KYSTAR control system

Instruction manual

Version: v3.0
Release Date: September 2021

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Beijing KYSTAR Technology Co., Ltd.

Professional Ultra HD Video Display
Control system integrated solution and service provider

Security Considerations

Alarms

● This equipment is not waterproof equipment, in a humid environment, please do a good job of waterproof treatment;

● This equipment is not allowed to be close to the fire source or high temperature environment;

● If the equipment makes strange noise, smoke or strange smell, it should be unplugged immediately and contact the dealer

Attention

1、 Please read this instruction manual carefully before use and keep it properly for later use;

2、 In the case of lightning or long-term use, please unplug the power supply;

3、 This equipment is not suitable for non-professional operation and debugging, please use under the guidance of professionals;

4、 Do not stuff any object from the ventilation holes of this equipment to avoid damage or accidents to the equipment;

5、 This device should not be placed near water or other humid places;

6、 This equipment should not be placed in heat sinks or other high temperature places for use;

7、 Please properly arrange and place the power cord to prevent damage;

8、 If there are the following conditions, the power plug of this equipment should be unplugged and commissioned for maintenance:

- When liquid is spilled into this device
- When this equipment is dropped or the chassis is damaged
- When the equipment has obvious abnormal function or obvious deterioration in performance

Version change record

The version number	Time	Version change details
V1. 0	2018-1-1	1. Complete the relevant settings of the Gold Card
V1. 1	2018-5-20	1. Add MFC related setting software building interface
V2. 0	2018-10-1	1. Delete the green card related settings: 2. Added brightness control Gamma adjustment 3. Adjust the interface of the MF630
V2.1	2019-12-12	1. Added advanced settings page content. 2. Added the use method of splicing light and dark lines
V3.0	2021-9-16	1. Add creative display debugging 2. Update the library 3. Update the module library 4. Added screen monitoring content 5. Added expansion function for expert screen adjustment 6. Added load prompt function

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1 Software introduction

KYSTAR control system software is a software customized for the debugging and control of The Main Control System of KYSTAR, which supports the debugging of The best-in-one video control equipment, sending card, receiving card and multi-function card.

The unique wizard screen adjustment mode is convenient and fast to debug in the set environment, bringing users an unprecedented debugging experience; at the same time, the highly professional expert screen adjustment, including the transmission device, receiving card, display connection three parts of the professional screen lighting, while debugging control for environmental monitoring of the multi-function card function. In addition, the video processing section with visual picture control is also included, and this interface covers all functions, intuitive, concise and atmospheric.

The default skin of the system is a highly technological black, which is professional and has a hint of mystery. In addition, there are two skins to choose from, one pure white, one pure gray, and the more beautiful skin continues to increase....

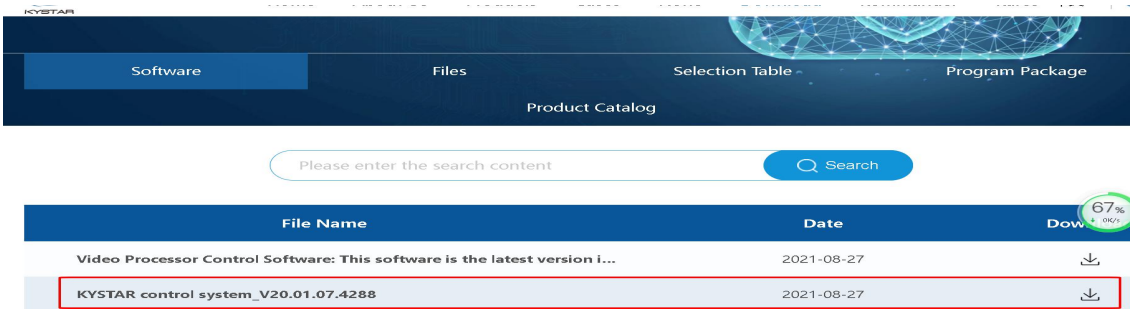
2 Software installation

2.1 Software Download and Installation

Download the "KYSTAR Control System Software" in the download center of the official website, double-click the setup, install and open the software according to the prompts.

The first installation process may encounter the installation of NET environment, Winpcap environment, USB driver, direct installation can be, and re-installation may encounter Weinpcap does not support overwrite installation problems, Select Ignore at this point.

Using a randomly distributed USB cable, one end is connected to the COM port of the sending card, and the other end is connected to the USB port of the PC after communication with the device automatically.



2.2 Hardware Connection

① Use a 2-in-1 device and a receiving card: the serial port between the 2-in-1 device and the computer is connected, and the 2-in-1 device and the receiving card are connected via a network cable.

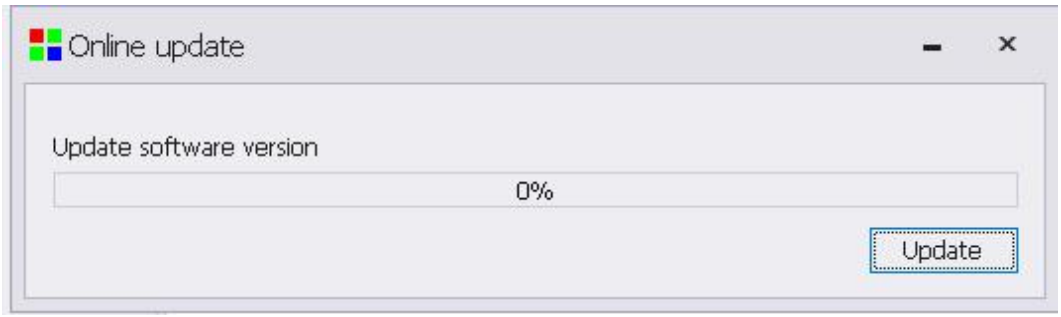
② Use the sending device and the receiving card: The serial port connection between the sending device and the computer, and the sending device and the receiving card are connected through the network cable.

③ Use only the receiving card: The computer and the receiving card are connected via a network cable.

2.3 Software Updates

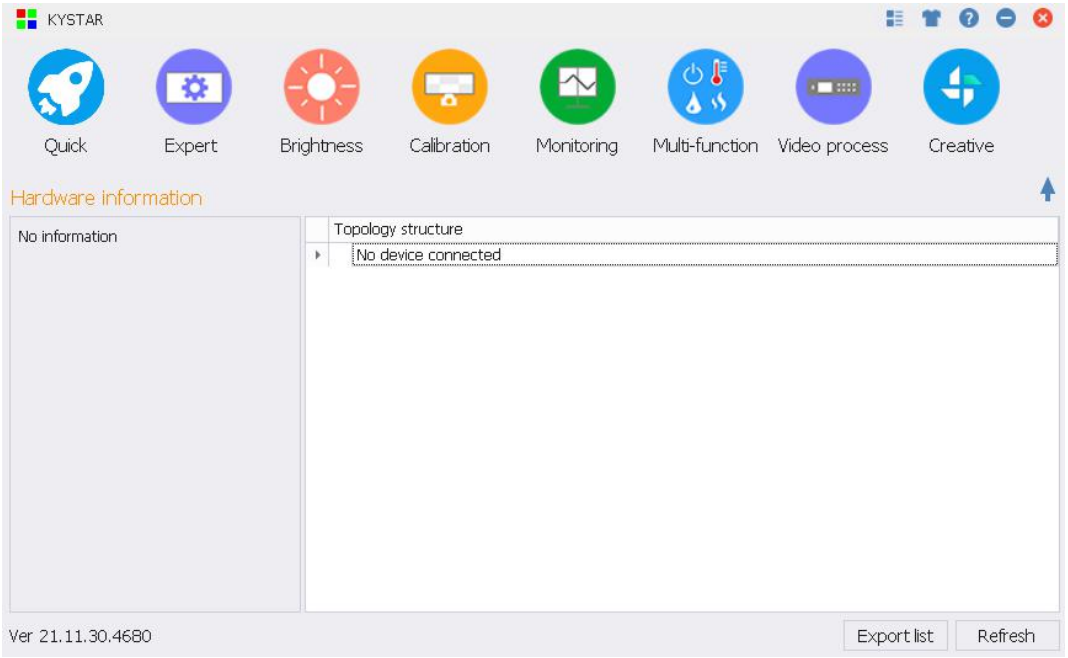
Software update mode

1. Download "KYSTAR Control System Software" on the official website and install it.
2. Click the question mark in the software interface , select Online Update, and update the software.



3 Introduction to the software interface

Open the software, after launching, the following software main interface appears.



Main functional area: The main functional area includes 8 main function points of quick screen adjustment, expert screen adjustment, brightness control, camera correction, screen monitoring, multi-function card, video processing, and creative display.

Hardware information: The hardware information is based on the sending card as a display unit, showing the model of the current sending card and the model of the receiving card, and the number of on-board receiving cards per network port of the sending card. The blue connection location can be used to display the connection status of the software to the sending card and can also be used to switch between multiple sending cards.

Topology Map: The topology displays the program version information of the sending device, receiving card, multifunction card, and the ID number of the receiving card in a treemap. The "Export List" button can save the current topology information as an Excel file in the form of a topology diagram for easy viewing and saving. The Refresh button refreshes the topology information.

Other functional areas: Other functions in the upper right corner include test drawings, skinning,

environmental monitoring, software version information, etc. ⬆ The up arrow hides the hardware information and topology map, leaving a refreshing interface for the main function.

4 Screen configuration

The screen configuration includes wizard and expert screen adjustment.

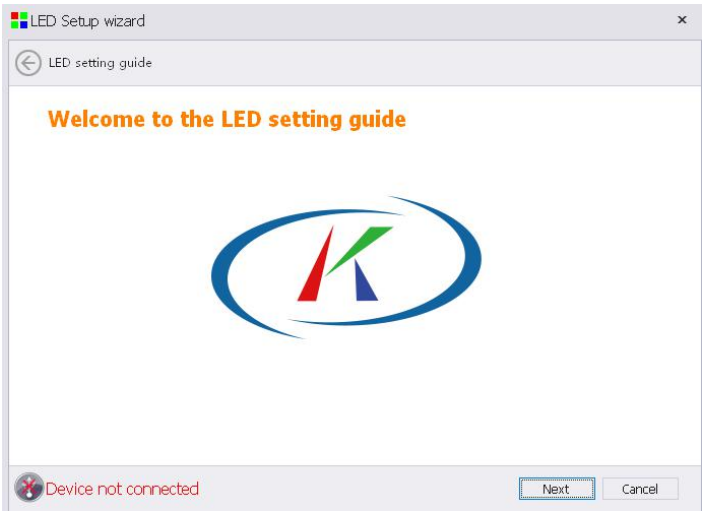
4.1 Wizard screen adjustment

Select the quick screen adjustment of the main interface of the software, click the wizard screen adjustment to enter the wizard debugging page, and quickly complete the screen debugging through the guidance of the system.

4.1.1 Setup Wizard

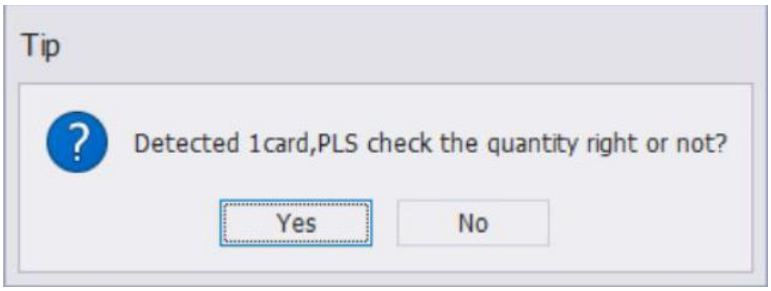
Click the wizard screen adjustment screen of the main interface to enter the LED setting wizard

welcome screen and click Next.

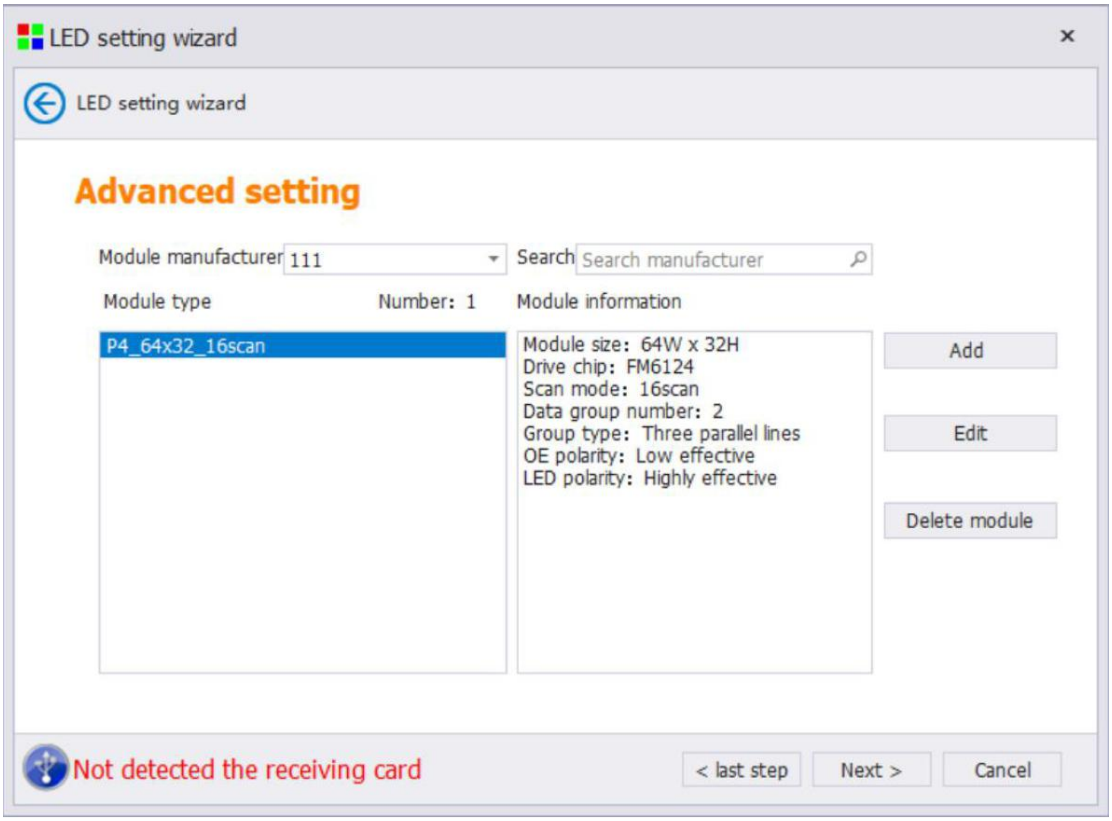


4.1.2 Confirm the number of receiving cards

After clicking on the "Next" button, the system will prompt if the number of receiving cards detected is correct, click "Yes" on the correct number, no, click "No" and check the network cable connection.



4.1.3 Select the module manufacturer and type



The module library file contains the module lighting profile of the mainstream manufacturers currently on the market, which can be selected in the drop-down menu or searched through the search box on the right.

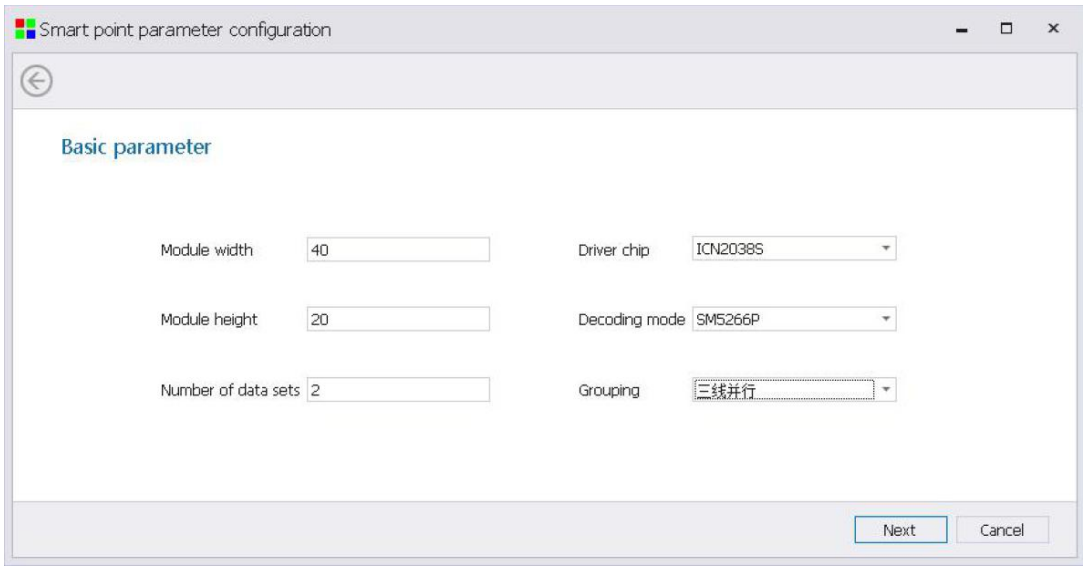
After selecting the module manufacturer, you can see the currently included module configuration file in the list box below, and when selected, you can view the detailed module information in the right box, including the module size, drive chip, scanning mode, number of data sets, group type, OE polarity, LED polarity and other information.

Select the module manufacturer and module type, if not, you can set it intelligently through the "Smart Settings Add Module" function button on the right.

In addition, this interface can manually add mod files or delete mod files.

4.1.3.1 Smart settings add modules

Click the "Smart Settings Add Module" function button to make smart settings. Go to the first step of Smart Settings.



According to the specific information of the module, correctly fill in the corresponding information of the module in the intelligent settings of the software interface:

Module Width: The actual width pixels of a single module.

Module Height: The pixel of the actual height of a single module.

Number of data sets: The cable interface (data import) on the module contains the number of RGB (red, green and blue) data, which needs to be judged according to the definition of the HUB interface.

Driver chip: Check the driver chip of the module, generally a 24-pin chip, the driver chip has a general-purpose chip, double latch and PWM and other chip types, and determine with the module manufacturer in advance.

Decoding mode: View the decoding chip of the module, generally a 16-pin chip, and the decoding method has 138 decoding, 5958 decoding, direct output, etc., in advance Confirm with the module manufacturer.

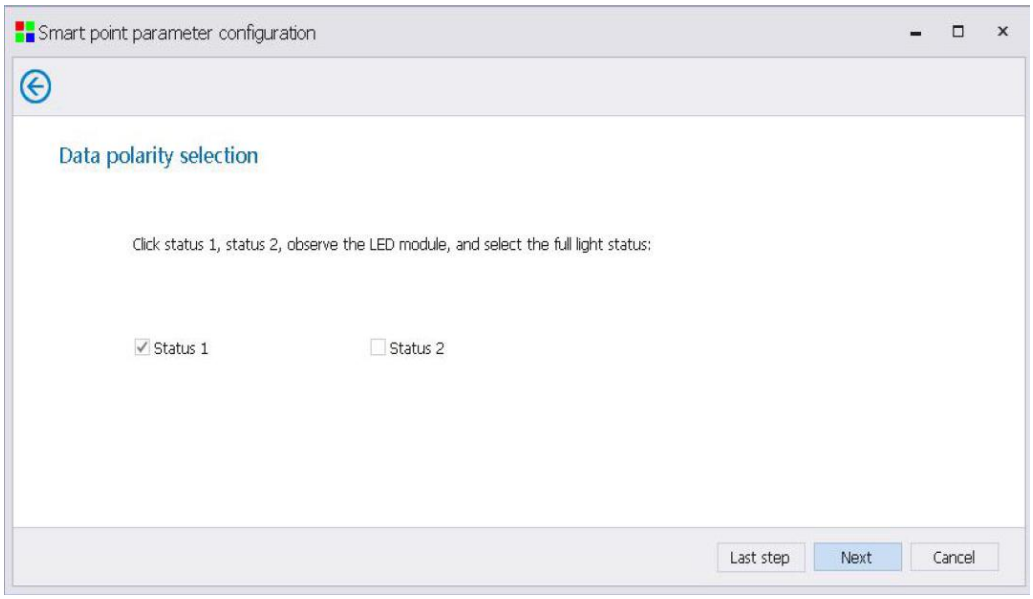
Grouping mode: that is, RGB (red, green and blue) data string mode, full-color module is three-line parallel, transparent screen or light bar screen can choose three-color 1-point serial, three-color 8-point serial, three-color according to the actual situation 16-point serial.

HUB Port: Set the location of the HUB port displayed in the first data set of the receiving card, which is J1 by default.

Dual clock: There are dual clocks in some modules, and you can select "D signal as the second clock" or "E signal as the second clock" according to the actual module situation, which is not used by default.

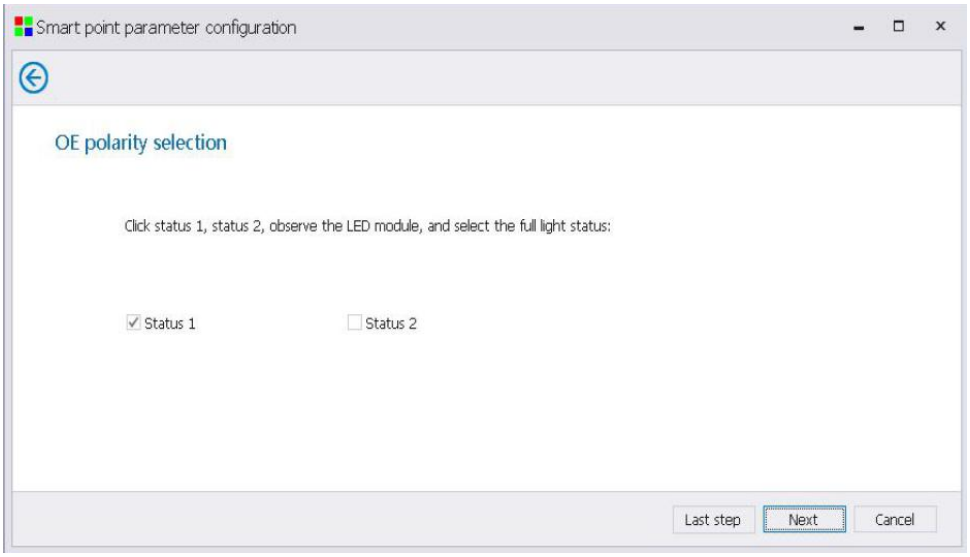
4.1.3.2 Data polarity selection

Select the data polarity of the module, check the box in the correct state according to the module performance status and prompts, and then click Next to select the OE polarity.



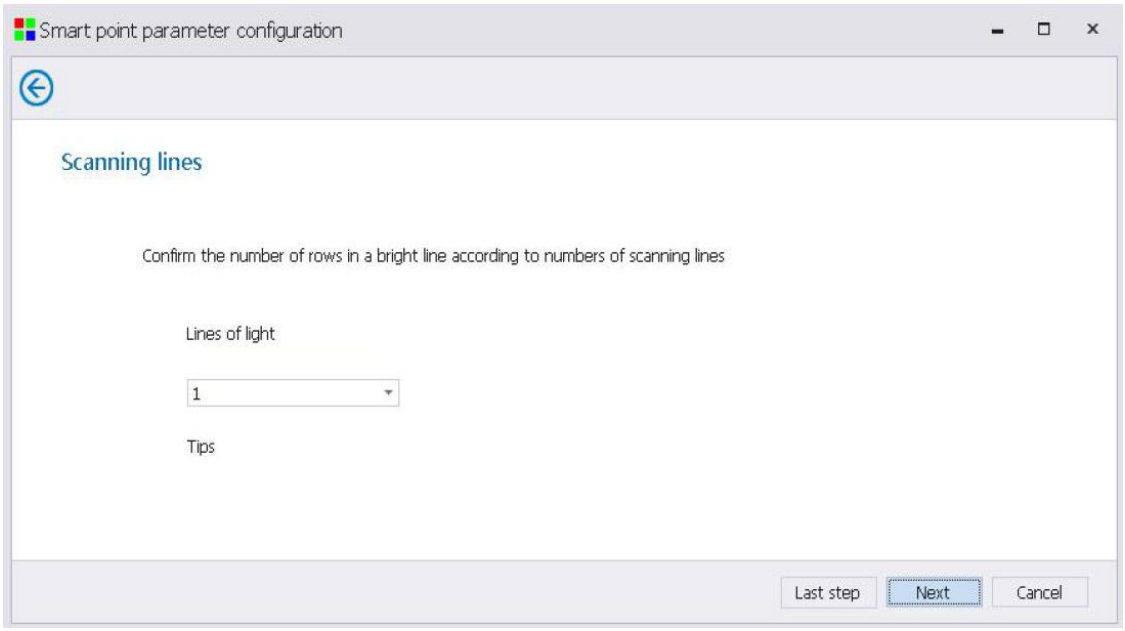
4.1.3.3 OE polarity selection

Select a brighter state based on the module status display, and then click Next to determine the number of module scan lines.



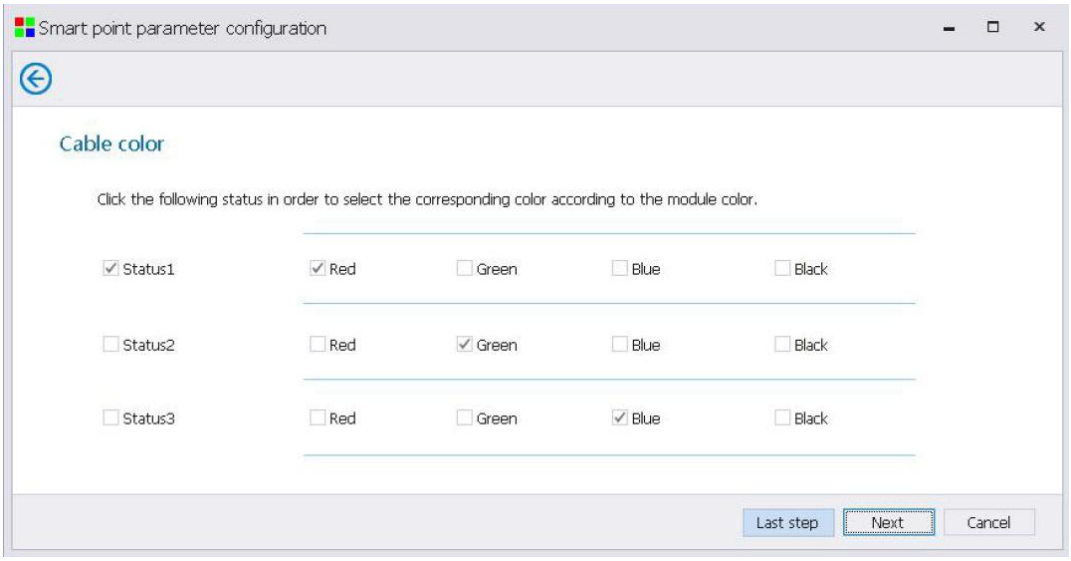
4.1.3.4 Number of scanned lines

According to the number of rows separated between the bright rows of the module, select the number of interval rows, and then click Next to select the data cable color.



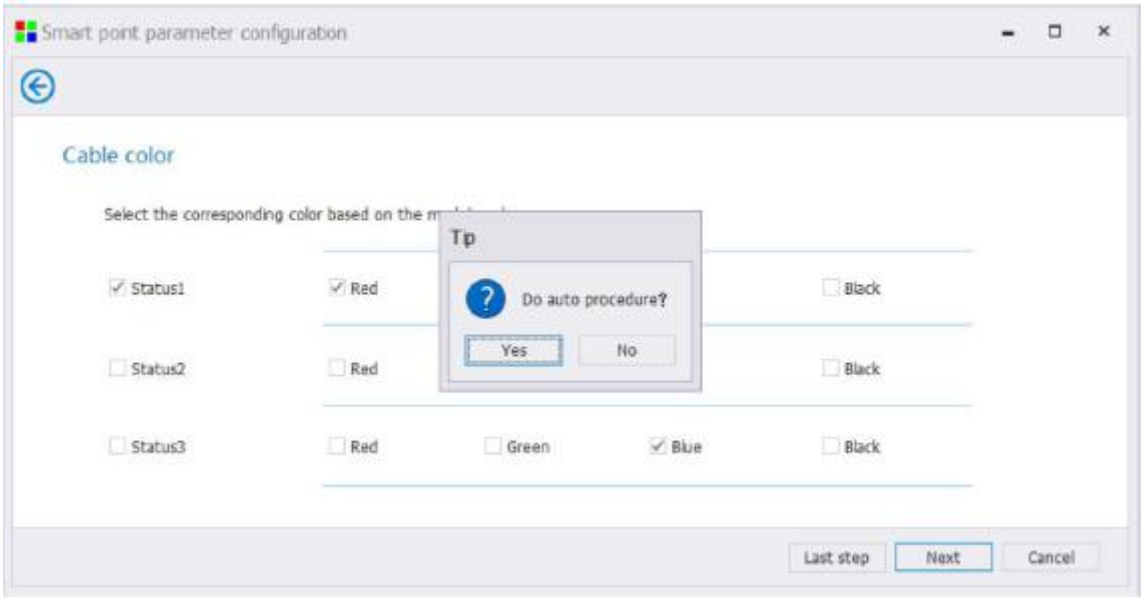
4.1.3.5 Data cable color

Click on the 3 states in turn to select according to the color displayed by the mod, and then click Next to trace the dots.

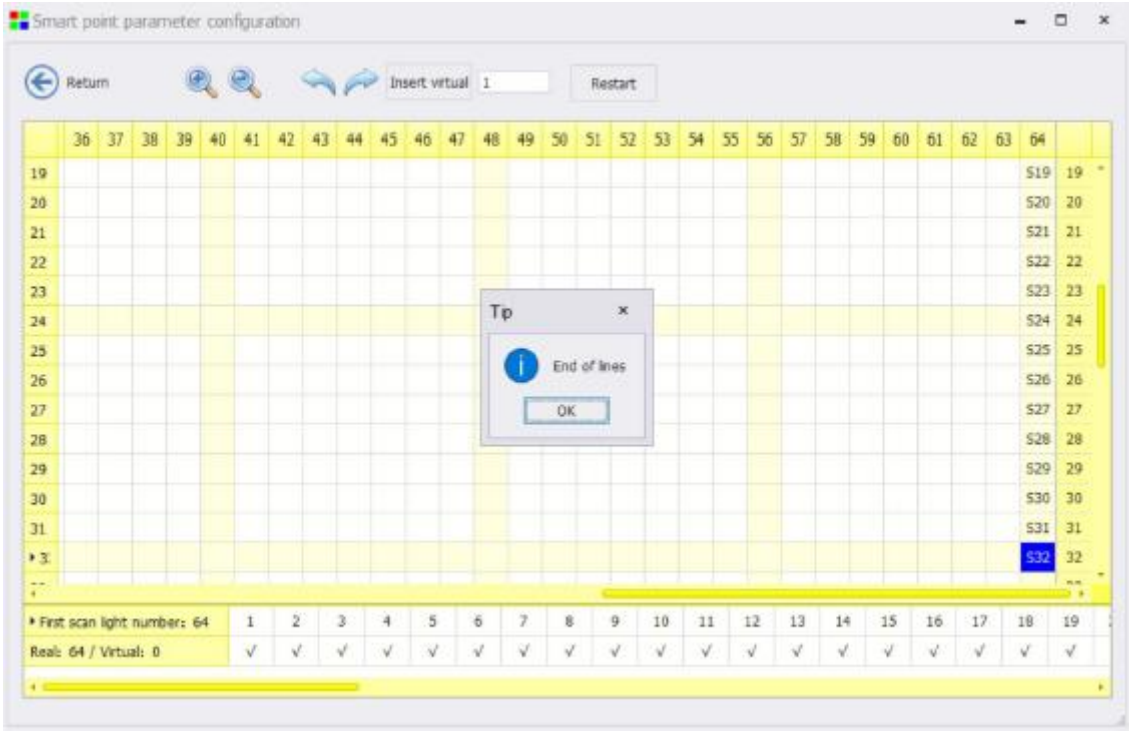


4.1.3.6 Smart Tracing

After entering the tracing state, the software will automatically prompt whether to perform automatic tracing, click "Yes" to automatically track, click "No" to manually track, and trace points according to the location of the module light point flashing.

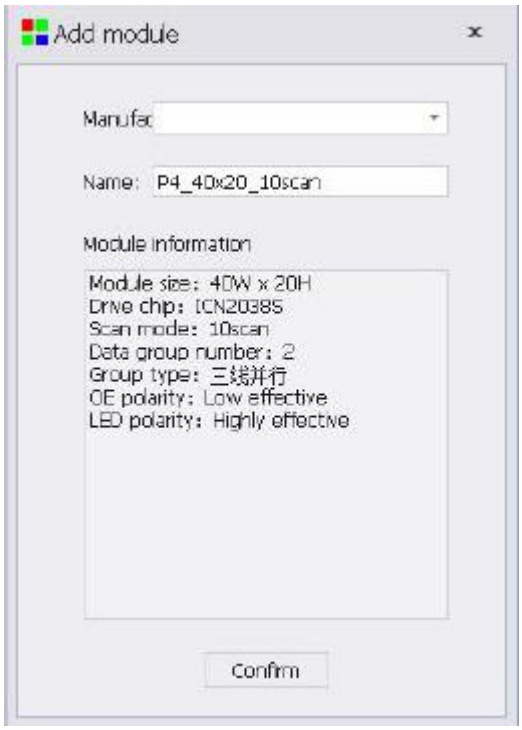


After the landscape stroke point is over, enter the column stroke point, and after it is completed, the following figure prompts "Complete the walk point, save the module information successfully".



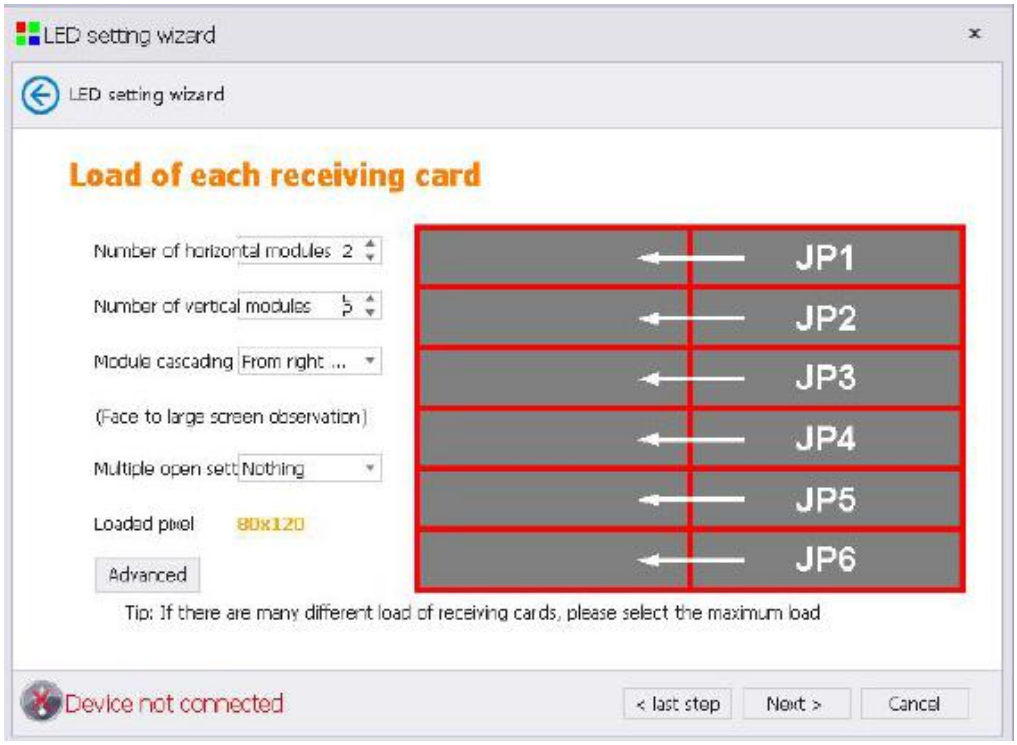
4.1.3.7 Add a mod

After completing the tracing point, go to the next step to add the module, enter the manufacturer name and module name, and save the module information file to the local software system for use in the next debugging.



4.1.4 Each receiving card is loaded

Follow the receiving card maximum load setting.



Number of transverse modules: The number of transverse modules for a single receiving card.

Number of longitudinal modules: The number of vertical modules for a single receiving card.

Module cascading mode: single HB port module string mode.

Multi-open setting: You can choose double-open, three-open and other multi-open methods.

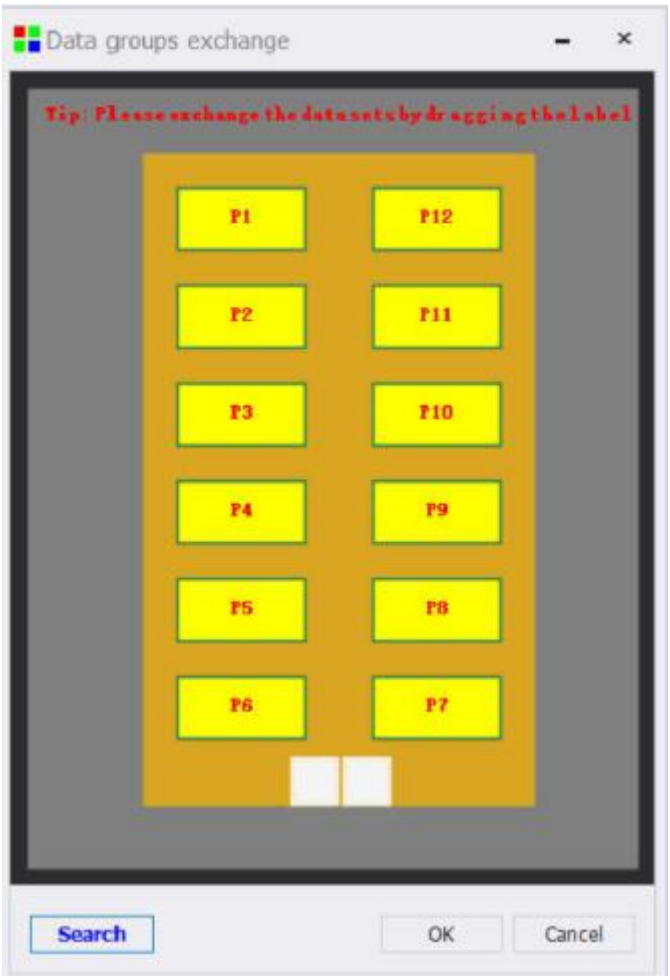
Number of load points: The number of receiving card load points under the current setting.

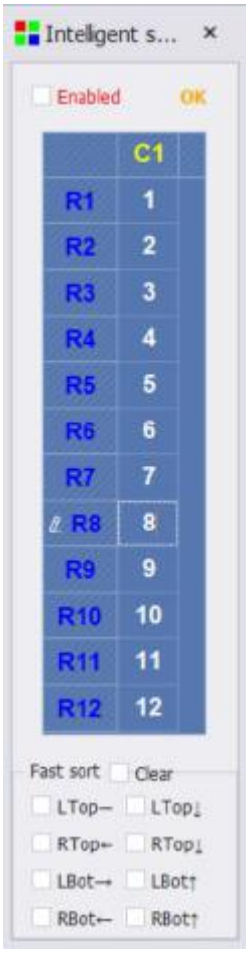
Maximum duty width: The current module, the maximum duty width supported by the system.

Advanced: Data set exchange is possible in the advanced interface.

Illustration: The illustration on the right side of the interface can view the on-face reception card load information, each red box represents a module, JP represents the HUB interface of the receiving card, and the arrow indicates the module cascade direction.

Data group exchange: Click the "Advanced" button to enter the data group exchange interface, by dragging and dropping the yellow module form of data group exchange, and then click the "OK" button to complete the data group exchange, if the data group is more complex, you can enter the "Smart Find" page for detailed data set viewing.

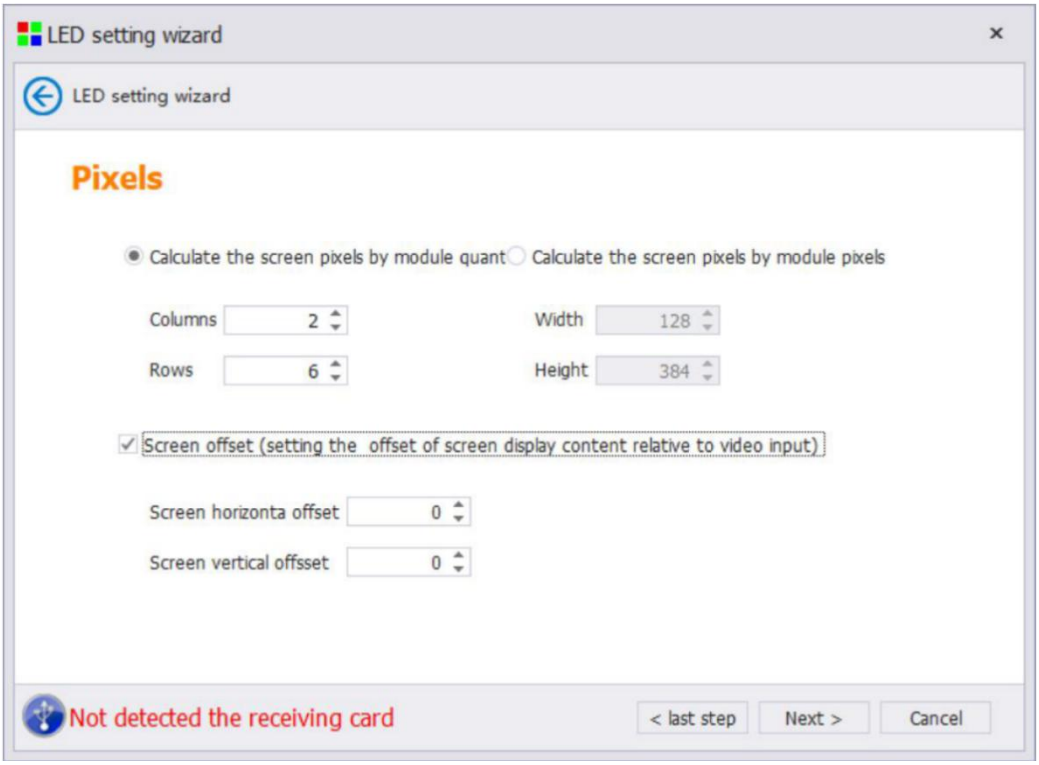




Smart lookup page, you need to check "enable" to take effect, C table column, R represents the row, according to the number displayed on the screen, corresponding to the writing to the software. Quick sort refers to the entry order of 1, which can be quickly sorted by pre-selecting the upper left below and the top right.

4.1.5 Large screen points

Select according to the actual cascading mode of the module and then click Next to set the number of large screen points (the actual pixels of the LED screen currently transmitted by the sending card).



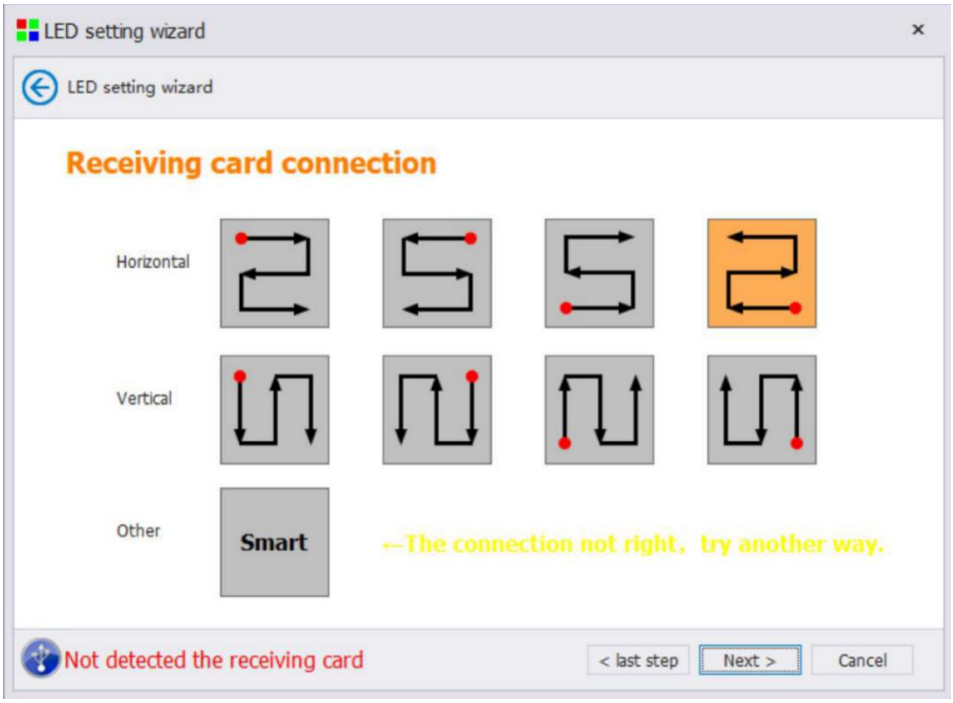
Number of large screen points: Can be set according to the number of modules, but also according to the number of real pixels.

Large-screen offset: A single sending card is offset on the coordinates, so as to complete the stitching display of multiple sending cards.

4.1.6 Receive card string mode

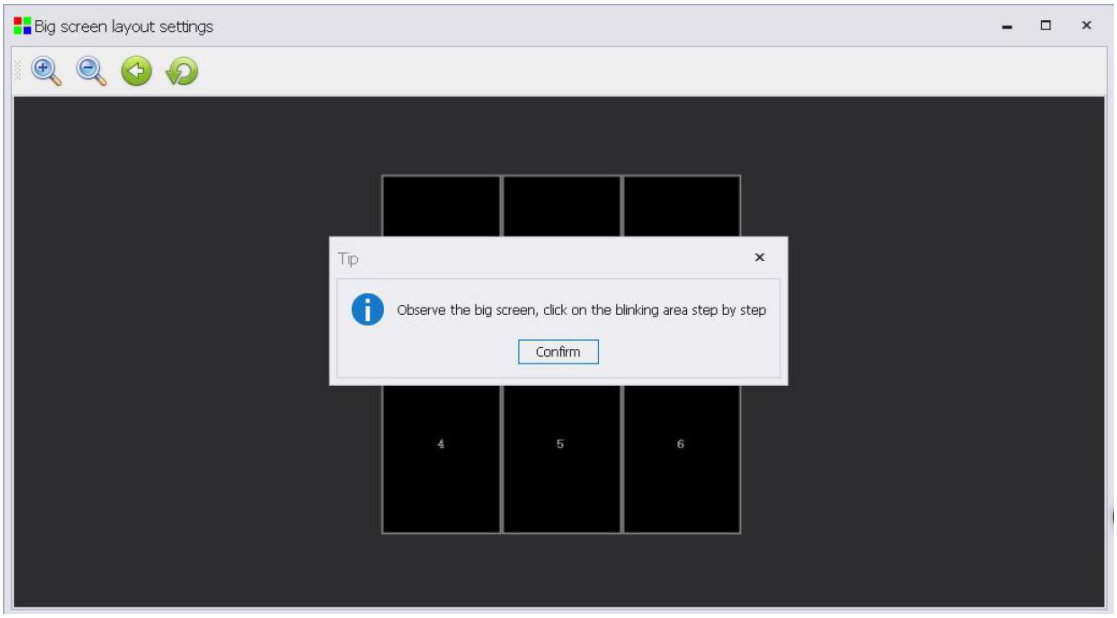
Fill in the actual number of points on the large screen and click Next to set the receiving card string method.

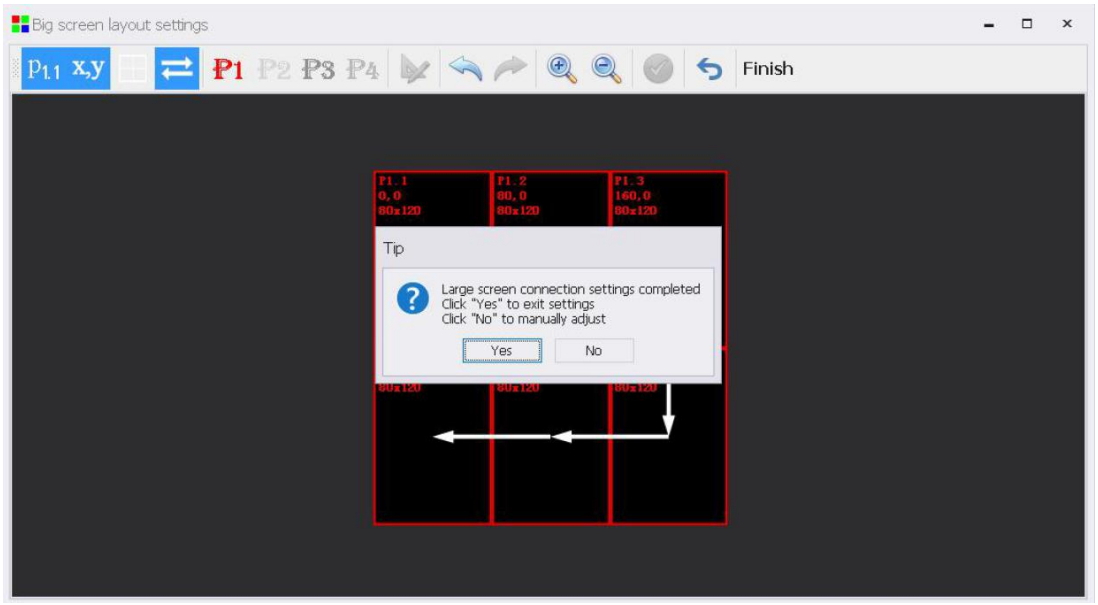
Horizontal serial line and vertical string line are suitable for the whole screen of all network cables of the receiving card string mode is exactly the same screen, if the screen of the receiving card network cable string is not exactly the same, you can use the intelligent string line, according to the system guidance prompts to connect the receiving card.



4.1.6.1 Smart Strings

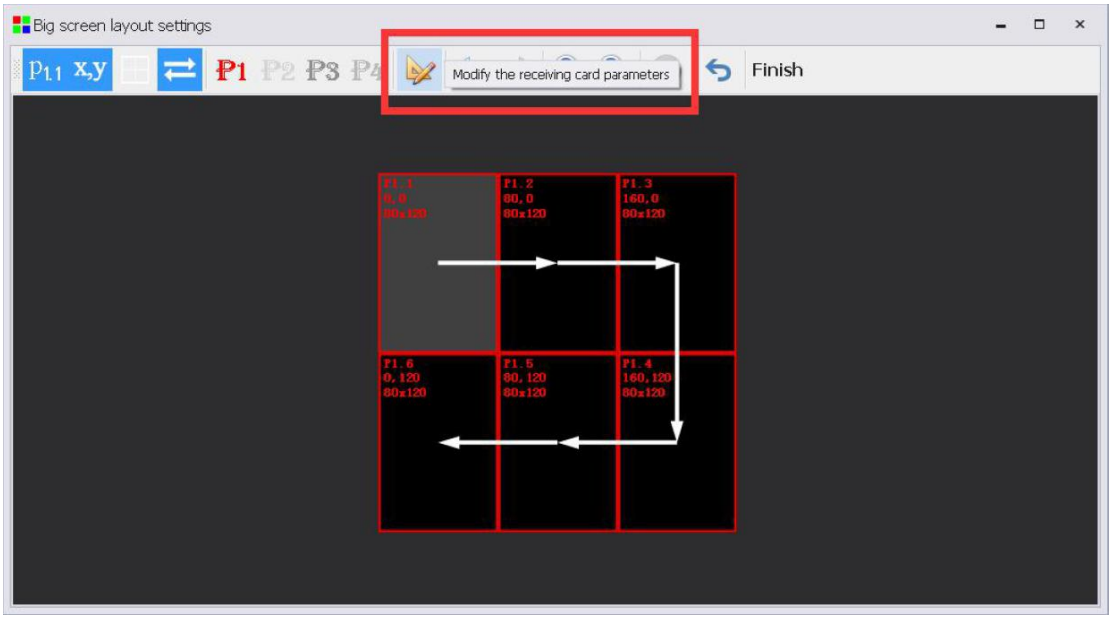
If the conventional string screen is displayed incorrectly, you can select Smart String and click according to the large screen flashing

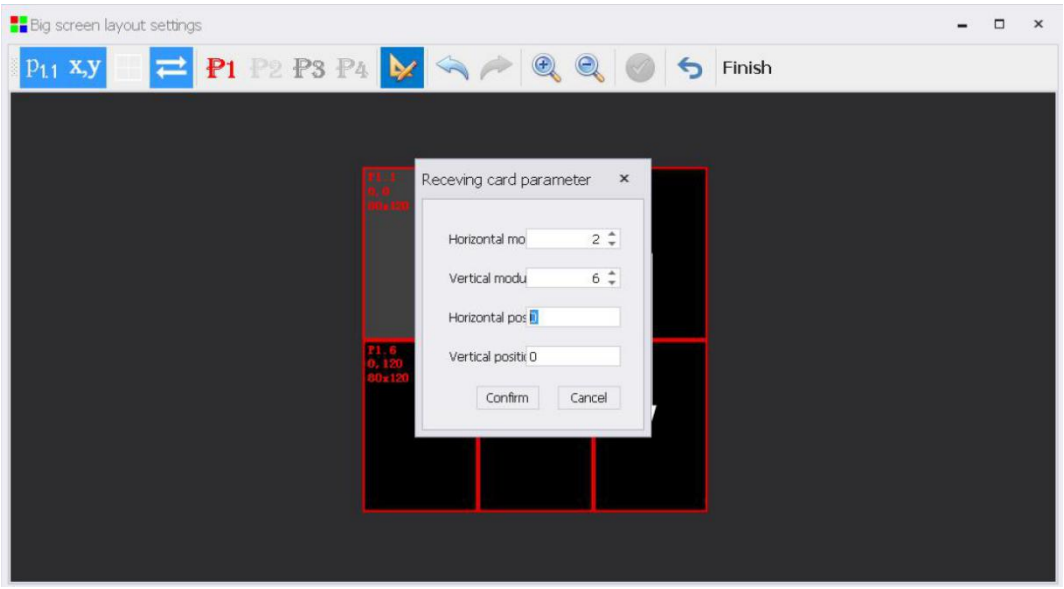




4.1.6.2 Modify receiving card properties

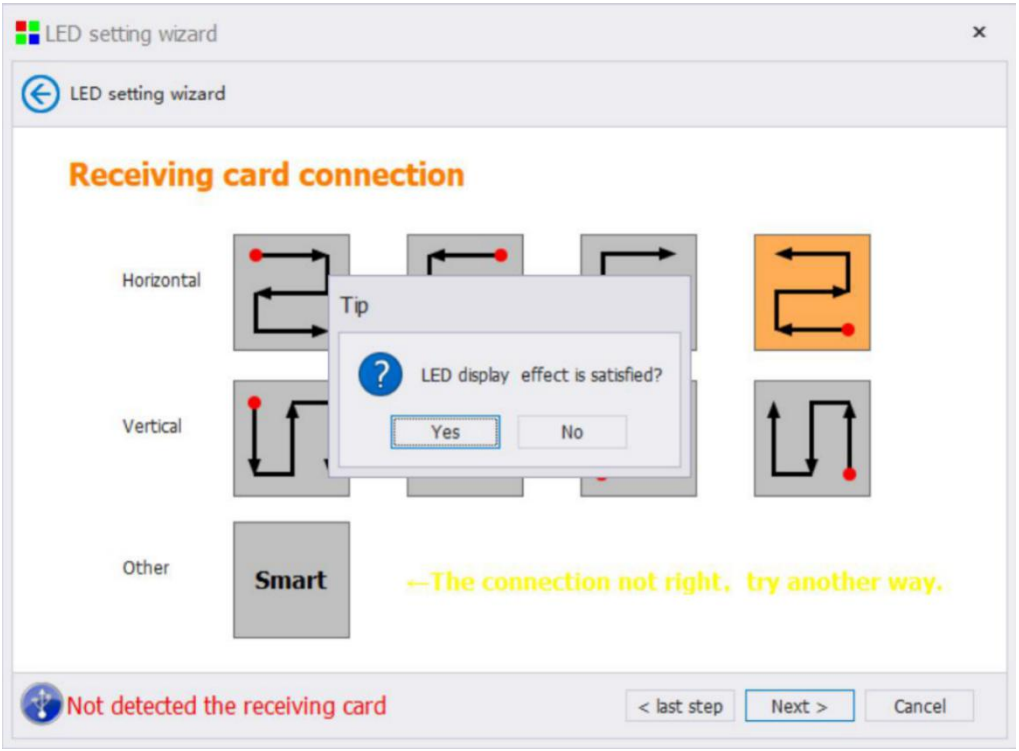
If the upper and lower receiving cards are different, left and right, you can use the "Modify" button to modify the receiving card load.





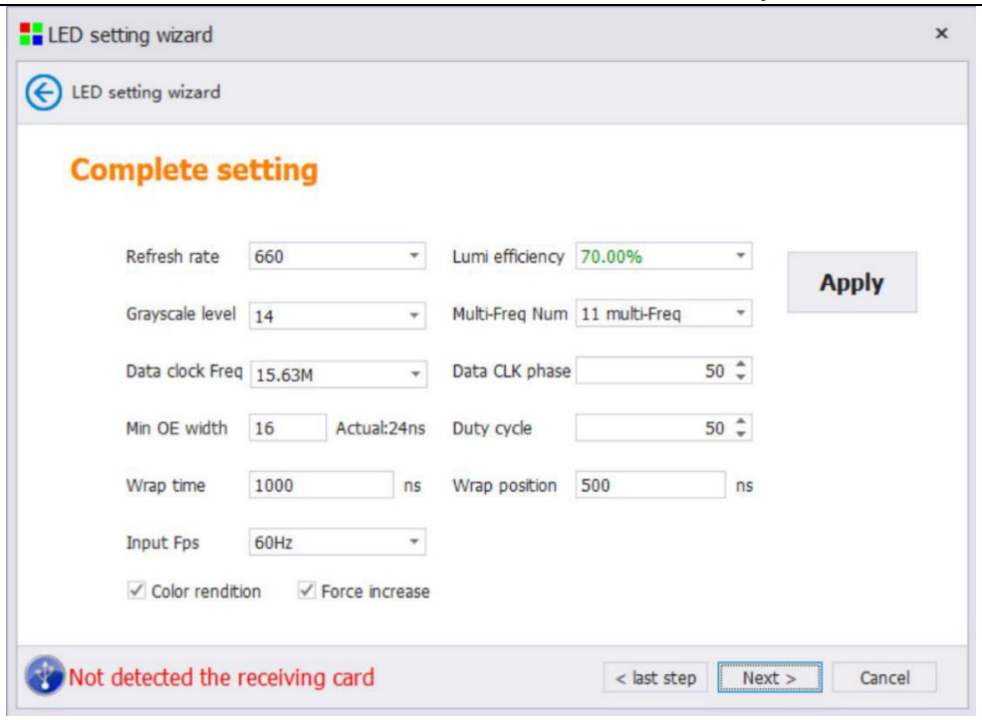
4.1.6.3 Display whether the performance is satisfactory

Select according to the actual serial cable mode of the receiving card, make sure that the large screen is displayed normally after selection, and then click Next



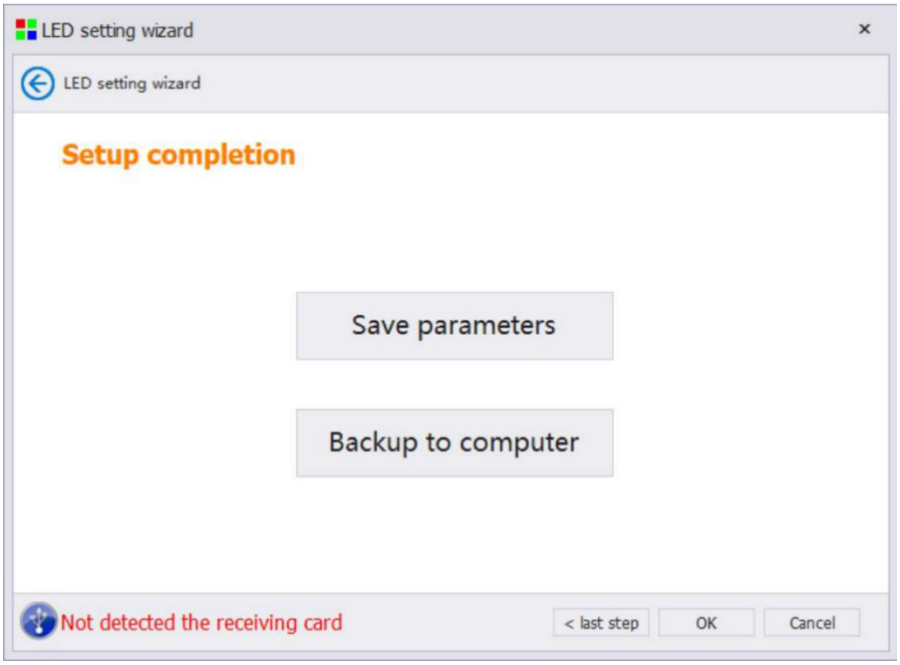
4.1.7 Advanced Effect Settings

If you are satisfied with the display performance, "Yes", if not, click "No" to enter the "Advanced Effect Settings" interface.



4.1. 8 Curing system parameters

Click on the curing system parameters to solidify the configuration information of the control system into the hardware.



Curing system parameters: Curing system parameters to hardware, and completing the operation of hardware system backup, which is convenient for realizing one-click repair of data backup work.

Backup system parameters to the computer: Save the system configuration file screen file to the computer, which is convenient for file import and system maintenance again.

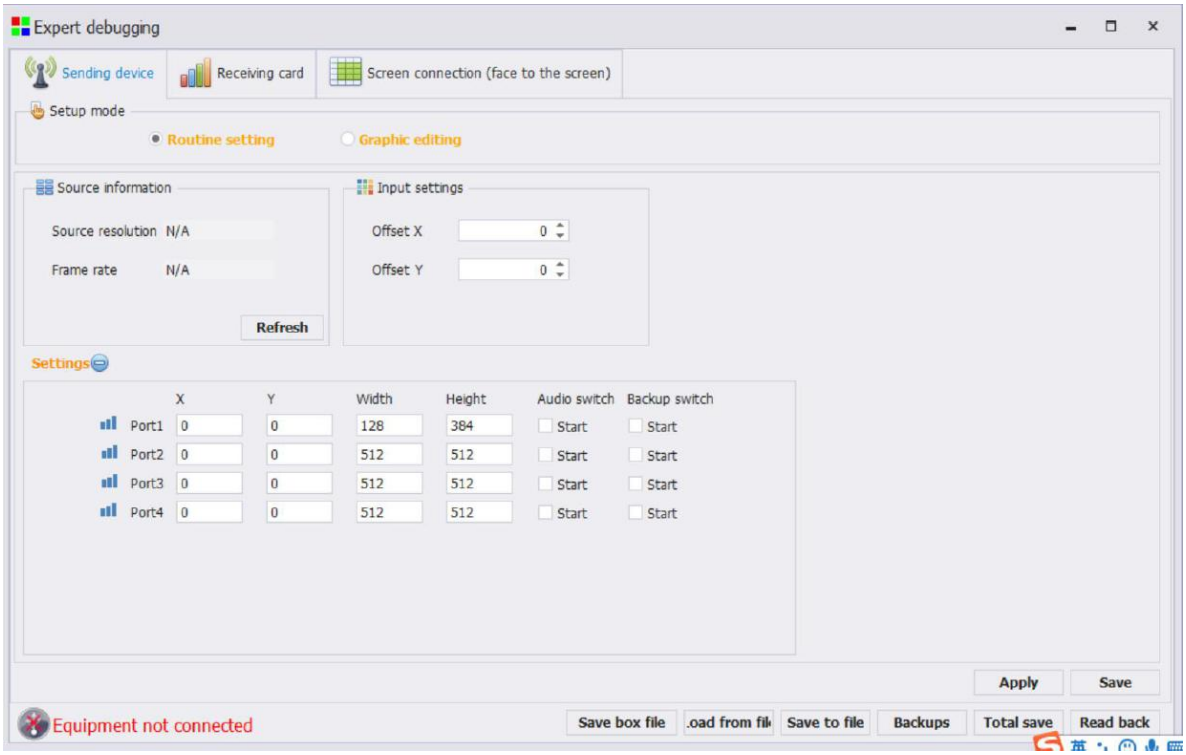
Click Finish to complete the wizard screen adjustment.

4.2 Expert Settings

Expert screen adjustment is divided into three parts, sending equipment debugging, receiving card data debugging, display connection.

The basic sequence of debugging is the receiving card parameter setting, the display connection setting, the confirmation of the transmitted card information, and the curing.

4.2.1 Sending Device



Device selection: The sending device has two parts: the sending card and the network card, and the two-in-one series only has the screen parameter settings.

Source information: The resolution and frame rate of the current input signal source can be displayed by clicking "Refresh" to refresh the data.

Input Setting: Position shifts the current signal source in the display.

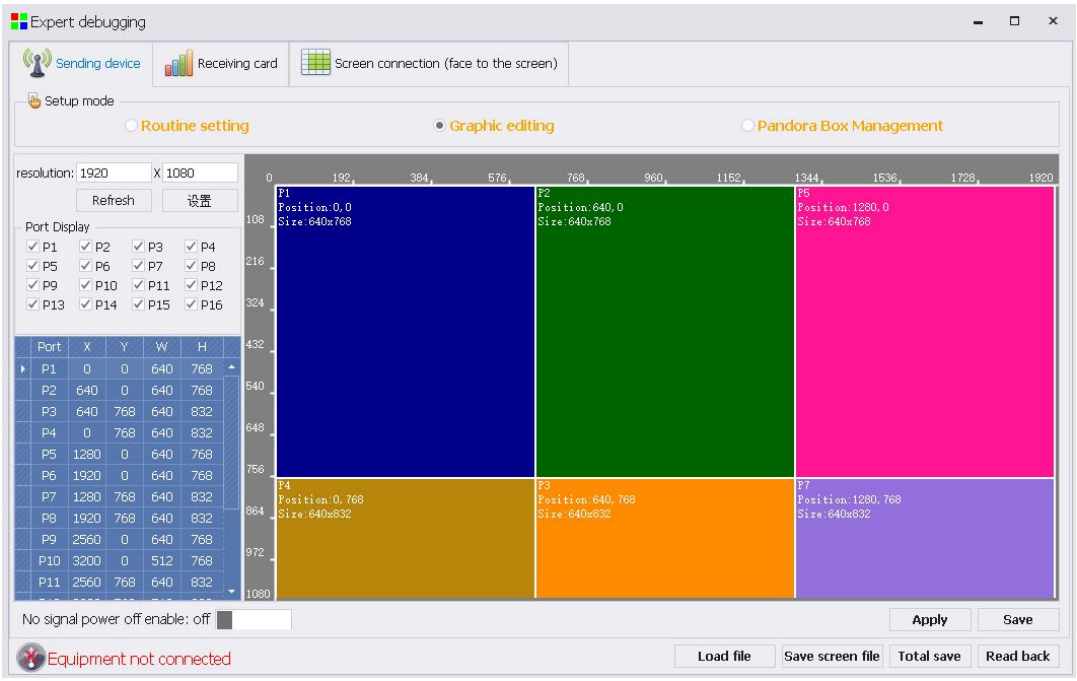
Advanced settings: Make a separate position offset/width, height and size change for a network port of the sending card, and each way can be checked to make audio and backup switches.

Graphic editing: Arrange and display network ports graphically.

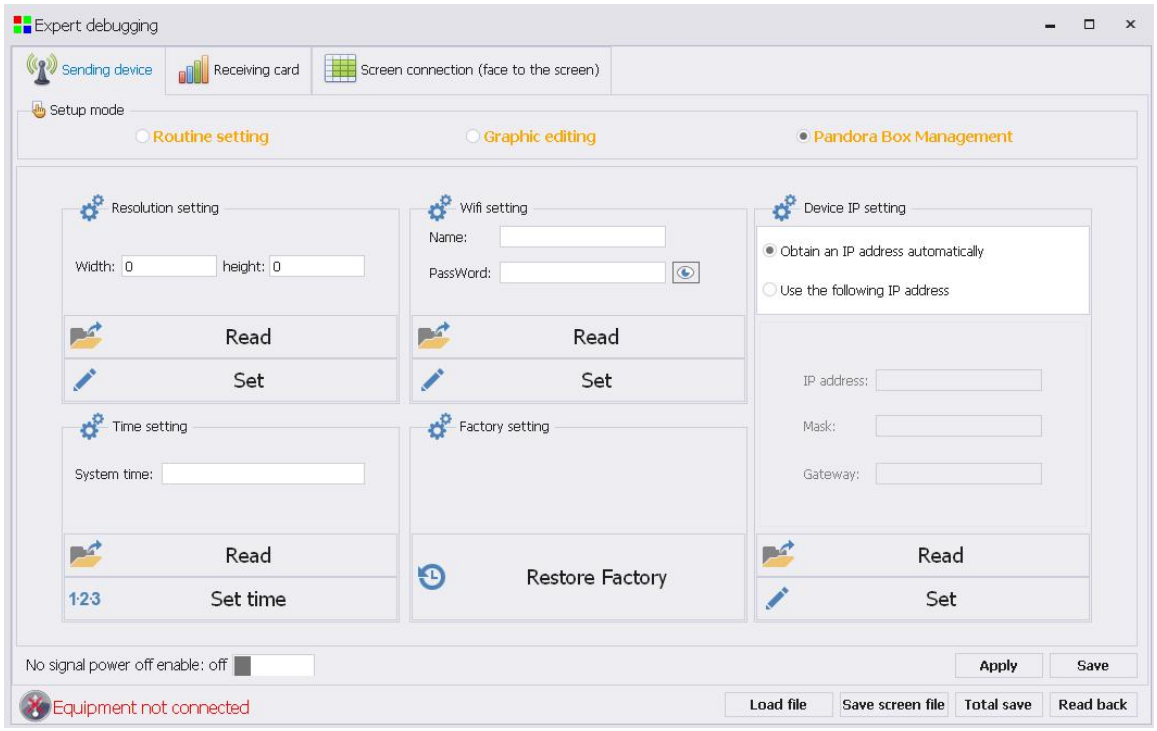
Pandora Box Management: Pandora Box resolution, hotspot, IP, time, and factory reset can be set through debugging software.

Send card backup: A single send card network port backup switch.

No signal power-off enable: Set the transmitter card series, 2-in-1 series sending device to trigger the multi-function card to turn off all relays without an input source.

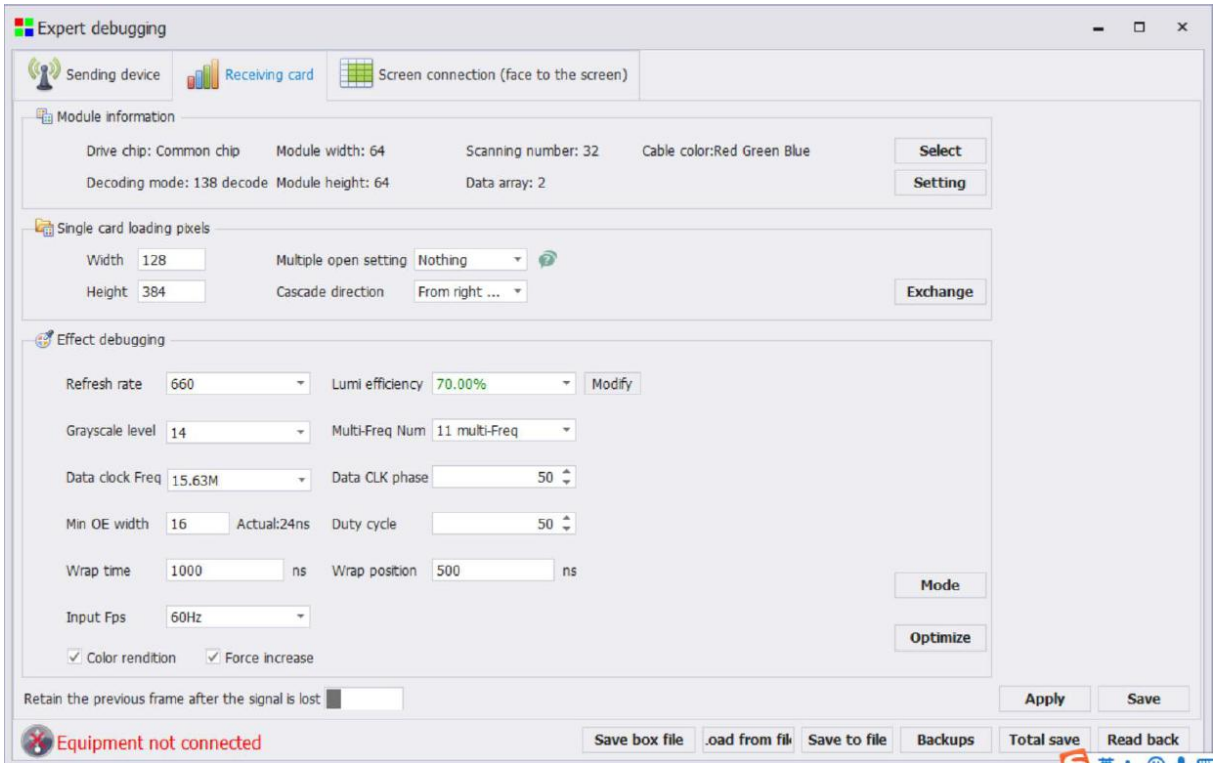


Graphic editing: Arrange and display network ports graphically.



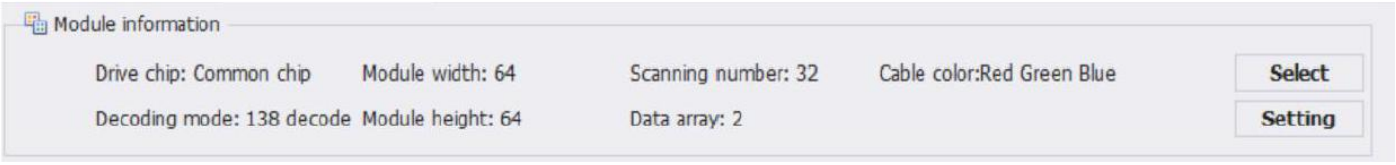
Pandora Box Management: Pandora Box resolution, hotspot, IP, time, and factory reset can be set through debugging software.

4.2.2 Receiving Cards



The receiving card interface is used to debug the receiving card parameters, you can select the corresponding module manufacturer unit board through the module selection, or add the module configuration information through intelligent settings, if there is a previously saved configuration file, you can also load it on this page and send it to the receiving card parameters.

4.2. 2. 1 Module information



Module Width: The actual width pixels of a single module.

Module Height: The pixel of the actual height of a single module.

Number of data groups: The information display of the number of data groups of the current module.

Driver chip: The information display of the driver chip of the current module.

Decoding mode: The information display of the decoding mode of the current module.

Number of scans: The number of data scans of the current module.

Data cable color; red, green and blue are exchanged without re-intelligent setting

Module selection (for steps, refer to "4.1.3 Select Module Manufacturer and Type").

Smart Settings (For steps, refer to "4.1.3.1 Smart Settings to Add Modules").

>>: View mod details and save mod files.

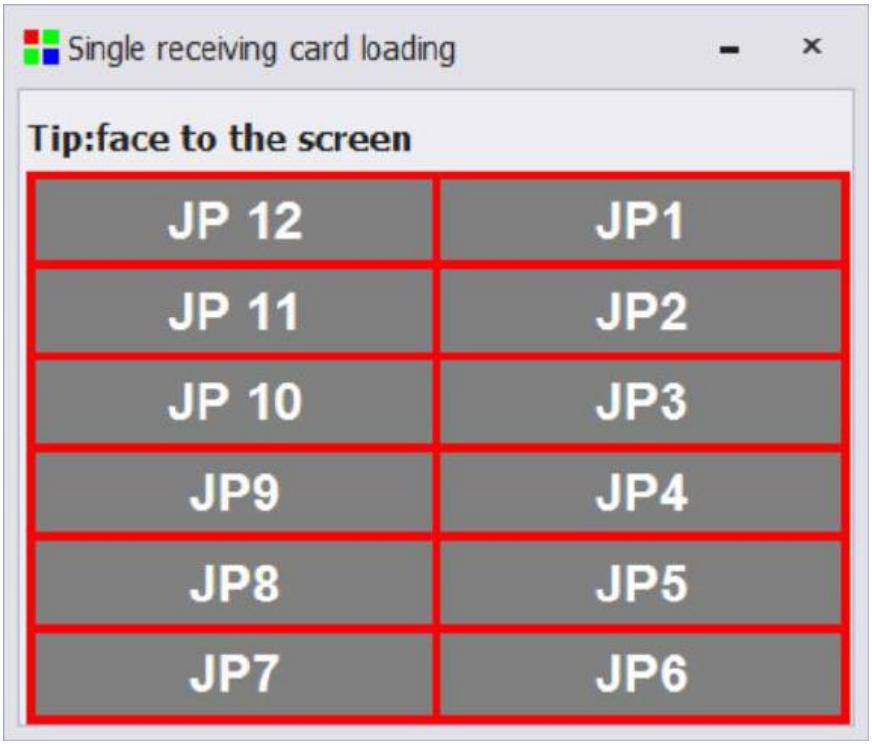
4.2. 2. 2 Single card load

The single card load information section contains the single card load information of the receiving card, and the load information, multi-open mode, module cascade direction, and data group exchange of the receiving card can be adjusted through this part.

Data set exchange :(steps refer to 4.1.4.1 Advanced Settings).

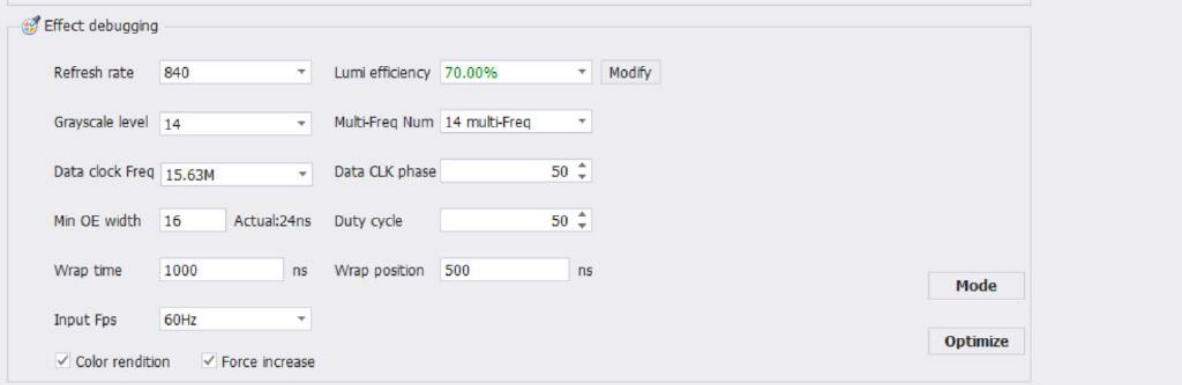
Cascade Direction: Modify the direction of the module data inlet.

Multi-open setting: The help symbol on the right is displayed graphically to help users understand the wiring rules of multi-open. As shown in the figure below, the multi-open setting, the front view screen, the JP1 of the receiving card is connected to the module in the upper right corner, and the JP12 is connected to the module in the upper left corner.

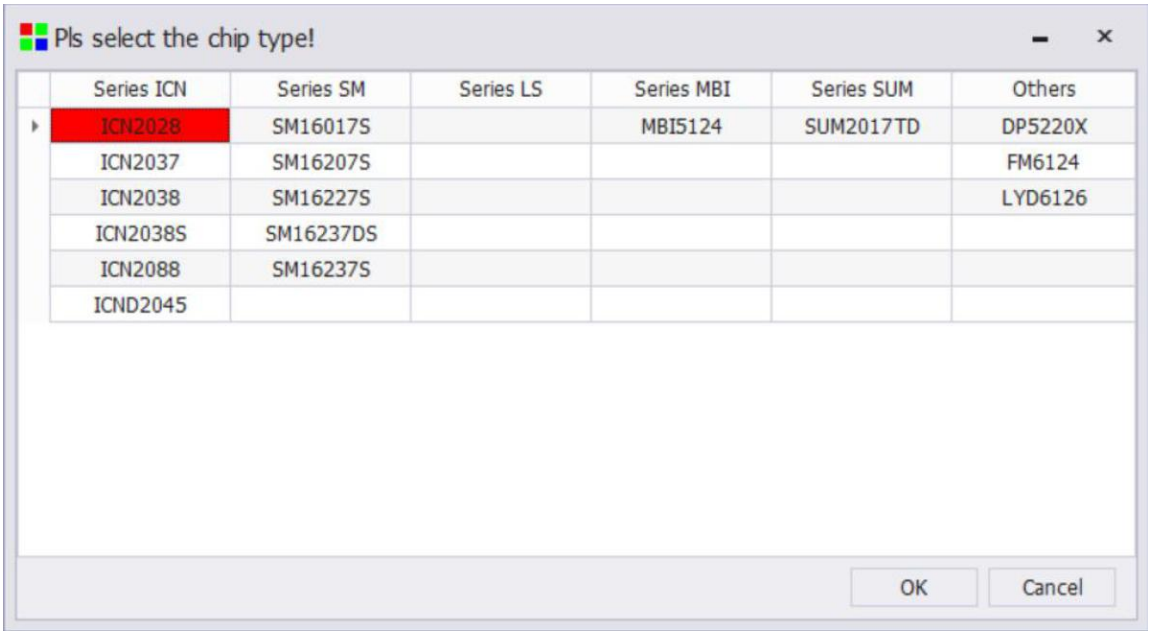


4.2. 2. 3 Effect debugging

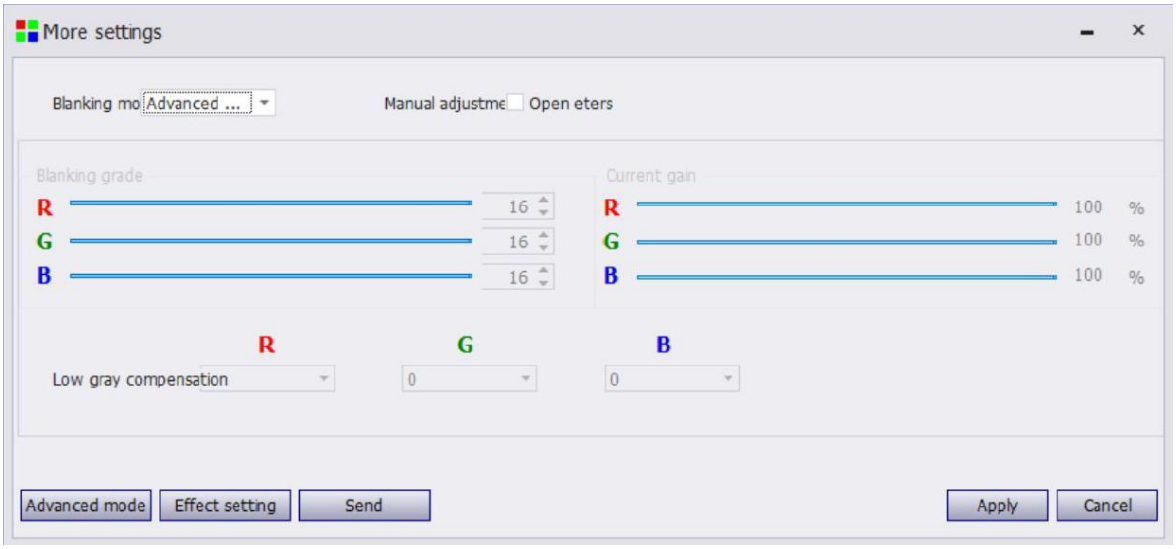
Effects debugging is used to debug the overall screen display. The screen display effect can be adjusted by adjusting the output gray level, frequency multiplier, and data clock frequency.



Mode Selection: Mode selection is used for screen effect display using the recommended configuration, for dual latching and PWM chip use. First, select the chip type.

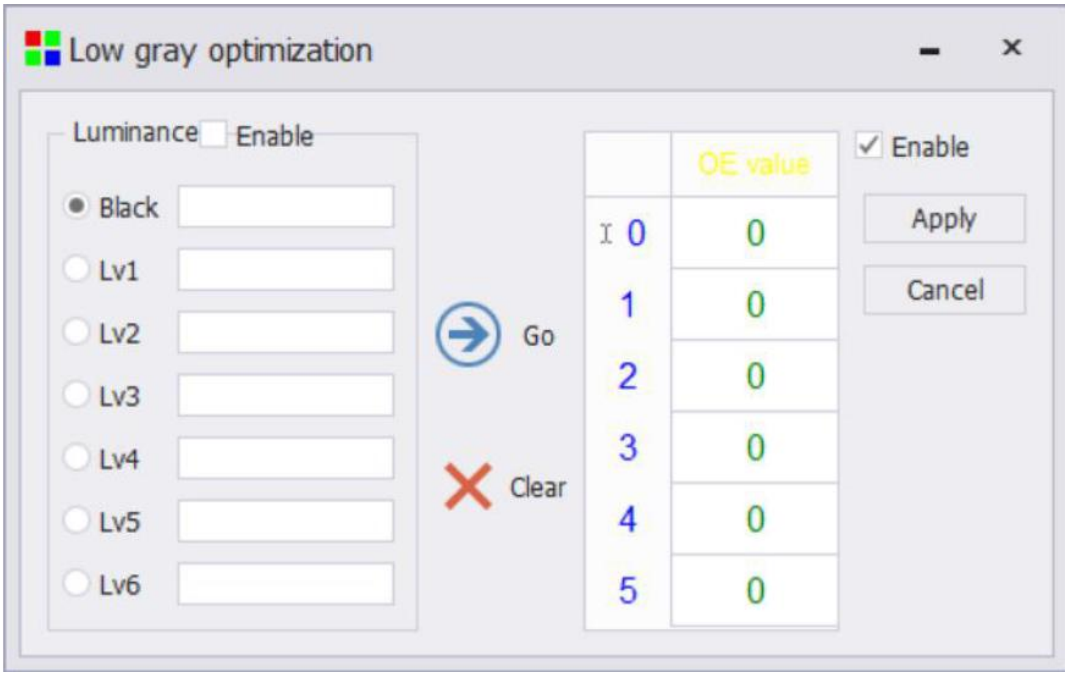


The second step is to adjust the registers, which generally do not need to be adjusted.

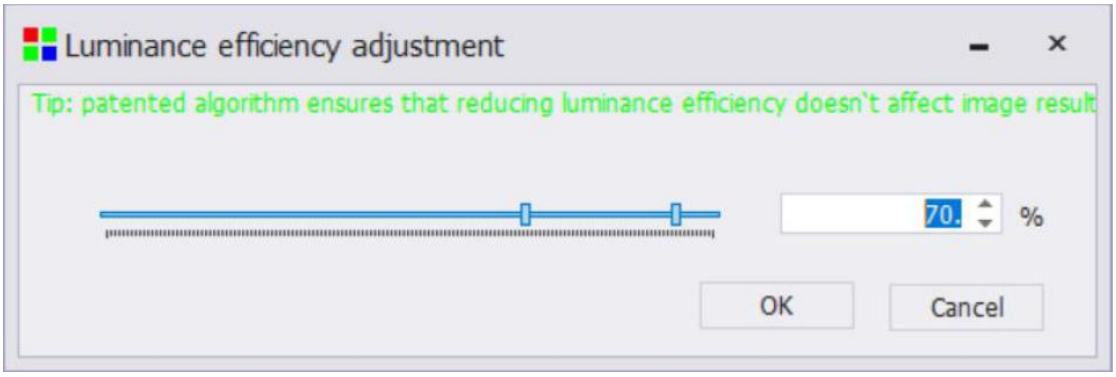


In the third step, click "Effect Settings", select Effect Settings 1, 2, 3, 4, and then click "OK" to complete the application of the preset effect settings, and select the state where the screen effect is better.

Low gray optimization: for optimizing the low gray effect of the screen display, check enable, set the low gray brightness measurement level, click "Calculate" and "Apply" to complete the use of low gray optimization, this adjustment needs to be used according to the actual situation on the site, and does not need to be adjusted in regular mode.



Brightness adjustment: This function uses a patented algorithm to ensure that reducing the brightness of the screen will not affect the image display effect, the left slider is an adjustment slider, used to reduce the brightness of the system efficient adjustment, the right side will have a value to follow the change. The slider on the right is the maximum brightness of the system and is efficient, depending on the system configuration parameters. After the adjustment, it is displayed in real time, and click "OK" to complete.



Color reproduction and level 1 graying: Adjust the current screen display effect, check it, and send it to the receiving card to take effect.

Color reproduction, effectively eliminate the phenomenon of redness of the human face, so that the skin color is more real;

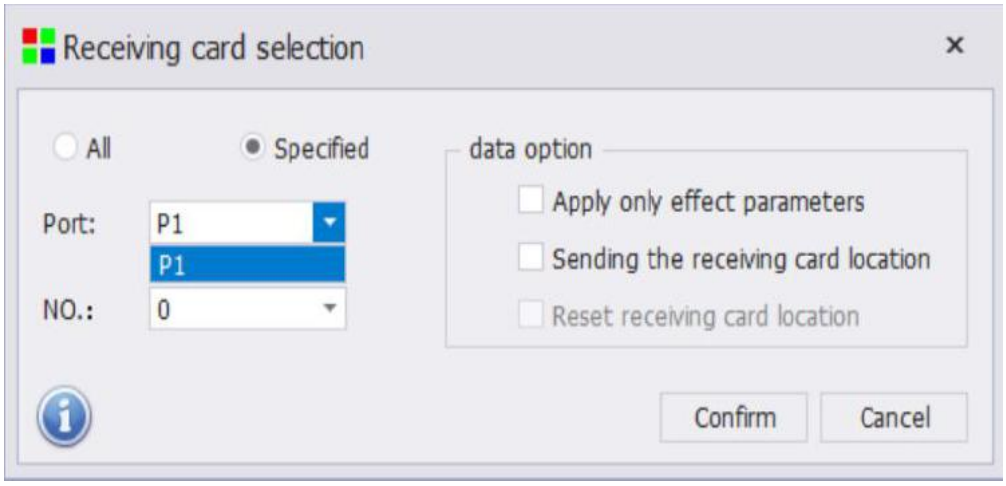
The first level of graying, improve the low gray display effect, starting from the first level of gray.

4.2. 2. 4 Keep the last frame

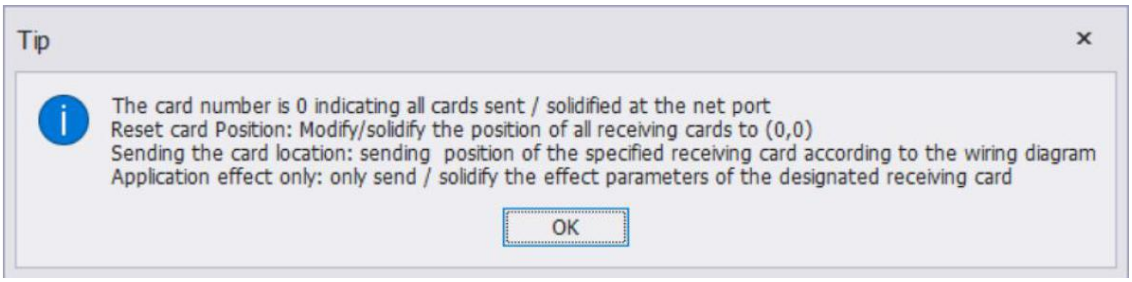
The receiving card factory program retains the last frame by default, if not needed, it can be adjusted by sliding the slider to change the last frame or black screen when the receiving card has no signal.

4.2. 2. 5 Receive card data sent

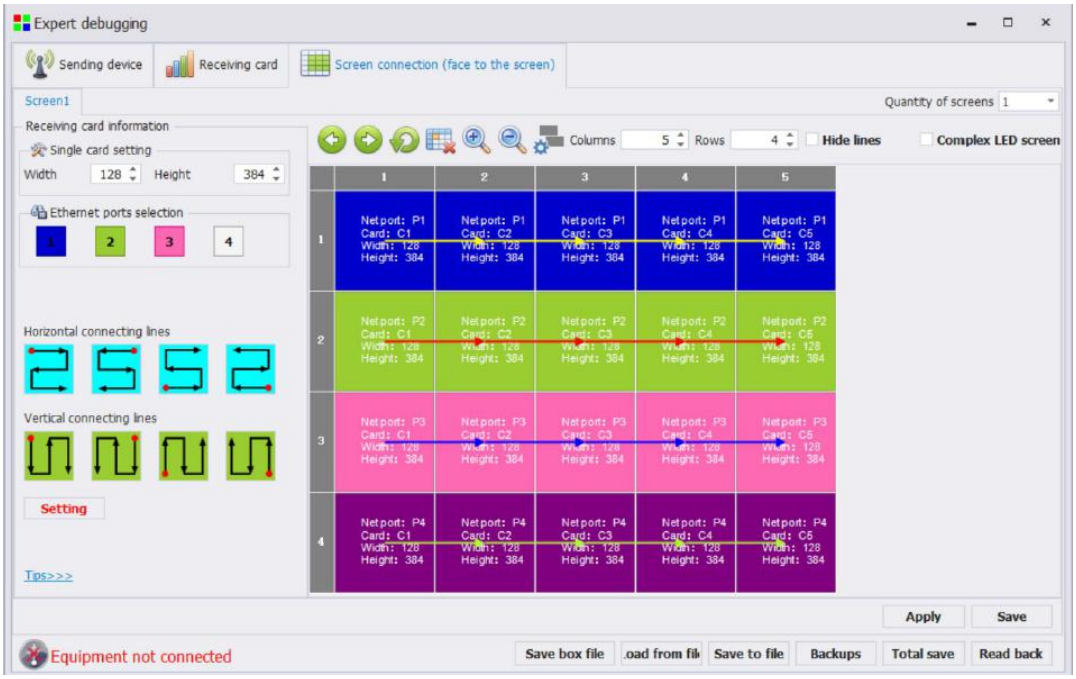
Receive card data sending, click Apply, you can complete the data application of all receiving cards, right click the "Apply" button, you can enter the detailed send data page, as shown in the following figure.



Select all receiving cards or designate receiving cards, the slogan uses P1, P2, P3, P4, etc. to identify, and the card serial number uses 0 , 1, 2, 3, etc. are identified, 0 identifies all receiving cards of the current network port, 1, 2 , 3 indicates the specific receiving card serial number of the current network port, and the serial number is sorted according to the signal trend. The following figure shows the prompt message.



4.2.3 Display connection



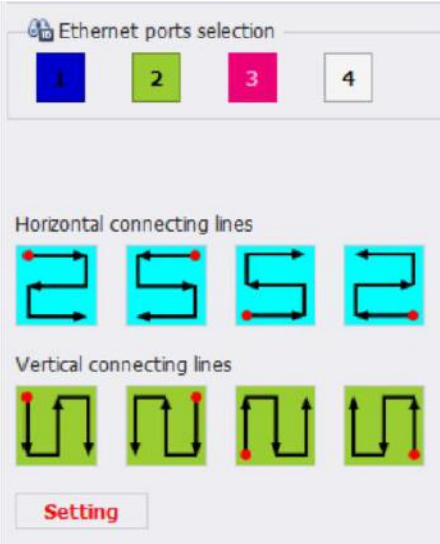
The display connection is used to string the single receiving card that has been debugged into a whole through a certain series of cables, so as to achieve the effect of displaying a continuous picture on the entire screen.

4.2. 3. 1 Receive card information

The receiving card information contains the receiving card's load information, and this window

automatically matches the loading of the receiving card page. After the screen is threaded, if you need to change the receiving card load, you can modify it at this location.

4.2. 3. 2 Quick string

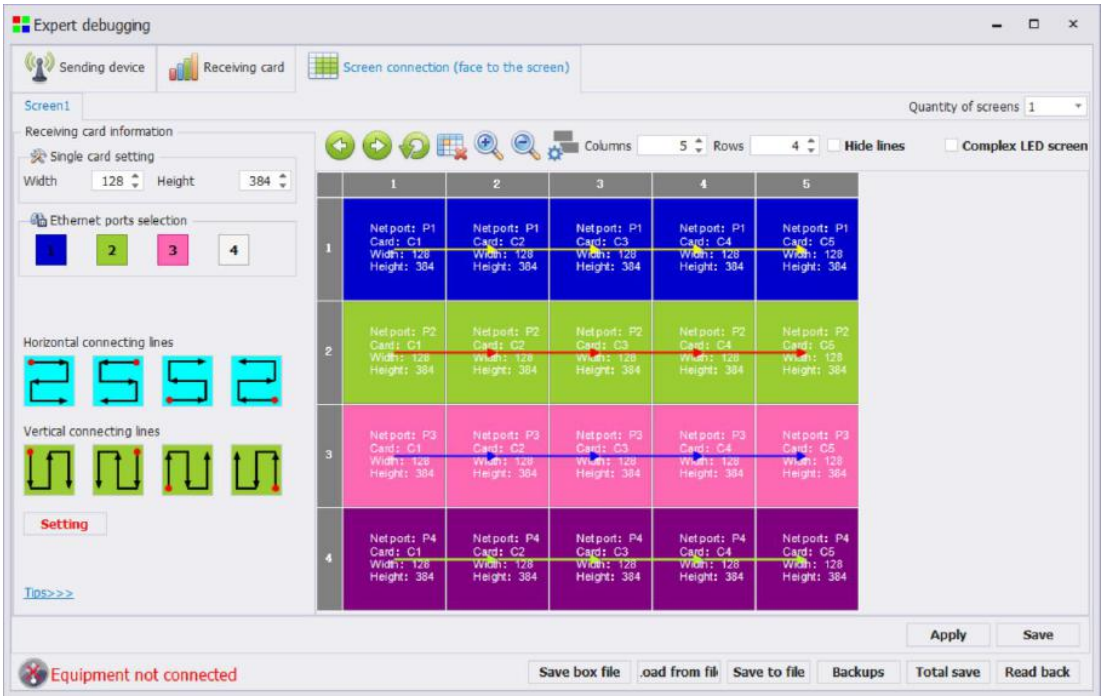


Select the network slogan, in the selection of the fast string mode, you can complete the fast string of all receiving cards on the screen, and you can also use the smart string to complete the screen connection.

Location: See where the receiving card is located

Loaded prompt: Check whether the current network port is overloaded

4.2. 3. 3 Standard display connection



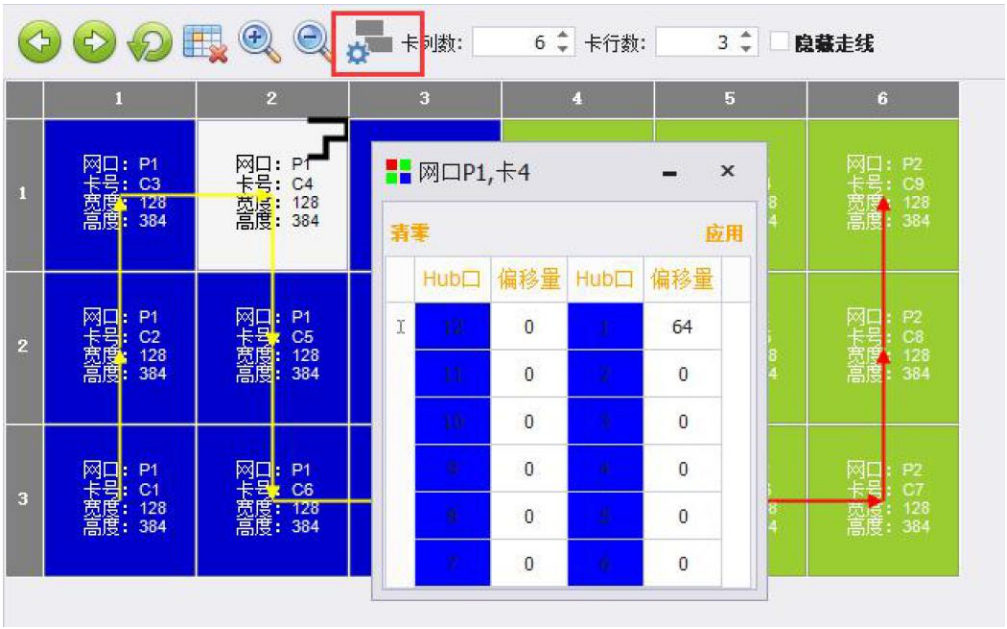
According to the actual situation of the screen, set the number of rows and columns of the receiving

card, and then select the network slogan to string.

There are three ways to string the cable: left mouse button click, arrow key string, hold down the left mouse button, drag and drop the passing receiving card to complete the string.

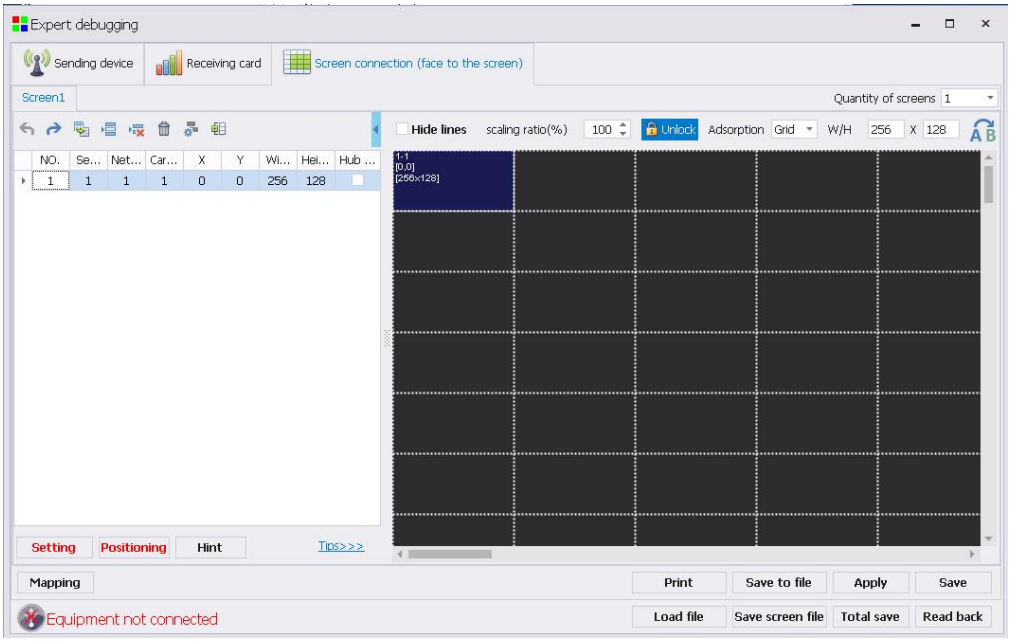
Leave blank: After the normal string, click the Leave Blank button, as shown in the red box button below, to complete the blank setting.

HUB offset: In the standard display connection, first select the receiving card that needs to be offset, and then click the HUB offset button in the Tools menu, the red box position in the following figure, set the HUB port offset in the pop-up box, and click "Apply" to determine the original receiving card position The polyline logo appears, and after the HUB offset interface "clears", the page is closed and the polyline disappears.



4.2. 3. 4 Complex display connections

Complex display connection page click icon , switch from the standard screen to complex screen, data will be automatically imported, by setting the number of receiving cards, and modify the column starting point, row starting point, width, height of each receiving card, after setting, apply, and then click on the curing display connection to complete the complex display connection data transmission.

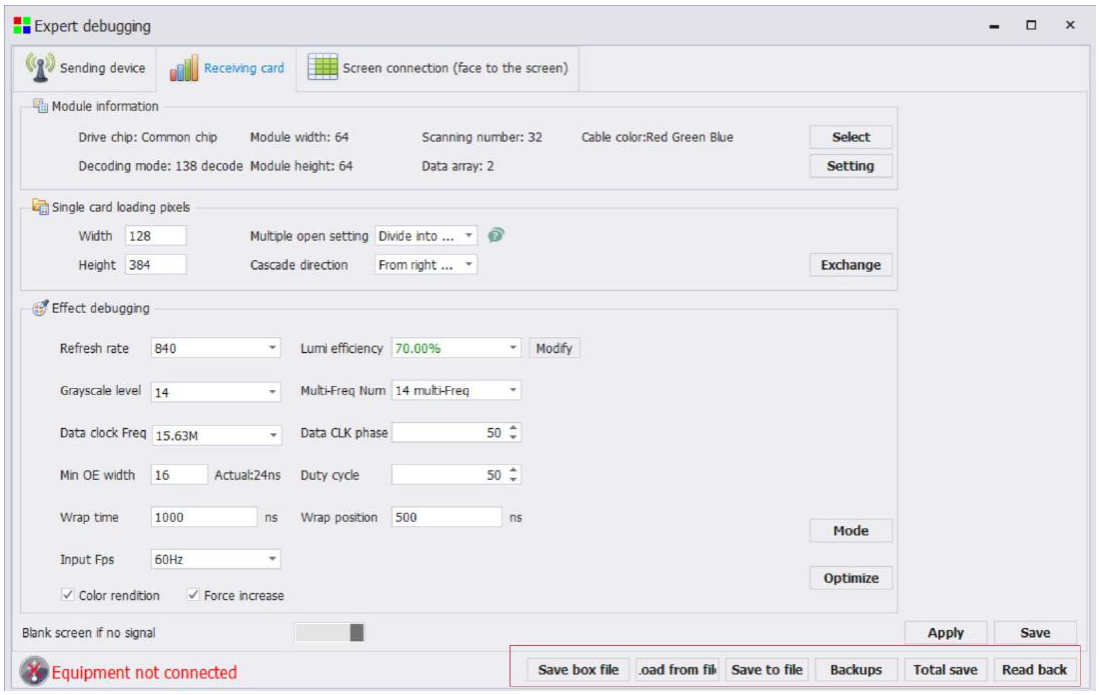


4.2.4 Curing parameters

Individual curing: The connection settings of the sending card, receiving card, and display are completed, and the corresponding parameters can be cured separately by clicking the curing buttons on the respective pages.

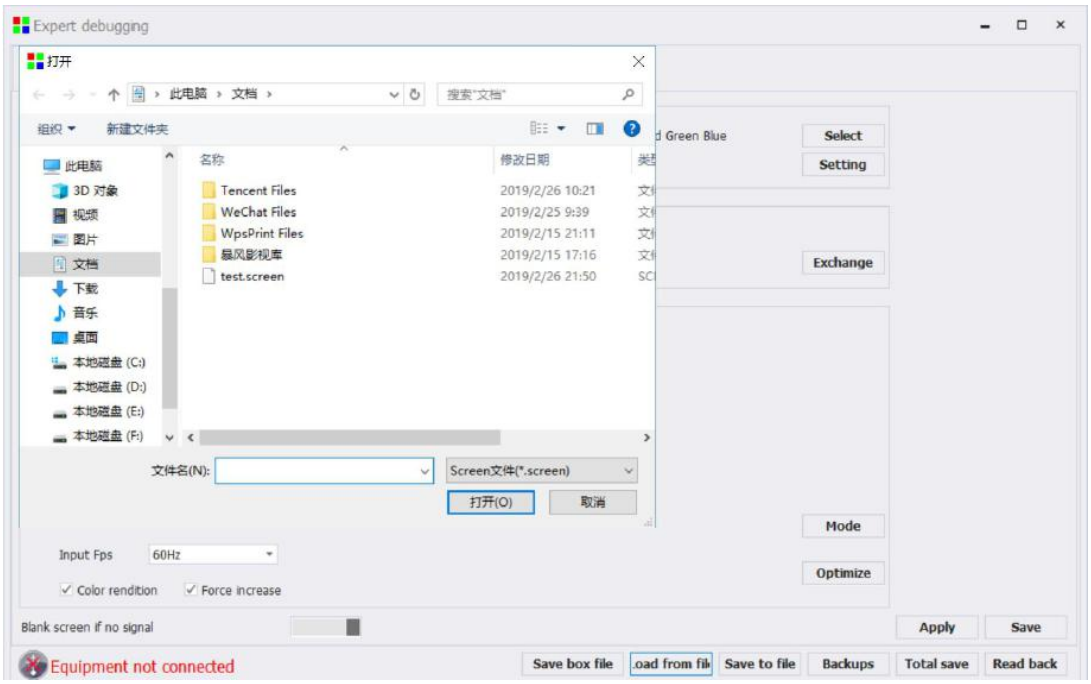
Full curing: Ensure that the sending card, receiving card, and display connection parameters are sent correctly, and click All Curing can quickly complete the curing of the control system.

4.2.5 Other Parameter Handling



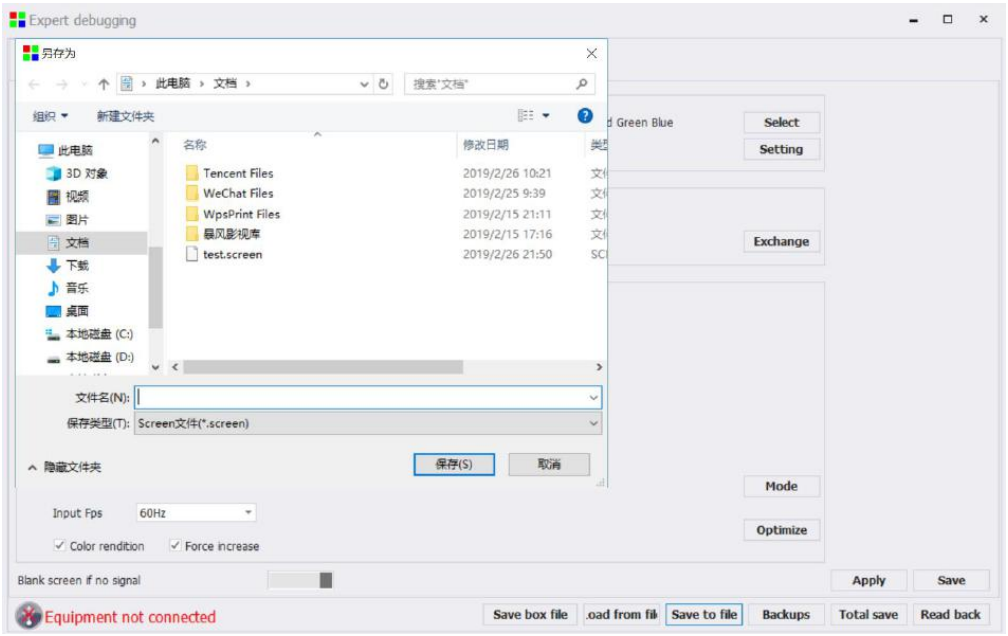
4.2.5.1 Loading from a file

Load the saved configuration file



4.2.5.2 Save to a file

If you want to save the current **receiving card/sending card/display connection trace diagram**, you can select "Save to File" to save to the local computer, which is convenient for later maintenance at any time.



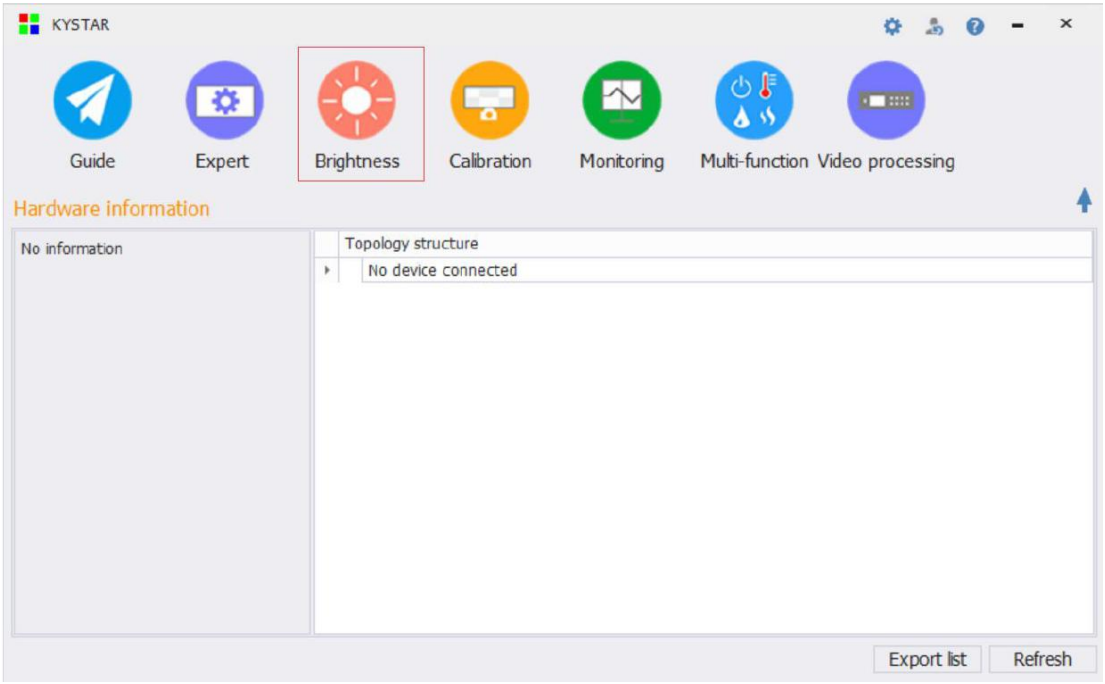
4.2.5. 5 Read back

After the device is successfully connected, the transmit/**receive/display connection** parameters that were cured last time can be read back

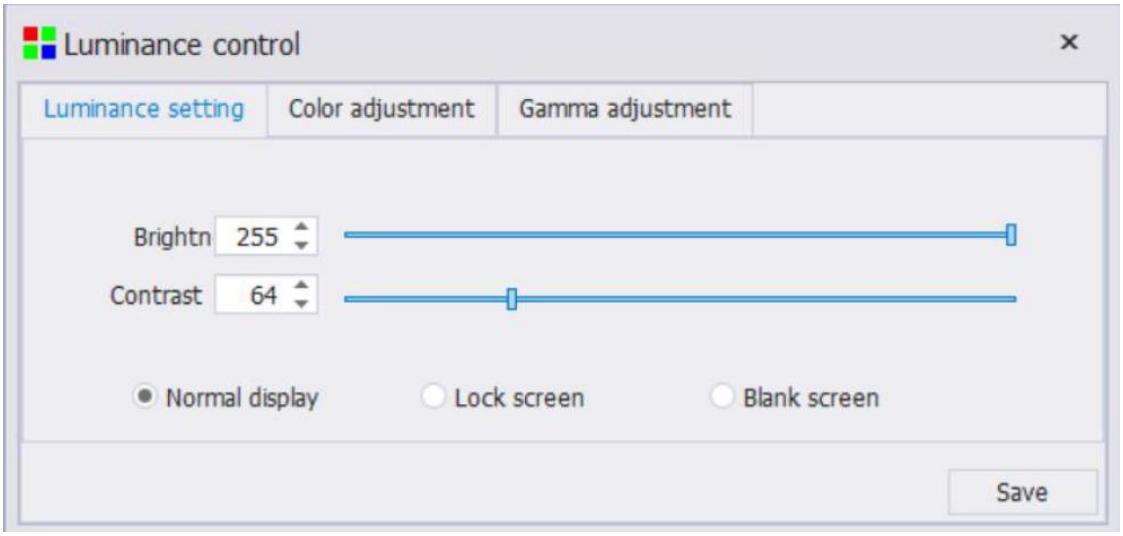
5 Brightness control

The brightness control page contains brightness settings, color temperature adjustments, and gamma adjustments.

Click brightness control on the main interface to enter the detailed setting page of brightness control.



5.1 Brightness Settings



Brightness settings include brightness settings, contrast adjustments, and screen display.

The brightness can be adjusted from 0 to 255, and the default value is 255.

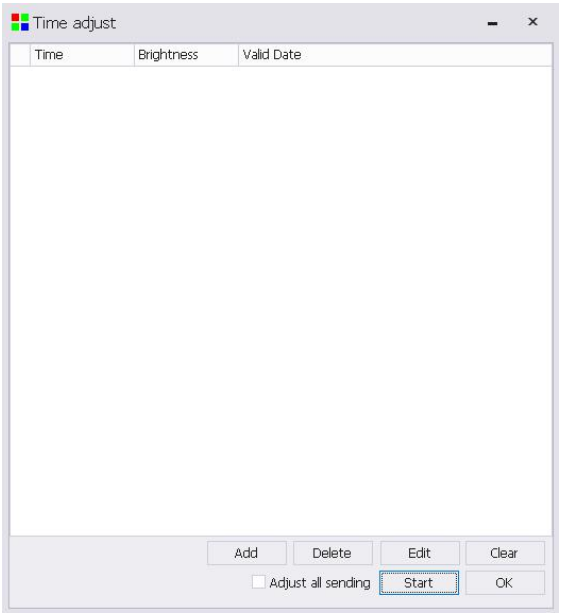
The contrast can be adjusted from 1 to 255, and the default value is 64.

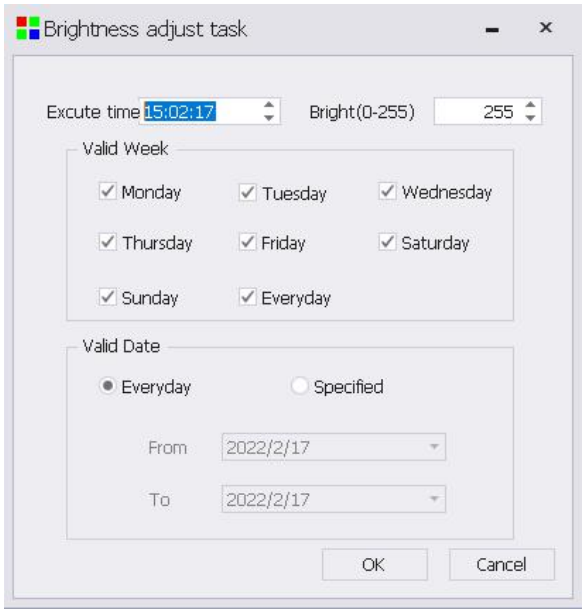
The screen display includes normal display, lock screen, black screen, the default is the normal display

state of the screen, the screen has no effect after selecting the brightness and contrast change after the lock screen, and the black screen is displayed after the black screen is selected.

After setting the brightness or contrast, you need to click "Curing" to store the setting data.

The timing control module sets the timing brightness of the sending card, and can add, delete, edit, and empty the timing tasks when using, and you can check all the adjustments Send cards, reach the full screen of multiple sending cards while adjusting the brightness. Click "On" to immediately enter the brightness timing control adjustment state.





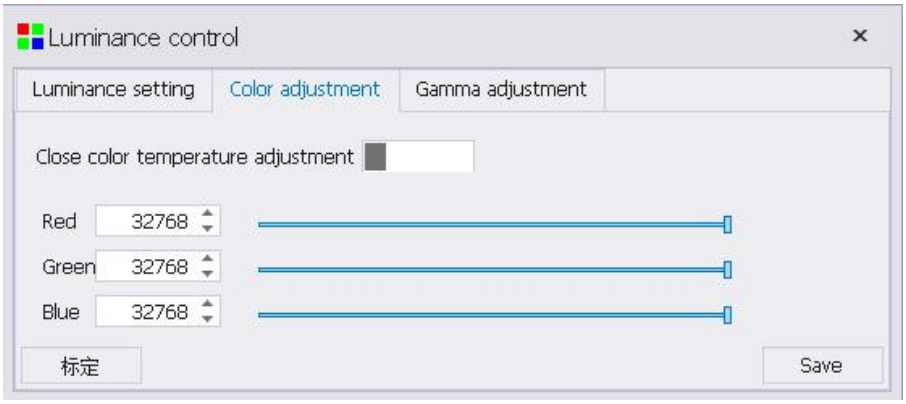
Added: Can fill in the execution time, brightness, effective week, effective date set scheduled task.

Delete: You can delete the scheduled task that you added.

Edit: You can re-edit the added scheduled task.

Empty: You can empty all set scheduled tasks.

5.2 Color temperature adjustment



The color temperature adjustment is divided into three separate adjustments of red, green and blue, and the adjustment range is 0~32768, and the default value is 32768.

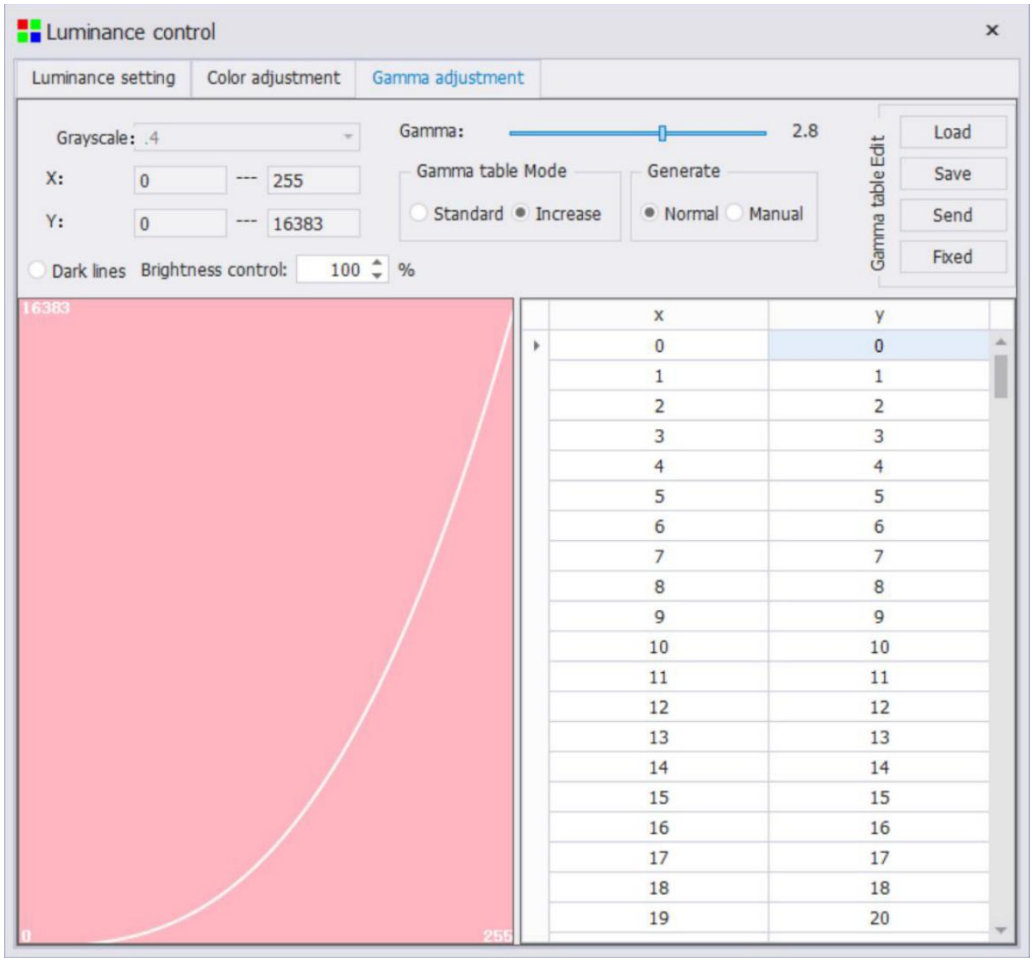
Note: Color temperature adjustment is effective.

5.3 Gamma Adjustment

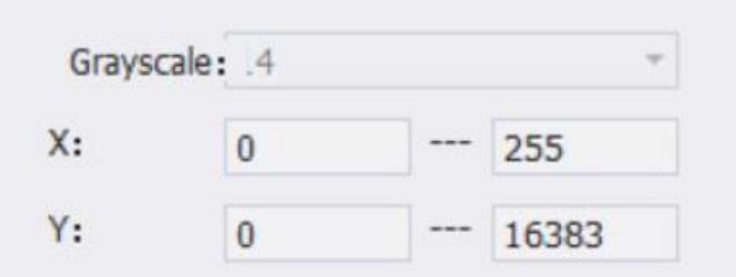
Gamma adjustment mainly contains two parts: gamma value and gamma curve.

Modifying some of the values in the Gamma value table improves the uniformity of the screen display grayscale.

1. First click on the brightness control to select Gamma to adjust the following figure

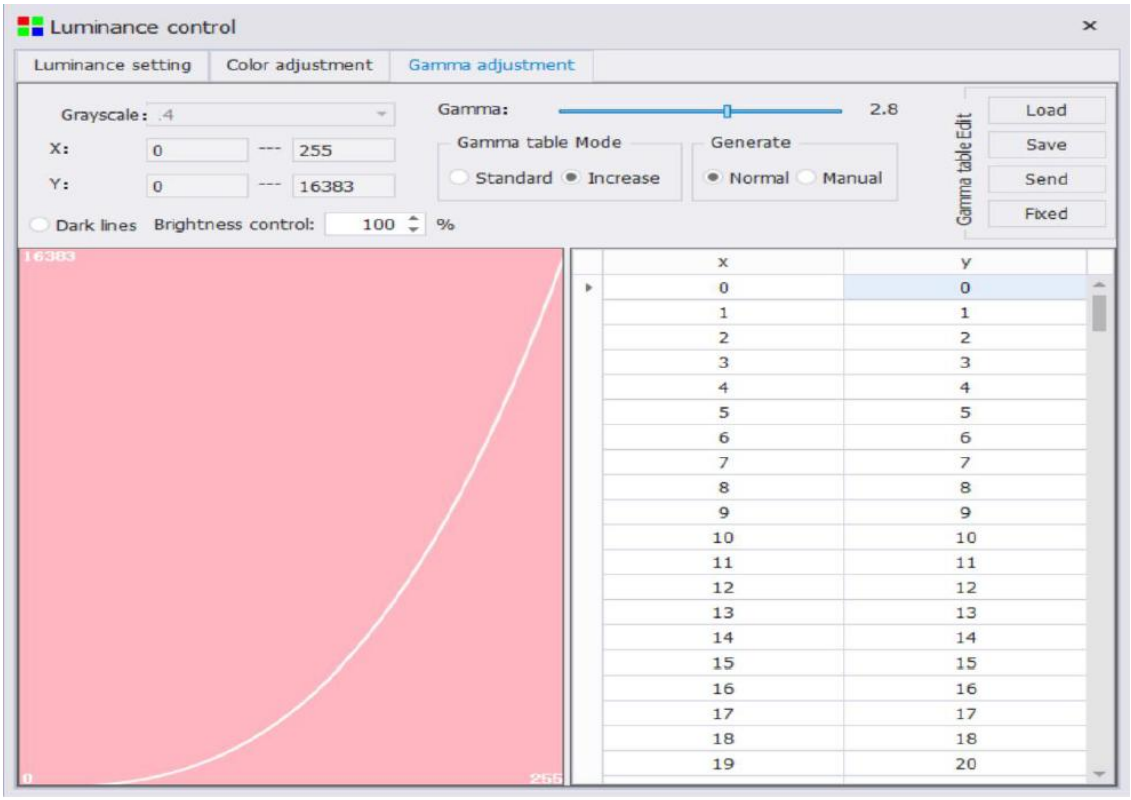


2, the X axis represents the 256 brightness values of the signal source (freely selectable, not necessarily 256), and the Y axis represents the PWM gray value of the LED, generally The value range of X is 0 to 255, while the value range of the Y axis is 0 to 65535 (the specific number depends on the gray level in the debugging of the receiving card). As shown in the figure below, there are 14 levels of grayscale, and the range is 0~16383.



3. Gamma table adjustment

Modify the grayscale value of the Y region to adjust the displayed grayscale value corresponding to the brightness of the signal source. Adjust it and click "Send", and then solidify it to apply the adjusted gamma value to the screen display.



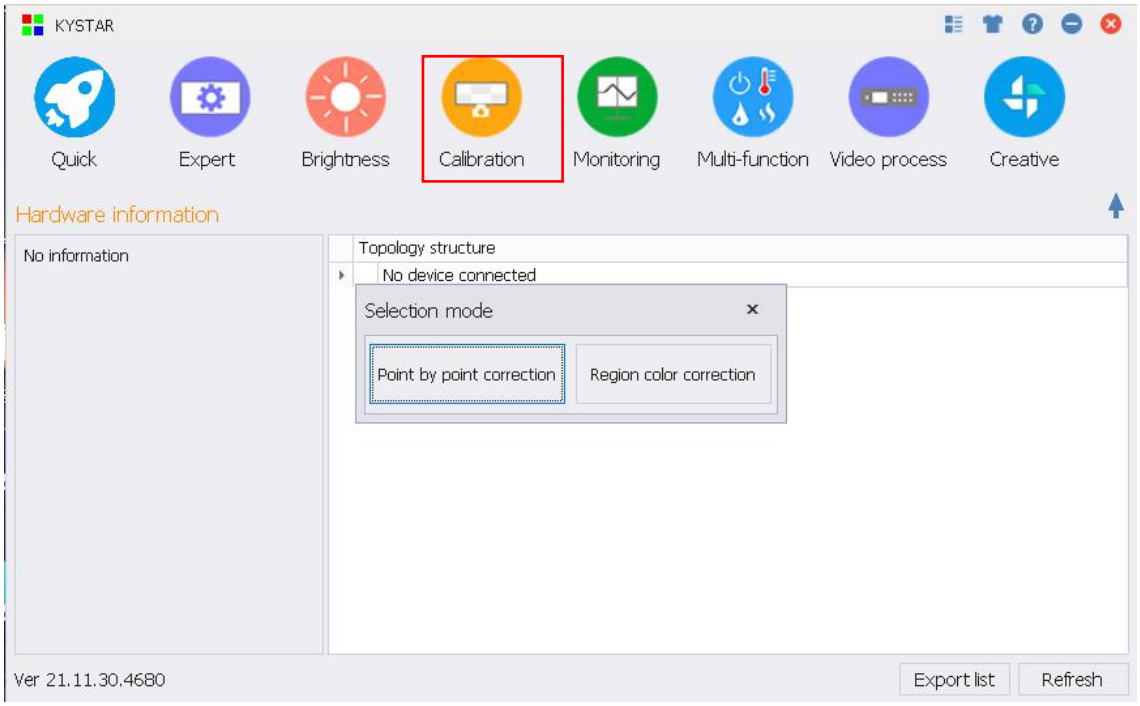
5. Load and save

The modified Gamma table values can be saved as a file, and the previously saved files can also be loaded into the software.

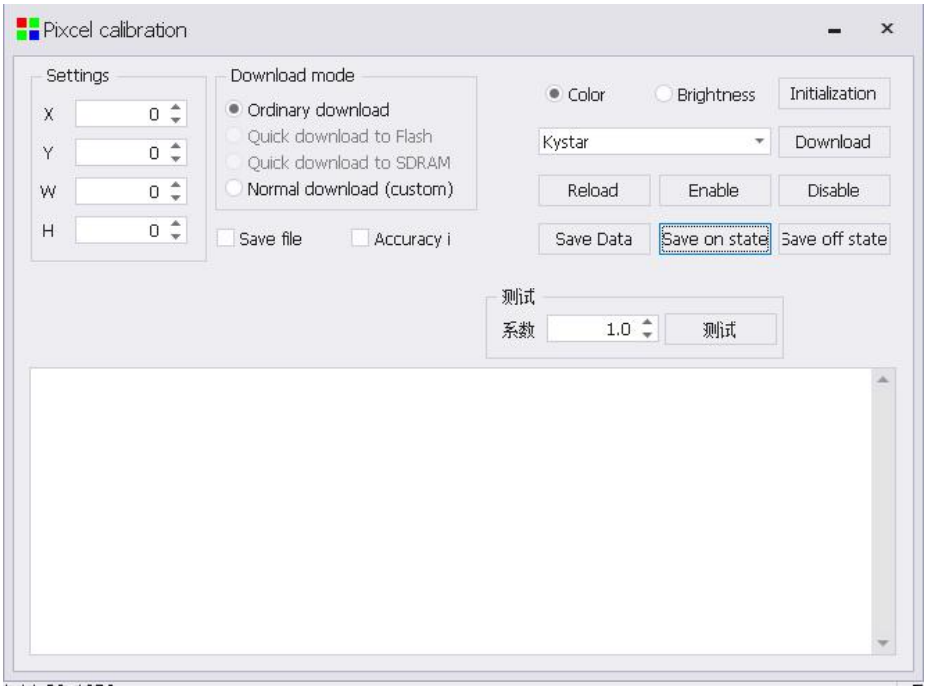
6 Camera correction

Camera correction consists of two parts: point-by-point correction and area color correction.

Click Camera Correction on the main interface to select the Point-by-Point Correction or Area Color Correction page.



6. 1 Correction point by point



Point-by-point correction is a technique for improving the brightness uniformity and color fidelity of

led displays, that is, through the brightness (and chromaticity) of each pixel (or each primary color subpixel) area on the LED display The data is collected, the correction coefficient of each primary color subpixel or the correction coefficient matrix of each pixel is given, and it is fed back to the control system of the display, and the correction coefficient is applied by the control system to achieve the difference drive of each pixel (or each primary color subpixel). The picture of the LED display is pure and delicate, and the color is truly restored.

Correction Parameter Settings: Sets the width and height of the correction area.

Download Mode: Select how the correction data is downloaded.

Chroma Correction\Luminance Correction: Select the type of correction you want.

Initialization: Initializes the correction parameters.

Download data: Download the correction parameters, select the correction mode according to the correction data format, select ColorSpace for txt file, and KYSTAR for JSON file.

Overload parameters: After applying the correction parameters, the receiving card will display a black screen, and the parameters will take effect after the parameters are overloaded.

Enable Correction: Applies correction parameter observation.

Close Correction: The close correction observation should be used.

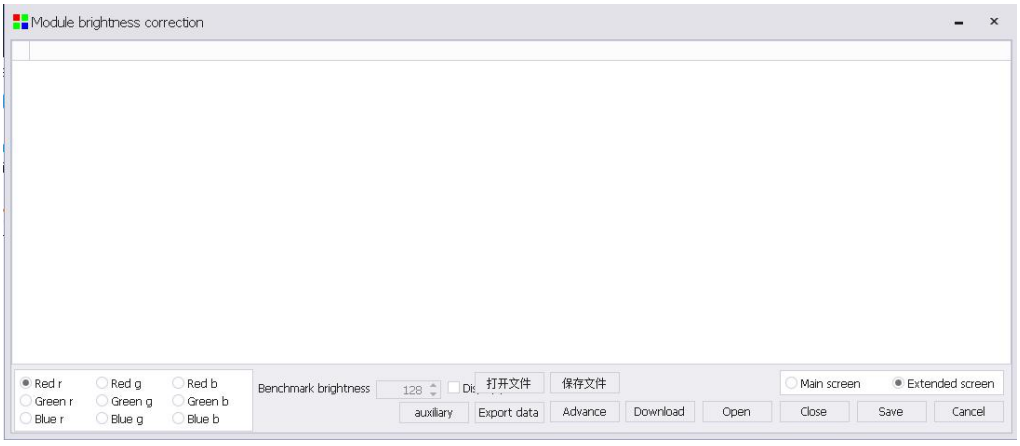
Curing Correction Data: Solidifies the downloaded correction data to the receiving card.

Cure Enable Correction: Cure open correction.

Cure Close Correction: Cure close correction.

Test Factor: Set the coefficient to test.

6. 2 Area color correction



When the number of LED display modules on site is large, and there is a mixture of multiple batches of modules, the color difference between modules and modules is usually displayed. In view of the fact that most calibration systems currently take long and slow to correct the on-site screen, KYSTAR has launched a module color degree rapid correction, through simple data input operation, the brightness chromaticity between the screen modules can quickly reach consistency.

Main window box: Right-click the box to choose to copy or paste the batch factor.

Red\Green\Blue\r\g\b: Observe the values of 9 parameters, click on the box to fine-tune the coefficients.

Auxiliary tool: Obtain conversion factors by entering batch parameters.

Open File: Import the saved boxadj file.

Save File: Export the ones to save boxadj file.

Export data: Saves the current data as "boxAdjust.json" to a software-specified directory.

Advanced settings: Sets the number of grid unit width and height points.

Download data: Downloads the correction data to the receiving card.

On: Turns on the color cast correction effect in the receiving card area.

Off: Turns off the color cast correction effect in the receiving card area.

Curing: Curing the current open or closed state to the receiving card.

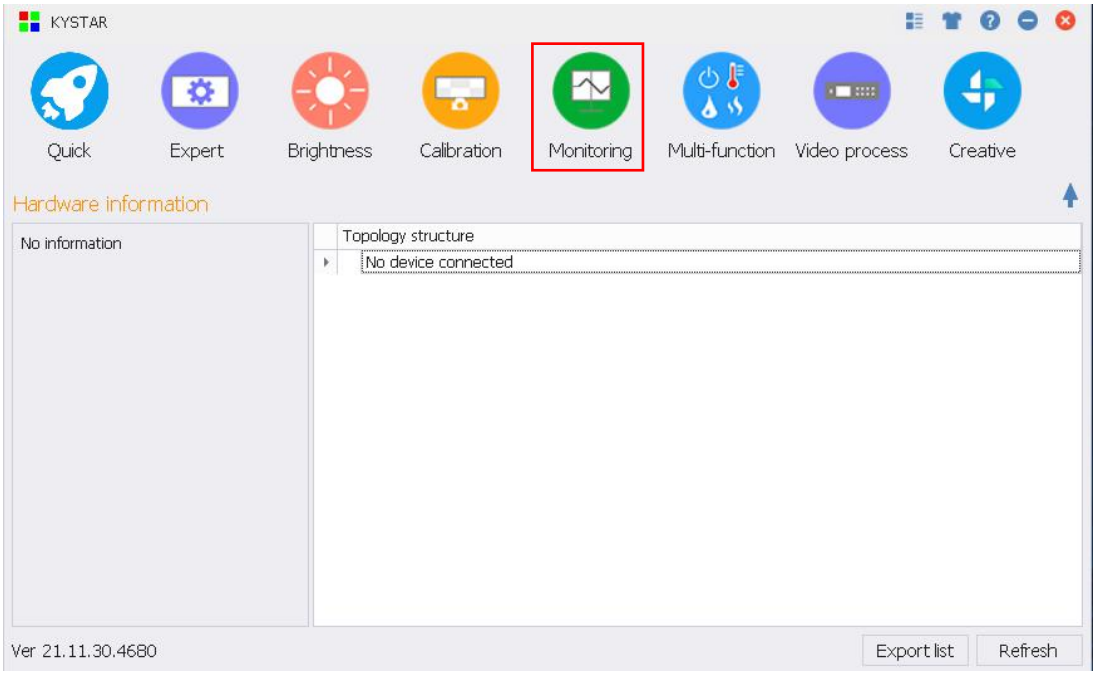
Home/Expansion Screen: Toggles the analog image position.

Cancel: Closes the window.

7 Screen monitoring

The Screen Monitoring page contains Voltage, Temperature, Dual Power Supply, and Primary And Standby Card Monitoring.

Click "Screen Monitoring" on the main interface to enter the detailed monitoring page of the screen information.



7. 1 Display monitoring

Display monitoring can monitor data information in box units.

Voltage: Enter to view the voltage data information in the box.

Temperature: Enter to view temperature data information in box units.

Dual power supply: Enter to view the working information of the dual power supply in the box unit.

Primary spare card: Enter to view the working information of the primary and backup card in the box.

On-screen display: After turning on, the data information is reflected in the large screen.

Monitoring Refresh: Refreshes and updates monitoring data.

Timing Zero: Resets the working timing information of the LCD module.

Auto Refresh: Automatically refresh the monitoring data according to the set time after checking.

7. 2 Precautions for use

The display monitoring function can display the box monitoring data information in real time or at regular intervals, in order to achieve a better monitoring effect, pay attention to the following matters when using.

1. For the box with the LCD module count display, click "Count Zero" to reset the working timing information when using the screen monitoring for the first time.

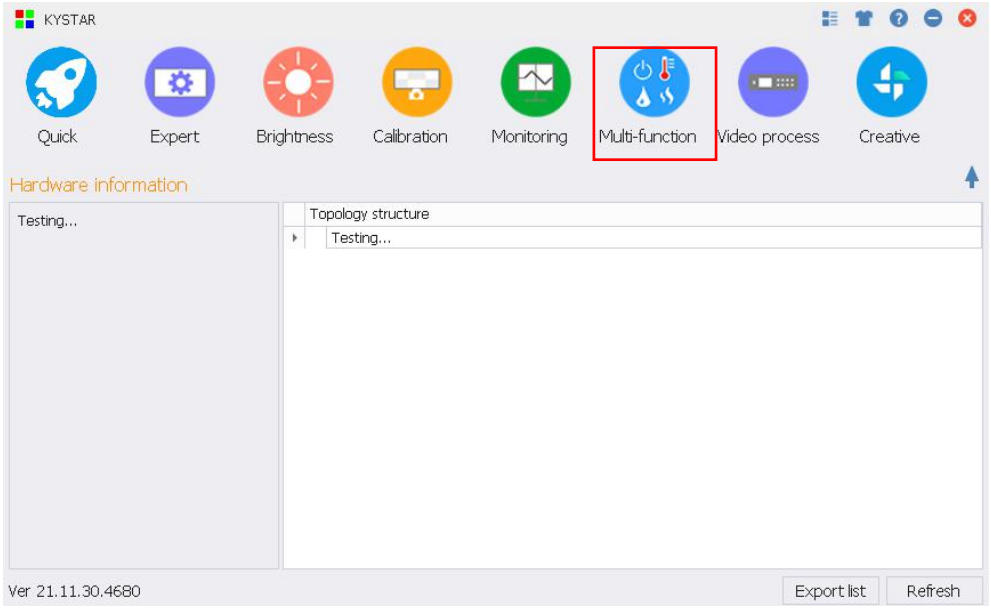
2, the display monitoring interface, green means normal, red means abnormal, you can put the mouse in the red box area to view the abnormal information.

3. If you encounter other problems, please contact us as soon as possible.

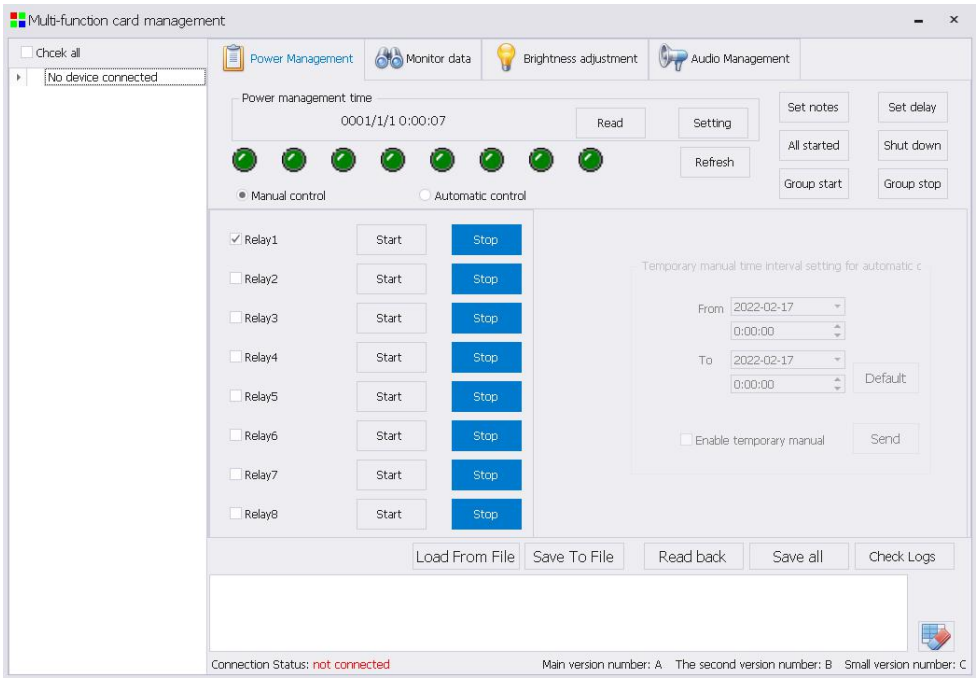
8 Multi-function cards

The multi-function card can realize the three functions of power management, data monitoring and brightness control.

Click "Multifunction Card" on the main interface to enter the multi-function card settings page, if the multi-function card is not detected, the system will pop up the prompt.



8. 1 Power management



In this interface, manual control, automatic control and software control of the eight relays of the multi-function card can be carried out.

If there are multiple multi-function cards, they can be displayed in the tree structure on the left, and the specified multi-function cards can be set.

Settings: Tap the "Settings" button to write your computer's local time to the multifunction card.

Read: Click the "Read" button to read back the time in the multi-function card, and the timer switch is more precise.

Refresh: Refreshes the status of the relay LED.

Setting Note: You can name each relay, such as the first way is "large screen power supply", the second way is "fan", which is convenient for the management and control of the power supply.

Start delay: Set the delay for the relay start time, the delay default is 1 second, you can modify the delay by yourself, so that there is a certain time interval between clicking to open the relay.

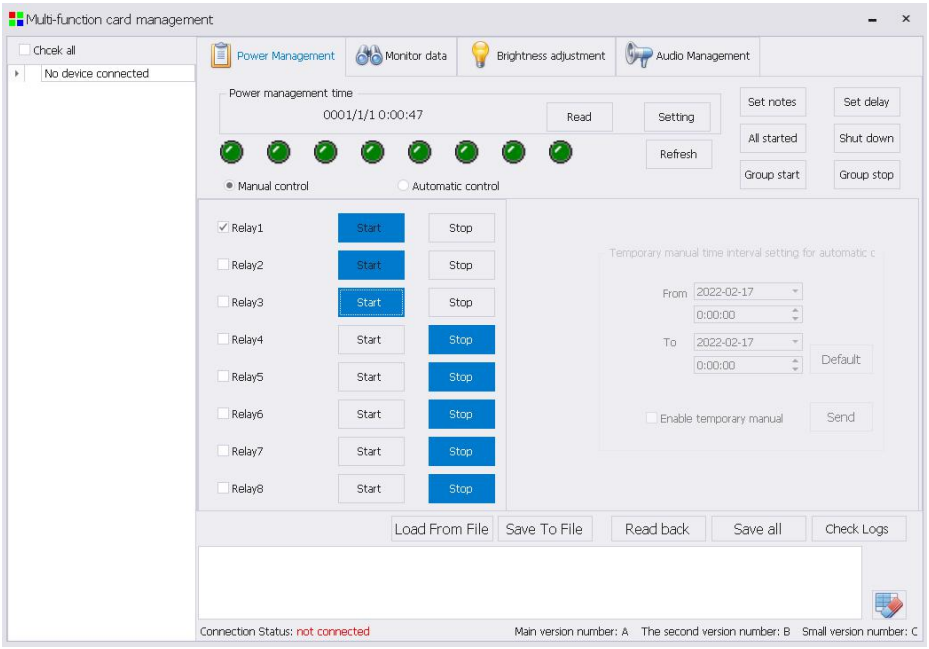
All start-up: All 8 relays are placed in the open state, which can control the relay switch uniformly, which is convenient and fast.

Emergency Stop: One key simultaneously closes the 8-channel relay, easily responding to emergencies.

Group start: Perform a unified opening operation on the selected relay.

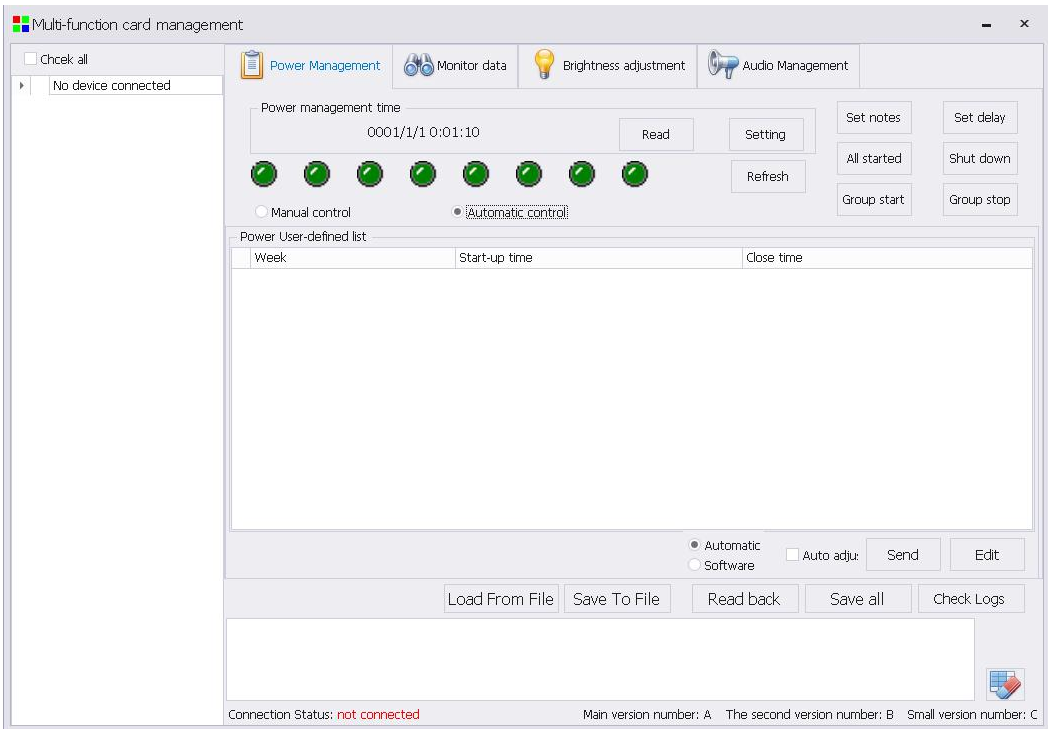
Group Stop: Perform a unified shutdown operation on the selected relay.

Manual control: 8 relays have corresponding "start" and "stop" buttons, which can control each relay individually, which is convenient and fast.



In the automatic control state, if you need to temporarily enable manual control of power supply, you can check "Start temporary manual time" to set the temporary manual control time.

Automatic control: Under the automatic control interface of the power supply, click "Edit" to set the start and stop time for each relay, check Auto Adjust, click the Send button and send it to the multi-function card to achieve offline automatic control.



Software control: The timing source of software control is PC, at which point the software must be kept open.

First, edit the information such as the number of power circuits, the day of day, and the time in the custom editing area.

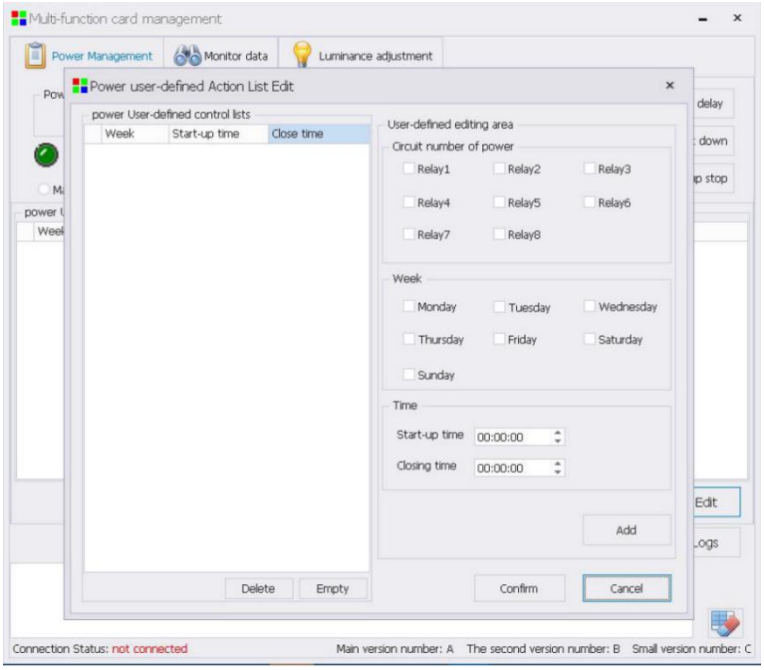
Number of power circuits: Select the number of power circuits to control, which can be set single-way or multiple simultaneously;

Week: Seven days a week as a cycle, check open and close as the day of the week (each day is seven days all checked);

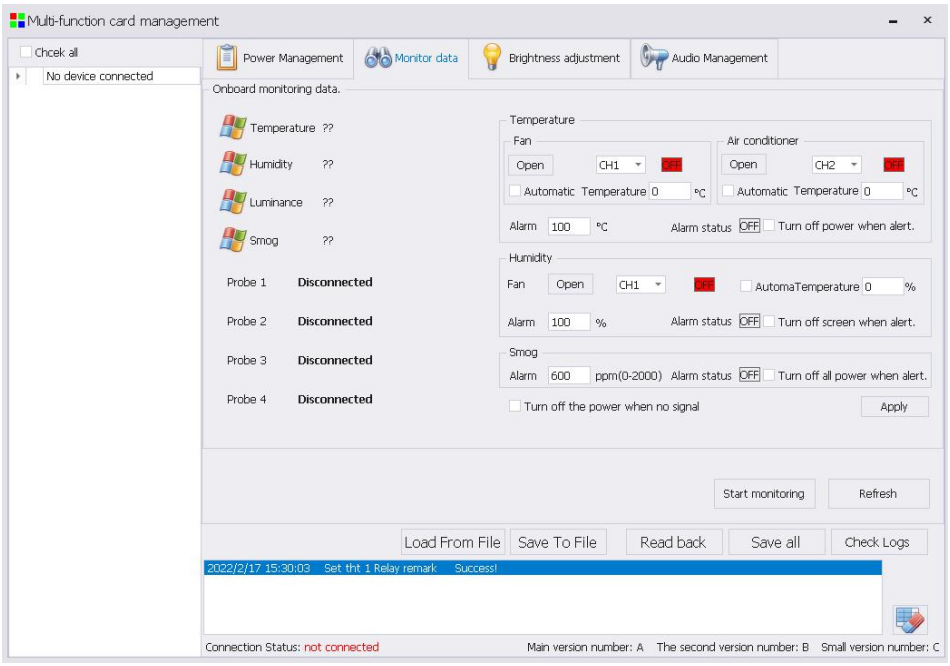
Time: The specific time when the power supply is turned on and off.

Secondly, after editing, click Add to add the current control instructions to the left list, such as multiple commands can be added multiple times, delete or empty buttons can delete the added power operation instructions.

Finally, click "OK" to finish the software control edits.



8. 2 Monitoring data



Monitoring data can monitor the temperature, humidity, brightness and smoke of the environment in real time. The four probes are adaptive identification probe interfaces.

Fan: Select the relay corresponding to the control fan, such as CH1; click the button "Open" to manually open the switch of relay 1, ON/OFF indicates the state of the relay on/off. Check Automatic control and set the opening temperature, and the fan switch can be cooled down by automatically controlling the temperature read back by the temperature sensor.

Set the temperature alarm value, and check "turn off the large screen power when the alarm", when the temperature reaches the alarm value, automatically turn off the large screen power, the software pops up the alarm dialog box and emits a sound.

Air conditioning: Select the relay corresponding to the control air conditioner, such as CH2; click the button "Open" to manually open the switch of relay 2, ON/OFF indicates the state of the relay on/off. Check Automatic control, and set the opening temperature, and the temperature can be automatically controlled by the temperature sensor to cool down.

Set the temperature alarm value, and check "turn off the large screen power when the alarm", when the temperature reaches the alarm value, automatically turn off the large screen power, the software pops up the alarm dialog box and emits a sound.

Humidity: Select the relay corresponding to the control fan, such as CH1; click the button "Open" to manually open the switch of relay 1, ON/OFF indicates that the relay is on/ The status of the shutdown. Tick Automatic control, and set the on humidity, the humidity can be automatically controlled by the humidity sensor to automatically control the fan switch for moisture removal. Set the humidity alarm value, and check "Turn off the large screen power when the alarm", when the humidity reaches the alarm value, automatically turn off the large screen power, the software pops up the alarm dialog box and emits a sound.

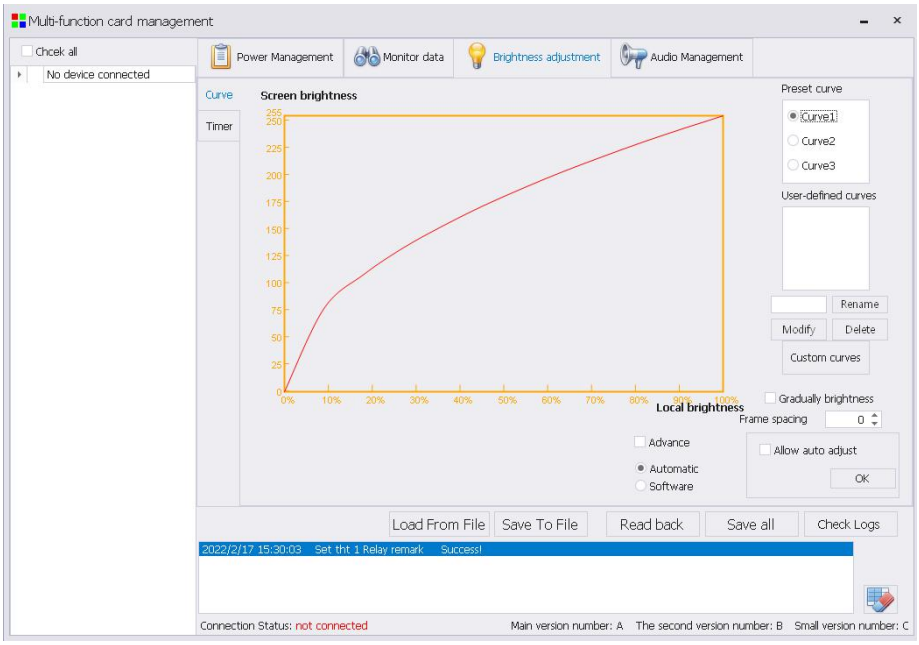
Smoke: Set the humidity alarm value and tick "Turn off all power when alarming", when the humidity reaches the alarm value, automatically turn off all power, the software pops up the alarm dialog box and emits a sound.

Turn off the power when there is no signal: Check the option, when there is no signal source, the multi-function card automatically power-off, when the signal is restored, the multi-function card automatically power-on.

After editing, click the Apply button to set the monitoring alert.

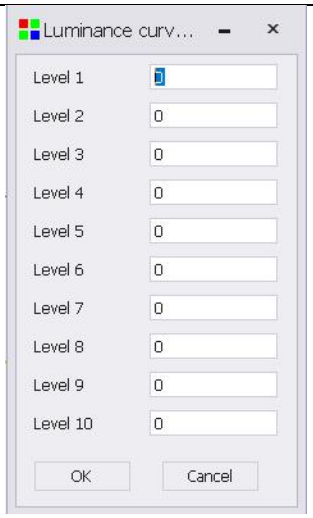
8. 3 Brightness adjustment

Switch to brightness adjustment in the multi-function card management interface.



Through the external light sensor device, the curve can be set in the brightness adjustment interface (horizontal coordinate is the brightness of the large screen, the vertical coordinate is the ambient brightness), and the brightness of the large screen can be adjusted according to the ambient brightness detected by the light probe.

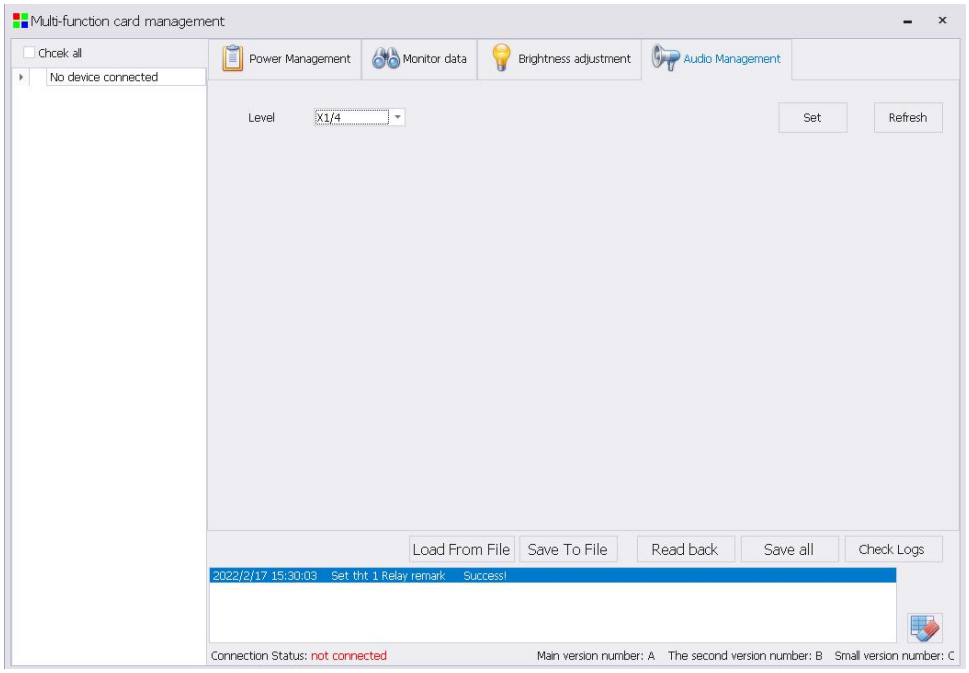
The software preset has three curves, which can be directly selected; you can also add a new curve according to the actual situation, click Add Brightness Curve, and fill in a total of 10 levels of corresponding screen brightness in the dialog box (screen brightness with 1-255). Numeric representation).



After filling in, click "OK", return to the brightness adjustment interface, check "Allow automatic adjustment", click OK, and the automatic brightness control is set.

8. 4 Audio adjustment

Switch to Audio Management in the multi-function card management interface.

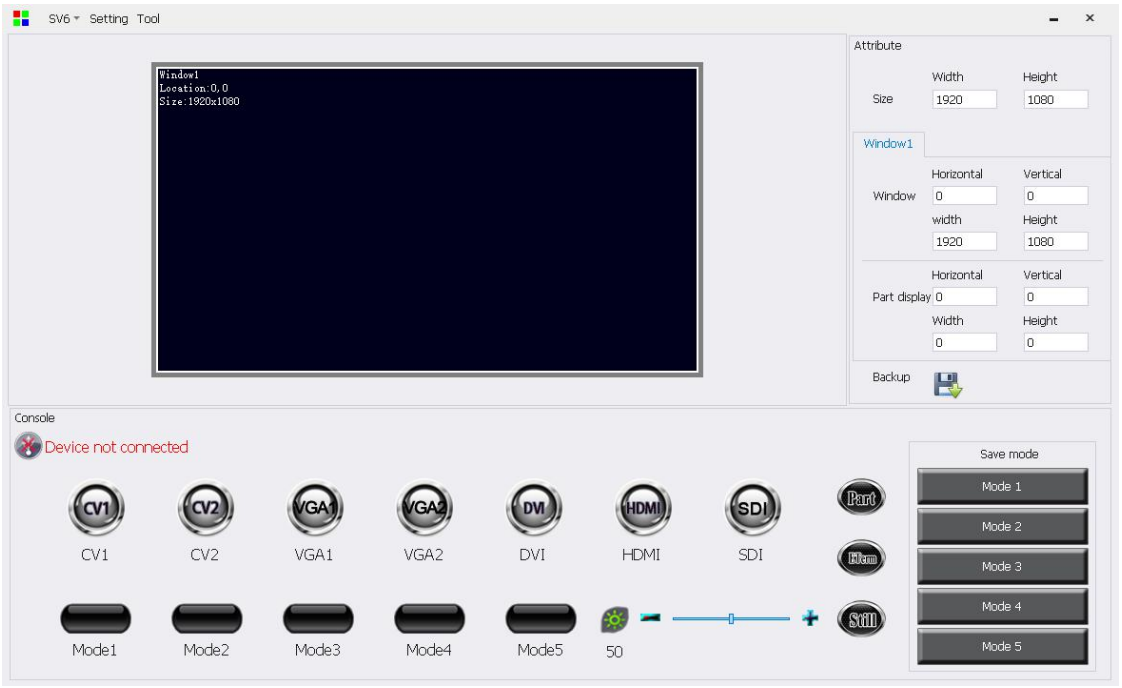


This interface allows you to set the volume level of the multi-function card audio output, and there are multiple volume levels to choose from.

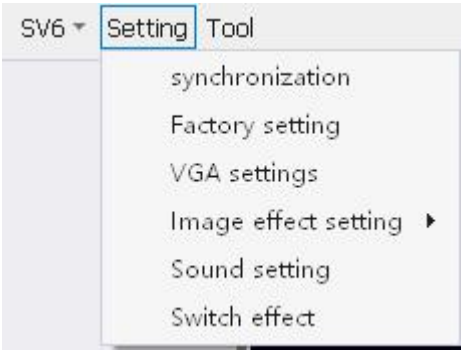
Settings: After selecting the volume level, click this button to set the setting to take effect.

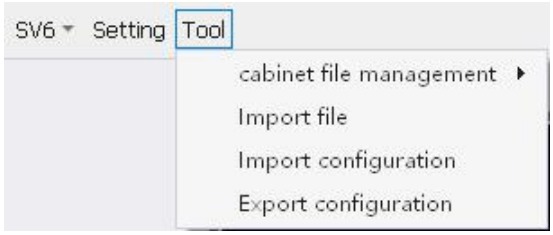
Refresh: Click Refresh to display the volume level status of the current multifunction card.

9 Video processing



9. 1 Settings and Tools menu





Taking an SV6 device as an example, the following features are included in the setup:

Sync: The software syncs with the device.

Factory settings: Restore your device to the factory.

VGA regulation: The VGA signal source can be adjusted manually or automatically.

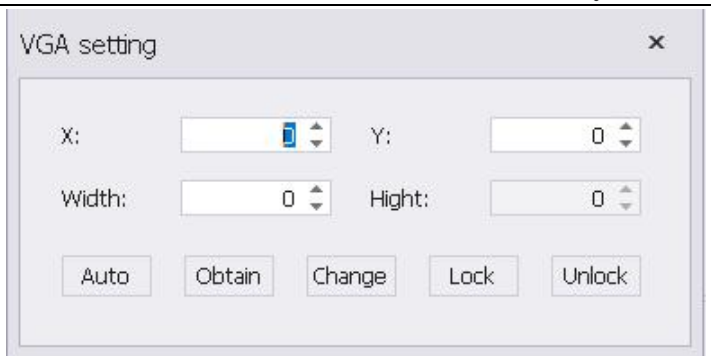
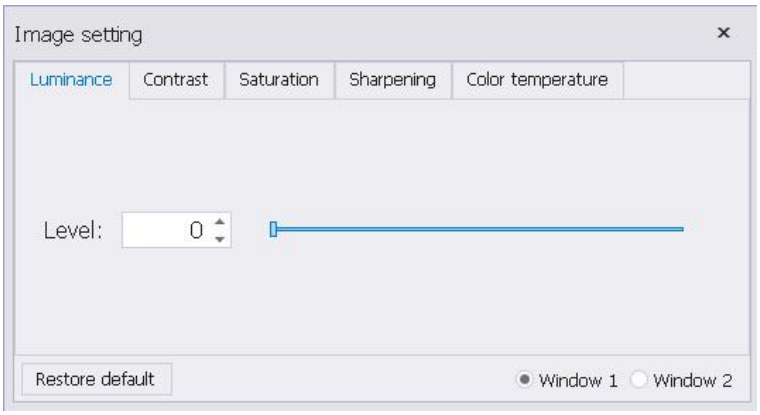


Image effect settings; brightness, contrast, saturation, sharpening, color temperature.

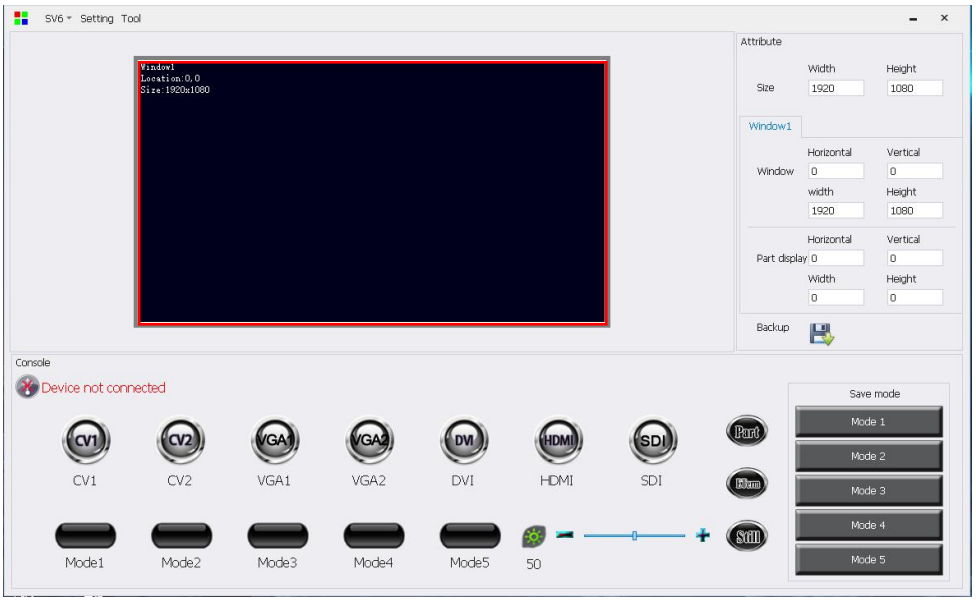


Sound settings: Set the correspondence between the video input interface and the audio input.

Toggle Effects: Turn off effects and turn effects on.

Tools: Includes box file management, import font library, import configuration, export configuration functions.

9. 2 Simulated display area



The simulation operation area can display the screen window number, screen position, and screen size information, and supports dragging and dropping the screen within the range of screen points.

9. 3 Property parameter settings

The property parameters include screen point settings, window size and position settings, local display size and position settings, and a backup button for system data backup.

After modifying the value, the current value will become a bold italic number, click the green check at the bottom, and the application takes effect. Click Back to cancel the current edit and revert to the previous state.

9. 4 Console operations

Device connection status:

The blue connection status indicates that the host computer software and hardware devices are connected normally;

The gray connection status indicates that the host computer software and the hardware device are connected abnormally.

Source switching: Support CV1, CV2, VGA1, VGA2, DVI 2. HDMI, SDI signal source switching, red flashing indicates that the signal connection is abnormal, and green long light indicates that the signal access is normal.

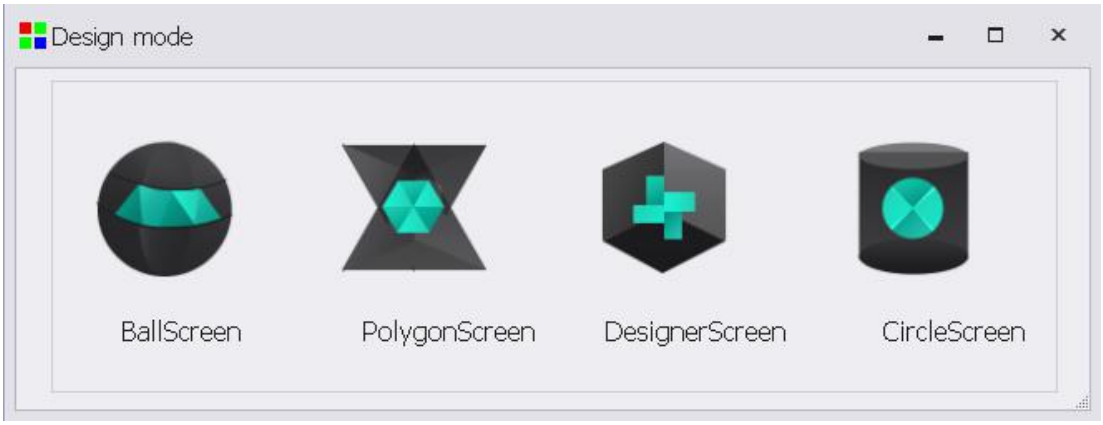
Mode invocation: Supports 5 modes of invocation.

Save mode: Support 5 modes of saving.

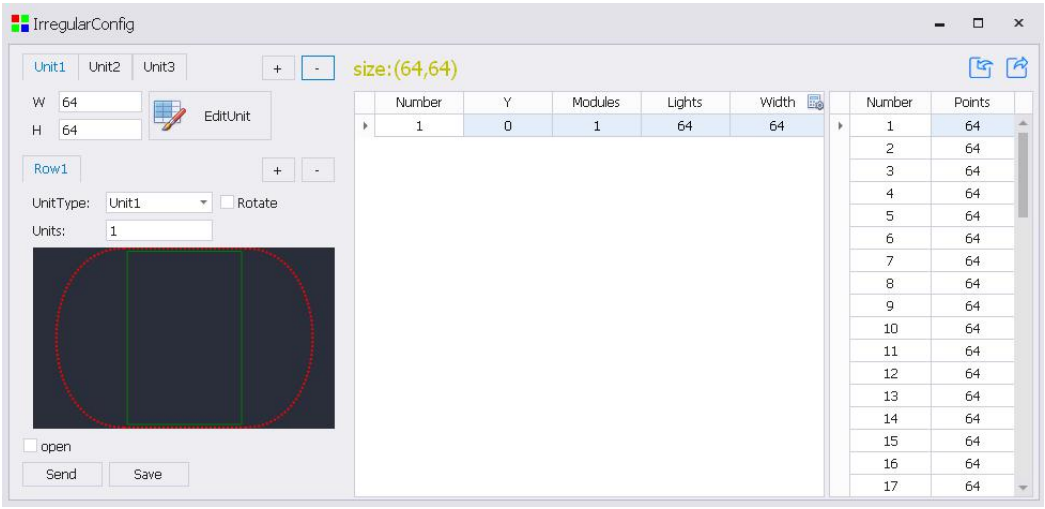
Other functions: brightness adjustment, panoramic local, black screen, static.

10 Creative display

The creative display is divided into four modules: spherical screen, multi-sided screen, flat modeling screen and circular screen.



10. 1 Spherical screen



Cell Board: Add the cell board type and size of the edit spherical screen, click "+" and "-" to add or delete the cell board.

Edit Cell Board: Open or save the mod extraction file.

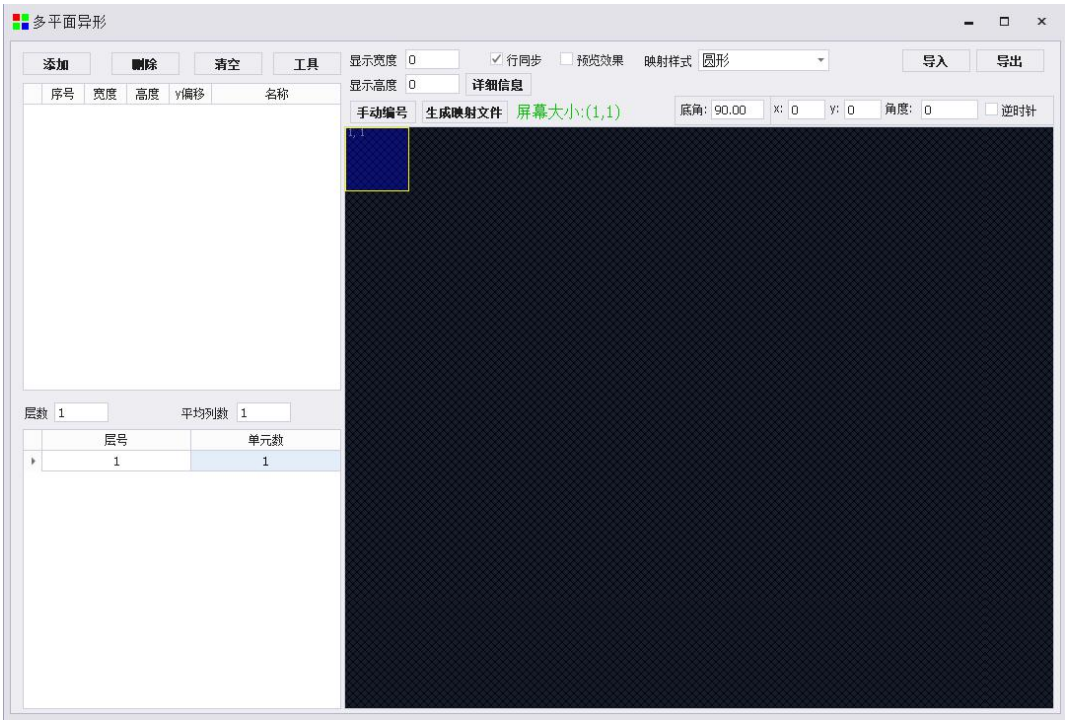
Number of layers: Click "+" and "-" to increase or delete the number of rows.

Cell Board Model: Select the cell board model to use for each row.

Number of units: Set the number of modules per row.

Import and export spherical screen module arrangement files.

10. 2 Polygon screens



Add: Adds a special-shaped module draw file (including width, height, Y offset, and name).

Delete: Deletes the special-shaped module extraction file.

Empty: Empty the added special-shaped module extraction file.

Tools: Enter the simulation design of complex special-shaped screens.

Number of layers and average number of columns: Set the number of layers of the special-shaped screen module.

Display width and display height: The width and height of the full-screen resolution display.

Mapping styles: Circle, Multiplane Scale, Pentagram, Fan, Multiplane Center, Parallelogram.

Preview effect: Check to view the effect after mapping.

Angle: Sets the angle at which the special-shaped module draws the file rotation.

Counterclockwise: Rotate the special-shaped module extraction file counterclockwise after checking.

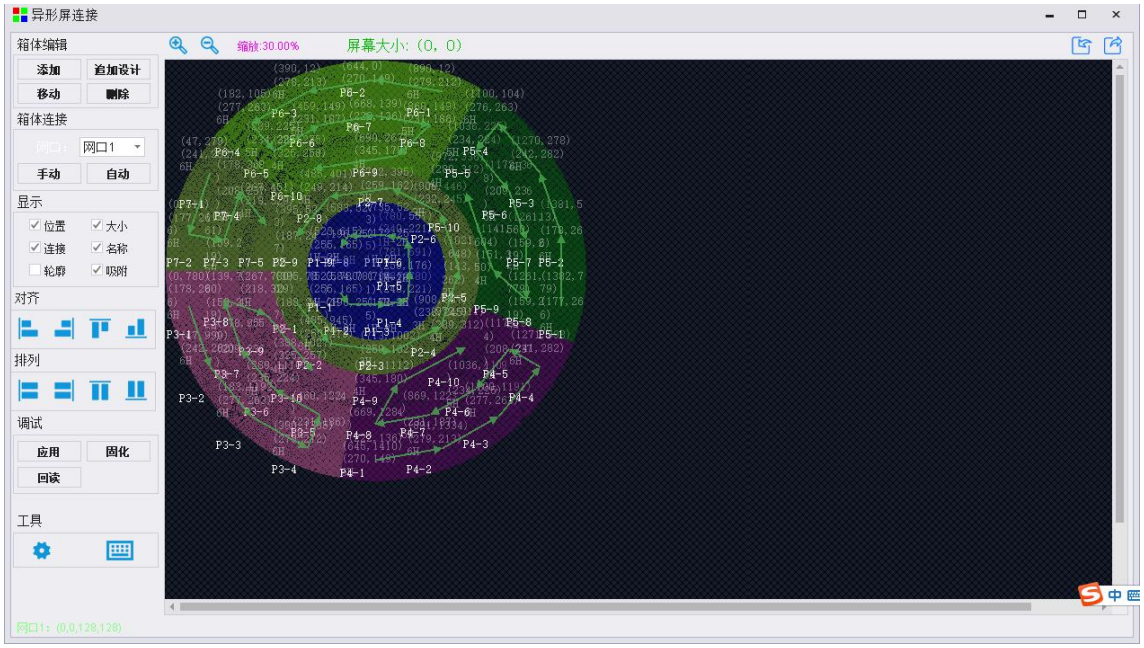
Manual numbering: Set the special-shaped module extraction file for each line.

Generate Mapping File: Save the mapping file (*. cir file).

Import and Export: Import and export multi-plane profiles (*. multip file).

Note: *.irregular special-shaped module sampling file production for details of expert screen tuning - receiving card - advanced design debugging steps.

10. 3 flat modeling screen



The special-shaped screen connection is mainly divided into box editing, box connection, display, alignment, arrangement, debugging and tools.

Add: Add the receive card kcfg file.

Move: Select a card or cards to pan X or Y.

Add Design: Add kdisplay files.

Delete: Deletes the selected content.

Cabinet connection: network port connection, manual or automatic serial cable.

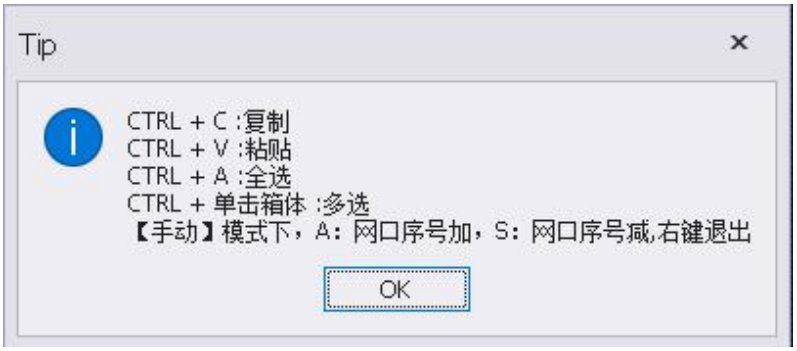
Display: Contains location, size, join, name, outline, and snap.

Alignment: Left alignment, right alignment, top alignment, bottom alignment.

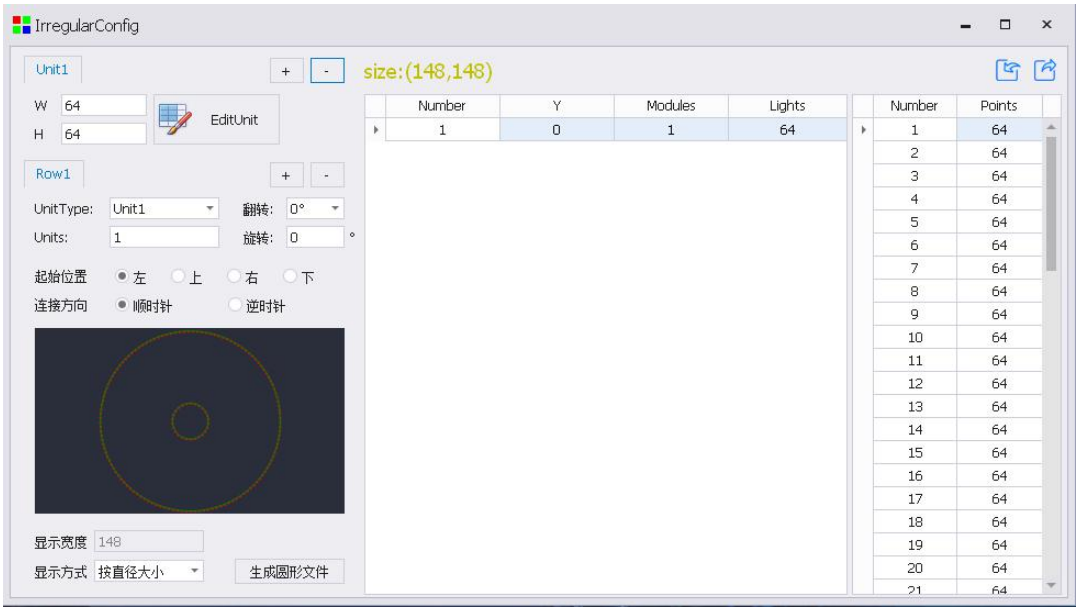
Arrangement; left aligned, right aligned, up aligned, bottom aligned.

Commissioning: Application—Application parameters to receive card; Curing—Curing parameters to receive card; Readback—Read back parameters from receiving card.

Tools: Image testing tools and keytips.



10. 4 Circular screen



Cell Board: Add the cell board type and size of the edit spherical screen, click "+" and "-" to add or delete the cell board.

Edit Cell Board: Open or save the mod extraction file.

Number of layers: Click "+" and "-" to increase or delete the number of rows.

Cell Board Model: Select the cell board model to use for each row.

Number of units: Set the number of modules per row.

Starting position: Left, Top, Right, Bottom.

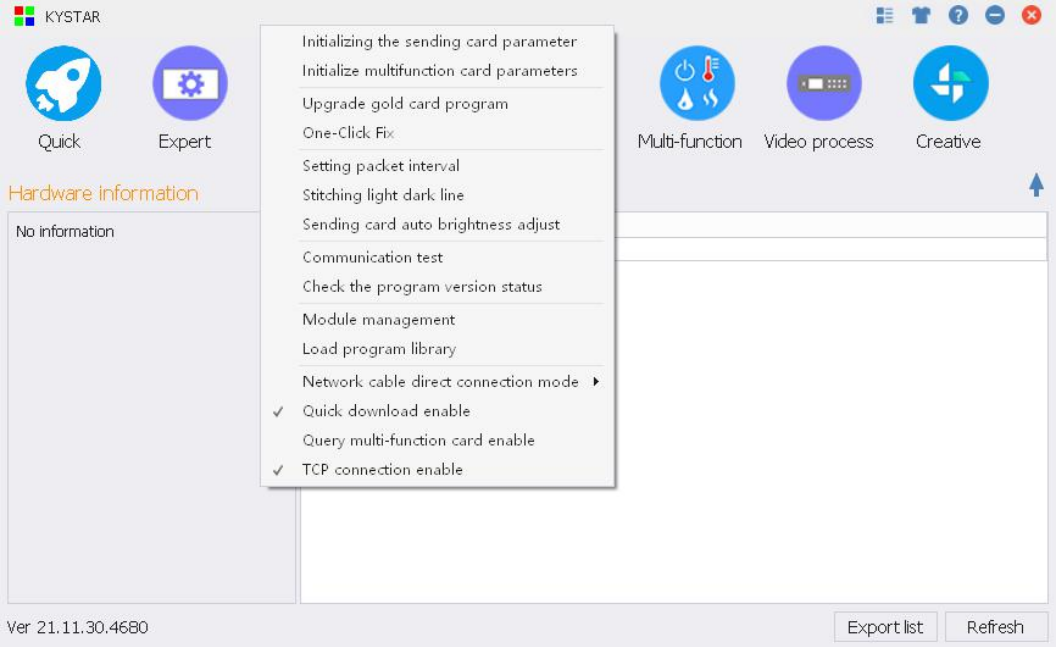
Connection direction: clockwise, counterclockwise.

Display by: Vertical size.

Import and export spherical screen module arrangement chart.

11 Advanced settings

Blindly tap 666888 in the main interface to enter the advanced menu interface. The specific use of each feature is described in turn below.



11. 1 Initialize the send card parameters

Restores the configuration parameters of the current sending card to the default factory parameters. The abnormal display state of the sending card can be quickly restored.

Before operation, it is necessary to understand the load and position parameters, EDID parameters and screen configuration parameters of each network port of the transmission card in advance.

11. 2 Initialize the multifunction card parameters

Restores the configuration parameters of the current multifunction card to the default factory parameters. Quickly recover from abnormal states caused by incorrect multifunctional cadine parameter settings.

Before operation, it is necessary to understand the configuration parameters of the multi-function card in advance.

11. 3 Upgrade the Gold program

The Upgrade Gold Card program includes procedures such as upgrading the receiving card program, sending card program, master control card program, multifunction card, sending card MCU, and receiving card off-card MCU.

This article only introduces the process of upgrading the receiving card program, if you need to upgrade other products, please complete the upgrade under the guidance of our technical personnel.

The receiving card upgrade operation is as follows:

Program type: Generic, PWM.

Upgrade Mode: Upgrade by sending card or network card.

Receiving card upgrade range: Specify the receiving card upgrade by changing the network port and the receiving card serial number; detect the receiving card to check whether the number of receiving cards detected by the current system is correct.

Upgrade default program: The software has a receiving card program, click to view the program version in the current software.

Mode selection: When upgrading the receiving card program, check Erase Flash and Write Flash.

When you are ready, click "Download" to upgrade the program, after the upgrade will be prompted whether to restart, click "Restart" to complete the restart of the receiving card.

One-click learning: Customized programs learn to specify receiving cards.

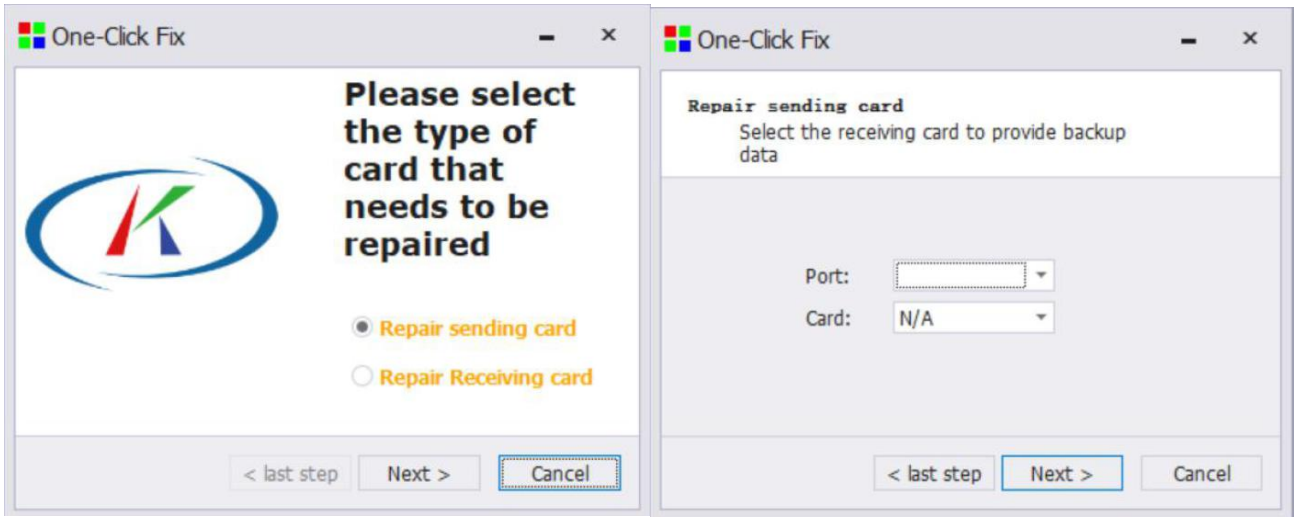
Program Readback: The program that reads back the specified receiving card is saved as a file.

11. 4 One-click repair

Before one-click repair, you need to use the wizard screen adjustment to complete the system data backup by "curing system parameters", or use the expert screen adjustment screen to "cure all" to complete the system data backup.

One-click repair, is from the system to the specified receiving card or sending card data is read out and written to the specified receiving card or sending card, this operation is only for the replacement card operation, greatly reducing the risk of retransmitting all receiving card parameters.

11. 4. 1 Repair Sending Card

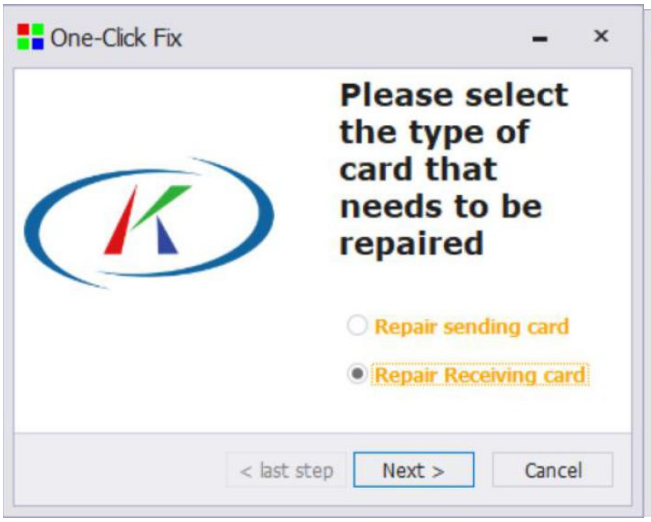


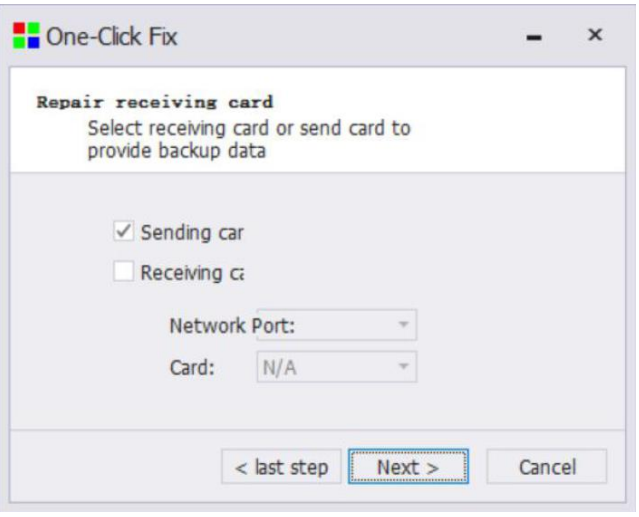
(1) Select Repair Sending Card.

(2) Select the receiving card that provides backup data, and specify the receiving card by the net slogan and card serial number.

(3) Click the one-click repair button to press Repair.

11.4. 2 Repair Receiving Card





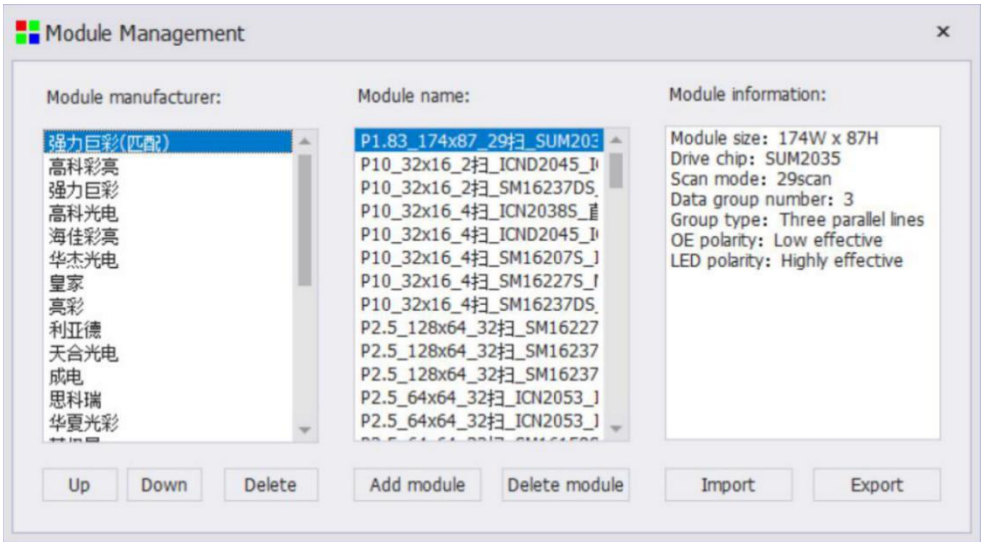
(1) Select Repair Receiving Card.

(2) Confirm the receiving card address that needs to be repaired, and automatically detect and manually fill in the receiving card that needs to be repaired.

(3) Select the sending card or receiving card that provides the data.

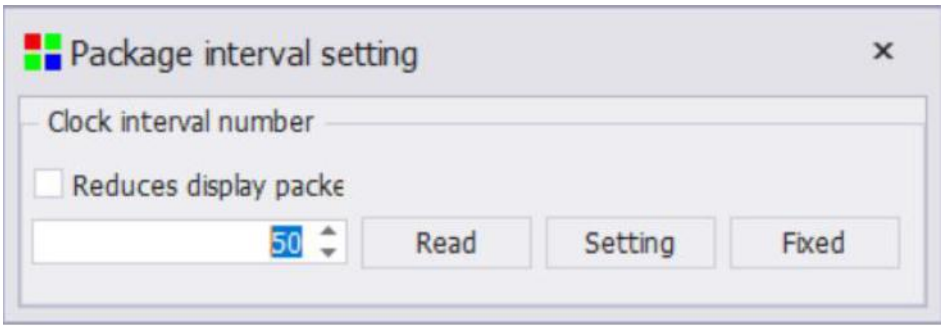
(4) Click the one-click repair button to complete the one-click repair.

11. 5 Module management



Module management can set the order of module manufacturers, add and delete modules, import and export module libraries and other functions. Where the module file is *.module, the module library file is *. mlst。

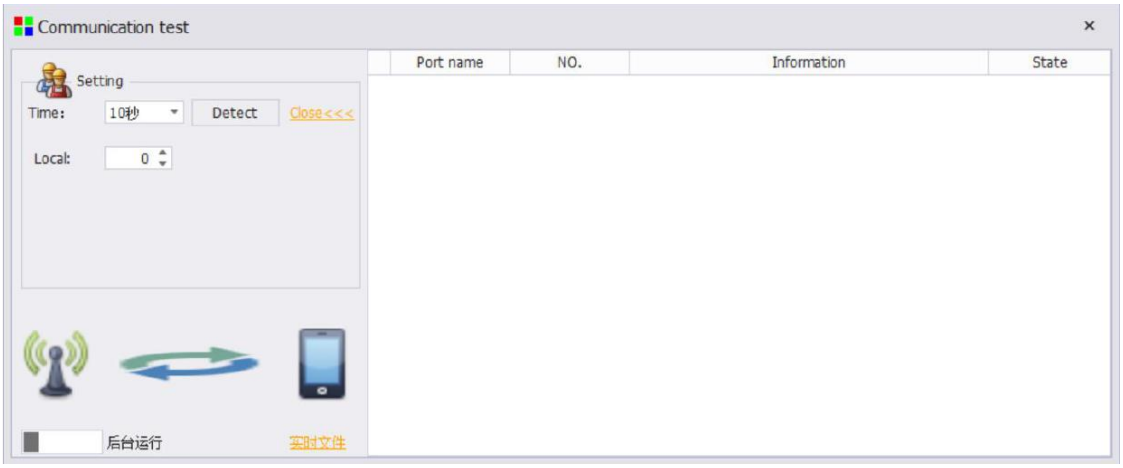
11. 6 Set the packet interval



Setting method: Click "Read" to read the current packet interval, set the packet interval to +5 for the number of receiving cards loaded on a single network cable, and click "Setting" and "Curing" in turn.

Note: The minimum number of package intervals is 16

11. 7 Communication testing



Communication detection can detect the current network cable and receiving card communication status, and can solve the communication problem by replacing the network cable or receiving card in the event of false positives or packet loss.

11. 8 Stitch light and dark lines

Select the stitched light and dark lines to enter the seam interface as shown in the following figure (you can choose the canvas to be displayed on the main screen or the extended screen). This function can be operated for each module, of course, it can also be repaired for each cabinet, and the three colors can be adjusted independently, and the default gray value is 200;

In order to better operate the experience, specially added the screen simulation and receiving card correction, the screen simulation is the simulation operation of splicing the bright and dark lines, the data will not be sent to the receiving card, real-time viewing effect, you need to click to send to apply to the receiving card (so that you can adjust multiple lines at once and then send it uniformly), the same reason the receiving card correction needs to be set up to apply the parameters to the receiving card will be modified by stitching (and will not be displayed on the simulation screen of the computer monitor, but directly modified on the LED large screen) If you need to modify more seams, it is recommended to use screen simulation to modify the brightness of the seams uniformly.

Emptying: Empty the data of the last curing that has been modified before, and the general screen is recommended to empty once when the box uses this function for the first time to ensure the originality of the data

Backread: Read back the last solidified data;

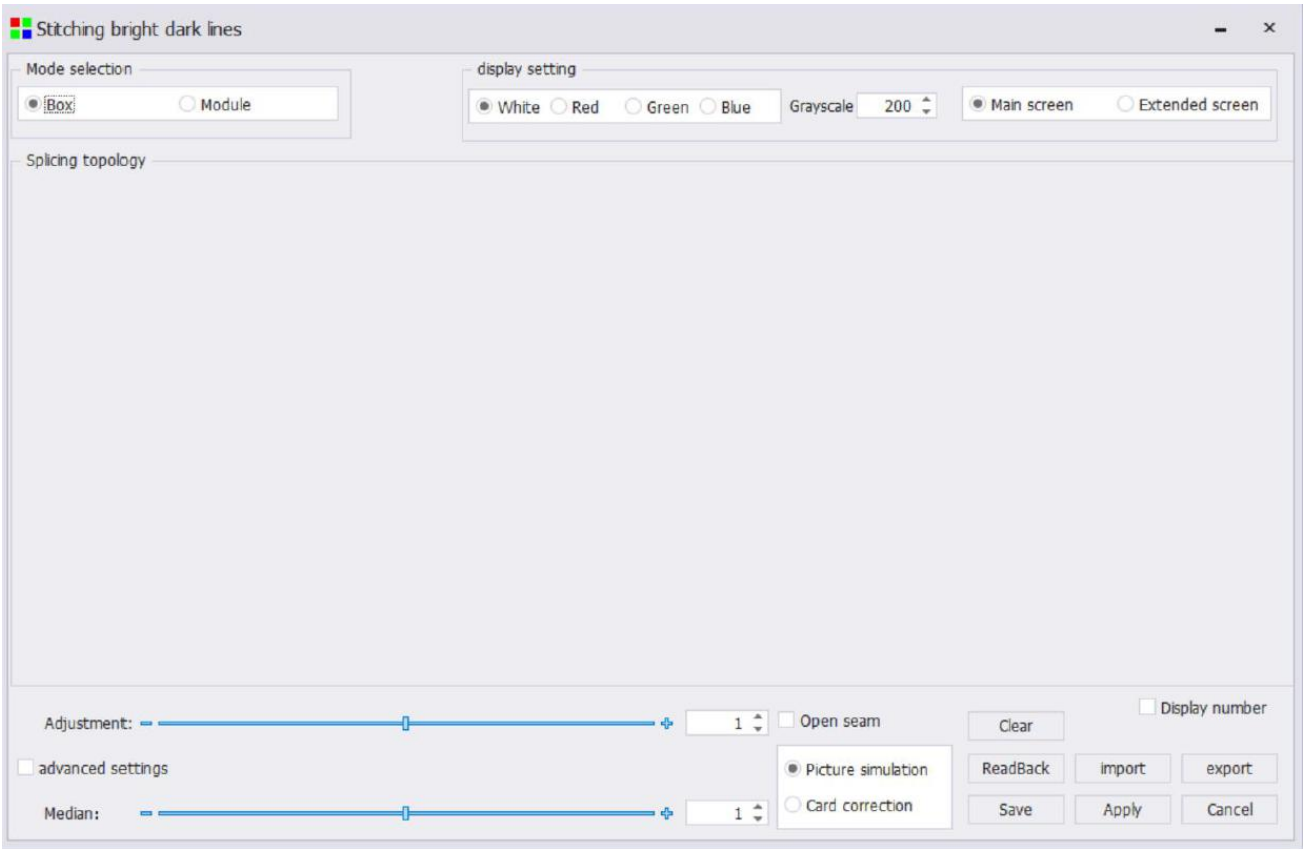
Curing: it is to save the data of all the modifications that have been repaired so far;

Export: If you want to save the data of the current seam repair, you can choose "Export" to save to the local computer, which is convenient for later maintenance to retrieve at any time;

Import: Modify the exported seam data before loading,(usually used in post-maintenance);

Display code: Each module (or box) is numbered to facilitate the confirmation of the physical location of the line that needs to be modified when repairing the seam.

Select the edge line that needs to be modified (at present, only a separate line can be debugged at the same time), the line will become red, check the opening of the stitching function adjustment coefficient value to modify the brightness (at this time you need to select the receiving card correction will send the data), confirm that the modified parameters meet the needs of the screen, solidify, the next time you open this interface will automatically read the parameters of the last curing, you can repair the seam again on this basis Operation, if the requirements are not met after application, the parameters of the last curing can be read back to re-debug.



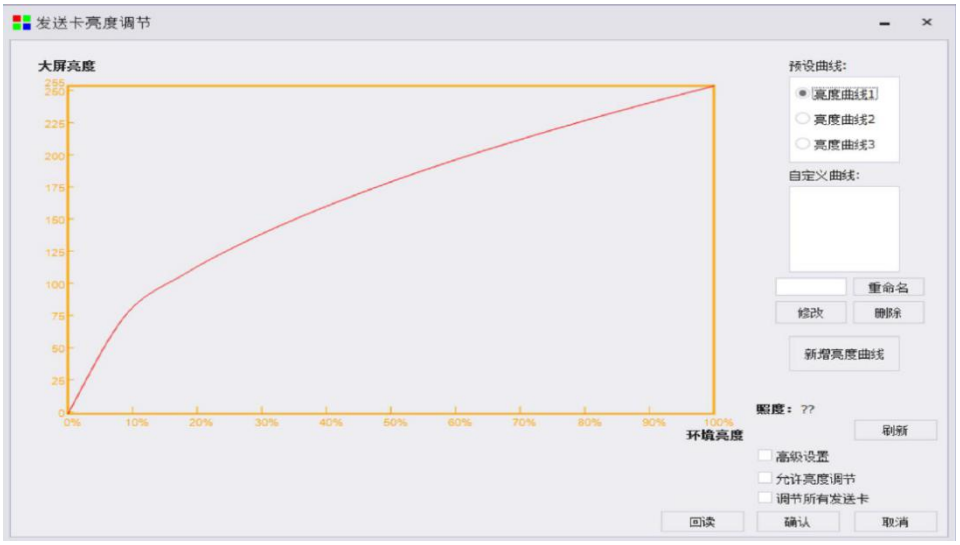
(1) The brightness change of the selected line is mainly changed by adjusting the coefficient value, this coefficient value is the gamma value, which is a specific ratio of the brightness of the edge line and the brightness of the middle module, when this value is greater than 1, it means that the edge line is higher than the brightness of the module, the same reason, When this value is less than 1, the brightness of the edge line is lower than the brightness of the middle module.

(2) The intermediate coefficient value is also this principle (generally for all modules, and for single modules), which is specifically expressed as the ratio of the brightness of the intermediate module to the brightness of the edge line in a specific case. When this value is greater than 1, the brightness of the middle module is higher than the brightness of the edge line, and the same reason, when this value is less than 1, the brightness of the middle module is lower than the brightness of the edge line.

(3) Advanced settings: Set the brightness of the starting and ending points of the seam, and deal with

the problem of inconsistent density of the module splicing (for example, the left seam is wider and the right seam is narrower, which will lead to dark to light seams from left to right).

11. 9 Automatic brightness adjustment of the sending card



Automatic control requires optical probe cooperation, only S2Box and S4 and SV series devices support multiple network cables to automatically control the brightness of the large screen with the ambient brightness.

Debugging method: (1) connect the optical probe to the LIGHT SENSOR interface of the device;

(2) Blindly click "666888" in the main interface of the software, and select the brightness automatic control in the pop-up interface;

(3) Set the brightness curve and the maximum value of the ambient brightness;

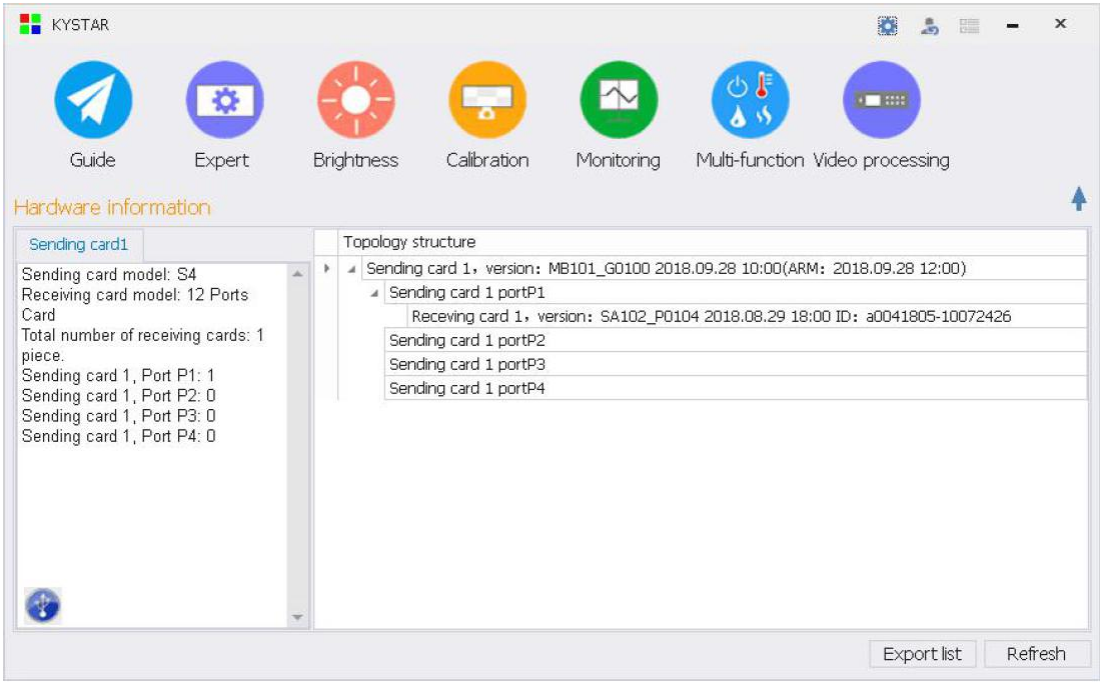
(4) Check "Allow brightness adjustment" and click OK.

Note: If you need to control the brightness of multiple sending cards at the same time, you need to connect the two devices through the cascade interface and check "Adjust all sending cards".

The software preset has three curves, which can be directly selected; you can also add new curves according to the actual situation, click Add brightness curve, and fill in a total of 10 levels of corresponding screen brightness in the pop-up window (screen brightness with 1— 255 numeric values are represented).

After filling in, click "OK", return to the brightness adjustment interface, check "Allow automatic adjustment", click OK, and the automatic brightness control is set.

11. 10 Detect device program version status



Detecting the device program version can check whether the program version of the sending card and the receiving card is the latest version, and label it with different colors on the topology map: green is the latest program version, and red is not the latest program version.

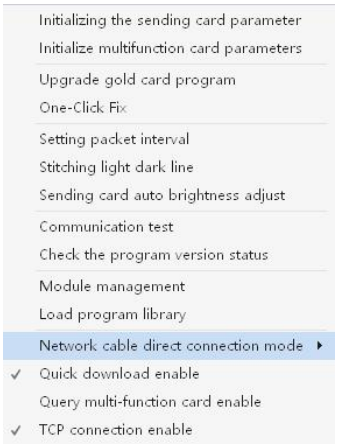
Note: Before using this feature, be sure to check the latest version of the software version on the Official Website of KYSTAR.

11.11 Loading Libraries

Select the library file you added, which is the File Type program Library rar file, the latest library file can be obtained from the download center of The KYSTAR official website.

This method adds library files offline, and can also be updated by directly downloading the latest release version of the official website to install the package.

11.12 Network cable direct connection mode



Direct connection to Pandora box: Choose to connect directly to Pandora box, you can directly connect the network cable to debug Pandora box.

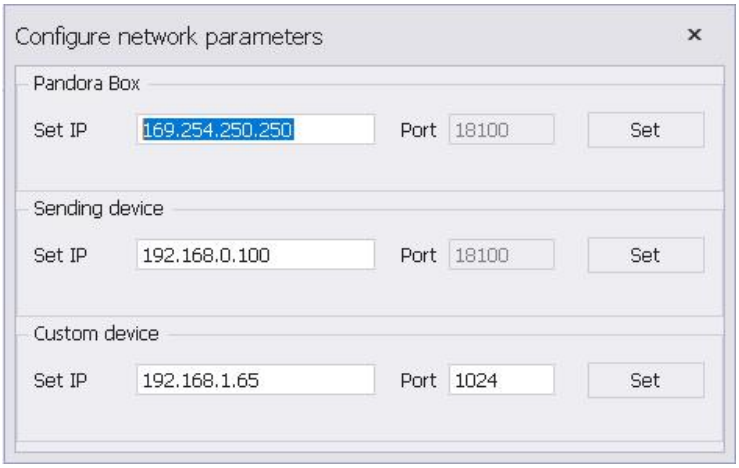
Direct connection to the sending device: Select the direct connection sending device, you can directly connect the network cable to debug the sending device.

Direct connection to custom equipment: Select direct connection custom equipment, you can directly connect the network cable to debug the custom equipment.

Configure network port parameters: This page needs to fill in the IP address of the actual required control device, including Pandora box, sending device, and custom device After filling in the IP address and port, click Set to take effect.

When the network cable is directly connected to the Pandora device, you can select Automatic Acquisition without changing the COMPUTER's IP address.

When the network cable is directly connected to other devices, you need to modify the computer network port IP address to be in the same network segment as the controlled device.



11.13 Fast Download Enable

The Fast Download enable defaults to a checked state to increase the speed of data transfer.

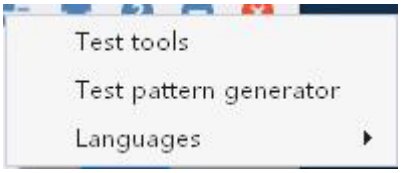
11.14 Query multi-function card enable

When using the SV16 device, you need to check the secondary option, you can query the multi-function card and display it in the topology diagram on the home page of the software.

12 more features

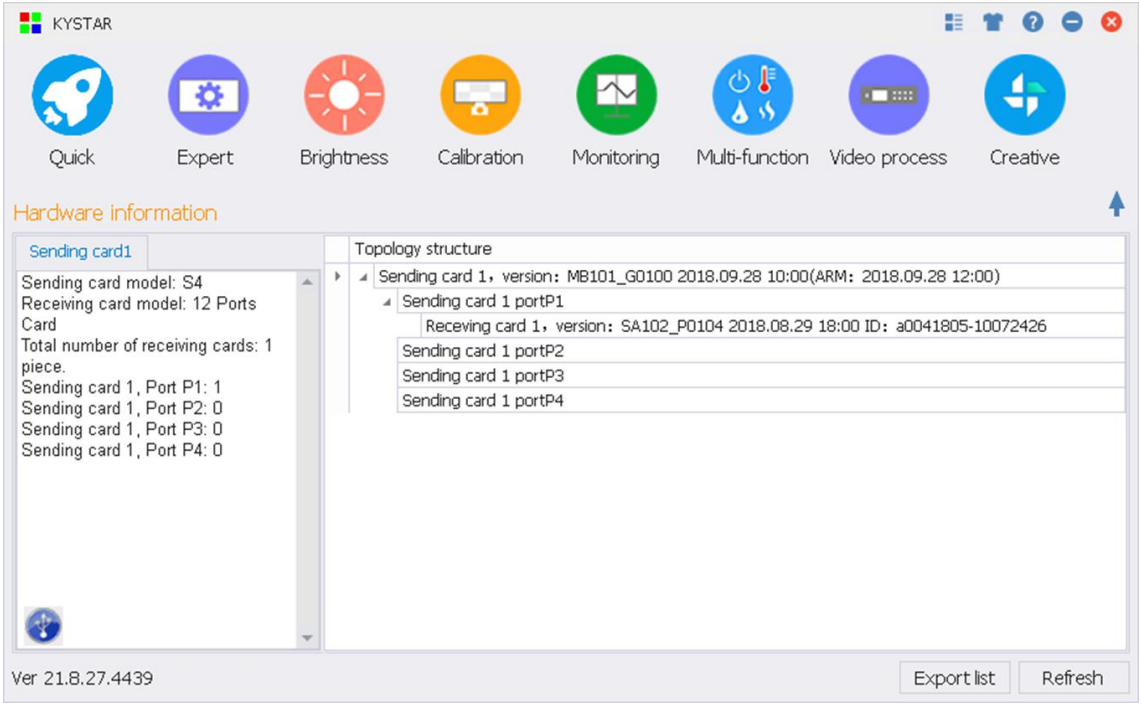
12.1 Image Test Graphics Generator

Click on the upper right corner of the main interface of the software and select Test Graphics Generator to enter the interface of test graphics generators.



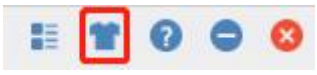
12. 2 Change the software language

Click on the upper right corner of the main interface of the software , select the language, optional English, Traditional and other languages.



12. 3 Peel

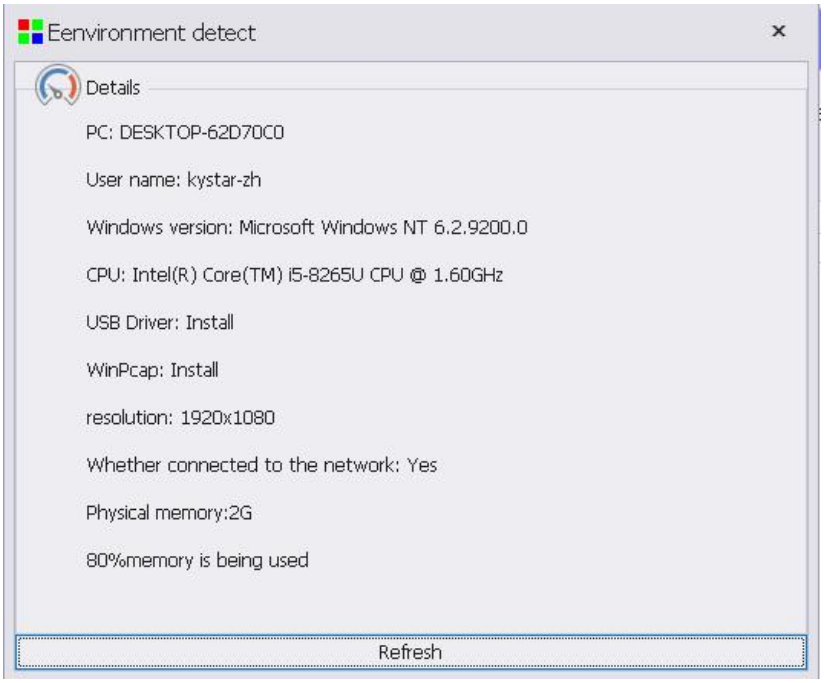
The second icon from left to right is represented as a peel, available in black and white.



12. 4 Software information view

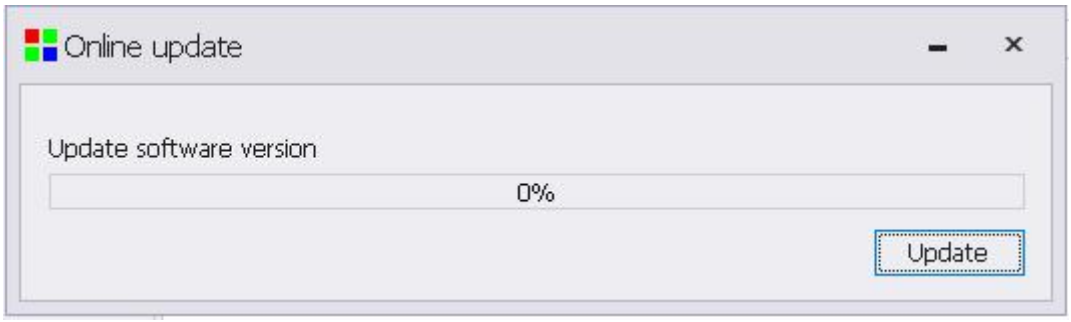
Software information contains the name and version information of the current Kaistar control system software, as well as the 400 helpline.

12. 5 Software operation environment monitoring



Software operation environment monitoring is used to monitor whether the software operating environment of the current computer is normal, whether the drivers have been installed normally, and whether the computer hardware configuration meets the minimum standards for software use.

12. 5 Detecting a new version



The detection of the new version function is used to upgrade the KYSTAR control system debugging software online, the final version of the software update is consistent with the official website, and the latest KYSTAR control system debugging software can also be obtained in the "Download Center" of the KYSTAR official website.

For more services and support, please pay attention to the official WeChat of Beijing KYSTAR Technology!