

iWall X

Video Wall Controller

User Manual V1.0

www.infobitav.com

info@infobitav.com

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1. Interface introduction



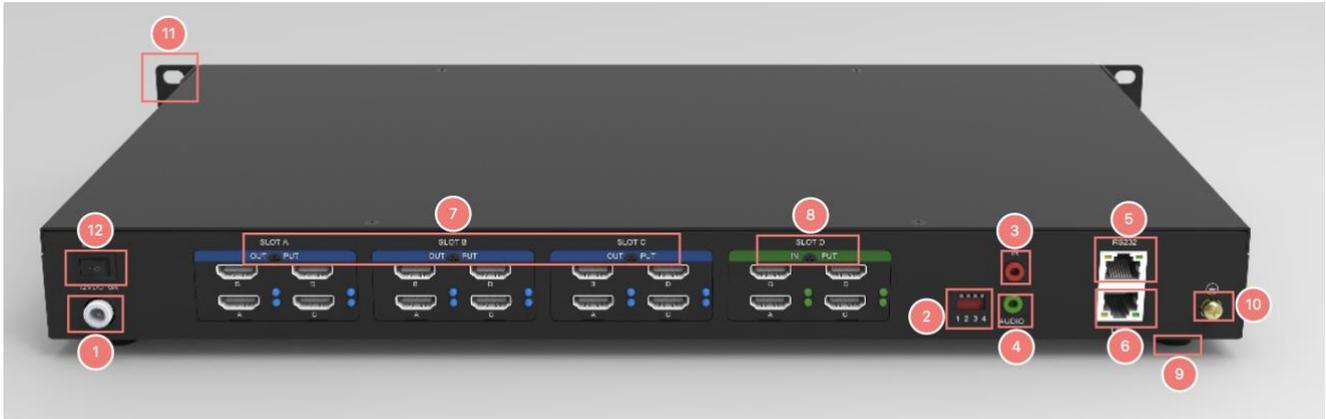
Model: iWall X404



Model: iWall X408



Model: iWall X808



Model: iWall X412

No.	Description
1	12V Power supply
2	Dial switch
3	IR receiver (Reserved for future)
4	Audio Out (3.5mm)
5	RS232
6	10/100M LAN
7	HDMI output (Blue light)
8	HDMI input (Green light)
9	Chassis foot pad
10	GND
11	Handle
12	Power switch

2. Features

- Advanced CrossBar technology
- Robust FPGA video data process technology
- No PC vulnerabilities
- 1 to 12 display outputs

- 4x video overlay windows per display
- Video windows zoom in, zoom out, moving, overlay, roaming, resizing and switching
- With 4x4, 4x8, 4x12 and 8x8 HD graphics inputs and outputs
- Low power consumption
- Low capture & display latency
- Support both LCD and LED videowall
- Presets saving and auto switching
- Video cropping
- Scrolling text*
- Embedded HDMI audio in all inputs
- 1x de-embedded audio from any input
- One-touch audio switching, mute or unmute
- Drag-and-Drop software operation
- One-touch Power On/ Off the whole videowall
- Seamless switching without any blank intervals
- Both videowall and matrix mode
- TCP/IP, RS232 Control
- Multiple user levels management
- Background picture

3. Spec

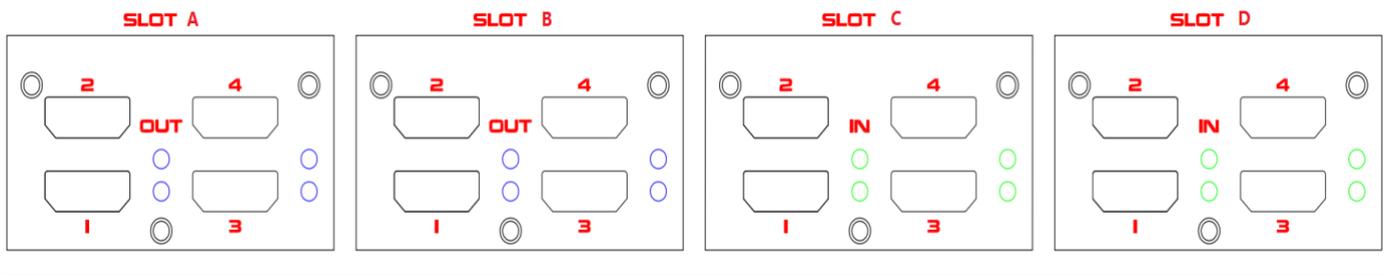
Series	iWall X			
Name	1080P HDMI Video Wall Controller			
Models	iWall X404	iWall X408	iWall X808	iWall X412
Video Inputs	4x HDMI	4x HDMI	8x HDMI	4x HDMI
Video Outputs	4x HDMI	8x HDMI	8x HDMI	12x HDMI
HDMI version	HDMI 1.3			
HDMI distance	15 meters via good quality copper cable			
HDCP version	Not support HDCP			
Size	1U			
I/O resolutions	Max. 1920x1080 60Hz, support customize resolutions			
Audio Inputs	Embedded HDMI audio in all inputs			
Audio Outputs	1x 3.5mm de-embedded audio from any input, stereo 192K sampling rate, 32bit			
Video windows	4x video overlay windows per display zoom in, zoom out, moving, overlay, roaming, resizing and switching			
Presets	Saving and auto switching			
Video Cropping	Support			
LCD videowall	Support			
LED videowall	Support			

Seamless Switching	Support			
Operating System	FPGA pure hardware architecture, no OS			
Videowall and Matrix	Supports both Videowall and Matrix modes			
OSD text	Fixed OSD text* (the scrolling feature will be ready in Q3, 2023)			
Background picture	Support			
Control	TCP/IP, RS232 Control			
Software	Windows PC, Android tablet			
Net Dimension WHD	44*6*25 cm without Ear, 48.5*6*25 cm with Ear			
Gross Dimension WHD	605*165*455 cm			
Net Weight	2.5kg	2.6kg	2.7kg	2.7kg
Gross Weight	5.1kg	5.2kg	5.2kg	5.2kg
Power	In: 110-240V, 50/60Hz. Out: 12V DC 5A, 60W			
In package	1x iWall X; 1x Power adapter; 1x UK power cord; 1x EU power cord; 1x 3.5mm audio cable, 1x RS232 to RJ45 adapter; 1x Grounding cable			

4. Wiring instructions

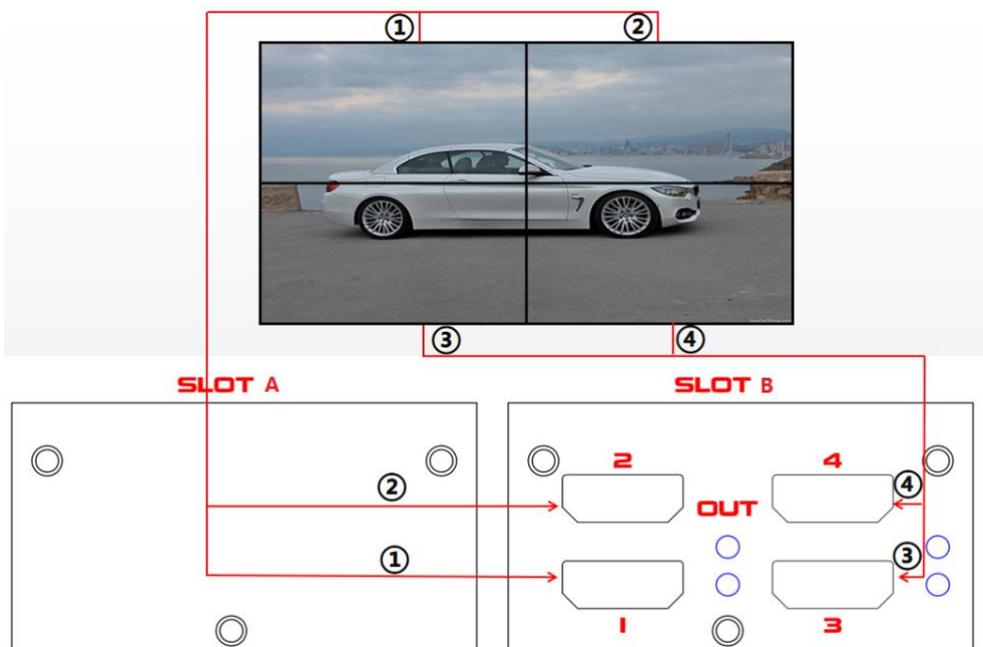
2.1 Connect the HDMI video cable, power supply, network cable, audio cable, and ground line.

2.2 Each card slot of the controller is printed with "SLOT A, SLOT B, SLOT C, SLOT D...", the slots are arranged in alphabetical order, and each one is printed with "IN" and "OUT", it can also be distinguished according to the color of the indicators. The green one is input (IN) and the blue is output (OUT) as shown in the following figure:

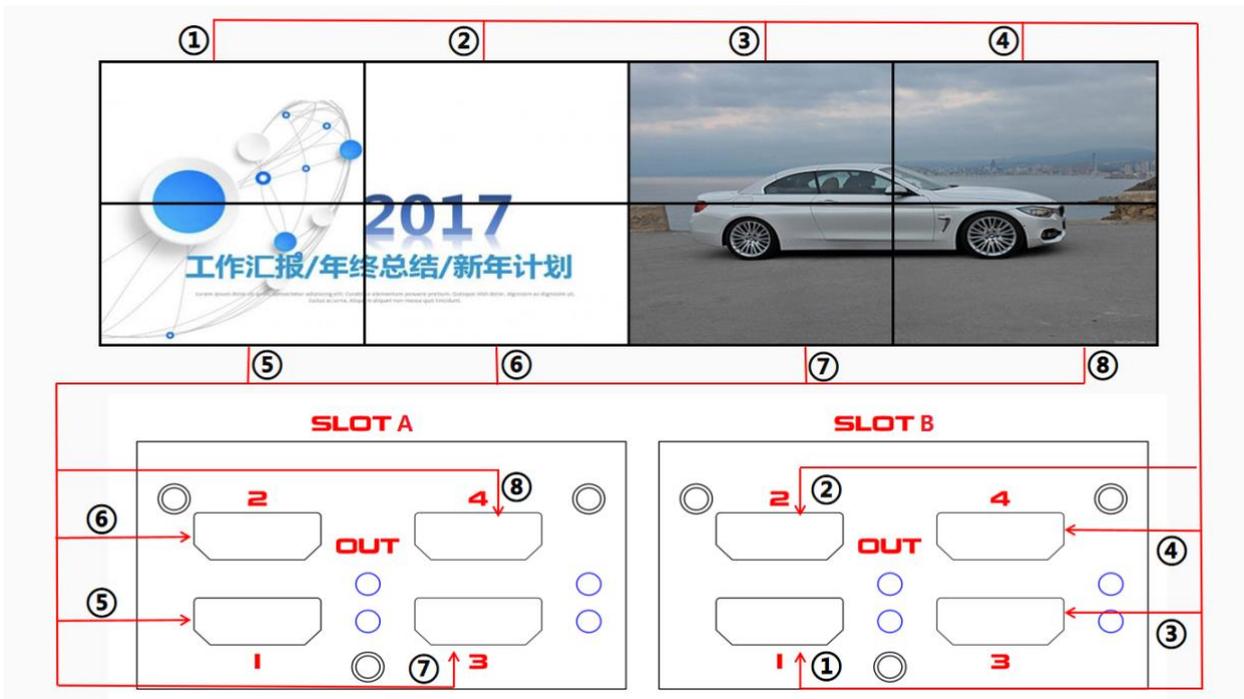


2.3 The output cables to the **LCD** videowall must correspond to the output port sequence of the iWall X video wall controller, as shown in the figure below:

**Note: the SLOT B (to LCD 1-4) is prior to the SLOT A (to LCD 5-8) for a 2x2 videowall.*



2*2 videowall diagram

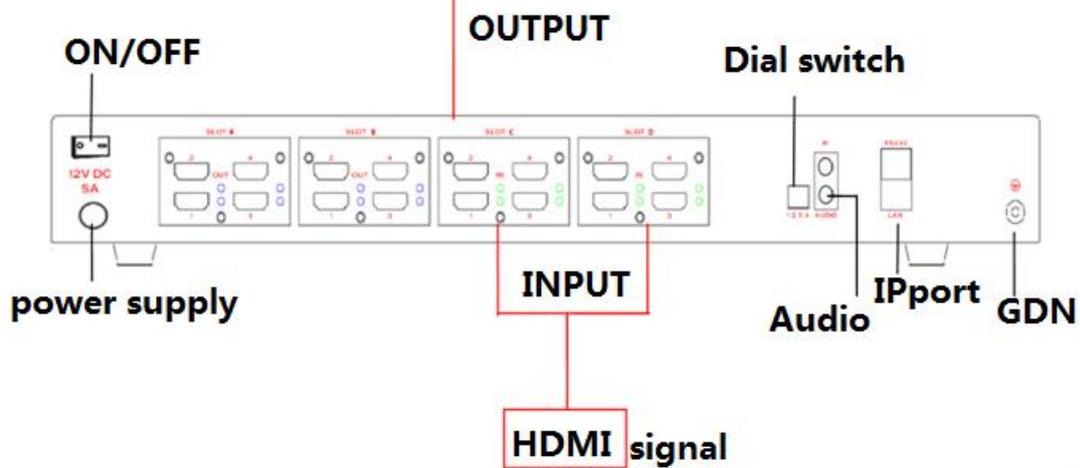
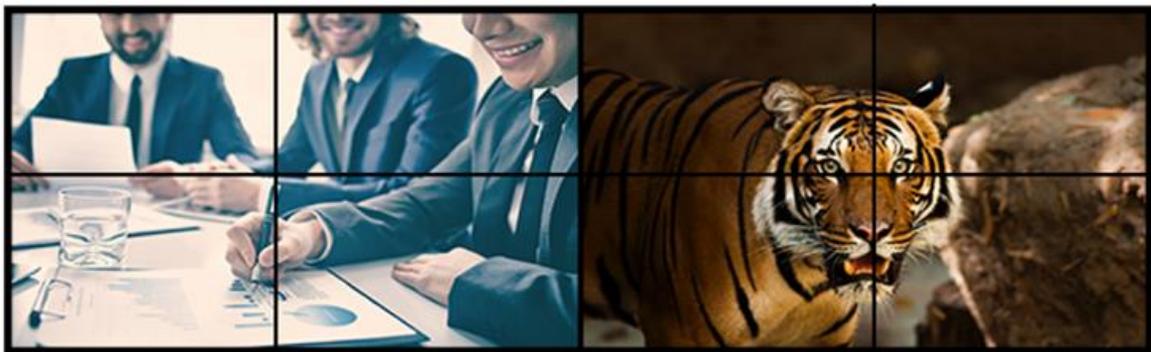


2*4 videowall diagram

2.4 The iWall X also support **LED** wall. The output cables to the **LED** sending cards must correspond to the output port sequence of the iWall X video wall controller, same as **LCD** connections.

2.5 Connect the software (see Paragraph 5), after setting the screen output (see Paragraph 7), the wiring sequence of the outputs will be shown on the virtual screen area on the iWall X software; follow this sequence to connect the videowall to the iWall X controller. For example, as below: the SLOT B: 1, 2, 3 and 4 to be connected to LCD 1-4; the SLOT A: 1, 2, 3 and 4 to be connected to LCD 5-8;

SLOTTING: SLOT D, SLOT C, SLOT B, SLOT A
 CONTROL: Presets, Video, Audio, Others, Video Crop, Modify Name, Wall 1
 ADD SIGNAL WINDOW: select the screen you want to open a window on, then double-click the icon above, or drag the icon to the upper screen area.





5. Install the iWall X software

Copy the client software installation package iWall 3.2.7 setup to the computer, and then double-click the file and click next to complete the installation.

6. IP setting

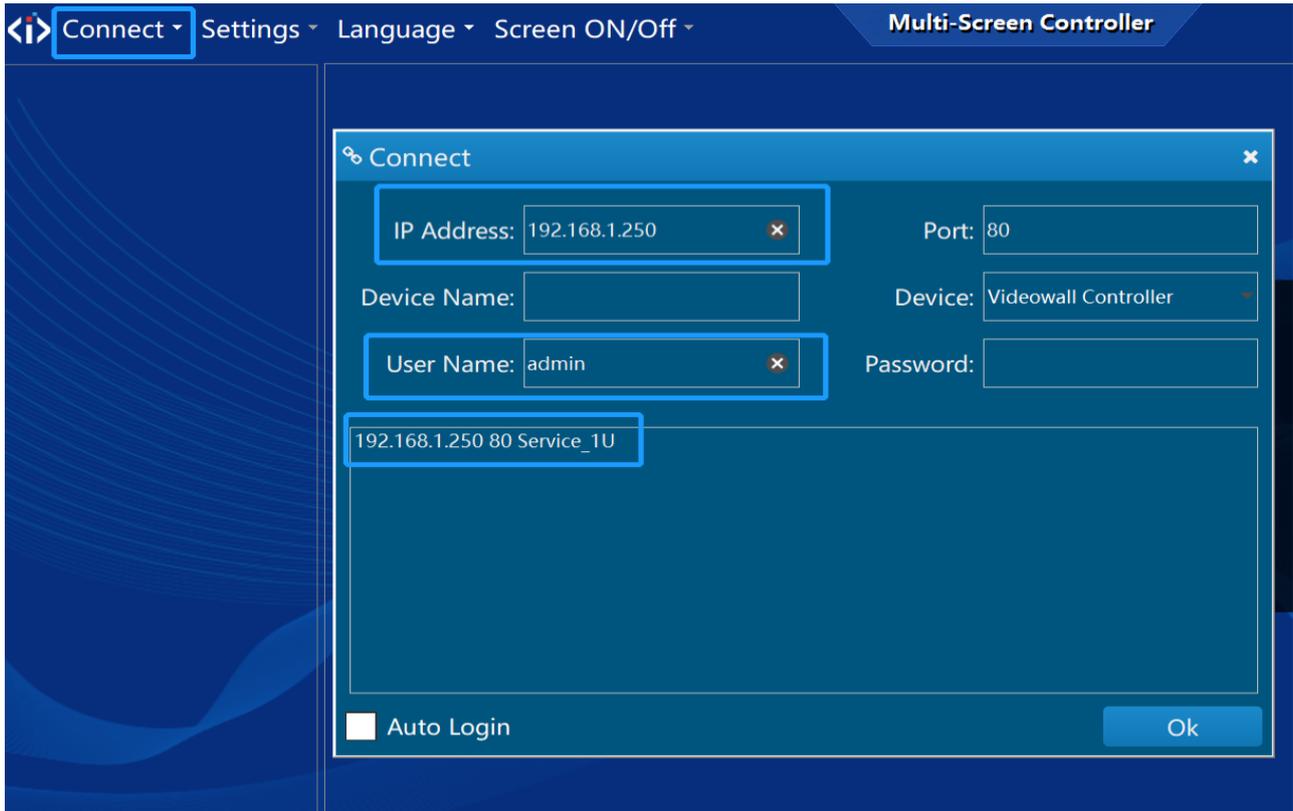
Connect the controller and the computer directly with a network cable or connect both to the same switch or router.

The factory IP address of the controller is 192.168.1.250, and the computer IP must be set to 192.168.1.xx to make sure they are under the same LAN.

To change the default IP of the video wall controller, please refer paragraph [14. Change IP Address](#)

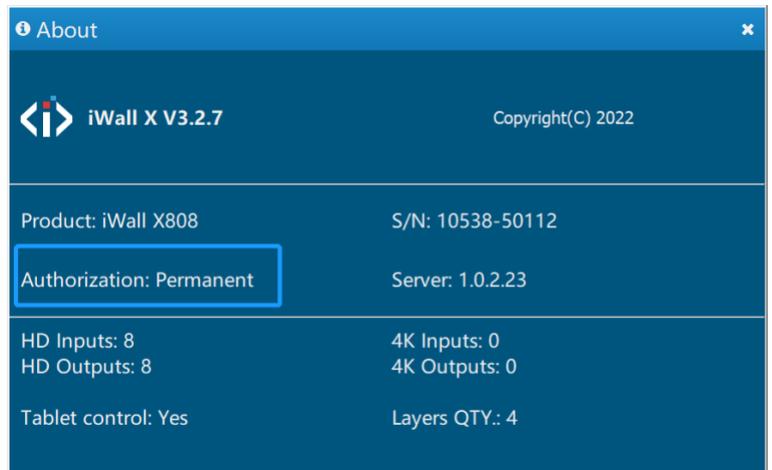
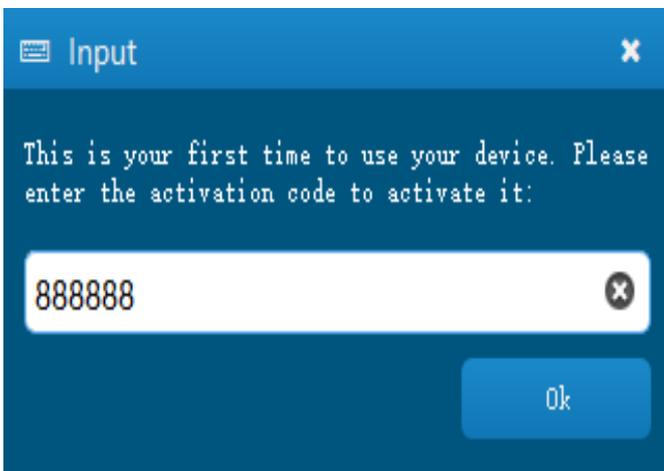
7. Software connection

Open the iWall X, click Connect, enter the controller IP Address, User Name (admin as default), and the password are empty; you can also select the auto-searched IP (see the figure below) and click Ok to login.



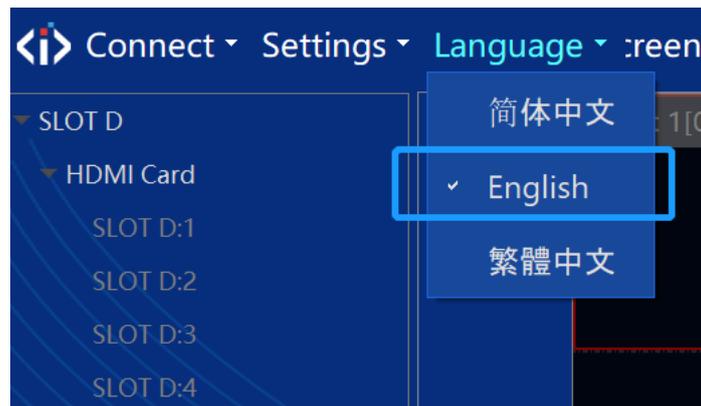
8. Device activation

After logging in to the software, at the first time the device needs to be activated, the temporary activation code is :888888; after activation, the information can be viewed in the Settings- About menu. See below:



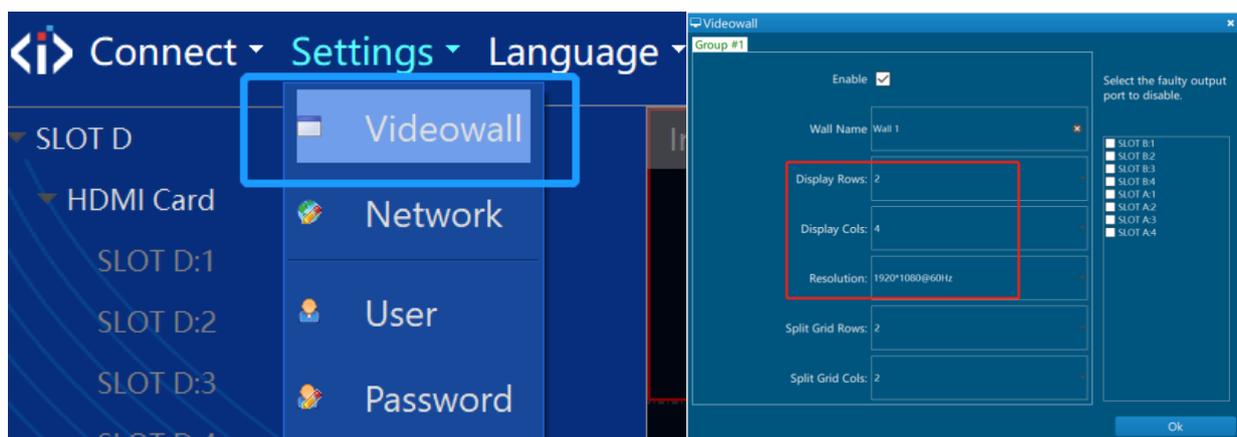
9. Switching languages

Click *Language* to switch between Simplified Chinese, Traditional Chinese, and English as shown below:



10. LCD Videowall settings

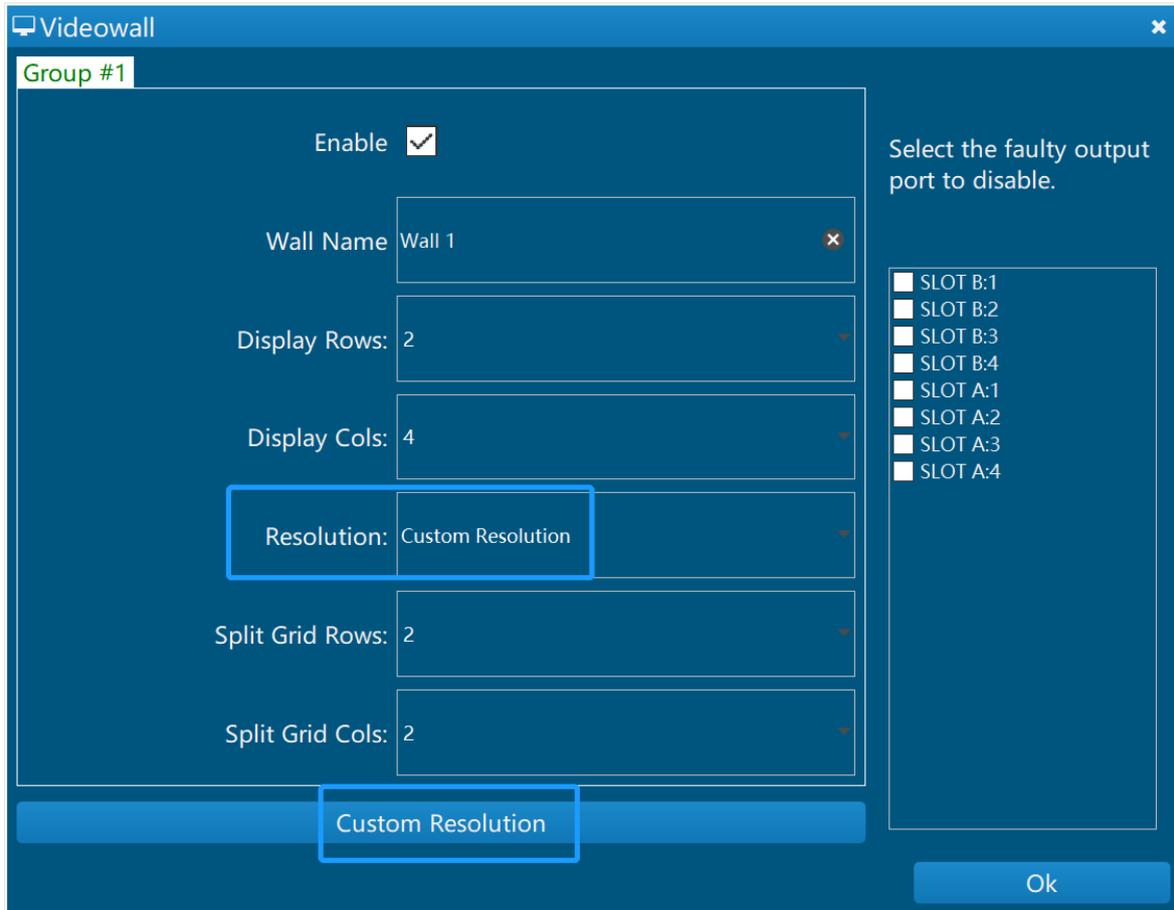
Click *Settings-->Videowall*, if the displays are a LCD, DLP and other standard resolution screens, you need to set the screen resolution of the iWall X output, see figure below:



The Split Grid Rows and Cols means the virtual splitting grids on each LCD display, it can be used to open video windows at the right position and aspect ratio.

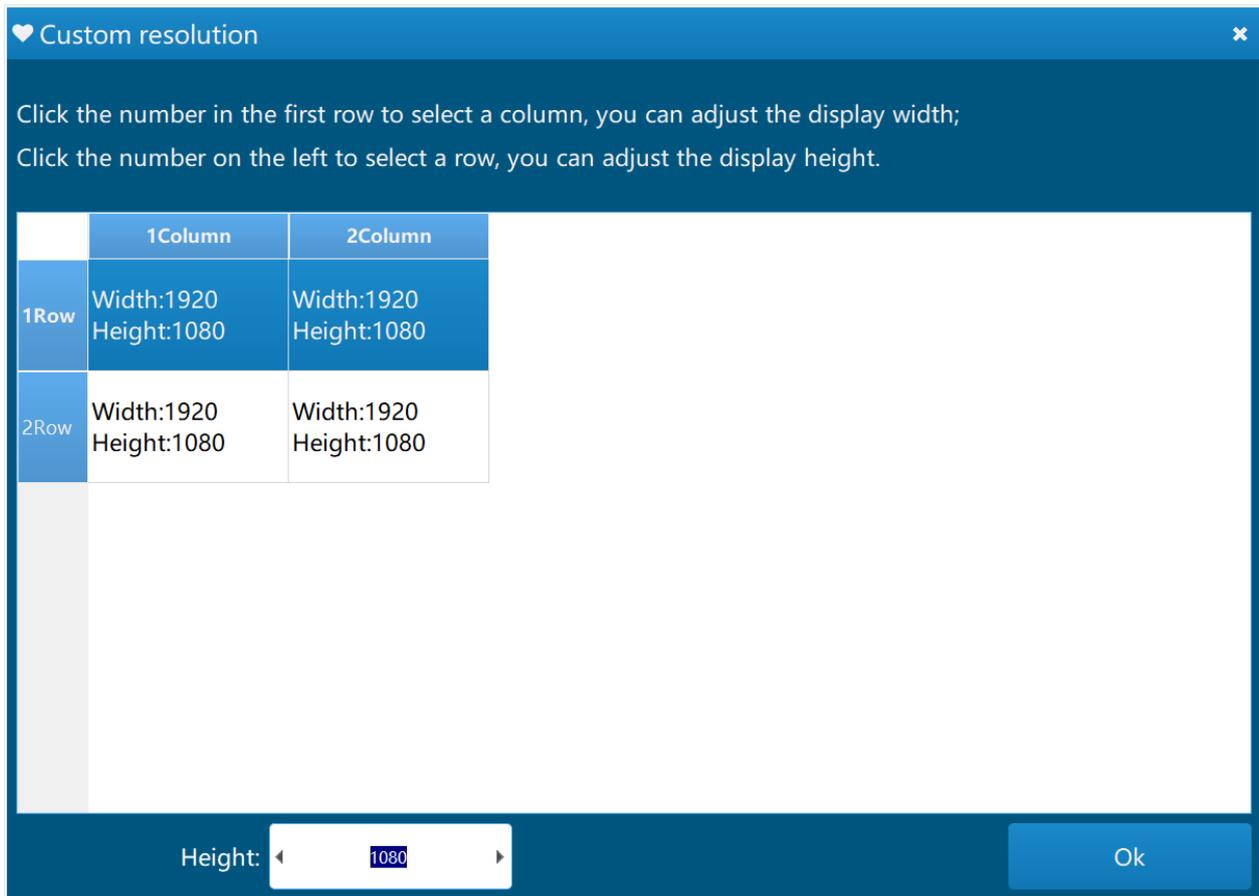
11. LED wall settings

Click *Settings-->Videowall->Resolution->Custom Resolution*, if the displays are a LED, you need to set the custom screen resolution of the iWall X output for the sending cards, see figure below: (The *Display Rows* means sending cards rows, and the *Display Cols* means sending cards cols.)



The Split Grid Rows and Cols means the virtual splitting grids on each sending card, it can be used to open video windows at the right position and aspect ratio.

Click the number in the first row to select a column, you can adjust the display width. Click the number on the left to select a row, you can adjust the display height. As below:

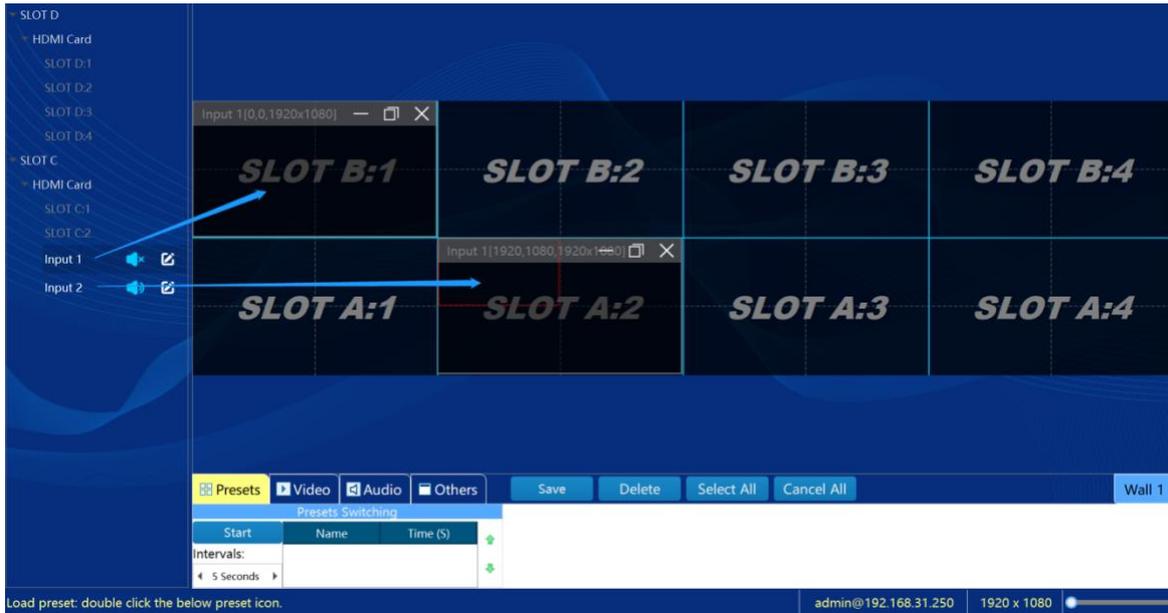


12. Source management

9.1 Connect the signal source to the input ports, and the signals can be automatically identified.

9.2 There are two ways to dray the source to the videowall.

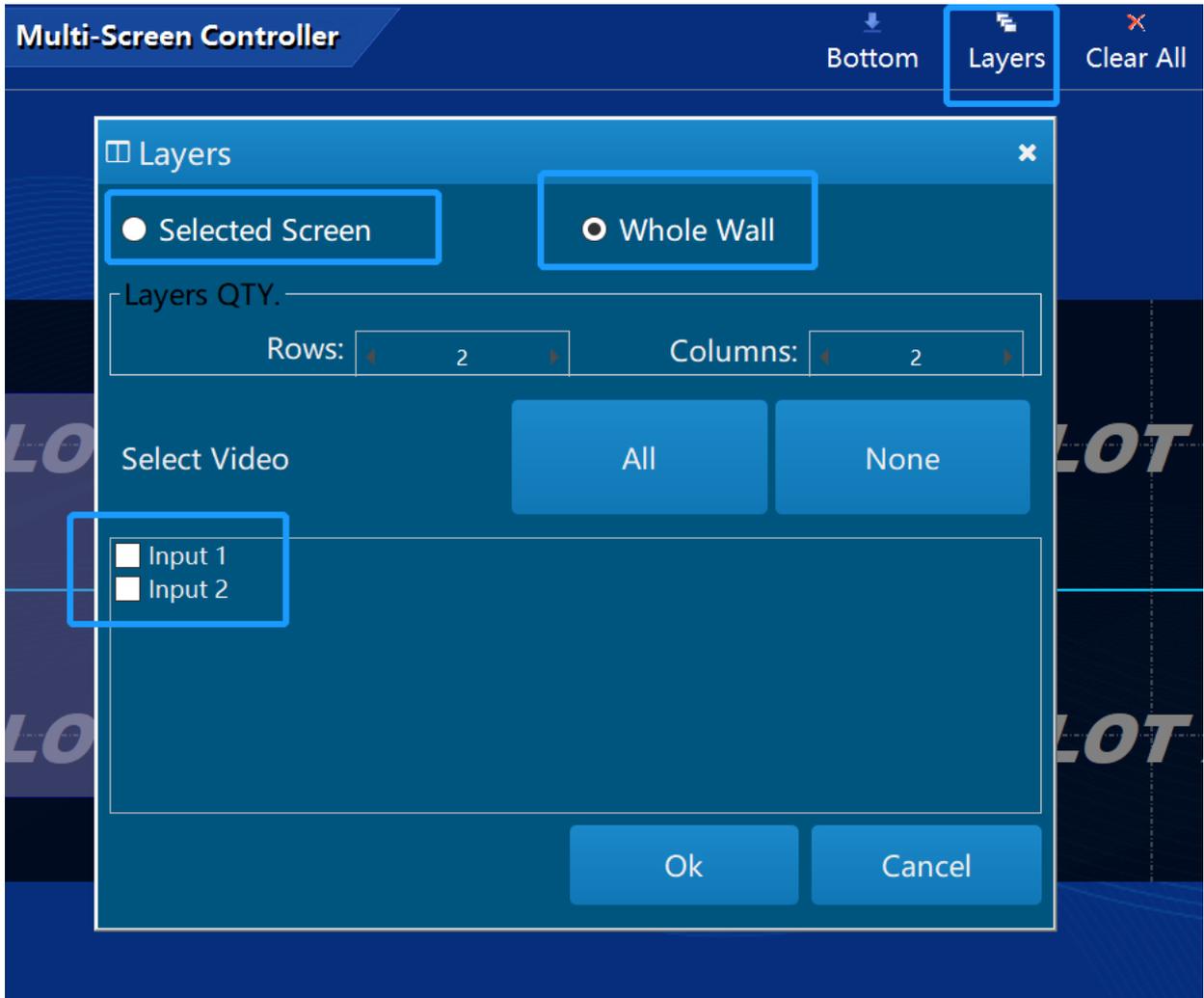
9.2.1 Double-click the signal source or drag the signal source to the specified window position, as shown in the figure below:



9.2.2 Select one input signal, then drag any rectangle on the right virtual videowall area. As below:

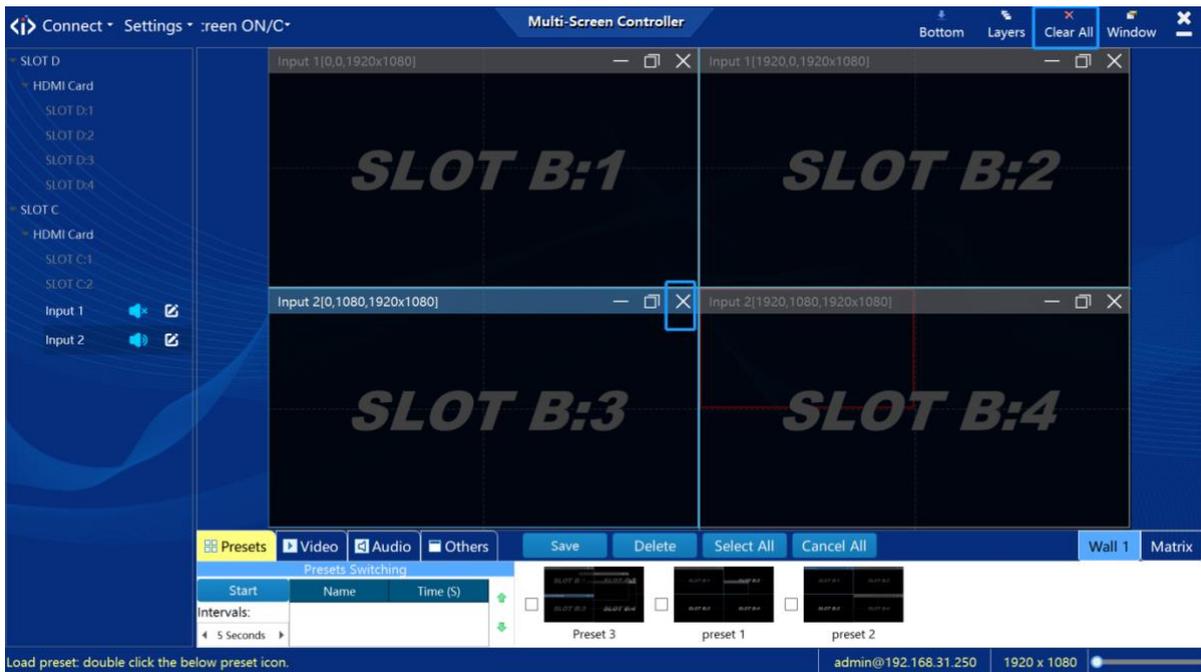


9.2.3 Click on the *Layers* button, choose to open the window on a single selected screen or the whole wall. As shown below:



9.3 Video window management

9.3.1 Click  on the right-up corner, close the current source. Click *Clear All* button to quickly close all the windows. As shown below:

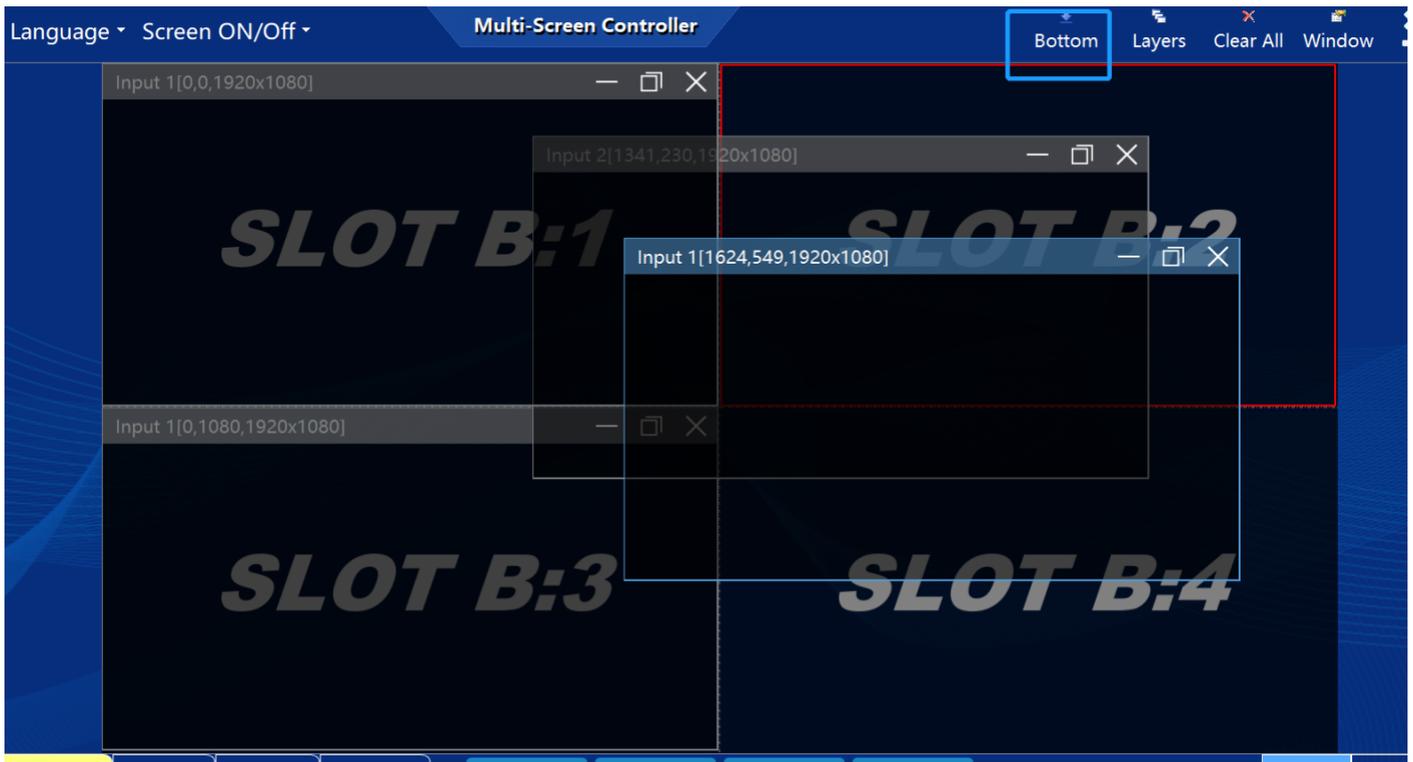


9.3.2 The source position, zoom in and zoom out can be realized by the mouse.

It also can be realized by changing the parameter value of the window property by clicking the *Window* button; as shown in the figure below:

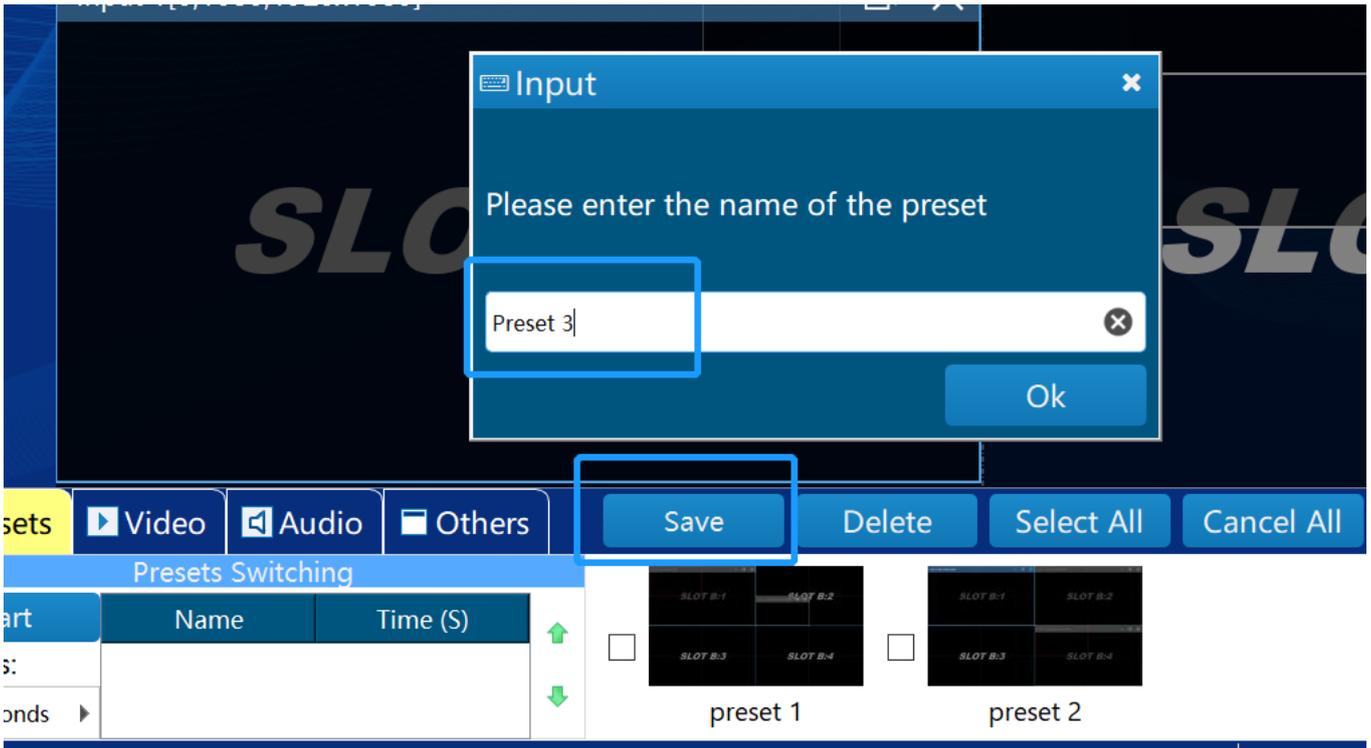


9.3.3 When the current layer is selected by the mouse, the current layer is placed on top; when click *Bottom* button, the layer can be sent to bottom. As shown below:



13. Preset

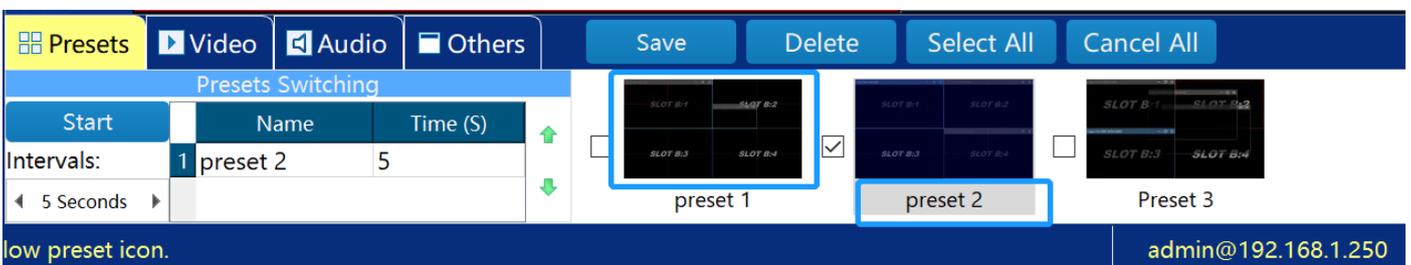
10.1 After the window layers are set up, click the *Save* button, enter the name of the preset, and click OK, as shown in the figure below:



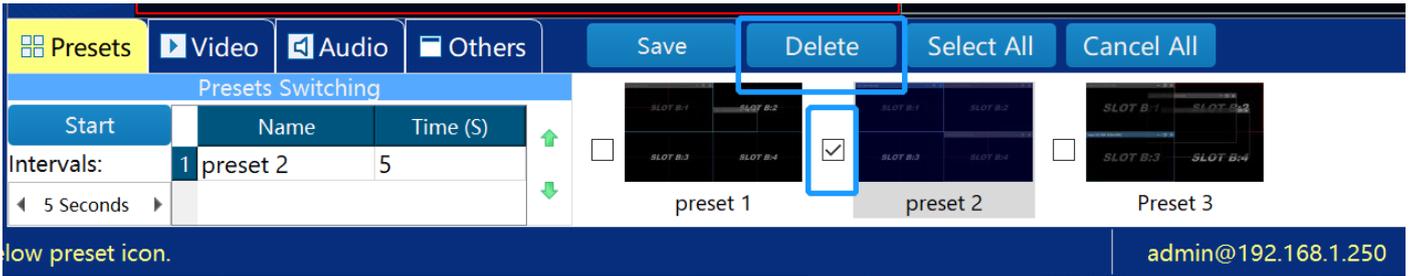
10.2 The saved presets can be viewed in the below list, as shown in the figure below:



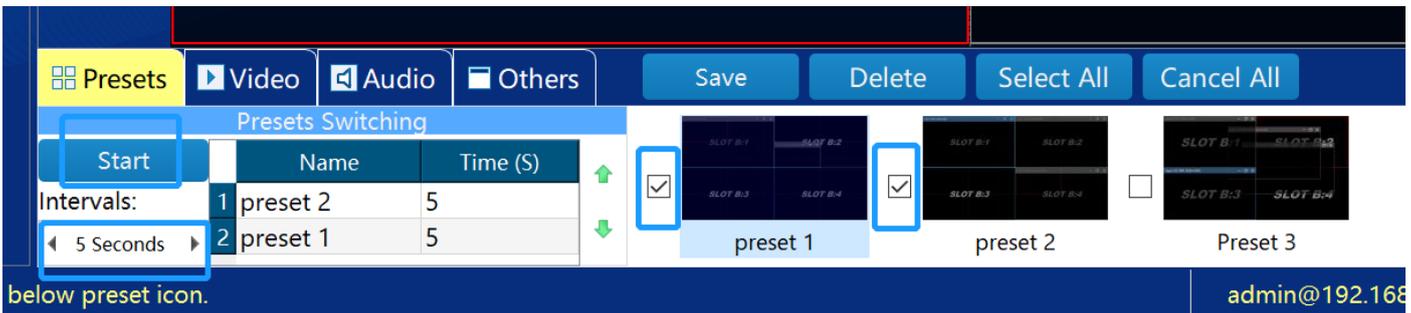
10.3 Switch presets: double-click the name or the corresponding thumbnail to quickly switch.



10.4 Delete preset: select the preset and click *Delete* button.



10.5 Presets auto switching: select the presets you want to switch and setup the switching time interval, then click *Start* button to enable.



14. Audio switching

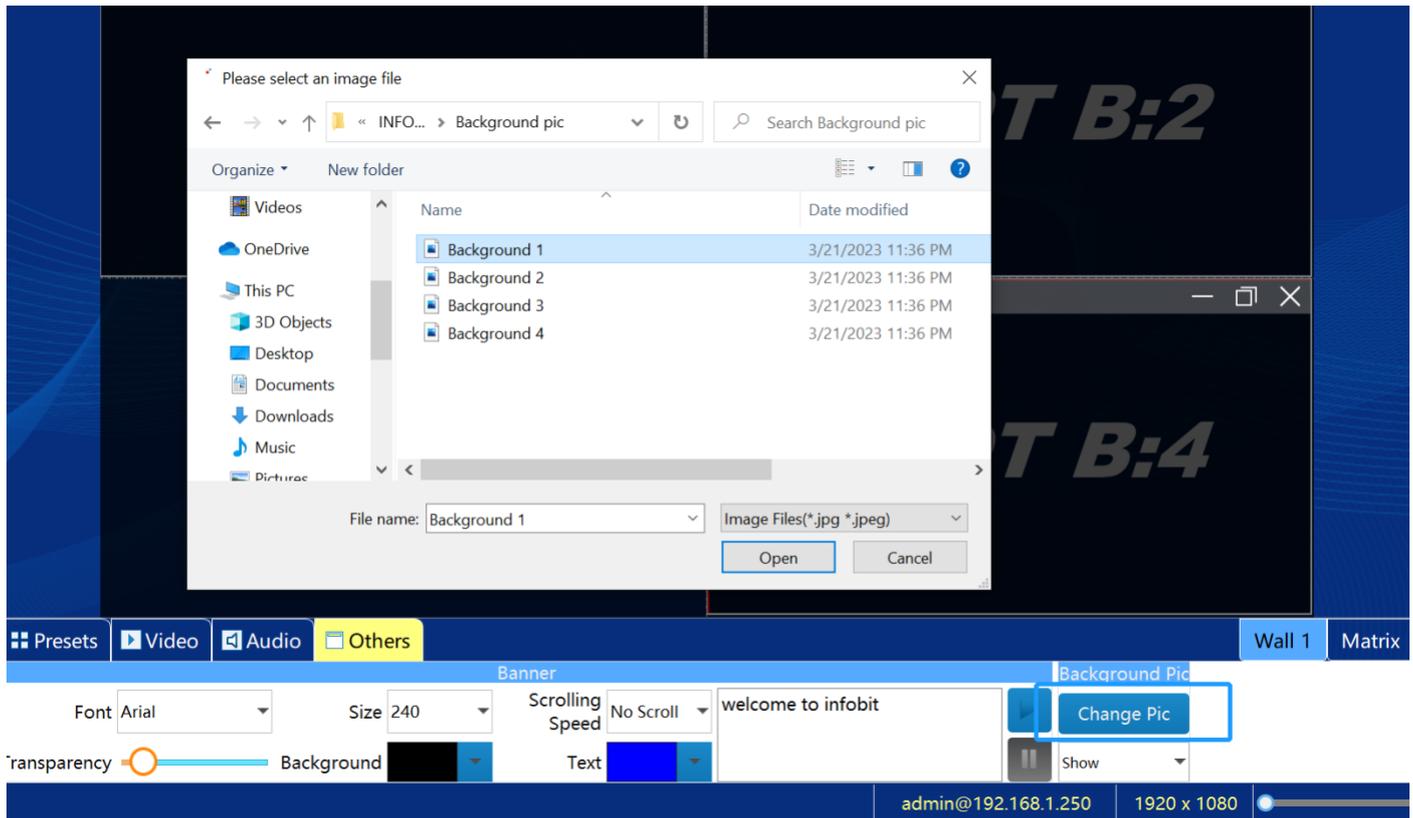
Click the audio sign to mute or unmute the sound, as shown in the figure below:



There is only one input signal can be enabled with audio and routed to the 3.5mm output at the rear panel of iWall X. When turn on audio for one input signal, the other audio channels from other inputs will be muted automatically.

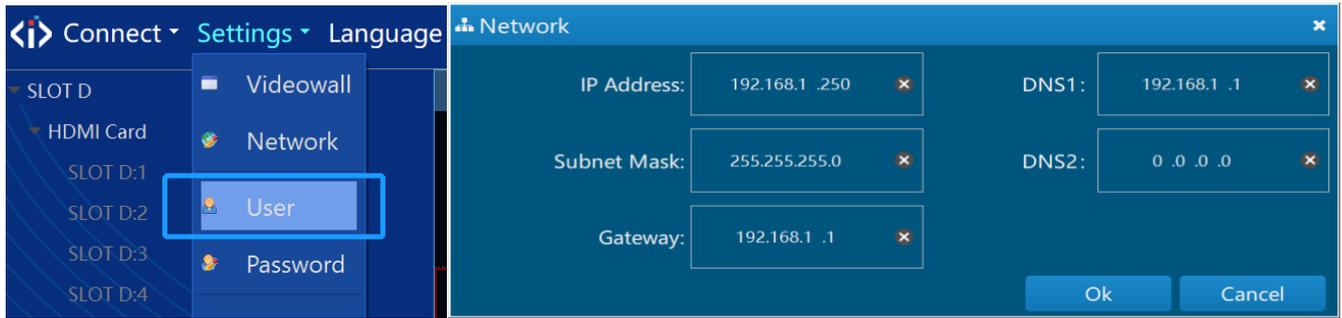
15. Background image

Click on the *Others*->*Change Pic* buttons to modify the background image and select the image in the computer.



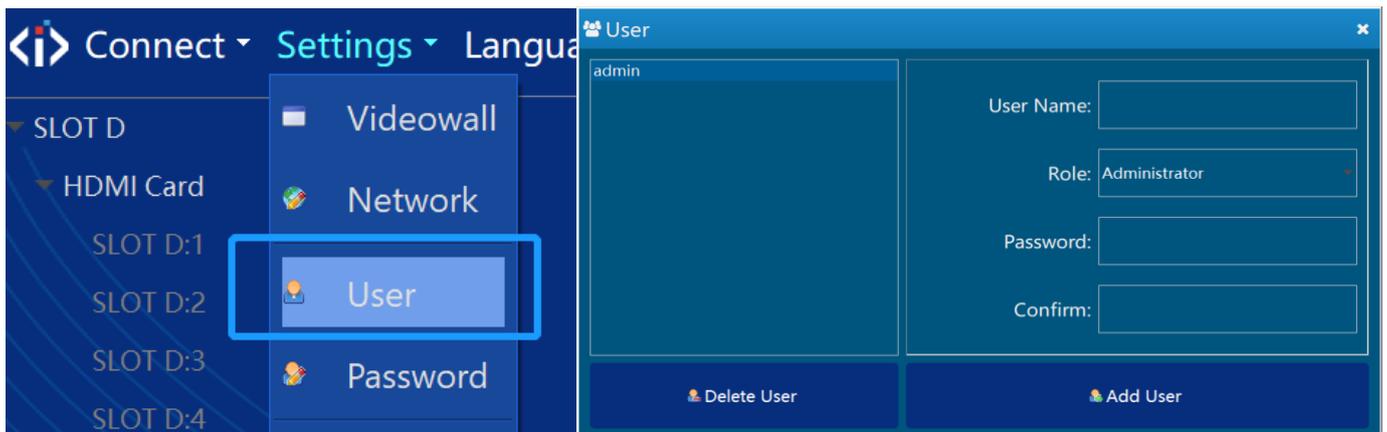
16. Change IP address

Click *Settings*->*Network* to modify the current IP, Subnet Mask, and Gateway of the videowall controller.

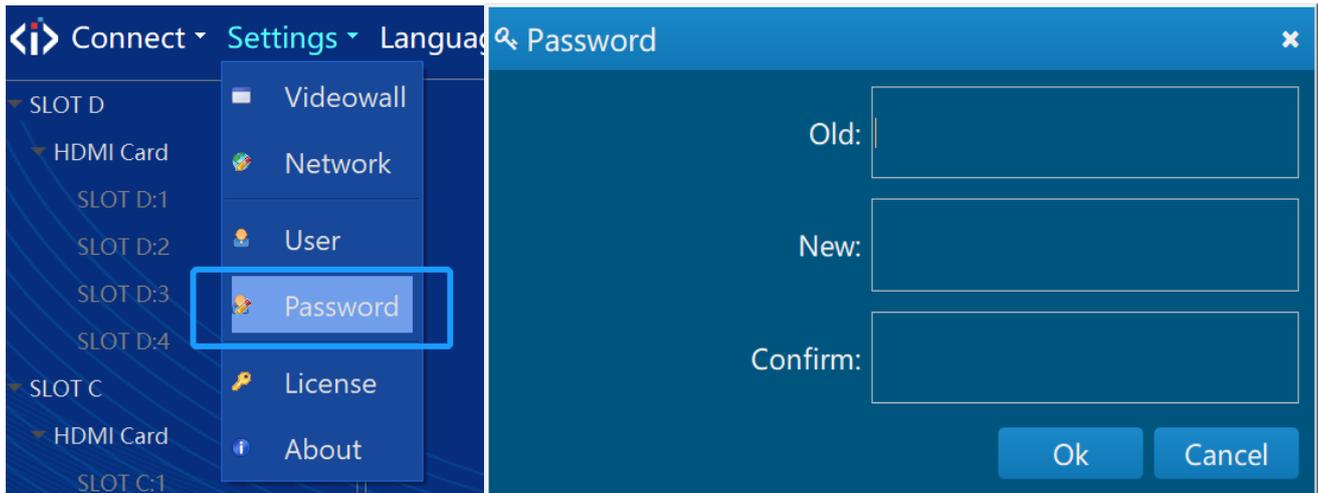


17. User management and password

14.1 Click *Settings->User*, enter the Username and Password, click Add User or Delete User to manage.



14.2 Click *Settings->Password* to modify the current account password, as shown in the figure below:

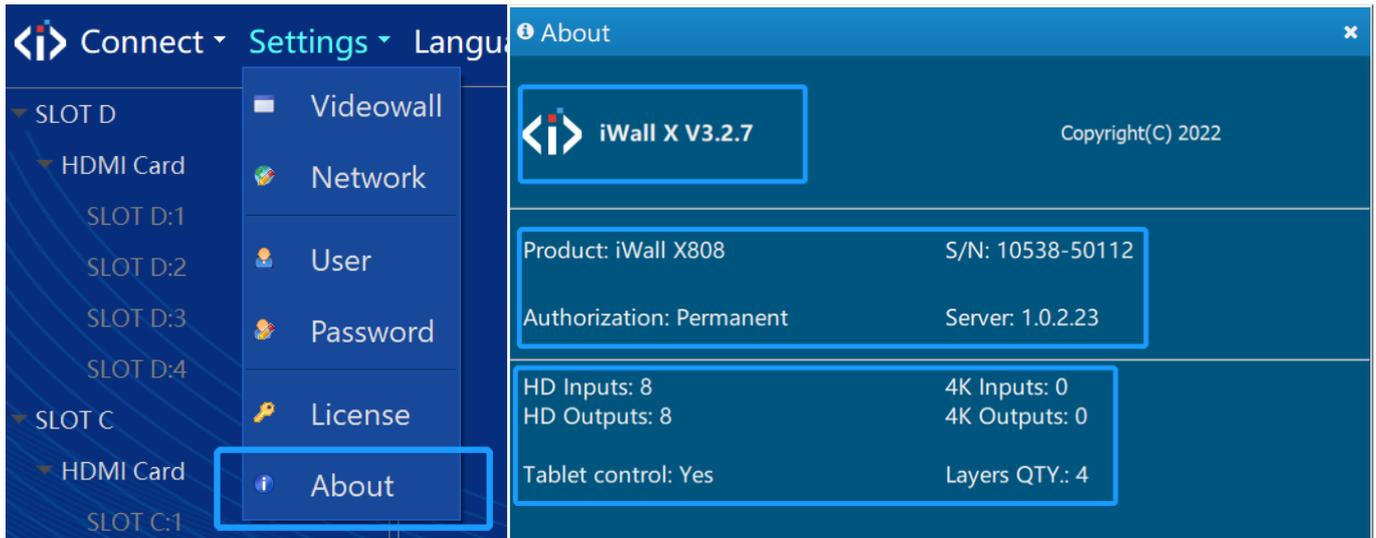


18. License

15.1 Click *Settings*->*License* to select the authorization file to import.

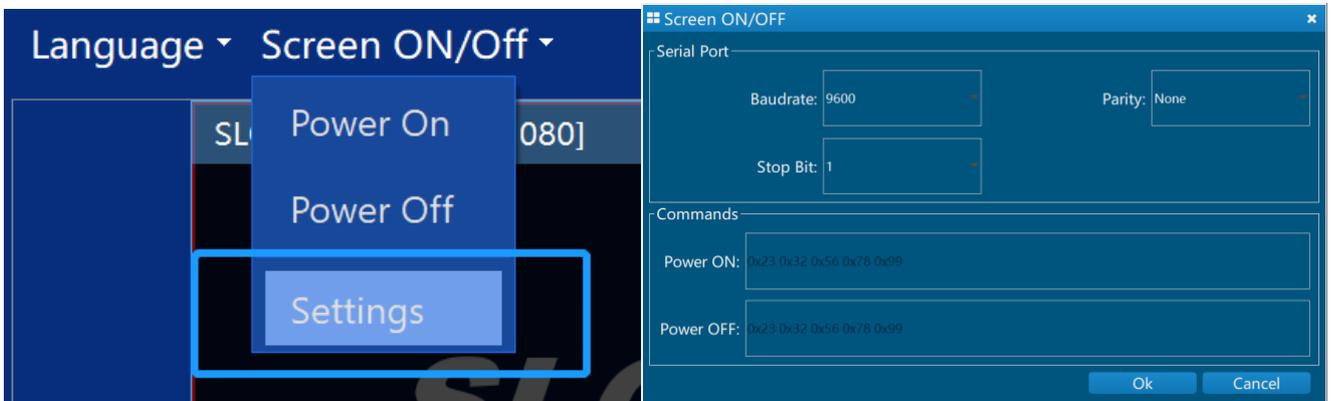


15.2 Click *Settings*->*About*, you can check whether the authorization information is correct, and check the software version, product model, serial number, etc.



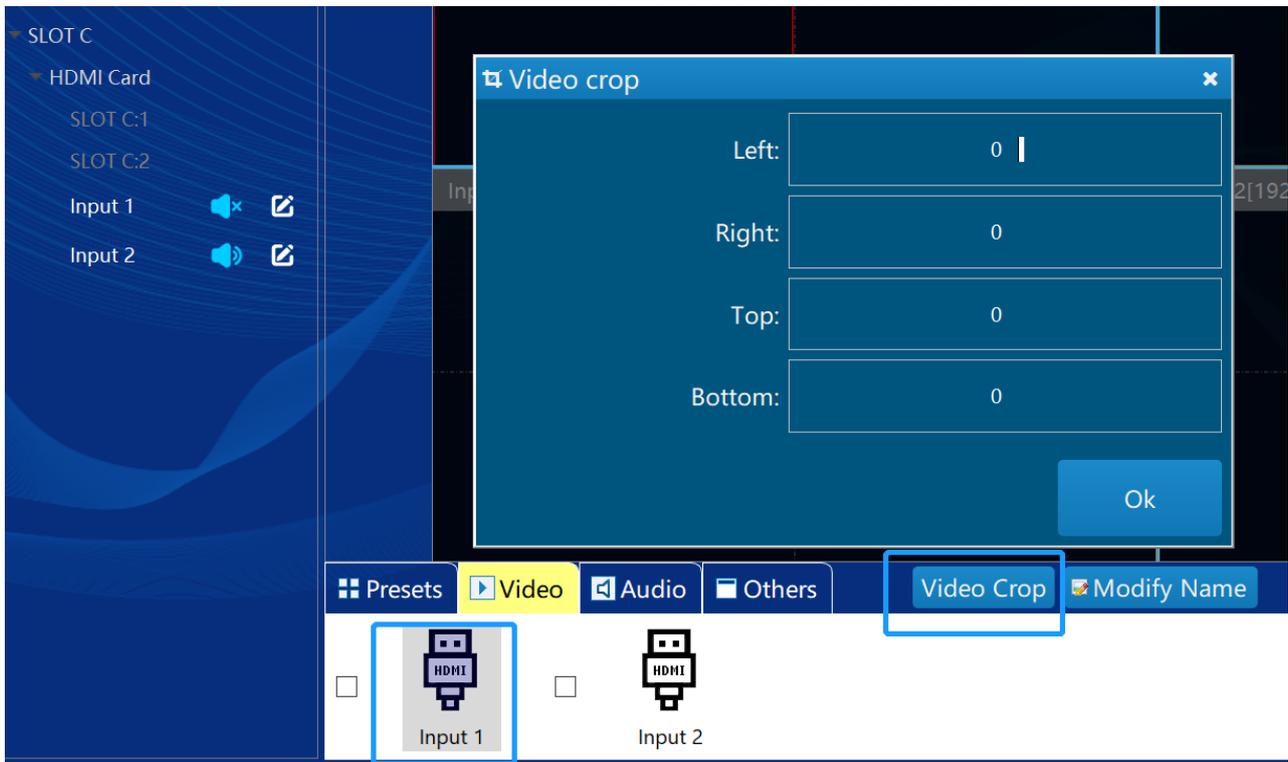
19. Screen ON/Off

Connect the videowall and controller with serial cable, set the *Screen ON/Off* in the software; set the serial port and commands.



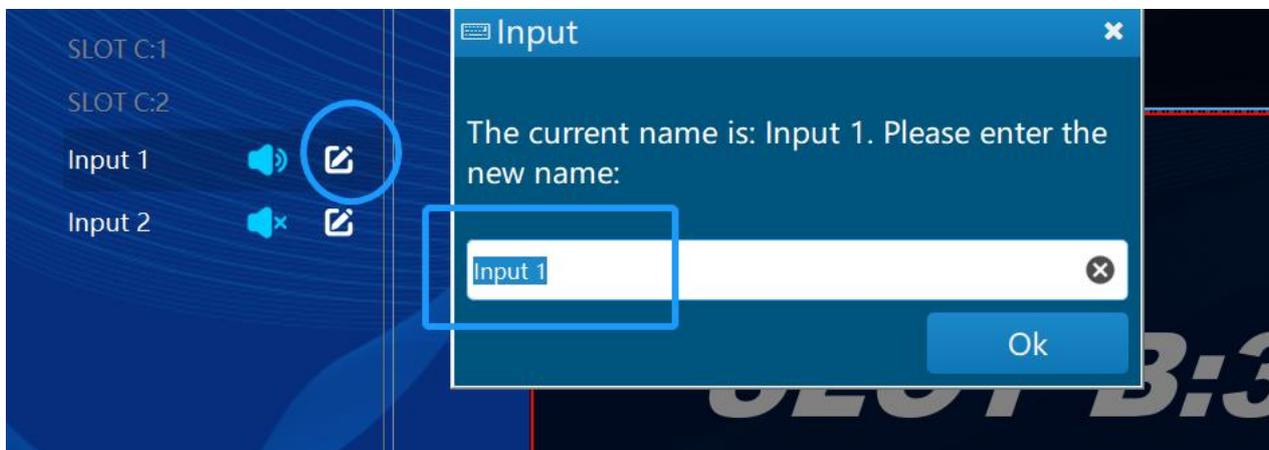
20. Crop the input

Select the input source, click the *Video Crop* button to cut the input images to fit the suitable aspect ratio or cut off the black edges.



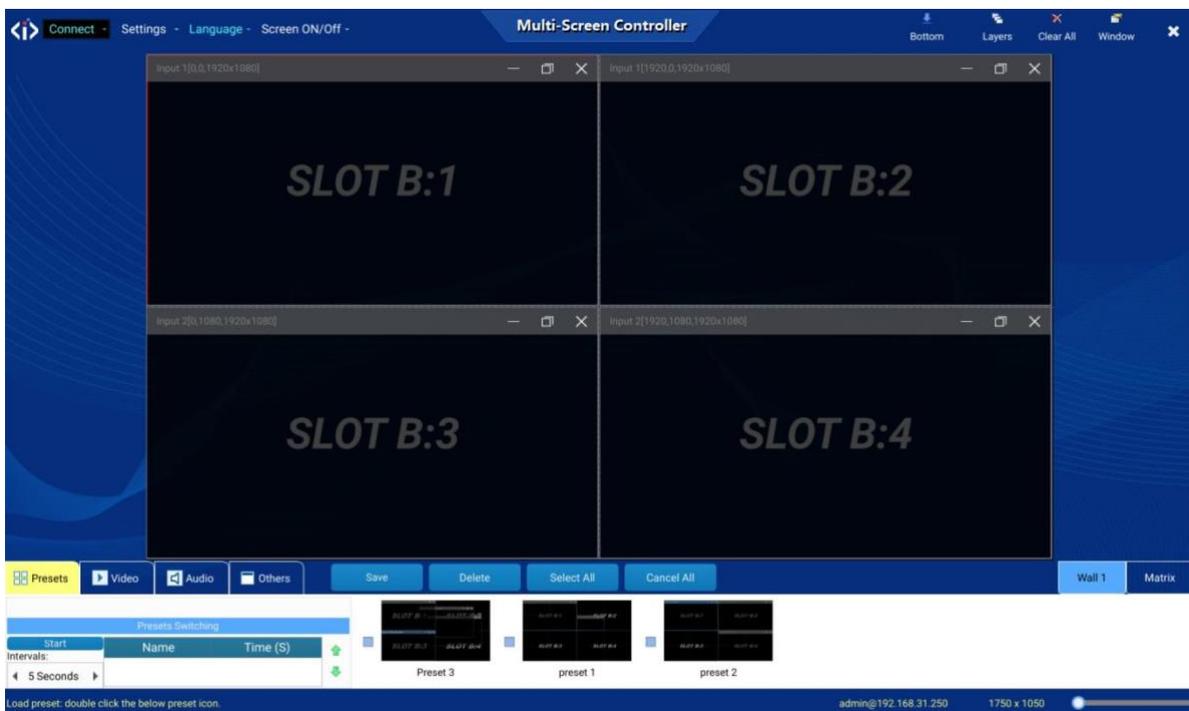
21. Rename the input

Select the name of the signal source, click the *Rename* icon then enter a new name. As shown below:



22. App control

19.1 Install the Android app on the tablet or mobile phone, make sure the WIFI connected to the tablet or mobile phone must be in the same network segment as the controller; open the APP, enter the controller's IP address, username (admin as default), and password to be empty as default, and log in. You can also log in with the username and password created by the client. After successful login, the APP control interface appears. As shown below:



Click the *Video* button to select inputs and drag-and-drop to the videowall area. Or double click any *preset* to enable the video layers layout. Other operations are the same as Windows PC version software.

23. Central Control

21.1 Connect method.

The system supports **HTTP** and **RS232** serial port.

Baud rate: **9600**

Parity: **none**

Bit: **8**

Stop: **1**

21.2 Package

The commands sent by the central control to the device and the responses sent by the device to the central control are all encapsulated into data packets. Each data packet starts with the \$ character and ends with the ^, as shown in the following figure:

Op represents an operation command, one character.

Scr represents the screen group number to be operated, one character. For iWall X, it is 1 (the iWall X 1U doesn't support multiple video wall groups)

\$	Op	Scr	DATA	^
----	----	-----	------	---

21.3 Serial Command

1) Get the Preset list

Op	1
Scr	One byte, values 1 to 4, specifying the video wall group

	number
DATA	No
Application sample	Get videowall group One Preset: \$11^ Get videowall group Two Preset: \$12^ Get videowall group Three Preset: \$13^ Get videowall group Four Preset: \$14^

Equipment response:

Op	1
DATA	A number of preset names separated by spaces (UTF8 format). For example: preset one preset two

2) Switching presets

Op	3
Scr	One byte, values 1 to 4, specifying the video wall group number
DATA	Name of preset (UTF8 format)
Application sample	Switch screen group one "preset five": \$31 preset five^ Switch screen group two "preset ab": \$32 ab^ Switch screen group three "preset 123ab": \$33123 ab ^ Switch screen group four "preset 6a": \$34 preset 6a ^ Preset Name "1" Code: 24 33 31 31 5E

	Preset Name "2" Code: 24 33 31 32 5E
	Preset Name "3" Code: 24 33 31 33 5E

Equipment response:

Op	3
DATA	Ok or Error

3) Gets the controller IP

Op	6
Scr	No
DATA	No
Application sample	\$6^

Equipment response:

Op	6
DATA	Controller IP. Ror instance: IP:[192.168.1.250]

4) Sets the controller IP address.

Op	7
Scr	No
DATA	IP address
Application	Set the Address IP 192.168.1.200: \$7192.168.1.200^

sample	
--------	--

Equipment response:

Op	7
DATA	Ok or Error

24. Attention

To ensure the reliable use of equipment and the safety of personnel, in the installation, using, and maintenance, please comply with the following:

- When the equipment is installed, make sure the controller is well grounded.
- Do not place the equipment in an overheated and under-cooled place.
- Maintain good ventilation in the working environment to facilitate the timely discharge of heat from the equipment to avoid excessive temperature damage to the equipment.
- In wet dew environment or long-term non-use, the total power supply of the equipment should be turned off.
- Be sure to unplug the AC power cord from the power outlet before:
Remove or reinstall any part of the equipment.

Do not disassemble the equipment without permission, to avoid the danger of electric shock. Do not repair privately, lest aggravate the damage degree of equipment.