
▼ : Down
↻ : OSD on/off
Back : Menu

When selecting Output,means Out1--out9
When selecting Input，means In1--In9

▦ : Preset
0 : (N/A)
+- : Point to Point

11. WEB Control:

When the matrix is connected to the control device (such as: PC) through TCP/IP network port, which can be controlled by Command or through GUI man-machine interactive interface.

The control mode is divided into two types:
Be connected with a single non-networked computer for single control;
Be connected to the local area network, make multi - machine control at the same time

Note: web control recommended to use Google, fire fox, IE8 above's browser, using other browsers may not be compatible

11.1. Non-networked control:

When the Matrix connect with a single non-networked computer through TCP/IP port, Matrix and the control computer network segment are consistent. Directly connection for control; If the network segment is inconsistent, the control computer network segment should be consistent with the Matrix segment, but the IP address cannot be set to the same, the IP address conflict will not be accessible
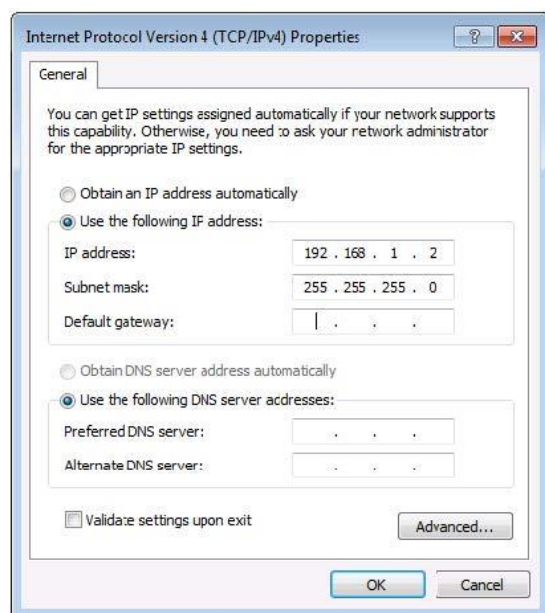
WEB:

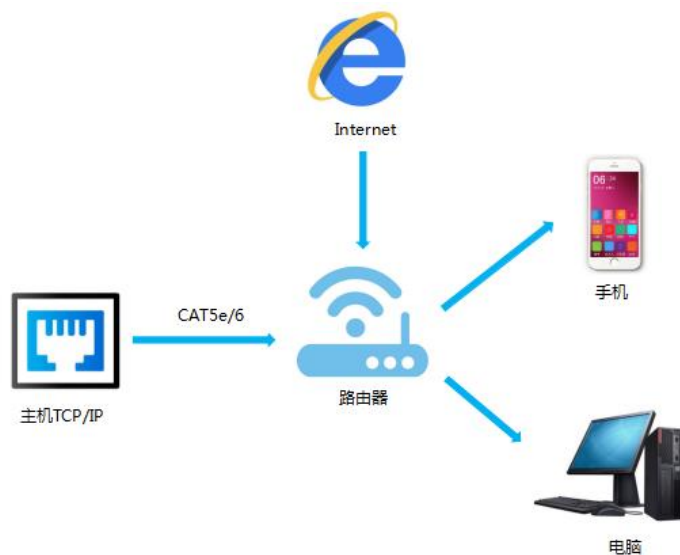(Default IP address of web page: 192.168.1.168

MASK: 255.255.255.0

GW: 192.168.1.1

MAC: XXX-XXX-XXXX MAC address will change with GUI module)

Kazakhstan Technical support tel.:+7(727) 249-50-79

11.2. LAN multiple simultaneous control:

Connect to LAN to make the remote control of multi-user devices (such as mobile phones and other PCS) in the Ethernet environment, and ensure that the IP network segment of Matrix is consistent with the IP network segment.
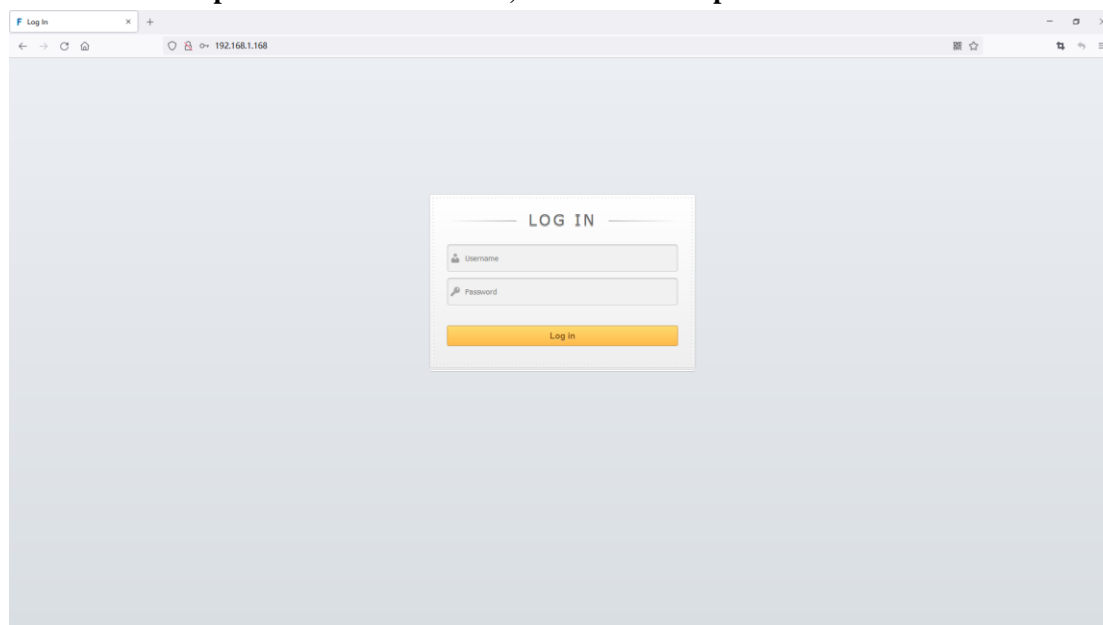

11.3. After setting, ENTER the browser and ENTER the default IP address, ENTER the webpage LOGIN interface, ENTER the
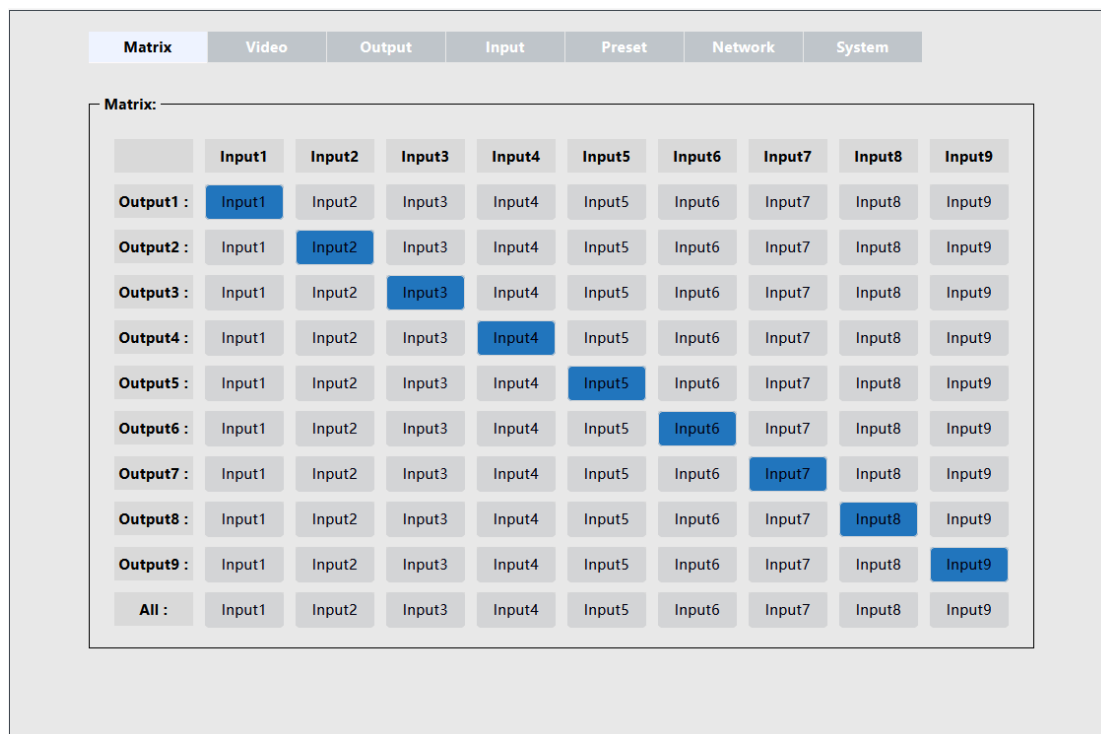
Account number: admin

Password: admin

Click LOGIN or press ENTER to LOGIN, as shown in the picture:

LOGIN Interface

Matrix Option

Video Output Interface

Video Option

①Seamless Matrix

1:P2P ▾

with drop menu to select: P2P, input1~9.

②Video Wall

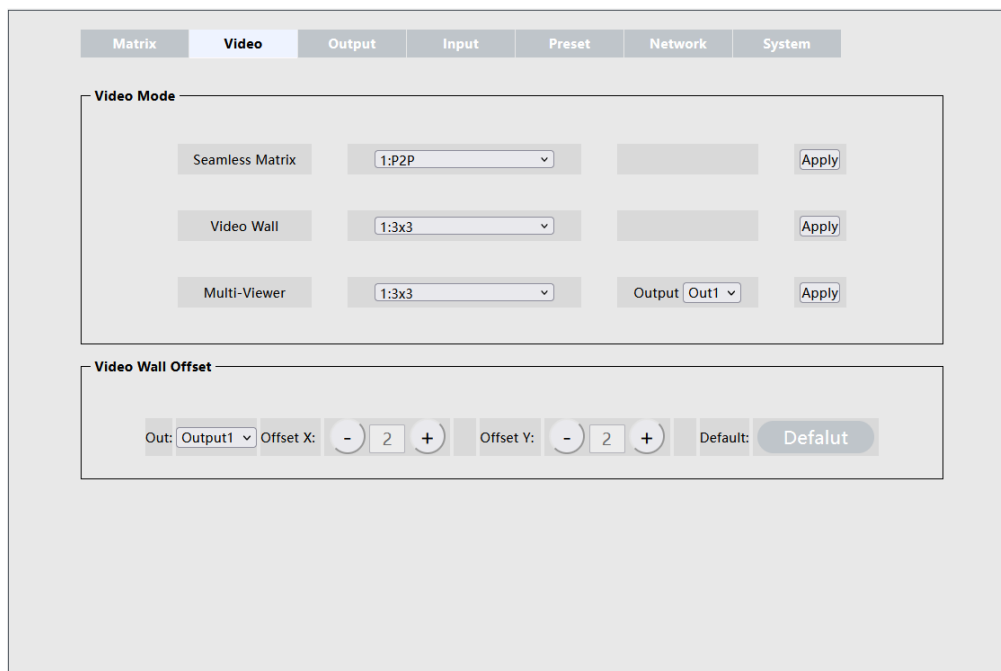| 1:3x3 ▾ |
|---|

with drop menu to select 20 presets.

③Multi-Viewer

1:3x3 ▾

with drop menu to select 8 presets, then choose the Output

Offset function: Adjust the Offset of the screen on X or Y axis in a single screen, with the range of 0-600 and increasing by 2 each time.The default is 0 for both the X-axis and Y-axis.

Note: Video Output must be selected first before doing Offset.

Click offset_x or offset_y button, and click default button to return to the default state.
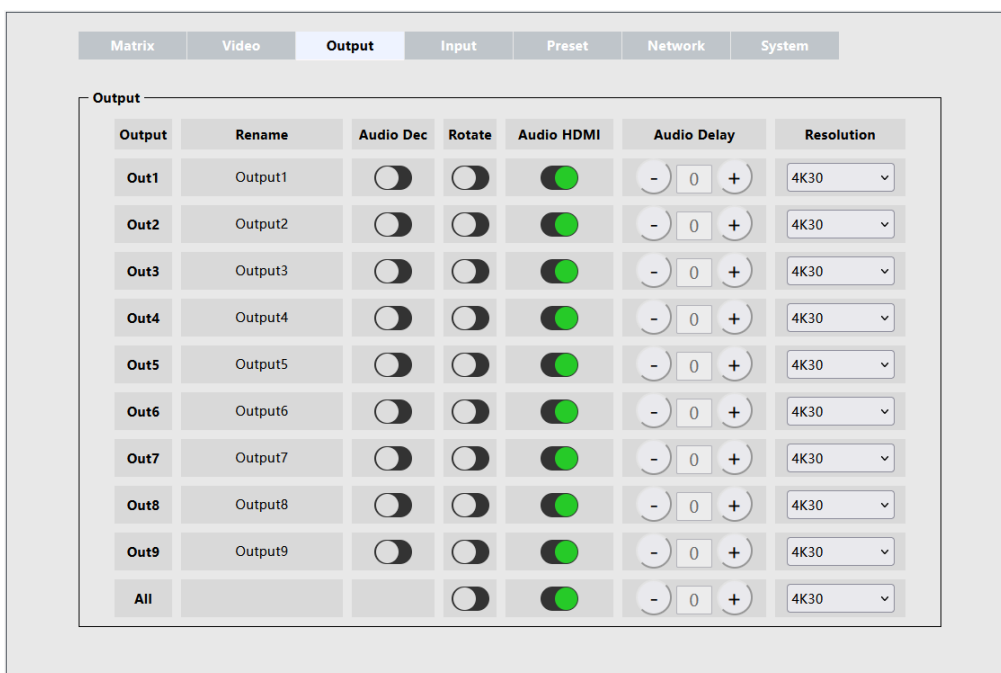
3x3 Video Wall Interface

Output Option

Rename: Double-click Output1~9 to rename the output port.

Audio Dec/Rotate/Audio HDMI: Analog Audio Extraction /180° Rotation / HDMI Audio on/off.

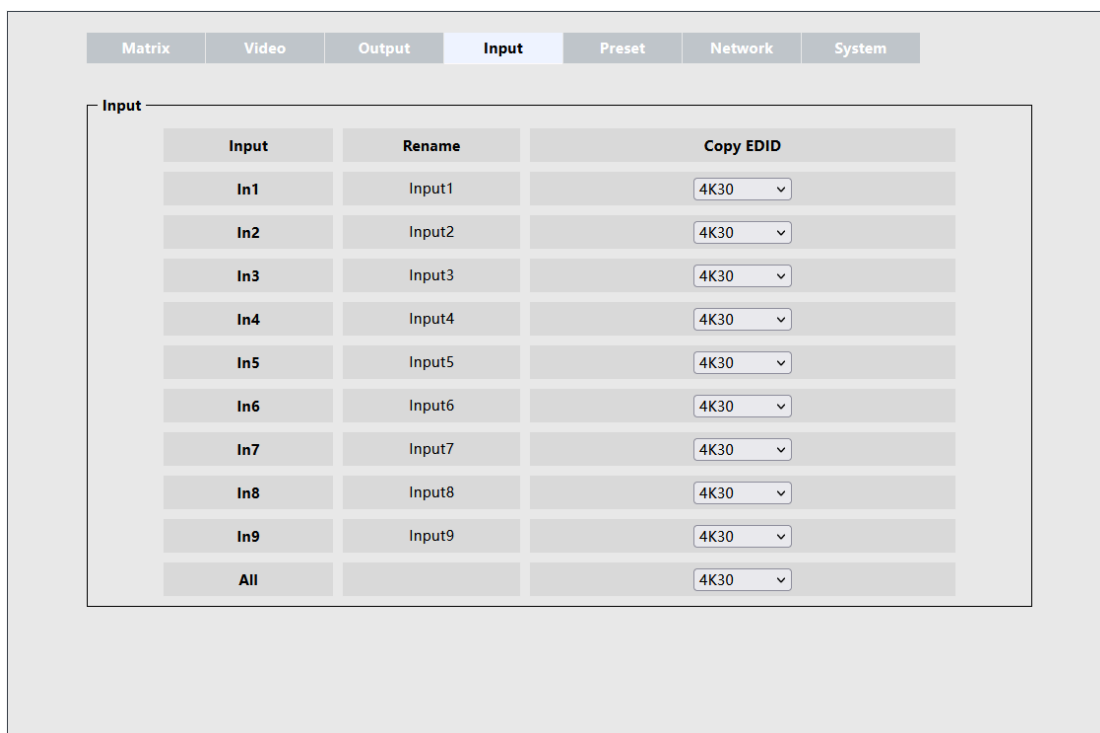Audio Delay: The Audio delay can be set to 0 to 250, each setting will be 10

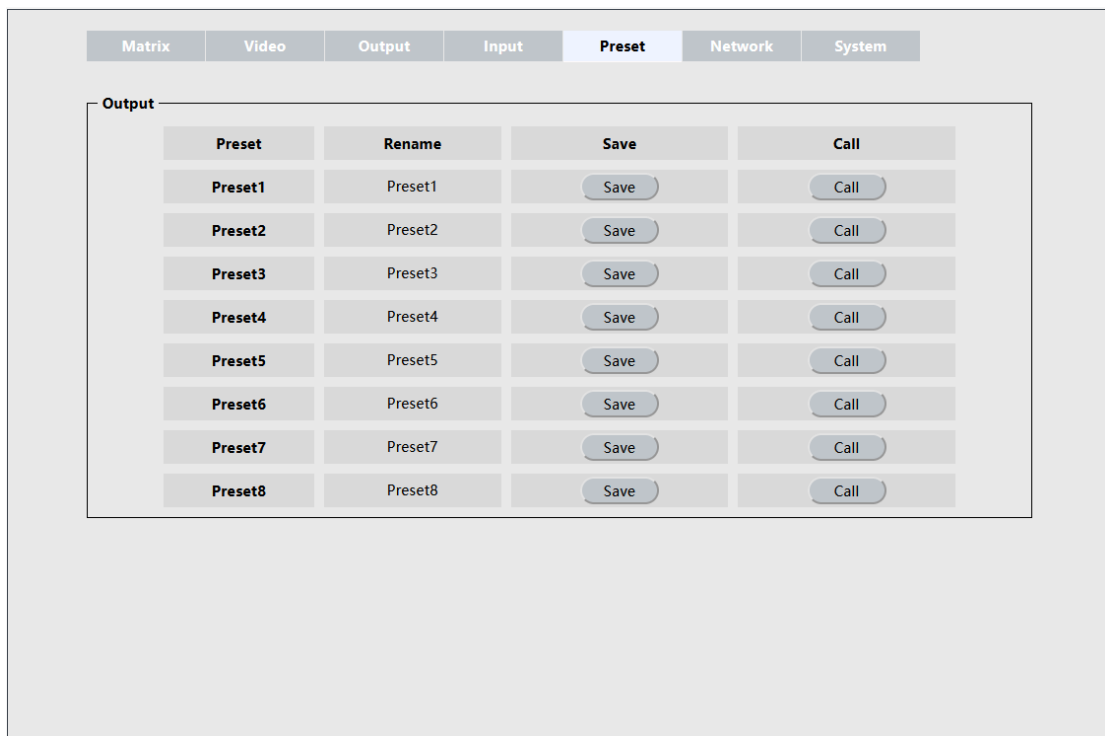Resolution: 4K30, 1080P, 720P, 2560×1440, 1920×1200, 1360×768, Auto

Input Option
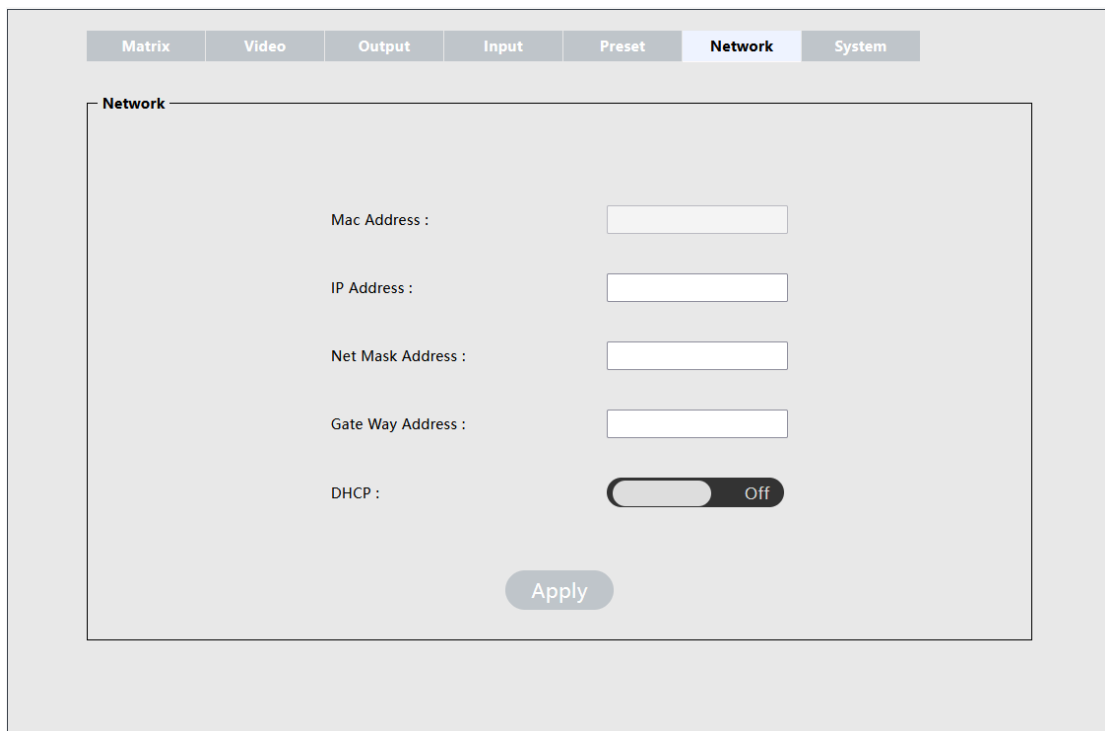
Rename: Double-click input1~9 to rename the input port.

Copy EDID: 4K30Hz & 1080P

Preset Option

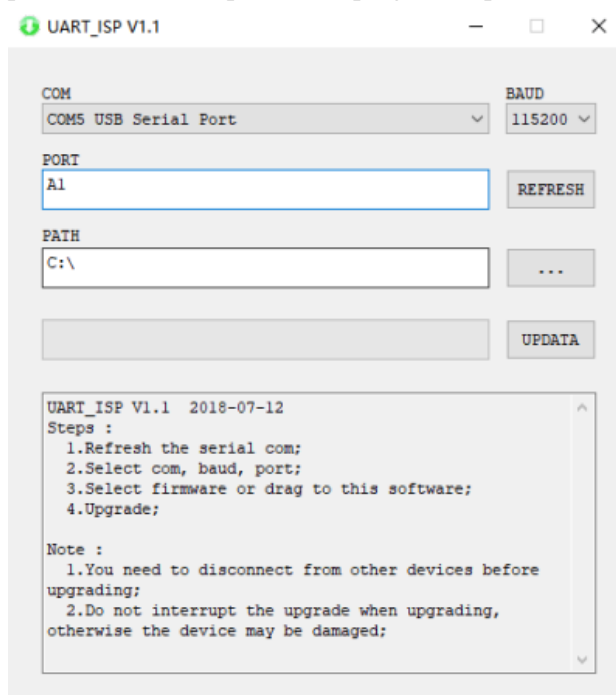| Matrix | Video | Output | Input | Preset | Network | System |

Output

Preset	Rename	Save	Call
Preset1	Preset1	Save	Call
Preset2	Preset2	Save	Call
Preset3	Preset3	Save	Call
Preset4	Preset4	Save	Call
Preset5	Preset5	Save	Call
Preset6	Preset6	Save	Call
Preset7	Preset7	Save	Call
Preset8	Preset8	Save	Call

Network Option

| Matrix | Video | Output | Input | Preset | Network | System |

Network

Mac Address :

IP Address :

Net Mask Address :

Gate Way Address :

DHCP :   Off

Apply

System Option

12. Firmware updating

Open UART_ISP-EXE on the PC, select the correct port and baud rate of 115200, enter "A1" in port, and select the path of the program in path (XX.bin), and click update to complete the upgrade
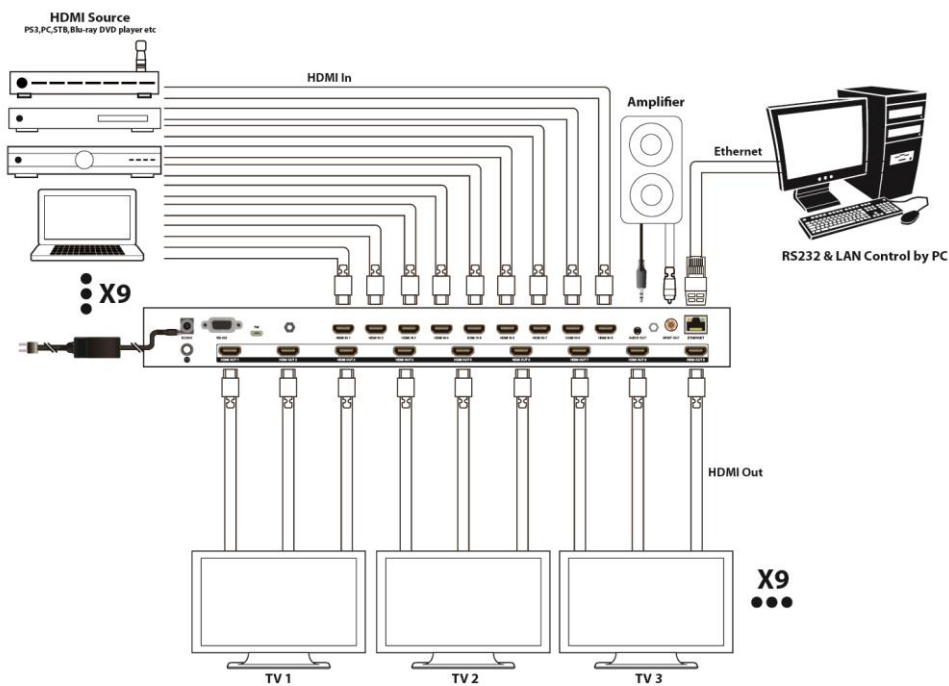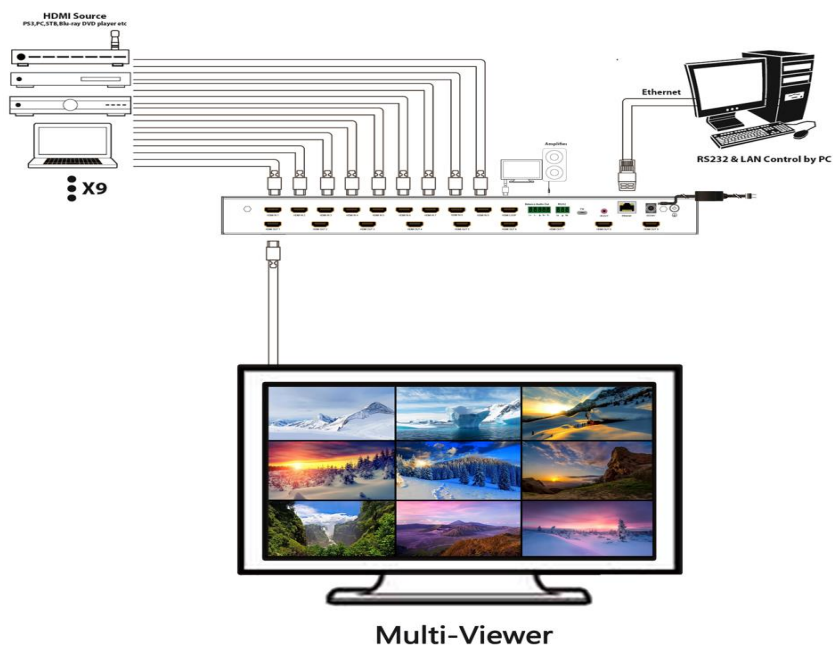
MCU Updating: A1

CPLD Updating: C0

GUI Updating: A1 01

HTML Updating: F1 01

(NOTE: Every time you need to update the firmware, please check with the Engineer first)
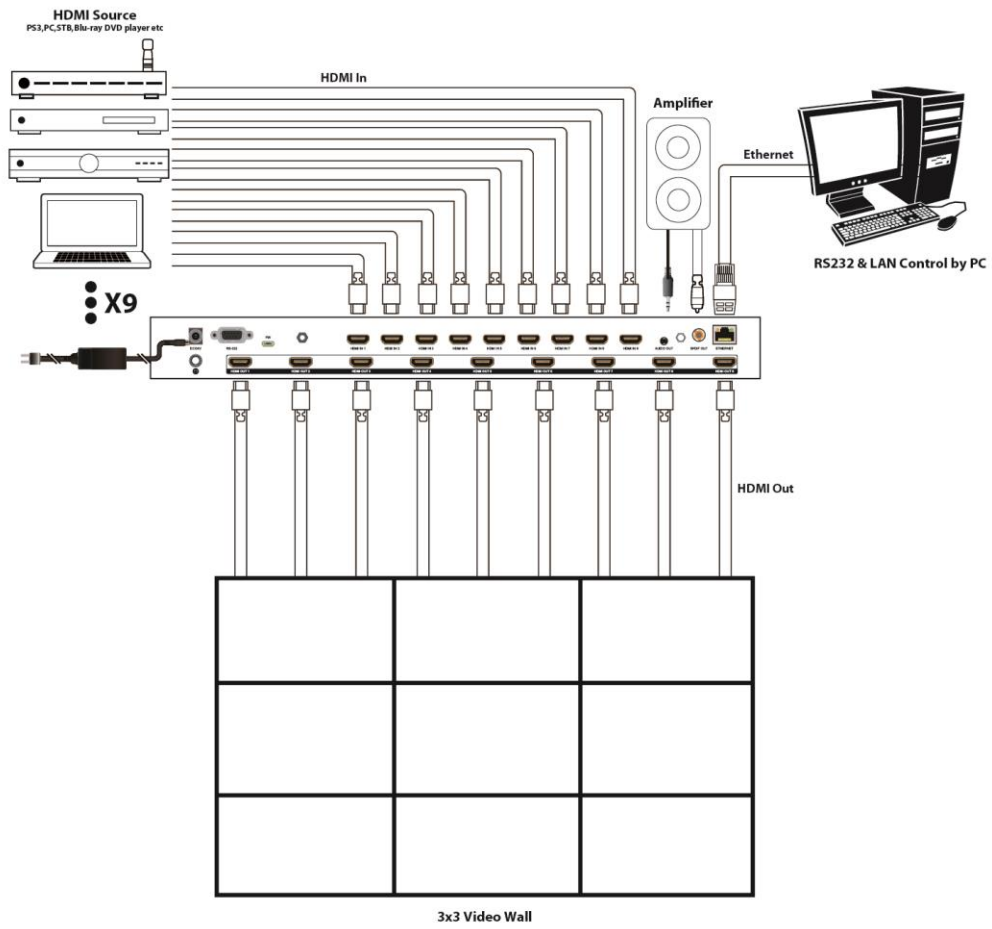

13. Application Diagram

① Seamless switch 9x9 HDMI Matrix & Multi-Viewer

Multi-Viewer

② Diagram of 3x3 Video Wall Displaying

3x3 Video Wall

MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner of benzine to clean this unit.

PRODUCT SERVICE

（1）**Damage requiring service:**
  The unit should be serviced by qualified service personnel if:
    (a) The DC power supply cord or AC adaptor has been damaged;
    (b) Objects or liquids have gotten into the unit;
    (c) The unit has been exposed to rain;
    (d) The unit does not operate normally or exhibits a marked change in performance;
  The unit has been dropped or the cabinet damaged.
（2）**Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions.Refer all other servicing to authorized servicing personnel.
（3）**Replacement parts:** When parts need replacing ensure the servicer uses parts
  specified by the manufacturer or parts that have the same characteristics as the
  original parts. Unauthorized substitutes may result in fire, electric shock, or other
Hazards.
（4）**Safety check:** After repairs or service, ask the servicer to perform safety checks to
  confirm that the unit is in proper working condition.

WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, **(Parts(2)Year, Labor(90) Days)** 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 of 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 product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

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.