LED intelligent display & control system

User Manual

Catalog

1. Software Introduction

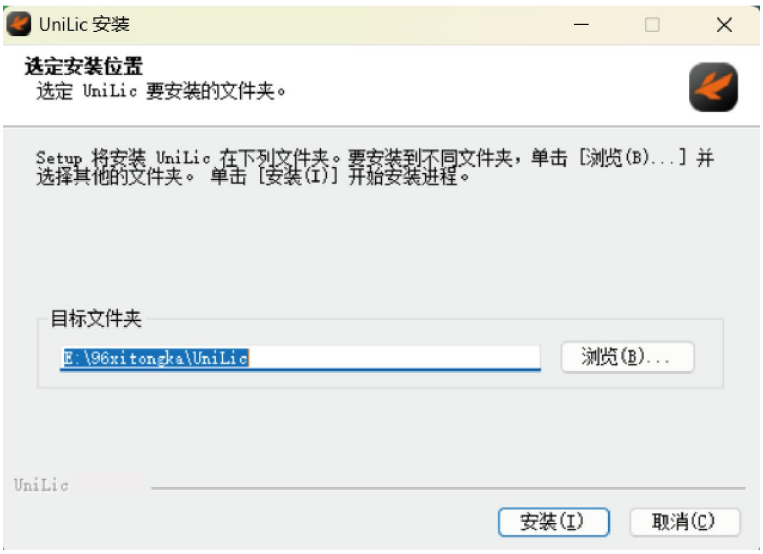
1.1. Software introduction

The LED intelligent display and control system is a CS-mode control software developed by our company based on the Windows operating system. The software supports parameter settings for LED modules and parameter reading and writing for sending controller and receiving cards, enabling LED display devices to present the desired display effects. It supports equipment monitoring, log management, and alarm prompts, which can improve the reliability of equipment operation. It supports video wall controller, allowing arbitrary window opening on the LED screen. Window opening can roam/overlay/scale, and supports large screen pre-layout, realizing flexible and diverse window opening effects to meet the needs of large screen display applications in different industries and fields.

1.2. Software installation

1. Unzip the software installation package, double-click to run it, and follow the installation wizard to install the software. If your firewall prompts you, please select "Allow".

2. In the installation wizard interface, you can click the "Browse" button to select the software installation location . After making your selection, click the "Install" button to begin the installation.



shortcut will be created on the desktop after successful software installation .

1.3. Device connection

1.3.1. PC connection to the controller

PC (with software installed) to the controller via a control cable (USB or Ethernet cable) , as shown in the diagram below. All control commands, parameters, and configuration files are transmitted via the control cable.

The control PC can be connected to multiple controllers via control cables. By selecting the target communication port in the software, the corresponding controller can be operated.

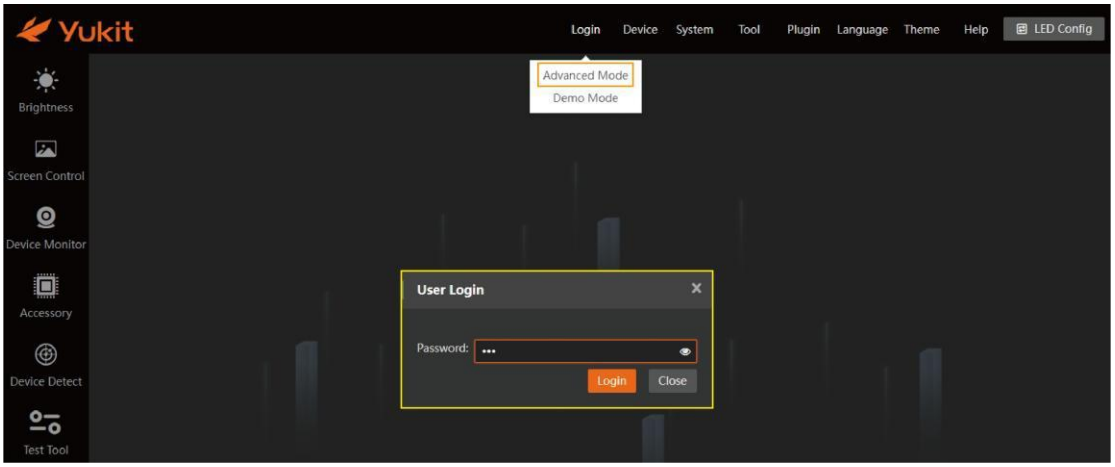
1.3.2. Connecting software and controller

When the hardware connection is normal, the software will automatically connect to the controller as long as the controller is functioning properly. After a successful connection, the number of controllers will be displayed in the lower left corner of the software's main interface.

1.4. Software login

Double-click the shortcut to open the software and enter the non-login interface. The software's functions are limited when not logged in. Log in to "Advanced Mode" to use all the software's functions.

Click the "Login" button in the function bar, select "Advanced Mode" from the drop-down menu, enter the password "888 ", and click the "Login" button to enter advanced mode.



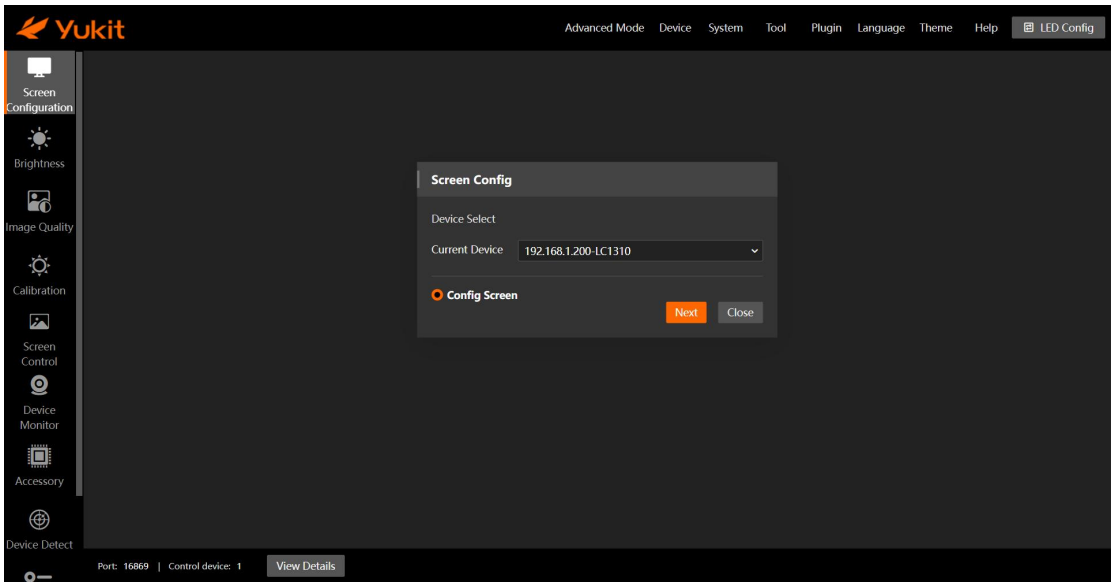
Advanced mode — LED configuration interface

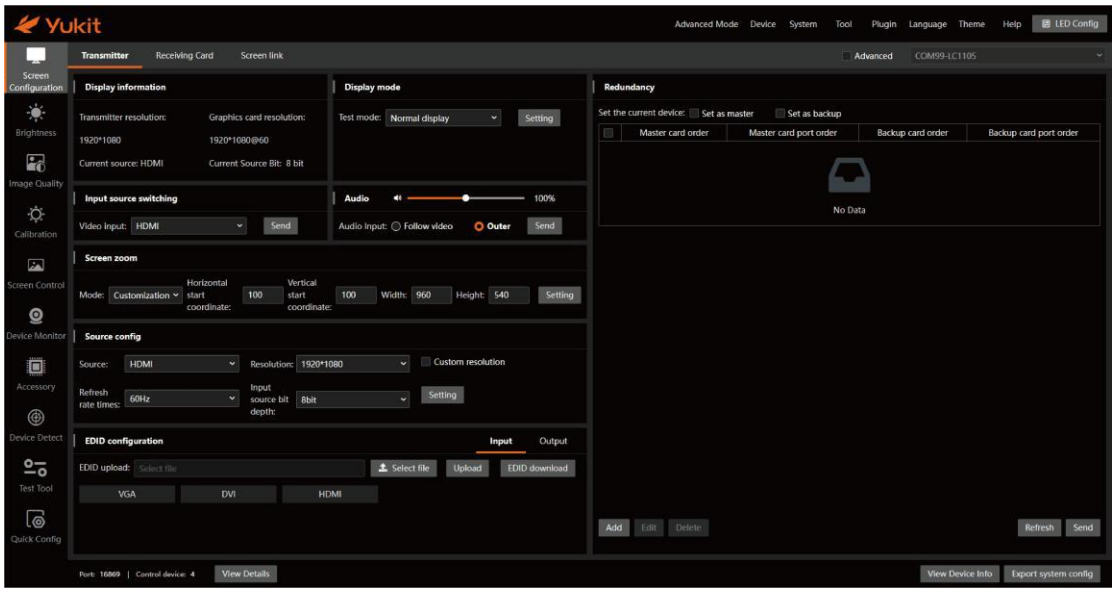
Advanced Mode — Video Wall Control Interface

2. LED configuration

2.1. LED transmitter

Click the "Display Configuration" option in the menu bar, select a communication port (there will be multiple communication ports when the PC is connected to multiple controllers at the same time), and then click the "Next" button. In the opened interface, select the corresponding tab to configure the parameters of the LED transmitter, receiving card and display parameters.

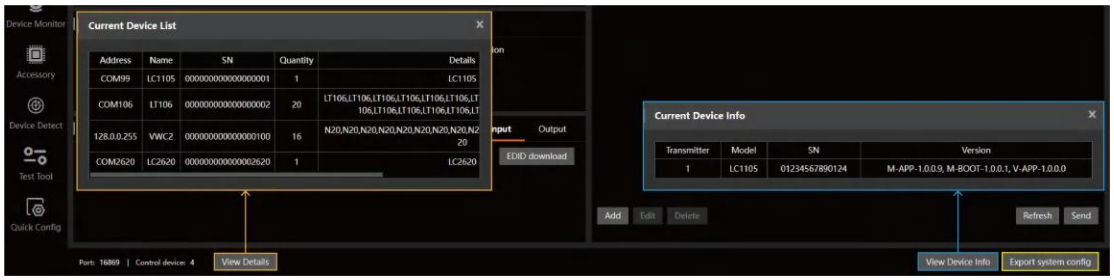




Click the "View Details" button in the lower left corner to view device model, SN code, and other information about the currently controlled device;

Click the "View Details Information" button in the lower right corner to view the current device version information;

Click "Export System Config" in the lower right corner to export the system configuration file to your local PC for one-click configuration of new devices. For details, see section **8.4 One-Click Configuration** .

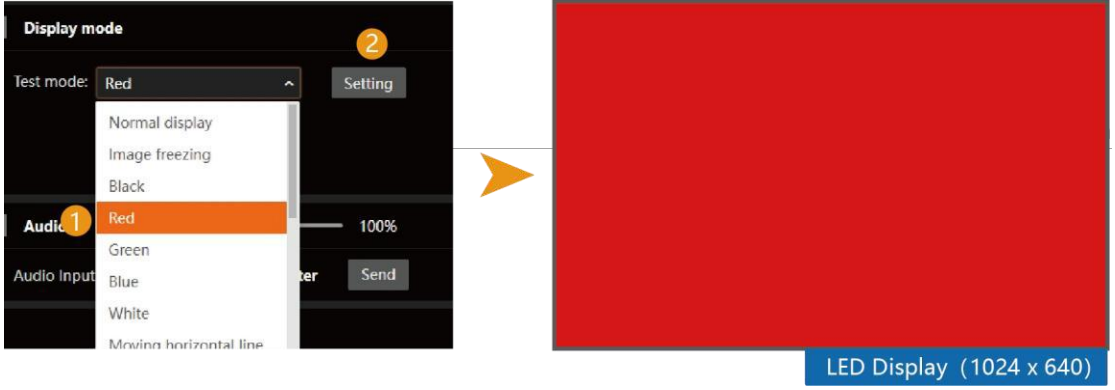


2.1.1. Display mode

The device supports 17 display modes, which can be used for LED screen testing, including: normal display, frozen screen, black, red, green, blue, white, moving horizontal line, moving vertical line, moving forward slash, moving backslash, grayscale (static), grayscale (dynamic), red grayscale (static), green grayscale (static), blue grayscale (static), and aging.

Switch to the “LED Transmitter” tab, find the “Display Mode” area, select the mode in the "Test Mode" drop-down menu, and click the "Settings" button.

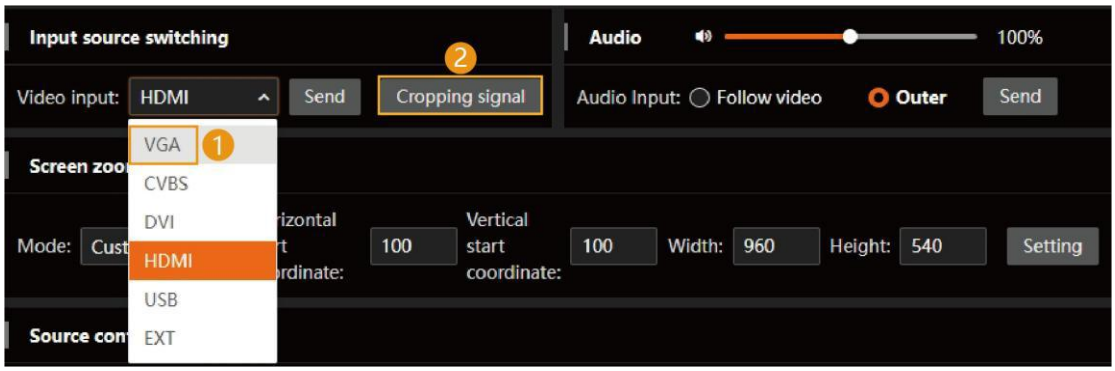
Example: Select "Red" for display mode.



2.1.2. Input source switching

The input source can be switched in the software interface. Locate the "Input Source Switching" area, select the input source you want to switch to in the "Video Input" drop-down menu, and click the "Send" button.

Example: Switch the input source from "HDMI " to " VGA ".



Before Switching

After Switching

2.1.3. 3D parameter settings

If the input source is a 3D signal source, the 3D parameters of the input source can be set through software.

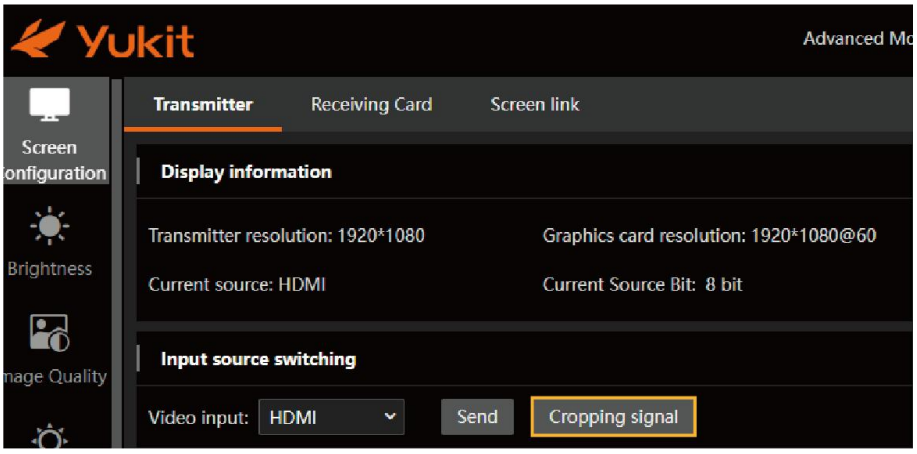
In the "Input Source Switching" area, click the "3D Parameters" button to set the 3D parameters of the input source, including: automatic recognition, 2D format, frame encapsulation format, left-right format, and top-bottom format.

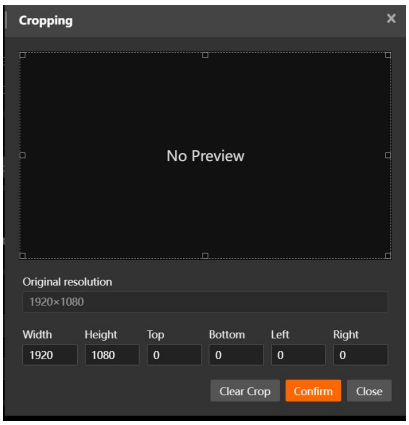
This feature is only supported on some devices. Please consult our sales staff for specific models.

2.1.4. Signal source cropping

The software supports signal source cropping, which can achieve the following effects: trimming the black border of the signal source; trimming away the excess parts while retaining the important information of the signal source; and adjusting the aspect ratio of the signal source without distortion.

In the "Input Source Switching" area, click the "Cropping signal" button. You can drag the node in the signal source area above to quickly crop it, or enter the values in the "Width/Height/Top Edge/Bottom Edge/Left Edge/Right Edge" fields below for precise cropping. Click the "confirm" button to complete the cropping.

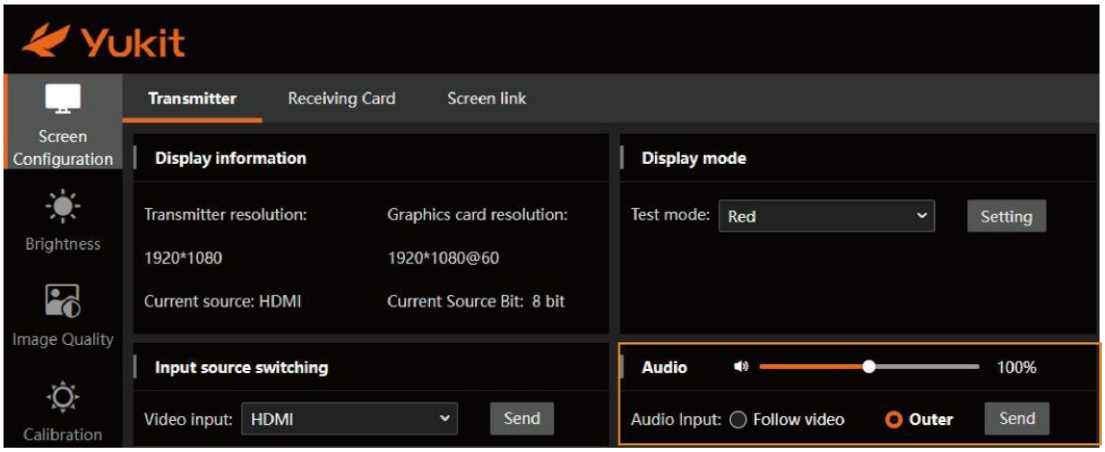




2.1.5. Audio switching

The device's audio input can be selected as "Follow Video Input Source" or "External Input," and volume adjustment is supported.

In the “Input Source Switching” area, select "Follow video" or "Outer", and click the "Send" button to switch the audio input source. Drag the slider to adjust the volume.



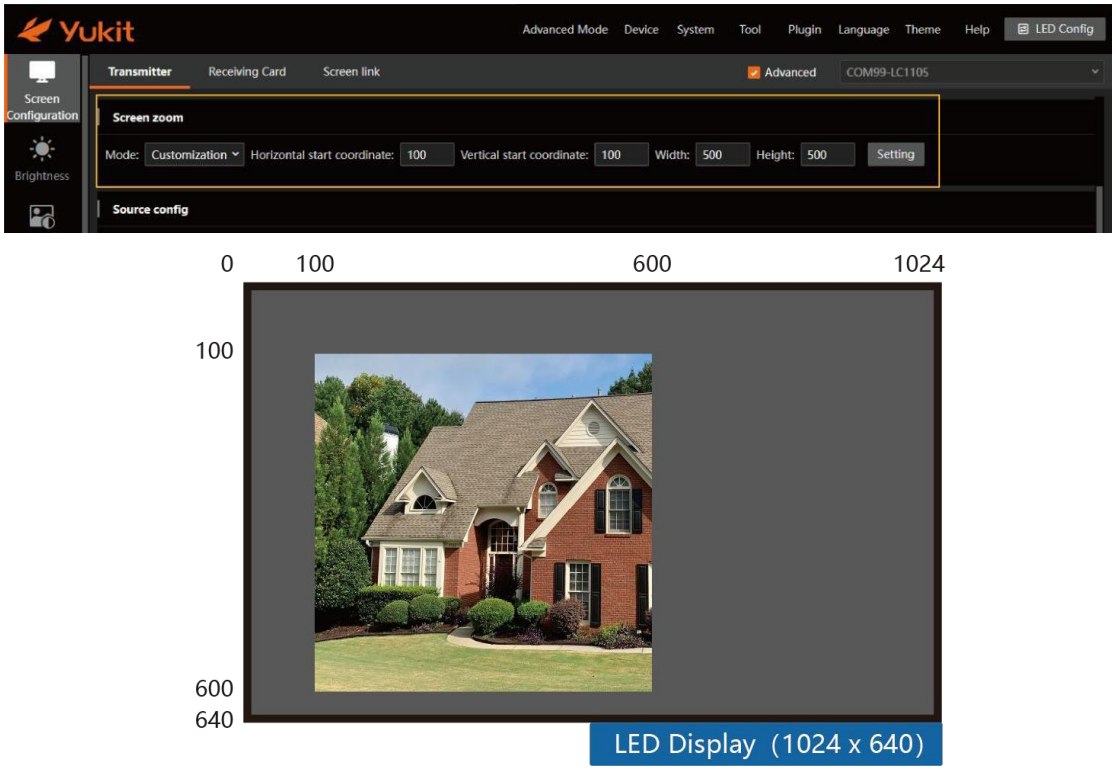
2.1.6. Screen zoom

The software supports different output screen scaling modes, including full-screen, pixel-perfect, and custom scaling. The software operation is as follows:

1. Locate the "Screen zoom" area, and select the desired scaling mode from the "Mode" drop-down menu;
2. If you choose "Full Screen" or "Peer-to-Peer" mode, simply click the "Settings" button to switch modes.

3. If you choose the "Custom" mode, you need to first set the position (horizontal/vertical starting coordinates) and size (width/height) of the output window, and then click the "Settings" button to switch modes.

Example: The scaling mode is set to "Custom", the output window position is (100, 100), and the size is 500x 500 .

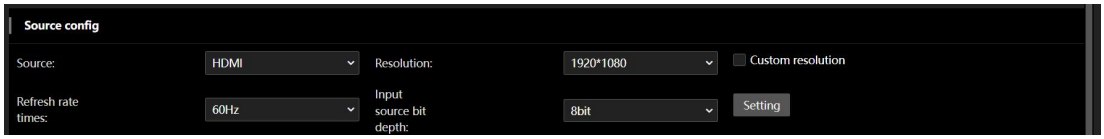


2.1.7. Input source configuration

The software supports setting the input source's resolution, refresh rate, and bit depth to ensure stable display. The software operation is as follows:

1. Locate the "Source Config" area, and select the input source from the "Source" drop-down menu;
2. Select the preset resolution from the “Resolution” drop-down menu. If the preset resolution does not meet your needs, you can check "Custom Resolution" and set it according to your requirements.
3. Select the refresh rate from the drop-down menu. A low refresh rate will cause the screen to flicker; increasing the refresh rate will help stabilize the display. After changing the refresh rate, it is recommended to resend the performance parameters in the "Receiving Card" tab to avoid the receiver card failing to adapt to the refresh rate.

4. The "Input source bit depth" setting is recommended to be set to "8 bit";
5. Finally, click the "Settings" button.



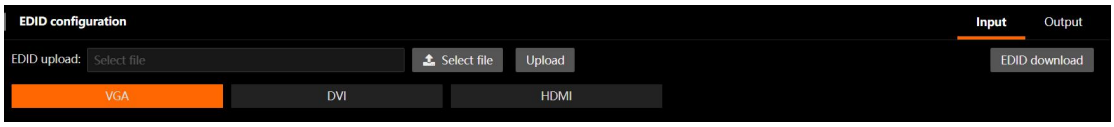
2.1.8. EDID configuration

The software supports EDID configuration, including EDID uploading and downloading.

2.1.8.1. Upload

You can upload a local EDID file to modify the EDID of the input interface. The steps are as follows:

1. Locate the【EDID Configuration】area and click the "Input" option;
2. Click the "Select File" button to select the EDID file you want to upload from your local PC;
3. Click to select the input interface type you want to modify (multiple selections are possible), and then click the "Upload" button.



2.1.8.2. Download

The EDID of the input interface or the EDID of the device connected to the output interface can be downloaded to the local PC for storage. Taking the device connected to the output interface as an example, the operation steps are as follows:

1. Locate the【EDID Configuration】area and click the "Output" option;
2. Click to select the output interface;
3. Click the "EDID Download" button, select the storage path on your local PC, and then click the "Save" button.

2.1.9. Output area

The software supports output area settings, allowing you to select a portion of the image in the current window for output and then enlarge that selected area to display within the entire window. You can set the position and size of the output area by checking the "Advanced Mode" option.

Check the "Advanced" option, find the "Output Area", set the "Horizontal Start Coordinates", "Vertical Start Coordinates", "Width", and "Height", and click the "Setting" button to send the configuration to the transmitter.

2.1.10. Sharpness settings

The software supports sharpness settings, allowing you to adjust the sharpness of the input image for a clearer picture. Select the "Advanced Settings" option, locate the "Sharpness Settings" area, drag the slider to adjust the sharpness, and click the "Settings" button to send the configuration to the sending card/controller.

This feature is only supported on some devices. Please consult our sales staff for specific models.

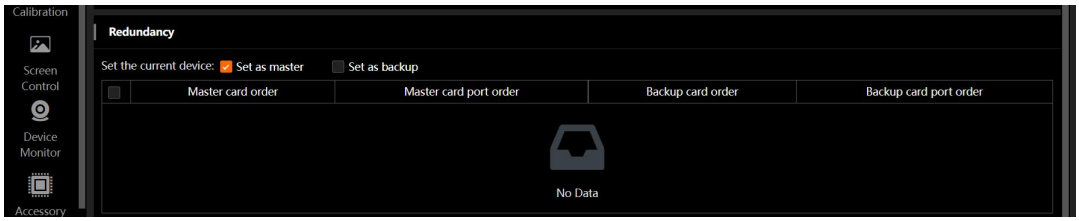
2.1.11. Redundant backup

The device supports redundant backup between different sending cards/controllers and between different output ports.

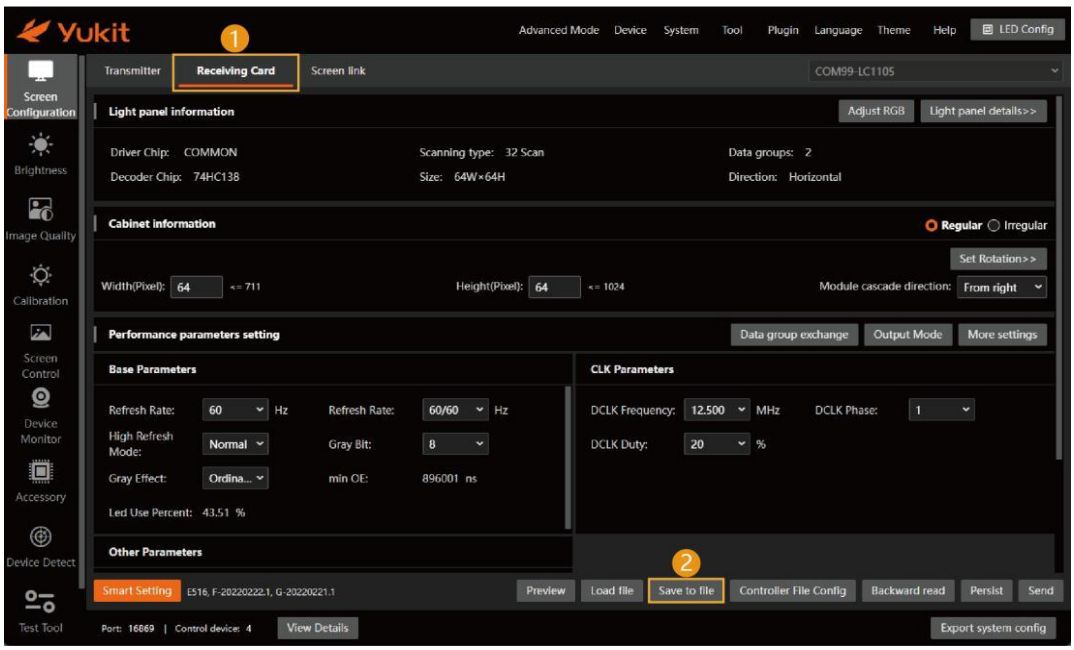
2.1.11.1. Full card backup

The software supports full card redundancy backup. When the main control card malfunctions, it can automatically switch to the backup card to ensure stable system operation.

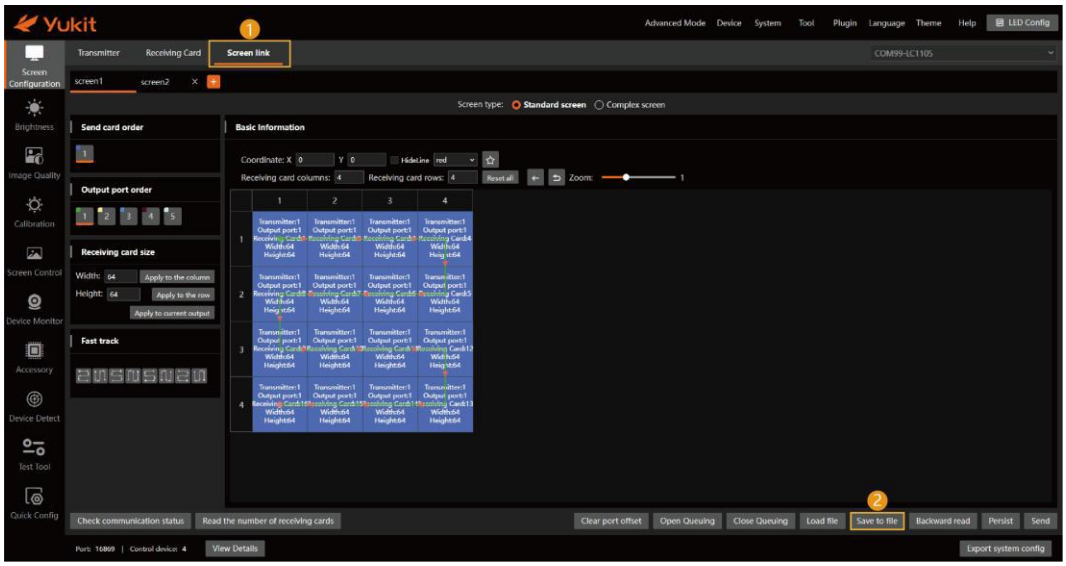
1. In the 【Redundancy Backup】area, check "Set as master" to configure the current device's sending card as the master card;



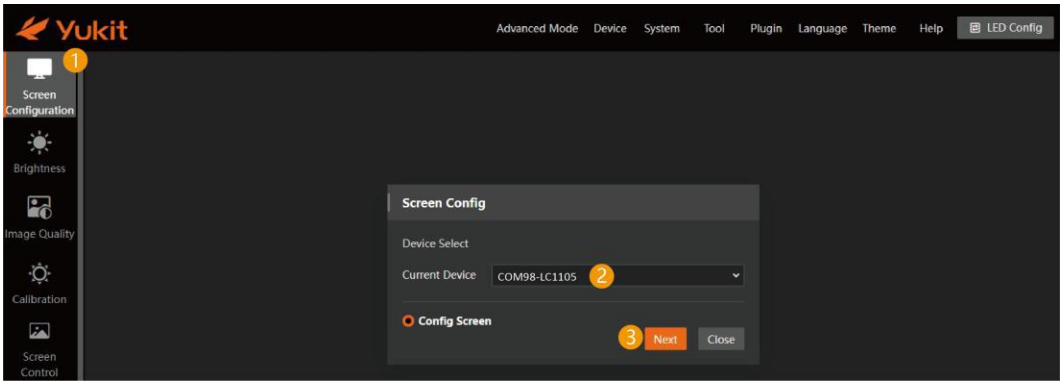
2. Switch to the "Receiving card" tab, and click the "Save to file" button at the bottom of the page to export the receiving card configuration file to your local PC ;

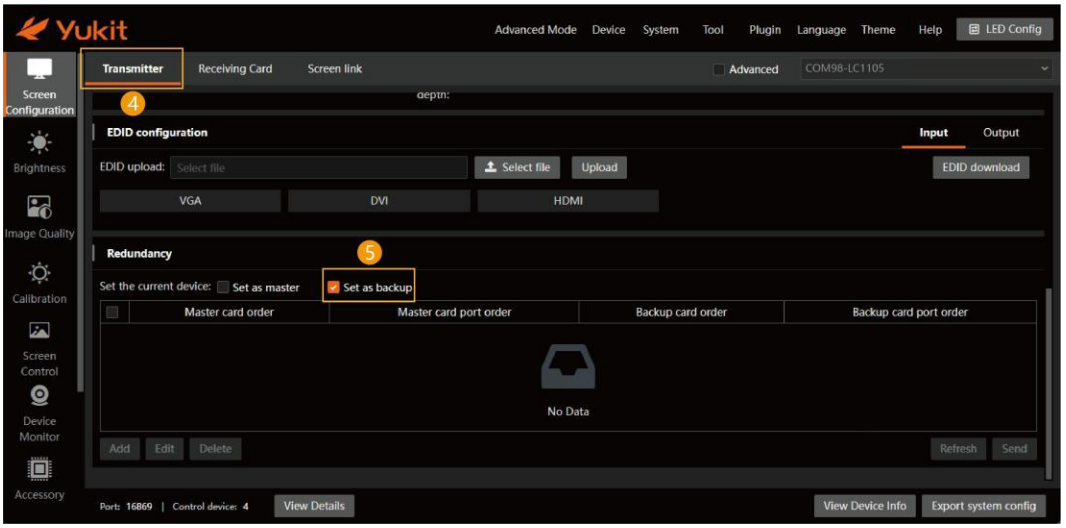


3. Switch to the "Screen link" tab, and click the "Save to file" button at the bottom of the page to export the display configuration file to your local PC ;

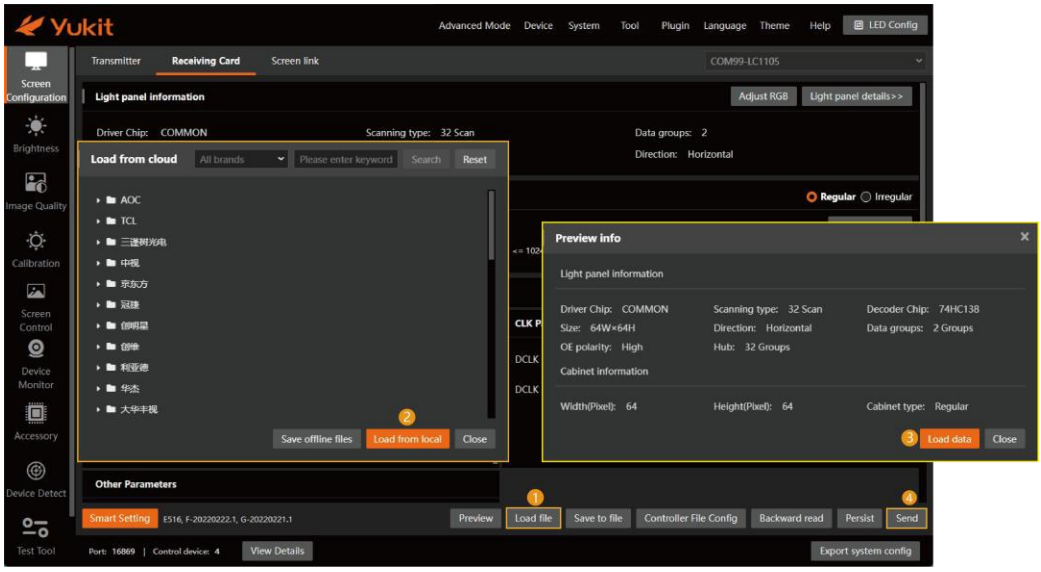


4. Click the "Screen Configuration" option in the menu bar, select the backup card communication port, switch to the backup card, and check the "Set as Backup" option in the "Redundancy" area of the "Transmitter" tab;



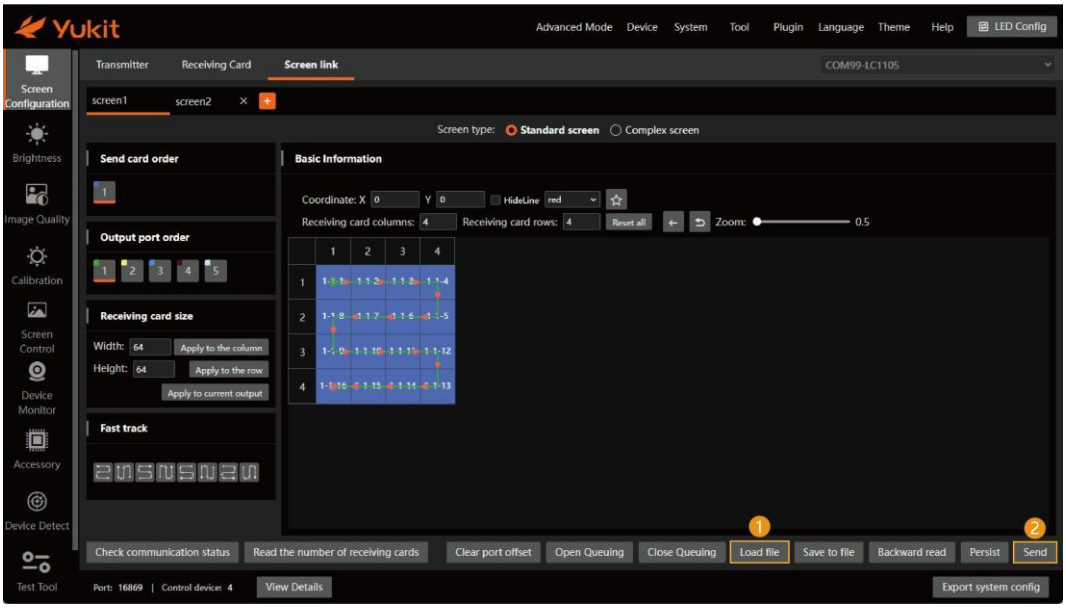


5. Switch to the “Receiving Card” tab, click the "Load file" button, then click the "Load from local" button, select the configuration file saved in step 2, click the "Open" button, and in the pop-up “Preview Info” window, confirm that the light board and cabinet information are correct. If everything is correct, click



the "Load Data" button to load the configuration file, and finally click the "Send" button to send the parameters to the hardware.

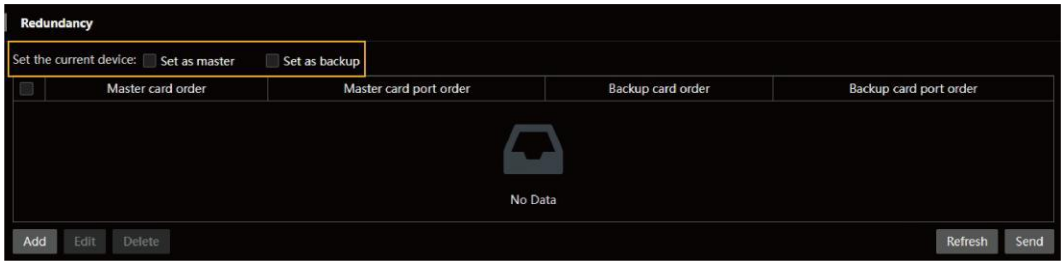
6. Switch to the "Screen link" tab, click the "Load file" button, select the configuration file saved in step 3 , click the "Open" button to load the configuration file, and finally click the "Send" button to send the parameters to the hardware. The full card redundancy backup configuration is now complete.



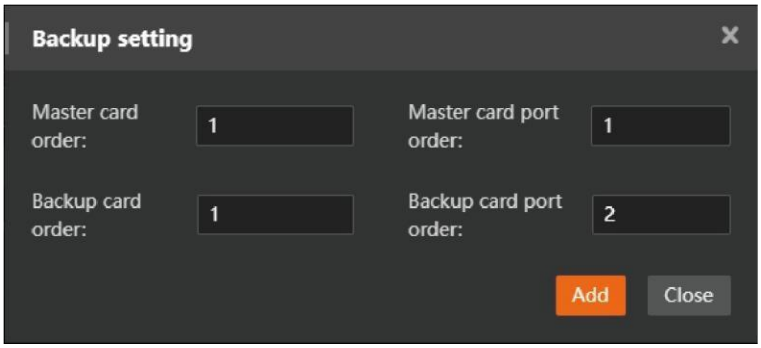
2.1.11.2. Port Backup

The software supports redundant backup configuration of the sending card output port. When the primary port fails, it can automatically switch to the backup port to ensure the stable operation of the system.

1. In the "Redundancy" area, do not check "Set as master" and "Set as backup", then click the "Add" button;

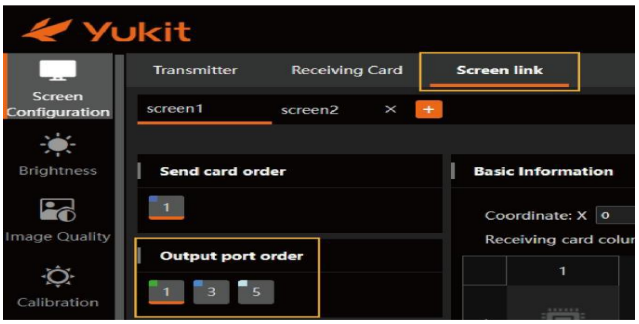


2. In the pop-up window, fill in the main control card serial number, main control card output port serial number, backup card serial number, and backup card output port serial number in sequence, and click the "Add" button;



3. Multiple backup relationships can be added. Click the "Send" button to complete the port backup configuration.

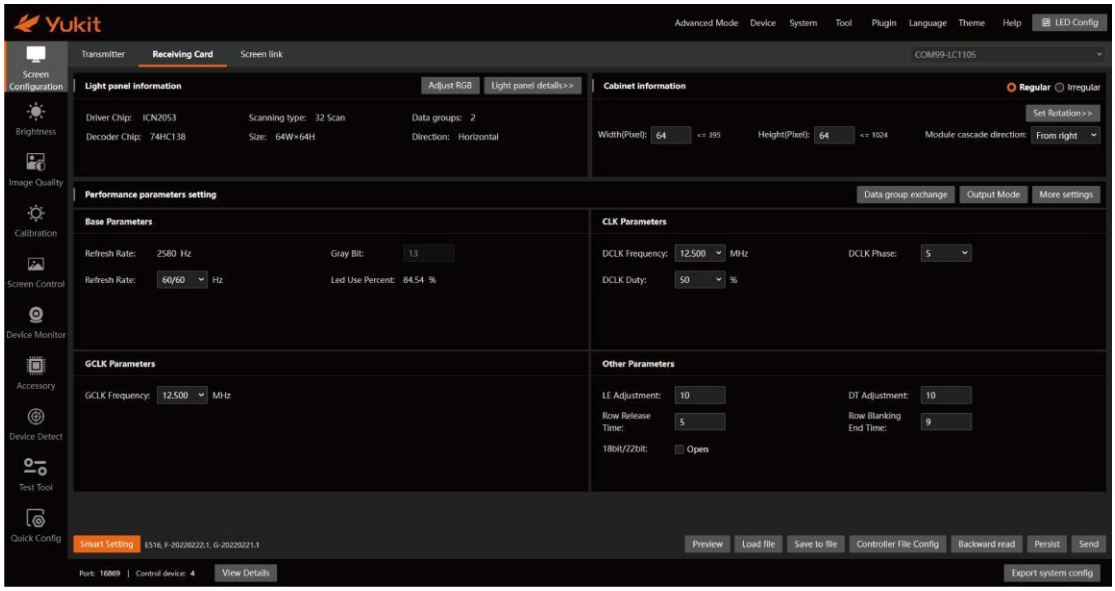
4. The "Backup Card Output Port" is not visible in the "Output Port Number" area of the "Display Connection" tab. **For example,** if the sending card has 5 output ports, and output port 2 is set as a backup for output port 1, and output port 4 is set as a backup for output port 3, then the "Output Port Number" area will only display output ports 1, 3, and 5.



5. Selecting backup information allows you to edit or delete it.

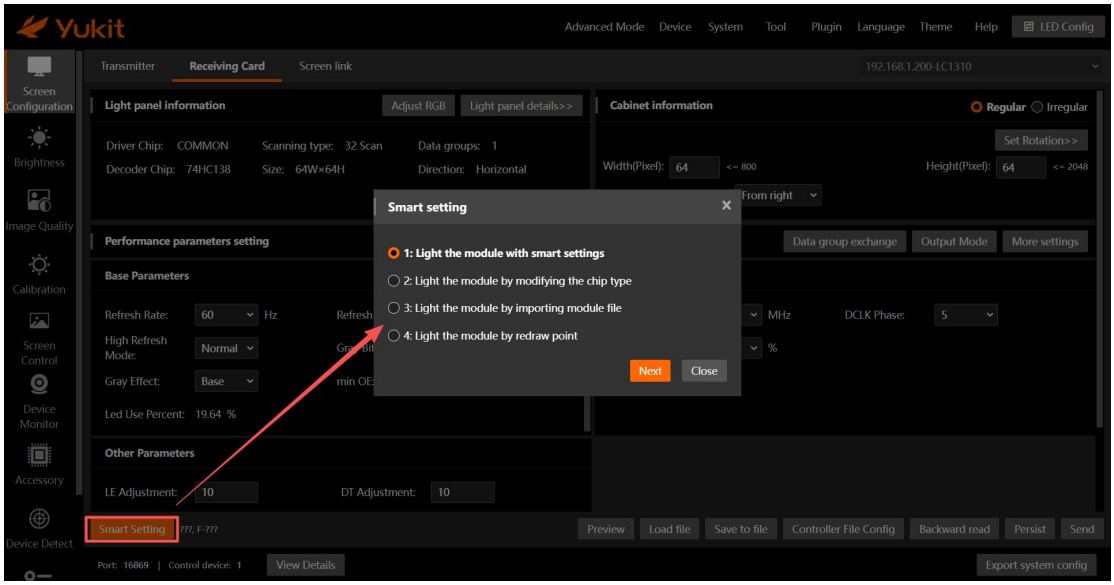
2.2. Receiving card

Click the "Screen Configuration" option in the menu bar, select the device communication port, and switch to the "Receiving Card" tab to configure the receiver card parameters. This interface contains four parts: Smart Setting, Light panel information, Cabinet Information and Performance parameters settings.



2.2.1. Smart Setting

The purpose of smart settings is to illuminate the LED panel so that the LED screen can function properly. Click the "Smart Setting" button in the lower left corner of the interface to enter the smart settings wizard. The software provides four methods for illuminating the LED panel suitable for different scenarios.



Options	Applicable Scenarios
Option 1	This method can be used to light up the light panel in any scenario, and is often used for the initial configuration of LED modules.
Option 2	The LED module was replaced with one that had all other parameters identical except for the types of driver and decoder chips.
Option 3	The corresponding LED board file for the LED module already exists.
Option 4	1. Incorrect point plotting; 2. Replaced with an LED module that has all other parameters the same, only the scanning method is different.

2.2.1.1. Preparations

Before setting up the smart system, the following preparations must be completed; otherwise, the light panel may not light up properly.

① PC using control and video cables, and ensure that the network cable between the controller and the receiver card is properly connected, and the ribbon cable between the receiver card and the light board is properly connected.

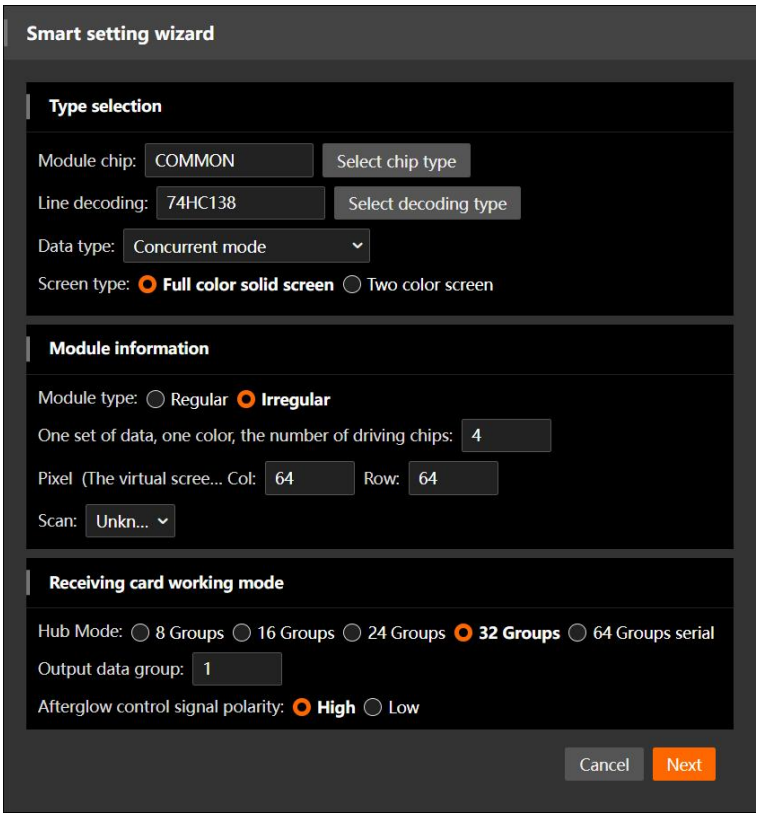
② To set the PC to copy mode and the resolution scaling to 100 %.

③ In the Input Source Configuration area of the Transmitter tab, set "Input Source" to control the PC and "Resolution" to control the PC graphics card resolution. For operation details, see 2.1.7 Input Source Configuration.

2.2.1.2. Light the module with smart settings

In the "Smart Settings wizard" window, check "Option 1" and click the "Next" button to enter the smart settings process for the light panel. The settings process may vary slightly depending on the type of light panel.

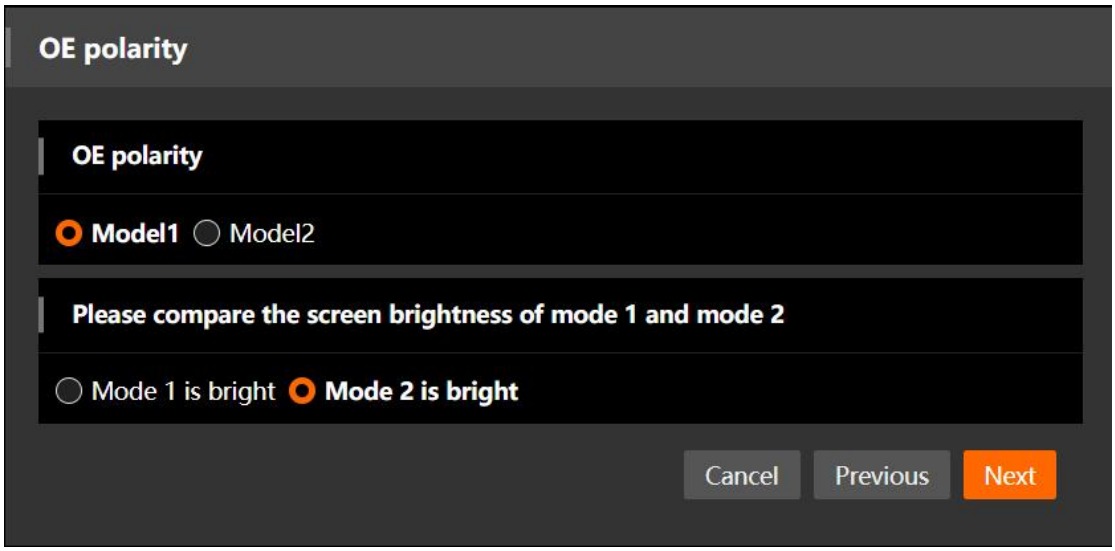
1. **Type selection:** Selects the chip type, sets the lamp board parameters, and configures the receiver card's working mode based on the actual situation of the lamp board.



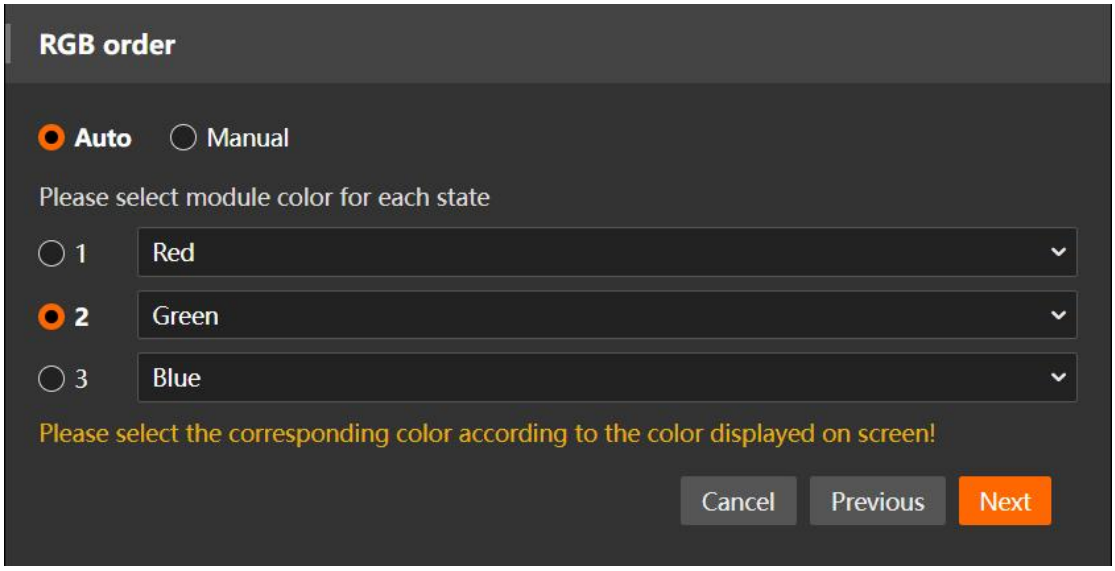
Parameter	Description
Column driver chip	Click the "Select Chip Type" button to bring up a list of driver chips for the LED board. Select the appropriate chip based on the actual situation of the LED board. If the required type is not listed, select "General Chip". Note: If you select "General Chip", you will need to set the "O E Polarity" in the subsequent steps.
Line decoding	Click the "Select Decoding Type" button to bring up a list of

Parameter	Description
method	receiver card decoding chips. Select the appropriate chip based on your receiver card's specifications.
Data types	Use the default value.
Screen type	You can choose between "full-color physical screen" or "dual-color screen".
Light panel type	You can choose between "Standard LED Board" or "Unique LED Board". If you choose "Unique LED Board", you need to specify the number of color driver chips for each set of data. Note: If you choose "Unique LED Board", you will need to set the "Data Group Order" in subsequent steps.
Number of chip channels	You can choose between "16 channels" or "18 channels".
A set of data Number of color driver chips	This parameter needs to be set when selecting irregularly shaped light panels. Users need to set it according to the light panel schematic diagram.
Points	Input the number of columns (width in pixels) and rows (height in pixels) of the light panel.
Scan count	Set the number of scans for the light panel.
Hub mode	You can select 8/16/24/32/64 serial groups , depending on the receiver card specifications.
Output data group	Set the number of output data groups.
Afterglow control signal polarity	Use the default value.

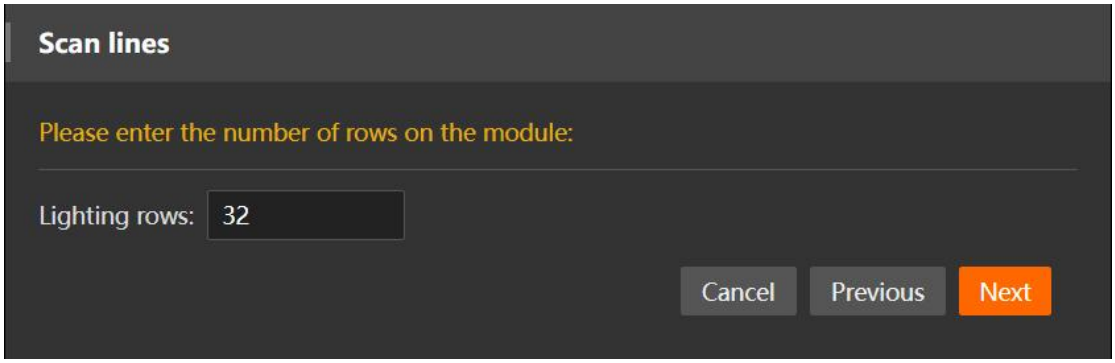
2. **OE polarity:** This needs to be set when the column driver chip type is selected as "general chip". At this time, switch back and forth between mode 1 and mode 2, observe the actual brightness of the light board and make a selection.



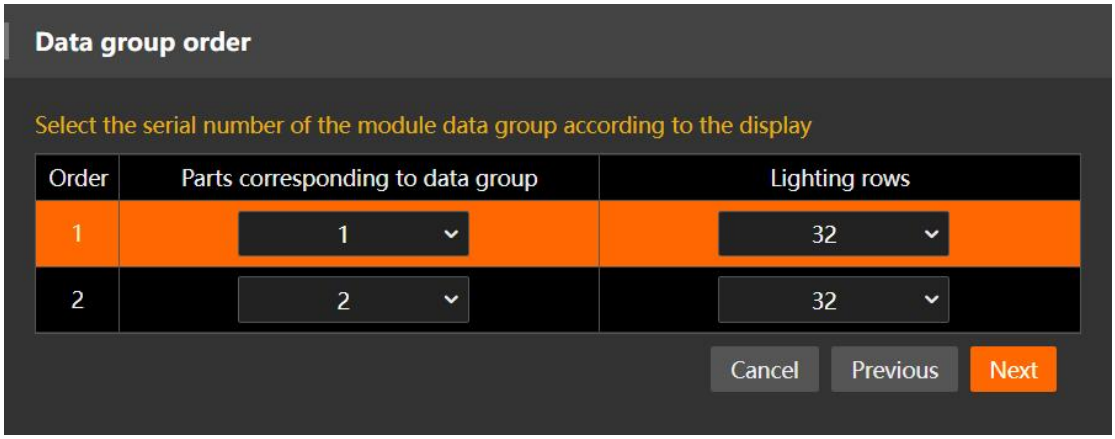
3. **RGB order:** Switch between the three states, observe the color of the light panel and make a selection.



4. **Scan lines:** Observe the light panel and enter the number of rows that are lit.

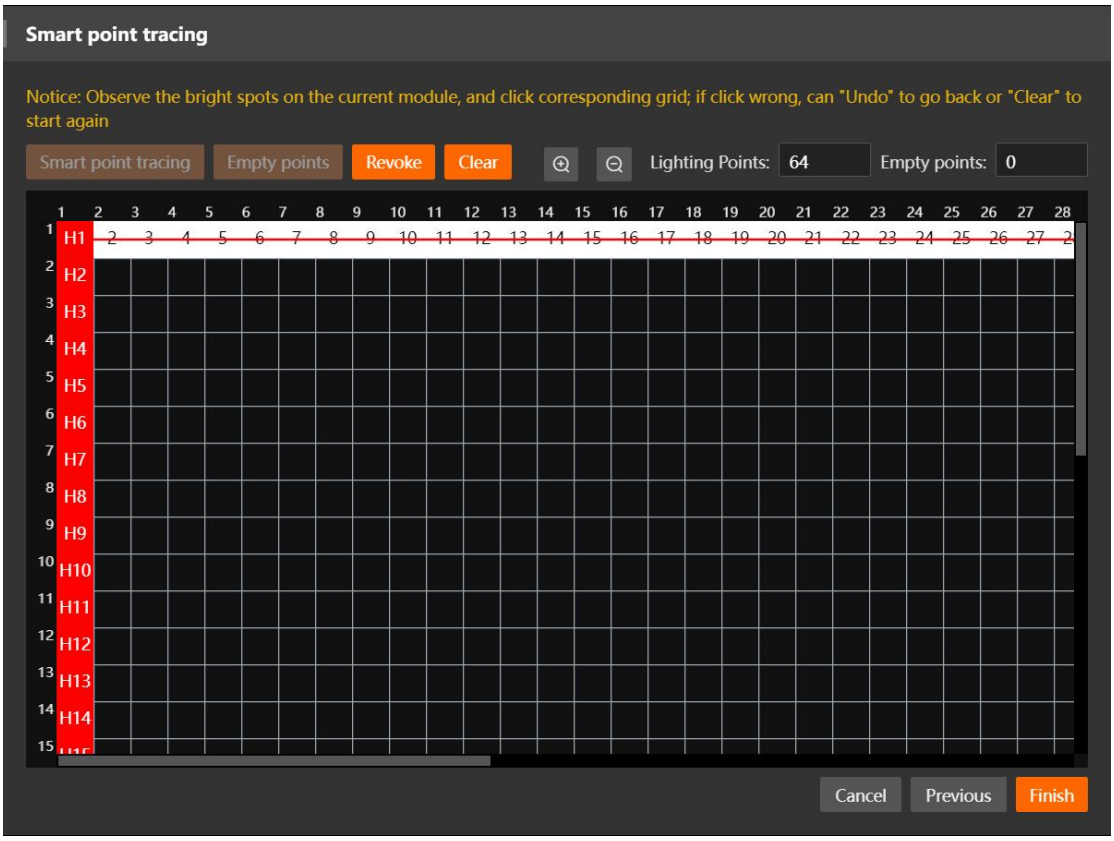


5. **Data group order:** This needs to be set when the light panel type is selected as "irregular light panel". Select the light panel data group sequence number according to the display screen.



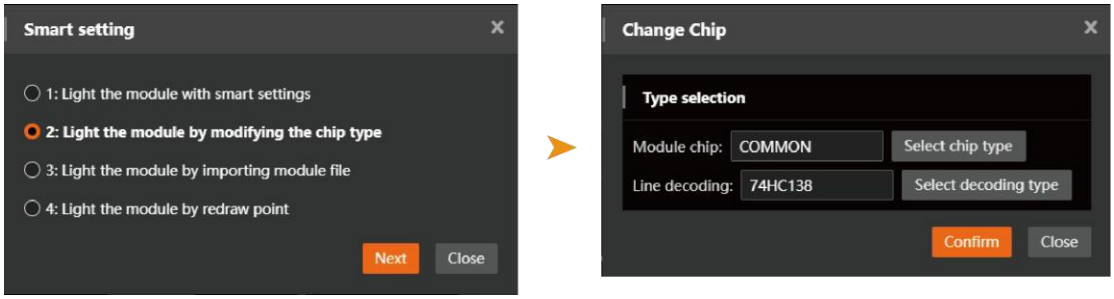
6. **Fold lines:** Observe the light panel and enter the number of rows that are lit.

7. **Smart Point tracing:** Observe the light panel and click the grid corresponding to the bright spot with the mouse (you can use the keyboard arrow keys to quickly map the point, or click the "Smart point tracing" button to quickly map the point until the software prompts "The wiring table is completed", then click the "Finish" button to complete the intelligent settings.


Smart point tracing
Notice: Observe the bright spots on the current module, and click corresponding grid; if click wrong, can "Undo" to go back or "Clear" to start again
Smart point tracing
Empty points
Revoke
Clear
Lighting Points: 64
Empty points: 0
H1
H2
H3
H4
H5
H6
H7
H8
H9
H10
H11
H12
H13
H14
Cancel
Previous
Finish

2.2.1.3. Light the module by modifying chip type

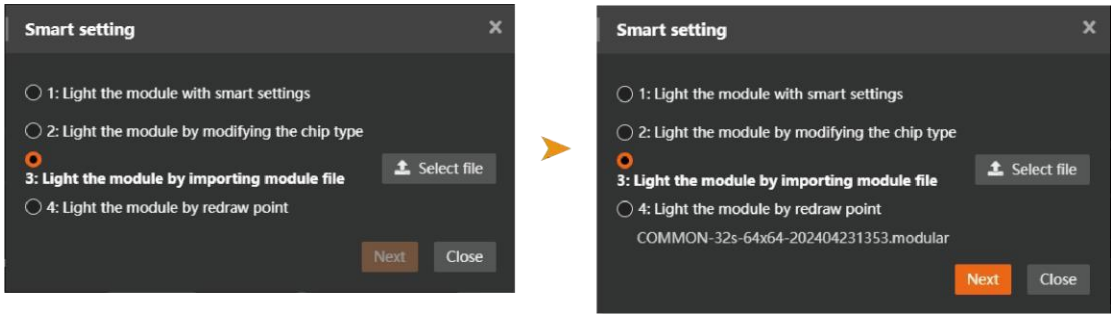
In the 【Smart Settings】 window, check "Option 2 " and click the "Next" button. Select the "Column Driver Chip" and "Row Decoder Chip" types according to the parameters of the new module, and finally click the "OK" button.



2.2.1.4. Light the module by importing module file

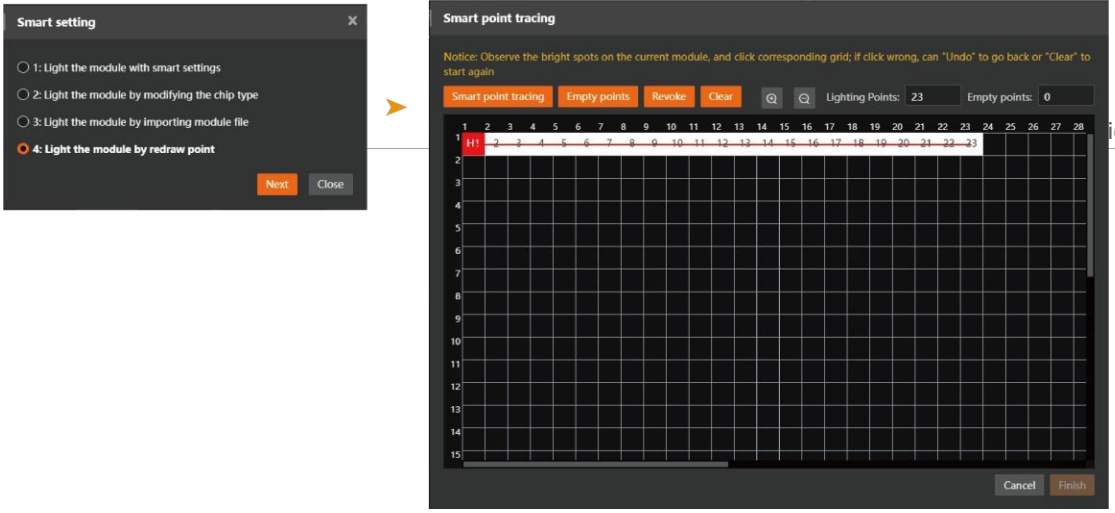
LED module light board file already exists , this method can be used to light the light board. The software supports saving and exporting **light** board files; see section **2.2.2 for details** .

In the 【Smart Settings】 window, check "Option 3 " and click the "Select File" button. Select the corresponding light board file in your local PC and upload it. Finally, click the "Next" button.



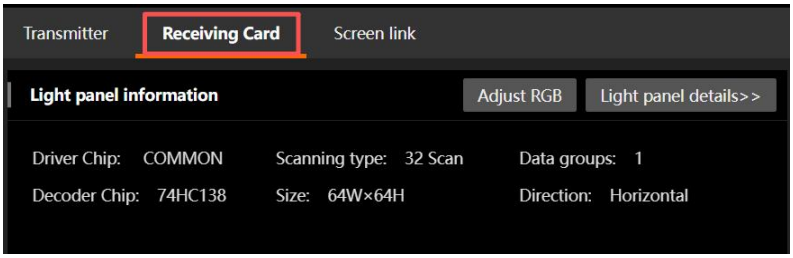
2.2.1.5. Light the module by redraw point

In the [Smart Settings] window, check "Option 4" and click the "Next" button to directly enter the smart plotting interface and re-plot the points.

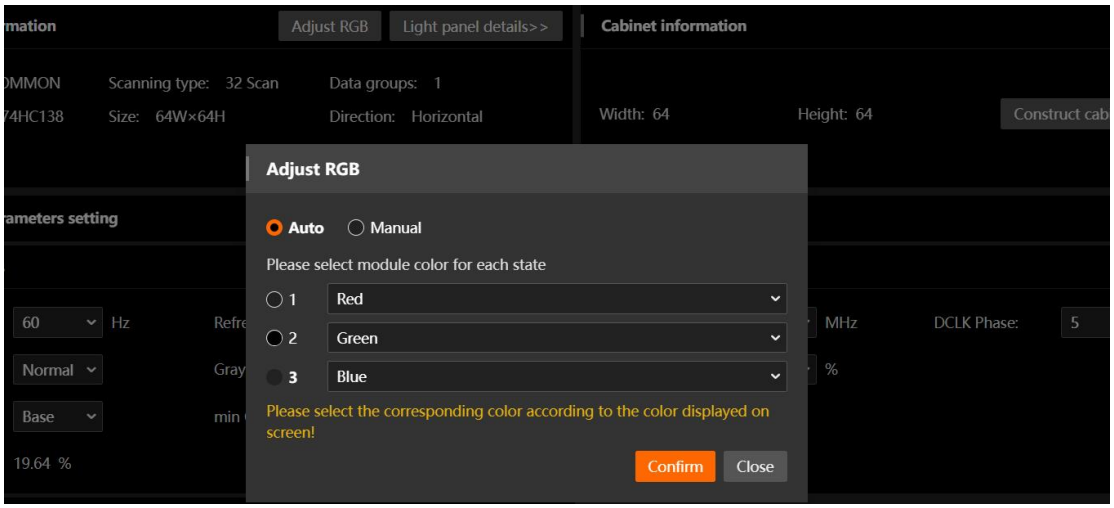


2.2.2. Light panel information

After the smart settings for the light panel are completed, the software can automatically identify the basic information of the light panel and display it on the software interface.



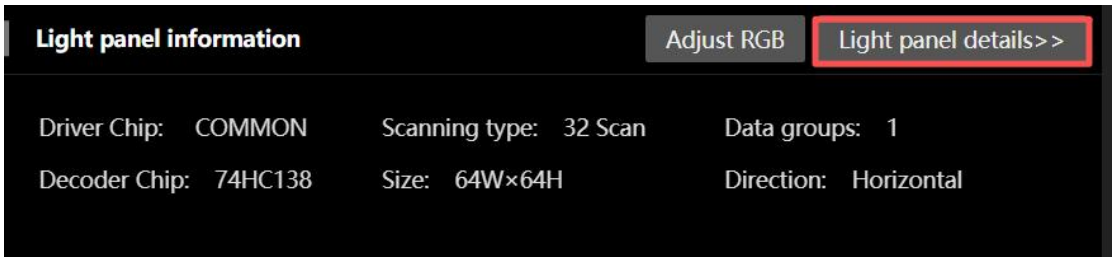
Click the "Adjust RGB" button to adjust the RGB order of the light panel.

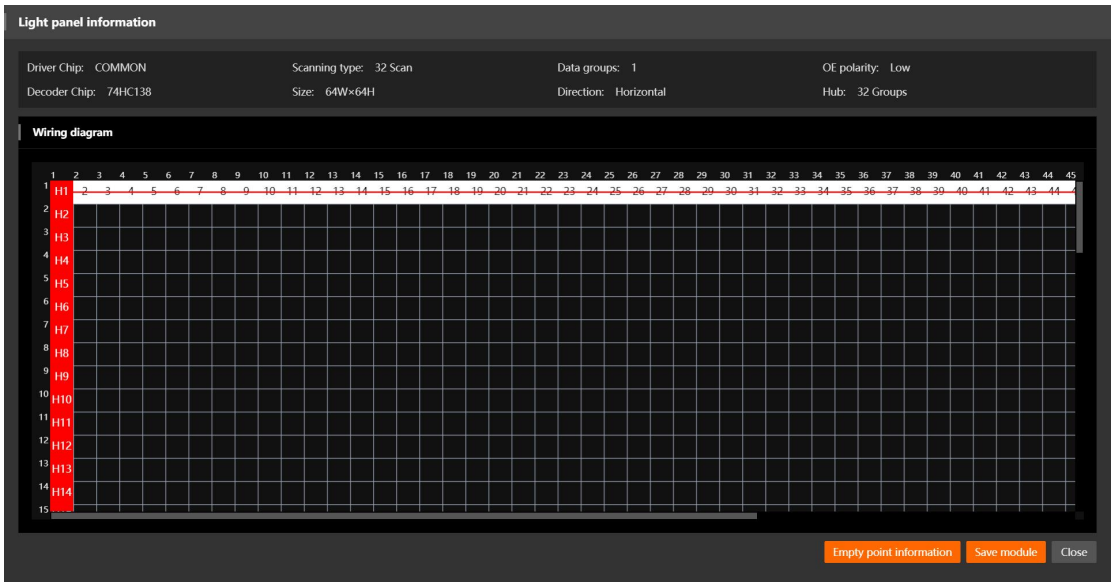


Click the "LED Board Details >> " button to view detailed LED board information, including column driver chip and row decoder chip types, OE polarity, hub mode, and LED board wiring diagram.

Clicking the "Save module" button on the lamp board information details page will save the lamp board file to your local PC. The saved module file can be used for smart module setup and constructing irregular enclosures; see sections 2.2.1

Intelligent Setup and 2.2.3.2 Irregular Enclosures for details. Clicking the "Empty point information" button will display the lamp board's empty point information.





2.2.3. Enclosure Information

LED enclosure, the cascading direction of the LED panels, and the rotation angle of the enclosure can be set via software .

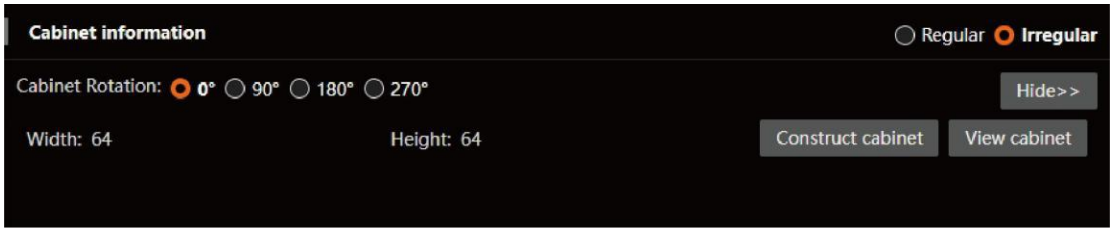
2.2.3.1. Regular cabinet

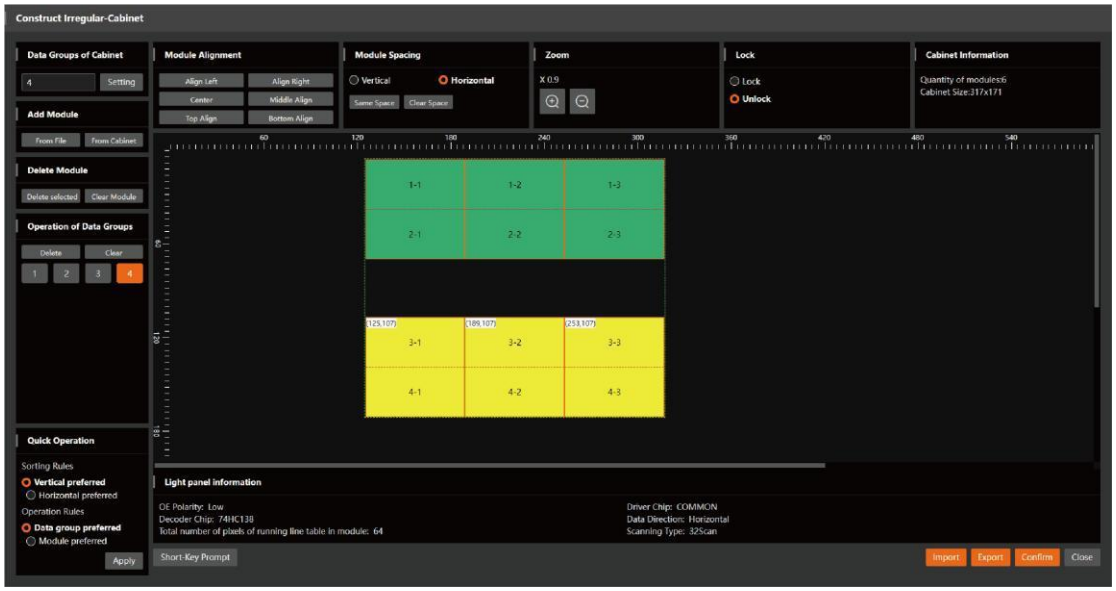
A regular box is a rectangular box composed of modules carried by a receiving card.

Parameter	Description
Box rotation angle	0°/90°/180°/270° selectable
Width/Height (in pixels)	Enter the width and height of the box.
Module cascade directions	Set the cascading direction according to the actual situation, including from right to left, from left to right, from top to bottom, and from bottom to top.

2.2.3.2. Irregular cabinet

An irregular enclosure is an enclosure whose shape is not rectangular, consisting of modules carried by the receiving card. Select the "Irregular" option and then click the "Construct cabinet" button to configure the parameters of the irregular enclosure.





The parameters for the irregular enclosure are explained below. After configuration, click the "OK" button to complete the enclosure construction.

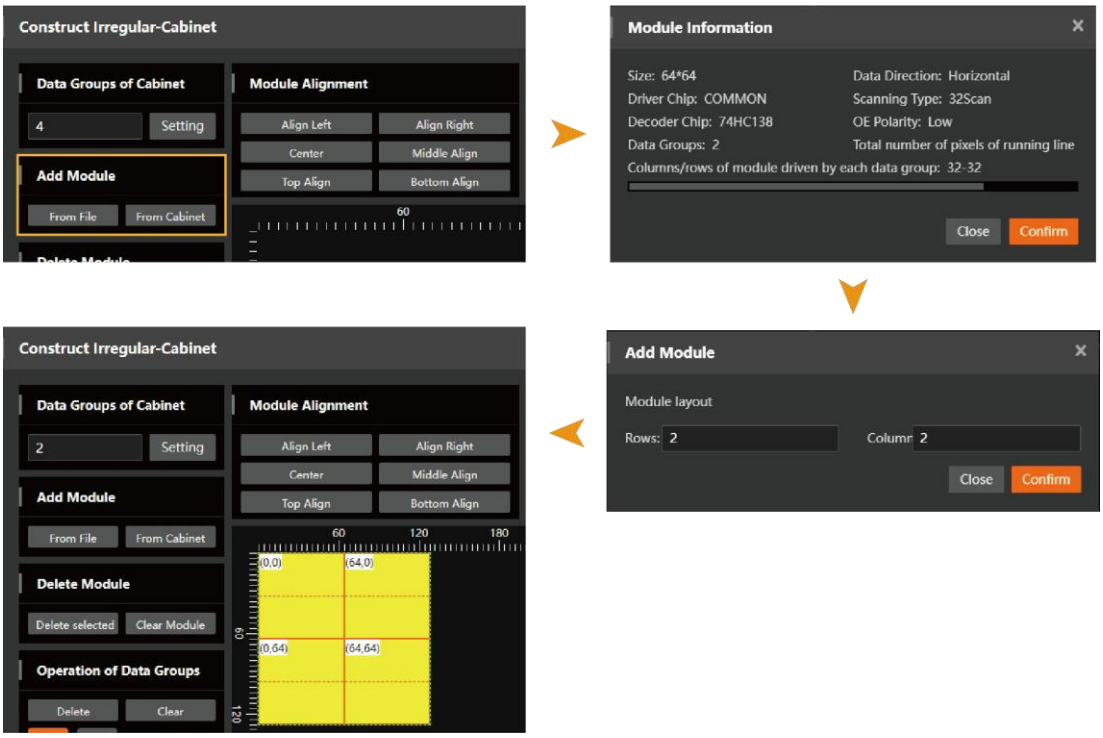
Serial Number	Parameter	Description
①	Number of Box Data	Set the number of data groups according to the actual situation.

	Groups	
②	Adding Light Panels	It supports two import methods: "import light board from file" and "import light board from cabinet".
③	Light Panel Deletion	Supports "Delete Selected Light Panel" and "Clear Light Panel" functions.
④	Data Set Operations	Configure data group link relationships.
⑤	Quick Operation	Quickly set up data group links.
⑥	Alignment of Light Panels	The alignment tool allows for quick adjustment of the light panel layout, including left alignment, right alignment, center alignment (horizontal centering), middle alignment (vertical centering), top alignment, and bottom alignment.
⑦	Light Panel Spacing	Set the horizontal and vertical spacing between light panels: "Same Spacing" selects light panels with the same spacing, and "Clear Spacing" selects light panels with a spacing of 0.
⑧	Scaling	Zoom in or out on the layout area of the light panel.
⑨	Locking	Lock the light panel layout; once locked, the light panel layout cannot be changed.
⑩	Enclosure Information	Display the number of light panels and the size of the display case.
⑪	Light Panel Information	Detailed information about the display light panel.
⑫	Shortcut Key Tips	Press Ctrl+A to select all light panels, then click on a blank area to deselect; double-click to link a light panel, then right-click to unlink it.

- **Light panel addition**

Import light panels from a file: Click the "From file" button, select the light panel file, confirm the light panel information, set the light panel layout (number of rows and columns), and click the "Confirm" button.

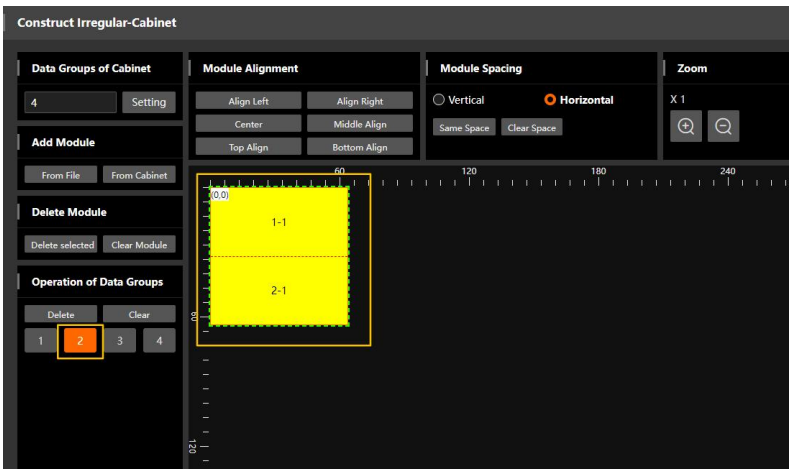
From the cabinet: Click the "From cabinet" button, confirm the LED panel information, set the LED panel layout (number of rows and columns), and click the "Confirm" button.



- **Data set operations**

Configure the link between the data group and the light panel.

First, click to select the data group, then double-click the light panel with the left mouse button to set the link relationship. Click the "Delete" button to delete the link relationship of the selected data group, and click the "Clear" button to delete the link relationship of all data groups.



Data group definition: Full-color display is achieved by combining RGB data, so the combination of RGB data is called a data group.

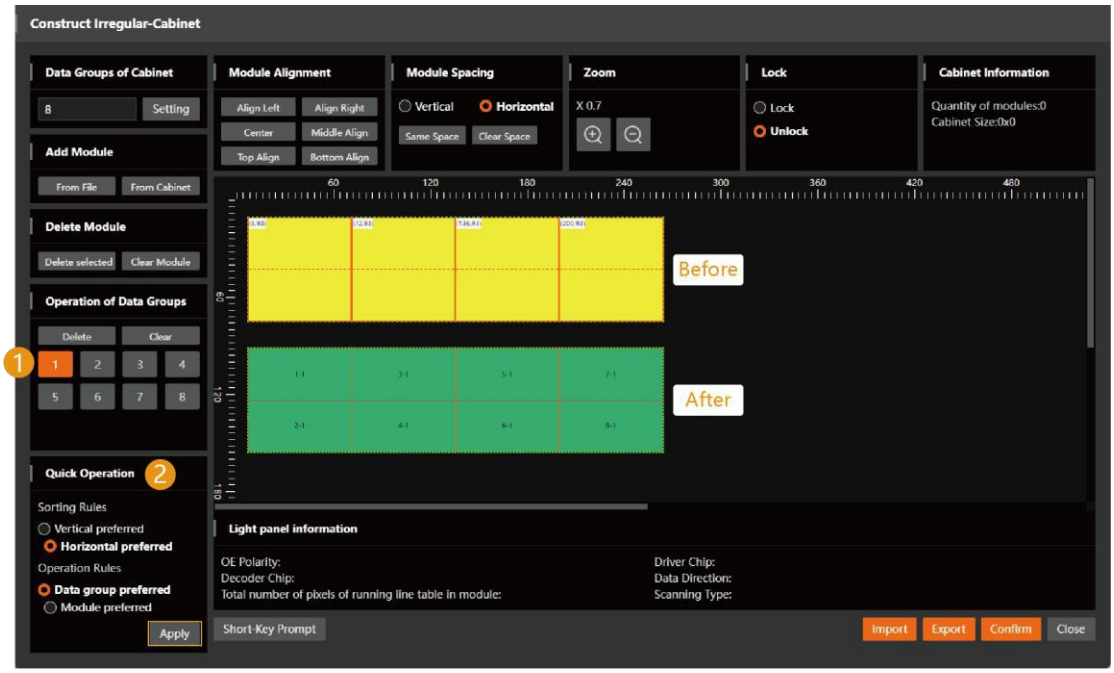
- **Quick Operation**

When there are a large number of light panels, the quick operation function can be used to quickly set the data group link relationship.

Example: Click to select the starting data group 1 , select "Horizontal priority" for "Sort rule", select "Data group priority" for "Operation rule", select the light panel to be set, and finally click the "Apply" button.

The software supports exporting enclosure configuration information to a local PC for saving. This file can be imported after equipment replacement to complete the enclosure configuration, simplifying the process.

Clicking the "Export" button will export the enclosure configuration information to your local PC , while clicking the "Import" button will import the enclosure configuration file from your local PC for quick configuration.

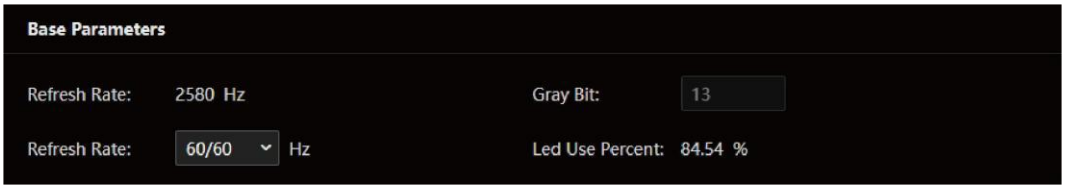


2.2.4. Performance settings

The performance parameters of the receiving card can be adjusted via software to achieve better display results.

2.2.4.1. Base parameters

The base parameters displayed on the interface will vary depending on the receiving card, and you need to set them according to the actual situation.



Parameter	Description
Visual refresh rate	The refresh rate is the rate at which a display updates its image; the higher the refresh rate, the more stable the image.
Gray level bits	The grayscale bit depth is a parameter that determines the brightness level of a display. The higher the grayscale bit depth, the finer the brightness level division of the display. For example, a grayscale bit depth of 16 bits can represent 65,536 levels of brightness.
Frame rate	Adjusting this parameter can change the visual refresh rate and brightness efficiency.
Brightness efficiency	It can only be viewed; it is calculated from other performance parameters.

2.2.4.2. CLK parameters

Parameter	Description
DCLK Frequency	The frequency of the shift clock depends on the performance of the driver chip and the LED board design. Higher performance and a better design result in a higher achievable clock frequency, a larger bandwidth per receiver card, or support for higher refresh rates and grayscale levels while maintaining the same bandwidth.
DCLK Phase	The phase of the shift clock can be adjusted to improve the display if there are

	misalignments or flickering spots.
DCLK Duty	The duty cycle of the shift clock. Adjusting this parameter changes the DCLK frequency. It is generally set to 50 % .

2.2.4.3. GCLK parameters

Parameter	Description
GCLK frequency	The frequency of the grayscale clock; adjusting this parameter will change the number of grayscale levels.

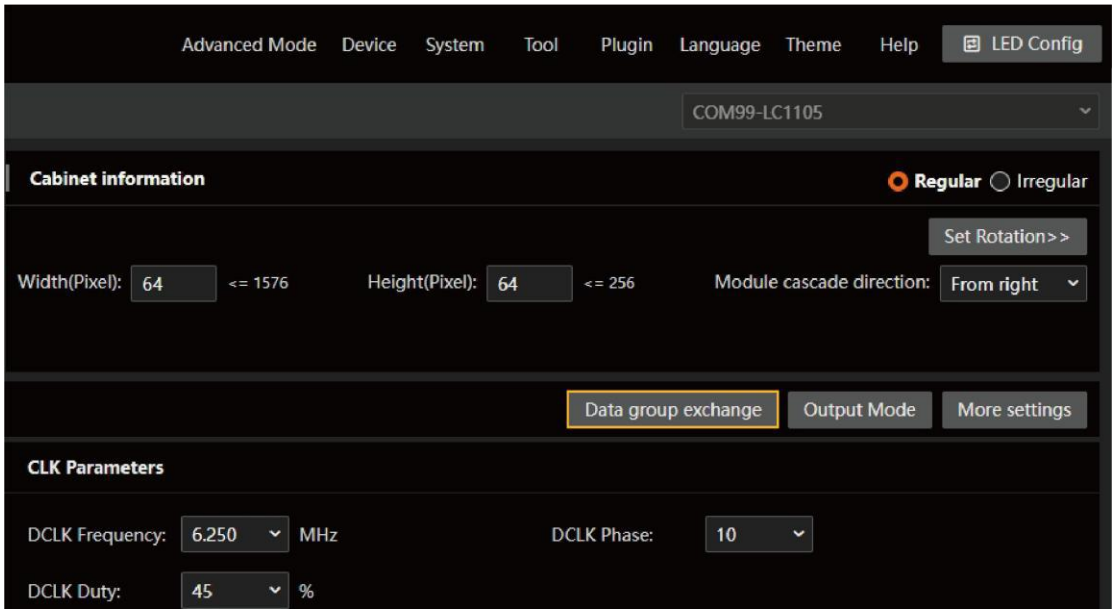
2.2.4.4. Other parameters

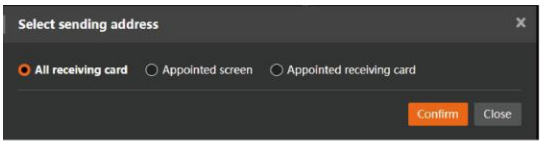
Parameter	Description
latch time	This parameter is used to adjust the afterglow of the scanning screen. When the afterglow is severe, adjusting this parameter can improve the situation.
Time of disappearance	This parameter is used to adjust the afterglow of the scanning screen. When the afterglow is severe, adjusting this parameter can improve the situation.
Line feed time	In conjunction with the "line erasure time", adjust the afterglow of the scan screen. Note that this parameter must be less than the "line erasure time", otherwise it will cause display abnormalities.
Afterglow controls the end time	This parameter is used to adjust the afterglow of the scanning screen. When the afterglow is severe, adjusting this parameter can improve the situation.
GCLK removes frame interval	This feature can be enabled or disabled.

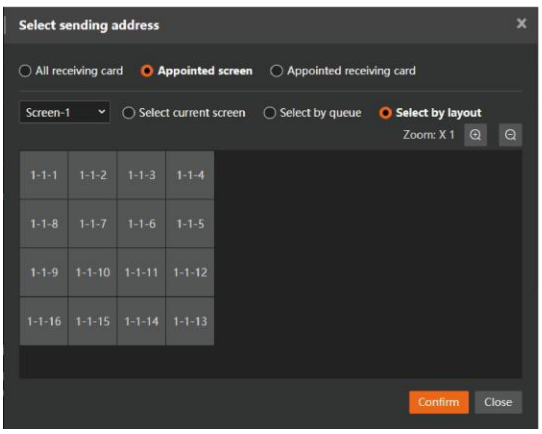
2.2.4.5. Data group exchange

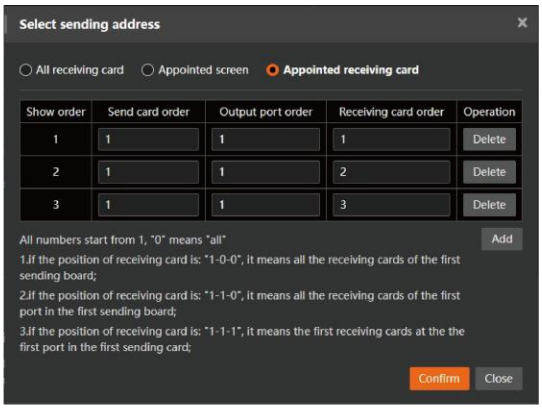
The data group exchange function is useful when the screen displays incorrectly in units of data groups after the LED panel is turned on. The software supports swapping data groups in pairs to adjust the screen display. It allows changing the connection between data groups and the LED panel without changing the physical wiring, simplifying the operation and improving efficiency.

Click the "Data Group Exchange" button to select the receiving cards to adjust, including: All receiving cards, Appointed screen and Appointed receiving cards. If you choose the "Specify Display" method, you can specify the display through a queue or layout diagram, or directly select the current screen. Click the "confirm" button to enter the "Data Group Exchange" interface.



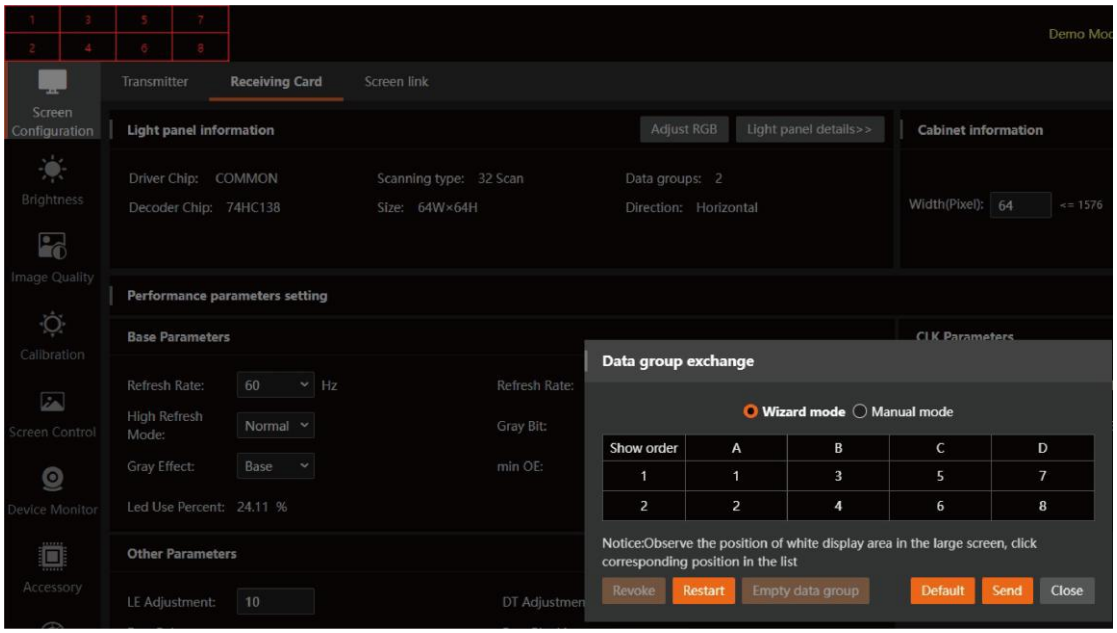




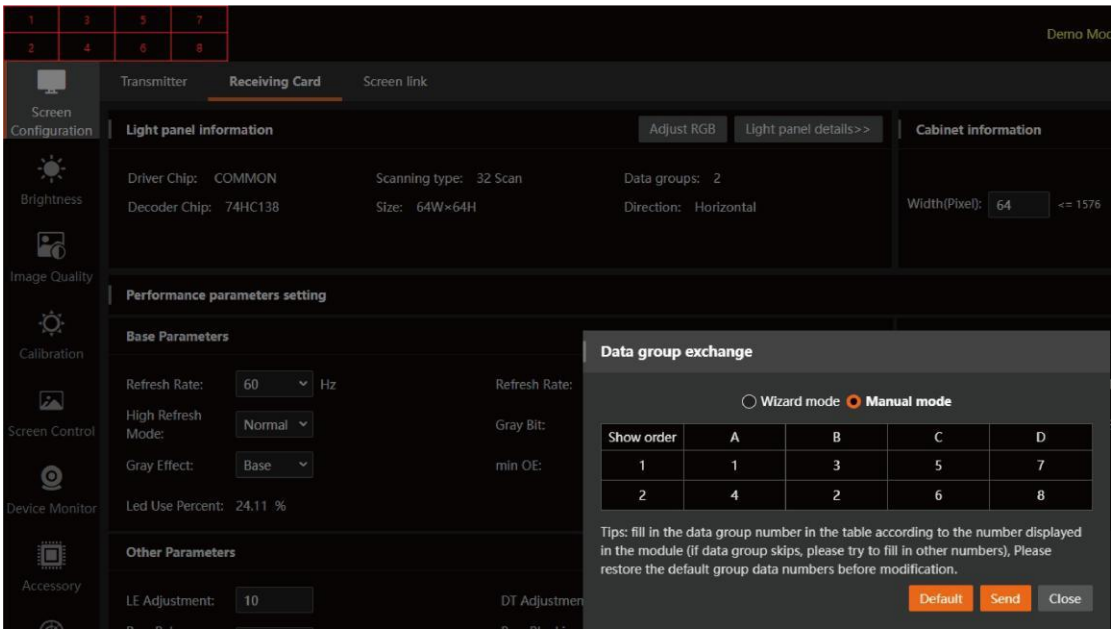


The red-lined table in the upper left corner of the desktop represents the raw data sets, with each row representing one data set. It supports two setup methods: "Wizard mode" and "Manual mode" Users can follow the prompts to configure the settings and finally click the "Send" button to send the parameters to the hardware.

Wizard mode

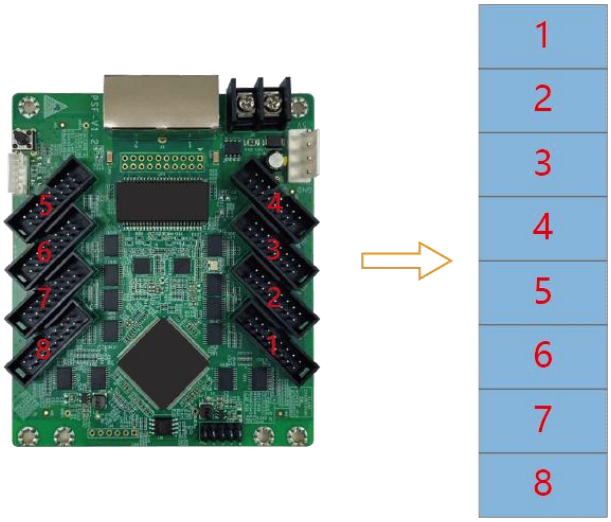


Manual mode

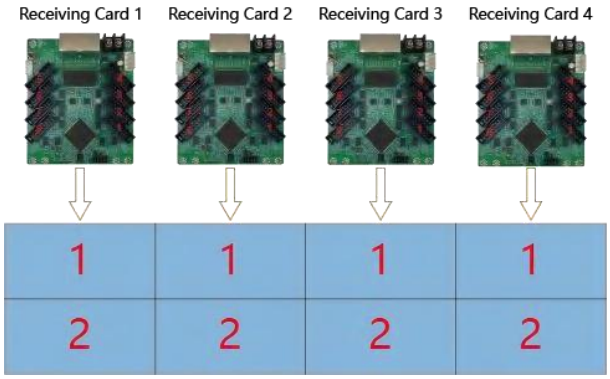


2.2.4.6. Open mode

Without using the split-open mode, all interfaces of the receiver card are used to carry the load height. Taking a receiver card with 8 output interfaces as an example, the connection relationship between the receiver card interfaces and the LED module is as follows.



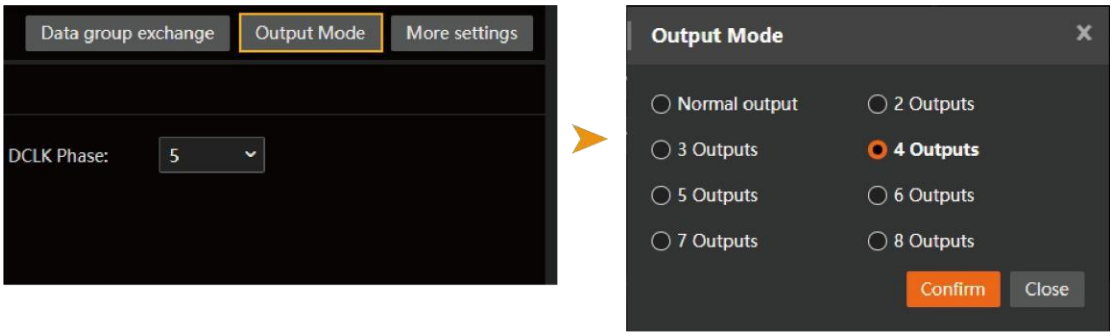
If the LED modules are arranged in 2 rows and 4 columns, and the split-open mode is not used, 4 receiver cards are required to carry the load. The connection relationship between the receiver card interface and the LED module is as follows.



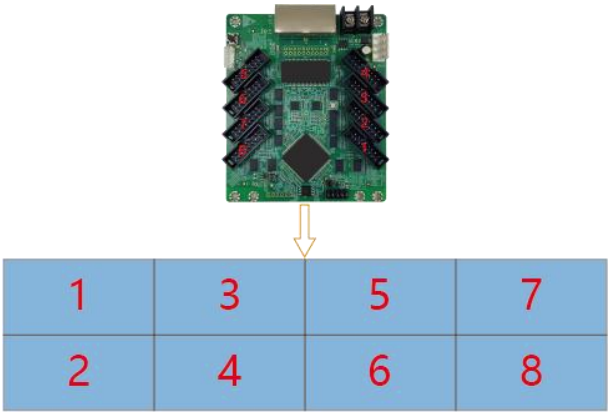
By using the split-open mode, the receiver card's bandwidth can be increased by reducing its height, thereby reducing resource waste and improving efficiency.

Example: If the receiver card is set to 4-pair configuration, then the width of the receiver card can support 4 modules and the height can support 2 modules, meaning one receiver card can carry 2 rows and 4 columns of LED modules. The software operation is as follows:

Click the "Output Mode" button, select "4 Outputs" in the pop-up window, and then click the "Confirm" button.



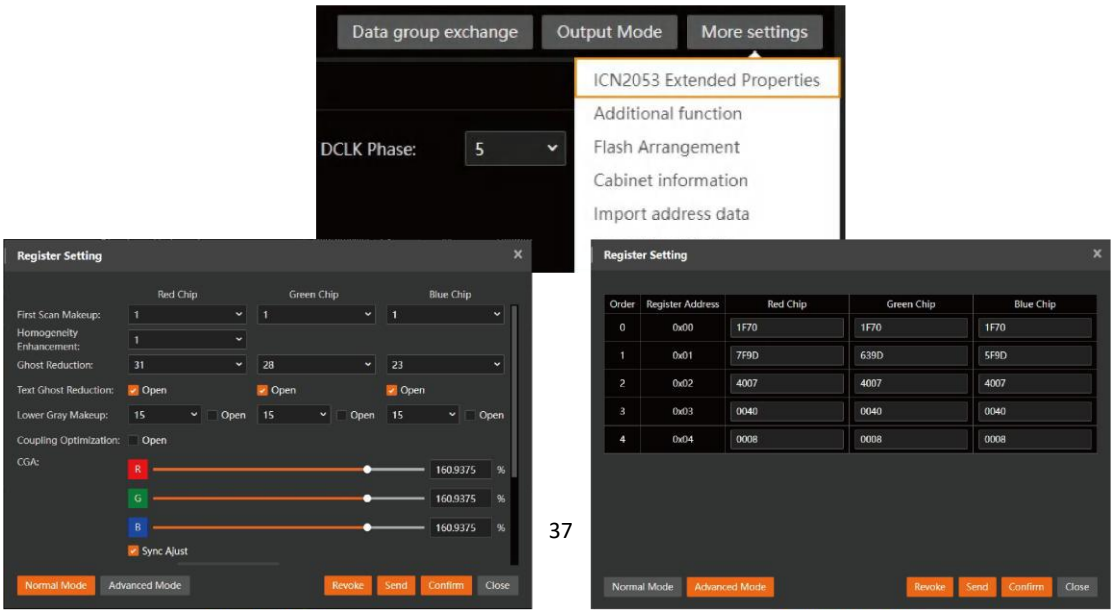
The "paired mode" is "4-paired". The connection relationship between the receiving card interface and the LED module is as follows.



2.2.4.7. Extended properties

Some receiver card driver chips include registers, whose parameters can be set via software. These parameters are usually provided by the LED screen manufacturer. The ICN2053 will be used as an example here.

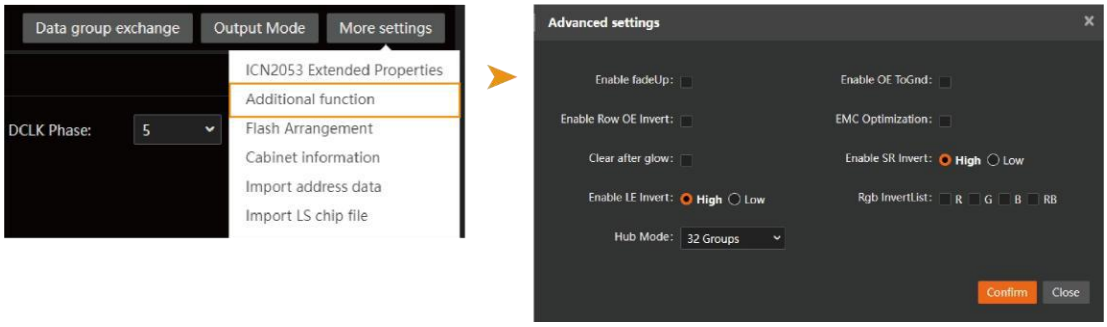
Click the "More Settings" — "ICN2053 Extended Properties" button to configure the register parameters. The software provides two parameter setting modes: Normal Mode and Advanced Mode.



Normal Mode Advanced Mode

2.2.4.8. Additional features

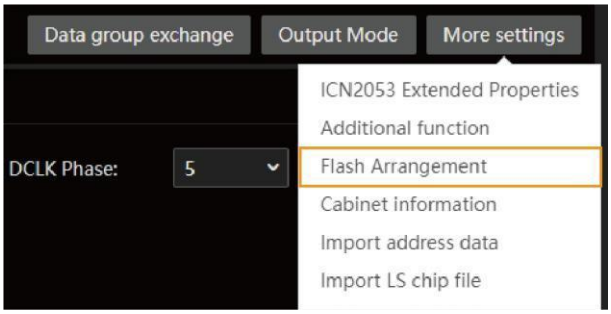
Click the "More Settings" - "Additional Functions" button to configure additional functions. Some parameters are explained below:

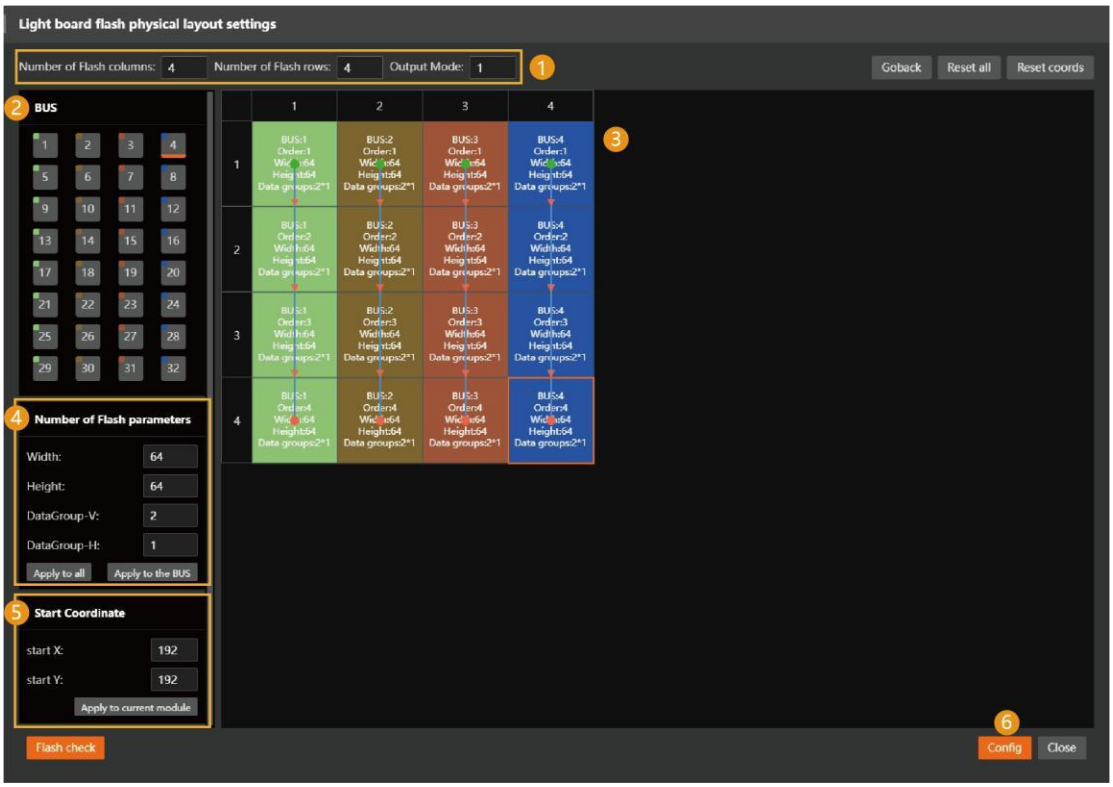


Parameter	Description
Screen gradually brightens	If checked, the LED screen will gradually brighten when turned on.
EMC optimization	Selecting this option enhances the EMC performance of the enclosure, helping customers pass EMC testing.
Clear after glow	Checking this box will eliminate isolated point afterglow.
Afterglow signal polarity	Use the default value.
RGB signal inverted	The data cable used to adjust the red, green, blue, and virtual red light points during inspection.
Hub mode	Choose according to the receiver card specifications.

2.2.4.9. FLASH layout diagram

When there is Flash on the LED board, click the "More Settings" - "Flash Arrangement" button to set the physical layout diagram of the Flash on the LED board . The receiving card reads the correction coefficient and LED board ID from the Flash via the Bus. Before connecting the Flash on the LED board, you need to know the Bus serial number. One Bus can cascade multiple LED boards. Then set the Flash layout diagram according to the actual connection order.

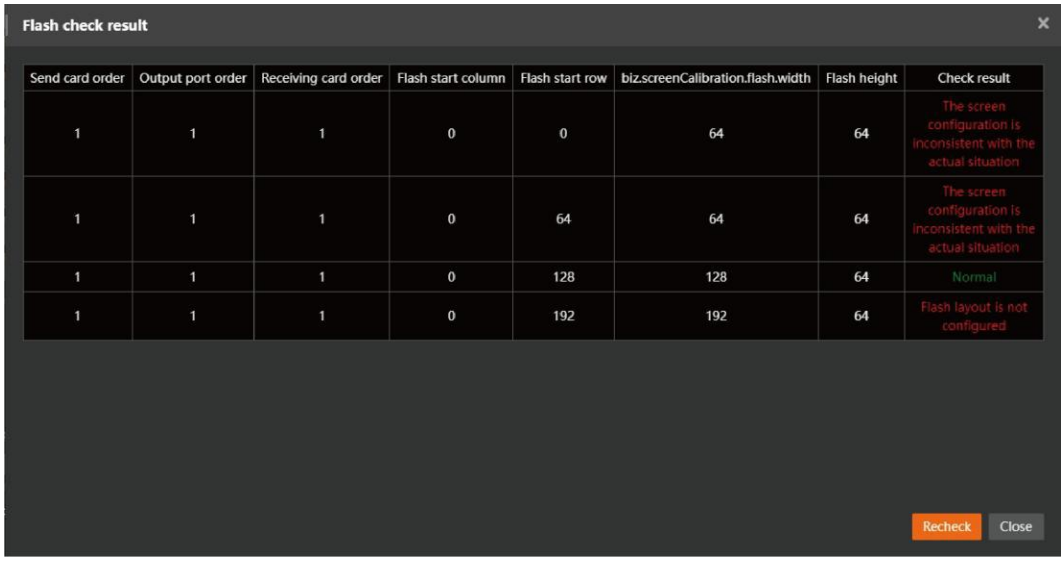




The operation steps are as follows:

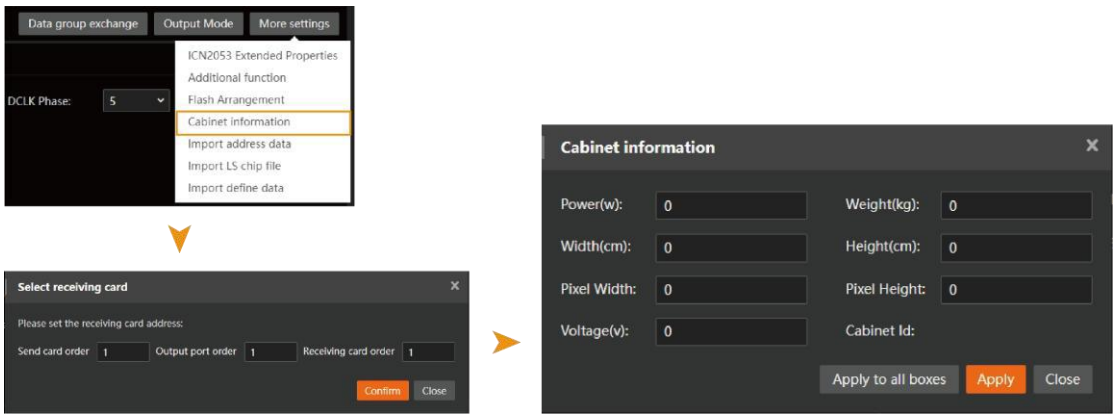
1. Set the number of columns and rows of Flash; generally, there is one Flash on one light board.
2. In the [BUS] area, click the Bus number;
3. According to the actual connection of the light boards, click on the virtual light boards in the layout diagram to make connections (right-clicking on a Flash can cancel the configuration of that Flash, clicking the "Undo" button can return to the previous operation, and clicking the "Reset All" button can cancel the configuration of all Flashes).
4. Click to select the light panel, then set the width and height of the light panel controlled by the Flash in the “Number of flash parameters” area. Click the "Apply to the BUS" button to set the same value for all Flash lights connected to the current bus, and click the "Apply to All" button to set the same value for all Flash lights.
5. If needed, you can adjust the Flash starting coordinates in the “Start Coordinate” area. Clicking the "Reset Coordinates" button will reset the starting coordinates to their initial values. If not, skip this step.
6. If needed, you can continue to click on other buses to configure them; otherwise, click the "Config" button to complete the configuration.

7. Click the "Recheck" button to display the test results.



2.2.4.10. Cabinet Information

Click the "More Settings" - "Cabinet Information" button, select the receiving card address connected to the cabinet, and click the "confirm" button. In the opened window, you can set the enclosure information, including: power, weight, width, height, pixel width, pixel height, and voltage. After setting, click the "Apply" button to apply it to the current enclosure, or click the "Apply to all boxes" button to apply it to all enclosures with one click.

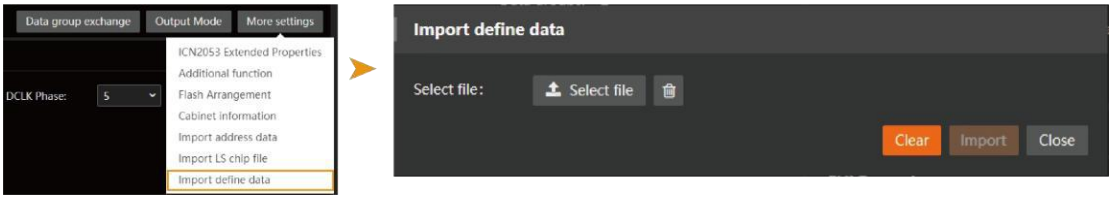


2.2.4.11. Import address data

Click the "More Settings" — "Import address data" button to select and import an address data file from your local machine.

2.2.4.12. Import custom parameters

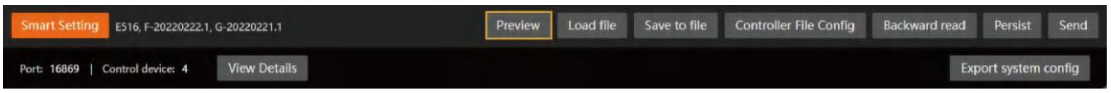
Click the "More Settings" - "Import define data" button to select and import custom parameters from your local machine.



2.2.5. Parameter management

2.2.5.1. Preview

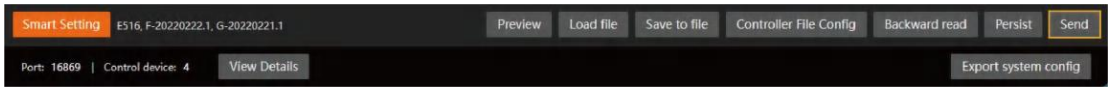
After setting the performance parameters, click the "Preview" button in the lower right corner of the "Receiving Card" tab to preview the large screen display effect. Confirm that the effect meets the requirements before sending the parameters to avoid accidental operation.

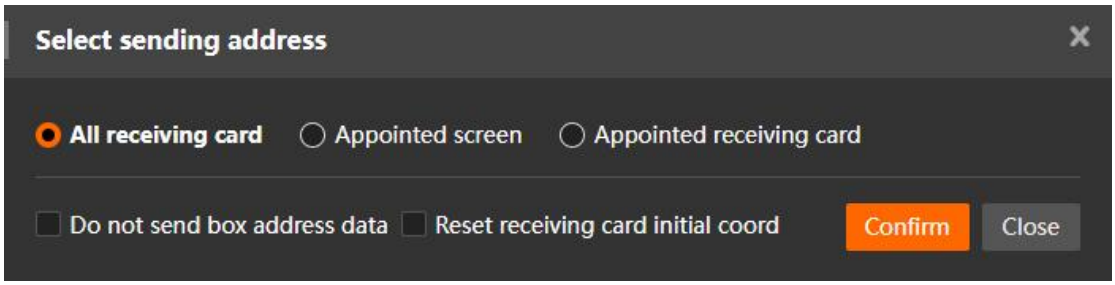


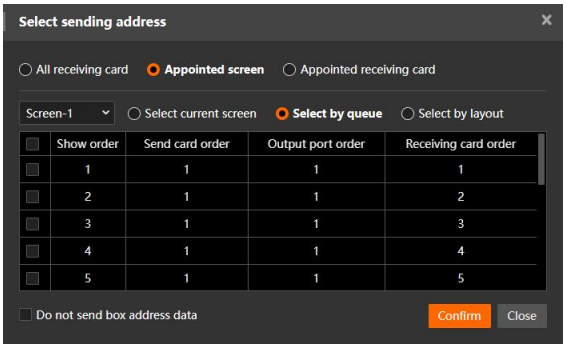
2.2.5.2. Parameters Sending

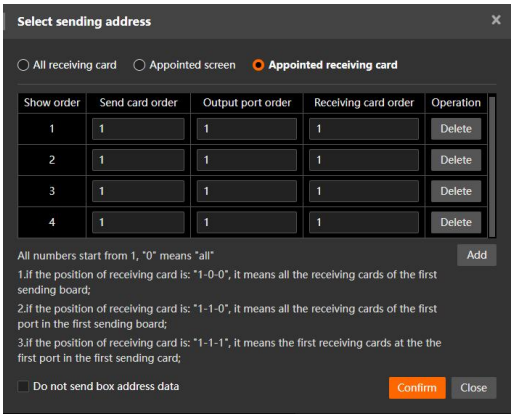
After setting the performance parameters, click the "Send" button in the lower right corner of the "Receiving Card" tab to send the performance parameters to the receiving card.

It supports sending to all receiving cards, receiving cards connected to a specified display, and specific receiving cards. If the "Specify Display" method is selected, the display can be specified through a queue or layout diagram, or the current display can be selected directly. You can choose whether to send cabinet address data and reset the receiving card's starting coordinates.



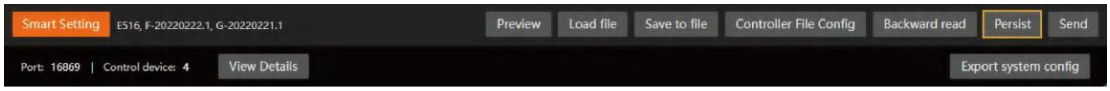

Select sending address
All receiving card
Appointed screen
Appointed receiving card
Do not send box address data
Reset receiving card initial coord
Confirm
Close


Select sending address
All receiving card
Appointed screen
Appointed receiving card
Screen-1
Select current screen
Select by queue
Select by layout
Show order
Send card order
Output port order
Receiving card order
1 1 1 1
2 1 1 2
3 1 1 3
4 1 1 4
5 1 1 5
Do not send box address data
Confirm
Close


Select sending address
All receiving card
Appointed screen
Appointed receiving card
Show order
Send card order
Output port order
Receiving card order
Operation
1 1 1 1 Delete
2 1 1 1 Delete
3 1 1 1 Delete
4 1 1 1 Delete
All numbers start from 1, "0" means "all"
Add
1.if the position of receiving card is: "1-0-0", it means all the receiving cards of the first sending board;
2.if the position of receiving card is: "1-1-0", it means all the receiving cards of the first port in the first sending board;
3.if the position of receiving card is: "1-1-1", it means the first receiving cards at the the first port in the first sending card;
Do not send box address data
Confirm
Close

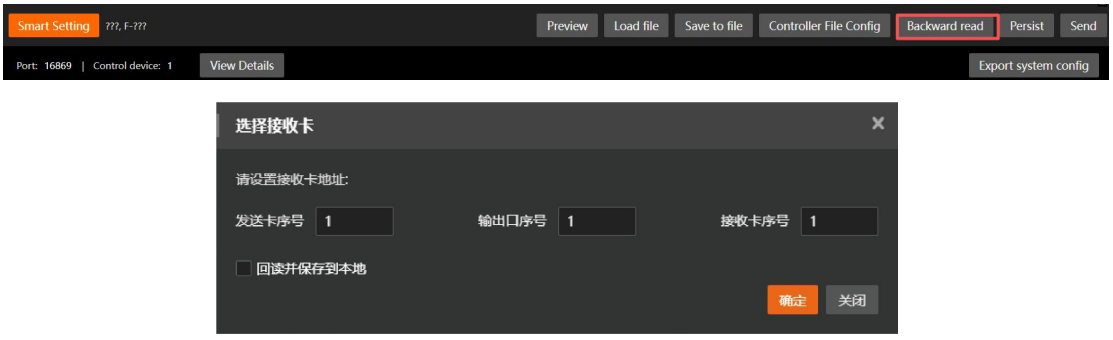
2.2.5.3. Persist

After observing the display screen and confirming that the display effect meets expectations, click the "Persist" button to save the performance parameters to the receiving card and prevent the loss of configuration information. You can choose to save to all receiving cards, a specific receiving card connected to the display screen, or a specific receiving card.



2.2.5.4. Backward read

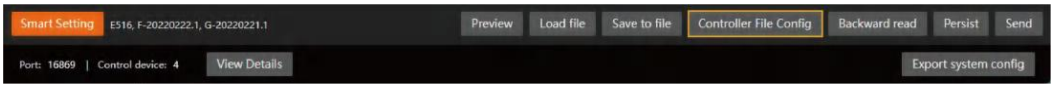
If a receiving card has the correct configuration parameters stored inside, these parameters can be read back from this receiver card to configure other receiver cards. Click the "Backward read" button, enter the corresponding transmitter serial number, output port serial number, and receiving card serial number, and then click the "confirm" button.



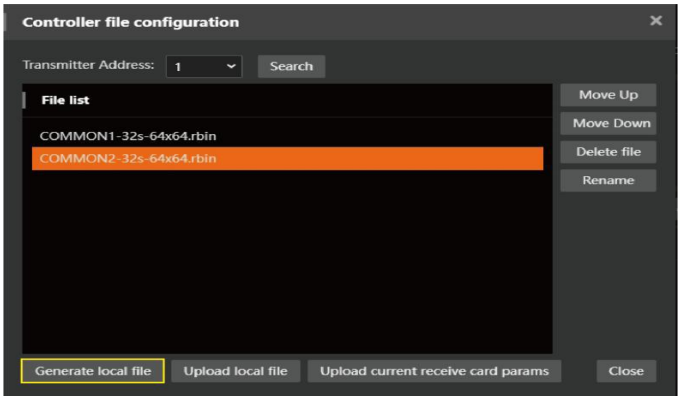
2.2.5.5. Controller file configuration

The receiver card configuration parameters can be saved as a "controller file" via software for quick screen connection to the controller. For detailed instructions, please refer to the corresponding controller specification. The steps for saving and uploading the controller file are as follows:

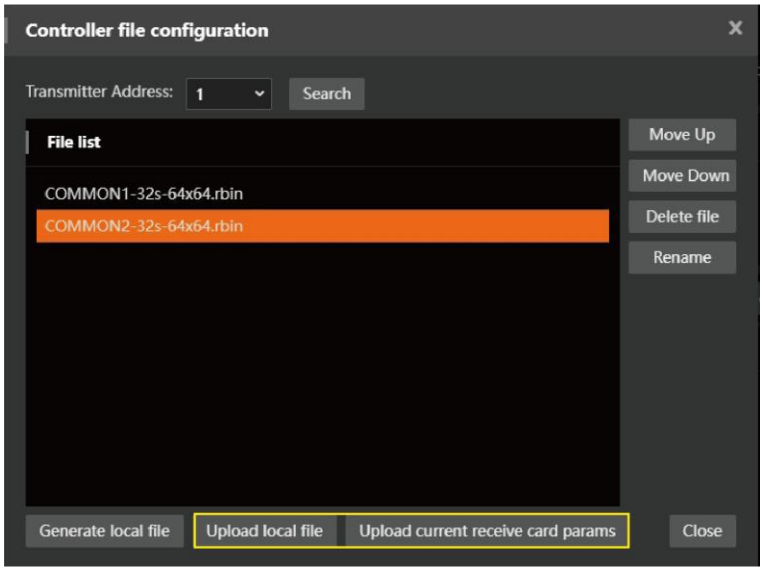
1. On the “Receiving Card” tab, click the "Controller File Config" button to open the configuration window;



2. In the pop-up window, click the "Generate local file" button to generate the controller file and save it on your local PC .



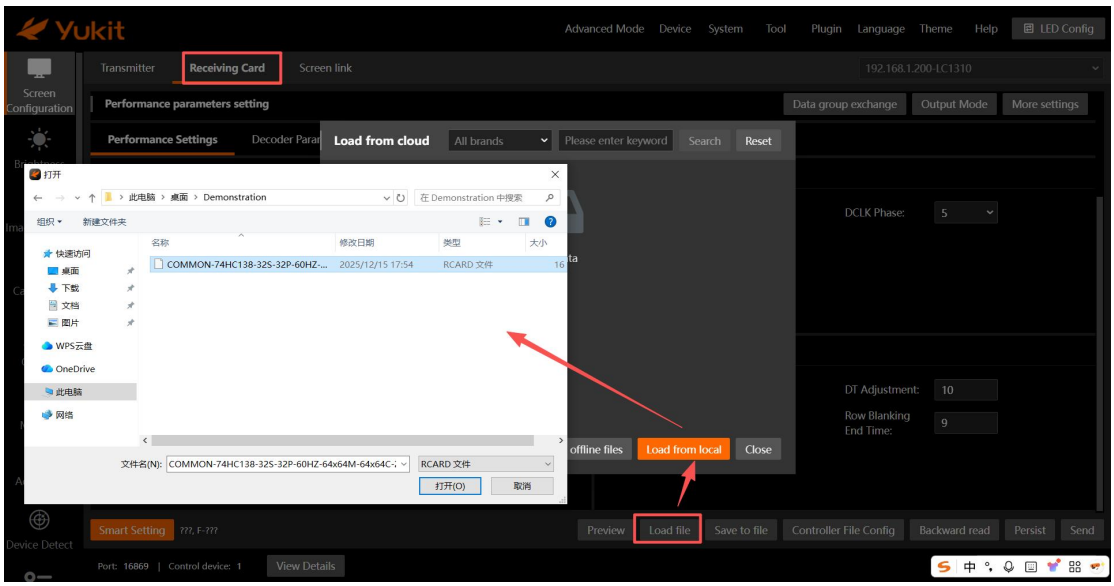
3. Select the LED transmitter address and click the "Upload local file" button to upload the controller file of the local PC. Click the "Upload current receiver card Params" button to save the current receiving card parameters as a controller file and upload it. You can manage the uploaded files, including sequential adjustment, renaming, and deletion.



2.2.5.6. Export

After configuring the receiving card parameters, these parameters can be saved as a configuration file and stored on your local PC. When you need to configure the parameters of receiving cards of the same size, you can directly load this configuration file to quickly complete the configuration.

Click the "Load file" - “Load from local” button to save the configuration file to your local PC .

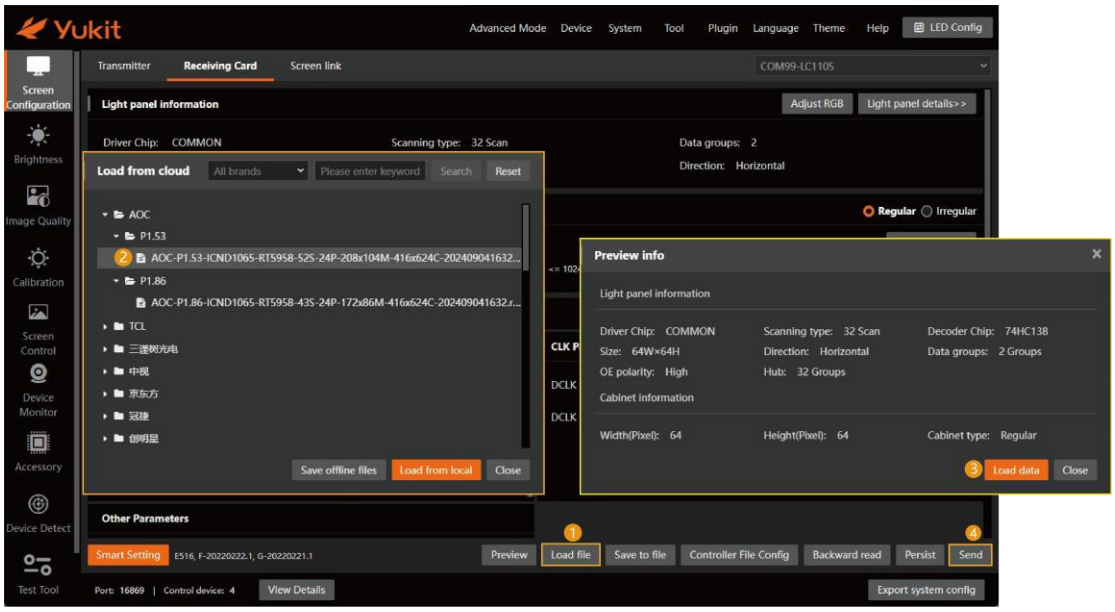


2.2.5.7. Import

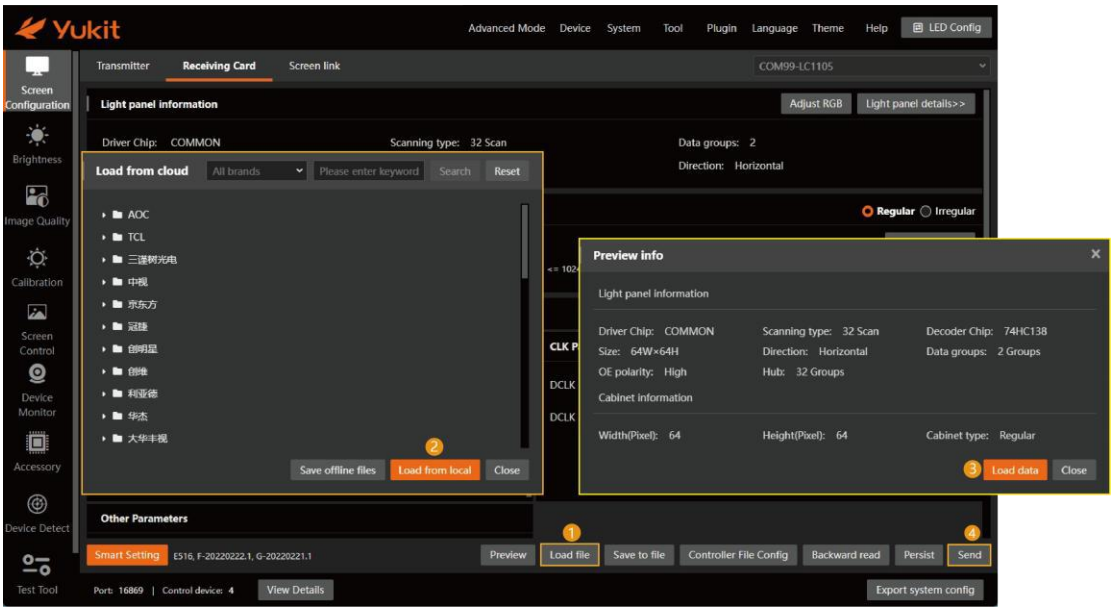
Click the "Load file" button to select whether to load the configuration file from the cloud or local storage, and quickly complete the configuration of the receiver card parameters.

Loading files from the cloud: Click the "Load from cloud" button, click the file to be loaded, and in the pop-up "Preview Info" window, confirm that the light panel and cabinet information are correct. If everything is correct, click the "Load Data" button.

Save offline file: Clicking the "Save to file" button will automatically download the online receiving card parameter file to your local computer. When the network is disconnected, it can be loaded from your local computer.



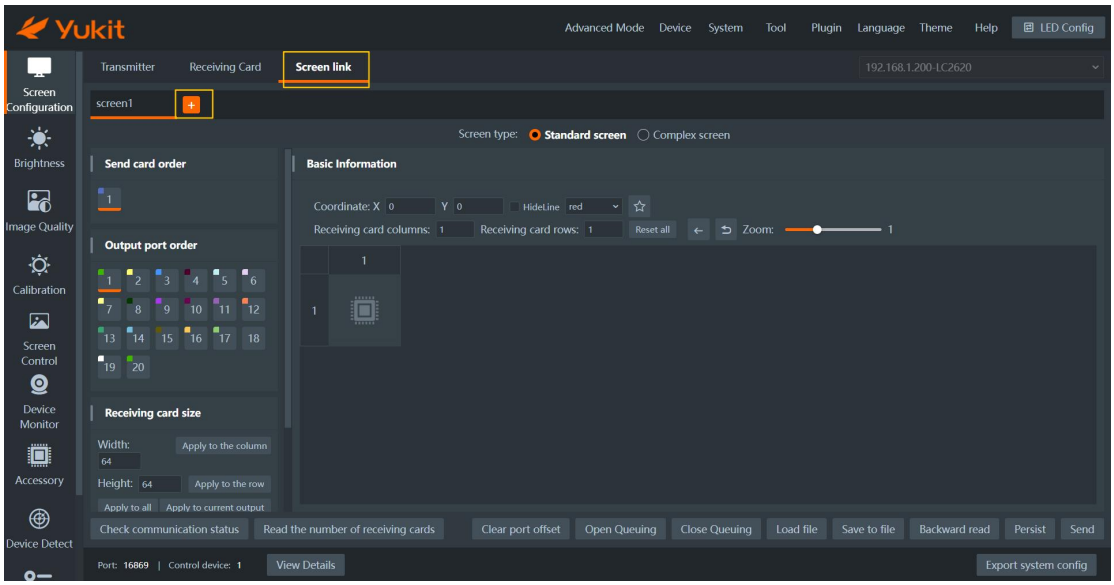
Loading files from local storage: Click the "Load file" button, then click the "Load from local" button, select the previously saved file, click the "Open" button, and in the pop-up "Preview Info" window, confirm that the light panel and cabinet information are correct. If everything is correct, click the "Load Data" button.



2.3. Display connection

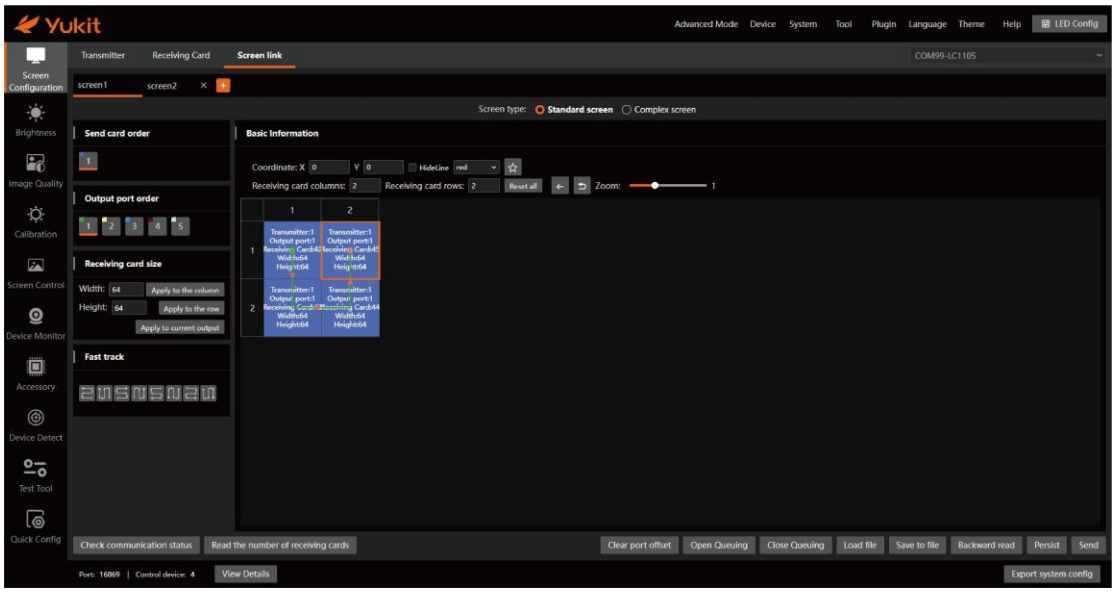
On the “screen link” tab, you can configure the LED display connected to the receiving card via software, supporting both standard and complex display configurations.

After configuring the receiving card parameters, the user needs to connect all the cabinets through the "Display Connection" function to display a complete picture.



2.3.1. Standard screen

For standard display screens with standard cabinet positions and normal network cable routing, a standard display screen can be selected for configuration.



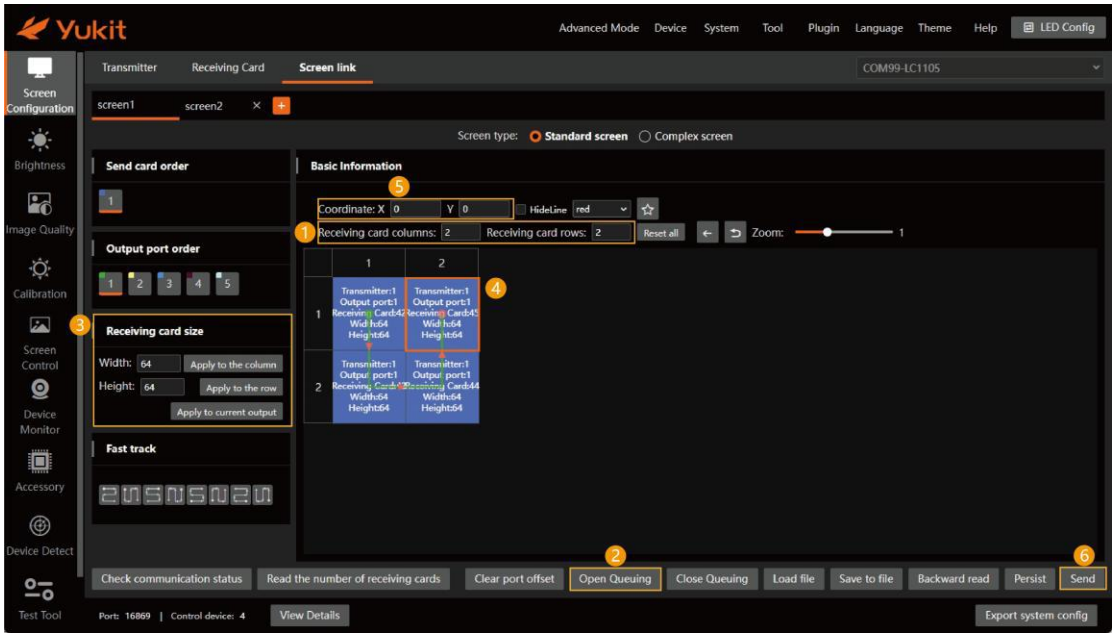
Interface area and button function description:

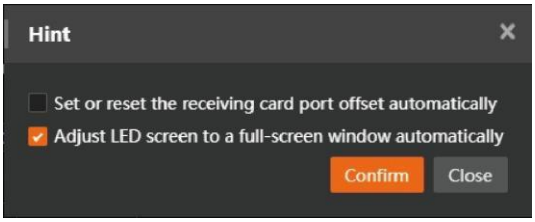
Project	Description
Screen type	Supports both "standard displays" and "complex displays".
Send card order	Select the serial number of the sending card to which the receiving card is connected.
Output port order	Select the output port (network port) number to connect the receiver card.
Receiving card size	Set the size of the box to which the receiving card is connected.
Fast track	Quickly set the routing direction of the receiver card.
Basic Information	Configure basic information such as the starting coordinates of the receiving card, whether the wiring is displayed, and the number of rows and columns of the receiving card.
Check communication status	Click this button to select the display screen to test, and the receiver card connection status will be detected and the results will be displayed.
Read the number of receiving cards	Click this button, then hover your mouse over the output port to see the number of receiving cards connected to this output port.
Reset all	Click this button to clear redundant queue configurations.
Clear port	Click this button to clear the port offset of the specified receiving card.

offset	
Open/Close Queuing	Clicking the "Enable Sequence" button will display the coordinate information of all queues on the current screen, including the sending card number, network port number, receiving card number, and valid signal network port number, such as: 1P01001A. Click the "Turn off labeling" button to turn off the labeling function.
Load file	Click this button to select and load the queue configuration file from your local PC.
Save to file	Click this button to export the current queue configuration information to your local PC.
Backward read	Clicking this button allows you to read back the queue configuration information from the sending card, and you can choose whether to save it locally at the same time.
Persist	Click this button to save the queue configuration information to the sending card.
send	Click this button to send the queue configuration information to the sending card.

Configure the screen according to its actual condition as follows:

1. In the【Basic Information】area, fill in the total number of receiving card columns and the total number of receiving card rows for the entire screen;
2. Open/Close Queuing function;
3. Enter the size of the receiving card in the【Receiving Card Size】area. The width and height should correspond to the load capacity of the enclosure.
4. Select the corresponding sending card and the corresponding output port. Click on the receiving card in sequence according to the actual routing direction of the receiving card to route the wires. If the routing method is regular, you can choose the fast routing method to route the wires.
5. The screen offset coordinates can be set according to display requirements;
6. Once the configuration is complete, click the "Send" button to send the queue configuration to the hardware (you can choose whether to "automatically set or reset the receiving card port offset" or "automatically adjust the LED screen to a full-screen window"). You can also click the "Save to file" button to save the current queue configuration information to your local PC for quick screen connection.

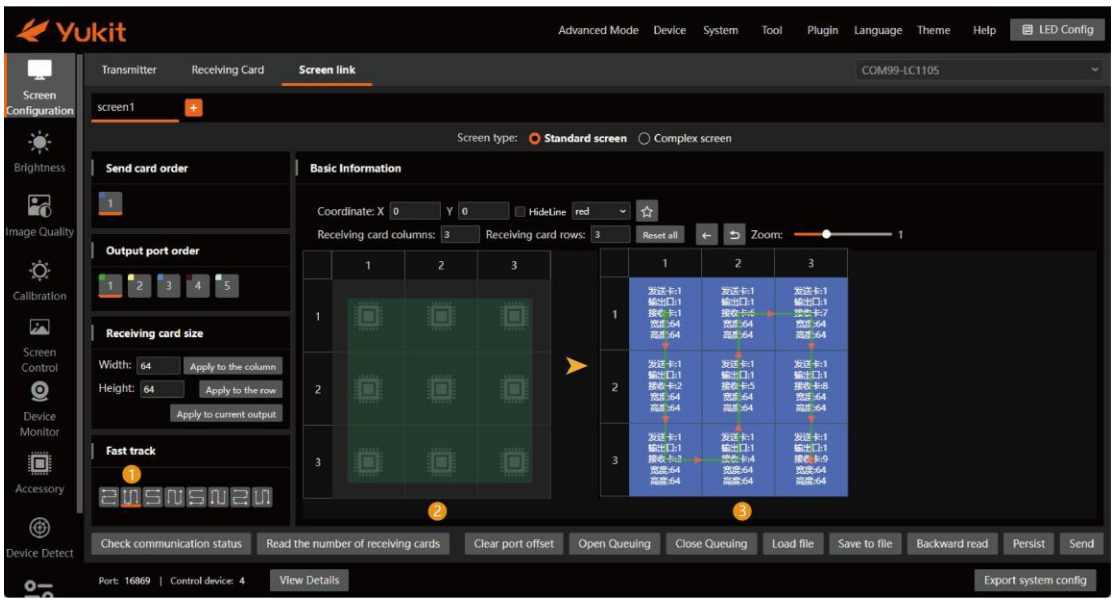




- **Fast track**

When there are a large number of receiving cards and the track pattern is regular, the "Fast track" function can be used to quickly complete the track settings.

Select the routing direction and then select all the receiving cards to complete the routing settings.



- **Information modification**

Right-clicking the receiving card will bring up a function menu, which allows you to perform the following functions:

a) Query receiving card information: including receiving card model, version, temperature, IO voltage, etc.;

b) Receiving card display control: You can view all module IDs for the current receiving card or the current screen;

c) Send address data to receiving card: You can upload an address data file to the current receiving card;

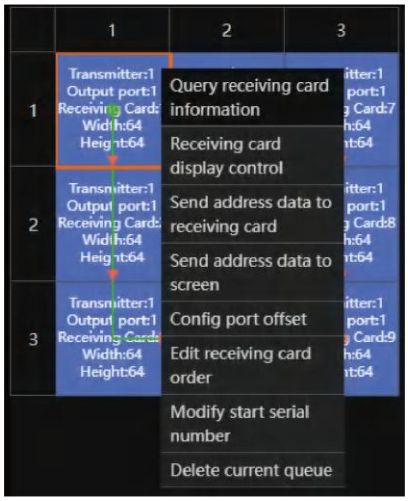
d) Send address data to screen: This function can upload address data files to all receiving cards connected to the current screen.

e) Config port offset: Set the offset of each data group of the current receiving card. It is recommended to set the offset to an integer multiple of the module width.

f) Edit receiving card order: Modify the serial number of the current receiving card;

g) Modify start serial number: Modifies the starting sequence number of the receiving card connected to the current sending card output port. The default value is 1.

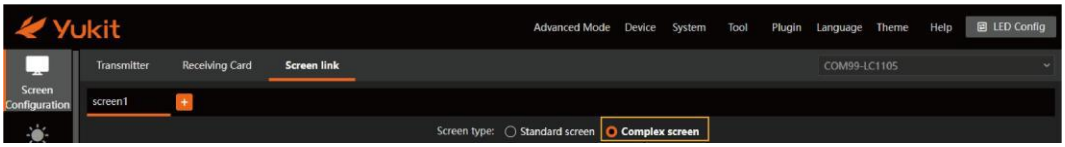
h) Delete current queue: Clears the queue configuration of the current sending card output port.



2.3.2. Complex screen

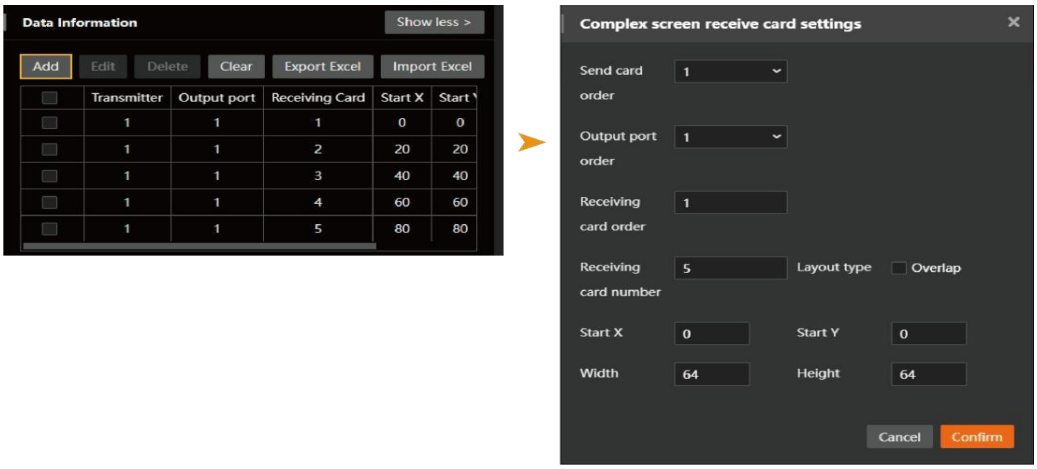
For displays with inconsistent cabinet sizes, arbitrary cabinet positions, or unconventional network cable routing, the "Complex screen" function can be used for configuration.

1. Go to the "Screen link" tab and select "Complex screen" as the screen type.

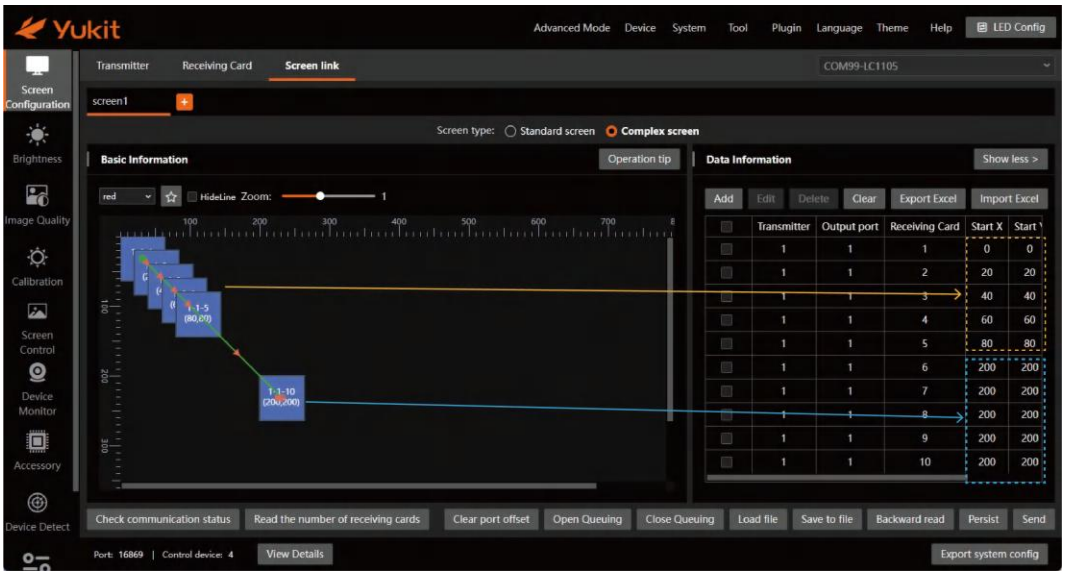


2. Adding receiving card queues:

   1) In the 【Data Information】area, click the "Add" button, and fill in the following information in sequence: send card order, output port order, receiving card order, receiving card number (if the number is greater than 1, you can set the "Layout Type"), start X, start Y, receiving card load width and height. Finally, click the "confirm" button to complete the addition.



3. 【Basic Information】The area displays the added receiving cards.



4. Repeat step 2-2) to add the remaining receiver cards. Receiving cards connected to the same output port will automatically connect in ascending order of their serial numbers. You can drag the receiver card in the 【Basic Information】 area to change its position.

5. In the 【Data Information】area, select the receiving card to edit and delete it. Click the "Clear" button to delete all receiving card information. Click the "Export Excel" button to save all receiving card data in Excel format to your local PC . Click the "Import Excel" button to import the receiving card data with one click.

6. Clicking  the button will bring up a function menu, which allows you to perform the following functions:

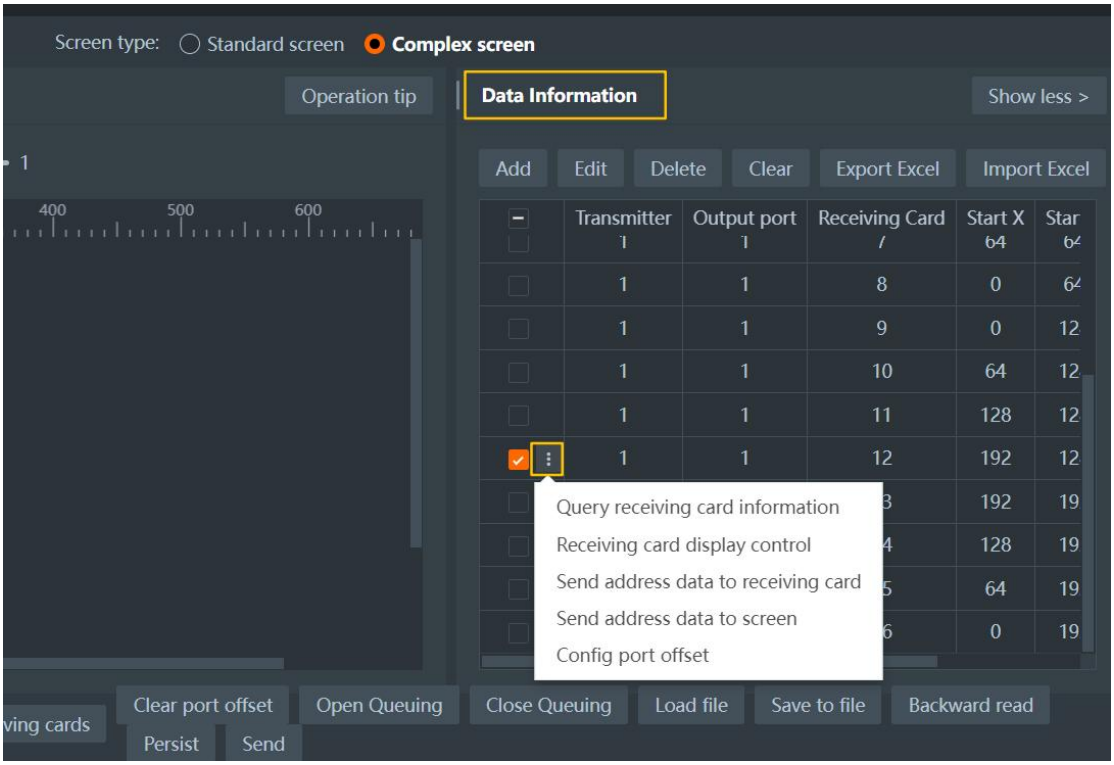
   a) Query receiving card information: including receiver card model, version, temperature, I/O voltage, etc.;

   b) Receiving card display control: Allows for screen on/off, screen lock/unlock, sequencer on/off, calibration on/off, seam correction on/off, restarting the receiver card, and recalling the test screen;

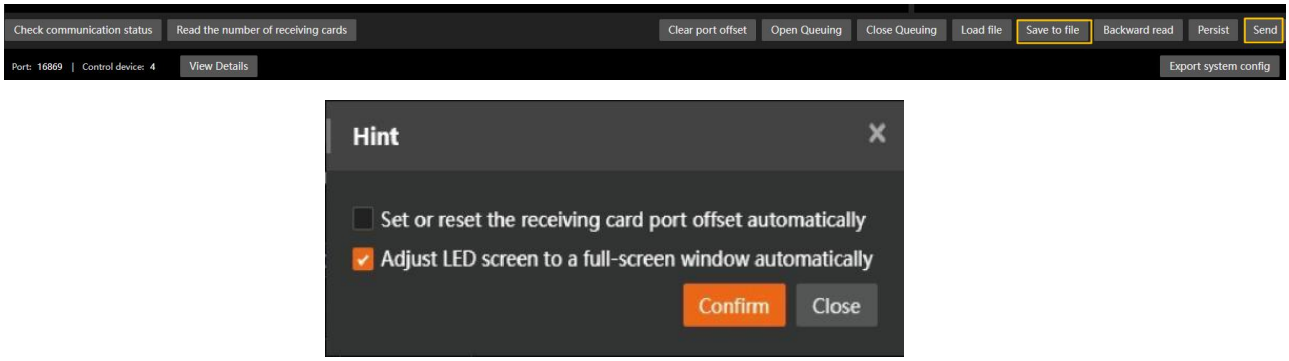
c) Send address data to receiving card: You can upload an address data file to the current receiving card;

d) Send address data to screen: This function can upload address data files to all receiving cards connected to the current screen.

e) Config port offset: Set the offset of each data group of the current receiving card. It is recommended to set the offset to an integer multiple of the module width.



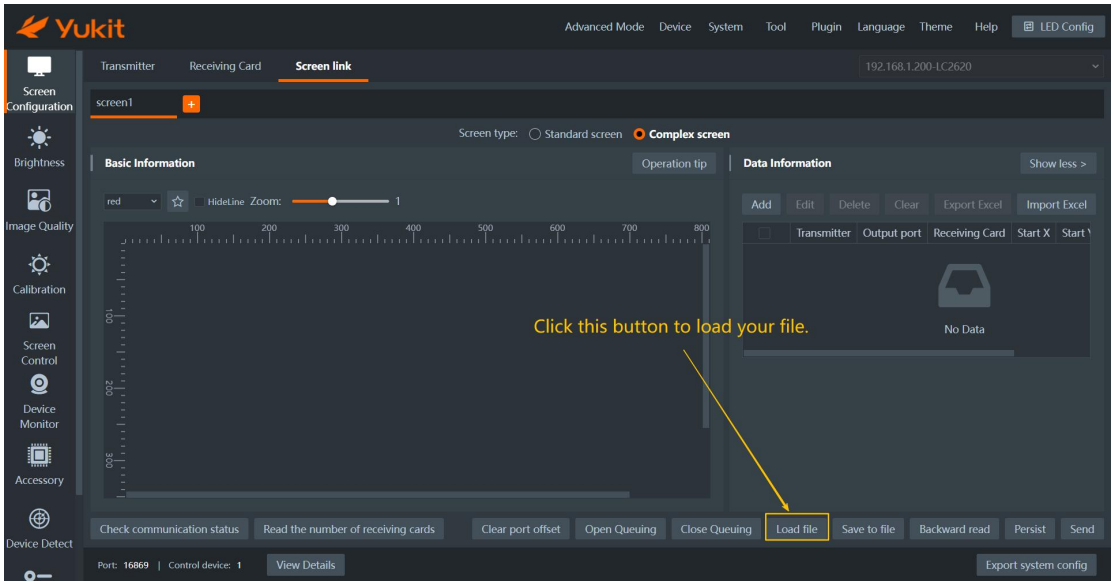
7. Finally, click the "Send" button in the lower right corner to send the parameters to the hardware (you can choose whether to "automatically set or reset the receiving card port offset" or "automatically adjust LED screen to a full-screen window"). You can also click the "Save to file" button to save the current queue configuration information to your local PC for quick screen connection.



2.3.3. Quick screen connection

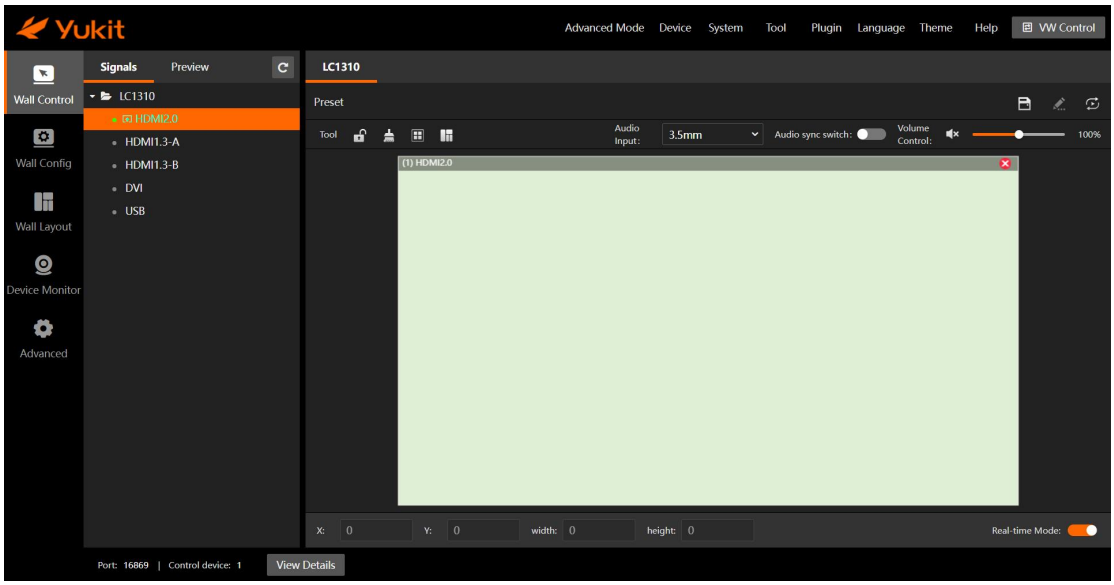
It can load saved queue configuration files to quickly complete display screen connection configuration and improve work efficiency.

On the [Display Connection] tab, click the "Load file" button, select the queue configuration file in your local PC , click the "Open" button to load it, and finally click the "Send" button to send the parameters to the sending card to complete the display connection.



3. Large screen window

Clicking the "Large Screen Window" option in the menu bar allows you to control the large screen window, including signal source window opening, signal source preview, video switching, large screen pre-layout, large screen scene saving and rotation, signal source cropping, and signal source logo setting.



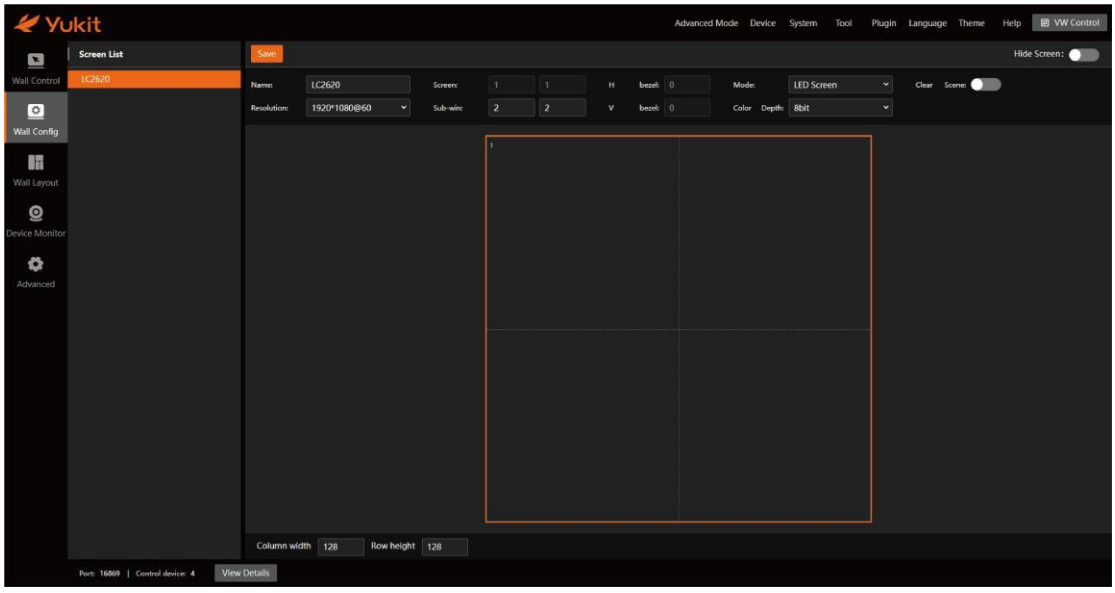
To implement the signal source preview function, a separate preview sub-card is required, which is currently only supported by some devices. **Please contact our sales staff if needed.**

3.1. Video wall configuration

Click the "VW Control" button in the [Menu Bar] to modify the video wall parameters. The software automatically recognizes the LED controller that controls the PC connection and displays the loaded video wall in the list on the left side of the “Wall Config” interface.

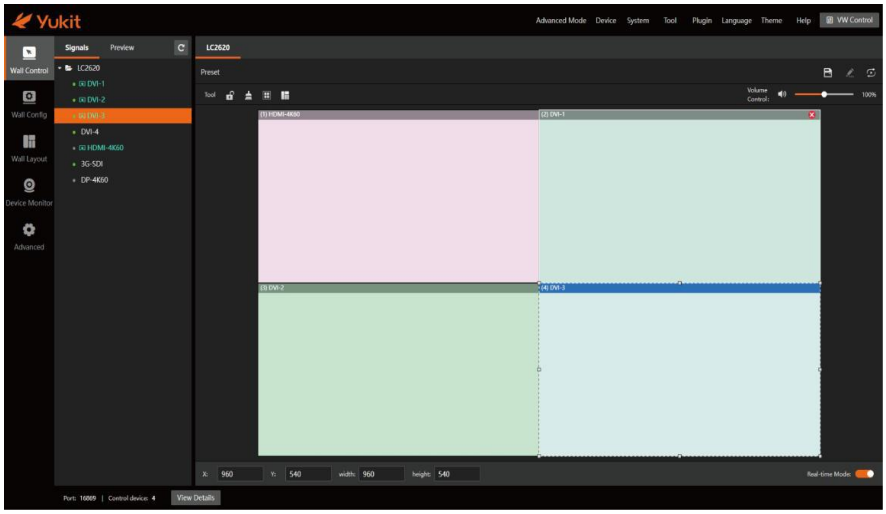
The relevant parameter settings are described below. After setting, click the "Save" button in the upper left corner to save the changes.

Parameters	Description
Large screen name	The name of the large screen can be customized.
Resolution	To set the output resolution , you can select from the drop-down list. If no resolution is needed, you can add a custom resolution. For details, see 3.4 **Custom Resolution** .
Screen	Use the default value; it cannot be modified.
Logical sub-win	The display screen features virtual sub-screens that are easy to snap into and resize.
Horizontal/Vertical Edges	Use the default value; it cannot be modified.
Model	Use the default " LED " mode .
Color Depth	Use the default value of " 8 bit".
Clear scene	Turning on this switch will clear the previously saved scenes on the large screen.
Row height Column width	This parameter can be used to adjust the LED screen size.
Hide screen	Turning on this switch will prevent the large screen from being displayed in the [Large Screen Control] interface.



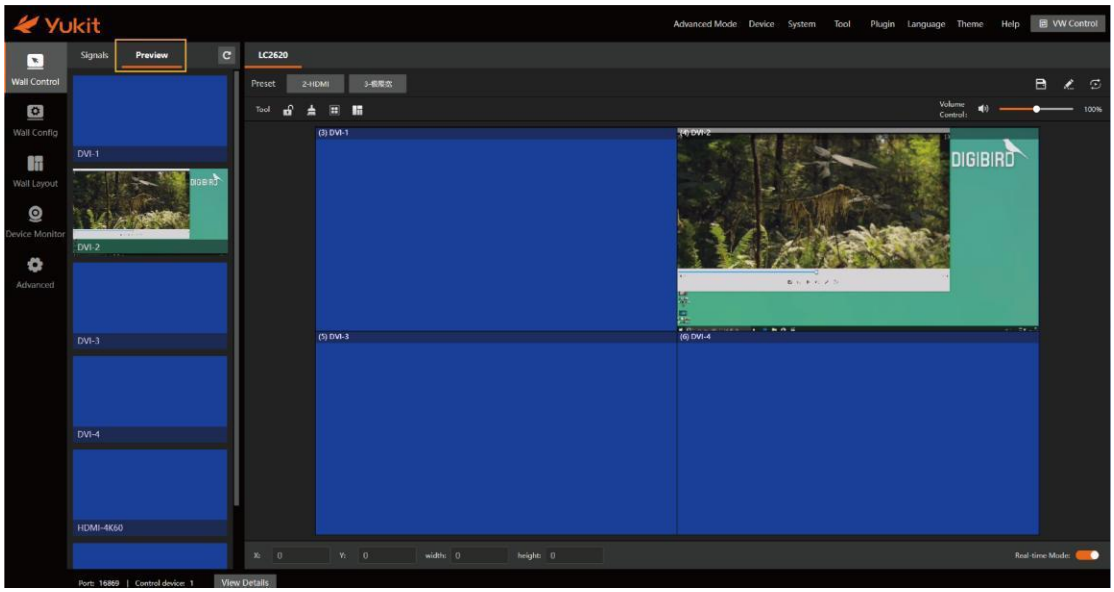
3.2. Video wall control

After setting the video wall parameters, you can click the "VW Control" option in the [Menu Bar] to open the window on the video wall, save and patrol the scene.



3.2.1. Signal source monitoring

If the device is configured with a preview sub-card, the signal source can be visually previewed. Switch to the [Preview] tab to preview the signal source.

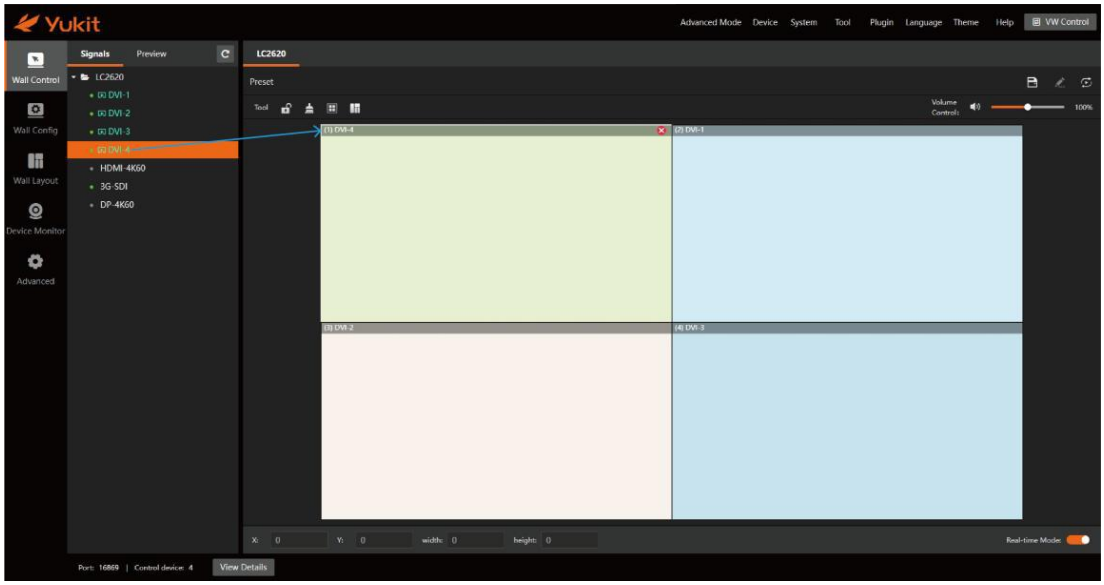


3.2.2. Signal source window

Signal windows can be created on the large screen to achieve flexible and diverse large screen display effects.

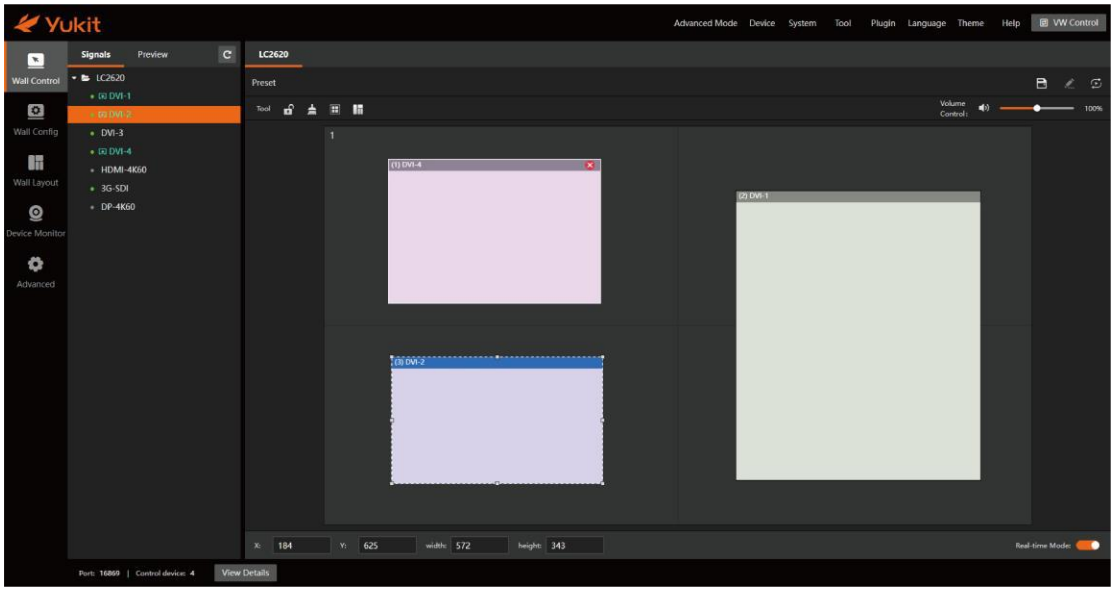
3.2.2.1. Full-screen window

In the [Signals]/[Preview] list on the left, the mouse selects the signal source and drags it to the video wall to create a full-screen-sized signal window.



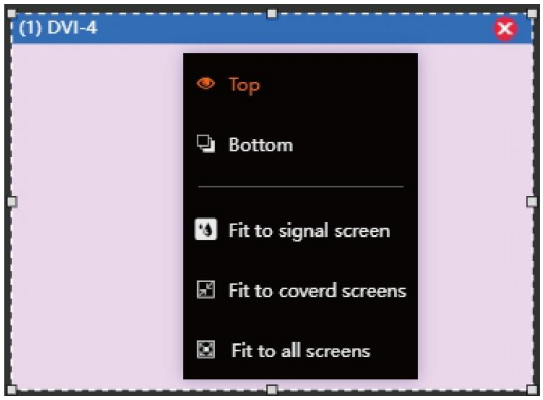
3.2.2.2. Free windowing

In the [Signals]/[Preview] list on the left, select a signal source. At any position on the video wall, click and drag the mouse to form a rectangle. After releasing the mouse, you can create a signal window of any size and position.



3.2.3. Window layouts

It supports creating multiple windows on a large screen. Window windows can be dragged and scaled freely within the large screen area, and can also be stacked through the layer settings in the right-click menu.



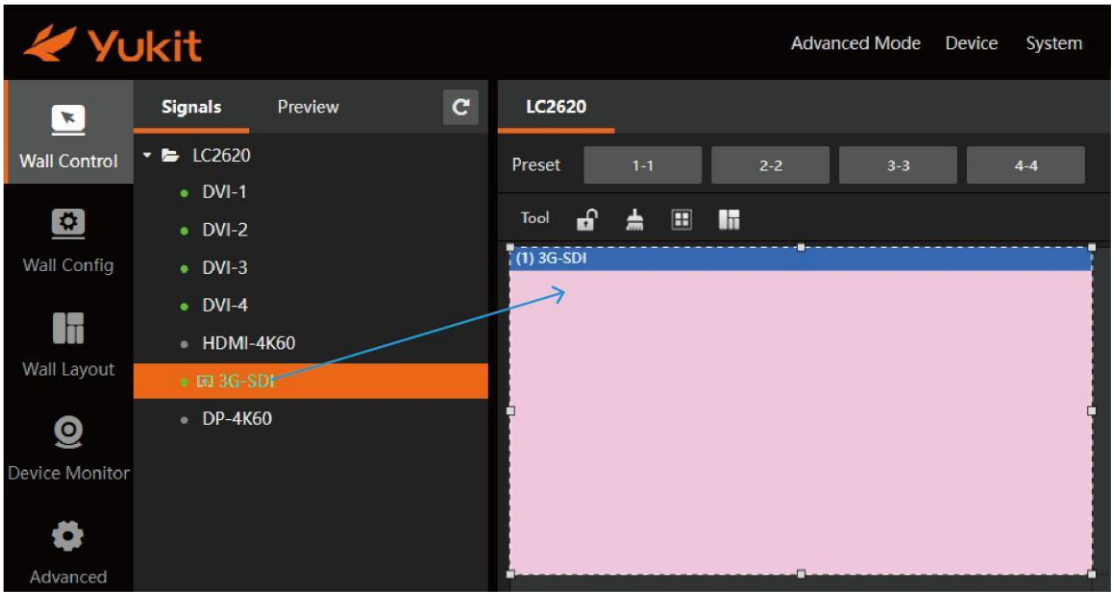
The functions of the right-click menu in the window are explained below:

Functions	Description
PINNED	SELECT THE WINDOW AND BRING IT TO THE TOP.
BOTTOM	Select the window and place it at the bottom layer .
SCALING TO A SINGLE SCREEN	Resize the selected window to the top left corner of the screen occupied by the window.

SCALE TO THE SCREEN SIZE	Resize the selected window to the entire sub-screen or main screen it occupies .
MAXIMIZE TO ALL SCREENS	Enlarge the selected window to the entire screen .

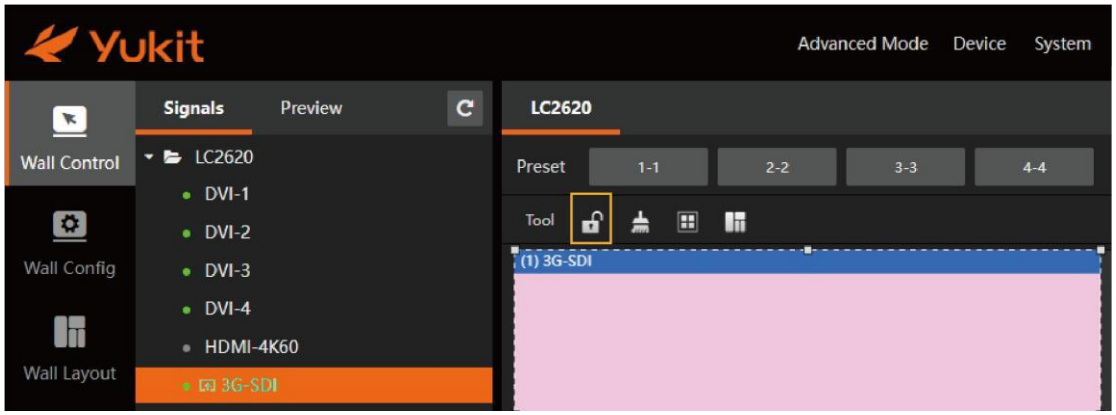
3.2.4. Signal switching

Select a window, drag a signal from the [Signals]/[Preview] list on the left into the window, and the image of that signal source will be switched to the corresponding window on the large screen.



3.2.5. locking

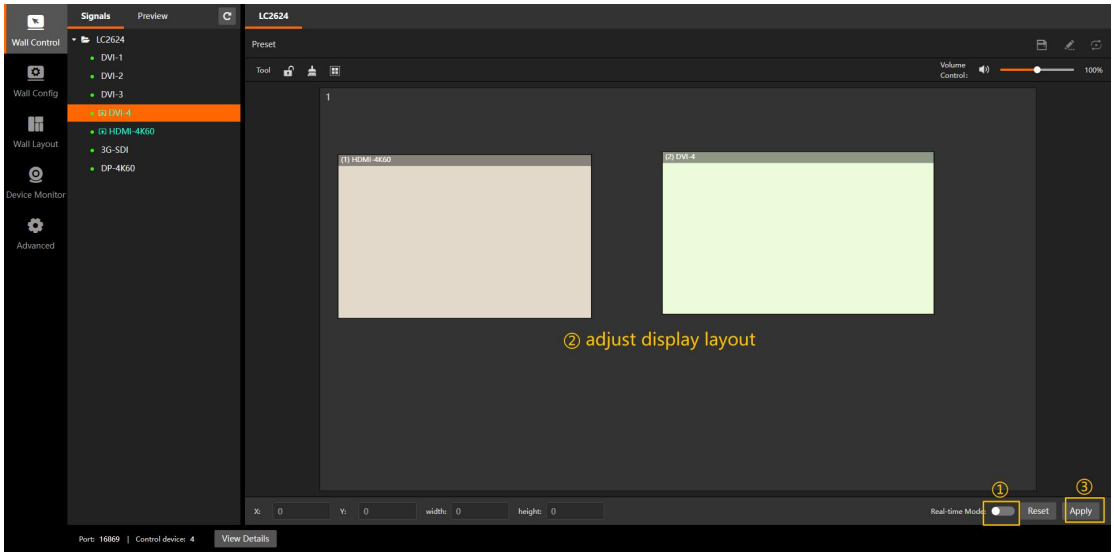
After configuring the screen layout, click the video wall operation interface icon to lock the window layout of the video wall to prevent misoperation. Click again to unlock. In the locked state, only scene recalls and scene patrols are supported, and other window operations(signal switching, window creation, window size/position/level adjustment, etc.) are not supported.



3.2.6. Pre-layout

Pre-layout is to perform window layout operation under the condition that the display of the video wall remains unchanged. After the layout is completed, it is directly applied. The video wall is switched to the new window layout, and the intermediate process is not displayed.

1. **Turn off the real-time mode:** Turn off the ‘Real-time Mode’ in the lower right corner of the video wall control interface to enter the ‘Pre-layout Mode’;
2. **Pre-layout:** open the window and layout of the signal in the video wall;
3. **Application:** After the pre-layout is completed, click the "Apply" button to project it to the video wall.



You can click "Save" in the upper right corner. The icon saves the window layout in pre- layout mode as a large-screen scene for later use.

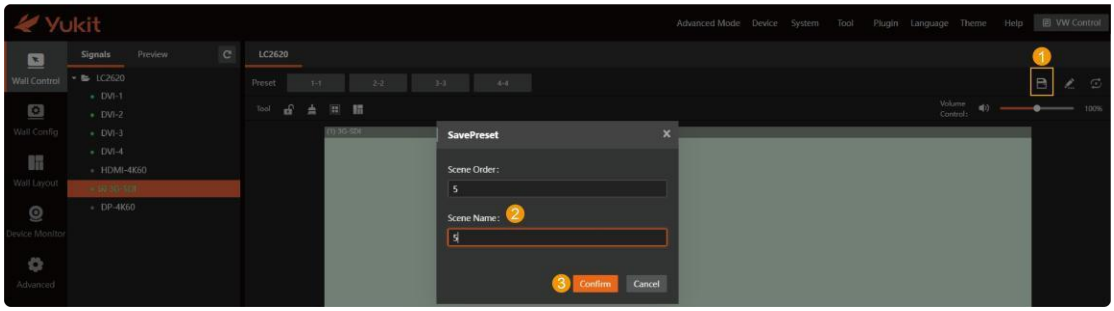
3.2.7. Scene management

The commonly used video wall layout can be saved as a scene and invoked with one click when needed.

3.2.7.1. Saving and recalling

After completing the layout of the large screen window, click the upper right corner of the interface. Enter the scene name , and click the "Confirm" button

to save the current screen layout as a scene. The saved scene will appear in the scene list area; click it to call up the scene.

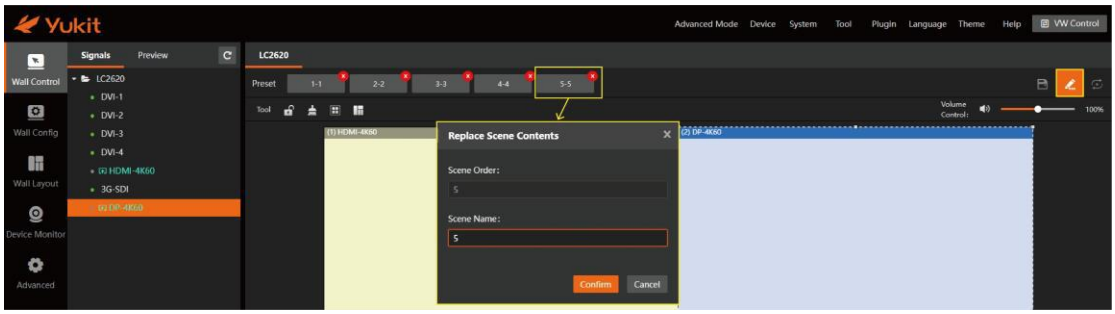


3.2.7.2. Editing

In the scene list, click Press the button to enter scene editing mode:

Click the delete icon to delete the scene.

Click the scene button to open the edit window, enter a new scene name, and click the "Confirm" button to complete the scene rename. If the scene content has been modified before entering the scene editing state, clicking the "Confirm" button will complete the scene renaming and scene content replacement simultaneously.

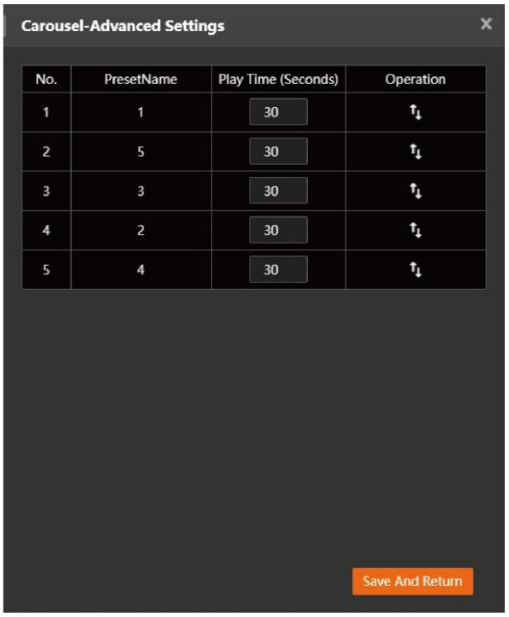


3.2.7.3. Scene patrol

The software supports scene rotation, which allows multiple scenes to be played in turn. Users can customize the rotation order and interval. The software operation steps are as follows:

1. Click Scene Rotation on the right side of the scene list. Press the button to open the [Rotation] window;
2. In the left-hand [Scene List], select scenes in the desired order to add them to the right-hand [Rotation List]; uncheck scenes in the [Rotation List] to remove them; press and hold and drag scenes up and down to adjust the rotation order; click the "Advanced Settings" button to set the call interval and rotation

order for each scene individually; click the "Save and Return" button to return to the [Rotation] window and click the "Save" button to save the settings.



3. The polling interval set in this step is a uniform interval. If a polling interval was set separately in step 2, a uniform interval cannot be set again. Click the "Start" button, and the system will poll the scene according to the order of the [Polarization List] on the right. Click the "Close" button to stop the scene polling.

3.2.8. Signal source management

The software supports renaming signal sources, setting station logos, and cropping signal sources.

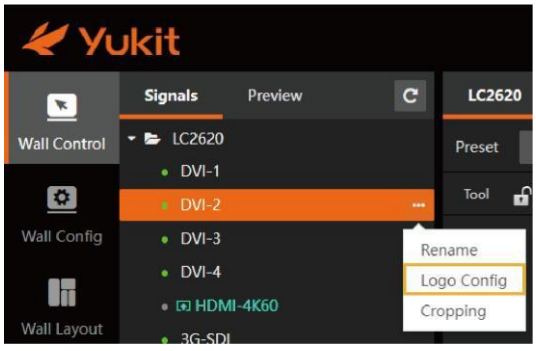
3.2.8.1. Rename

In the signal source list, left-click the icon to the right of the signal source, click the "Rename" button in the drop-down menu, enter the new name in the pop-up window, and click the "confirm" button.

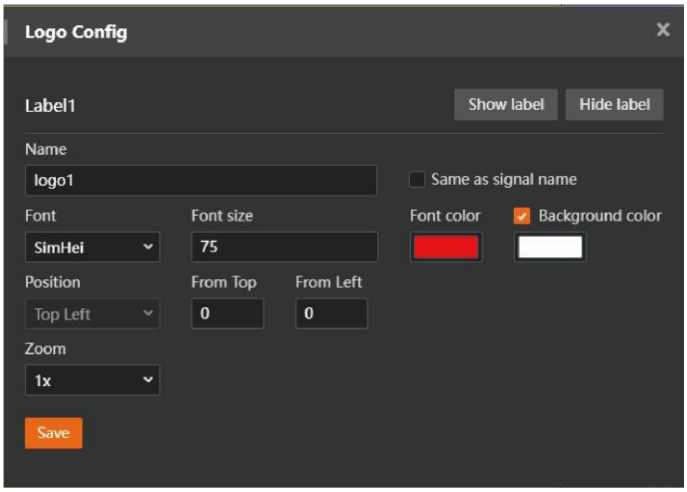
3.2.8.2. Logo settings

The software supports overlaying station logos onto the signal source screen, allowing for quick identification of the signal source when displayed on an LED screen.

1. Click next to any signal source in the [Signals] list. Click the "Logo Config" button in the menu ;



2. Set the relevant parameters in the opened window and click the "Save" button.



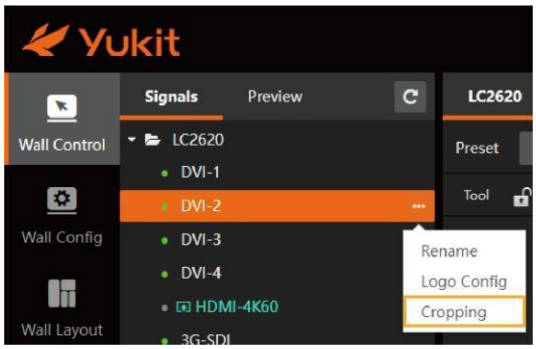
The configurable parameters are explained below:

Items	Description
DISPLAY LOGO	Clicking this button will overlay the station logo onto the signal source.
CLOSE THE LOGO	CLICK THIS BUTTON TO TURN OFF THE LOGO.
NAME	ENTER THE LOGO CONTENT.
SAME SIGNAL SOURCE NAME	Select this option to use the signal source name as the station logo.
FONT	Choose the font for the logo text, including SimSun and Heiti.
FONT SIZE	Set the size of the logo text, selectable from 12 to 128.
FONT COLOR	Set the color of the logo text.
BACKGROUND COLOR	If you select this function, the station logo background color will be displayed on the signal source.
POSITION	Sets the logo display position; the default is "top left".
MARGIN	Set the left and top margins of the logo.
MAGNIFICATION FACTOR	Set the magnification factor for the logo; options include "No magnification", "Magnify 2x", and "Magnify 4x".

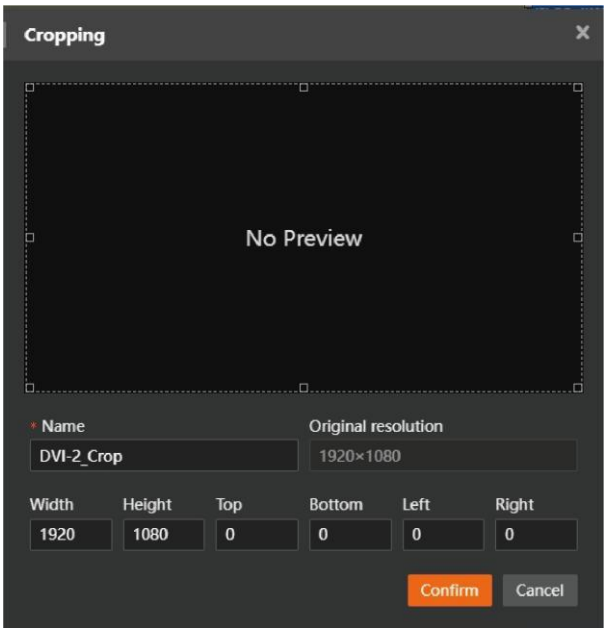
3.2.8.3. Signal cropping

The following functions can be achieved by cropping the signal: cropping the black edge of the signal; cropping the excessive part, preserving the important information, and adjusting its aspect ratio without distorting the distortion by cropping.

1. Click next to  any signal source in the [Signal Source] list. Click the "Cropping" button in the menu ;



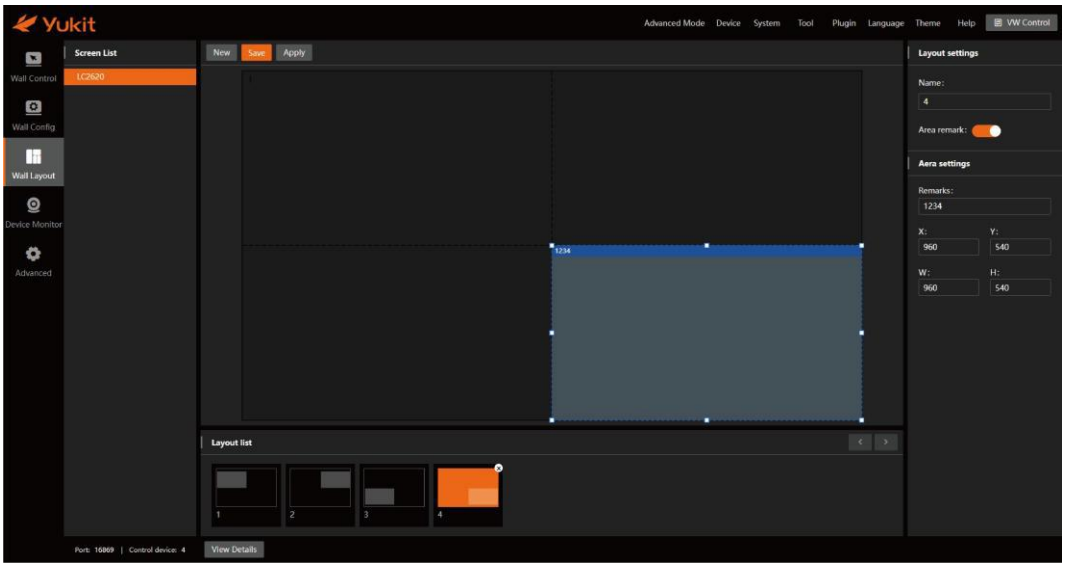
2. In the [Cropping] window, you can drag the mouse in the signal area above the window to crop, or you can fill in the values at the "Top/Bottom/Left/Right Edges" and "Width/Height" at the bottom of the window to precisely crop, and click the "Confirm" button to complete the crop.



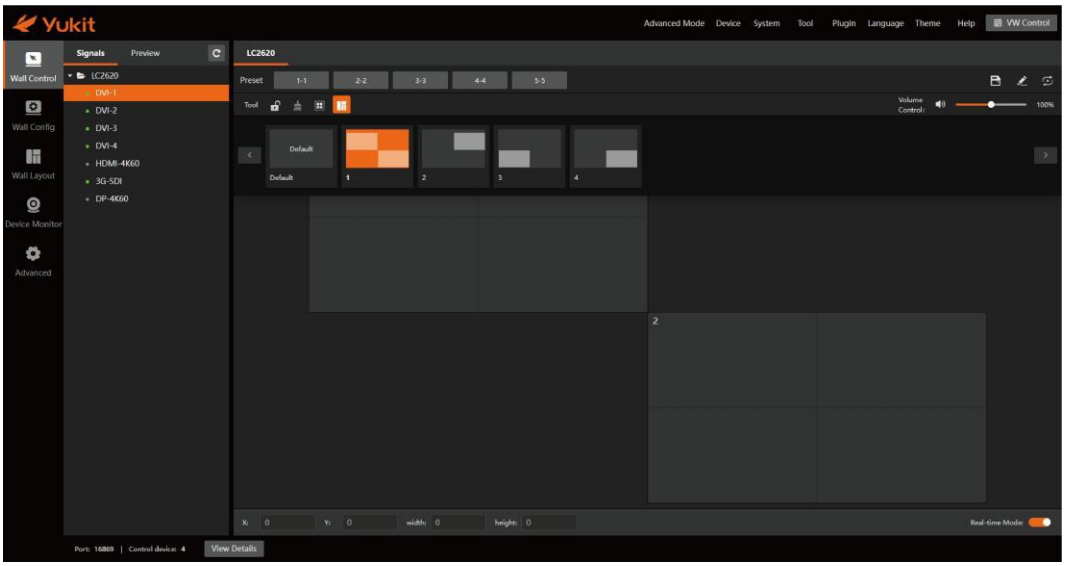
3.3. Wall layout

For some fixed video wall layout sites, multiple layout modes can be created for the video wall, eliminating the steps of changing the position and size of the window, and directly dragging the signal onto the screen. Each set of video walls can create multiple layout modes. The software operation is as follows:

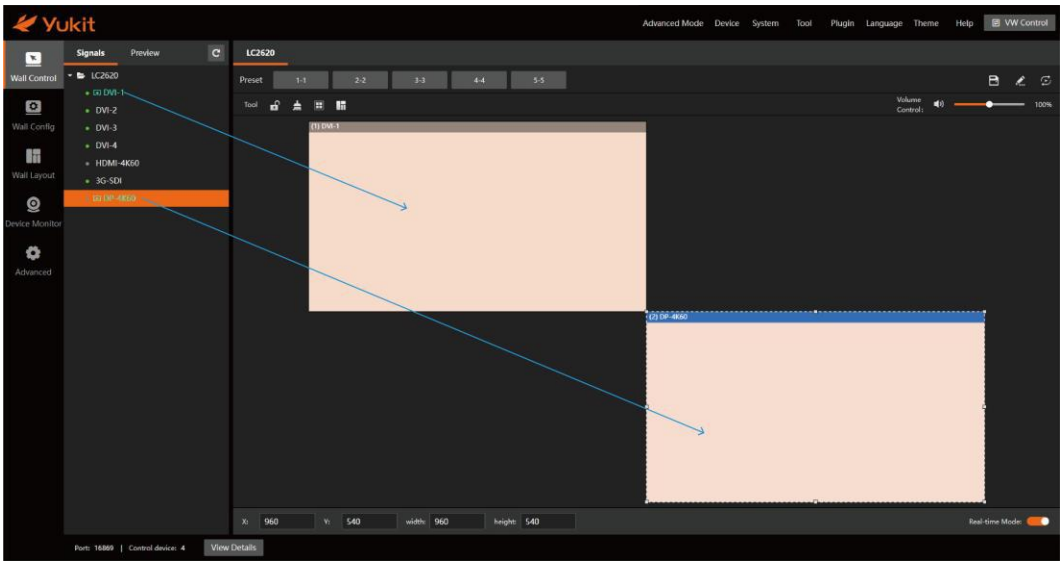
1. In the [Menu Bar], click the "Video Wall control" option;
2. Select a set of video walls in the “Wall Layout” list on the left side of the interface;
3. Click the "New" button, click and drag on the video wall to create windows of different positions and sizes;
4. Click on a window to perform layout and area settings on the right side of the interface, including layout name, whether to remark area.
5. Display area notes, area notes content, window size and precise position adjustment;
6. Click the "Save" button to save the layout, which can be viewed in the [Layout List] at the bottom of the interface;
7. Select the video wall layout and click the "Apply" button to apply the layout.



8. Return to the [Video Wall Control] interface, click the "Layout Selection" button in the video wall toolbar to view the video wall layout that has been created, and click on the video wall layout to apply it.



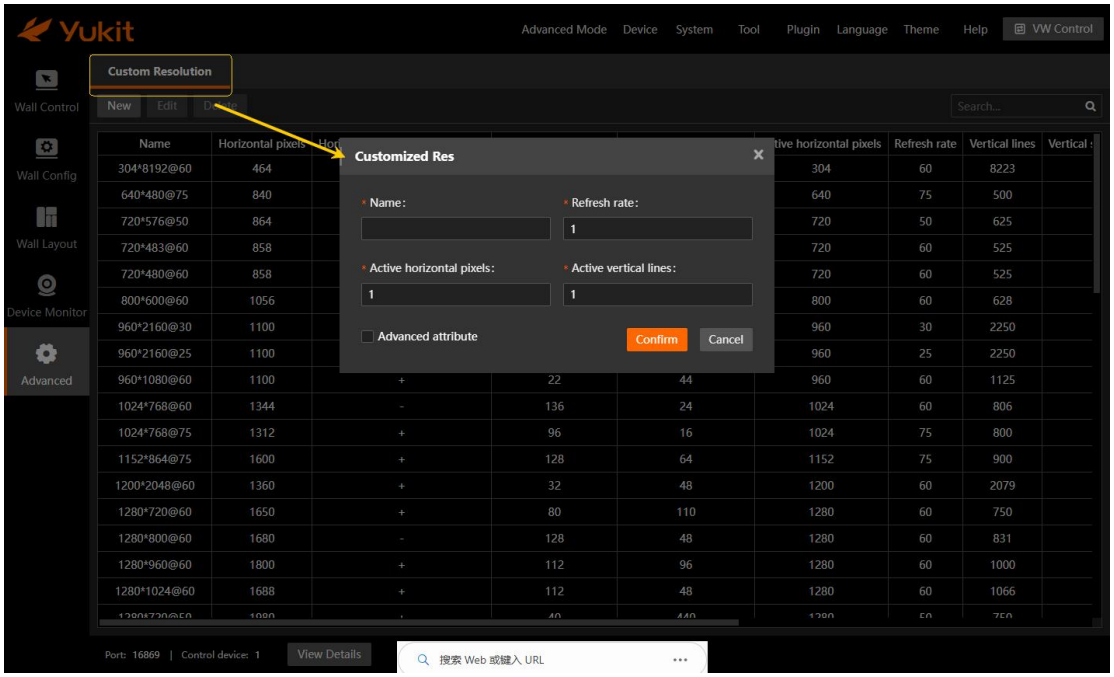
9. After applying the layout, select the signal in the [Signal]/[Preview] list and drag it to the video wall window to achieve the signal on the screen. The size and position of the screen are the same as the size and position of the window where the pointer is located when the mouse is released.



3.4. Resolution Customisation

The software has a built-in resolution library, which can be selected when setting the output resolution for large screens. If the built-in resolutions do not meet your needs, you can add custom resolutions.

Click the "Advanced" on the left side of the interface, then click the "New" button . Enter the resolution parameters in the pop-up window and click the "Confirm" button to add the custom resolution to the resolution library .

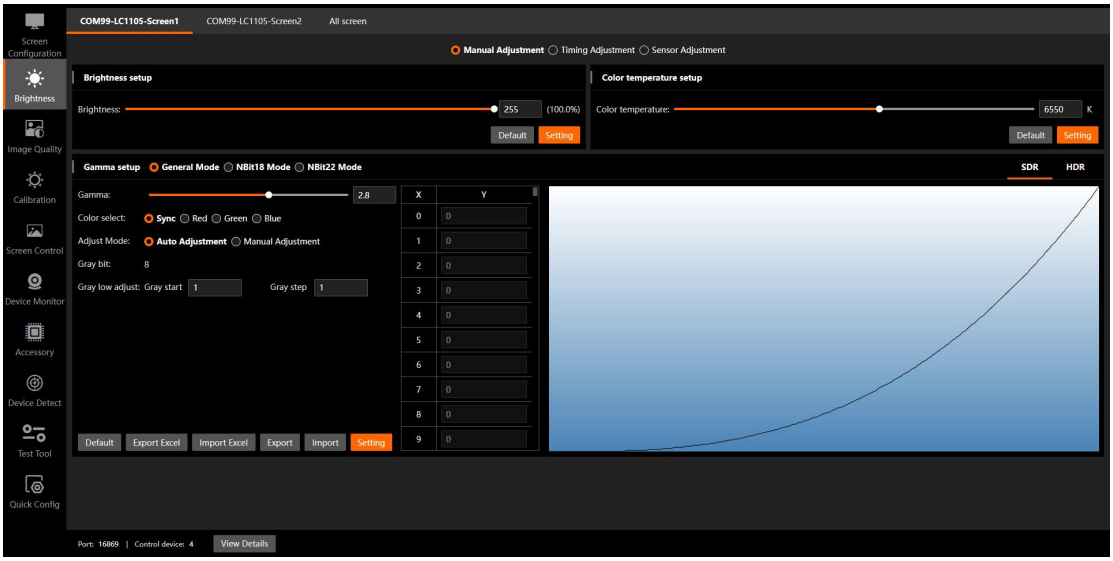


Select the custom resolution you added, click the "Edit" button to modify the resolution information; click the "Delete" button to delete the resolution.

Note: The built-in resolution cannot be modified or deleted.

4. Brightness

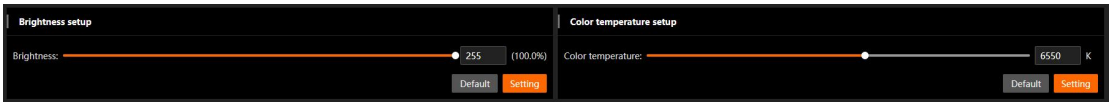
When the LED screen display effect does not meet your needs, click the "Brightness" option in the menu bar. In the opened interface, you can adjust the brightness, color temperature, and gamma of the LED screen. You can adjust a single screen or all screens simultaneously. The software supports three adjustment methods: manual adjustment, timed adjustment, and sensor adjustment.



4.1. Manual adjustment

4.1.1. Brightness and color temperature adjustment

Drag the brightness/color temperature slider while observing the LED screen display effect. Once a suitable value is reached, click the "Setting" button. Click the "Default" button to restore the default value.



4.1.2. Gamma setup

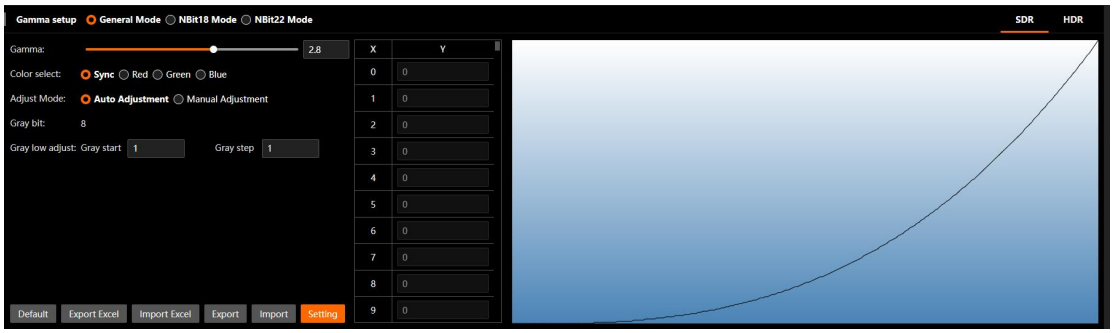
The software supports Gamma adjustment in three modes (General mode/NBit18 mode/NBit22 mode), allowing you to adjust the Gamma values of red/green/blue

separately. After adjustment, click the "Setting" button to send the parameters to the device, and click the "Default" button to restore the default values.

- When the adjustment mode is selected as **"Auto Adjustment"** , it only supports dragging the slider to modify the Gamma value, and does not support modifying the function's single-point value.
- When the adjustment mode is selected as " **Manual Adjustment**" , it supports both dragging the slider to modify the Gamma value and modifying the function's single-point value.

To ensure the Gamma adjustment effect in the low gray area, you can set the "Gray start" and "Gray step" for the low gray area in the "Gray low adjust" section.

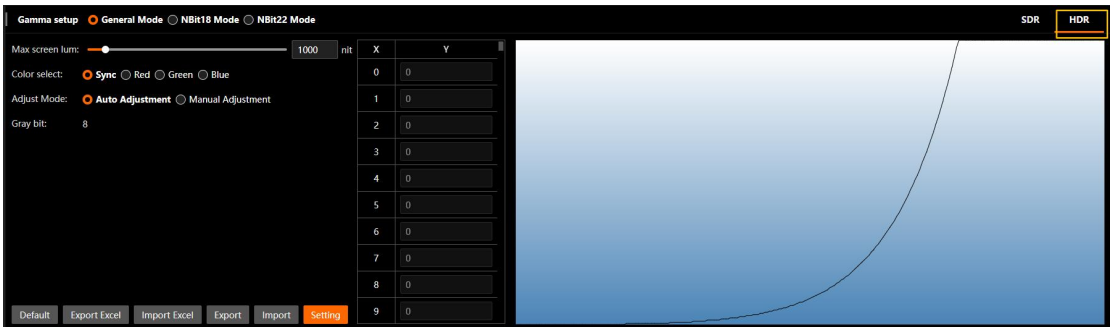
It supports setting the Y-axis range of the function, and the adjustment range can be set according to the actual situation.



The software supports two gamma adjustment algorithms, applicable to SDR and HDR, and can be switched to "HDR" for gamma adjustment. Two HDR types are supported: HDR10 and HLG.

When the device's "HDR switch" is turned on, the receiver card automatically enables HDR gamma; when the device's "HDR switch" is turned off, the receiver card automatically enables SDR gamma.

Note: Currently, only some LED controllers support the "HDR switch," which can be enabled in the 【LED Configuration】—【Brightness】 interface. Please consult our sales staff for details.

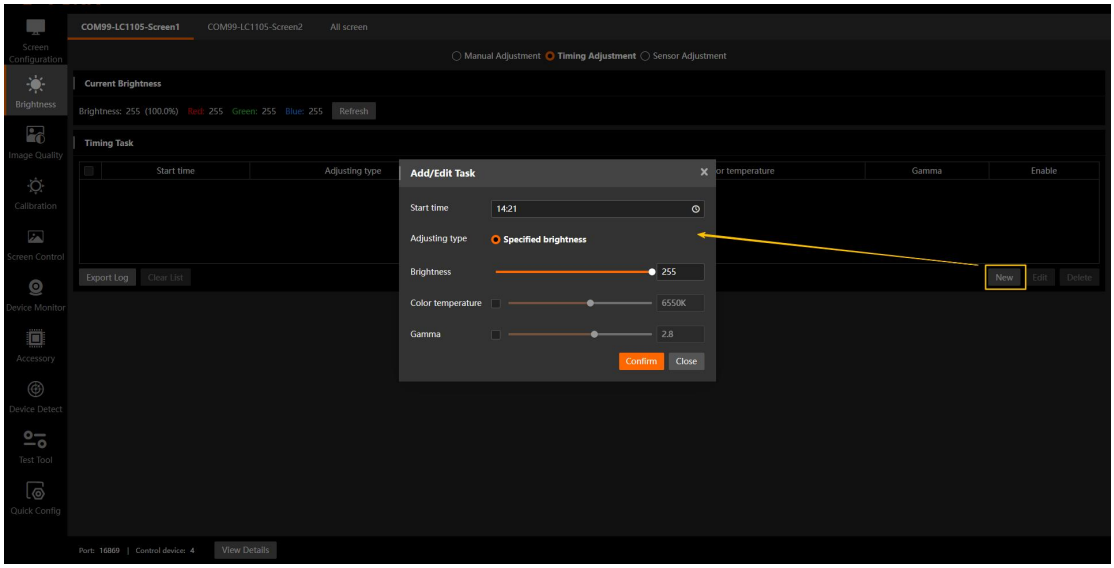


Other operations:

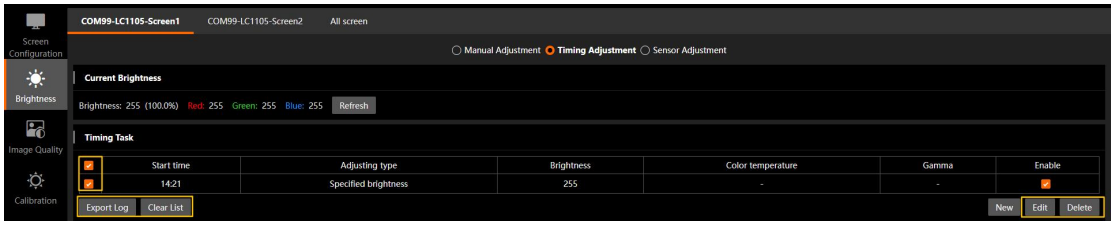
- Clicking the "Export Excel" button will save the Gamma function coordinate values (EXCEL file) to your local PC .
- Clicking the "Import Excel" button will import the saved Gamma function coordinate values into the device.
- Clicking the "Export" button will save the Gamma configuration information (G AMMADAT file) to your local PC .
- Clicking the "Import" button will import the saved Gamma configuration information into the device for quick configuration and improved efficiency.

4.2. Timing adjustment

Select the "Timed Adjustment" mode. Click the "New" button to set the start time and brightness value. You can also choose to adjust the color temperature. / Enter the Gamma value and click the "Confirm" button to add it to the task list.



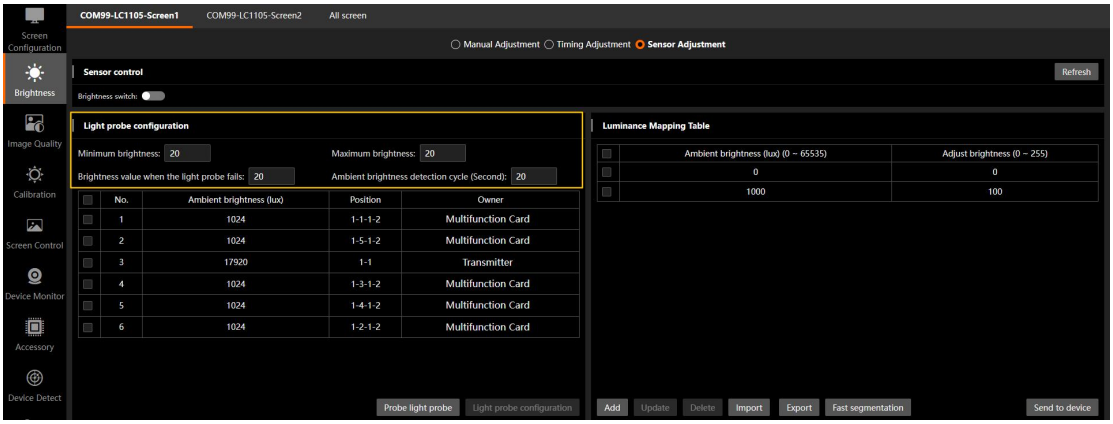
If the parameters are set incorrectly, you can select the corresponding task to edit or delete it. Click the "Clear List" button to delete all tasks. Click the "Export Log" button to export the task execution log to your local PC .



4.3. Sensor adjustment

If the controller is equipped with a brightness sensor, the "Sensor adjustment" mode can be selected to achieve automatic screen brightness adjustment. The operation steps are as follows:

1. Locate the "Light Probe Configuration" area and set the screen brightness adjustment range and light probe detection parameters.



Parameter	Description
Minimum brightness	the LED screen can be customized.
Maximum brightness	the LED screen can be customized (maximum is 255) .
Brightness value when the light probe fails	When the screen brightness exceeds this value, the brightness will no longer be adjusted via the light sensor.
Ambient brightness detection cycle	The frequency at which the optical probe detects ambient brightness can be customized.

2. Locate the "Luminance Mapping Table" area and set the brightness mapping, which is the correspondence between ambient brightness and screen brightness.

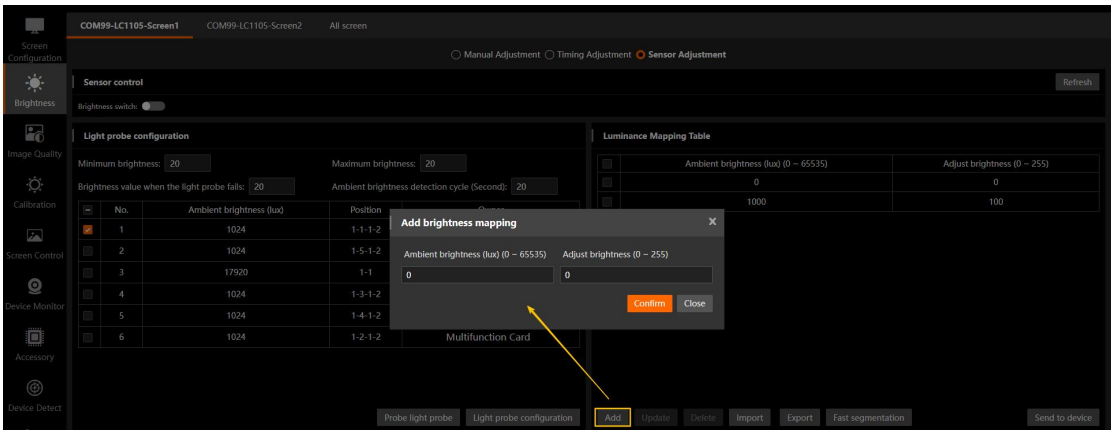
   a) Click the "Add" button to add a single mapping;

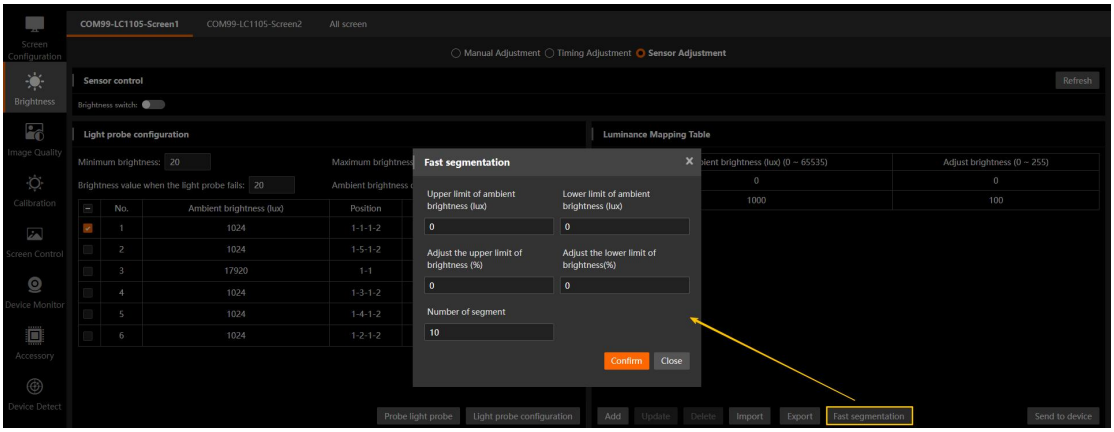
   b) Click the "Fast Segmentation" button to add multiple mappings in batches (up to 20 at a time) ;

   c) Select a mapping, click the "Update" button to modify the mapping, and click the "Delete" button to delete the mapping;

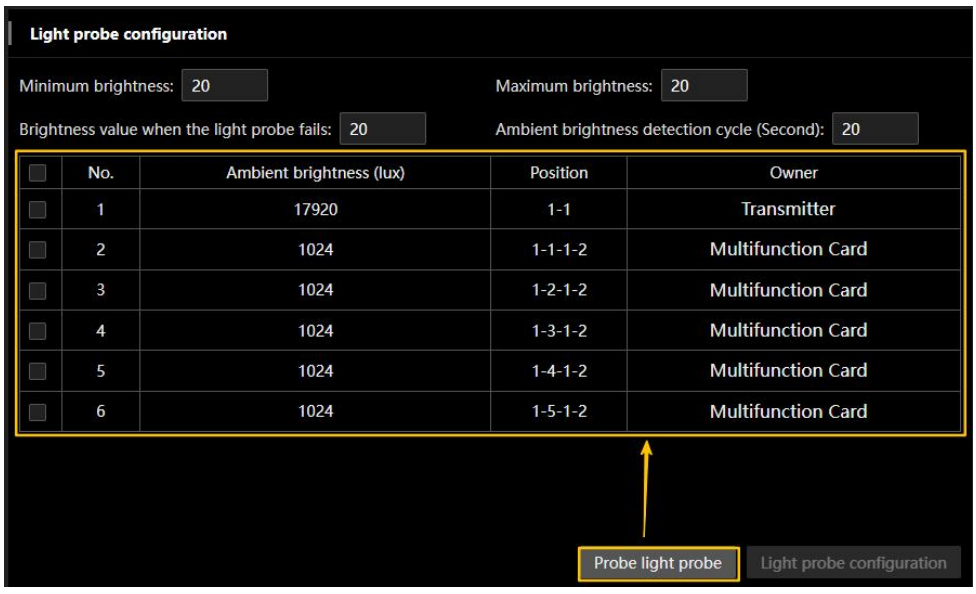
   d) Clicking the "Export" button will export the mapping table to your local PC in Excel format , while clicking the "Import" button will import the stored mapping table to quickly complete the setup.

e) Clicking the "Send to Device" button will send the brightness mapping configuration to the device.

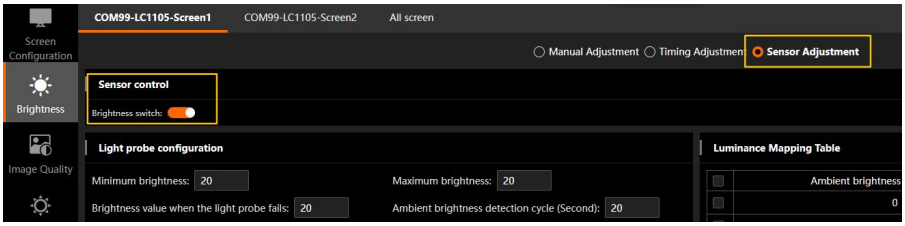




3. In the [Light Probe Configuration] area, clicking the "Probe light probe" button will automatically identify all optical probes and display them in the software interface. Selecting optical probes and clicking the "Light Probe Configuration" button will confirm the sensors to be used.



4. Turn on the "Brightness Switch" in the "Sensor Control" area, and the screen will automatically adjust the brightness based on the sensor measurements and the mapping table.

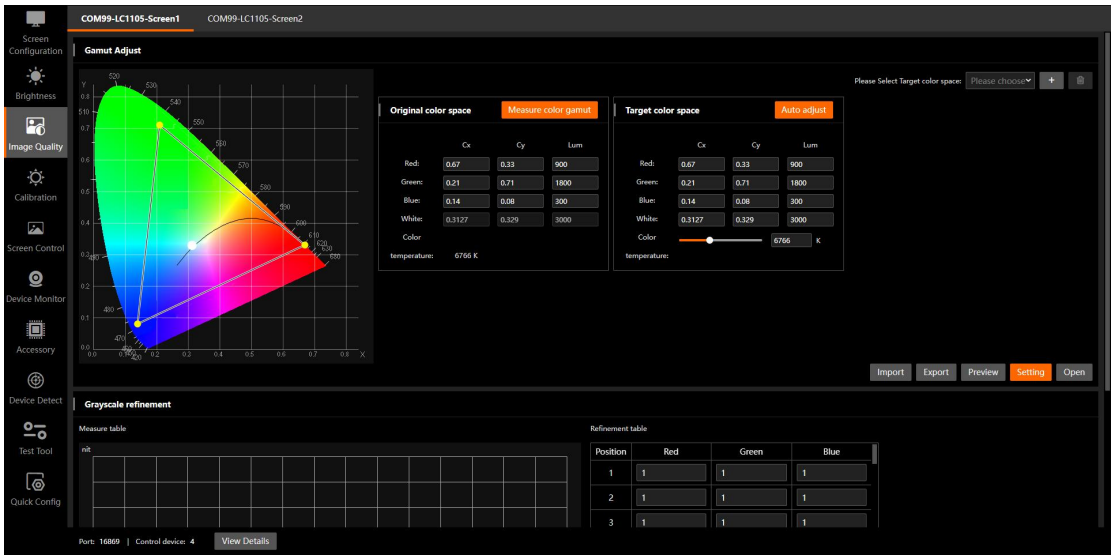


5. Image quality engine

5.1. Color gamut adjustment

The software supports precise adjustment of the controller's target color gamut. The original color gamut can be measured using an external colorimeter or adjusted manually, while the target color gamut can be selected from the software's color gamut library or adjusted manually.

1. Click the "Image Quality" option in the menu bar, and find the "Gamut Adjust" area;
2. The software provides two methods for setting the original color gamut (a triangle with a white border represents the original color gamut):
   a) Click the "Measure color gamut" button to measure and receive the original color gamut information using a colorimeter;
   b) Manually input the Cx/Cy/Lum values for red, green, and blue to set the original color gamut;
3. The software offers five ways to adjust the target color gamut (a triangle with a black border represents the target color gamut):
   a) Click the "Auto Adjust" button and the software will automatically adjust to the target color gamut;
   b) Select the desired color gamut from the "Please select target color gamut" drop-down menu (i.e., the software color gamut library);
   c) Drag the node of the target color gamut with the mouse;
   d) Manually input the Cx/Cy/Lum values and color temperature values for the four colors: red, green, blue, and white, and set the target color gamut;
   e) Click the "Import" button to import the saved target color gamut;
4. Click the "Preview" button to preview the adjusted display effect;
5. Once you confirm that the display effect meets the requirements, click the "Setting" button to send the target color gamut parameters to the device.



Other operations:

1. Clicking  the button will save the adjusted target color gamut to the software's color gamut library, which can be used directly later. Clicking  the button will delete the custom color gamut.
2. Clicking the "Export" button will save the target color gamut parameters to your local PC;
3. Clicking the "Read Back" button will read back the color gamut parameters sent to the device and save them locally;
4. Click the "Open" button to enable color gamut adjustment and view the effect after adjustment;
5. Click the "Close" button to turn off color gamut adjustment and see the effect of turning it off .

5.2. Grayscale refinement

The software supports grayscale refinement. The measurement table can be measured by an external colorimeter or directly imported, while the refinement table can be manually adjusted or directly imported.

1. Click the "Image Quality" option in the menu bar, and find the "Grayscale Refinement" area;
2. In the measurement table area on the left, click the "Start measure" button to measure and provide grayscale information using a colorimeter, or click the

"Import" button to import a saved measurement table. The current coefficients will be automatically displayed in the refinement table area.

3. In the [Measure Table] area, select "Brightness Analysis" / "Color Difference Analysis" / "Measurement Results" to view measurement tables for different dimensions; check the "Iteration" checkbox to set the number of iterations and the maximum Gamma value.
4. In the [Refinement table] area, manually adjust the coefficients, or click the "Import" button to import a saved refinement sheet; check the "White Temperature Overwrite" checkbox to set the white temperature coefficient;
5. Click the "Preview" button to preview the refined display effect;
6. Once you confirm that the display effect meets the requirements, click the "Setting" button to send the grayscale parameters to the device.

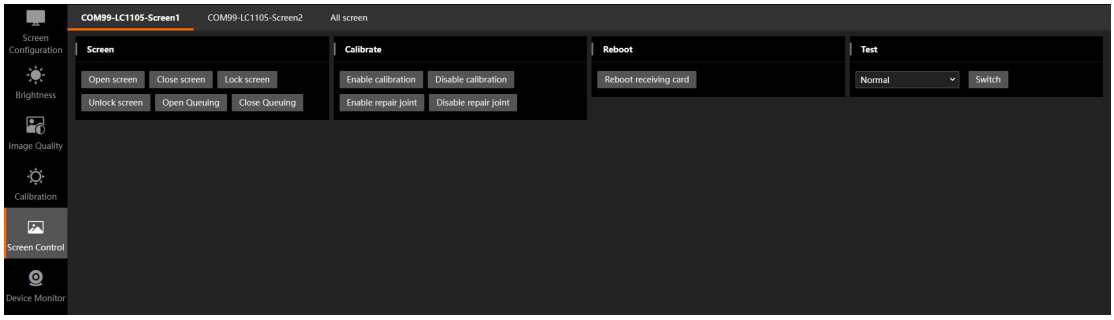
Other operations:

1. Click the "Open" button to enable the grayscale retouching function and view the retouched effect;
2. Click the "Close" button to turn off the grayscale retouching function and see the effect of turning off retouching;
3. Click the "Export" button in the "Measure Table" area to save the measurement table to your local PC;
4. Clicking the "Export" button in the "Refinement table" area will save the adjusted refinement sheet to your local PC.

6. Screen control and calibration

6.1. Screen control

Clicking the "Screen Control" option in the menu bar allows you to turn the LED screen on/off, lock/unlock, enable/disable queuing, enable/disable calibration, enable/disable repair joint, reboot the receiving card, and recall the test screen. Locking the screen freezes the signal source currently playing on the LED screen and displays its last frame.



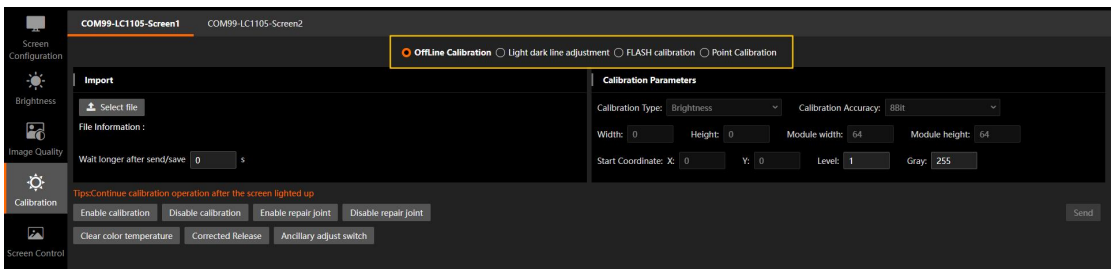
6.2. Correction

When the LED screen display effect does not meet the requirements, it can be calibrated through software. This includes offline calibration, light dark line adjustment, flash calibration , and point calibration.

View Factory Area Coefficient: "Factory Area" refers to the area where the storage **backup correction coefficient is applied**. Click this button to apply the coefficient.

View the coefficients in the application area: "Application area" refers to the area where **correction coefficients in use are stored**. Click this button to apply the coefficients.

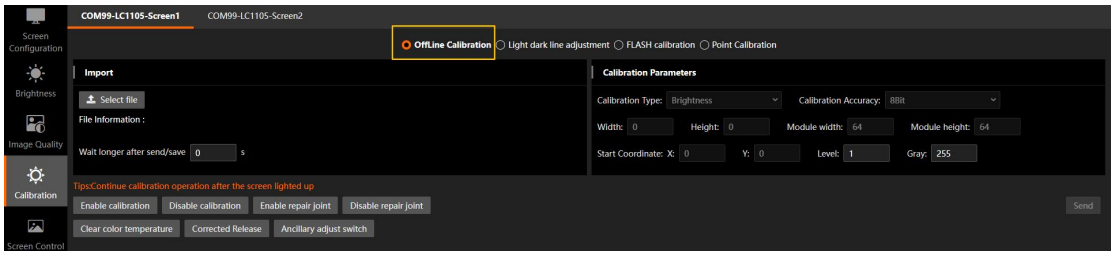
Restore to Application Area: Clicking this button will restore the coefficients of the "Factory Area" to the "Application Area".



6.2.1. Offline calibration

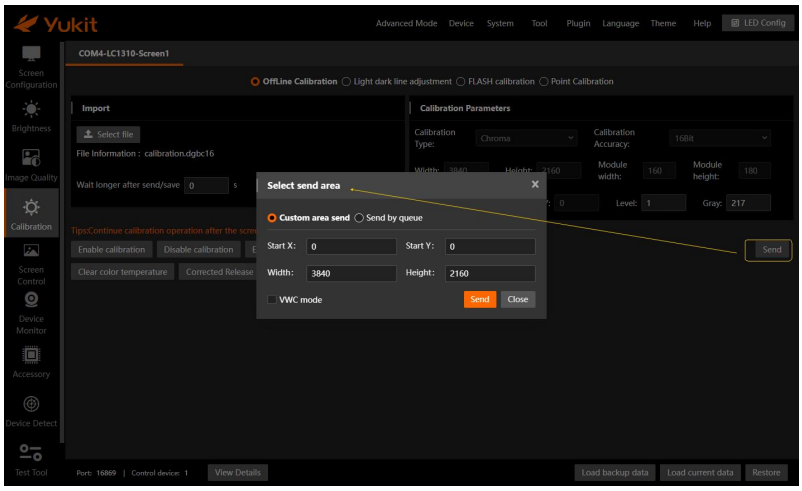
LED screen using a calibration file , the software operation steps are as follows:

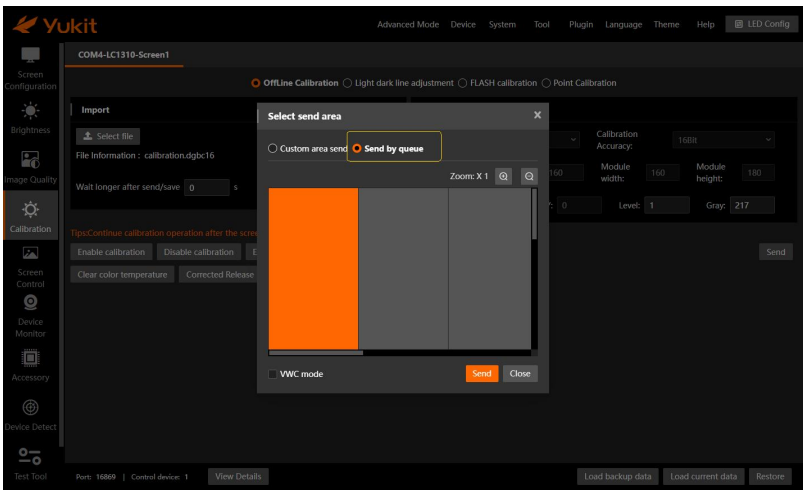
1. Click "Clear Color Temperature" to clear the color temperature setting and avoid affecting the calibration effect;
2. Click the "Close Repair" button to turn off the light and dark line adjustment function to avoid affecting the correction effect;
3. Click the "Select File" button to import the calibration file;
4. In the [Calibration Parameters] area, you can selectively adjust the correction level and target grayscale of the screen correction area;
5. Click the "Send" button to preview the correction effect;
6. Once you confirm that the calibration effect meets your requirements, click the "Restore" button to start the calibration and save the calibration parameters to the receiving card.
7. Once calibration is complete, the default display will show the calibrated result.



With multicast enabled, offline correction files can be sent to partitions. Multicast functionality can be enabled in the System Configuration interface; see section **8.6.5 System Configuration for details** .

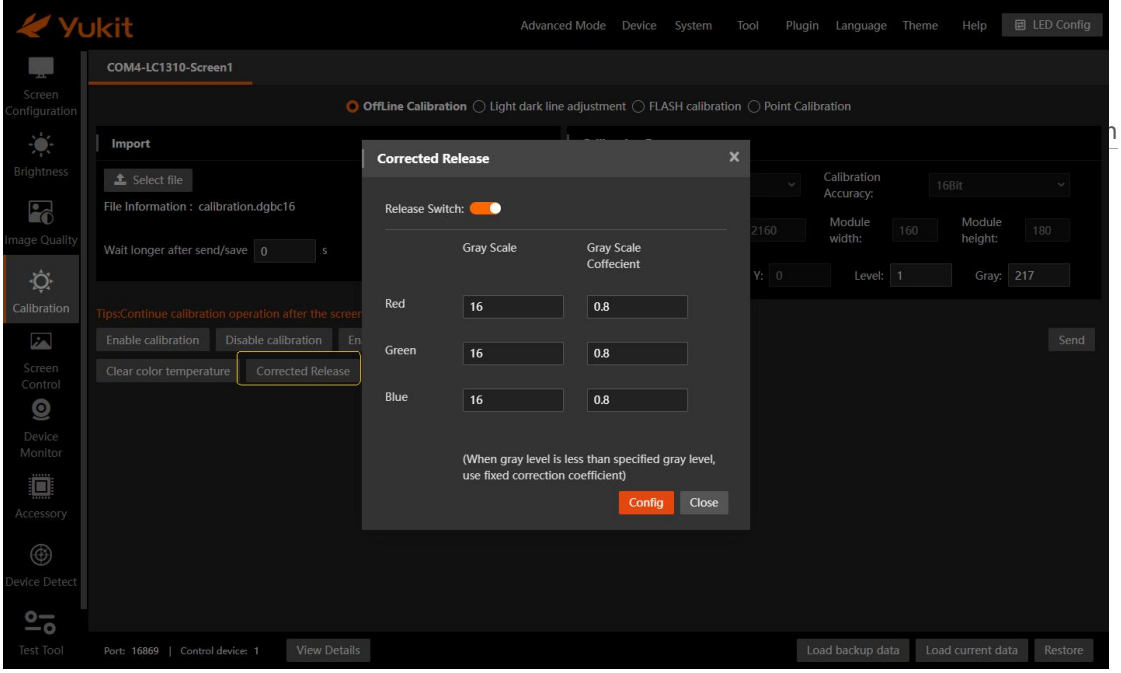
In the [Offline Calibration] interface, click the [Send] button to select "Custom send area" or "Send by queue". After selecting the area, click the [Send] button to preview the calibration effect. Once you confirm that the calibration effect meets your requirements, click the [Restore] button to start the calibration and save the calibration parameters to the receiving card.



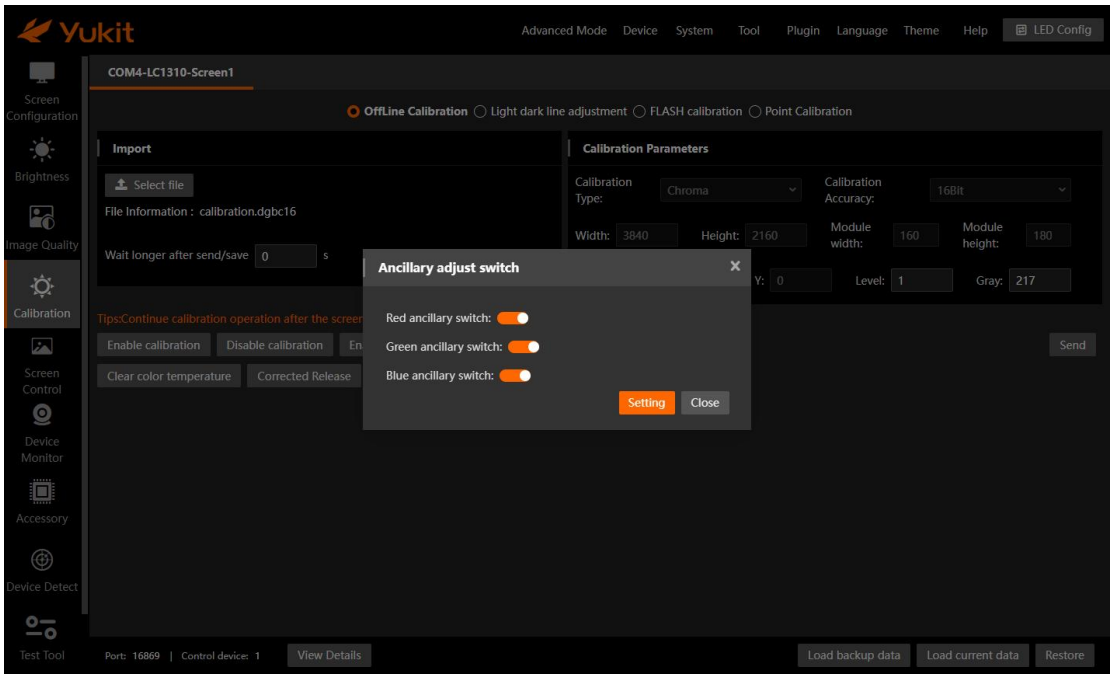


Other operations:

1. You can set a "wait longer after sending/saving" time to ensure that the calibration proceeds normally;
2. Click the "Open Seam Repair" button to enable the light and dark line adjustment function and view the superimposed effect of correction and seam repair;
3. Click the "Disable calibration" button to see the effect of turning off calibration;
4. Click the "Enable calibration" button to view the effect after correction;
5. Clicking the "Corrected Release" button allows you to set a fixed correction coefficient for the low grayscale portion of the RGB colors;



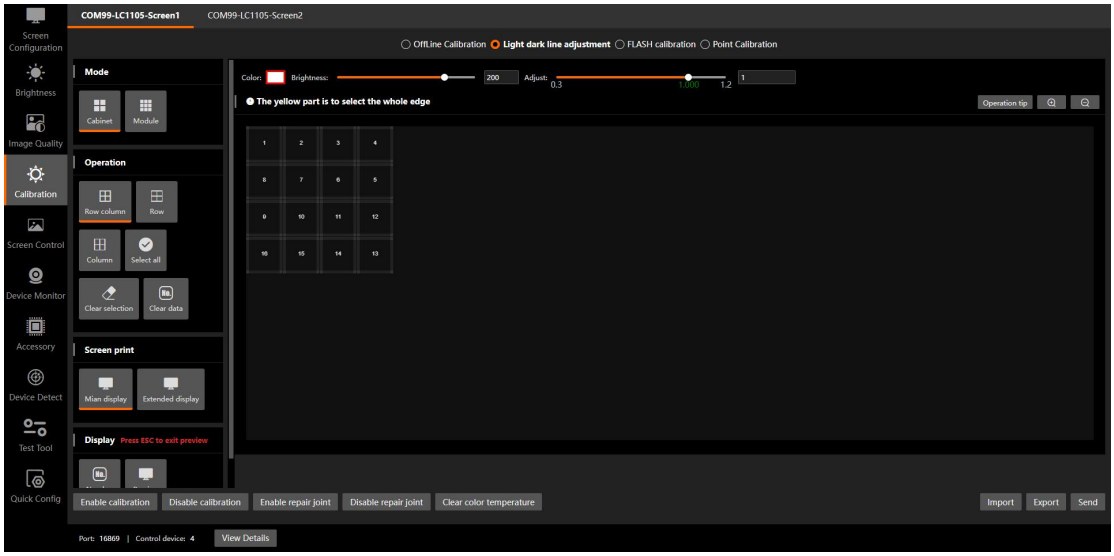
6. Clicking the "Ancillary adjust switch" button allows you to set whether to apply auxiliary coefficients;



6.2.2. Light dark line adjustment

LED screens are made up of multiple light panels or cabinets, and some physical gaps are inevitable during the splicing process. If the gaps between the light panels or cabinets are too large, the adjacent LED beads will be too far apart, and dark lines will appear; if the gaps between the cabinets are too small, the adjacent LED beads will be too close together, and bright lines will appear.

The software supports manual adjustment of the brightness of LED beads at the boundary of the cabinet or light panel, thereby eliminating bright and dark lines and improving the brightness uniformity of the screen.

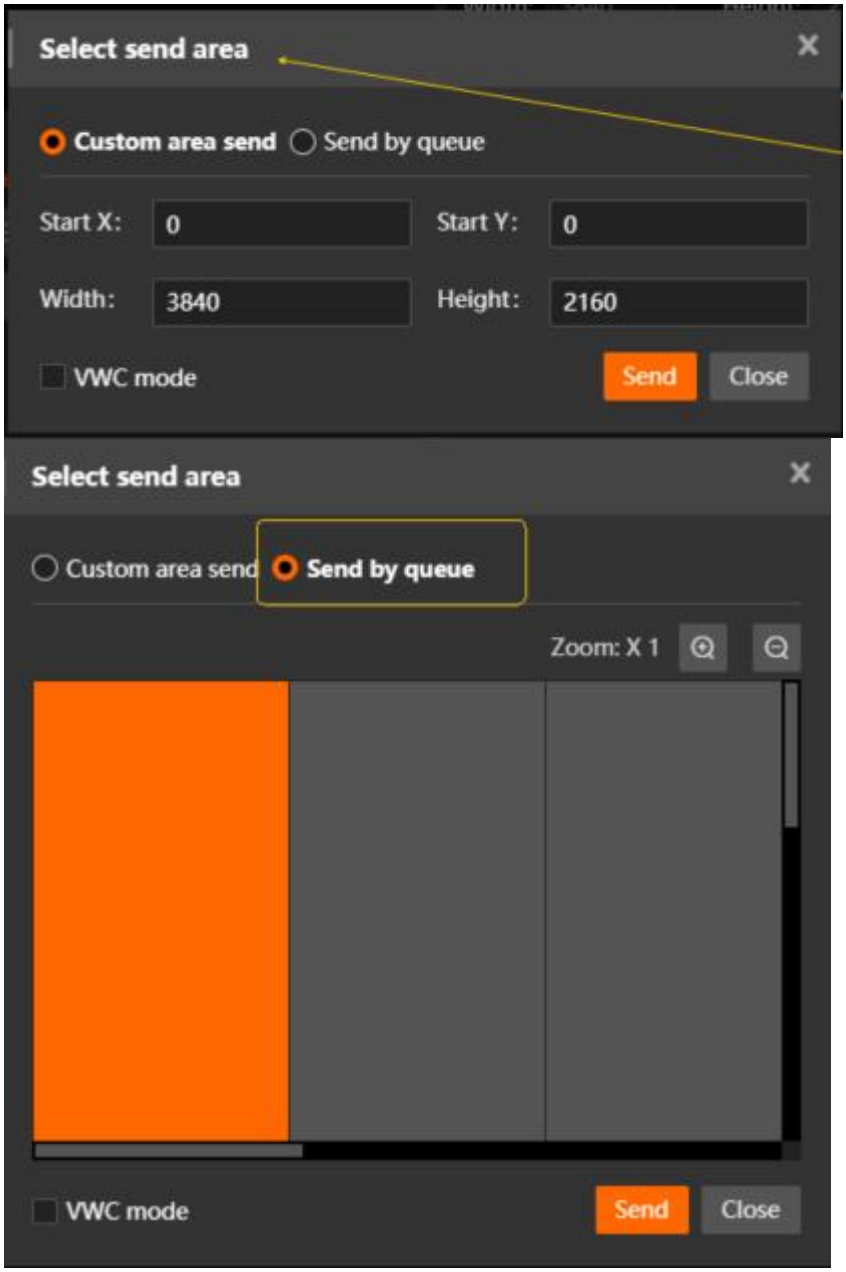


1. Click the "Clear Color Temperature" button to clear the color temperature setting and avoid affecting the calibration effect;
2. Click the "Disable calibration" button to turn off brightness and color temperature calibration to avoid affecting the calibration effect;
3. Select the LED screen mode based on the actual situation: cabinet mode or light panel mode;
4. Click the mouse to select the edge or point to be adjusted (click the "Row/Column Selection" / "Row Selection" / "Column Selection" option and then select the boundary to be adjusted by dragging a box).
5. Drag the slider in the [Screen print] area to adjust the screen brightness, and drag the slider in the [Adjust] area to set the adjustment coefficient; you can click the "Preview" and "Number" buttons to preview the adjustment effect in real time;
6. Click the "Send" button to start adjusting; the default display shows the adjusted effect.

Partition sending:

With multicast enabled, partitioned transmission of correction parameters is supported. Multicast functionality can be enabled in the System Configuration interface; see section **8.6.5 System Configuration for details**.

In the "Highlight and Dark Line Adjustment" interface, click the "Send" button. You can choose to "Custom area send" or "Send by queue". After selecting the area, click the "Send" button to start adjusting.



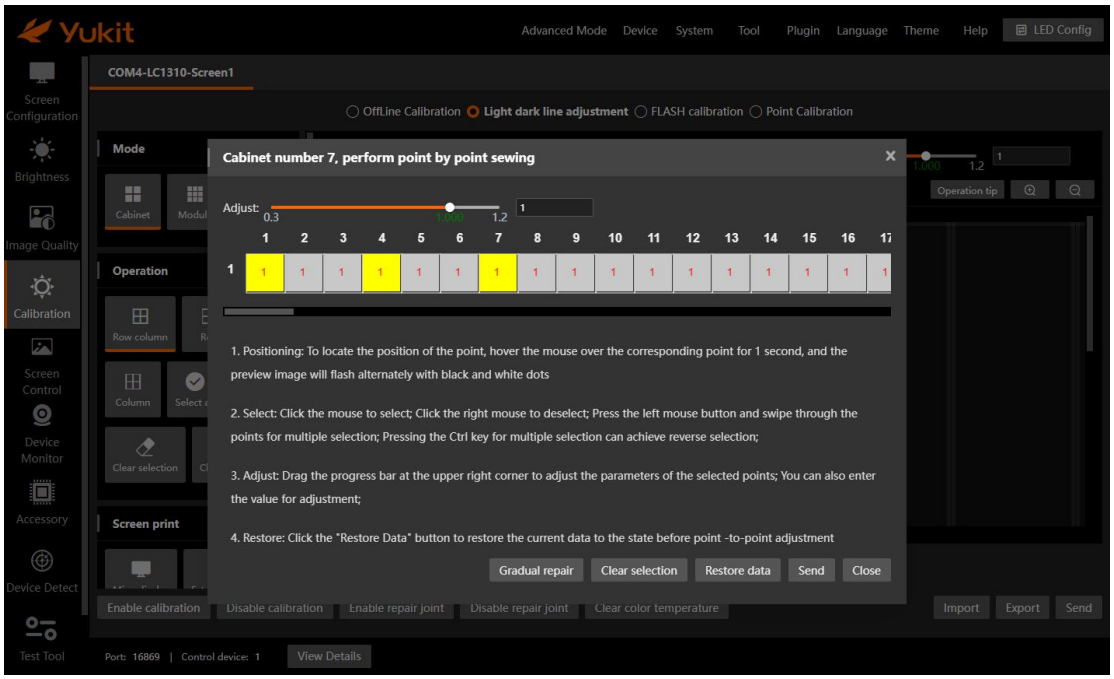
Other operations:

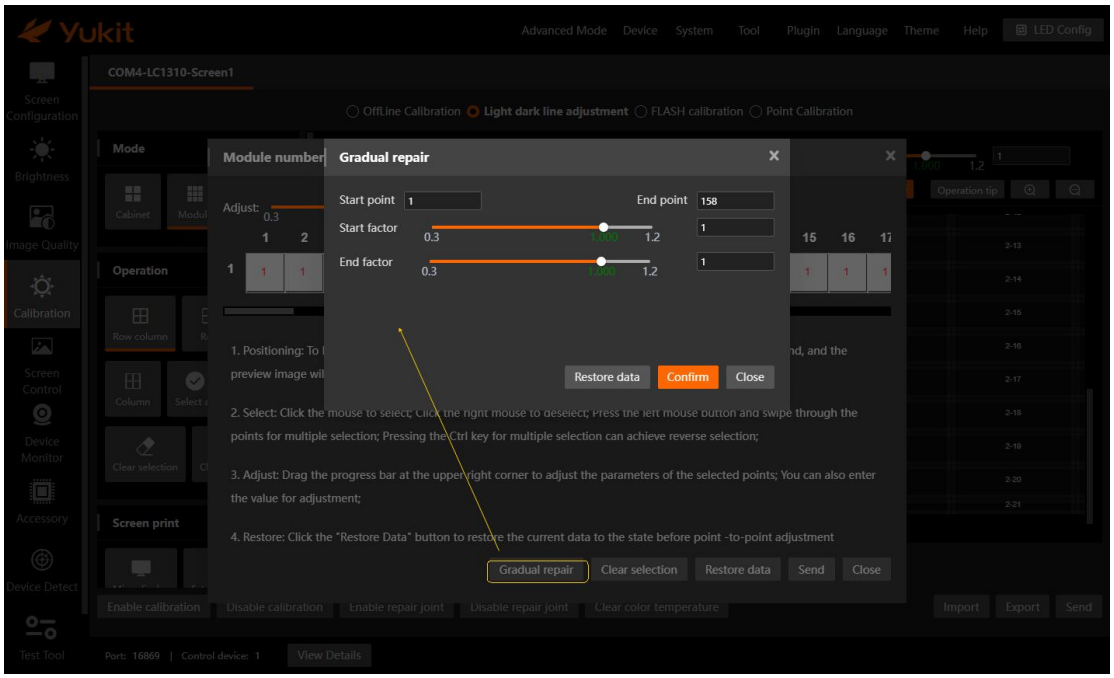
1. Click the "Enable Calibration" button to enable brightness and color calibration, and view the combined effect of calibration and seam correction;
2. Click the "Disable repair joint" button to see the effect of turning off seam repair;

3. Click the "Enable repair joint" button to see the effect after repair;
4. Click the "Export" button to save the configuration information to your local PC;
5. Clicking the "Import" button will import the saved configuration information into the device for quick configuration and improved efficiency.

Repairing seams point by point:

The software supports point-by-point seam correction. Double-click the row/column/point to be corrected with the left mouse button, and adjust the coefficients according to the prompts in the pop-up window; alternatively, click the "Gradual repair" button, select the start and end points, set the coefficients for the start and end points, and click the "Confirm" button to evenly distribute the coefficients across all light points within the range. After adjustment, click the "Send" button to begin the adjustment process.

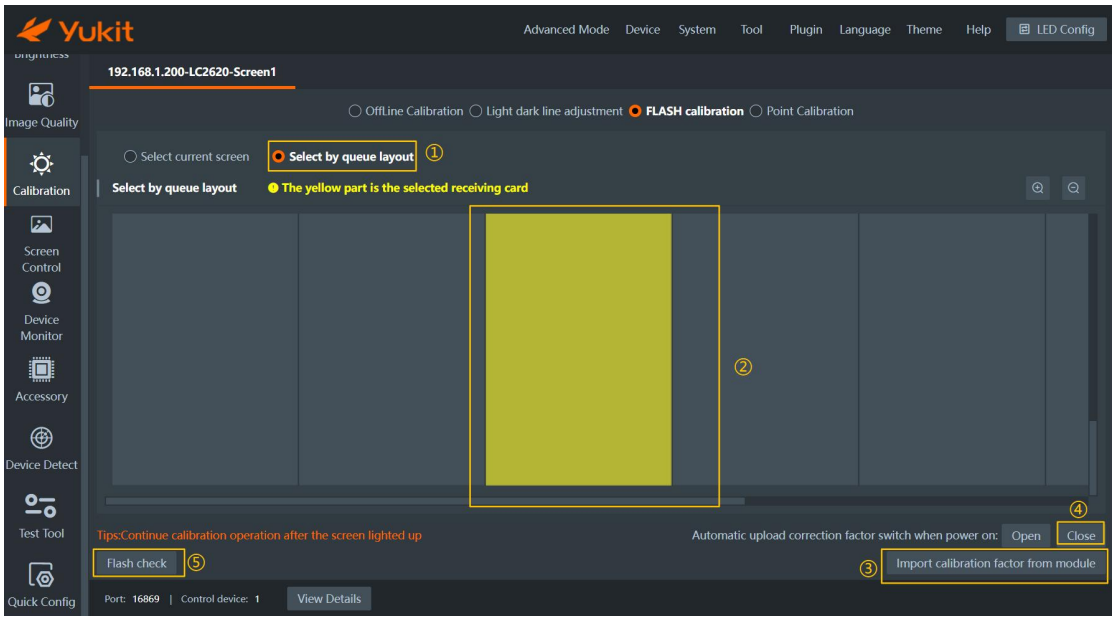




6.2.3. FLASH correction

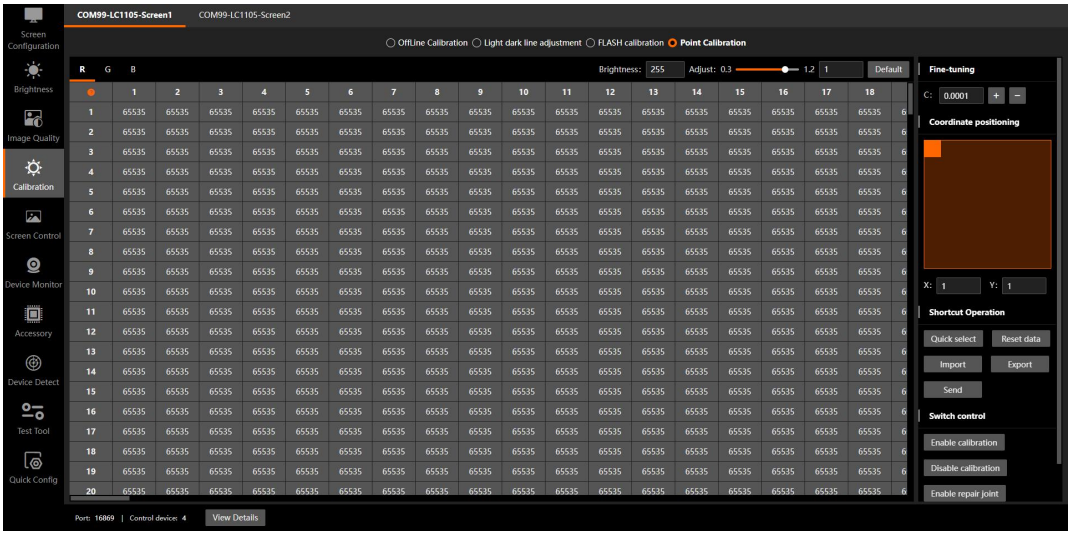
The receiving card can read and store the correction coefficients from the LED board FLASH .

1. Check "Select Current Screen" or "Select by queue layout";
2. If "Select by queue layout" is checked in step 1, the receiving card must be selected in the queue layout; if "Select current screen" is checked in step 1, all receiving cards are selected by default.
3. Click the "Import calibration factor from module" button to read the correction coefficients from the LED board FLASH; click the "Import Correction Coefficients from Receiving Card" button to read the correction coefficients from the receiver card connected to the LED board.
4. You can choose whether to turn on the "Automatically upload correction factor switch when power on";
5. Click the "Flash Check" button, and the software will automatically detect and display the Flash connection results;
6. Clicking the "Save Correction Coefficients to Receiving Card" button will save the correction coefficients read in step 3 to the receiving card.



6.2.4. Point calibration

Clicking the "Point Calibration" option allows you to edit the calibration coefficient for each light point. The calibration coefficient categories are displayed in the upper left corner; click to switch between them.



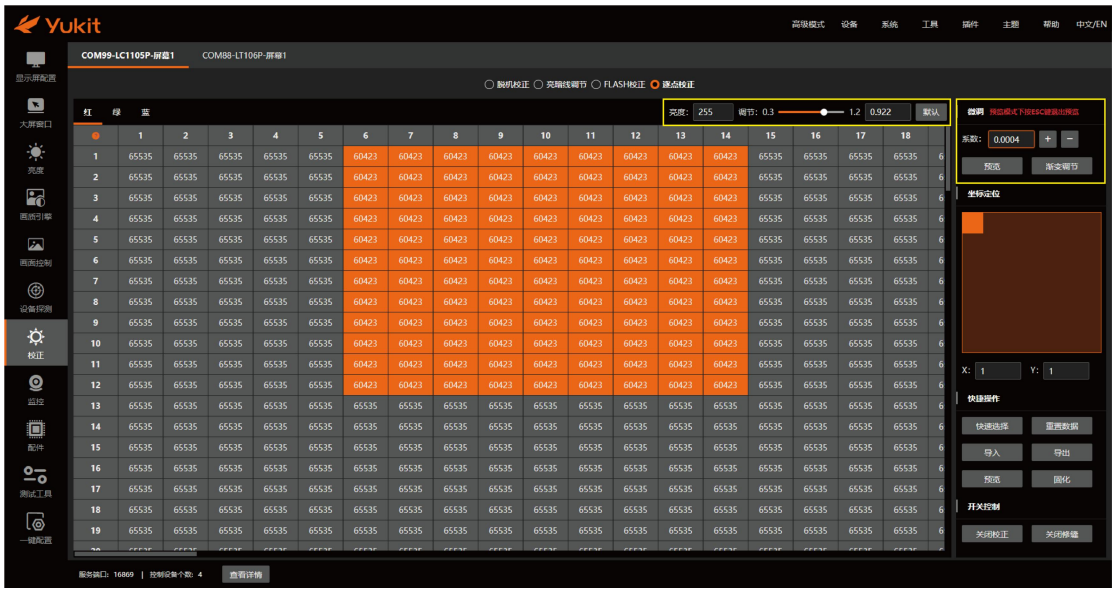
6.2.4.1. Adjustment coefficient

Select the light point that needs adjustment. In the [Brightness] section, you can adjust the brightness base value (0~255). Drag the slider to set the multiplier (adjustable from 0.3 to 1.2, default is 1). The actual brightness value = brightness base value * multiplier.

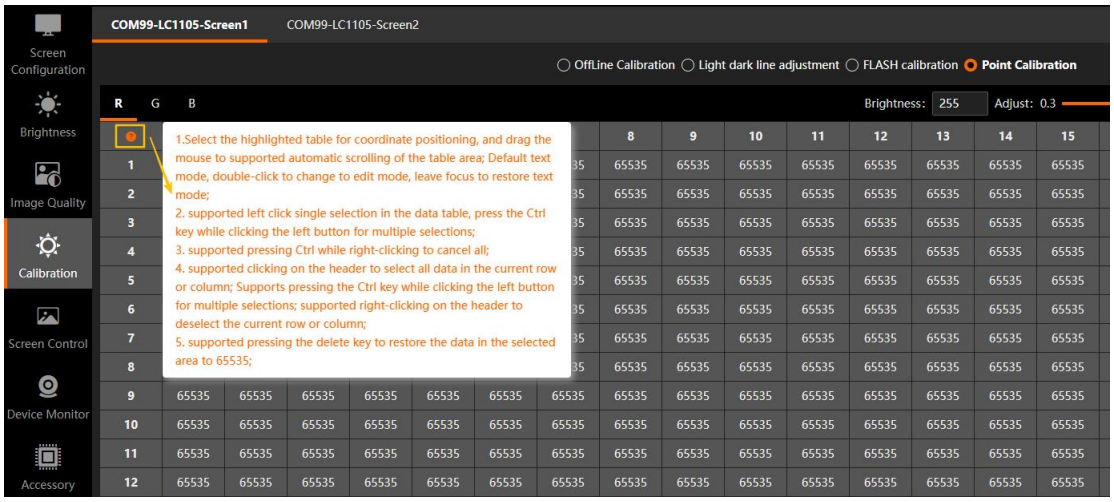
/ button − in the 【Fine-tuning】 area + allows you to fine-tune the correction coefficient of the currently selected light point. The step value can be set (0.001~1).

Click the "Preview" button to observe the correction effect in real time.

Click the "Gradient Adjustment" button, select the gradient direction (from left to right/from top to bottom), set the start point coefficient and end point coefficient, and click the "confirm" button. The coefficients of all lights within the range will be evenly distributed.

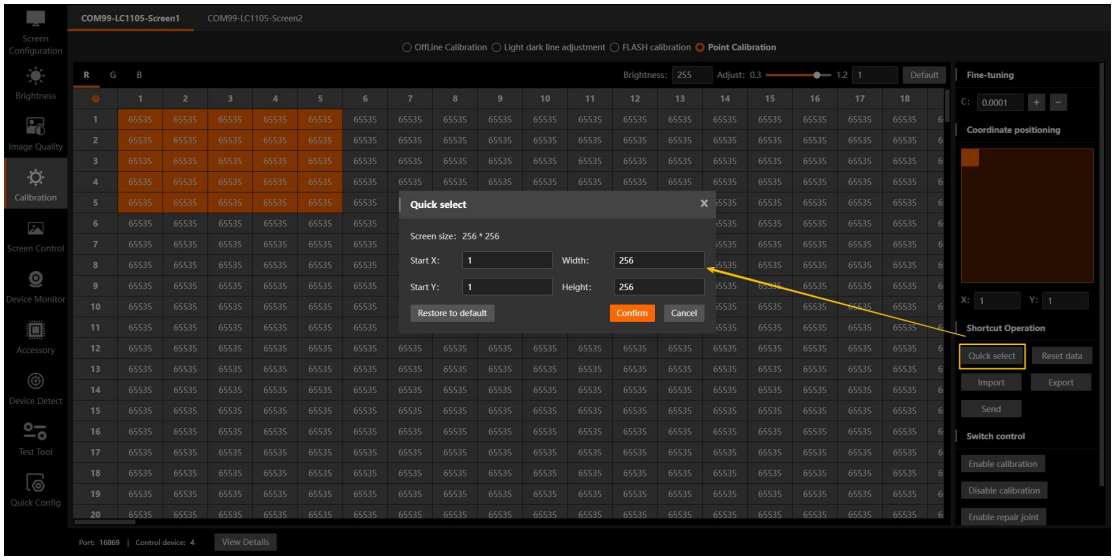


The software offers multiple ways to select light points. Hovering the mouse over the icon in the upper left corner will display operation prompts: it supports individual selection, batch selection, continuous selection, selection by row, selection by column, and deselection of light points in the table.



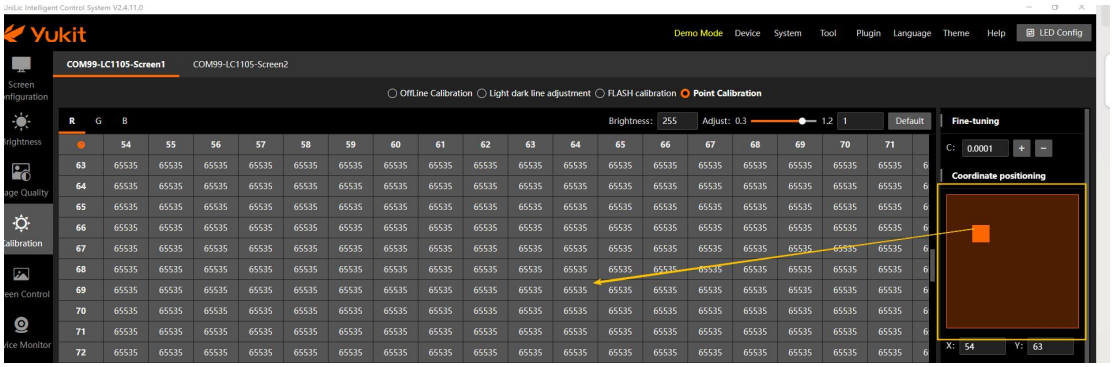
Supports quickly selecting all lights in a specified area.

Click the "Quick Select" button, enter the starting coordinates and width and height of the selected area (default is the full screen size), and click the "Confirm" button to select all lights within the area. Click the "Restore to default" button to restore the default values.



6.2.4.2. Coordinate positioning

In the "Coordinate Positioning" area on the right, drag the highlighted square to quickly adjust the data table to the specified coordinate area; you can also perform precise positioning by entering the X/Y coordinates (the starting position of the data table).



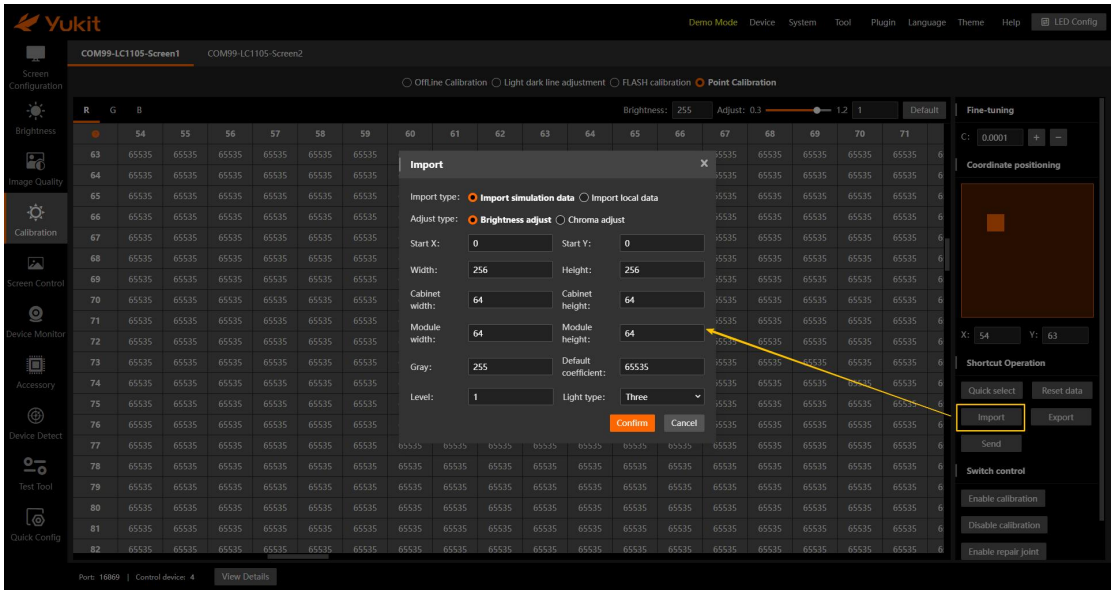
6.2.4.3. Import coefficient

If the current correction factors do not meet your needs, you can choose to import new correction factors. Click the "Import" button to configure them in the pop-up window.

When selecting **"Import stimulation Data" as the import type** , you need to specify the calibration type, start position (start X & start Y), screen width & height, cabinet width & height, module width & height, target grayscale, default coefficient, calibration level, and LED type.

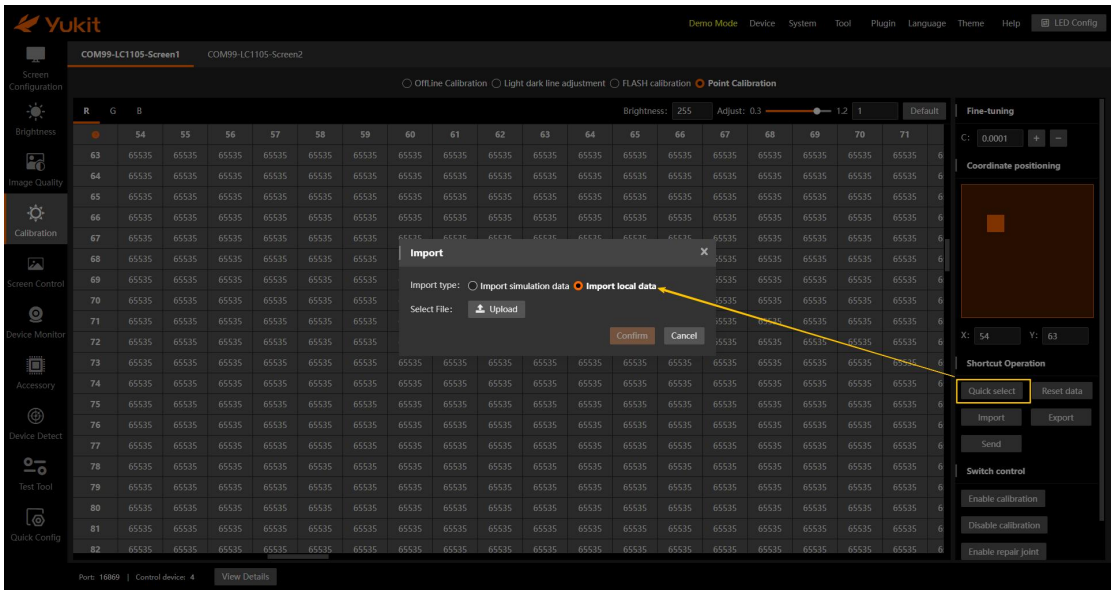
The correction types support "Brightness adjust" and "Chroma adjust". Specifying "brightness correction" will generate three coefficients: red, green, and blue. Specifying "brightness/chromaticity correction" will generate nine coefficients: red x, red y, red z, green x, green y, green z, blue x, blue y, blue z.

Click the "Confirm" button to generate editable correction data.



Select **"Import Local Data" as the import type** . This allows you to browse and upload local DGBBC16 coefficient files. After selection, the file's validity will be

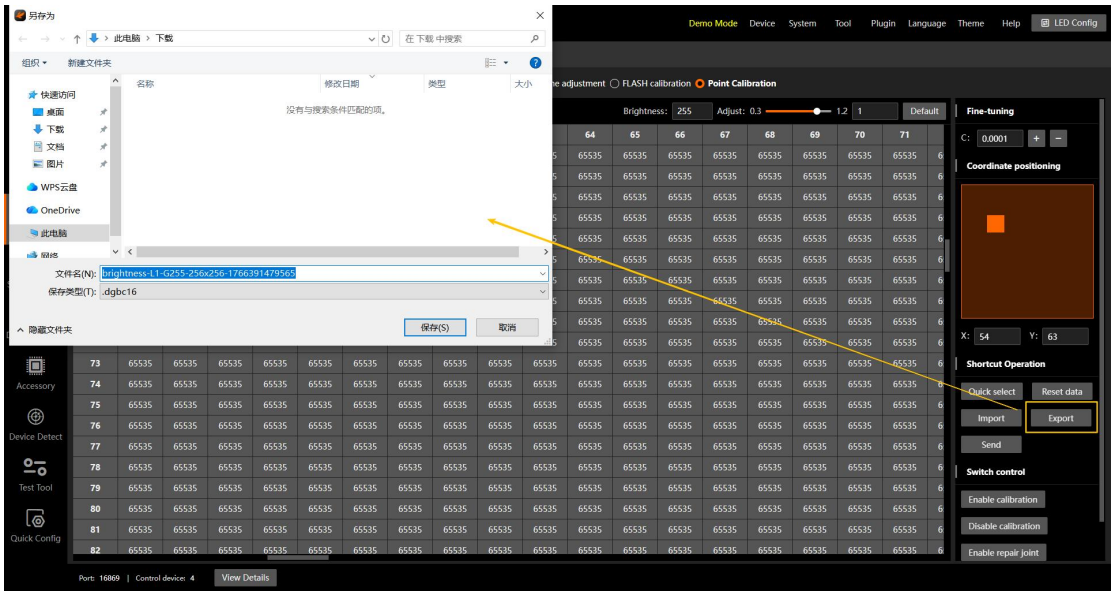
verified. If the file is valid, it can be imported. Click the "Confirm" button to generate editable calibration data.



6.2.4.4. Export coefficient

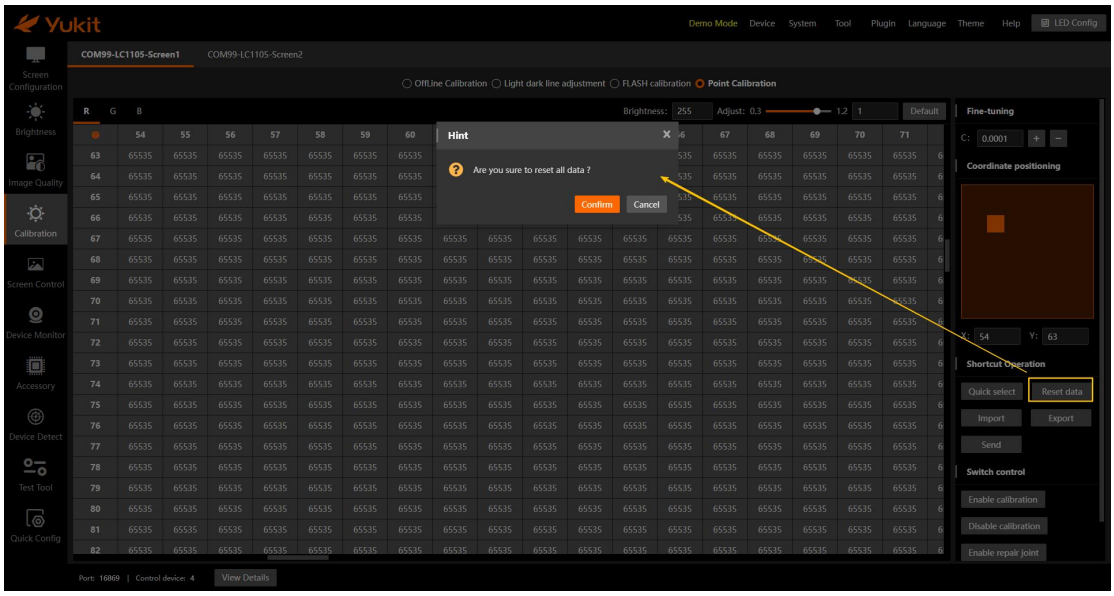
It supports exporting the current correction coefficients to a local PC for saving.

Click the "Export" button to bring up the export file save window (if the file is too large, there will be a certain waiting time). Click the "Save" button to save the current DGBBC16 calibration file to your local PC.



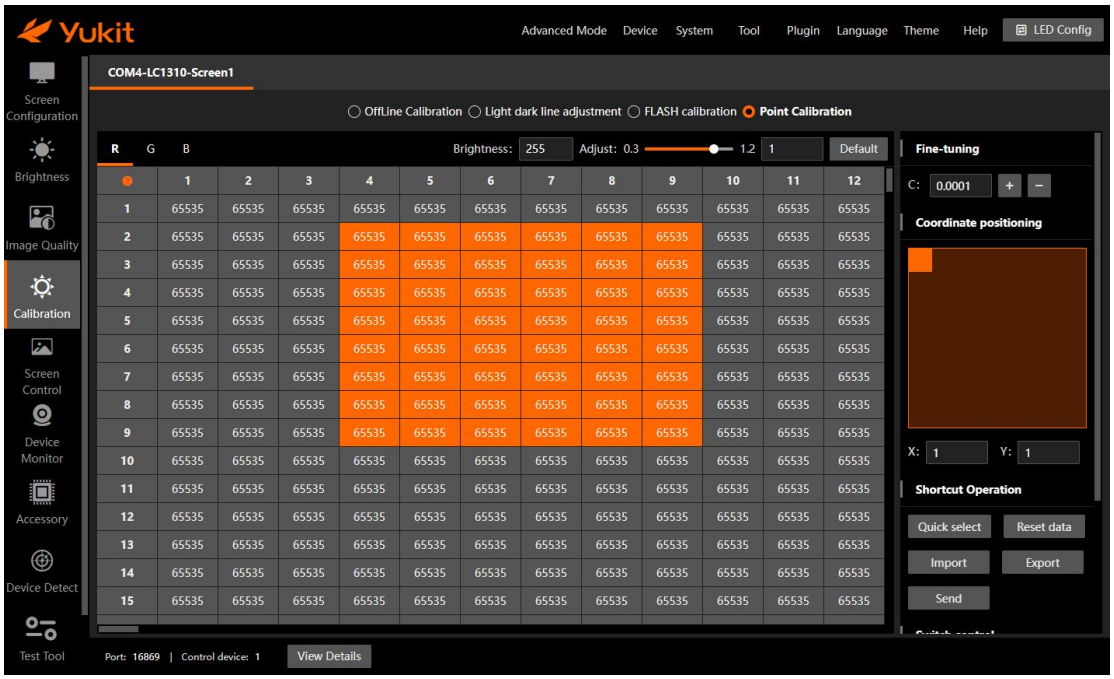
6.2.4.5. Reset data

Click the "Reset Data" button in the "Shortcut Operation" area to restore the correction data to its initial state.



6.2.4.6. Sending coefficient

Before sending the coefficients, to reduce the influence of the original coefficients, you can choose to click the "Enable calibration" and "Disable repair joint" buttons. Clicking the "Preview" button will upload the coefficients to the receiving card and preview the effect. After confirming that the effect meets the requirements, click the "Save" button to save the coefficients to the receiving card.



7. Accessories

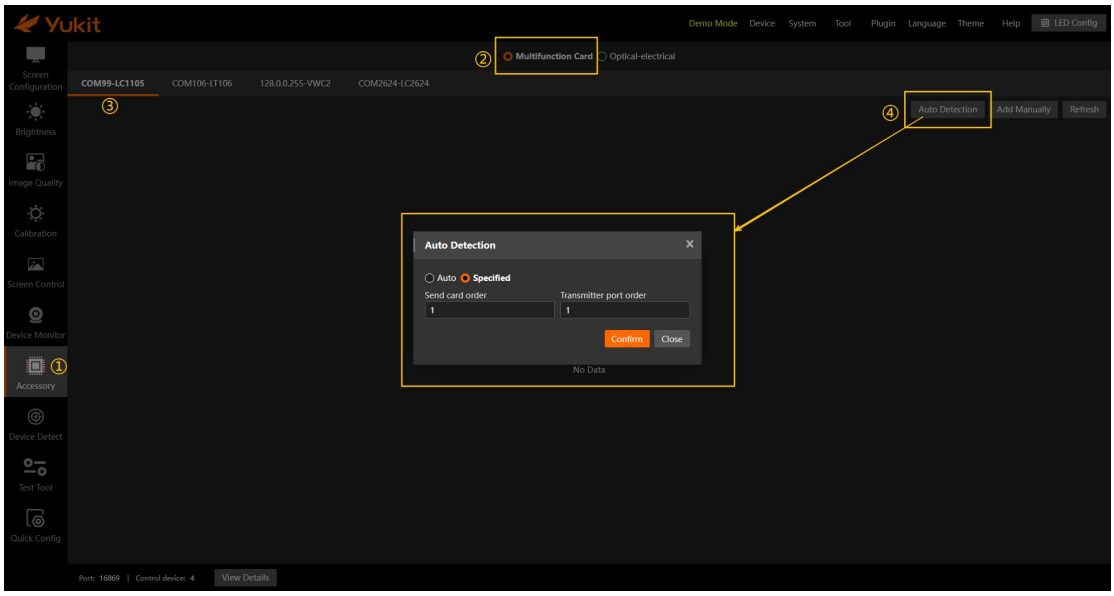
7.1. Multi-function card

If the LED controller is connected to a multi-function card, its parameters can be set in the [Accessory] interface. It supports manual control of relay on/off, as well as timer control and temperature control.

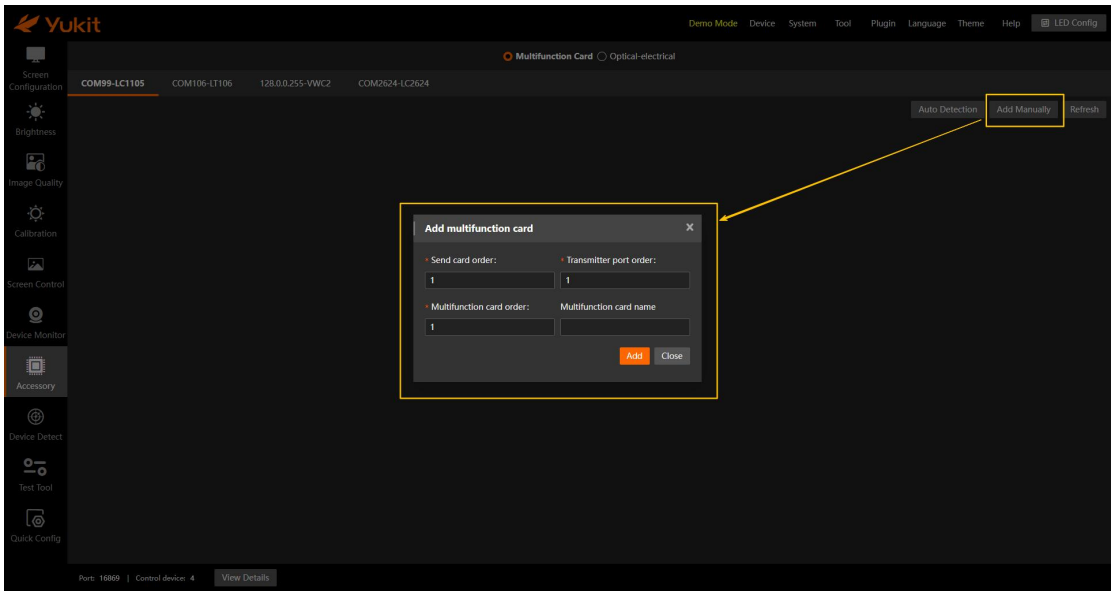
7.1.1. Add multi-function card

Click the "Accessory" option in the menu bar, switch to the "Multifunction Card" tab, select the device connected to the multifunction card, and then click the "Auto Detection" button. The software will automatically detect the multifunction card connected to the device.

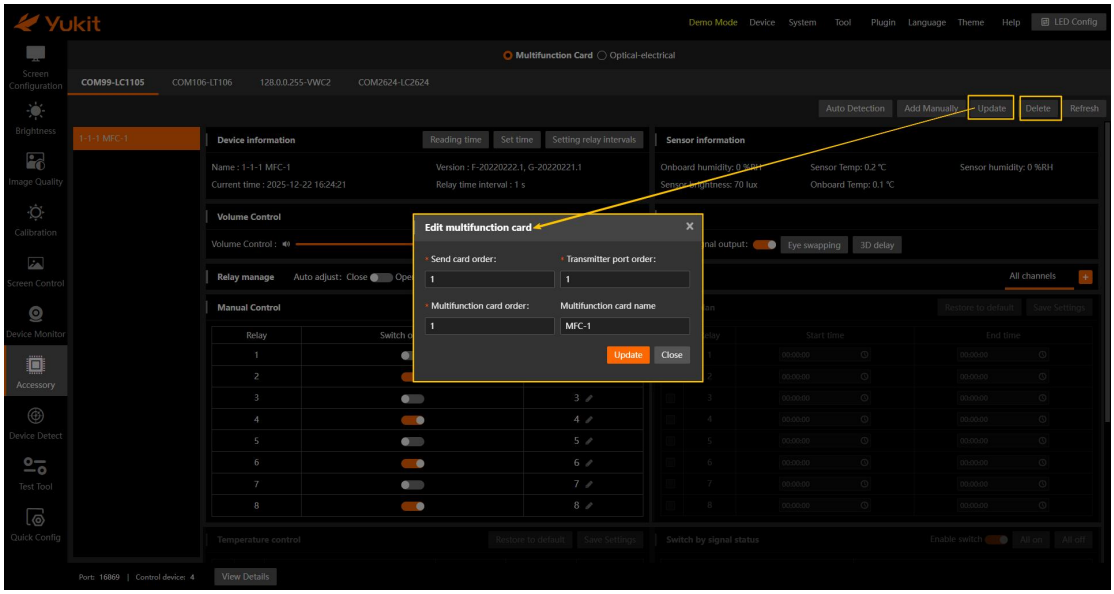
- Select "Auto": Detects all network ports of all sending cards on this device;
- Select "Specified": Only detect the specified network port.



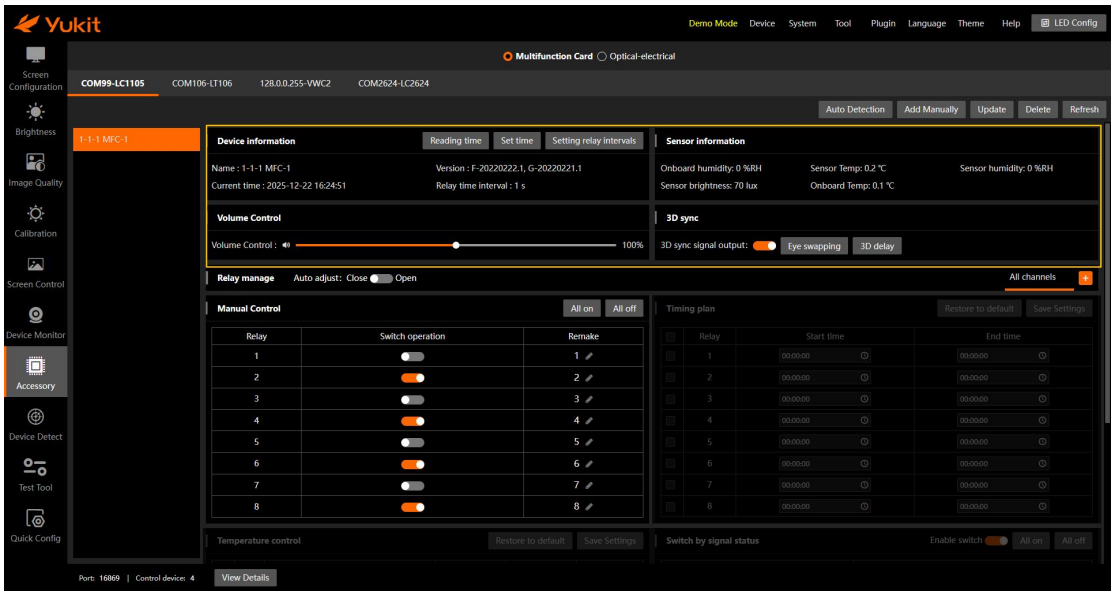
The software also supports manually adding multi-function cards. Click the "Add Manually" button, and in the pop-up window, enter send card order connected to the multi-function card, transmitter port order, multifunction card order and its name. Then click the "Add" button.



Added multifunction cards will be displayed in the list on the left. Click to select a card to update its information (including the send card order connected to the multifunction card, transmitter port order, multifunction card order and its name) or delete it.



In the [Device Information] area, you can read and set the time and set the relay interval; in the [Volume Control] area, you can adjust the output volume; in the [3D Sync] area, you can turn the 3D synchronization signal output on/off and switch between the left and right eyes of the 3D signal; in the [Sensor Information] area, you can view external sensor information.



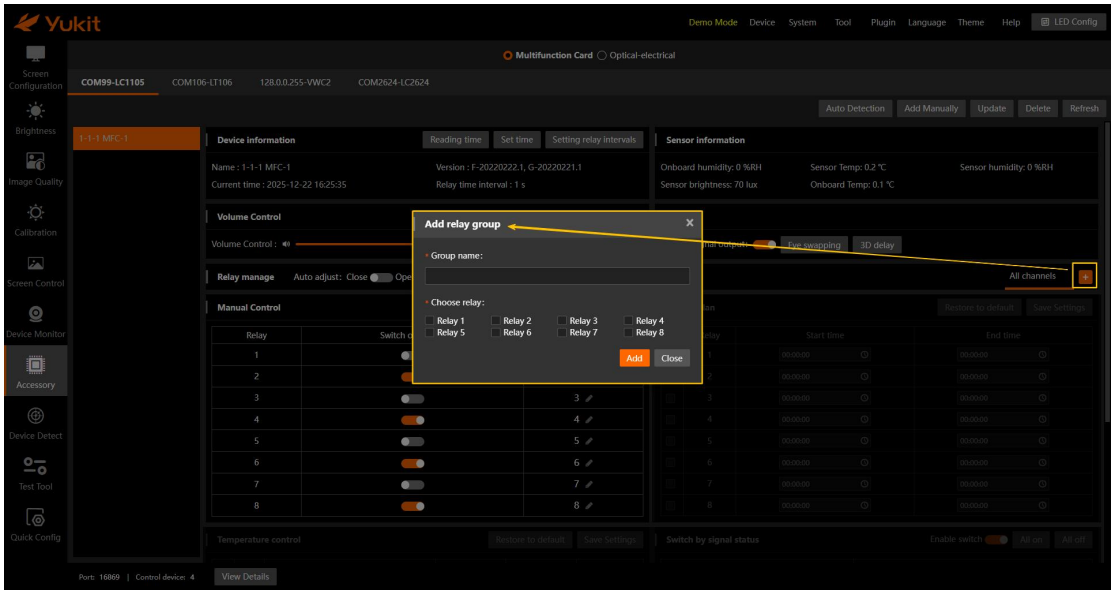
7.1.2. Relay Management

The relays on and off of the multi-function card can be controlled via software, supporting manual control, automatic control, and software control.

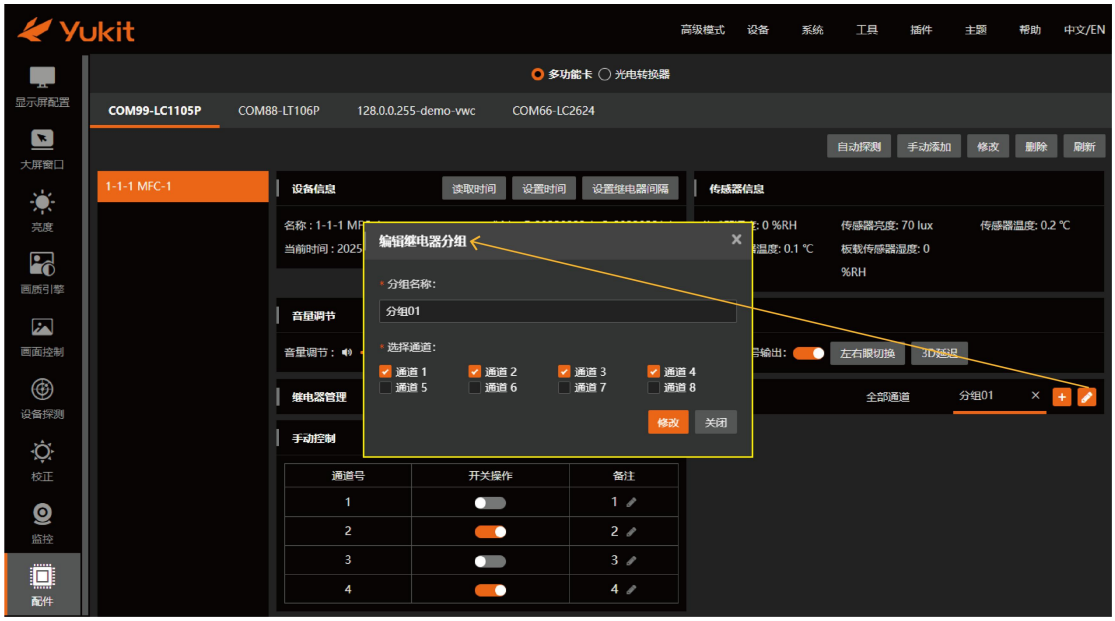
7.1.2.1. Relay grouping

When there are many relay channels, you can click the button on the right to group the channels for easier management. The default group is "All Channels".

In the pop-up window, enter the group name and check the channels, then click the "Add" button.



Select the added group and click the button to edit the group information.



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7.1.2.2. Manual control

Select the "Add Manually" option, click "Switch Operation" to control the on/off state of a single channel, click the "All On/All Off" button to control the on/off state of all channels with one click, and click the button to modify the channel notes.

7.1.2.3. Automatic control

Selecting the "Automatic Control" option supports timed control, temperature control, and turning the large screen on and off based on the signal source status.

1. Timing Plan

Channel timing is controlled using the multifunction card's internal timing system. Locate the "Timing Plan" area, click "Repeat Method" to set the channel's opening date, and click "Start Time/End Time" to set the channel's opening and closing times respectively. After setting, click the "Save Settings" button to save your changes.

2. Temperature control

Locate the "Temperature Control" section, select the action to perform from the drop-down menu, and then set the temperature limit value. If an external sensor is configured, you can choose to use the temperature data from the external sensor. After setting, click the "Save Settings" button to save your changes.

3. Switch the large screen on/off according to the signal source status.

Connect the relay of the multi-function card to the power supply of the large screen. The on/off state of the relay channel can be controlled according to whether there is a signal source window on the large screen. When there is a signal source window on the large screen, the channel is open; when there is no signal source window on the large screen, the channel is closed.

Locate the "Switch the large screen according to signal source status" area, turn on the "Enable Switch" function, and set the channel "Enable" to be turned on/off according to actual needs.

7.1.2.4. Software control

Selecting the "Software Control" option allows you to create a timed schedule through the control software, thereby controlling the on/off state of the multifunction card's relay channels.

Click the "Add" button, and in the pop-up window, set the channel number, repeat method, start time, and end time in sequence. Click the "OK" button to add a timed schedule.

Locate the scheduled schedule, click "Repeat Method/Start Time/End Time" to modify the schedule; check the scheduled schedule, click the "Delete" button to delete the schedule; click the "Clear" button to delete all schedules; click the

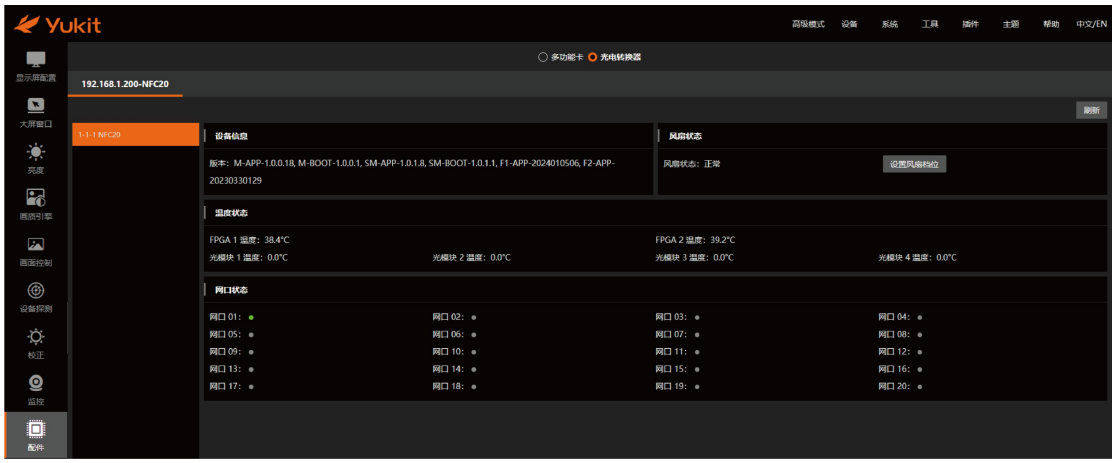
"Export" button to save all schedules to a file and export them to your local PC; click the "Import" button to import schedules from your local PC; click the "Export Log" button to save the schedule execution log to a file and export it to your local PC.

7.2. Photoelectric converter

After the control device is connected to the photoelectric converter, it can view the device information of the photoelectric converter, fan status, temperature status and network port status, and supports fan speed adjustment.

Click the "Accessories" option in the menu bar, switch to the "Optical-electrical" tab, and the software will automatically detect the optical converter connected to the device and display it in the list on the left. Click on the device to view its relevant information.

Click the "Set Fan Speed" button to set the fan speed in the pop-up window.



8. System Tools

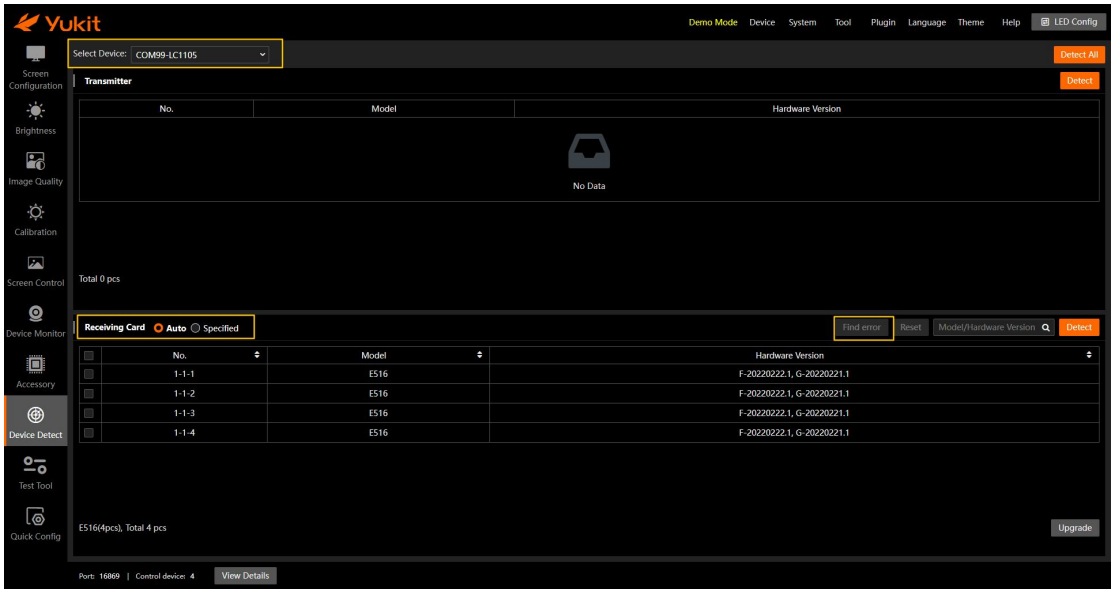
8.1. Equipment detection

Click the "Device Detection" option in the menu bar to view the sending and receiving card information managed by a certain communication port through the software.

In the "Device Selection" drop-down menu, select the communication interface. Click the "Detect" button in the "Sending Card" area to view the sending card information for the current communication port; click the "Detect" button in the "Receiving Card" area to view the receiving card information; click the "Detect All Cards" button to view the information for both sending and receiving cards simultaneously. The detection process can be interrupted midway; simply click the "Cancel" button in the pop-up window.

Select the receiving card and click the "One-Click Error Finding" button to detect if there are any abnormalities in the current receiving card.

Select the receiving card and click the "Select Upgrade" button to upgrade the receiving card firmware. For detailed instructions, please refer to **section 8.7.1 Firmware Upgrade**.

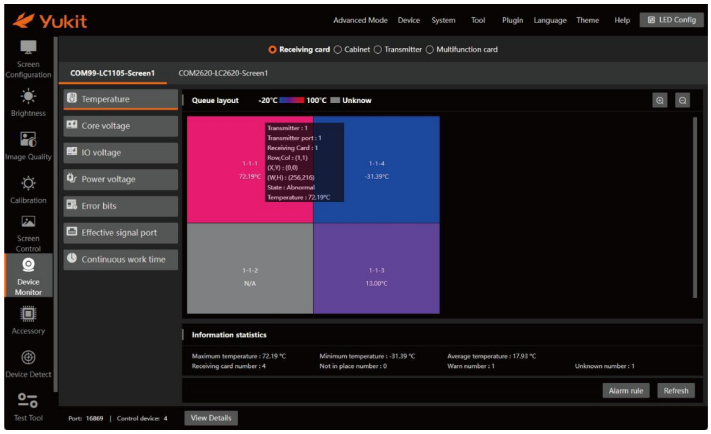


8.2. Device Monitor

In the [Menu Bar], click the "Device Monitor" option to enter the monitoring interface, and the software can monitor the operation status of the receiving card, the cabinet, the LED transmitter and multifunction card.

8.2.1. Receiving card monitoring

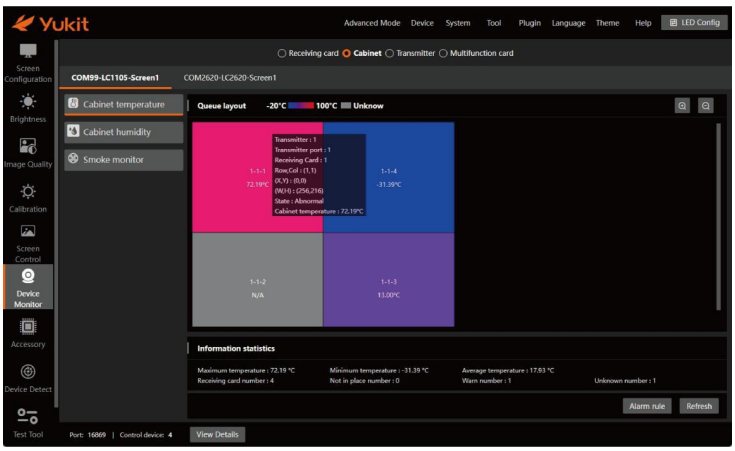
Clicking the "Receiving Card" option to view the real-time status of the receiving card, including the receiving card temperature, core voltage, IO voltage, Power voltage, error bits,effective signal port, and continuous work time.



8.2.2. Cabinet monitoring

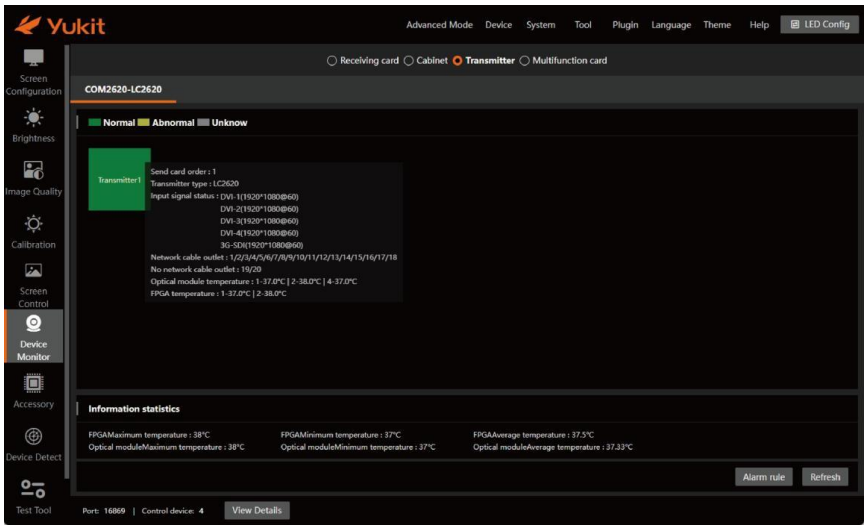
Click the "Cabinet" option to view the real-time status of the cabinet, including cabinet temperature, humidity, and smoke monitor.

Note: Only some LED cabinets support this function, please consult our sales staff for details.



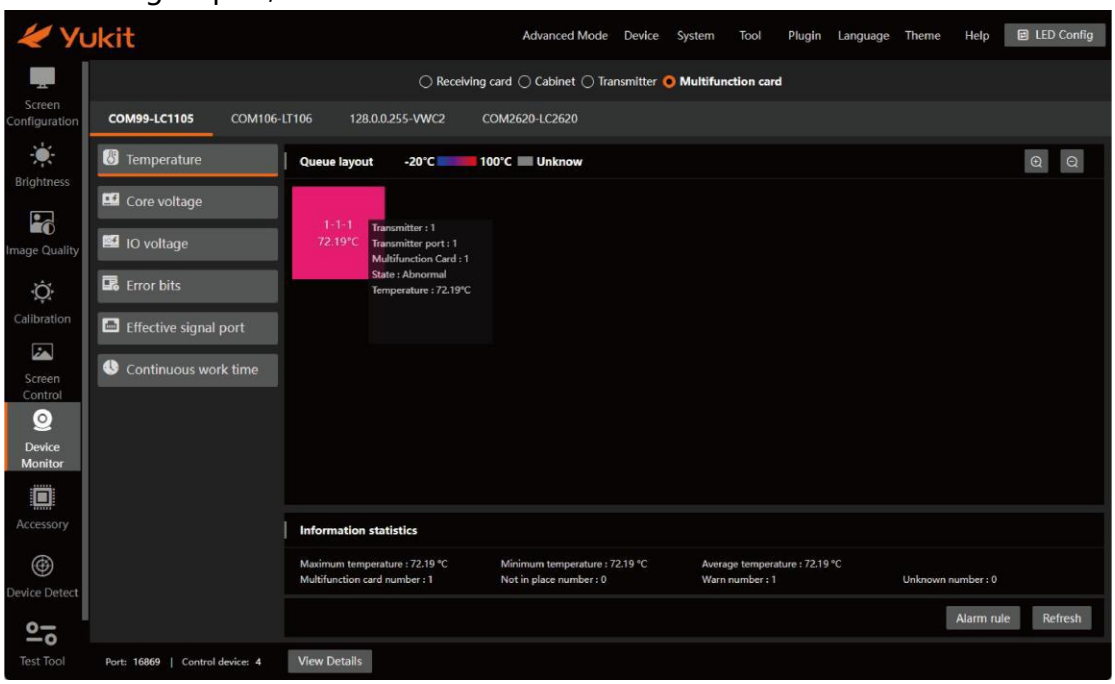
8.2.3. LED Transmitter monitoring

Click the "Transmitter" option to view the real-time status of the LED Transmitter, including the LED Transmitter Order, Type, Input Signal Resolution, Output Network Port Usage, Optical Module Temperature, and FPGA Temperature.



8.2.4. Multi-function card monitoring

Click the "Multifunction card" option to view the real-time status of the multi-function card, including the Temperature, Core voltage, IO voltage, Error bits, Effective signal port, and continuous work time.



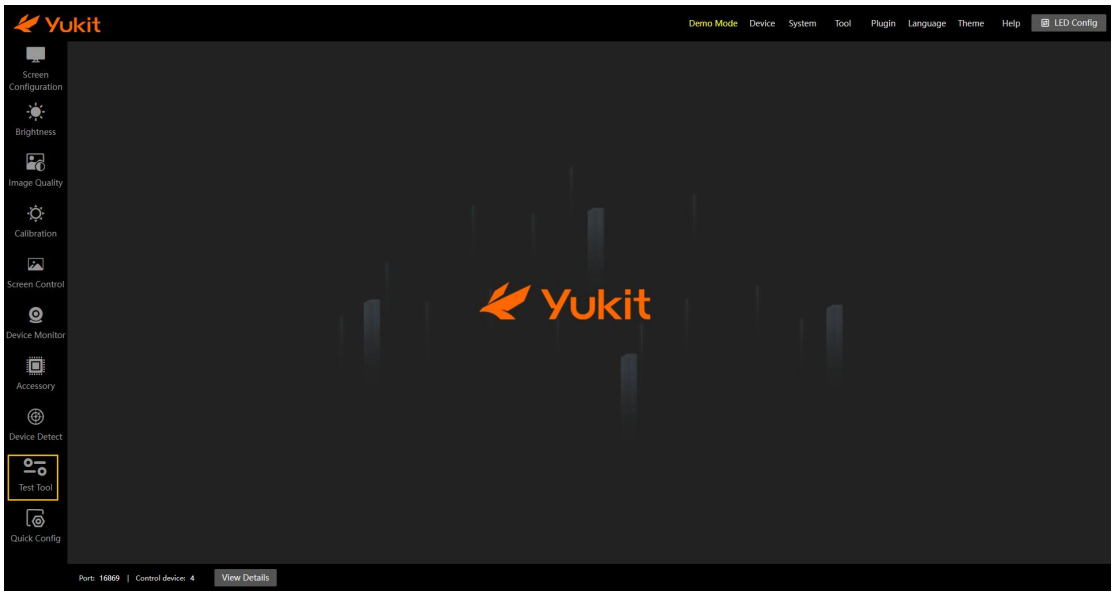
8.3. Testing tools

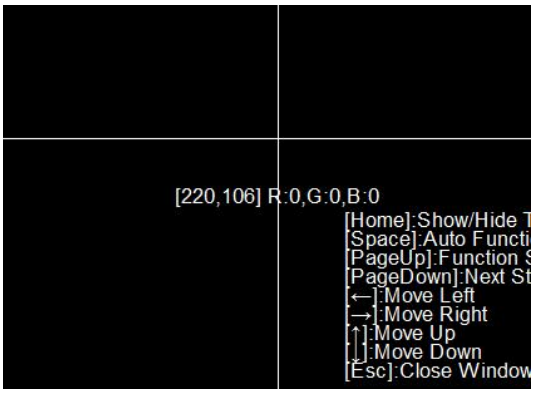
Prerequisites for using testing tools:

① PC and the controller using video and control cables , and ensure that the network cable connection between the controller and the receiver card is normal, and the ribbon cable connection between the receiver card and the light board is normal.

② Set the PC to copy mode and the resolution scaling to 100 % .

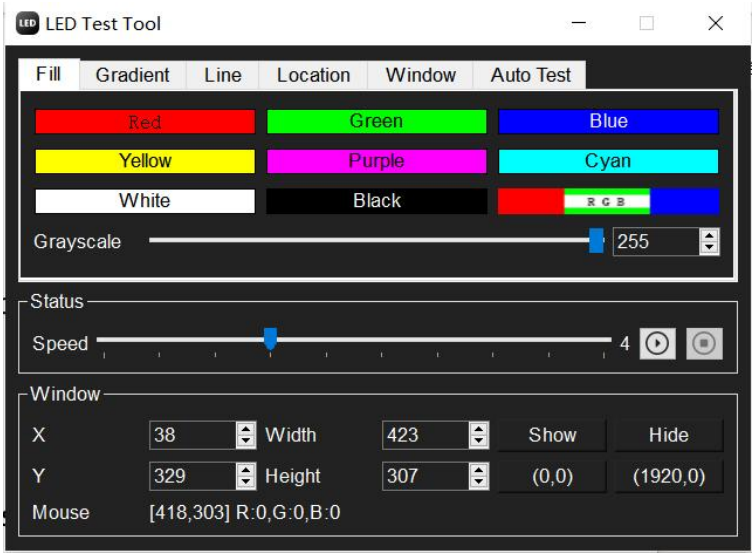
Click the "Test Tool" option in the menu bar to enter the LED test tool interface. The test tool includes fill, gradient and line test screens, and can perform cabinet positioning tests and automatic tests.





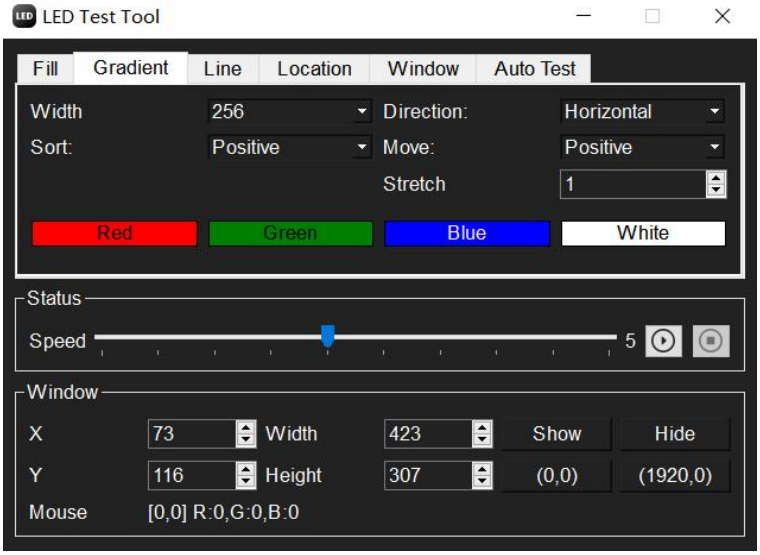
1. filling

Switch to the "Fill" tab to use a solid color test screen to test whether the grayscale change process (cycles from 1 to 255) is abnormal.



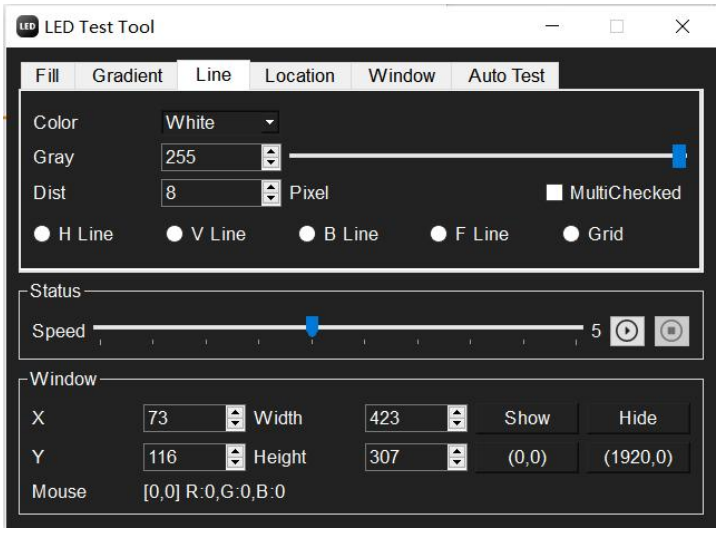
2. Gradient

Switch to the "Gradient" tab to use the gradient test screen.



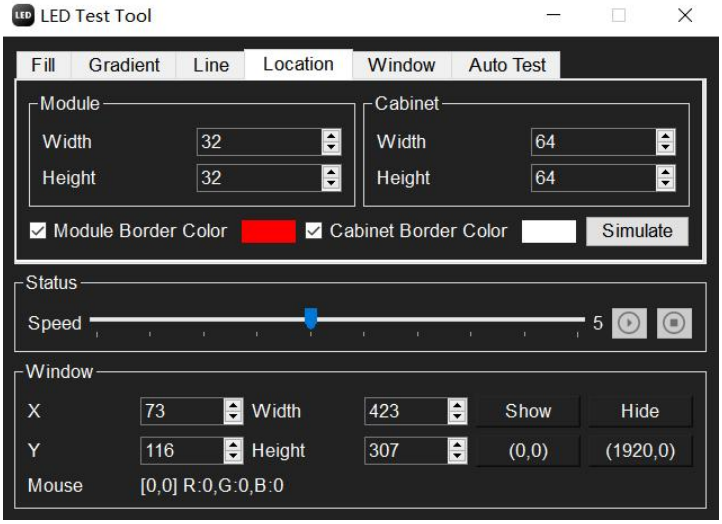
3. Line

Switch to the "Lines" tab to use the line-based test screen.



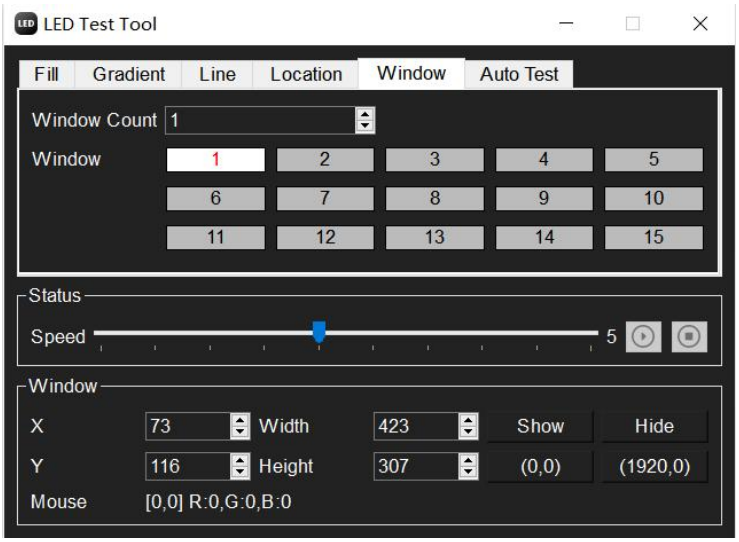
4. Location

LED screen queue layout can be simulated using testing tools . Switch to the "Positioning" tab, enter the module and cabinet sizes, and click the "Simulate" button to display the queue numbers of the modules and cabinets on the LED screen.



5. Window

can be displayed on the LED screen. Switch to the "Window" tab to set the number of windows; a maximum of 15 test windows are supported. Click and drag with the mouse to change the window position.

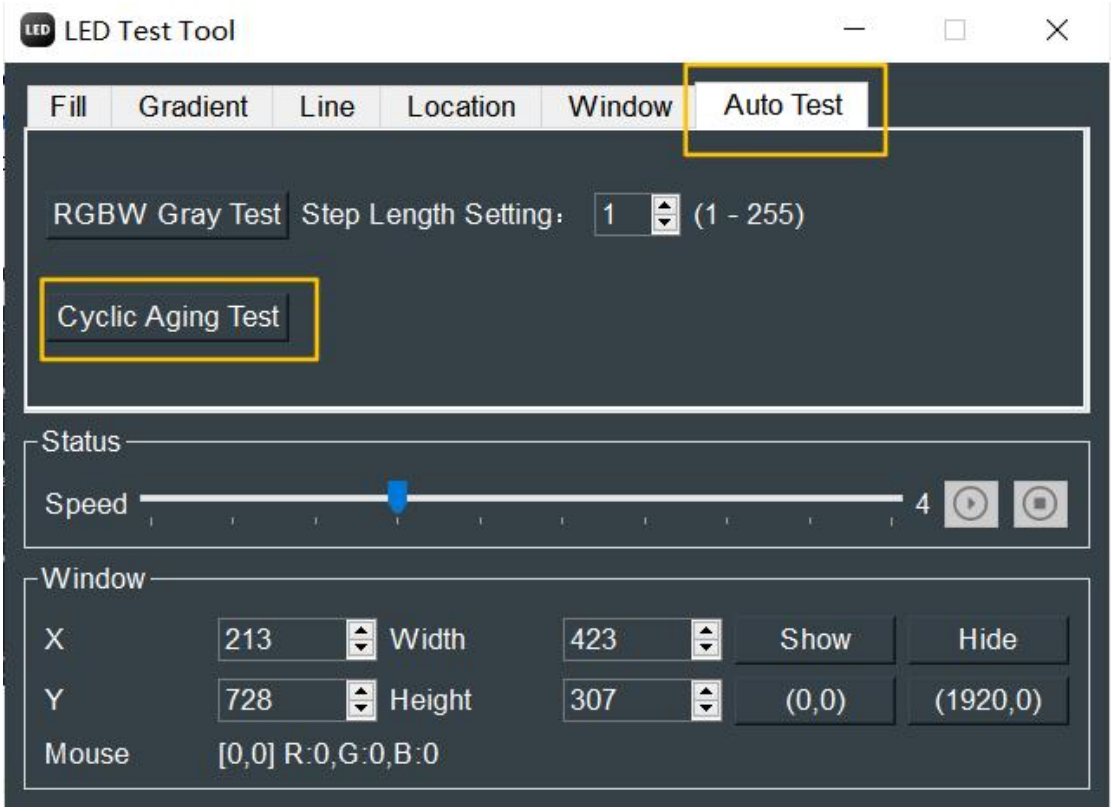


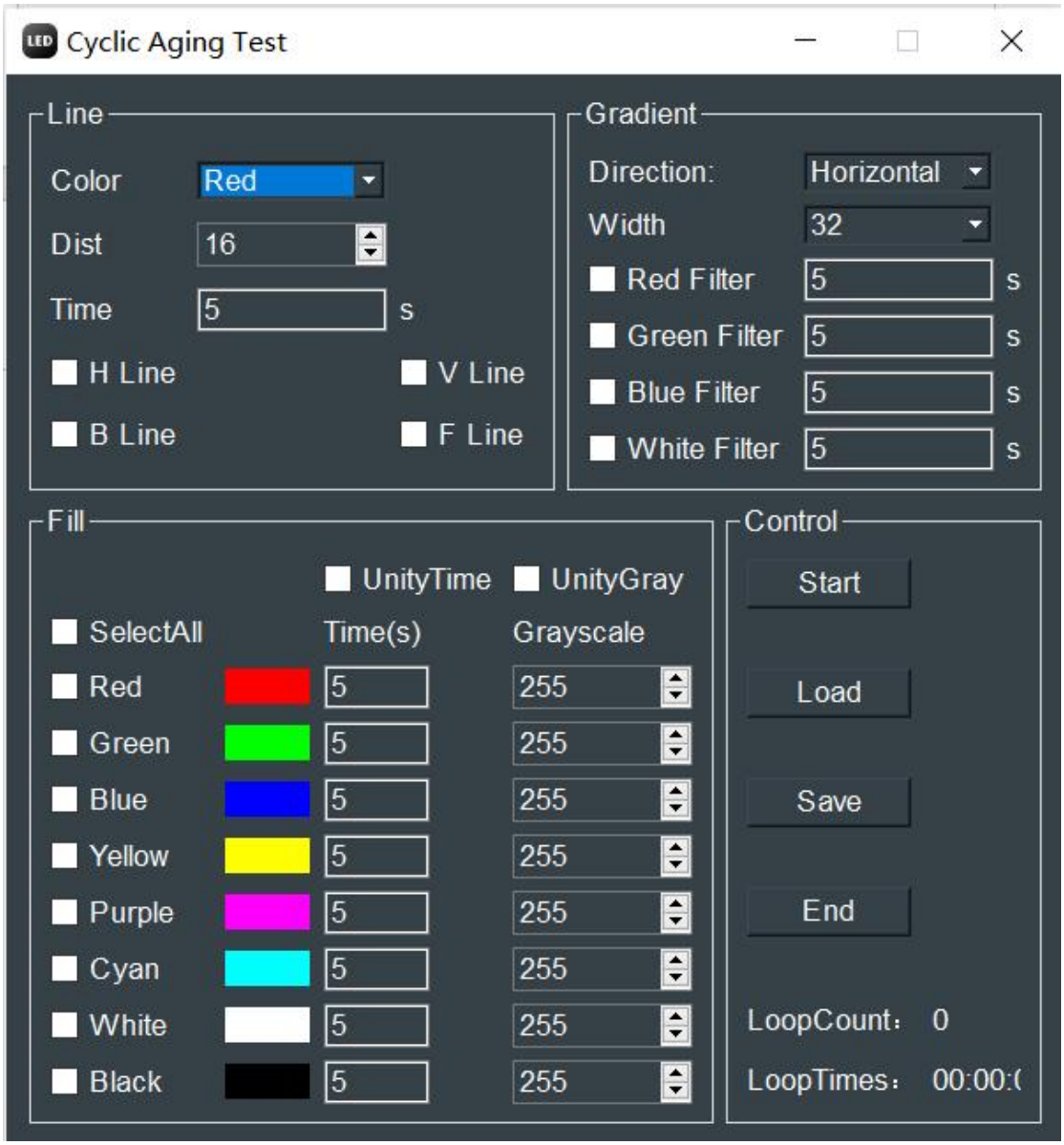
6. Auto test

Automated testing can be performed using testing tools. Switch to the "Auto test" tab to perform automated testing, including red-green-blue-white grayscale testing and cyclic aging mode.

Cyclic Aging Test: Multiple test screens cycle through the same time.

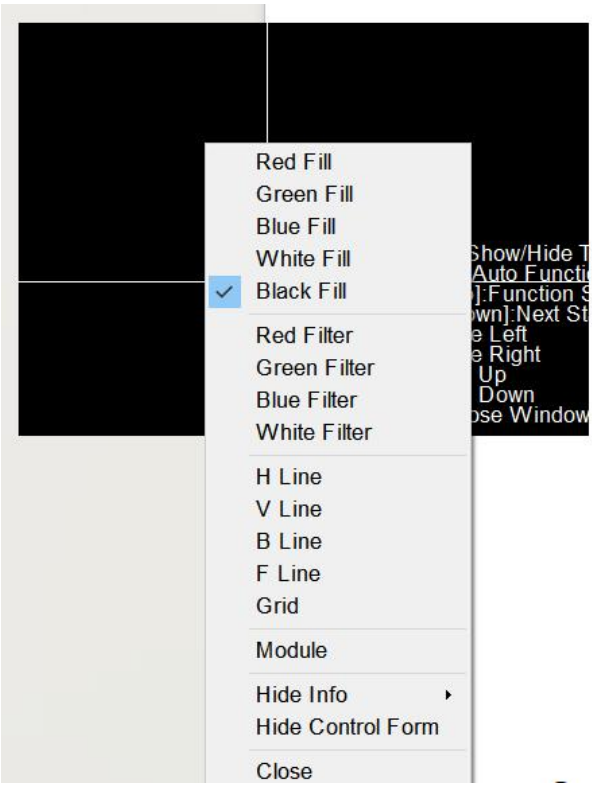
Red, green, blue, and white grayscale test: The test screen changes grayscale in the order of red, green, blue, and white according to the set step size.





7. Quick Operation

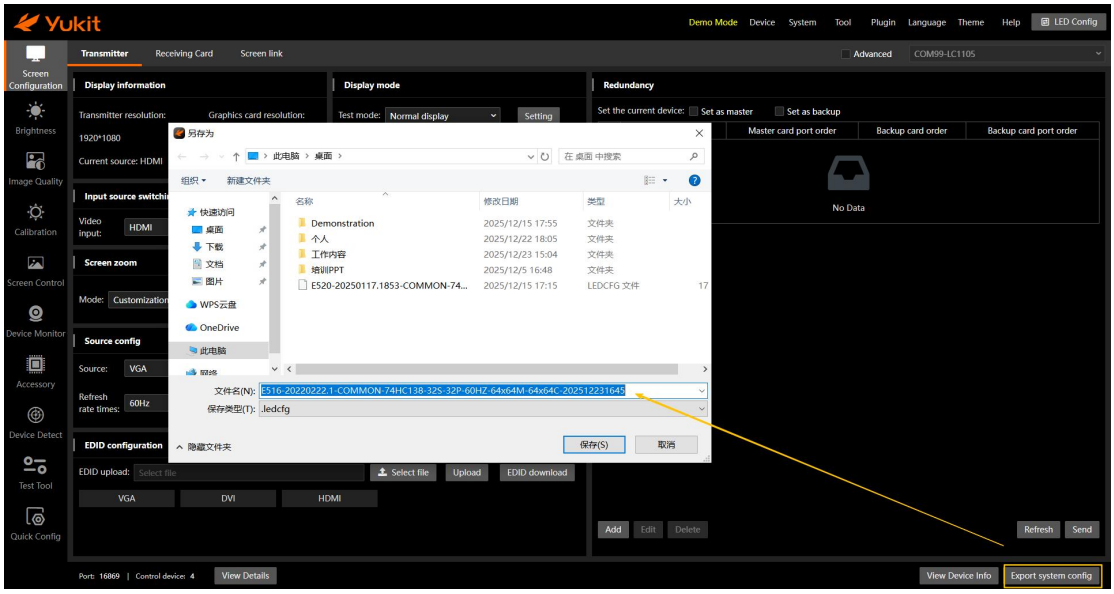
Right-clicking in the test window allows you to quickly switch test screens and show/hide the information displayed in the window.



8.4. One-click configuration

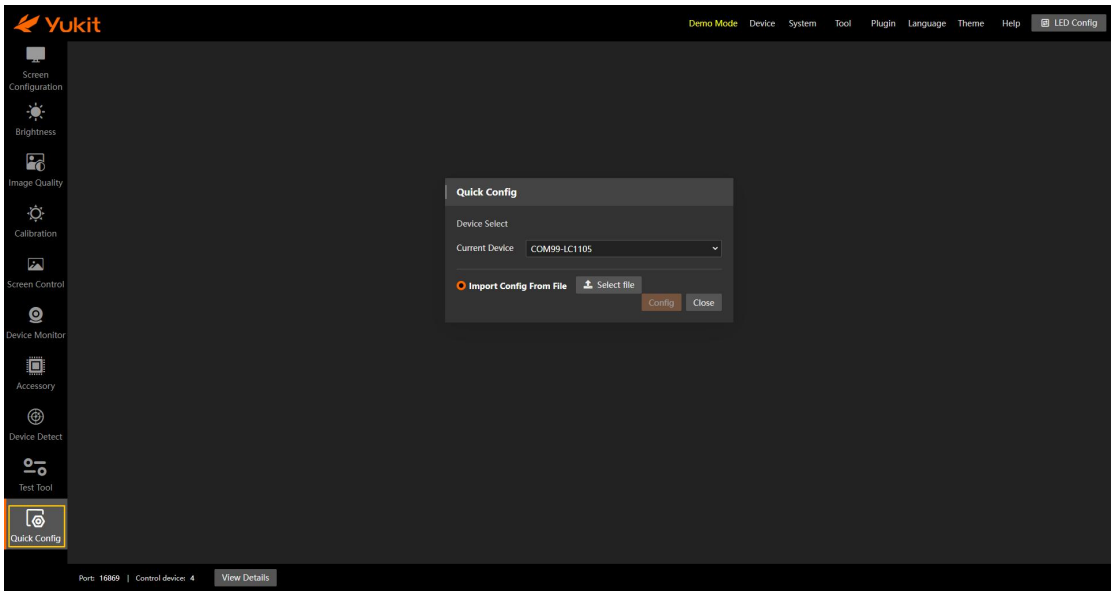
The software supports one-click configuration, which can quickly complete the configuration of sending card, receiving card and display screen parameters.

For a completed project, you can click the "Export System Config" button in the lower right corner of any tab in the "Display Configuration" interface to export the entire configuration information and save it to your local PC. When you need to configure a new project, you can directly import this configuration file, simplifying the process.


Yukit
Demo Mode
Device
System
Tool
Plugin
Language
Theme
Help
LED Config
Transmitter
Receiving Card
Screen link
Advanced
COM99-LC1105
Screen Configuration
Brightness
Image Quality
Calibration
Screen Control
Device Monitor
Accessory
Device Detect
Test Tool
Quick Config
Display information
Transmitter resolution:
Graphics card resolution:
1920*1080
Current source: HDMI
Input source switchi
Video input:
HDMI
Screen zoom
Mode:
Customization
Source config
Source:
VGA
Refresh rate times:
60Hz
EDID configuration
EDID upload:
Select file
Select file
Upload
EDID download
VGA
DVI
HDMI
Display mode
Test mode:
Normal display
Setting
Redundancy
Set the current device:
Set as master
Set as backup
Master card port order
Backup card order
Backup card port order
No Data
Add
Edit
Delete
Refresh
Send
另存为
此电脑 › 桌面 ›
在 桌面 中搜索
组织
新建文件夹
快速访问
桌面
下载
文档
图片
WPS云盘
OneDrive
此电脑
名称
修改日期
类型
大小
Demonstration
2025/12/15 17:55
文件夹
个人
2025/12/22 18:05
文件夹
工作内容
2025/12/23 15:04
文件夹
培训PPT
2025/12/5 16:48
文件夹
E520-20250117.1853-COMMON-74...
2025/12/15 17:15
LEDCFG 文件
17
文件名(N):
E516-20220222.1-COMMON-74HC138-32S-32P-60HZ-64x64M-64x64C-202512231645
保存类型(T):
.ledcfg
隐藏文件夹
保存(S)
取消
Port: 16869 | Control device: 4
View Details
View Device Info
Export system config

Click the "Quick Config" option in the menu bar, select the communication port, click the "Select File" button to select the configuration file on your local PC , click the "Config" button and wait for the configuration to complete.

Clicking the "One-Click Export" button will export the system configuration file of the device corresponding to the current communication port to your local PC.

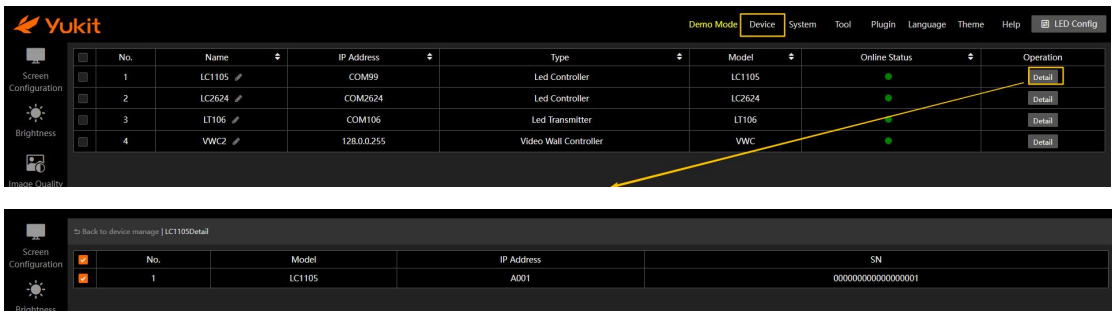


8.5. Device

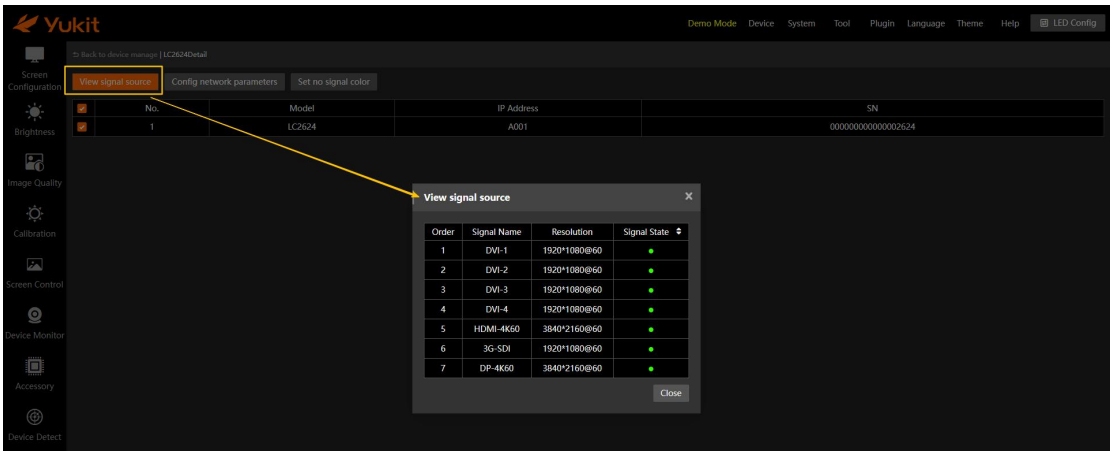
Connected devices can be managed through the software, including viewing device status and renaming devices.

Click the "Device" button in the [Function Bar] to display all connected devices, including their IP address, device type, model, and online status.

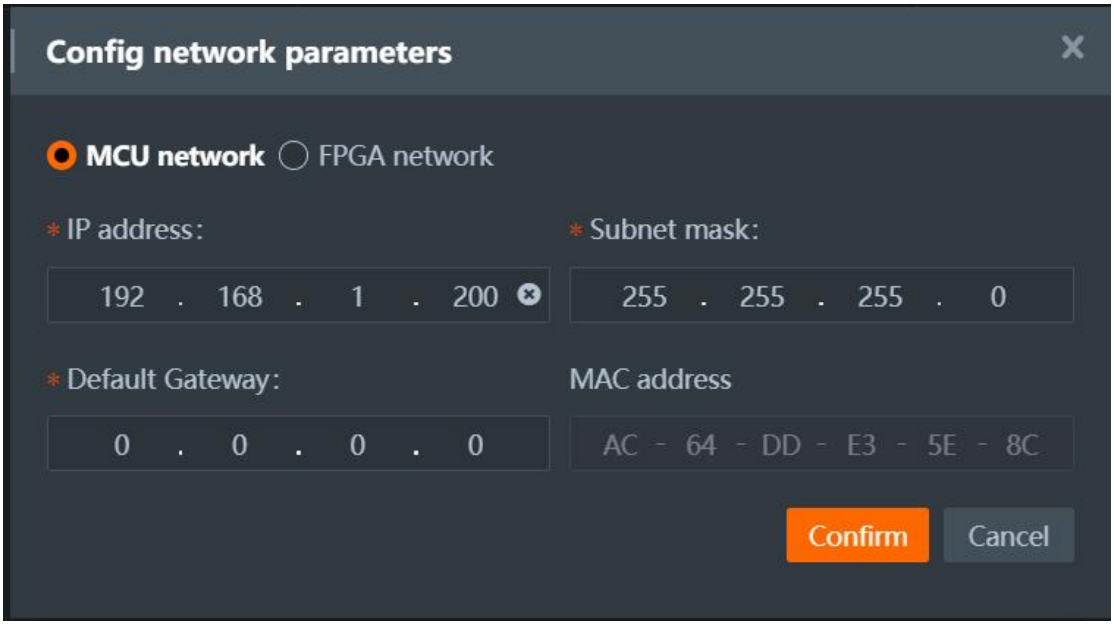
Click the "Details" button to view device details, including connection address and serial number (SN).



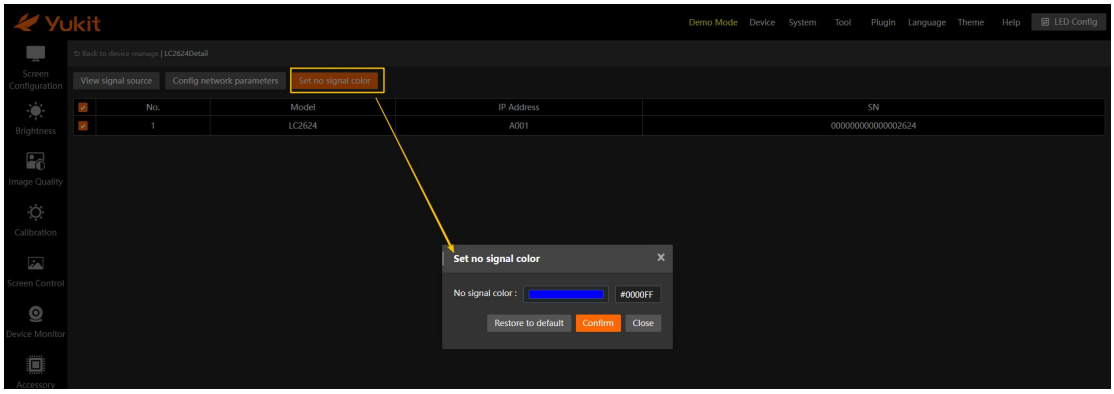
Clicking the "View Signal Source" button will display the status of the signal source connected to this device, including its name, resolution, and online status.



Clicking the "Config network parameters" button allows you to modify the IP information of the device's MCU network and FPGA network.



Clicking the "Set no signal color" button will turn on the "No Signal, Shut Down Network Port Output" switch, automatically shutting down the network port output when there is no signal input. If this switch is turned off, you can set the "No Signal Color," which will output a solid color image when there is no signal input.



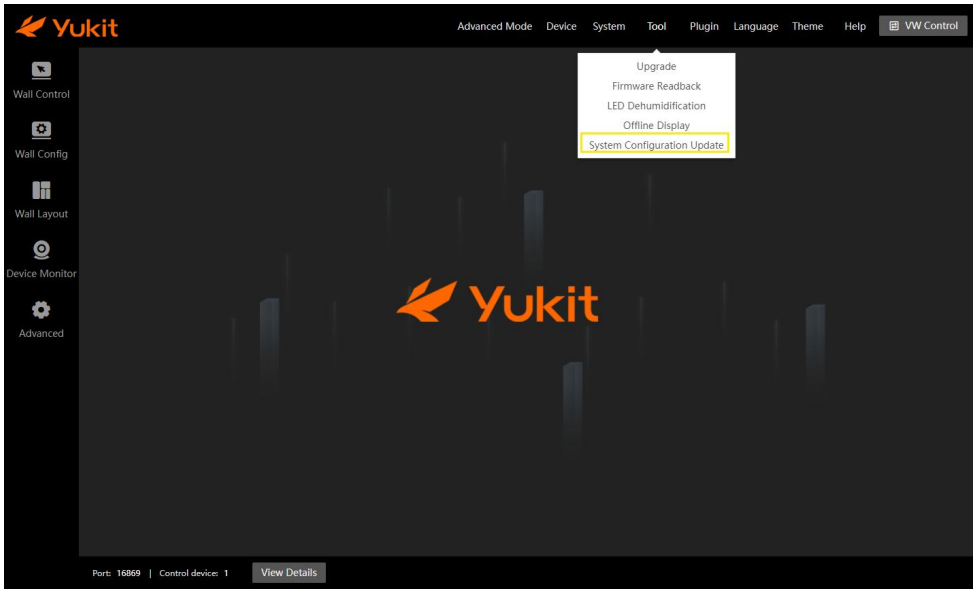
8.6. System

The software supports log manage, warning manage, backup manage and system configuration.

8.6.1. Online updates

Online updates are available to support more models of driver chips, decoder chips, and transmitter cards, or to obtain more support for removing dead pixels.

In the [Function Bar], click the "System" - "Online Update" button in sequence. In the pop-up window, click the "Download to Local" button to store the system configuration information on your local PC ; click the "Import from Local" button to import the configuration information from your local PC to complete the update; click the "Online Update" button to retrieve the update file from the cloud to complete the update.

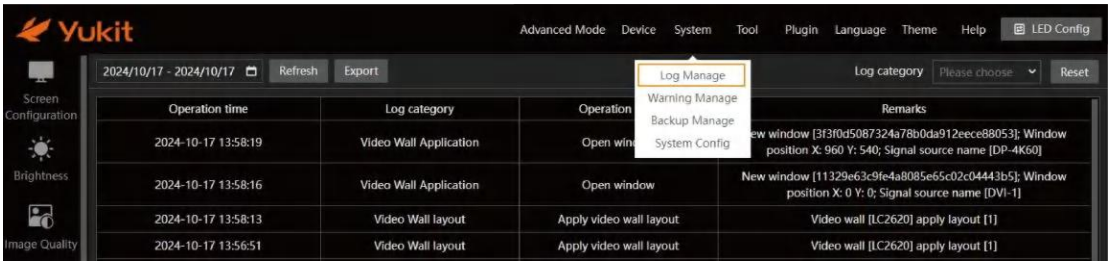


8.6.2. Log Manage

The software provides operation log viewing and export functions , which facilitates troubleshooting and management.

In the [Feature Bar], click the "System" - "Log Manage" button, you can filter by time period and log category to find the required log information faster. The filtered log information can be exported and stored to the local PC for easy transfer sharing.

- **Date filtering:** Click to select the start date and end date to filter log information within the date range.
- **Log category:** Select a type from the [Log Category] drop-down menu, such as "User Management," to filter out relevant log information.



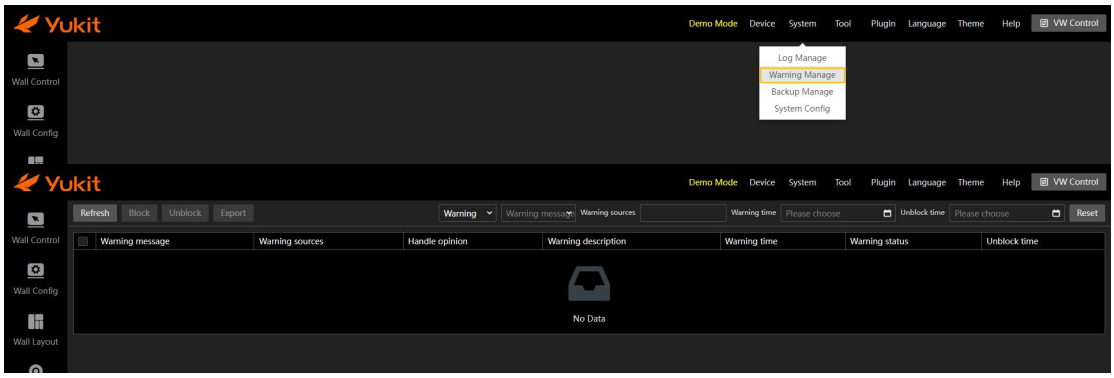
8.6.3. Warning manage

The software supports device status monitoring and alarms. When a device malfunctions, alarm information will be displayed in the software to help users troubleshoot the problem.

In the [Function Bar], click the "System" - "Warning Manage" buttons in sequence to filter alarms by status, warning messages, warning sources, warning time, and unblock time. Filtered alarm information can be exported and stored to a local PC for easy transfer and sharing.

- **Warning status filtering:** Select from the drop-down menu, including "Warning", "Blocked" and "Unblocked". Check the alarm information and click the "Block" / "Unblock" button to change the status.
- **Warning messages filtering:** Select from the drop-down menu to filter according to different warning messages.
- **Warning sources filtering:** Enter the name of the abnormal device in the filter cabinet to filter according to different devices.

- **Warning time filtering:** Select the "From date" and "To date" with the mouse to filter alarm information within the date range.
- **Release time filter:** Select "From Date" and "To Date" to filter the alerts that are deselected within the date range.

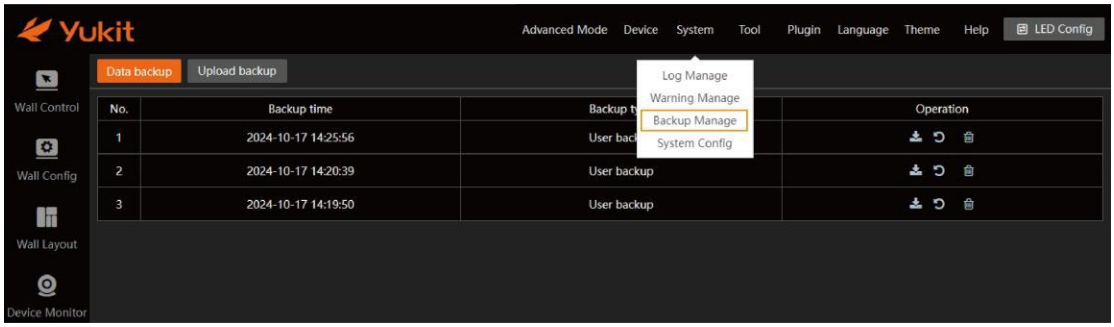


8.6.4. Backup manage

The software supports system data backup to prevent configuration information loss. When abnormal conditions occur, backup data can be restored with one click without reconfiguration, which is easy to maintain and manage.

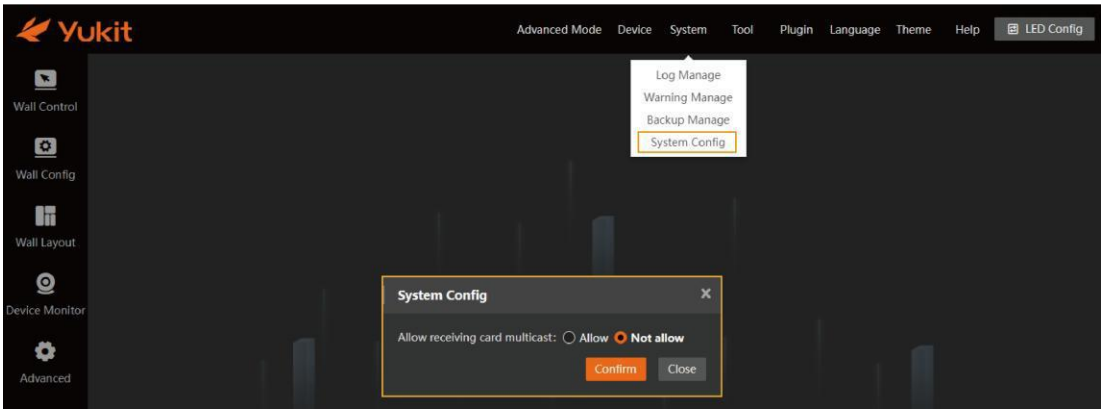
Click the "System" - "Backup Manage" button in the [Function Bar] to backup and restore system data.

Click the "Data Backup" button to back up the system data and display it in the software interface; click the "Upload backup" button to select the backup data from the local PC and restore it.



8.6.5. System configuration

In the [Feature Bar], click the "System" - "System Config" button to set whether or not you can receive card multicast transmissions. With multicast turned on, the partition is supported to send offline calibration files.



8.7. Tools

The software supports testing tools, firmware upgrades, firmware readback, LED dehumidification, pre-stored images, and error detection.

For instructions on using the testing tools, please refer to section **8.3, Testing Tools** . This will not be repeated here.

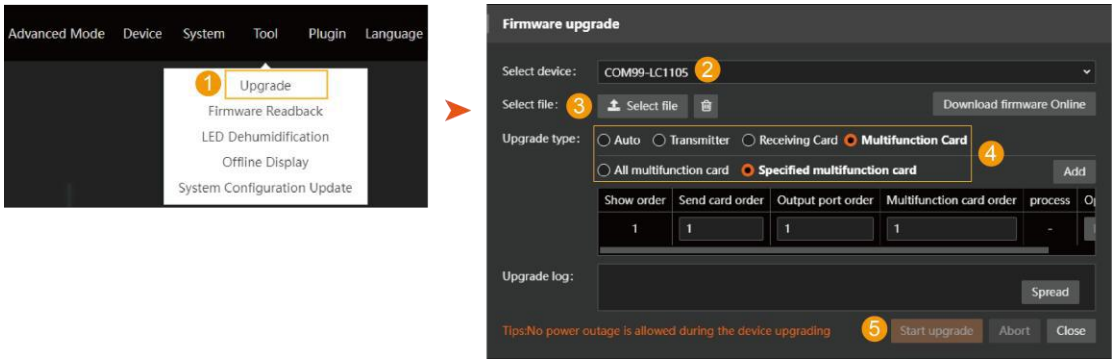
8.7.1. Fimware upgrade

Supports firmware upgrades for sending cards, receiving cards, multi-function cards, and asynchronous cards via software.

1. In the [Function Bar], click the "Tools" - "Upgrade" button in sequence;
2. Select the equipment that needs upgrading;
3. Clicking the "Select File" button allows you to choose the upgrade file on your local PC, while clicking the "Download Firmware Online" button allows you to download the upgrade file from the cloud.
4. When setting "Upgrade type," checking "Auto" will automatically match hardware based on the upgrade file type; checking "Transmitter" allows you to select all sending card or a specified sending card; checking "Receiving Card" allows you to select all receiving cards, a receiving card connected to an appointed screen, or an appointed receiving card. If you choose "Appointed screen," you can specify the display through a queue or layout diagram, or

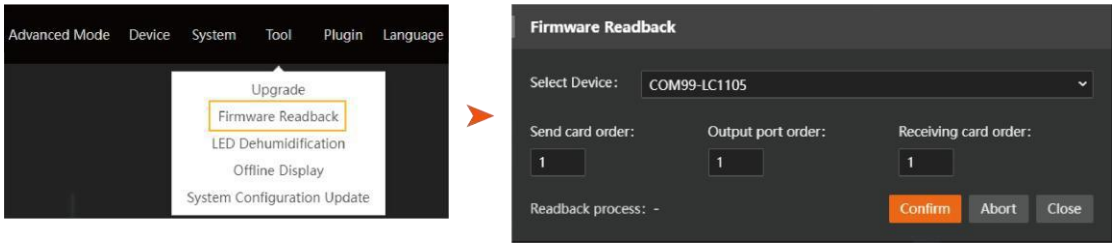
directly select the current screen; checking "Multifunction Card" allows you to select all multifunction cards or a specified multifunction card.

5. Finally, click the "Start Upgrade" button and wait for the upgrade to complete.



8.7.2. Firmware readback

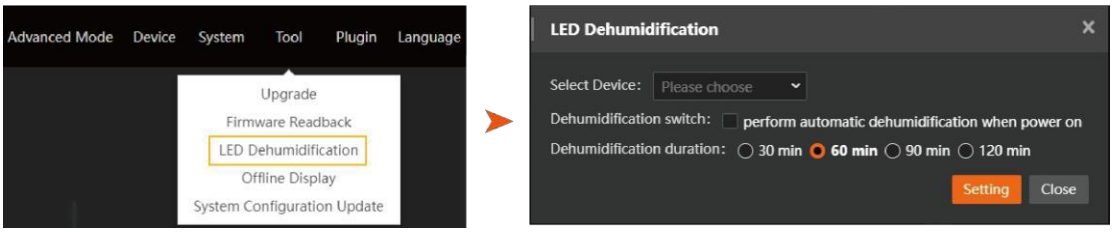
1. Firmware firmware configuration can be readback and stored locally on a PC.
2. In the [Feature Bar], click the "Tools" - "Firmware readback"button;
3. Select the device, the order of send card, output port and receiving card;
4. Click the "Confirm" button to readback the configuration file and save it on your local PC.



8.7.3. LED dehumidification

Supports LED dehumidification function. In the [Function Bar], click the "Tools" - "LED Dehumidification" button in sequence. In the pop-up window, select the device, choose whether to turn on the "Automatically start dehumidification upon power-on" switch, select the dehumidification duration, and click the "Setting" button to start dehumidification.

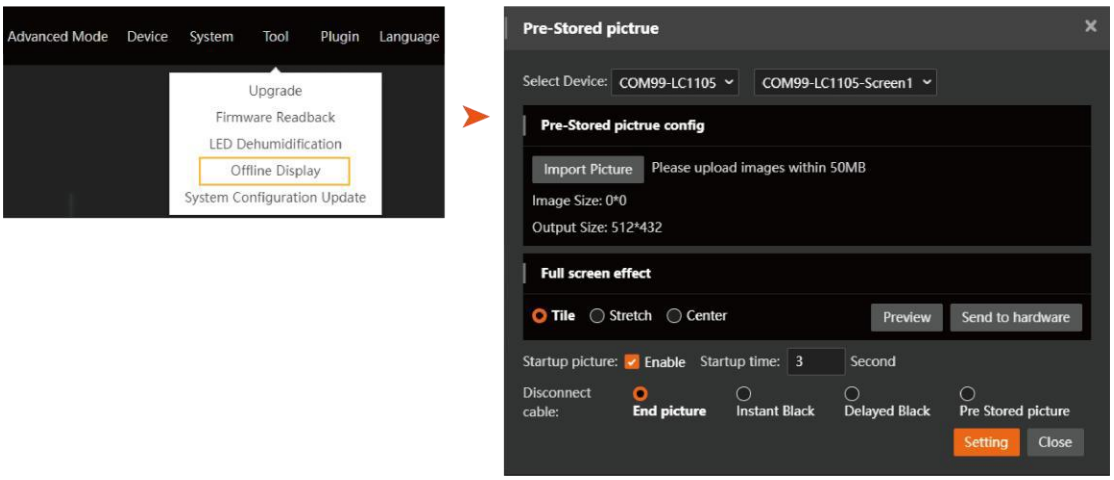
Note: Currently, only some LED controllers support this function. Please consult our sales staff for details.



8.7.4. Offline display

The purpose of this tool is to ensure that when any network cable in the screen is disconnected, the portion of the screen that loses signal can still display the preset image instead of a black screen.

1. In the [Function Bar], click "Tool" - "Offline display" in sequence;
2. Select control device and LED screen ;
3. Click the "Import picture" button, select the image in the PC control panel , and import it;
4. Configure the image display effect on the large screen, including tiling, stretching, and centering;
5. Click the "Setting" button to send the pre-saved image to the hardware;
6. Choose the display effect on the large screen after the network cable is disconnected, including immediate black screen, delayed black screen, last screen, and saved screen;
7. Choose the display effect on the large screen when there is no signal input, including no action, immediate black screen, delayed black screen, and preset image.
8. You can choose whether to apply the pre-stored image to the boot process and the duration of the image;
9. Click the "Setting" button to save the settings from steps 6 and 7 .

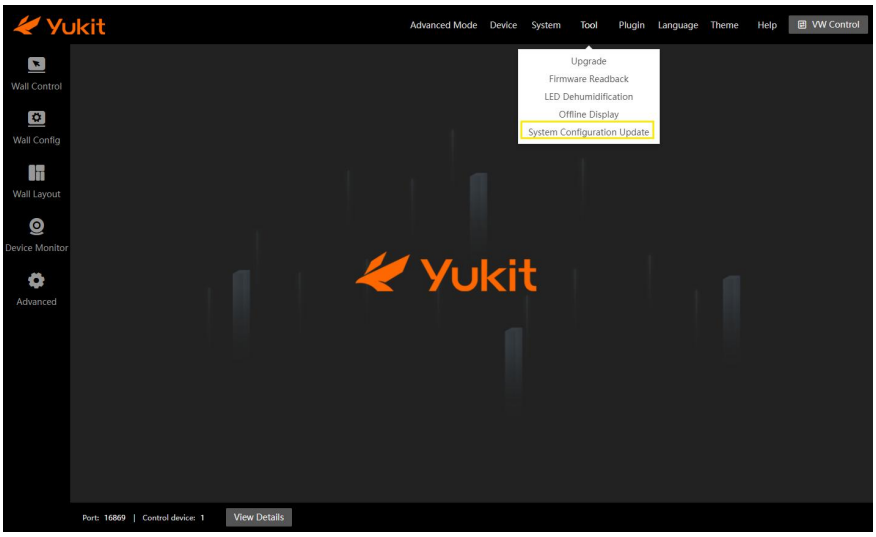


1. Before setting the preset image, you need to confirm that the LED screen has been correctly configured and can work normally.
2. Ensure that the control PC is directly connected to the sending card, and that the scaling function is disabled, and that no third-party devices are connected.
3. The control PC provides the video source to the sending card, and the display should be point-to-point, meaning the resolution of the sending card is the same as the output resolution of the control PC 's graphics card.

8.7.5. System configuration update

Online updates are available to support more models of driver chips, decoder chips, and transmitter cards, or to obtain more support for removing dead pixels.

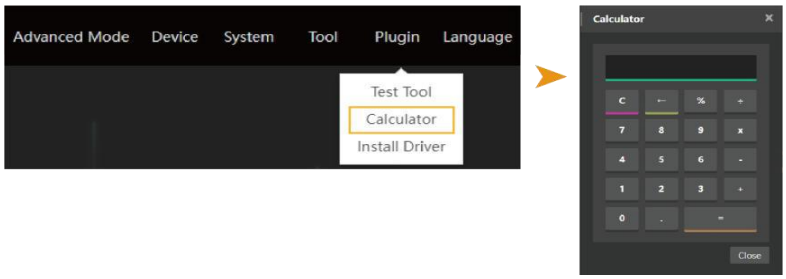
In the [Function Bar], click the "Tool" - "System configuration update" button in sequence. In the pop-up window, click the "Download to Local" button to store the system configuration information on your local PC ; click the "Import local file" button to import the configuration information from your local PC to complete the update; click the "Online Update" button to retrieve the update file from the cloud to complete the update.



8.8. Plugin

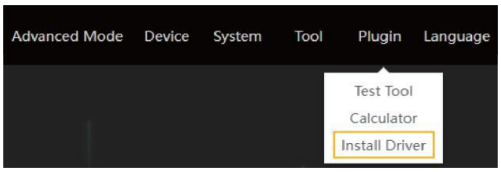
8.8.1. calculator

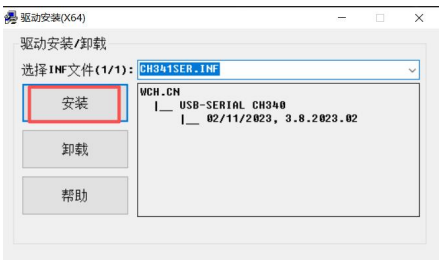
The introduction of “Test tool” is in the part of 8.3 in this manual. The software supports a calculator widget to assist users with simple calculations. To use it, click the "Plugins" and then the "Calculator" button in the [Function Bar].



8.8.2. Install drivers

In the [Function Bar], click the "Plugins" - "Install Driver" buttons in sequence to install or uninstall the driver.





8.9. other

1. **Switching Languages:** The software supports language modification, including Chinese and English. Click on the "Language" option in the [Feature Bar] to toggle in the drop-down menu.
2. **Switching Themes:** The software offers several interface themes for users to choose from, including Black, White, and Dark Blue. Click on the "Theme" option in the [Feature Bar] to toggle between them in the drop-down menu.
3. **Help:** Download the software operation manual to your local PC by clicking on the "Help" option in the [Feature Bar] and the "File" option in the drop-down menu; click on the "About Us" option to view the basic information of the software.