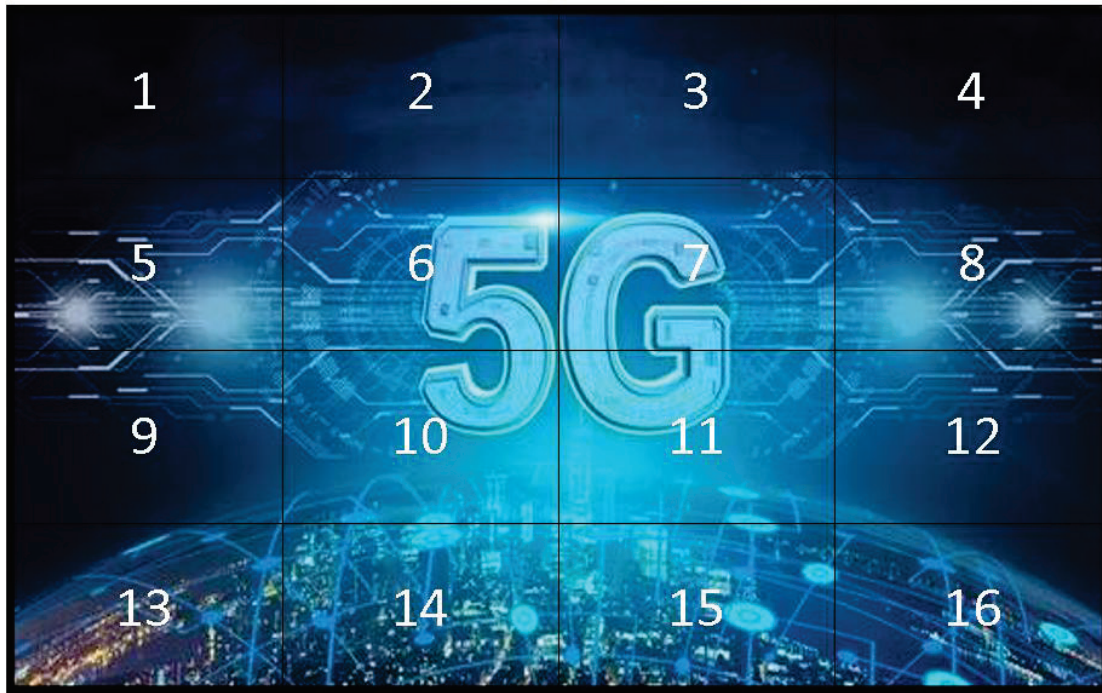


7.Product User Manual

7.1 Product Connection

4*4 Output Wiring Diagram. After connecting the software and setting the screen output, the software virtual screen will display the wiring order of the output ports, as shown in the figure below; connect the large screen output cable to the corresponding output port on the processor according to the wiring order on the software.

Note: The large screen output cable must correspond one-to-one with the output port order of the processor;



7.2 Software Connection

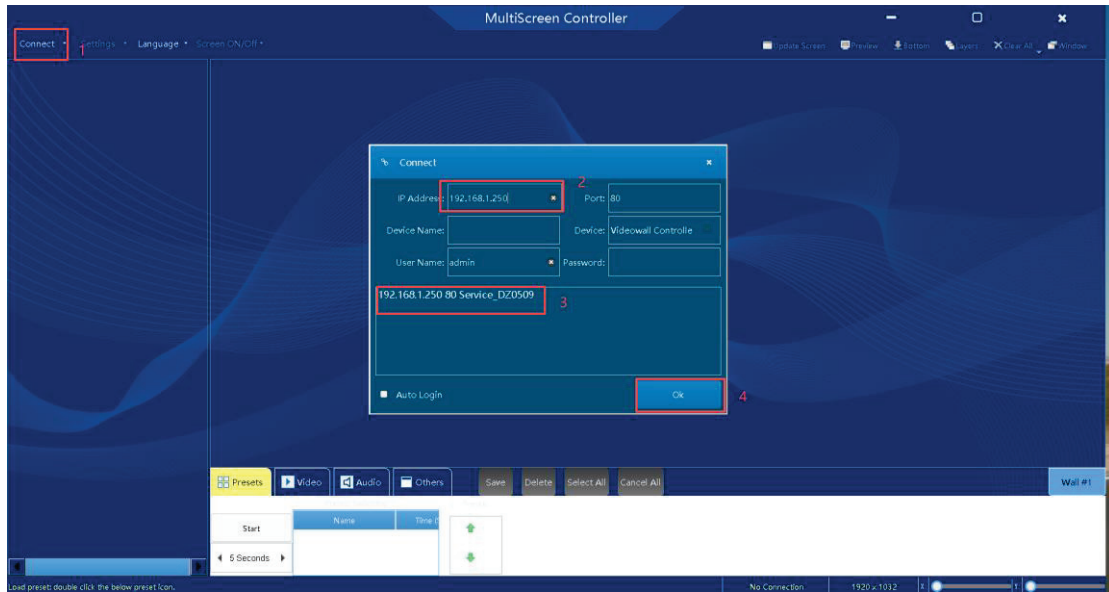
7.2.1 Copy the client installation to any drive on the computer.

7.2.2 Double-click the client installation package to install the software.

7.2.3 Connect the computer directly to the processor's RJ45 port with a network cable, or connect both to the same switch or router.

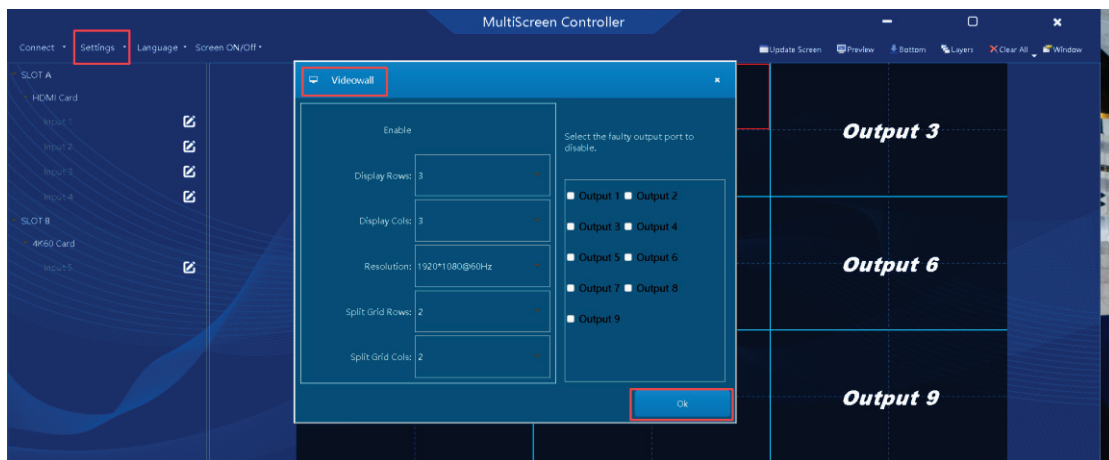
7.2.4 The factory IP address of the processor is 192.168.1.250. Set the computer's IP to 192.168.1.100. The computer and processor must be on the same subnet.

7.2.5 Open the software, click on Connect -- Connect to New Host, a login dialog will pop up. Enter the processor's IP, username (admin), and leave the password blank (see the figure below);

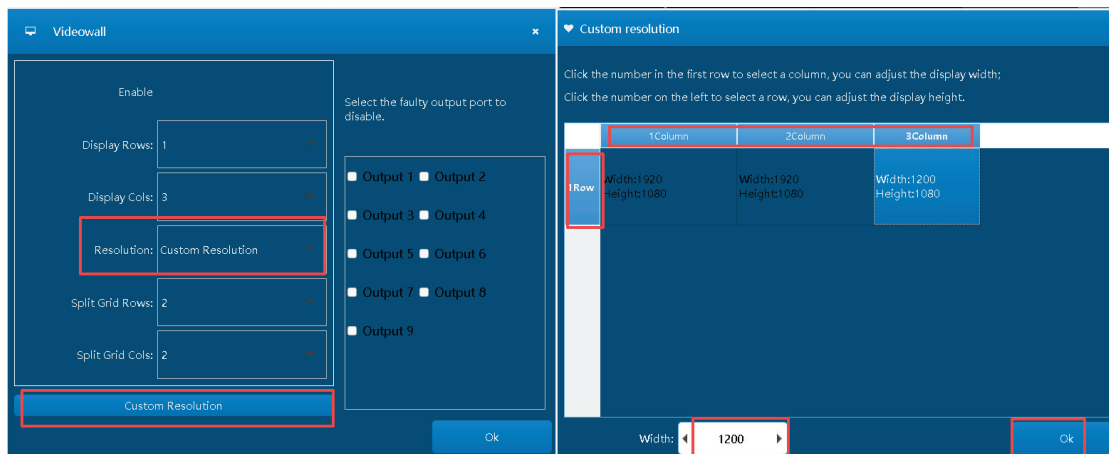


7.3 Splicing Wall Settings

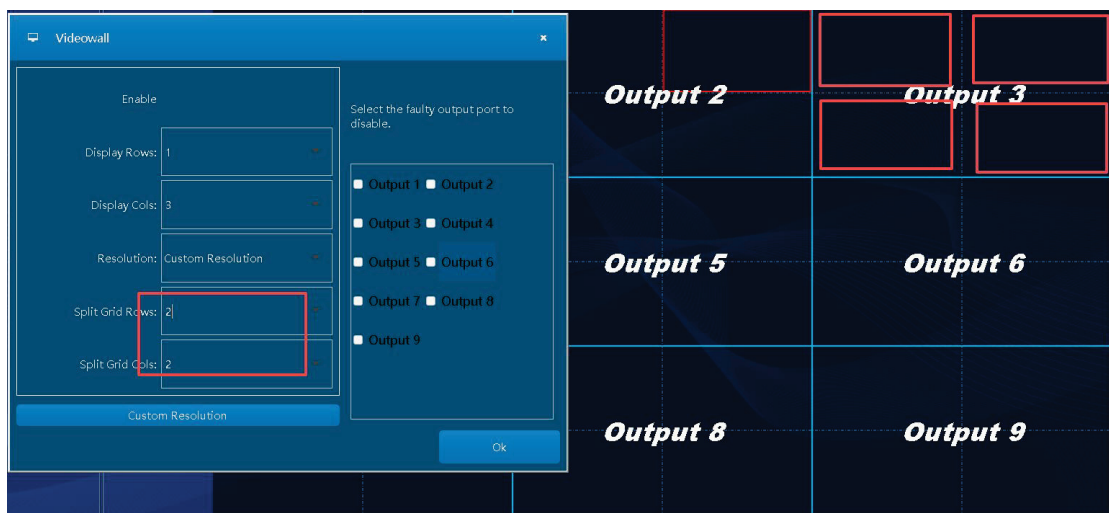
7.3.1 Click on the system -- screen settings. If the backend display is an LCD screen with standard resolution, set the output resolution of the device according to the screen's resolution (see the image below);



7.3.2 If the backend display is a non-standard resolution LED screen, select "Custom Resolution" in the screen resolution section, and then input the output resolution width and height (in pixels) for each LED sending card in the dialog box (see the image below);



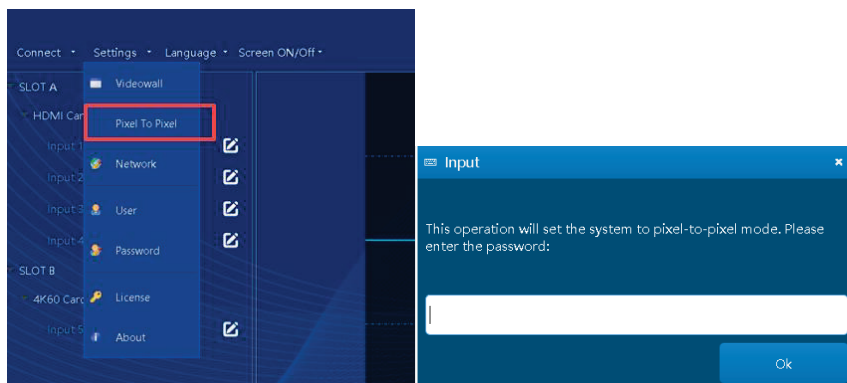
7.3.3 Setting the logical screen involves splitting a single screen, and the default is 1 row and 1 column; it can also be set to multiple rows and columns (see the image below).



7.3.4 Point-to-point settings

Note: This function is for specified models.

7.3.5 Click on the system at the top left corner, in the pop-up dialog, select point-to-point mode, use the password admin, and after clicking OK, cut off the power and restart the processor.



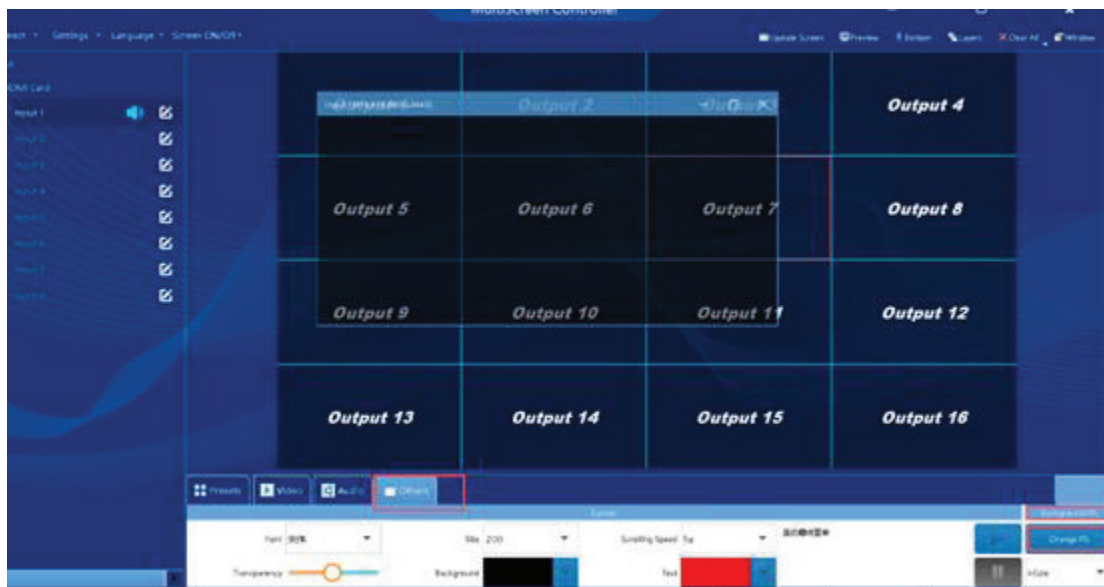
7.3.6 Point-to-point mode requires a dedicated graphics card to directly match the

corresponding resolution.

Modes and supported resolutions	
1X4 vertical screen (4320*1920@30hz)	2x2 horizontal screen (3840*2160@60hz)
1X5 vertical screen (5400*1920@30hz)	2x3 Landscape (3840*3240@30hz)
1X6 Portrait (6480*1920@30hz)	2x4 Landscape (3840*4320@30hz)
1X7 Portrait (7560*1920@30hz)	3x3 Landscape (5760*3240@30hz)
1X4 Landscape (7680*1080@30hz)	

7.4 Set Background Image

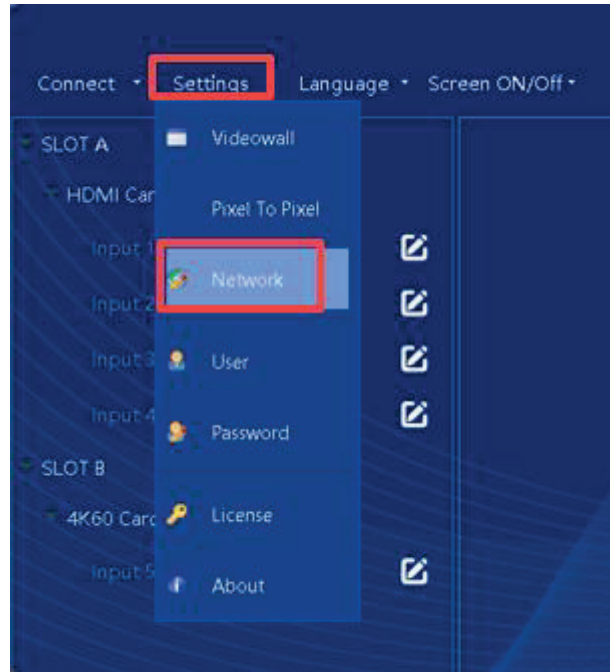
7.4.1 Click the “Others” menu below, then select the background menu., which can enable the background image >change pic (highlighted indicates enabled state)



Note: The background image size cannot exceed 3840*2160, and the image format supports *.jpg/*.jpeg

7.5 Modify Processor IP

7.5.1 Click on the top left corner of the “setting”, Network Settings, to set the processor IP (see the image below)

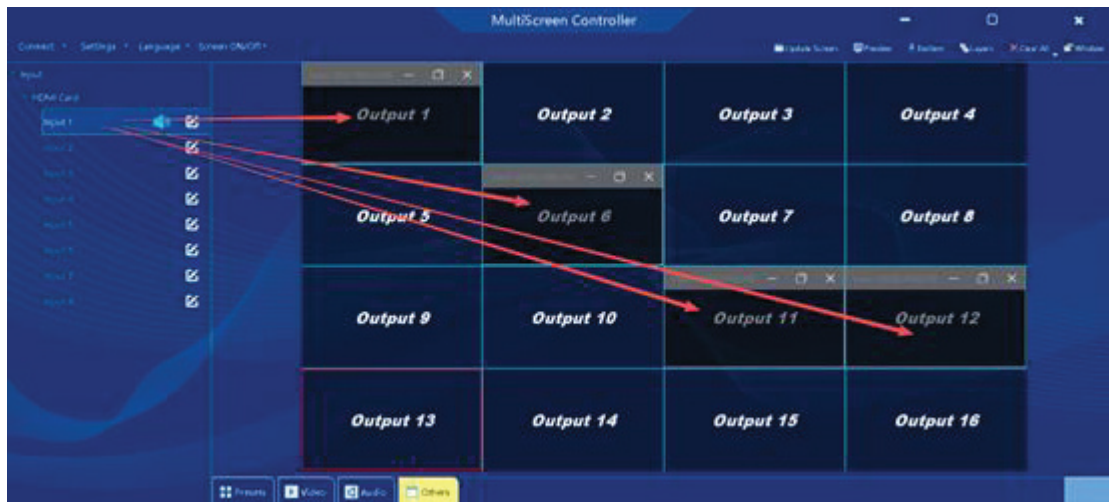


 Network 

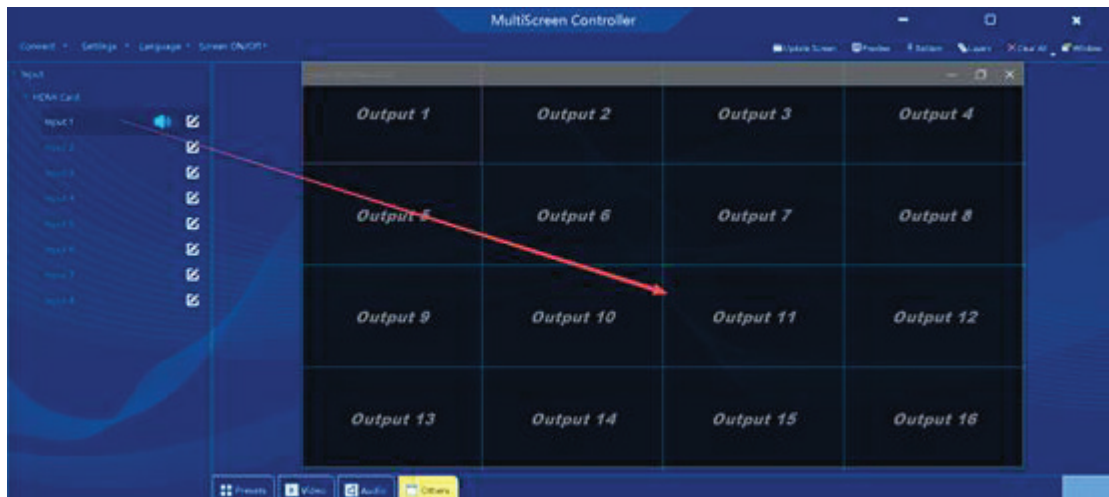
IP Address:	192.168.1 .250 	DNS1:	192.168.1 .1 
Subnet Mask:	255.255.255.0 	DNS2:	0 .0 .0 .0 
Gateway:	192.168.1 .1 		

7.6 Signal Source Windowing

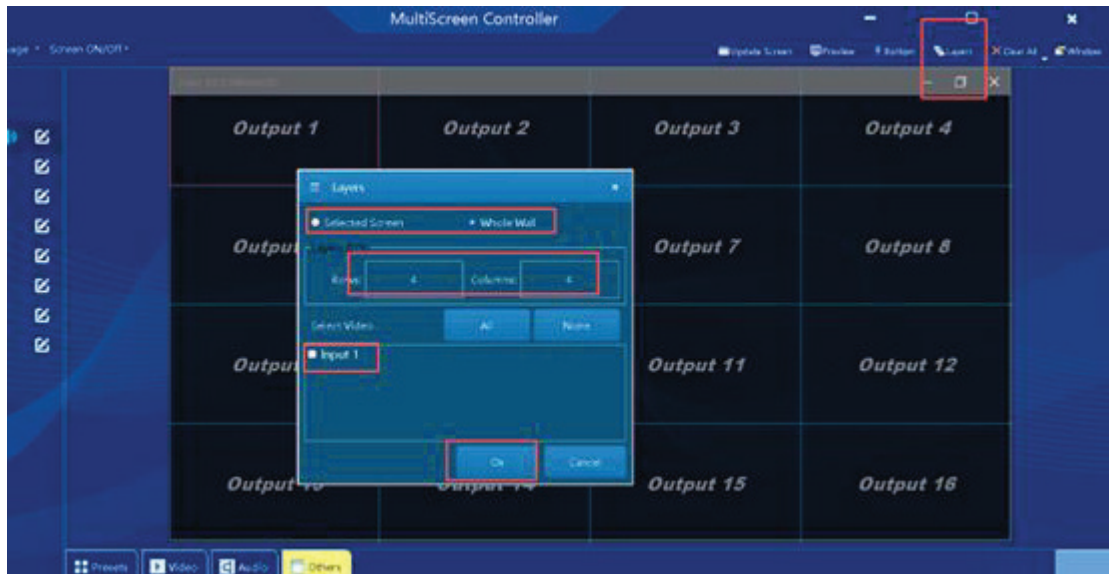
7.6.1 Double-click the signal source with the mouse or drag the signal source to the designated window position (see the image below)



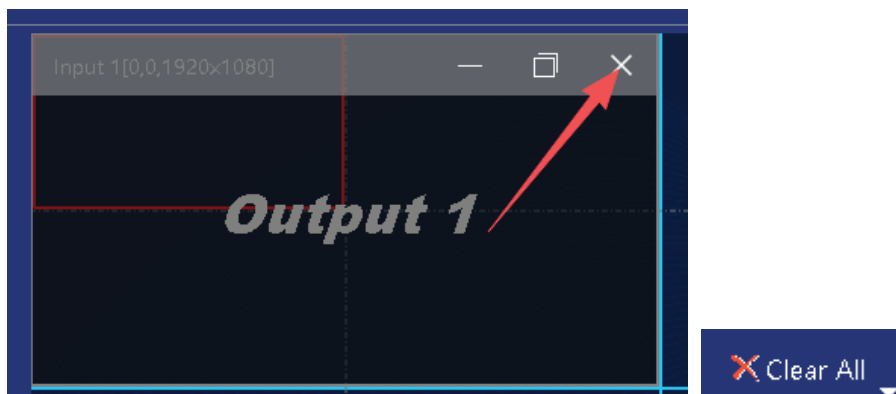
7.6.2 Select the signal source, hold down the left mouse button on the software virtual screen, slide the mouse to any area on the virtual screen, and release the mouse. The signal source will fill the selected area of the window display (see the image below)



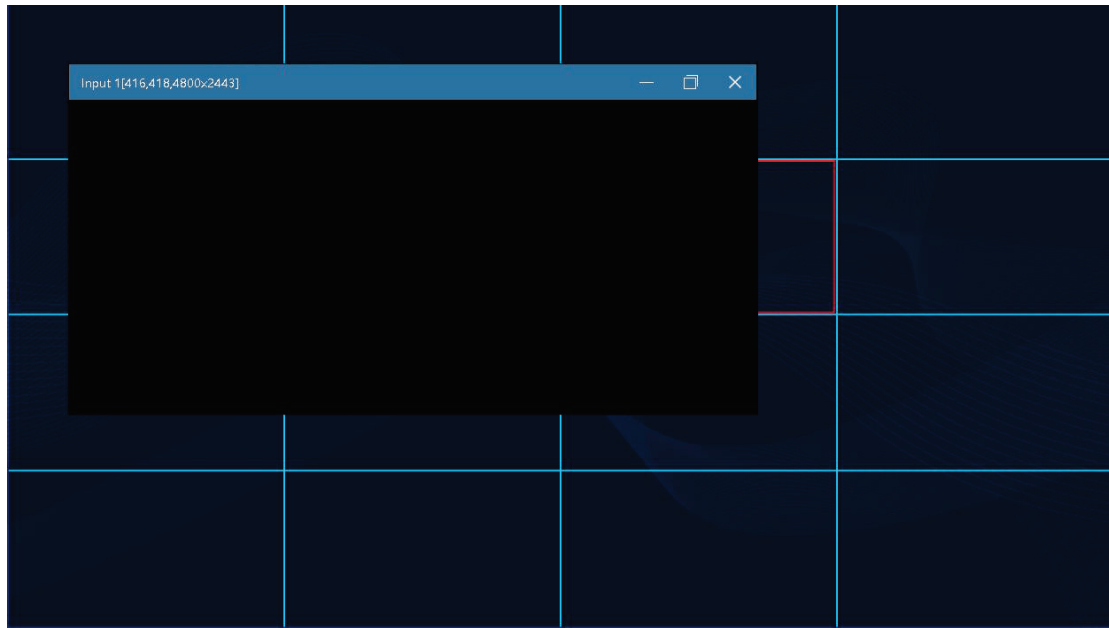
7.6.3 Click on layers, select to open a single screen or the entire screen, to complete the quick windowing (see the image below)



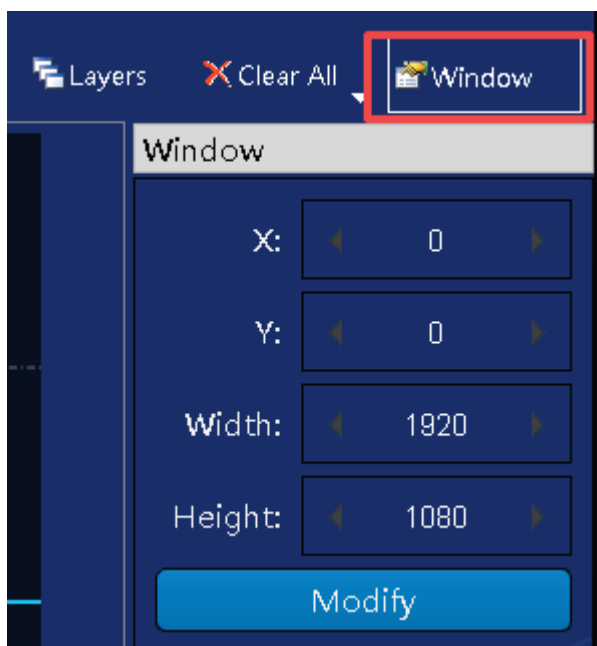
7.6.4 Close Window: “Click all” in the upper right corner of the window to close the current window; click on the top right corner of the client - Clear Screen to quickly clear all images on the large screen (see the image below) 



7.6.5 Adjust Window Position and Size: You can drag the window position and resize the window using the mouse (see the image below)

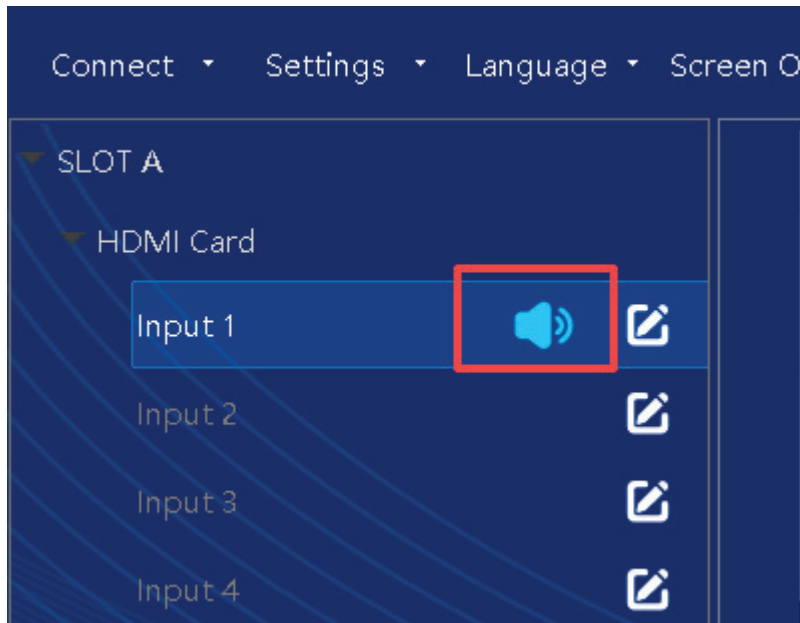


You can also modify it through the window properties in the top right corner of the client (see the image below)



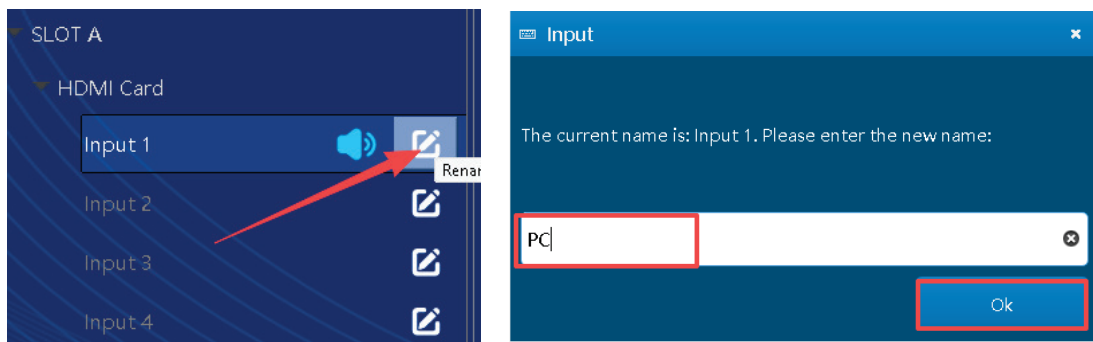
7.7 Audio On/Off

7.7.1 Click the blue small speaker on the right side of the signal source to toggle the audio output of the corresponding signal source

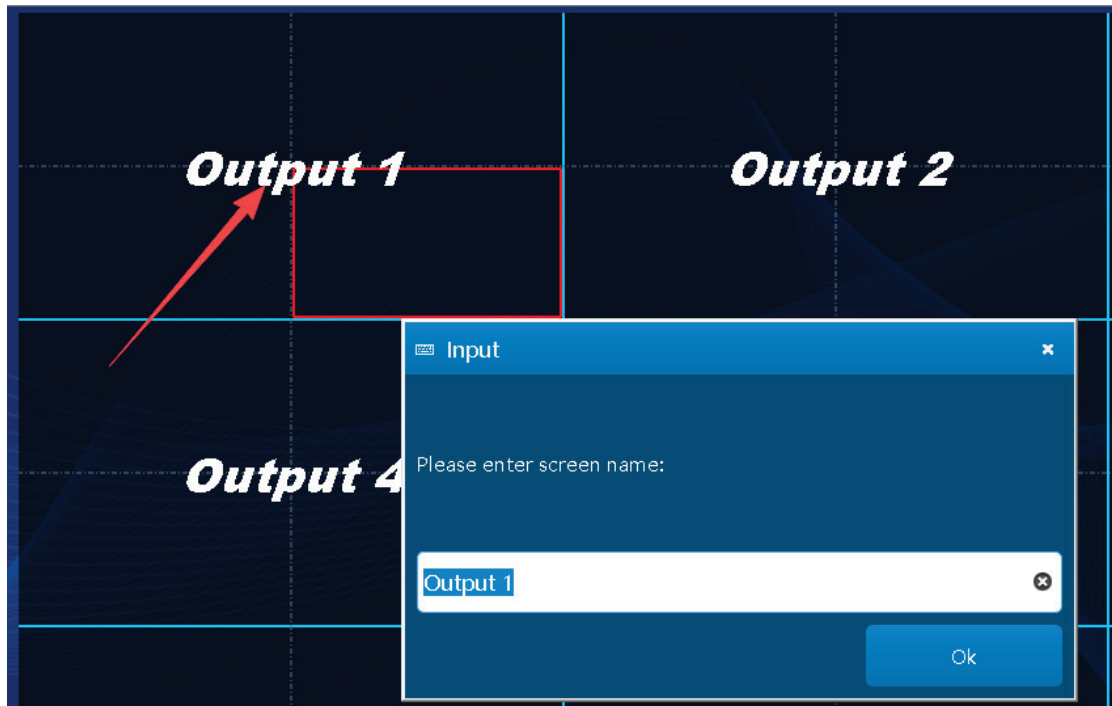


Modification of Signal Source Name and Output Port Name

7.8.1 Click the edit button next to the signal source name you want to modify, enter the new name to complete the modification (see the image below).

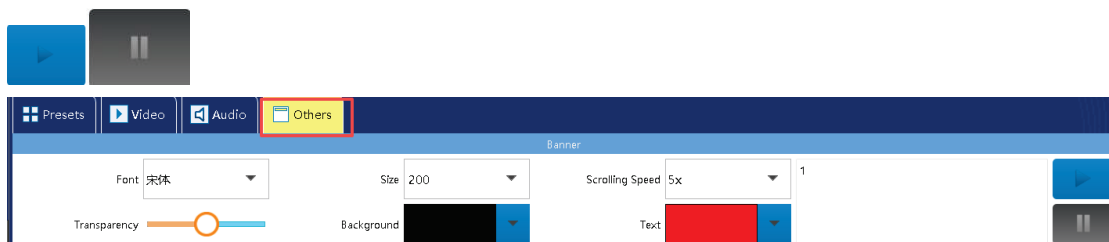


7.8.2 Double-click the name of the output channel you want to modify, enter the new name, and click OK to complete the modification (see the image below).



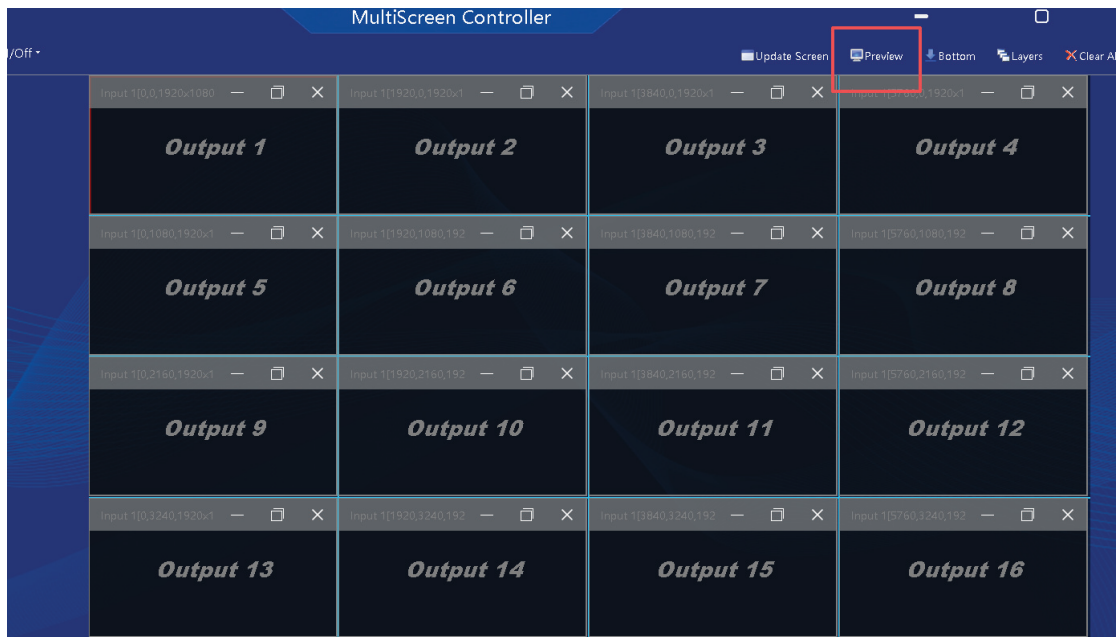
7.9 Subtitle On/Off

7.9.1 Click on "Others" at the bottom of the software, then enter the subtitle content you want to display in the input box. After making relevant settings for the subtitles (font/font size/scrolling speed/text color/background color/background transparency), click the play button to display the subtitles, and click the pause button to hide the subtitles (see the image below).

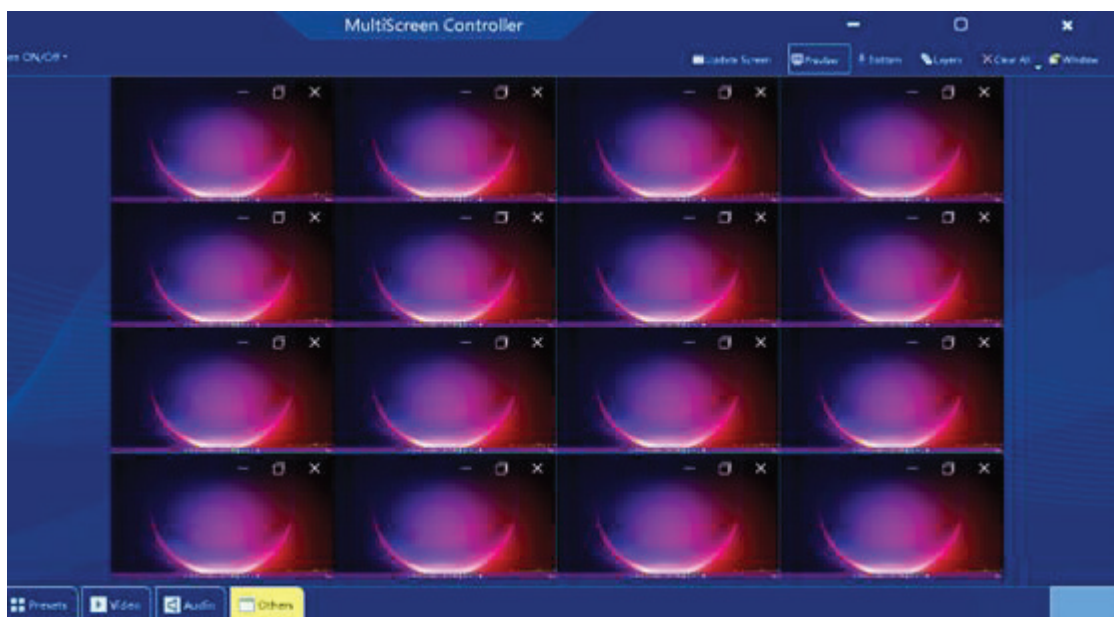


7.10 Echo On/Off

7.10.1 Click the top right corner of the client to enable echo.



The above image shows the disabled state.



The above image shows the enabled state.

7.11 Scene/Plan Save and Call

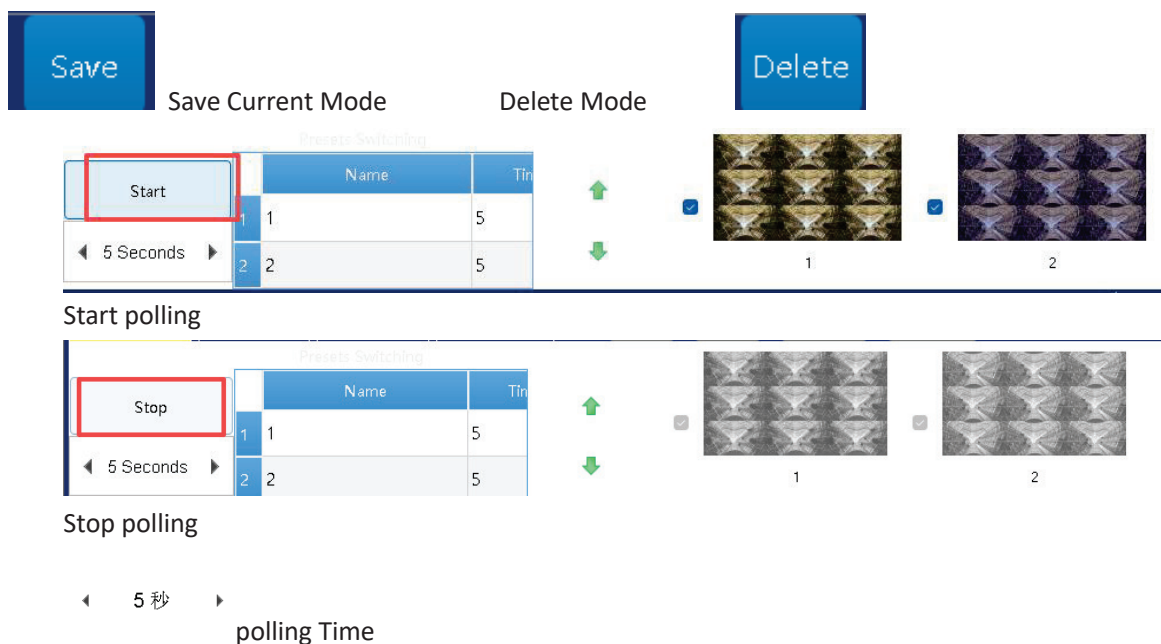
7.11.1 Key Description



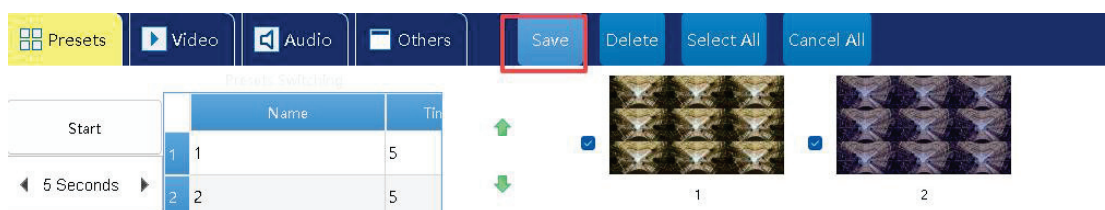
Select All

Cancel All

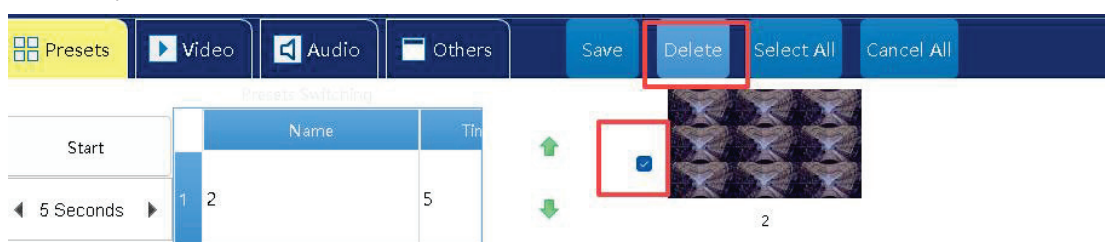




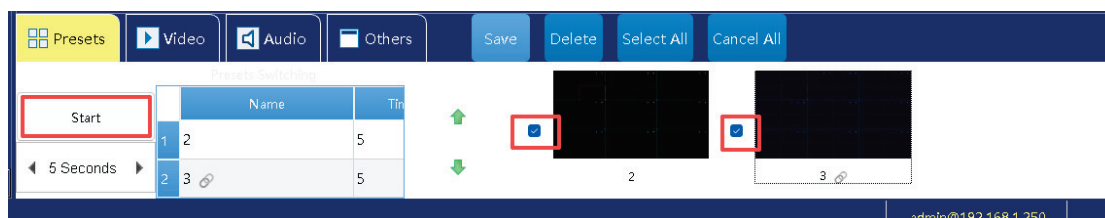
7.11.2 Save Plan: Arrange the scene layout, click the Presets at the bottom of the client, and save the scene button



7.11.3 Switch/Delete Plan: Double-click the name of the plan you want to switch to complete the switch, check the plans you want to delete, and click the delete button to complete the deletion (see below)

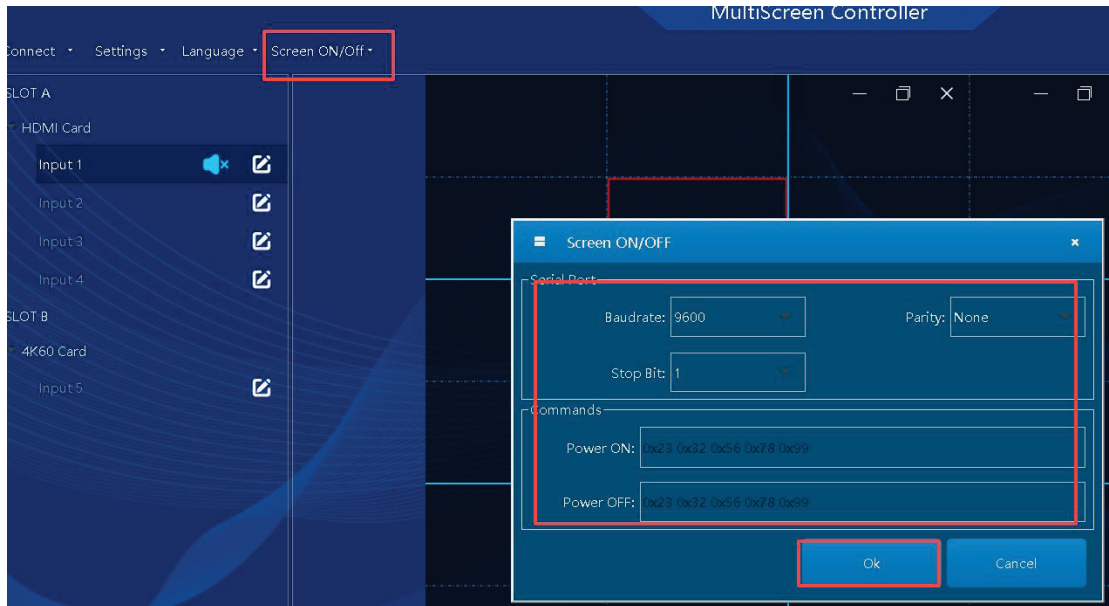


7.11.4 Scene Rotation: Check two or more scenes, enter the interval time in the time interval field, and click to start rotation.



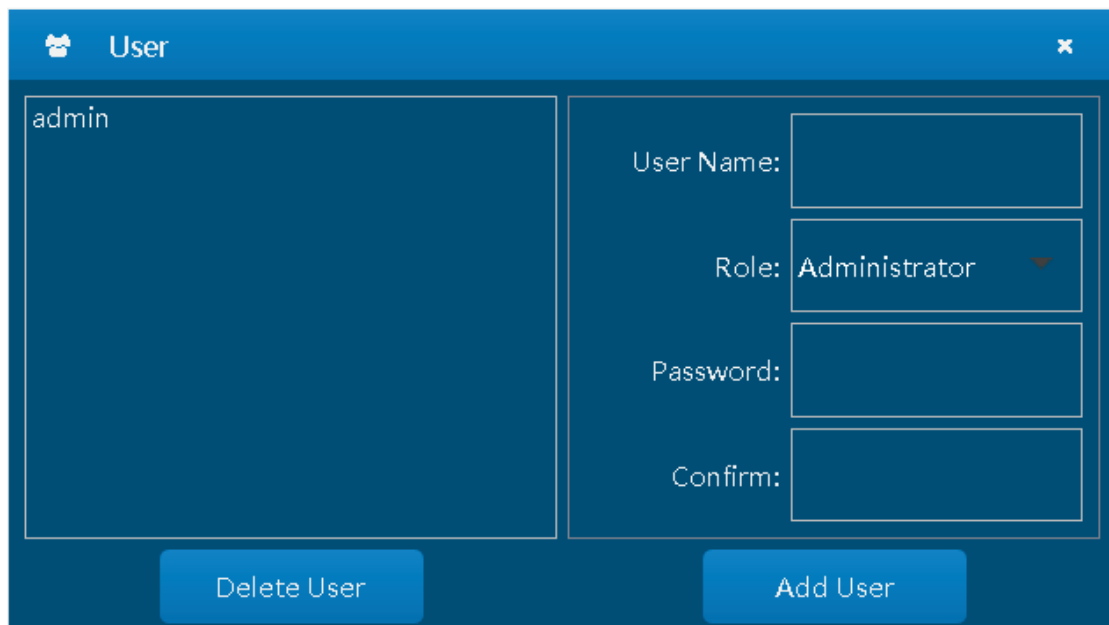
7.12 Switch Screen

7.12.1 First, correctly connect the serial cable from the large screen to the processor, then click the screen switch, and fill in the corresponding large screen switch code according to the example format to control the large screen on and off (see below)

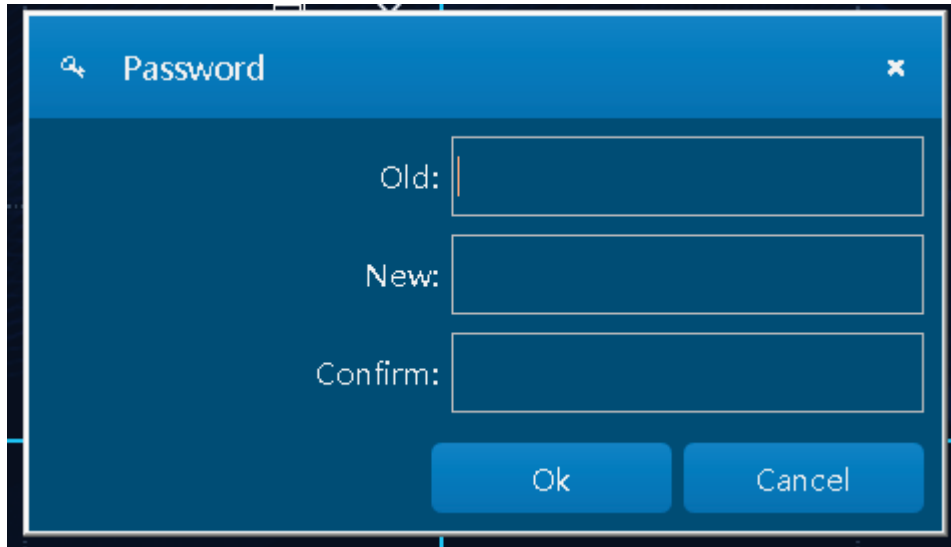


7.13 User Management and Change Password

Click on setting -- User Management, enter the username and password, and click Add New User to successfully add a user; select the user you want to delete and click Delete User to remove them;

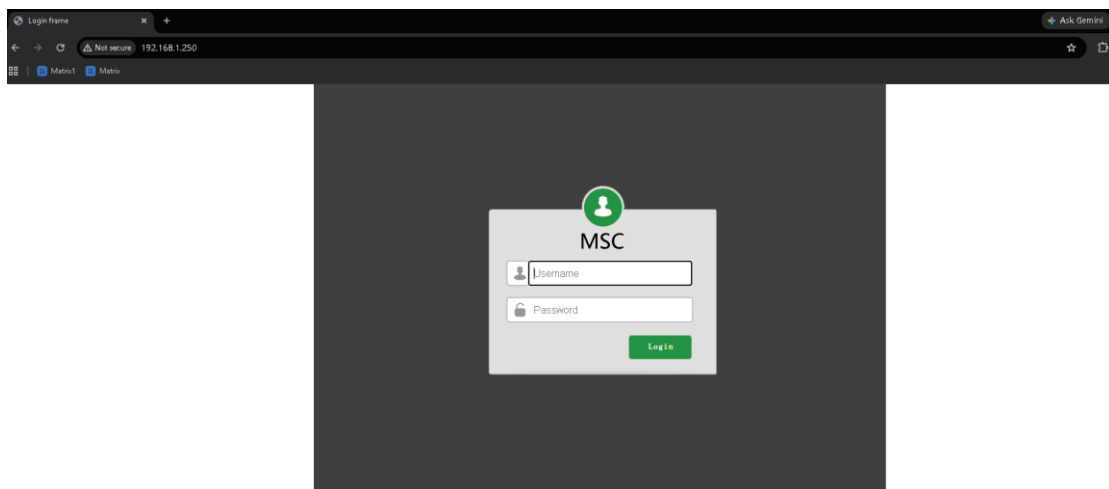


7.13.2 Click on setting -- Password Management to modify the current account password, as shown in the figure below:

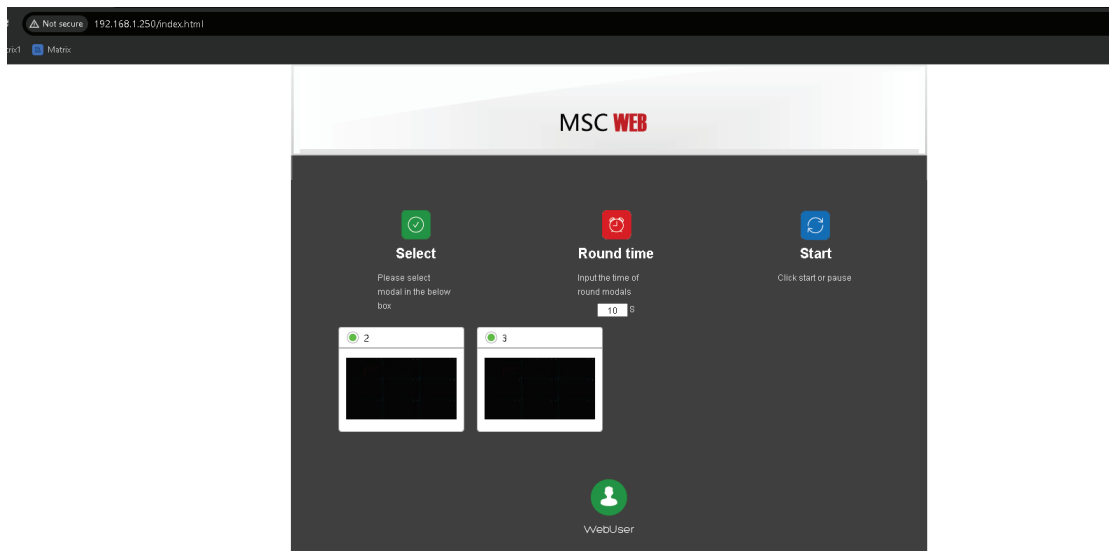
A blue dialog box titled "Password" with a search icon and a close button. It contains three input fields labeled "Old:", "New:", and "Confirm:". At the bottom are "Ok" and "Cancel" buttons.

7.14 Web Control

7.14.1 Open the browser on the mobile terminal within the local area network, enter the processor's IP address in the browser's address bar, and the Web login page will pop up. Enter the account password to log in. The initial account is: admin, and the password is empty; as shown in the figure below:

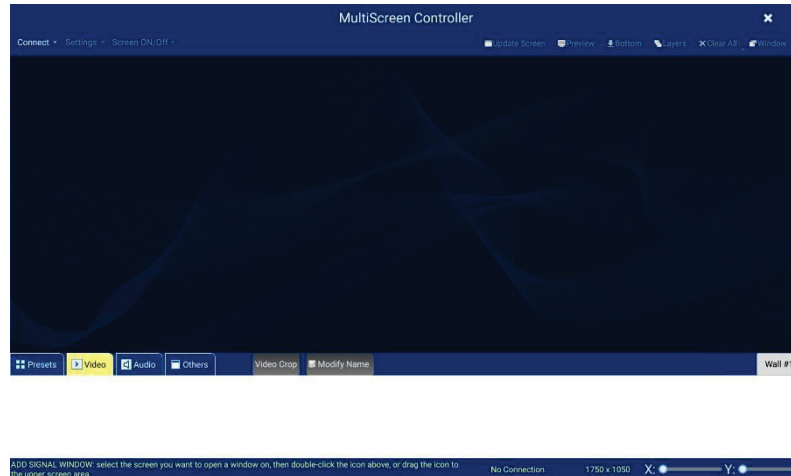


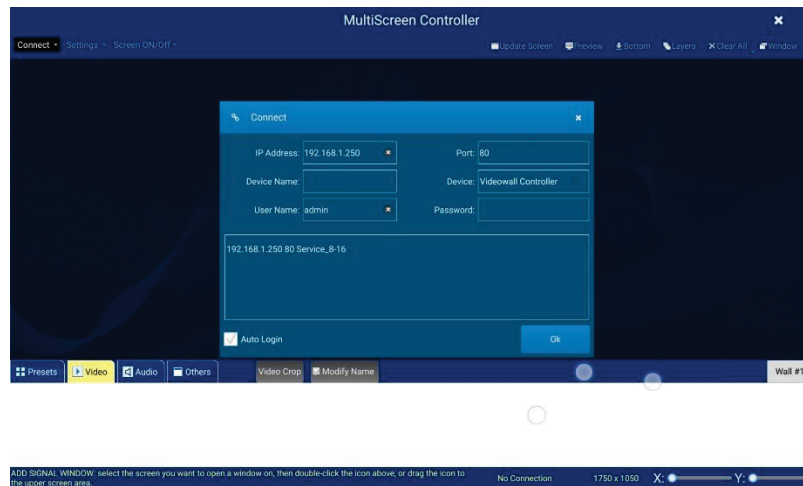
7.14.2 After a successful login, click on the desired scene to retrieve it, and you can also set the scene for automatic rotation; as shown in the figure below:



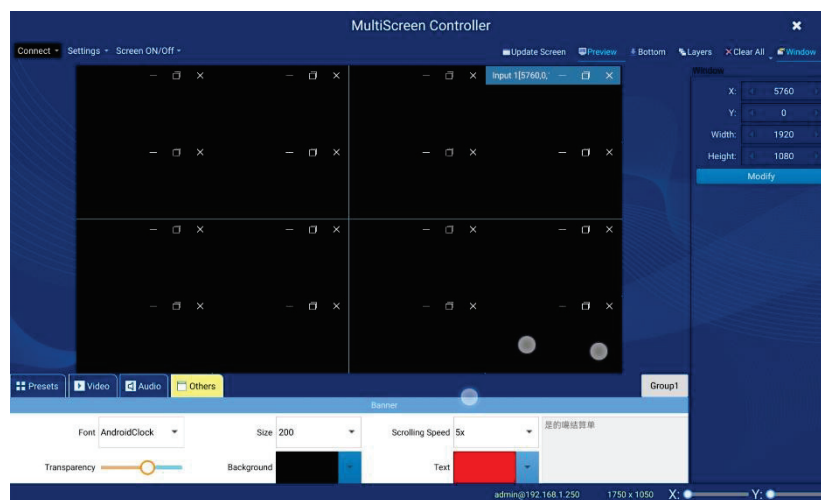
7.15 Android Operation Instructions

7.15.1 Install the app software on the tablet or phone, and the Wi-Fi connection of the tablet or phone must be in the same subnet as the processor; open the software, enter the processor's IP address, username (admin), and leave the password empty to log in. As shown in the figure below: The operation method of the Android interface is consistent with that of the computer interface.





7.15.2 After a successful login, the APP control interface will appear; on the left is the signal source list: drag the signal source to the virtual screen for display; click the audio switch in the upper right corner of the signal source to turn the sound on or off; in the middle is the virtual screen: you can zoom in and out on the signal source, overlay, roam, etc.; on the right is the scene list: double-click to call the scene. As shown in the figure below:



7.16 Central Control Protocol Description

7.16.1 Connection Method

This system supports switching scenes via HTTP and serial port.

7.16.2 Detailed Description of HTTP Interface

Port: 80.

Keep-alive mode is not supported.

If not specified otherwise, the POST or GET URL for the interfaces below is:
`http://host_ip_address/index2.html`

7.16.2.1 Login

Request type	POST
Content	Json: { "Command" : "Login", "UserName" : "Username", "Password" : "MD5 string of the password" }
Response	Json: { "Status" : "Ok"/"Error", "SessionId" : session id of this login, -- valid when status is ok "ScreenGroup" : [Screen grouping permission, 1 means can operate, 0 means cannot operate], "Message" : "Error message" }

Note: The session ID must be saved for later use

7.16.2.2 Get Host Plan List

This command retrieves the plan list corresponding to the screen group specified by ScreenGroup

Request type	GET
Header includes	<code>session_id=session ID</code>
Content	<code>Command= GetAllModal&ScreenGroup=Screen group number (1~4)</code>
Response	Json: { "Status": "Ok"/"Error", "ModalList": ["Plan name", "Plan name", ...] }

7.16.2.3 Get Host Plan Thumbnail

Request type	GET
---------------------	------------

URL	http://xxx.xxx.xxx.xxx/
Header includes	session_id=session ID
Response	Image Data

7.16.2.4 Switch Plan

Request type	POST
Header includes	session_id=session ID
Content	Json: <pre>{ "Command" : " LoadModal", "ScreenGroup" : Screen Group Number (1~4), "ModalName" : "Plan Name" }</pre>
Response	Json: <pre>{ "Status" : "Ok"/"Error", "Message" : "Error message" }</pre>

7.16.3 Serial Port Interface Detailed Description

7.16.3.1 Port Configuration

- A) Port and baud rate: Set in the communication settings, default 9600
- B) Parity: None
- C) Flow Control: None
- D) Data Bits: 8
- E) Stop Bits: 1

7.16.3.2 Packet Format

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

Op represents the operation command, which is one character.

Scr represents the screen group number to be operated on, which is one character.

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

7.16.3.3 Serial Command

1) Get Host Plan List

Central Control Command:

Op	1
Scr	One byte, value from 1 to 4, specifies the sequence number of the screen group
DATA	None

Application Example:	Get the plan for screen group one: \$11^ Get the plan for screen group two: \$12^ Get the plan for screen group three: \$13^ Obtain the plan for screen group four:\$14^
-----------------------------	---

Device Response:

Op	1
DATA	Multiple plan names separated by spaces (UTF8 format). For example: Plan One Plan Two

2) Get the current window list

Central Control Command:

Op	2
Scr	One byte, with a value from 1 to 4, specifying the sequence number of the screen group.
DATA	None
Application Example:	Get the window list of screen group one: \$21^ Get the window list of screen group two: \$22^ Get the window list of screen group three: \$23^ Get the window list of screen group four: \$24^

Device Response:

Op	2
DATA	Multiple window information separated by square brackets, with the format of window information as [Window ID, Starting X coordinate of the top-left corner, Starting Y coordinate of the top-left corner, Ending X coordinate of the bottom-right corner, Ending Y coordinate of the bottom-right corner]. For example: 2[21326,0,0,960,540][25588,960,0,1920,540][21456,1920,0,2880,540][8192,2880,0,3840,540]...[26424,4800,8100,5760,8640][13336,5760,8100,6720,8640][9651,6720,8100,7680,8640]

3) Switching Plan

Central Control Command:

Op	3
Scr	One byte, value from 1 to 4, specifies the sequence number of the screen group
DATA	Plan Name (UTF8 format)
Application Example:	Switching to Screen Group One's "Plan Five":\$31Plan Five^ Switching to Screen Group Two's "ab":\$32ab^ Switching to Screen Group Three's "123ab":\$33123ab ^ Switching to Screen Group Four's "Plan 6a":\$34Plan 6a ^ Code to switch Screen Group One to Plan "1": 24 33 31 31 5E Code to switch Screen Group One to Plan "2": 24 33 31 32 5E Code to switch Screen Group One to Plan "3": 24 33 31 33 5E

Device Response:

Op	3
DATA	Ok or Error

4) Window Signal Source Opening

Central Control Command:

Op	4
Scr	One byte, value from 1 to 4, specifies the sequence number of the screen group
DATA	[Window ID][Input Port Number 1-8][Top Left X Starting Coordinate, Top Left Y Starting Coordinate, Bottom Right X Ending Coordinate, Bottom Right Y Ending Coordinate] Window ID must be an integer greater than or equal to 1, and the ID must be unique; multiple windows cannot have the same ID. Input port number for 0409 is 1-4, for 0509 is 1-5, and for 0816 is 1-8. 0509 point-to-point mode does not support window operations.
Application Example:	Example of signal source window opening command: Open the 2nd input in group 1, with window ID 2, starting coordinates at 1920, 1080, and ending coordinates at 3840, 2160:\$41[2][2][1920,1080,3840,2160]^ Open the 3rd input of the 2nd input slot in group 1, with window ID 2, coordinates in hexadecimal code 1920, 1080, 3840, 2160:24 34 31 5B 32 5D 5B 32 5D 5B 31 39 32 30 2C 31 30 38 30 2C 33 38 34 30 2C 32 31 36 30 5D 5E

Device Response:

Op	4
DATA	Ok or Error

5) Switch Window Signal Source

Central Control Command:

Op	5
Scr	One byte, value from 1 to 4, specifies the sequence number of the screen group
DATA	[Window ID][Input Port Number 1-8] The window ID can be read through the current window list interface. Input port number for 0409 is 1-4, for 0509 is 1-5, and for 0816 is 1-8. 0509 point-to-point mode does not support window operations.
Application Example:	Examples of switching window signal source commands are as follows: Switch input 3 to the window with ID 21326 in screen group 1:\$51[21326][3]^ Hexadecimal code for switching input 3 to the window with ID 21326 in screen group 1: 24 35 31 5B 32 31 33 32 36 5D 5B 33 5D 5E

--	--

Device Response:

Op	5
DATA	Ok or Error

6) Get processor IP

Central Control Command:

Op	6
Scr	None
DATA	None
Application Example:	\$6^

Device Response:

Op	6
DATA	Processor IP. For example: IP:[192.168.1.250]

7) Set processor IP address

Central Control Command:

Op	7
Scr	None
DATA	IP address
Application Example:	Set the processor IP address to 192.168.1.200:\$7192.168.1.200^

Device Response:

Op	7
DATA	Ok or Error

8) Reset Processor

Central Control Command:

Op	8
Scr	None
DATA	None
Application Example:	\$8^

Device Response:

Op	8
DATA	Ok or Error, the reset will take effect after restarting the processor

9) Switch Audio Channel

Central Control Command:

Op	9
Scr	None
DATA	[Input Port Number 1-8] Input port number for 0409 is 1-4, for 0509 is 1-5, and for 0816 is 1-8.

Application Example:	To disable audio input, set the input port number to 0. Example of switch audio channel command: Switch to audio channel of input 3:\$9[3]^ Disable audio input:\$9[0]^ Hexadecimal code for audio input of input 3: 24 39 5B 33 5D 5E The hexadecimal code to close audio input is:24 39 5B 30 5D 5E
-----------------------------	---

Device Response:

Op	9
DATA	Ok or Error

10) Close window

Central Control Command:

Op	0
Scr	One byte, value from 1 to 4, specifies the sequence number of the screen group
DATA	[Window ID] The window ID can be read through the current window list interface. 0509 point-to-point mode does not support window operations.
Application Example:	To close all windows in the current group, set the window ID to 0. Example of close window command: Close window with ID 1 in group 1:\$01[1]^ Close all windows in group 1:\$01[0]^ The hexadecimal code to close the window with ID 1 in group 1 is:24 30 31 5B 31 5D 5E The hexadecimal code to close all windows in group 1 is:24 30 31 5B 30 5D 5E

Device Response:

Op	0
DATA	Ok or Error

11) Move window

Central Control Command:

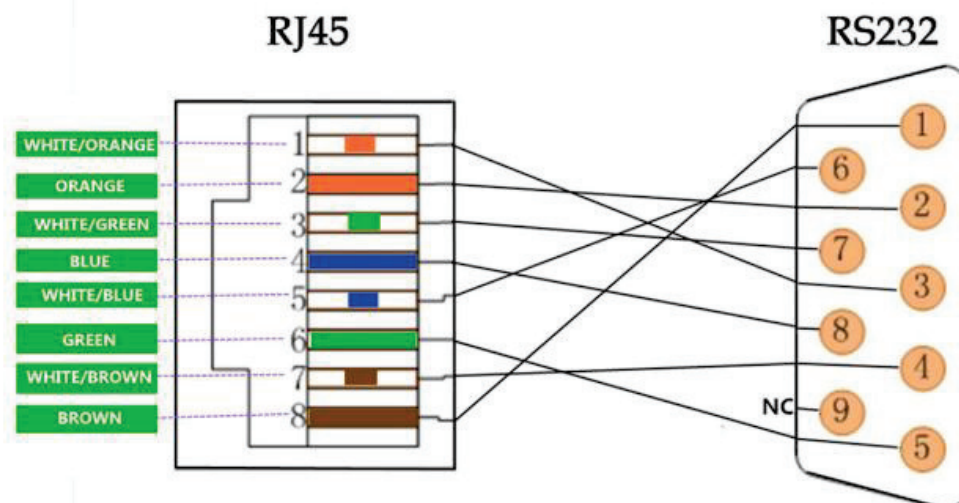
Op	a
Scr	One byte, value from 1 to 4, specifies the sequence number of the screen group
DATA	[Window ID] [Top-left X starting coordinate, Top-left Y starting coordinate, Bottom-right X ending coordinate, Bottom-right Y ending coordinate] The window ID can be read through the current window list interface. 0509 point-to-point mode does not support window operations.
Application Example:	The example of the mobile window command is as follows: Move window ID 1 of group 1 to starting coordinates 1920, 1080 and ending

	coordinates 3840, 2160:\$a1[1][1920,1080,3840,2160]^ The hexadecimal code to move window ID 1 of group 1 to starting coordinates 1920, 1080 and ending coordinates 3840, 2160: 24 61 31 5B 31 5D 5B 31 39 32 30 2C 31 30 38 30 2C 33 38 34 30 2C 32 31 36 30 5D 5E
--	---

Device Response:

Op	a
DATA	Ok or Error

Serial Port Wiring Sequence



8.After-sales service

8.1 Guarantee Information

From the date you purchase the product from our company or an authorized distributor, for 1 year, if you use the product normally and follow the official service support requirements, we guarantee that the product will be free from quality defects in workmanship and materials.

If the product experiences a failure that does not meet the above guarantee scope (i.e., cannot be used normally) during the guarantee period, we will choose one of the following methods to handle it, and all related costs will be borne by our company:

1. Repair the defective product or its components;
2. Replace it with a product or component that is functionally equivalent to the original product/component;
3. Refund the full price paid for the defective product at the time of purchase.

Please note:

- All products that are replaced will become the property of our company;
- The products or parts we provide as replacements may be brand new or may meet quality standards after professional refurbishment;
- For replaced or repaired products/parts, we will provide additional warranty: the warranty period is 90 days. If the original product's initial warranty period has remaining

time exceeding 90 days, the remaining time of the initial warranty period will apply (i.e., the longer of the two periods will be taken).

Special reminder: Regardless of whether the product is within the warranty period, our company will not be liable for any software, firmware, various information, and stored data included, stored, or integrated in the products sent back to the company for repair (including but not limited to data loss, damage, etc.).

8.2 Warranty Limitations and Exceptions

In addition, beyond the limited warranty scope mentioned above, our company will not assume additional warranty obligations if the product damage is caused by the following situations:

- Abuse, incorrect operation, or damage caused by negligent use;
- Damage caused by accidents, abnormal physical stress, or abnormal voltage;
- Unauthorized modification, alteration, or customization of the product without our company's permission;
- Damage caused by services provided by third parties other than our company and authorized agents (such as repairs, maintenance, etc.).

It should be noted that if the failure occurs due to your operation in accordance with the product's normal usage or correct use in applicable scenarios, it still falls within the initial warranty scope mentioned above and is not subject to the aforementioned exemption conditions.