Colorlight

LEDSetting V2.2.6

User Manual

Revision History

No.	Ver.	Release Date	Author	Description
1	1.0	June 16, 2025	Tao Siyu	Initial release
2	1.1	December 22, 2025	Li Jianglong	V2.2.0
3	1.2	May 30, 2026	Luo Xiaoyu	V2.2.6 patch version

CONTENTS

CONTENTS

CONTENTS

1. Introduction

1.1 Overview

LEDSetting is a fully upgraded version of the legacy software. It is used for debugging parameters of the LED control system and works in conjunction with playback software LEDVISION.

LEDSetting provides comprehensive support for Colorlight's full product portfolio. It is designed to work with a wide range of driver ICs, screen models, and display configurations. The software supports manual calibration of LED displays and accepts calibration data from third-party professional tools.

1.2 System Requirements

Table 1-1 System requirements

Item		Configuration
Operating system		Windows
Supported versions		Windows11, Windows10
Recommended	Processor	Intel Core i5 or AMD FX-6350 or higher
	RAM	4GB or more

2. Software Installation

To install LEDSetting, follow these steps:

Step 1 Go to https://www.lednets.com/service/download/ and download the LEDSetting installer from download center.

Step 2 Double-click the installer LEDSetting_Setup.exe to begin the installation.

Step 3 In the setup window that appears, select the checkbox labeled "I accept the Software License Agreement" to proceed. Then choose your preferred installation method: quick installation or custom installation.

- Quick installation

  Click **Install now** to install the software to the default path: C:\Program Files (x86)\ColorLight.

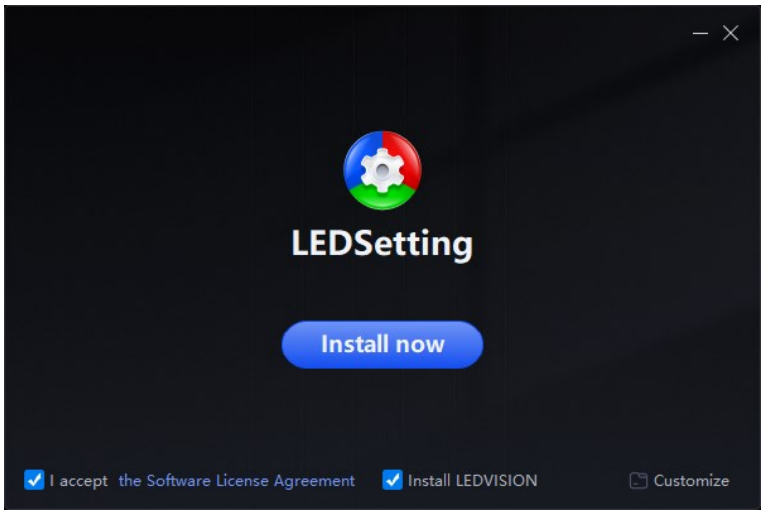


Fig 2.1 Quick installation

📖 *NOTE*

If you also need the LEDVISION software (which works together with LEDSetting), make sure the **Install LEDVISION** checkbox is selected before clicking **Install now**.

- Custom installation

  Click **Customize**, then click **Browse...** to select a custom installation path. Click **Install** to begin the installation.

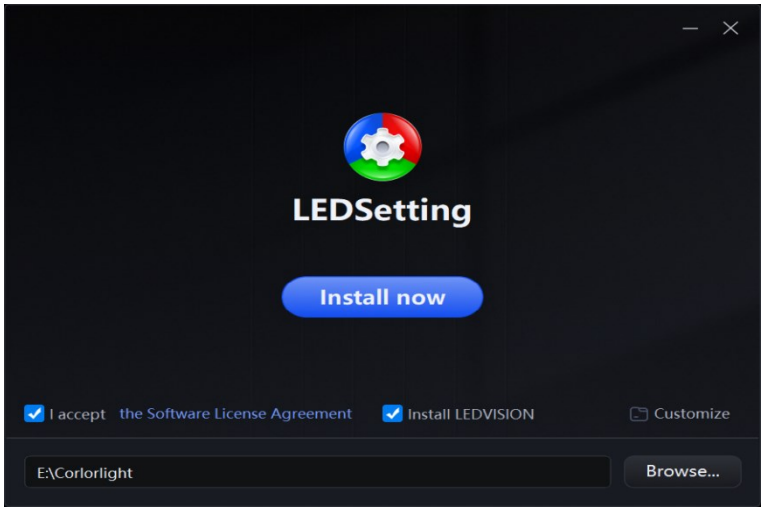


Fig 2.2 Custom installation

Once installation is complete, shortcuts for both LEDSetting and LEDVISION (if installed) will appear on the desktop.

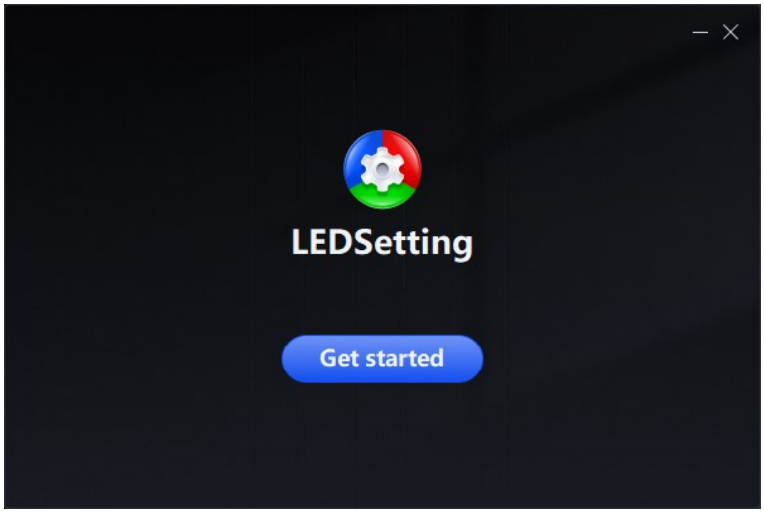


Fig 2.3 Installation complete

3. Quick Start

3.1 Detecting Devices

To connect and detect your device(s), follow these steps:

Step 1 Connect the cabinet to the fiber optic transceiver using an Ethernet cable. Then connect the transceiver to the sender via a fiber optic cable. Finally, connect the sender to the computer using a USB cable.

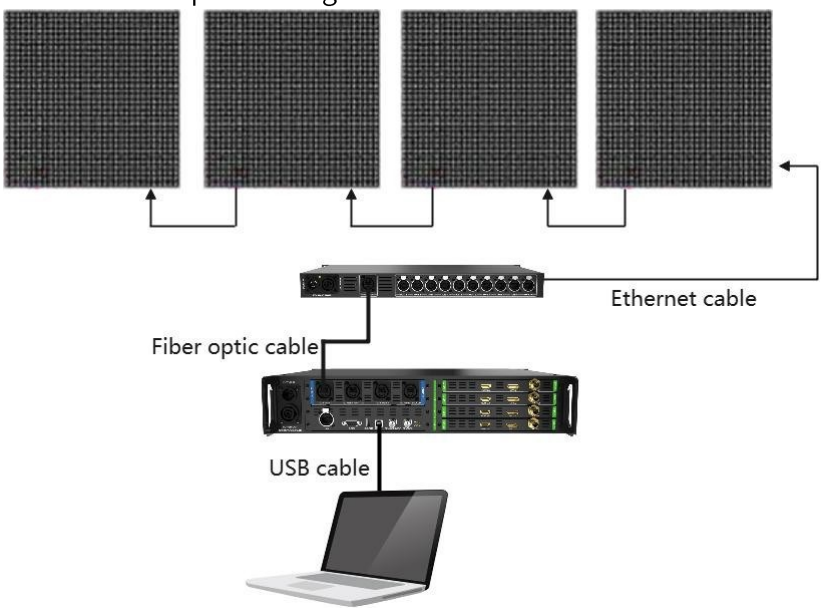


Fig 3.1.1 Device connection

Step 2 Launch **LEDSetting**. The **Device info** page will appear by default.

Step 3 Click **Detect** in the top toolbar to detect connected devices.

3.2 Configuring Senders

Step 1 Go to **Screen config**＞**Sender settings**. In the dialog that appears, enter the authorization password to access the **Sender settings** tab.

Step 2 Adjust the canvas size to match the resolution of the input signal.

Step 3 Drag the desired signal onto the canvas to display it normally.

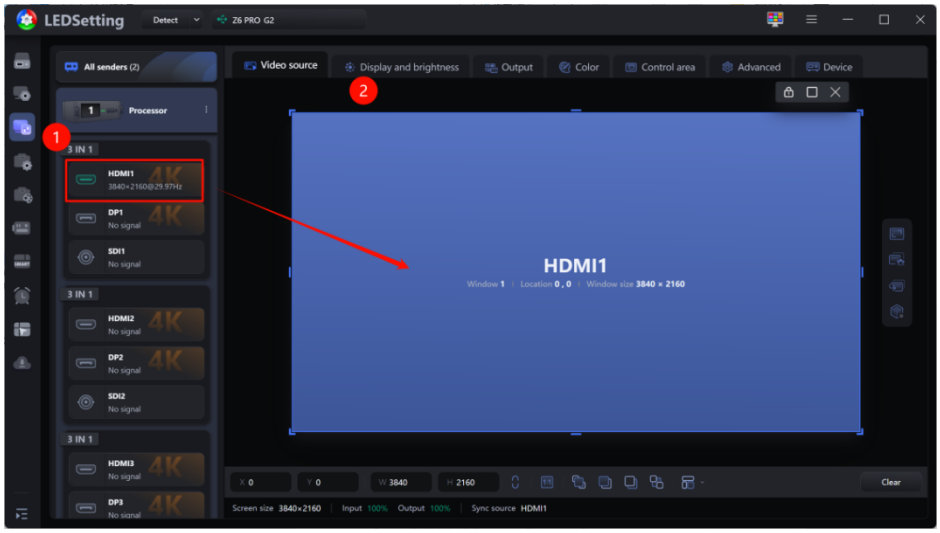


Fig 3.2.1 Video source settings

3.3 Configuring Screen Parameters

Step 1 Go to **Screen config**>**Screen parameters** to open the corresponding tab.

Step 2 To configure the correct receiver parameters, click **Import** in the top-left corner to load a parameter file, or click **Intelligent settings** in the bottom-left corner.

Step 3 After completing the configuration, click **Save** to save the parameters to the receivers.

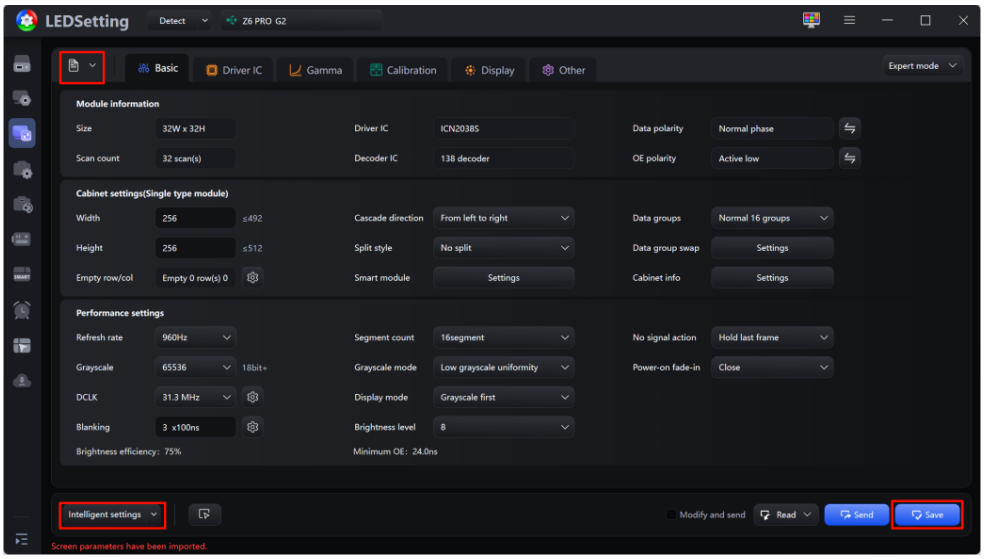


Fig 3.3.1 Saving screen parameters

3.4 Configuring Screen Mapping

Step 1 Go to **Screen config** > **Screen mapping** to open the mapping tab.

Step 2 Configure the total number of receivers and the selected receiver information based on the number and size of the cabinets.

Step 3 Select an Ethernet port. Then, configure the cabinet layout based on cabinet count and physical wiring under that port.

Step 4 Click **Save** to apply the mapping settings to the receivers. The LED display will then light up.

Fig 3.4.1 Mapping settings

4. Interface Overview

The main interface is divided into three areas: title bar, navigation bar, and function workspace.

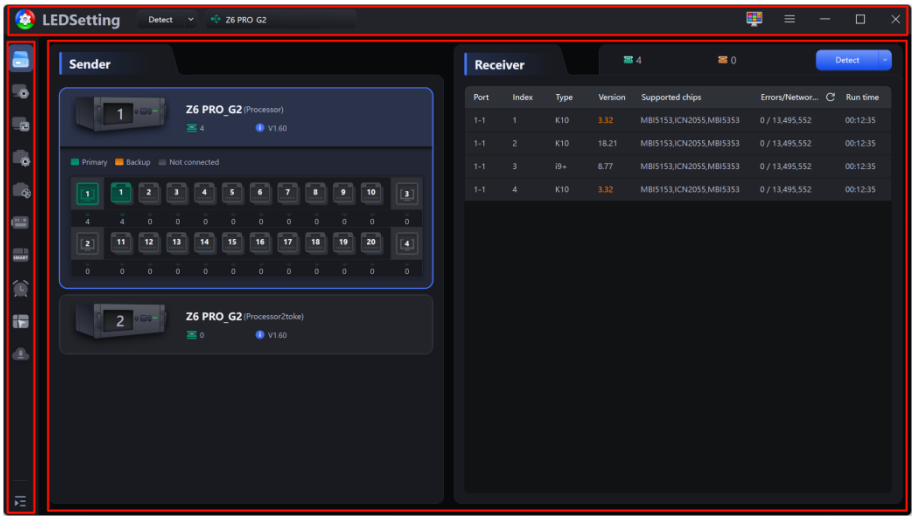


Fig 4.1 Main interface

4.1 Title Bar

The title bar includes the following elements: software logo & name, **Detect** button, mode switching button, current device set, alert notifications, test tools, system settings (**Language**, **General**, **Software module**, **Help**, **About**), and window controls (Minimize, Maximize/Restore, Close).

Fig 4.1.1 Title bar

- Device detection: Click **Detect** to refresh device set information.
- Mode switching: Click the icon to open a drop-down menu, where you can switch between **Sender mode** and **Player mode**.
- Device set selector: Click to switch between detected device sets.
- Alert notification: A notification icon appears when the sender encounters an issue. Click the icon to view details.

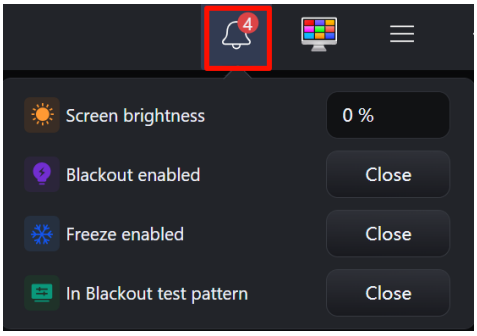


Fig 4.1.2 Alert notification

Alert messages are described in the table below.

Table 4.1-1 Alert messages

Abnormal condition	Message
Screen brightness = 0%	Current screen brightness is 0.
Blackout enabled	The sender is in blackout mode.
Freeze enabled	Display is currently frozen (last frame held).
In Blackout test pattern	All RGB values on the sender are set to 0 (black).

- To quickly adjust screen brightness, enter or fine-tune the value in the input filed next to **Screen brightness**.
- Click **Close** to exit blackout, freeze, or test pattern.
- Notification counter to the top right of the notification icon indicates the count of active alerts.

- **Test tools**: Generates different test patterns to evaluate LED display performance. See Chapter 15 for details.
- **System settings**: Access settings for **Language**, **General**, **Software module**, **User manual**, **System information**, and **About**.
  - **Language**: Supports **Simplified Chinese** and **English**.
  - **General**

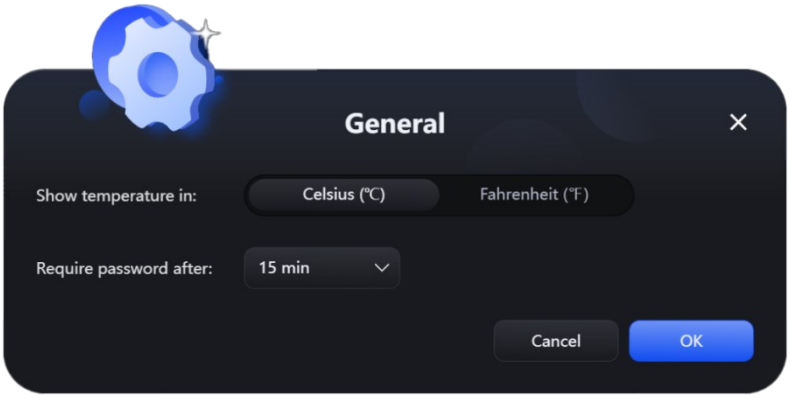


Fig 4.1.3 General settings

a. **Show temperature in**: Choose between **Celsius** (default) and **Fahrenheit**.

b. **Require password after**: Set how long the software remembers the authorization password.

- **Software module settings**: Customize which modules are shown in the navigation bar and in what order.

Fig 4.1.4 Software module settings

Functions are described in the table below.

Table 4.1-2 Software module settings

Item	Description
	Drag to reorder modules in the navigation bar.
	Click to hide a module.
	Click to show a module.
Cancel	Discard changes and close the window.
Reset	Restore module layout to default.
OK	Save and apply changes.

4.2 Navigation Bar

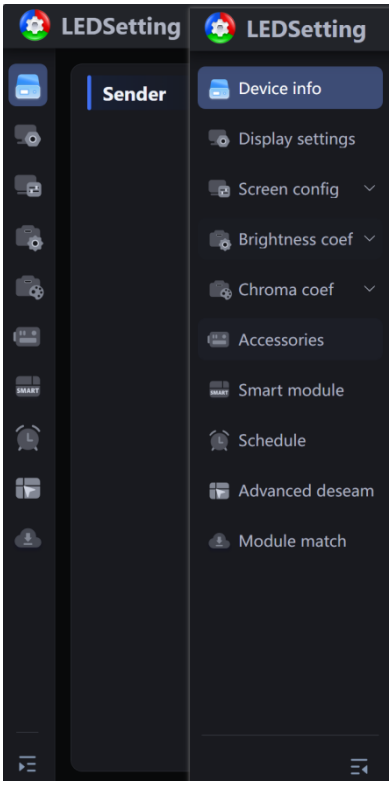


Fig 4.2.1 Navigation bar

- Toggle between expanded/collapsed view using the and icons.
  - Expanded view: Show both module names and icons.
  - Collapsed view: Display icons only. Hover over an icon to view its name. Sub-modules appear if applicable.
- Navigation rules:
  - Single-level menu: Click a menu to open it directly.
  - Multi-level menu: Hover (in expanded view) or click (in collapsed view) a menu to display its submenu, then select the desired option.
- Available modules by mode:

Mode	Supported modules
Sender mode	Device info, Display settings, Screen config, Brightness coef, Chroma coef, Smart module, Schedule, Accessories, Module match, Advanced deseam
Player mode	Device info, Screen config, Brightness coef, Chroma coef, Smart module, Module match

4.3 Function Workspace

The content displayed in the function workspace changes based on the selected

module. Detailed features and settings for each module are provided in the following chapters.

5. Device Information

This interface displays the detected sender(s) on the left and receiver(s) on the right.

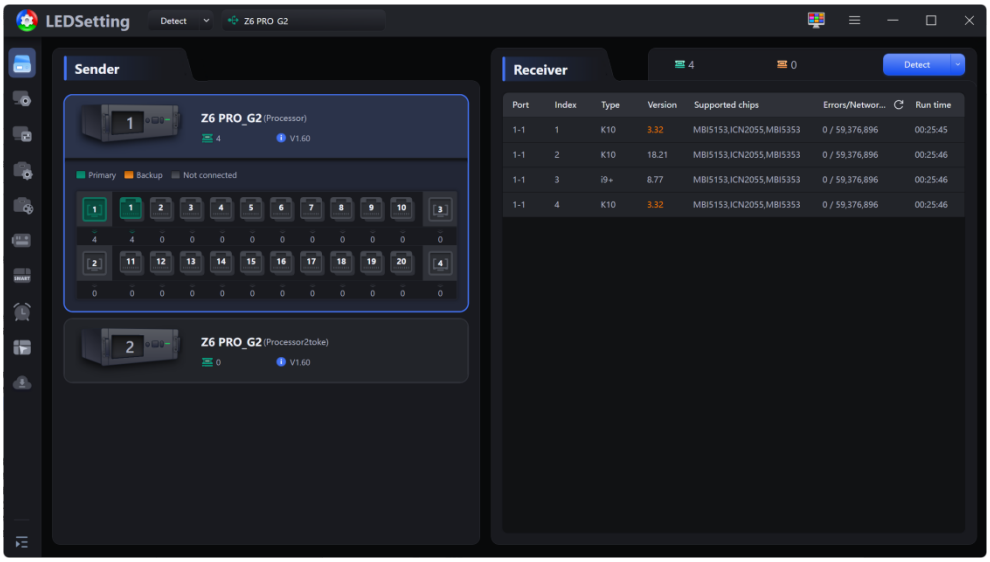


Fig 5.1 Device information

If no device is detected, the interface will display "No device detected. Still detecting...". Click **Simulate** to view the device functions.

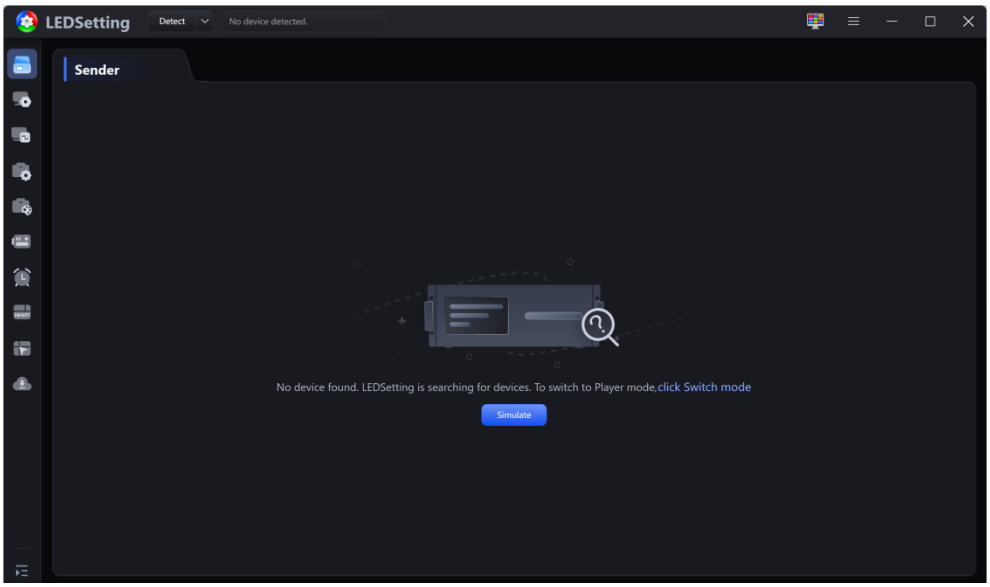


Fig 5.2 No device detected

In the **Simulate sender** window, you can select the target sender by series or search for it directly, then click **OK.**

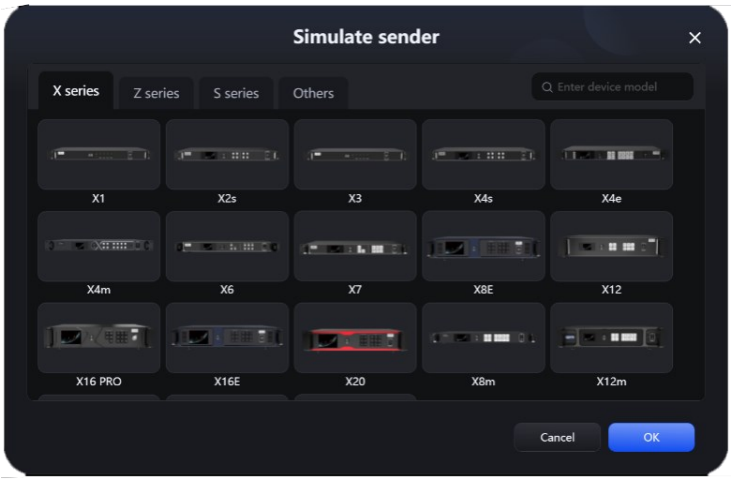


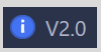
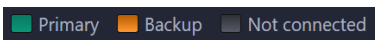
Fig 5.3 Simulate sender

5.1 Sender List

Fig 5.1.1 Sender list

The function buttons in the sender list are described in the table below.

Table 5.1-1 Sender list

Item	Description
	Sender icon and cascade number.
	Sender model and its name.
	Total number of connected receivers.
	Sender's version number; click to view detailed information.
	Ethernet statuses.
	Ethernet status and its number.

Click  to change the sender. The Ethernet port list and receiver list will update accordingly. Only one sender can be selected at a time; the Ethernet port lists of the unselected senders will be collapsed. Hover over  to view the number of receivers connected to the backup port.

5.2 Receiver List

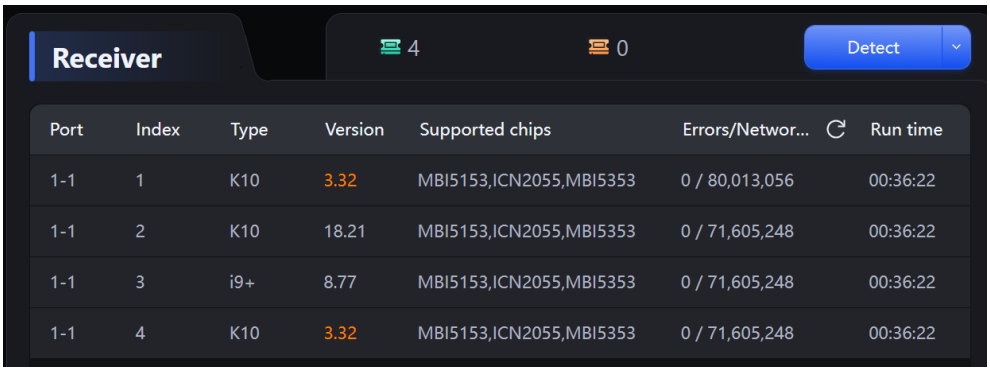


Fig 5.2.1 Receiver list

The receiver list interface is described in the table below.

Table 5.2-1 Receiver list

Item	Description
	Total number of receivers connected to the current sender.
	The number of receivers with bit errors connected to the current sender.
Port	Sender–port index; a yellow dot appears before the index, if it is a backup port.
Index	Receiver index.
Model	Receiver model.
Version	FPGA firmware version of the receiver.
Supported chip	Supported driver ICs of the receiver.
Errors/Network packets	The number of errors and network packets. If the bit error rate is too high, the data will be shown in red.
	Reset network packet counts for all receivers.
Run time	Accumulated run time of the receiver.

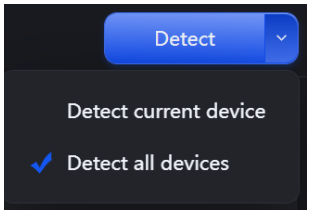


Fig 5.2.2 Detect current/all devices

Detect: Click to detect all sender information. Use the drop-down menu to switch the detection mode.

- **Detect current device**: Detect the receivers connected to the selected sender.
- **Detect all devices**: Detect the receivers connected to all senders.

6. Display Settings

This function adjusts parameters of the sender and receivers to optimize the LED display performance.

Brightness & CCT

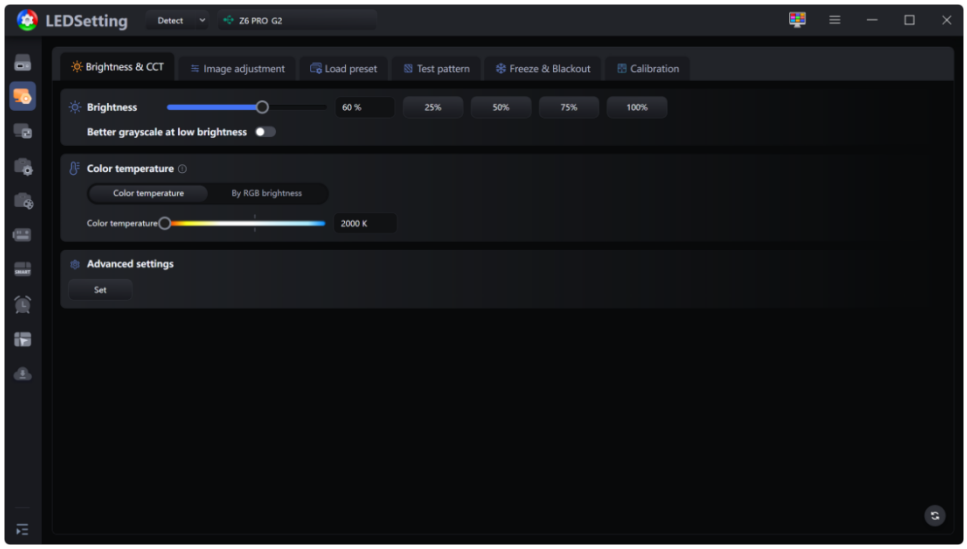


Fig 6.1 Brightness & CCT

- **Brightness**: Adjust using percentage options, slider, value input, or fine-tune buttons.
- **Color temperature**: Adjust using RGB brightness, slider, value input, or fine-tune buttons.
- **Advanced settings**: Click **Set** to open the **Advanced settings** window.

  - Sender group

    Adjust brightness and color temperature and enable **Better grayscale at low brightness** for sender(s).

    To select sender(s), check the box in front of the sender index. Parameter adjustments will apply only to the selected sender(s).

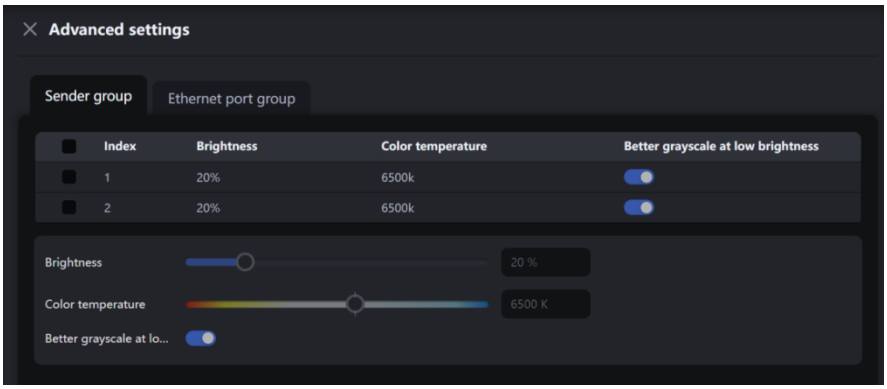


Fig 6.2 Advanced settings

The **Advanced settings** interface is described in the table below.

Table 6-1 Advanced settings

Item	Description
Index	Order of sender connection.
Brightness	Sender's brightness value.
Color temperature	Sender's color temperature value.
Better grayscale at low brightness	Toggle the **Better grayscale at low brightness** function.

You can also adjust the brightness and color temperature using the slider, and toggle the **Better grayscale at low brightness** function.

- **Ethernet port group**

To adjust brightness by **Ethernet port group**, first enable the function. Then switch between groups by clicking the corresponding areas.

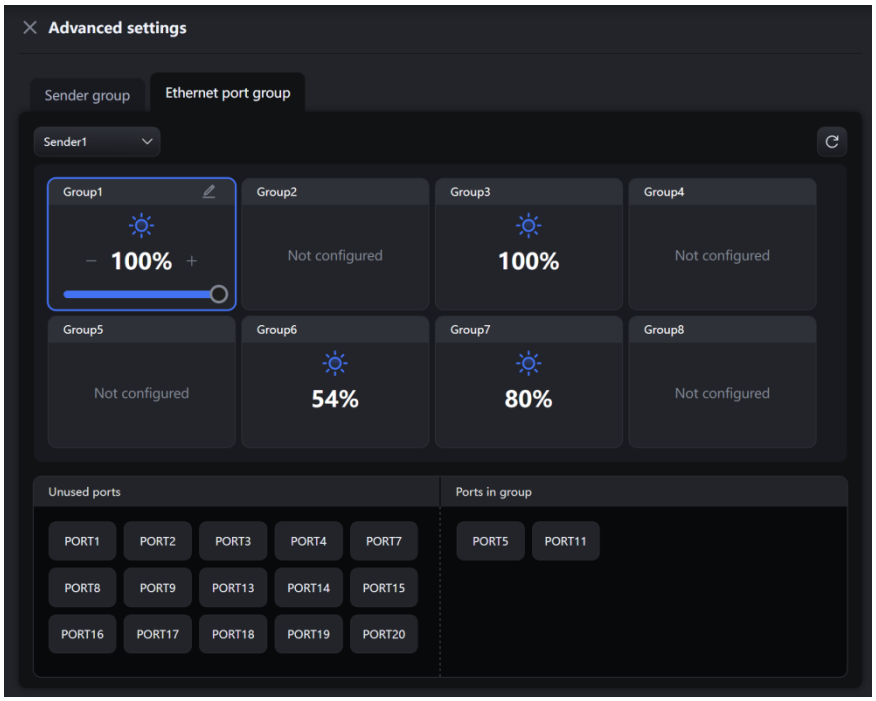


Fig 6.3 Adjust brightness by Ethernet port group

Use the slider or fine-tuning buttons to adjust the brightness. If the current group contains no Ethernet ports, brightness adjustment will be unavailable. Click  to edit group name.

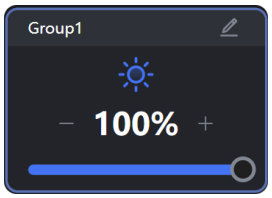


Fig 6.4 Ethernet port group

To add ports to a group, drag the port number from **Unused ports** to **Ports in group**. To remove them, drag the port numbers in **Ports in group** to **Unused ports**.

Fig 6.5 5 Add/Remove ports to group

Image adjustment

Adjust the **Hue**, **Saturation**, **Brightness compensation**, and **Contrast** by dragging the sliders, entering values in the input fields, or using the fine-tune buttons .

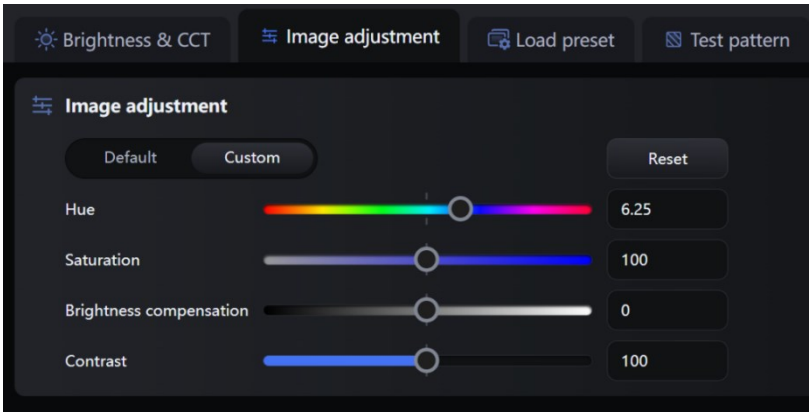


Fig 6.6 Image adjustment

- **Reset**: Reset all parameters to their default values.
- **Default**: Switch to default mode, where all parameters are set to their default values and cannot be adjusted.
- **Custom**: Switch to custom mode, where parameters are set to the last adjusted values and are adjustable.

Switch between **Default** and **Custom** modes to observe changes on the display and compare the effect of different parameter settings.

Load preset

Click the preset icon to load the preset of sender.

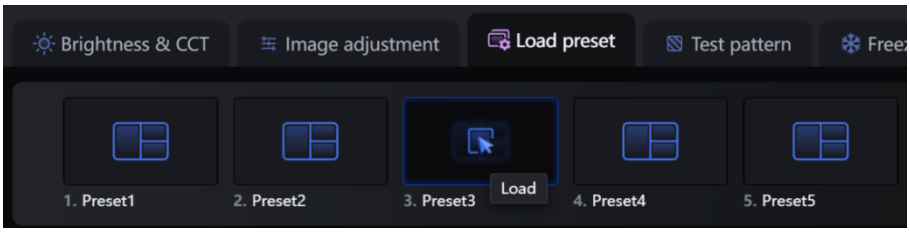


Fig 6.7 Load preset

Freeze & Blackout

Freeze: When enabled, the LED display holds the last frame.

Blackout: When enabled, the LED display turns black.

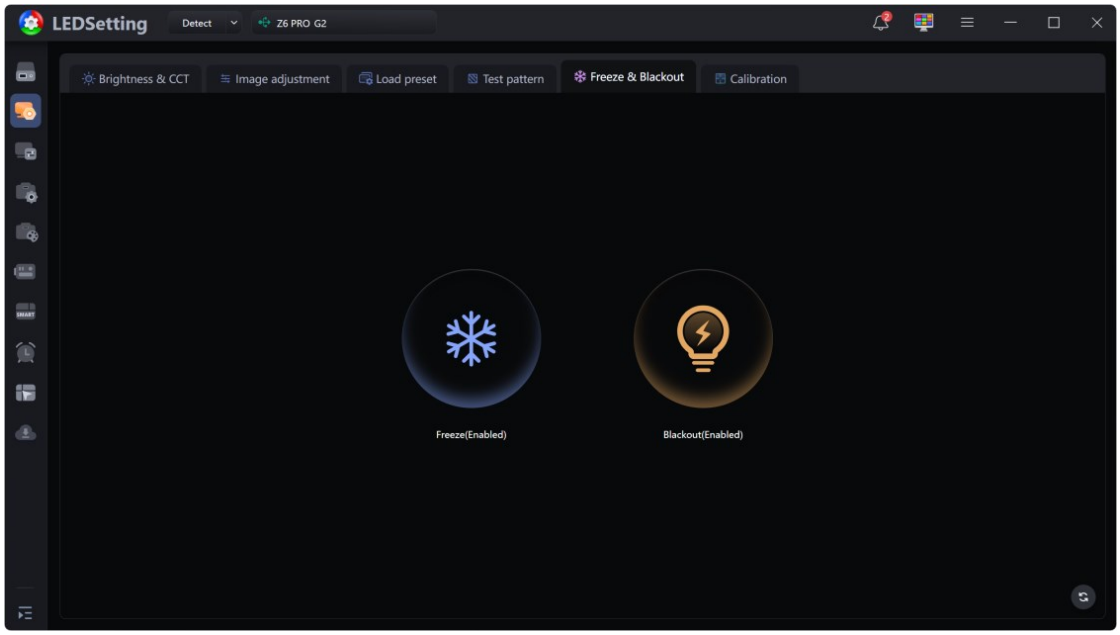


Fig 6.8 Freeze & Blackout

Test pattern

Set different test patterns as needed to view the LED display's performance and diagnose potential issues.

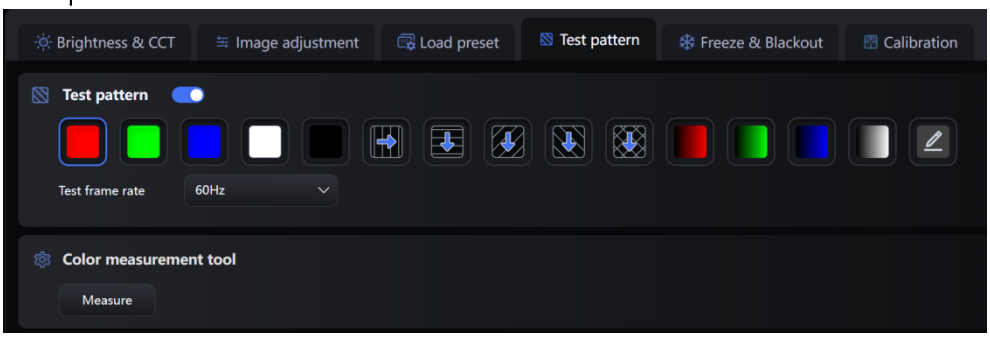


Fig 6.9 Test pattern

- **Color measurement tool**: Click **Measure** to open the **Color measurement** window.

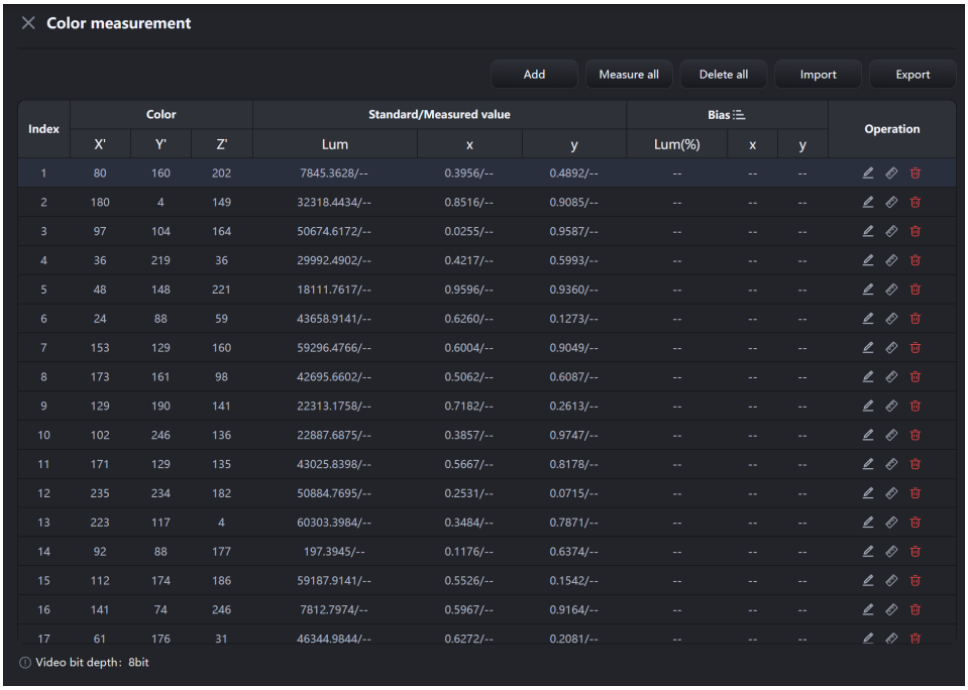


Fig 6.9 Color measurement tool

- Toolbar

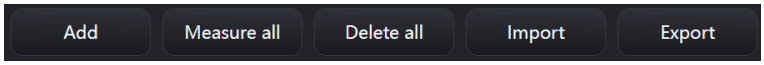


Fig 6.10 Toolbar

The toolbar is described in the table below.

Table 6-2 Toolbar

Item	Description
Add	Open the **Add** window to add a new command.
Measure all	Measure all commands sequentially.
Delete all	Delete all color measurement commands.
Import	Import measurement commands and data from a local file.
Export	Export current data to a local file.
Index	The index of each color measurement command.
Color	X/Y/Z color values.
Standard/ Measured value	Luminance and X/Y values. The value will be blank if not measured.
Bias	The percentage bias of luminance and X/Y values. The value will be blank if not measured.
	Set the bias threshold. Values that exceed the threshold will be marked in red.
	Open the Edit window and modify the command values.
	Measure the selected command.

	Delete the selected command.

- **Video bit depth**: Display the current video bit depth set for the sender. The interface works normally at 8/10bit. When set to 12bit, an additional option appears for switching between preset commands.

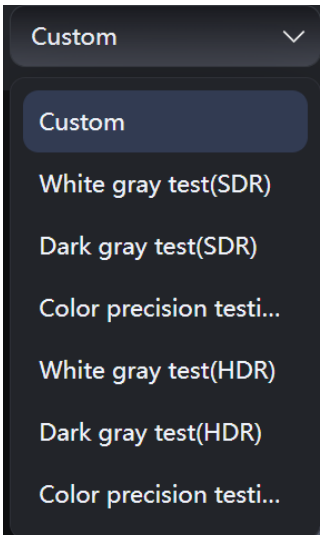


Fig 6.11 Preset commands

- **Preset commands**: Click the drop-down menu to switch between different preset commands, which cannot be edited or deleted.

Calibration

Quickly switch calibration mode (**Off**, **Brightness**, **Chroma**) and calibration coefs source (**Receiver**, **Module**).

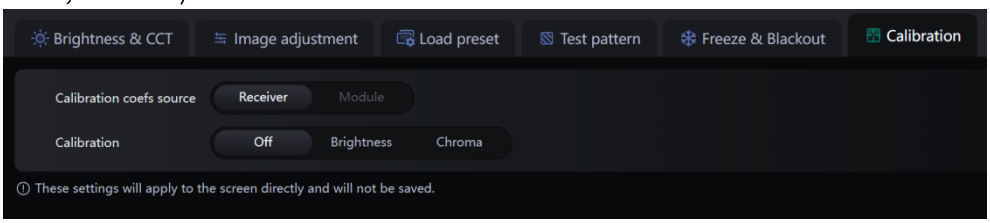


Fig 6.13 Calibration settings

7. Screen Configuration

The **Screen config** module includes **Sender settings**, **Screen parameters**, and **Screen mapping**.

7.1 Sender Settings

This section lets you configure parameters for connected senders. If no physical devices are connected, you can use the simulation function to preview the interface.

The **Sender settings** interface is divided into three sections: device panel, function menu, and operation area.

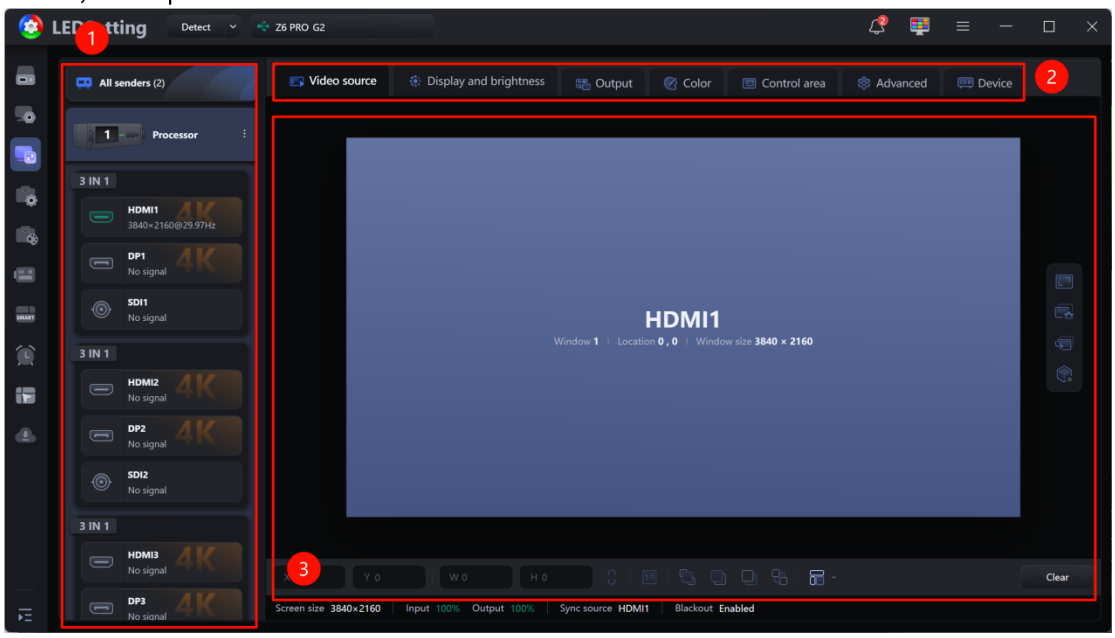


Fig 7.1.1 Sender settings

- Device panel: Displays the sender name, device No., operation menu, input signal list, and its context menu.
  - Input signal list: Click a sender to display its input signals. Input signals for unselected senders will be collapsed.
  - Available functions for each sender may vary by device model. Typical functions include **Video source**, **Display and brightness**, **Output**, and **Device**, and others.

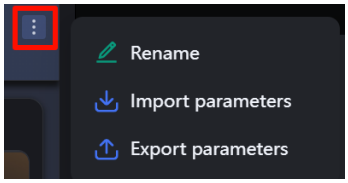


Fig 7.1.2 Sender settings

- Sender settings: Click the three-dot icon to open the context menu, which includes:
  - **Rename**: Enter edit mode to change the sender name. The new name is saved

automatically when the cursor leaves the input field.

- **Import parameters**: Open a file dialog to import sender parameters. Only .scp files are supported.
- **Export parameters**: Open a file dialog to export the current settings as a .scp file.

- Input signal list: Displays all input signals of the selected sender, along with connection status, signal name, and EDID details.

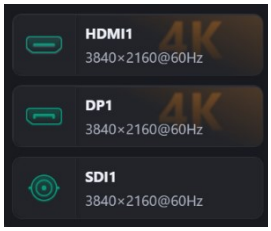


Fig 7.1.3 Input signal list

Click the three-dot icon next to an input signal to open its context menu, which includes:

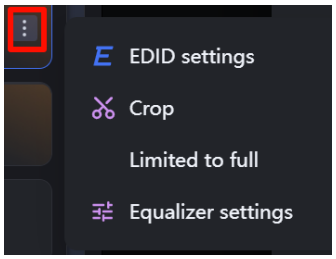


Fig 7.1.4 Signal source settings

- **EDID settings**: Open a dialog to configure EDID parameters.
- **Crop**: Open a cropping window to define the visible area of the signal.
- **Limited to full**: Enable or disable range conversion (limit to full).
- **Equalizer settings**: Open a dialog to adjust signal equalization levels.

- Function menu: Display available functions supported by the selected sender. For example, the Z6PRO_G2 includes: **Video source**, **Display and brightness**, **Output**, **Color**, **Control area**, **Advanced**, and **Device**.
- Operation area: Display configuration interface corresponding to the selected tab in the function menu.

7.1.1 Video Source

The **Video source** tab includes the following sections: canvas area, bottom toolbar, sidebar, and status bar.

Canvas

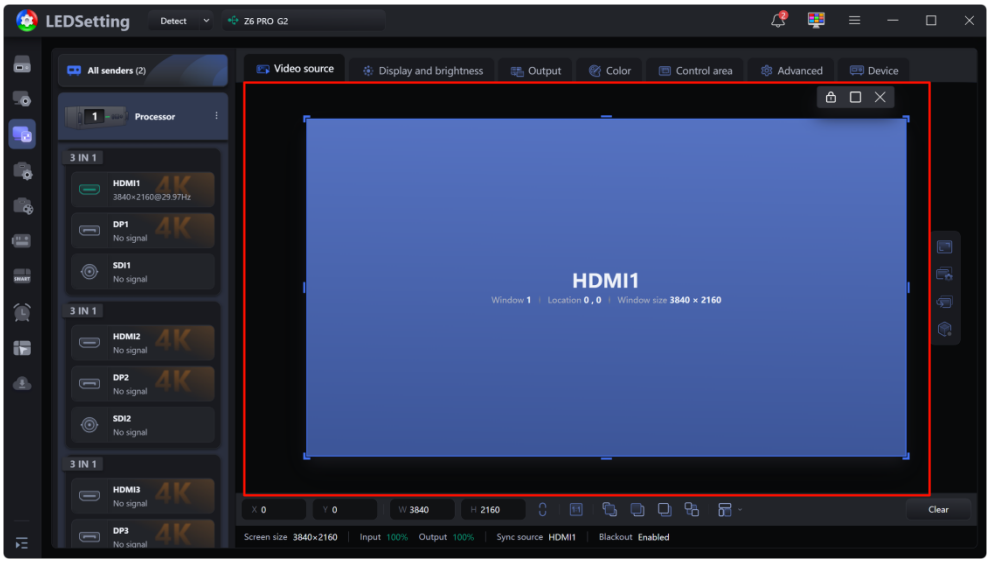


Fig 7.1.1.1 Canvas

The function buttons in the canvas area are described in the table below.

Table 7.1-1 Buttons description

Item	Description
HDMI1 Window 1 | Location 0 , 0 | Window size 3840 × 2160	Display the signal name, window number, coordinates, and dimensions of an active window.
	Lock the window to prevent moving or resizing.
	Unlock the window to allow editing.
	Maximize the window to fit the canvas.
	Restore the window to its previous size.
	Delete the window from the canvas.
Switch signal	Right-click a signal to reveal its context menu. Click Switch signal to select between available signals.
Bring to front	Bring the window to the front.
Bring forward	Move the window up one layer.
Send backward	Move the window down one layer.
Send to back	Send the window to the bottom.

- To display a signal source in a window, drag it onto the canvas.

Window preview: You can preview the window size and position before releasing the mouse.

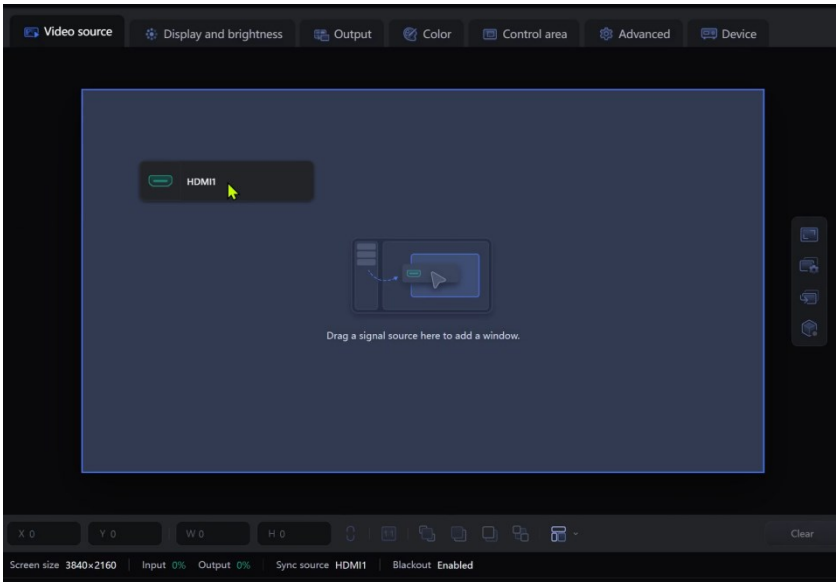


Fig 7.1.1.2 Window preview

- Window limit warning: Prompts when the maximum number of windows is reached and displays the signal name occupying the current window.

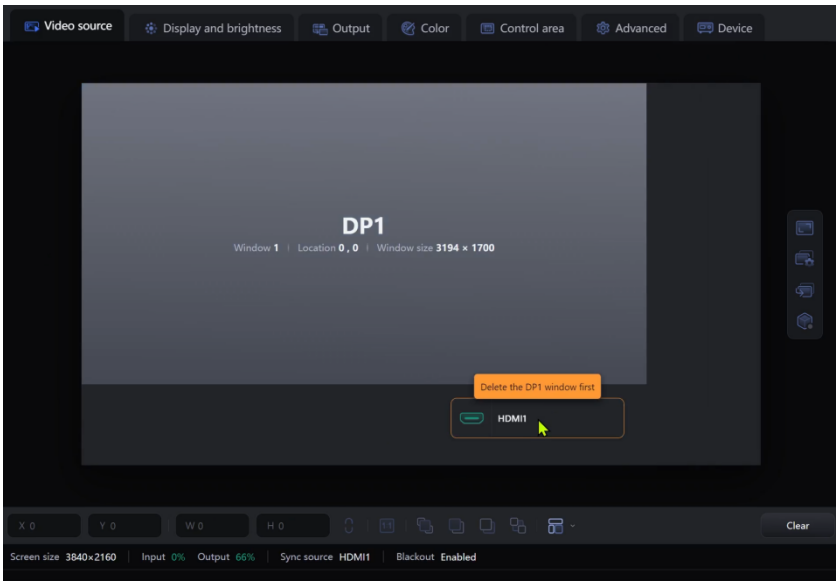


Fig 7.1.1.3 Window limit warning

- **Replace signal**: Drag and hold a new signal over an existing window for 1.5 seconds to replace it.

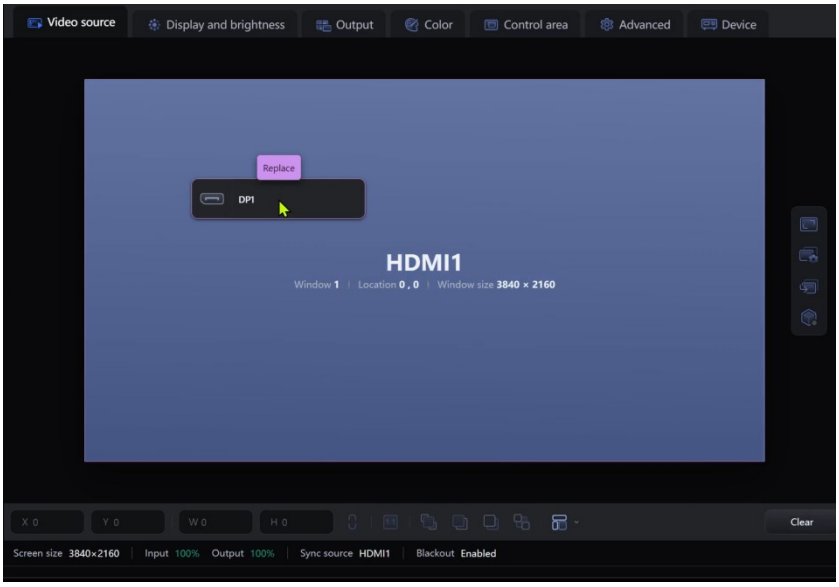


Fig 7.1.1.4 Replace prompt

- When a window is selected, the setting icons  appear in the top-right corner. Click outside the window to deselect it.
- Right-click a window to open its context menu, where you can lock, unlock, maximize, or restore the window.

Bottom toolbar

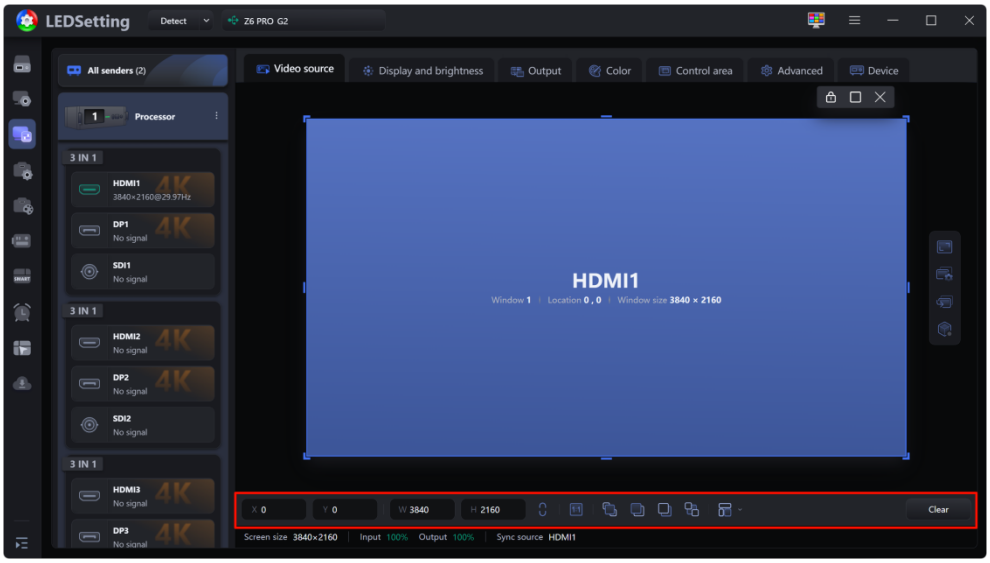
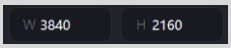
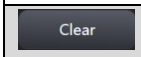


Fig 7.1.1.5 Bottom toolbar

The function buttons in the bottom toolbar are described in the table below.

Table 7.1-2 Function buttons

Item	Description
	Set the position of the selected window. Changes are reflected on the canvas in real time.

	Set the size of the selected window. Changes are reflected on the canvas in real time.
	Lock or unlock the window's aspect ratio.
	Match the window size to the EDID resolution.
	Bring the window to the front and update its No.
	Move the window up one layer and update its No.
	Move the window down one layer and update its No.
	Send the window to the back and update its No.
	Choose a layout or customize guide lines on the canvas.
	Remove all windows from the canvas.

- **Signal source ratio**: Automatically enables **Keep aspect ratio** to match EDID.
- **Layout**: Display available guide lines. Clicking **Default** turns off the guide lines.

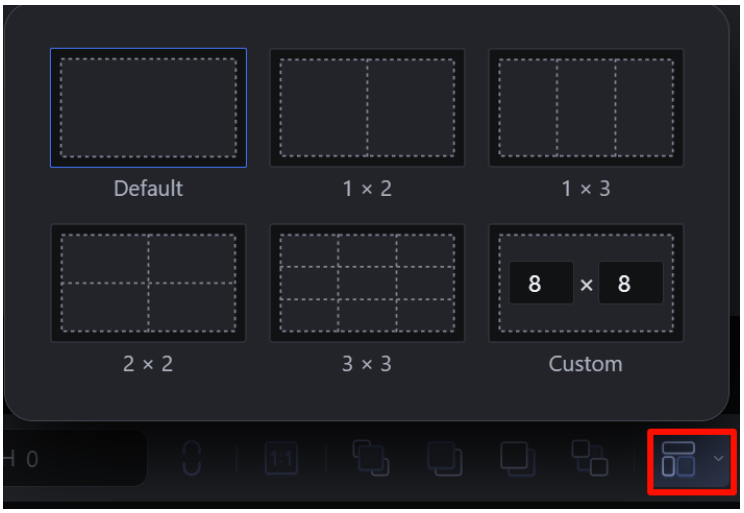


Fig 7.1.1.6 Layout

- Available options: **Default**, **1x2**, **1x3**, **2x2**, **3x3**, or **Custom**.
- Custom layout: Automatically calculates and displays recommended values based on the canvas size. You can also manually enter values to define your own layout.
- When a layout is applied, any new window you drag onto the canvas will snap to the nearest grid area within that layout.

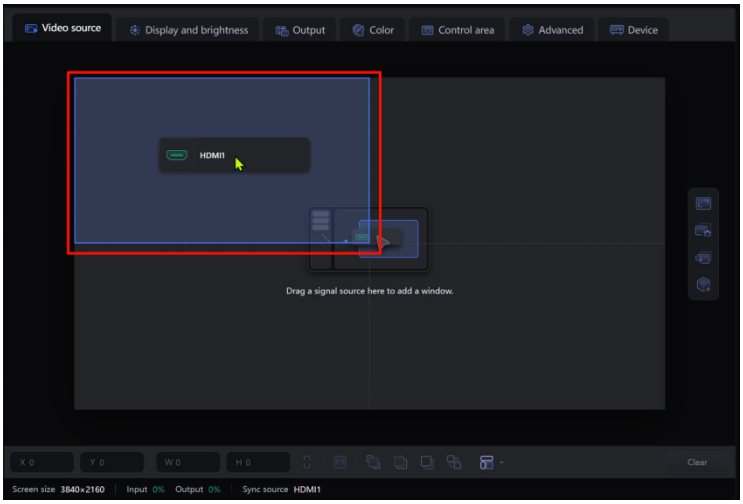


Fig 7.1.1.7 Window layout by guide lines

The guide line interactions are described in the table below.

Table 7.1-3 Guide line interactions

Action	Description
Hover	Display a blue dashed line, indicating the guide line is not selected.
Click	Display a blue solid line, indicating the guide line is selected.
Hold & drag	Move the guide line and show real-time coordinates.
Double-click	Open an input field to edit the coordinate. Changes are auto-saved when you move the cursor away.
Drag outside canvas	Delete the selected guide line permanently.
Delete	Press **Delete** on your keyboard to remove the selected guide line.

Sidebar

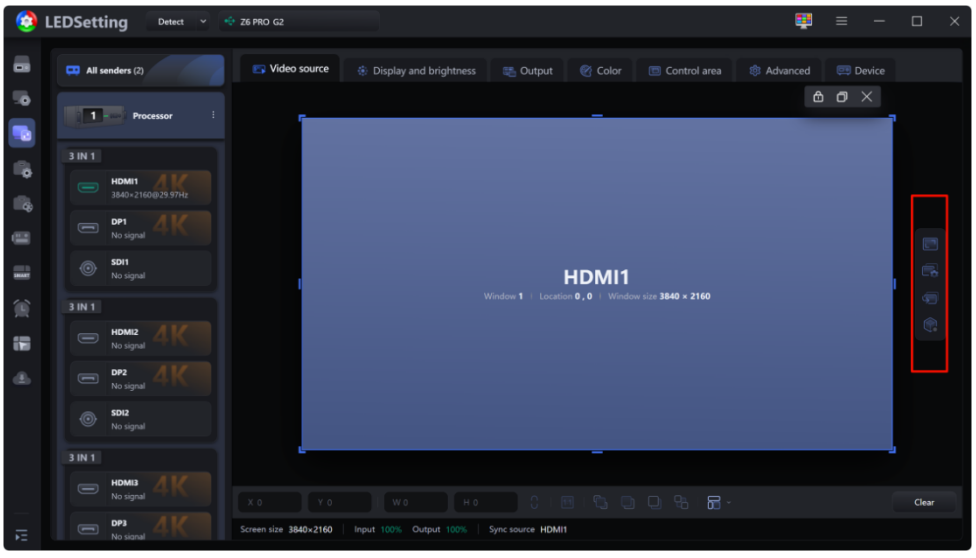


Fig 7.1.1.8 Sidebar

Sidebar functions are described in the table below.

Table 7.1-4 Sidebar functions

Item	Description
	Screen size: Set width and height for the canvas.
	Manage preset: View and apply existing presets.
	Save preset: Save the current configuration as a new preset. It will appear in the **Manage preset** list.
	3D settings: Enable 3D mode to access additional settings. A green indicator on the icon indicates active status.

- **Save preset**: To name the preset quickly, choose from the available preset numbers or enter a custom name. To save brightness and color parameters, select the checkbox at the bottom.

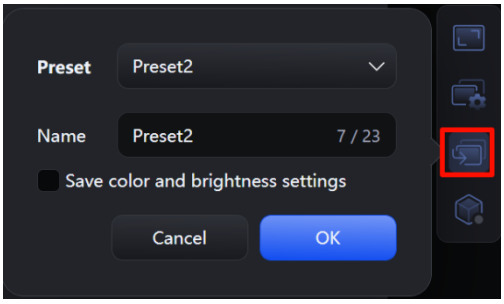


Fig 7.1.1.9 Save preset

- **3D**: Specify signals for eyes, eye priority, and signal delay time.

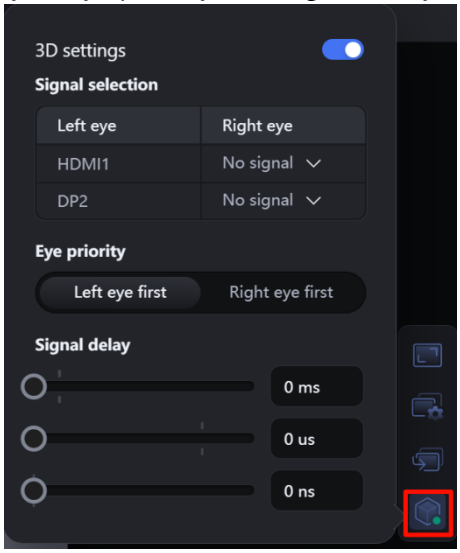


Fig 7.1.1.10 3D settings

- **Signal selection**: Choose available signals for right-eye from drop-down.
- **Eye priority**: Toggle between left and right eye.
- **Signal delay**: Fine-tune delay in three units using slider or input field.

-3D settings cannot be turned on if the canvas is oversized. A pop-up warning will

appear.

Status bar

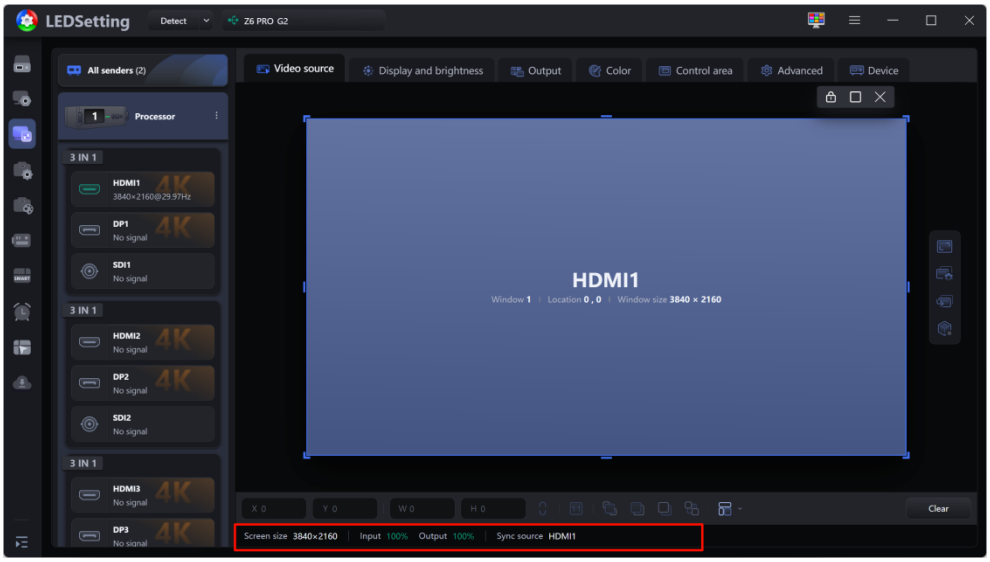


Fig 7.1.1.11 Status bar

The functions of the status bar are described in the table below.

Table 7.1-5 Status bar functions

Item	Description
Screen size 3840×2160	Display current canvas dimensions (width × height).
Input 100%	Show the size of the active input signal as a percentage of the input capacity.
Output 100%	Show the window size on the canvas as a percentage of the output capacity.
Sync source HDMI1	Display the sync source selected for the current sender.

- When input or output usage exceeds 100%, the value is highlighted in red.

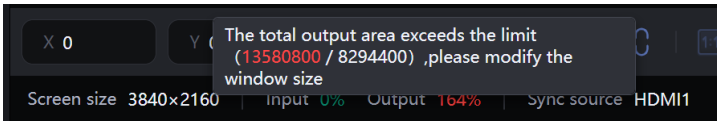


Fig 7.1.1.12 Overload warning

7.1.2 Display and Brightness

The **Display and Brightness** tab lets you adjust settings such as **Brightness**, **Color temperature**, **Freeze**, **Blackout**, and **Test pattern** on the sender to improve the LED display performance.

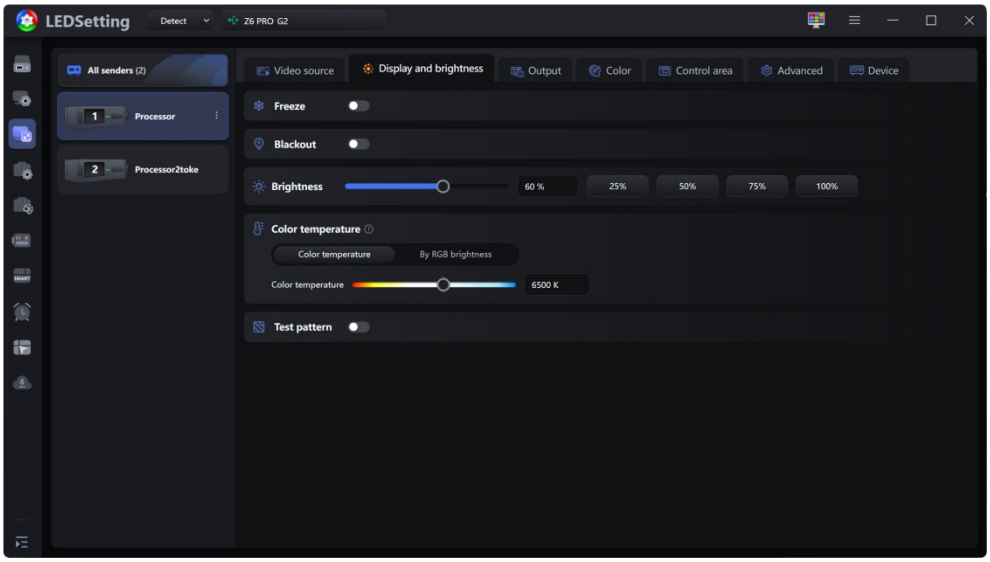


Fig 7.1.2.1 Display and brightness

- **Brightness**: Adjust the brightness level of the LED display.
- **Color temperature**: Adjust the color temperature of the LED display.
- **Test pattern**: Switch among test patterns to inspect and diagnose the LED display.
- **Freeze**: Pause the display and holds the last frame.
- **Blackout**: Turn the LED display black.

7.1.3 Output

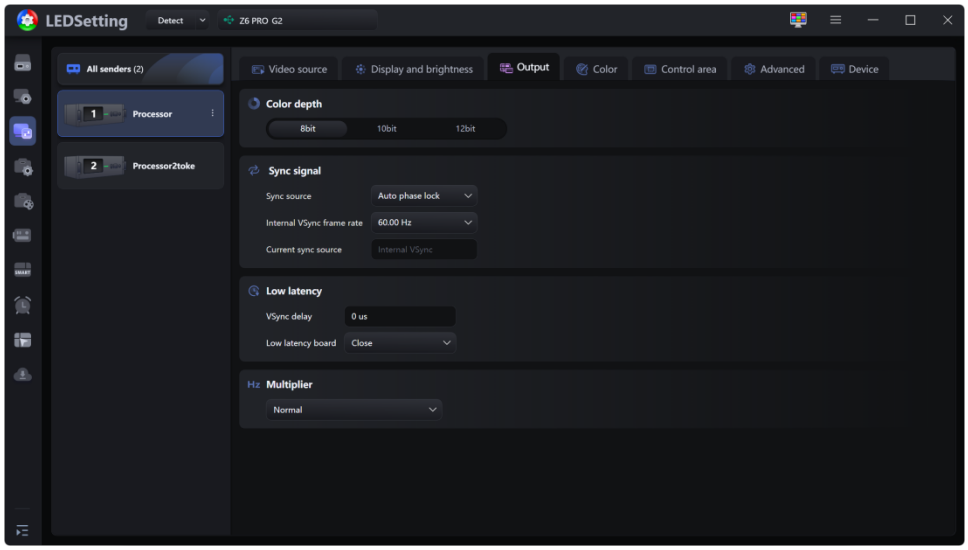


Fig 7.1.3.1 Output

- **Color depth**: Set the color depth (8/10/12bit) for the processor.
- **Sync signal**: Configure the synchronization settings for the video source.
  - **Sync source**: Select a sync source as needed.
  - **Internal VSync frame rate**: Set the frame rate used by internal VSync.
  - **Current sync source**: Display the sync source currently in use.
- **Low latency**: Configure low latency for the processor.

- **VSync delay**: Set the delay time for VSync.
- **Low latency board**: Enable low latency for the selected board to reduce delay.

- **Multiplier**: Set the frame rate multiplication as needed.

7.1.4 Color

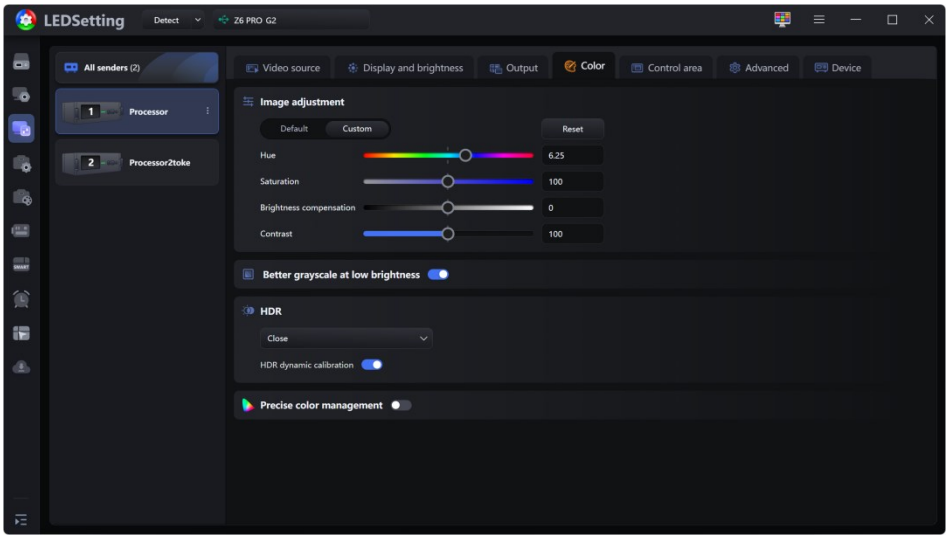


Fig 7.1.4.1 Color

- **Image adjustment**: Adjust LED display performance using color parameters.
- **Better grayscale at low brightness**: Improve the LED display grayscale in low brightness conditions.
- **HDR**: Display richer dynamic ranges and more image details compared to standard images.
- **Precise color management**: Manually adjust color and brightness values, and change the color space if needed. When **HDR dynamic calibration** is enabled, an additional **Before calibration** section will appear.

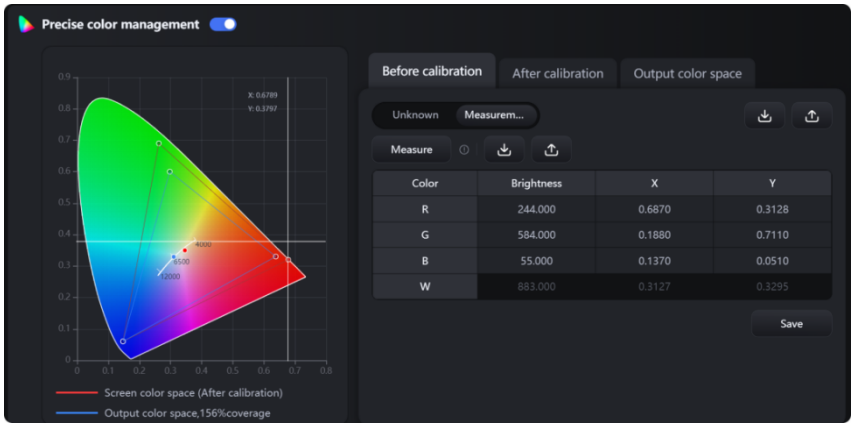


Fig 7.1.4.2 Precise color management

7.1.5 Control Area

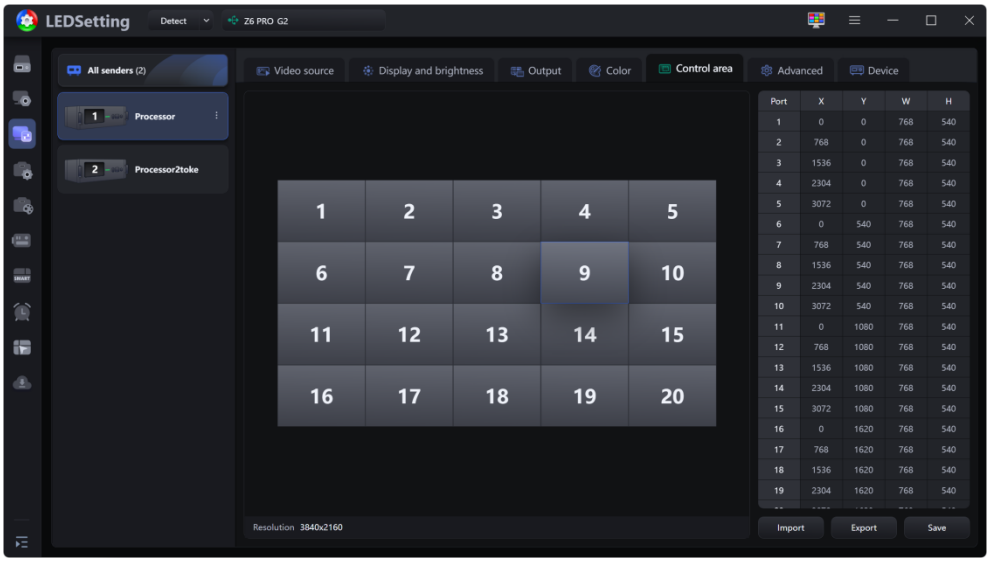


Fig 7.1.5.1 Control area

- Canvas area: Display the control area of the Ethernet ports. Drag to adjust its position and size.
- List area: Display the coordinates and sizes of the Ethernets ports in the control area, which can be precisely edited.
- **Import**: Import control area parameters from a local file.
- **Export**: Export control area parameters to a local file.
- **Save**: Save the control area parameters to the sender.

7.1.6 Advanced

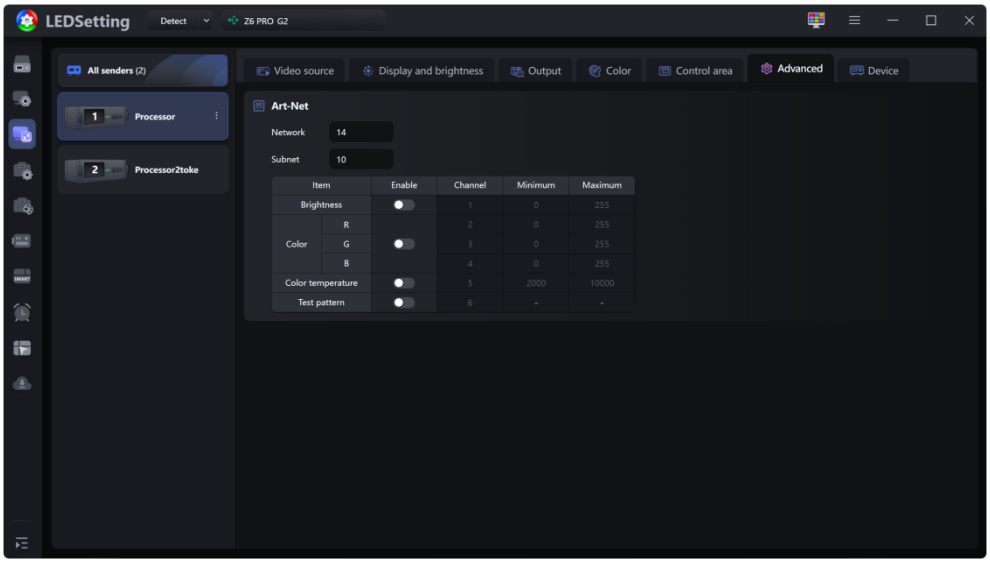


Fig 7.1.6.1 Advanced

- **Art-Net**: Work with a console.

7.1.7 Device

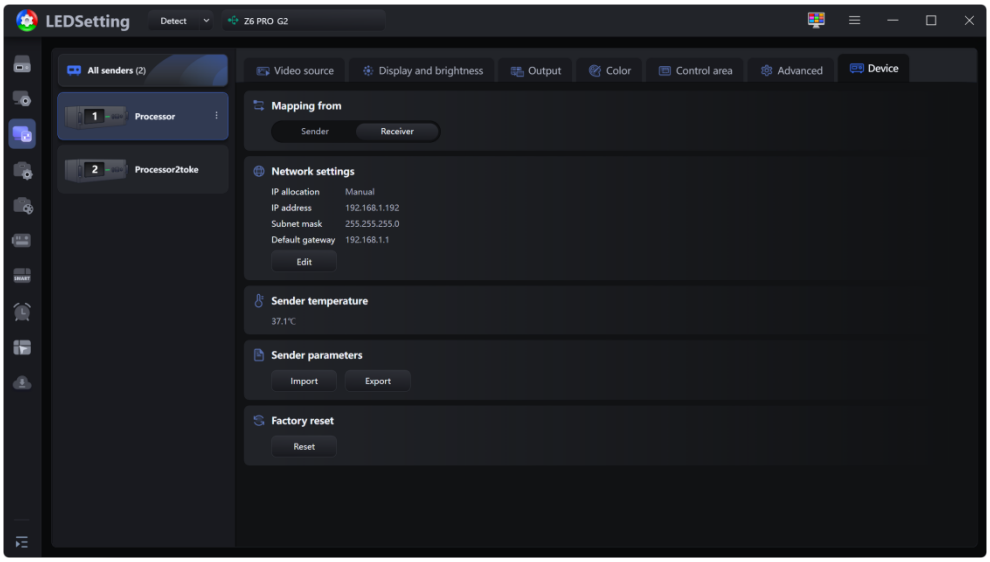


Fig 7.1.7.1 Device

- **Mapping from**: Select whether the mapping source is the sender or the receiver.
- **Network settings**: Display the network configuration of the sender. Click **Edit** to open **Network settings** window.

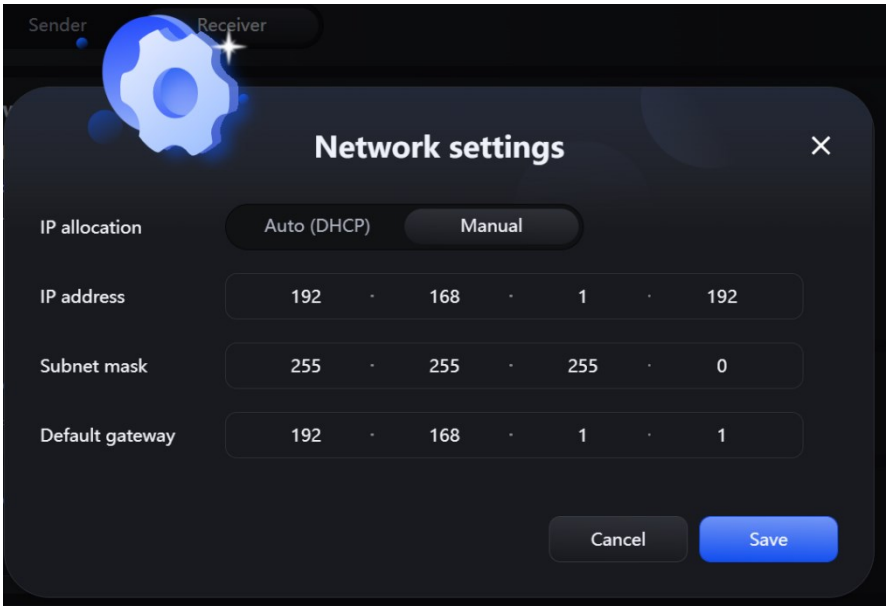


Fig 7.1.7.2 Network settings

- **Auto (DHCP)**: Automatically obtain an IP address via DHCP.
- **Manual**: Manually set the sender's IP address, subnet mask, default gateway, and DNS.
  a. **DNS**: Require support by sender firmware. Once configured, domain names can be used to access other hosts.
  b. **MAC**: Display the MAC address of the sender's network interface card. This field is not editable.

- **Sender temperature**: Display the current temperature of the sender's core chip.
- **Sender parameters**: Import or export sender parameter files.
- **Factory reset**: Restore the sender's settings to factory defaults.

7.2 Screen Parameters

In **Screen Config**>**Screen Parameters**, you can set LED screen parameters, including basic parameters, driver IC, decoder IC, gamma adjustment, calibration settings, display adjustment, and other settings. You can switch between **Normal mode** and **Expert mode**.

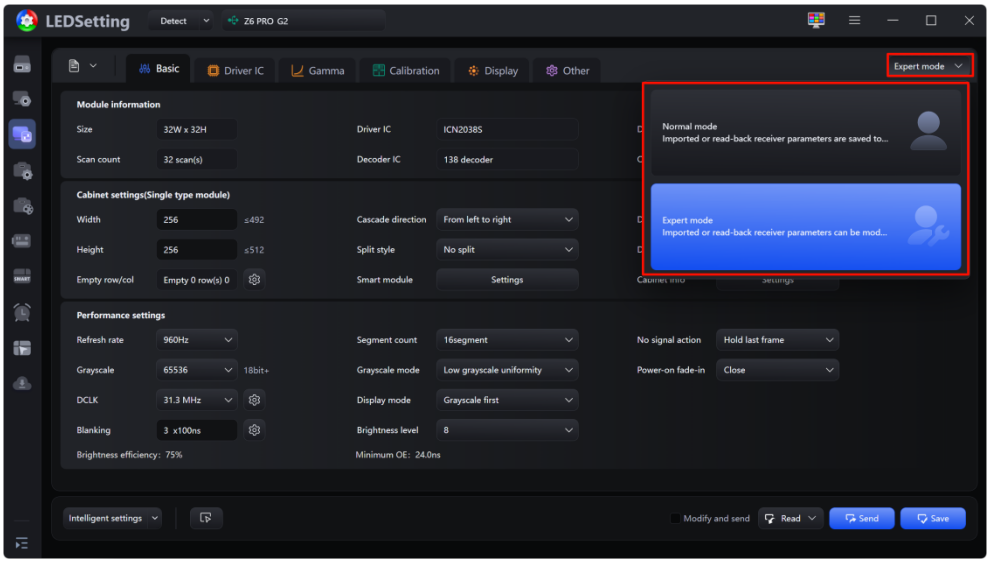


Fig 7.2.1 Normal mode and Expert mode

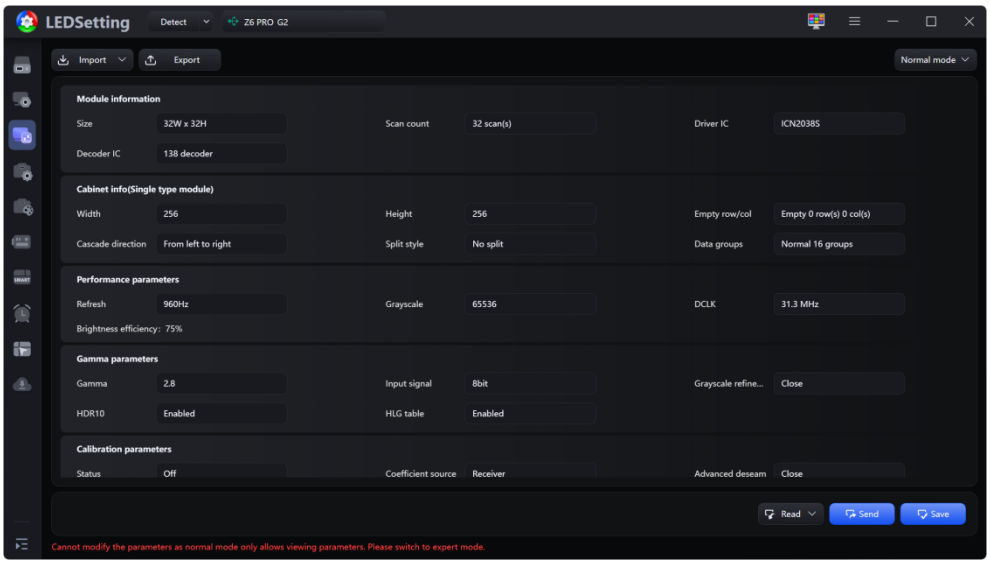


Fig 7.2.2 Normal mode

- **Normal mode**: Support only parameter import, readback, sending, and saving. Editing is not allowed.
- **Expert mode**: Allow parameter editing. The following sections focus on **Expert mode**.

7.2.1 Basic

Configure the basic parameters of the receiver, including **Module information**, **Cabinet settings**, and **Performance settings**.

Due to differences in cabinet structure, the **Module information** and **Cabinet settings** may vary. The following example uses the chip combination ICN2055 + ICN2013/2017.

Module information (single type module)

The module information section displays the basic module information.

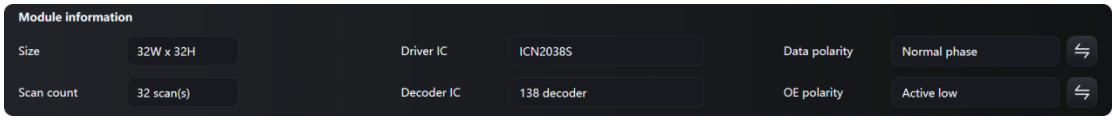


Fig 7.2.1.1 Module information (single type module)

The **Module information** section is described in the table below.

Fig 7.2-1 Module information

Item	Description
Size	Show the module width and height.
Scan count	Show the module scan count.
Driver IC	Show the module's driver IC.
Decoder IC	Show the module decoder IC.
Data polarity	Set the module data polarity.
OE polarity	Set the module OE polarity.

Cabinet settings (single type module)

Configure the basic parameters of the cabinets in this section.

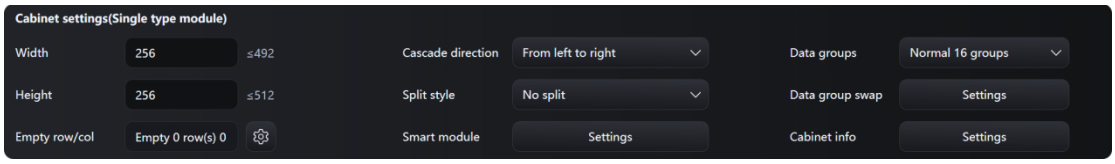


Fig 7.2.1.2 Cabinet settings (single type module)

- **Width & Height**: Set the width and height of the cabinets.
- **Cascade direction**: Modify the cascade direction to match the rotation of the LED screen.

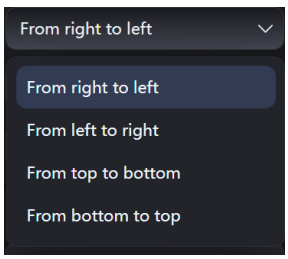


Fig 7.2.1.3 Cascade direction

- **Split style**: Increase the bandwidth by reducing the load height of the receiver.

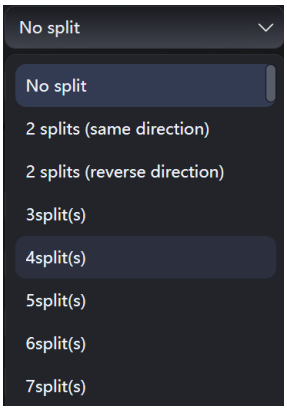


Fig 7.2.1.4 Split style

- **Data groups**: Modify the number of data groups output by the receiver.

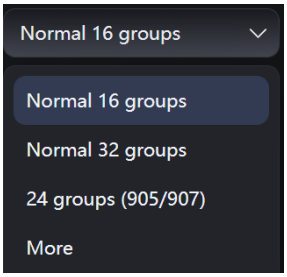


Fig 7.2.1.5 Data groups

- **Data group swap**: Click the **Data group swap** to open the pop-up, which supports two modes: **Intelligent mode** and **Manual swap**.

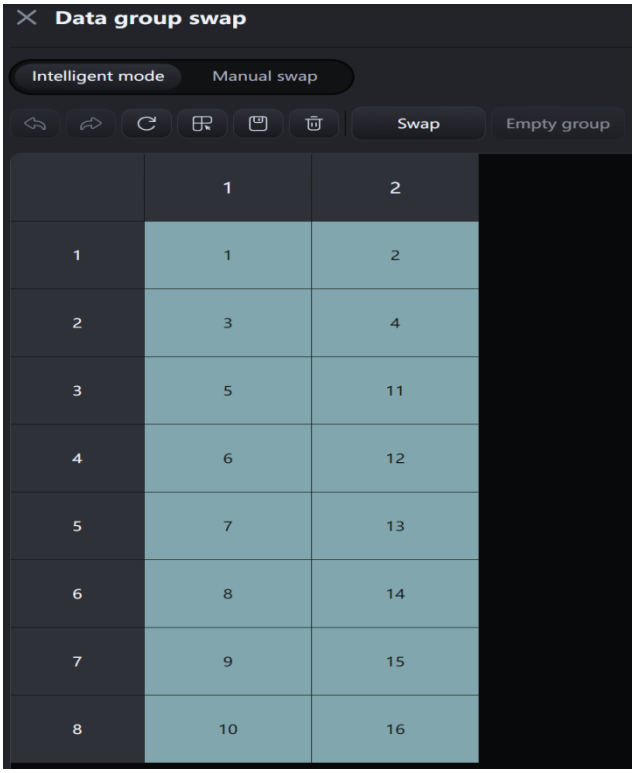


Fig 7.2.1.6 Data group swap

- **Intelligent mode**: Configure the data group location to make the cabinet display normally according to the on-screen instructions.

The **Intelligent mode** interface is described in the table below.

Table 7.2-2 Intelligent mode

Item	Description
Drawing area	Configure the data group index.
	Undo the last action.
	Redo the previously undone action.
	Reset to the default state before changes.
	Click to save the current data group settings as a custom preset (up to five presets). The preset name can be edited.
	Click to load a custom preset. No content is displayed when no preset is available.
	Clear all data group indexes.
Empty group	Skip the current data group index. Press the Space key to empty the group.

- **Manual swap**: Manually adjust the data group index to ensure proper cabinet display.

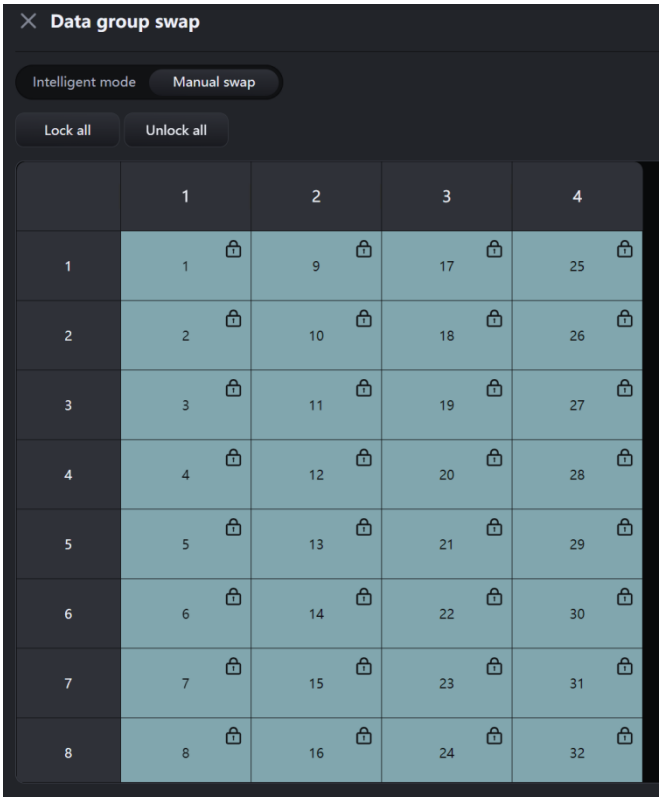


Fig 7.2.1.7 Manual swap

The **Manual swap** interface is described in the table below.

Table 7.2-3 Manual swap

Item	Description
Lock all	Lock all data groups to prevent editing.
Unlock all	Unlock all data groups to allow editing.
Mouse wheel	Use the mouse wheel to change the index of the selected data group. Locked groups are automatically skipped.
Double-click	Double-click a data group to enter edit mode and input a valid index.
Mouse hover	Hover over a data group to show the lock/unlock icon. Click the icon to toggle the lock status.

- **Empty row/col**: Display the number of empty rows and columns. Click  to open the pop-up that supports two modes: **Normal** and **Custom**.
  - **Normal**: Supports setting either empty rows or empty columns.
    Start row/col: Set the start for empty rows or columns.
    Empty row/col interval: Set the interval for empty rows or columns.
    Empty row/col count: Set the empty row count or column count.
  - **Custom**: Support customizing empty rows and columns.

    Quick start

    Step 1 Click  to open the **Add** pop-up.

    Step 2 Configure the empty row/column position and the number of empty rows (above) or columns (left).

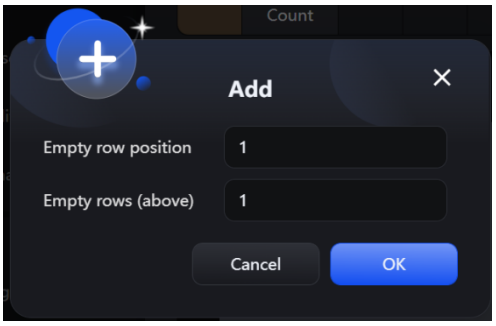


Fig 7.2.1.8 Add empty row

    Step 3 For added empty rows and columns, hover the mouse to reveal the edit and delete buttons, or double-click to open the edit pop-up.

Fig 7.2.1.9 Edit and delete buttons

The custom tab is described in the table below.

Table 7.2-4 Empty row/col settings - custom

Item	Description
List	Display the empty rows and columns.
View area	Graphically display the empty rows and columns.
+	Add empty rows and columns.
🗑	Delete the selected empty rows and columns.
✎	Modify the position and number of the selected empty rows and columns.
🧹	Clear the empty rows/columns.

- **Smart module**: Click **Settings** to open the **Smart module settings** pop-up.

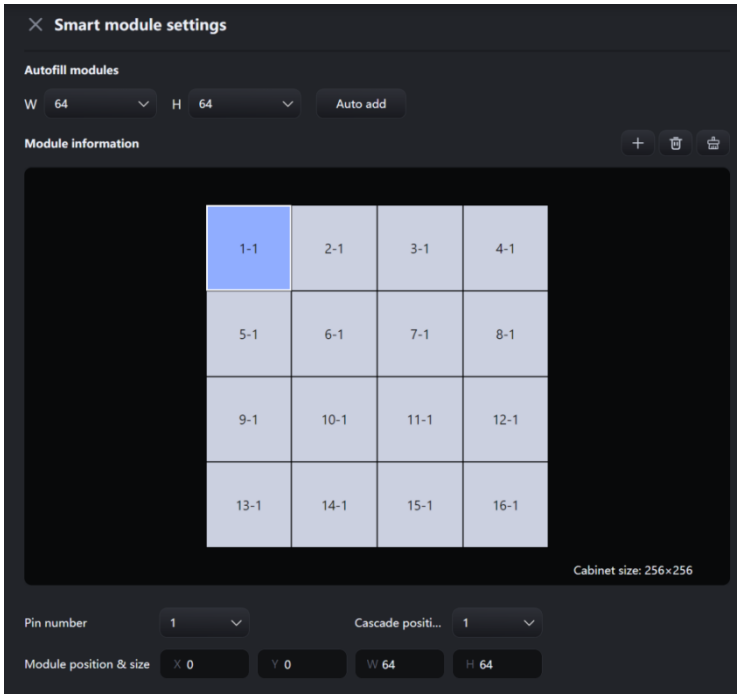


Fig 7.2.1.10 Smart module settings

- **Autofill modules**: Include drop-downs for width and height selection, and an **Auto add** button.
  - **W/H**: Automatically calculate suitable values based on current cabinet parameters.

- **Module information**: Add or delete modules, or edit their pin number and positions.

The **Smart module settings** interface is described in the table below.

Table 7.2-5 Smart module settings

Item	Description
	Click to load a custom preset.
	Click to save the current smart module settings as a custom preset (up to five presets). The preset name can be edited.
	Open a pop-up to add a new smart module.
	Delete the selected smart module. If no module is selected, the button is grayed out and disabled.
	Clear all smart module settings.
Click module	Display detailed configuration information.
Drag module	Release the mouse while overlapping another module to swap their positions.

Click the module to display **Pin number**, **Cascade position**, and **Module position & size**.

- **Cabinet info**: Click **Cabinet info** to open a pop-up where you can configure the cabinet information and save it to the screen parameter file.

Fig 7.2.1.11 Cabinet info

Module info (MT)

Use the tab bar to switch between module types and view the module information

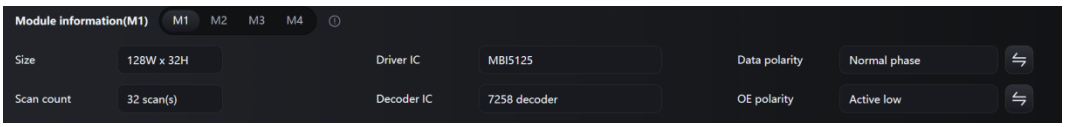


Fig 7.2.1.12 Module info (MT)

Cabinet settings (Multi-type module)

Set cabinet parameters.

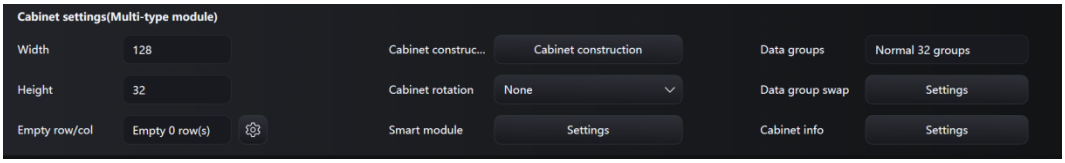


Fig 7.2.1.13 Cabinet settings (multi-type module)

The **Cabinet settings (Multi-type module)** section is described in the table below.

Table 7.2-6 Cabinet settings (Multi-type module)

Item	Description
Width	Show cabinet width.
Height	Show cabinet height.
Data groups	Show cabinet data groups
Cabinet rotation	Display the image after rotating cabinet.
Cabinet construction	Open the **Cabinet construction** pop-up.
Data group swap	Open the **Data group swap** pop-up.
Empty row/col	Only support the **Custom** mode.
Smart module	Set smart module parameters.
Cabinet info	Set cabinet information and save it to the receiver.

- Cabinet construction: Add modules and set the layout and data group index for the added modules to construct a complete cabinet.

  Quick Start

  Step 1 Click  and select the module type to add modules and construct the cabinet

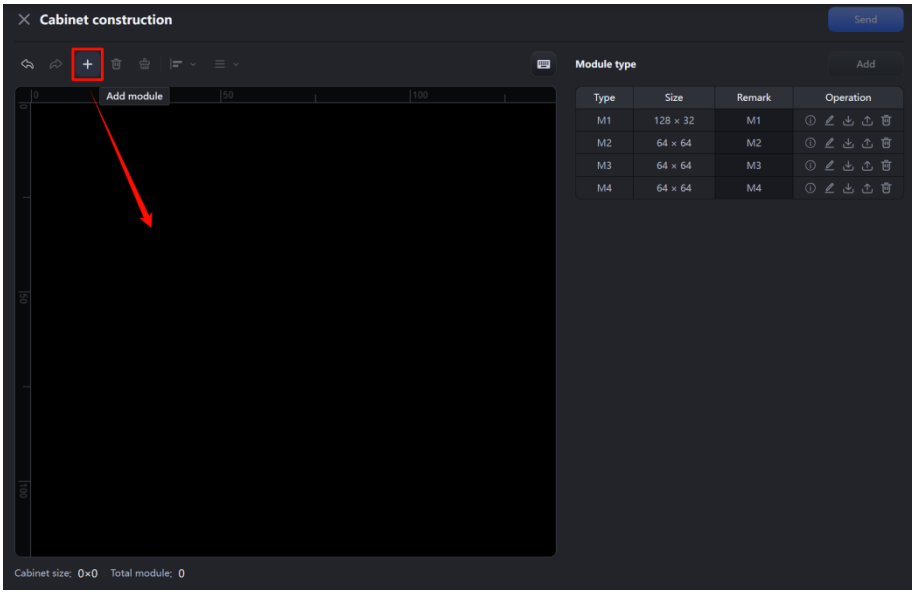


Fig 7.2.1.14 Cabinet construction

Step 2 Select the modules one by one to number the modules. When finished, click **Send** to complete the cabinet construction.

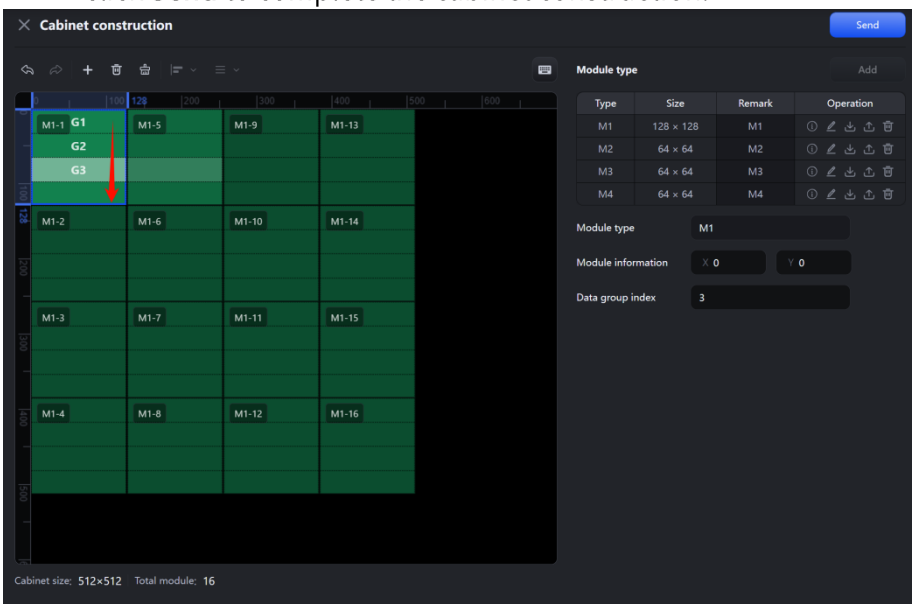


Fig 7.2.1.15 Data group numbering

- Right panel: Support configuring **Module type**, **Module information**, and **Data group index**.

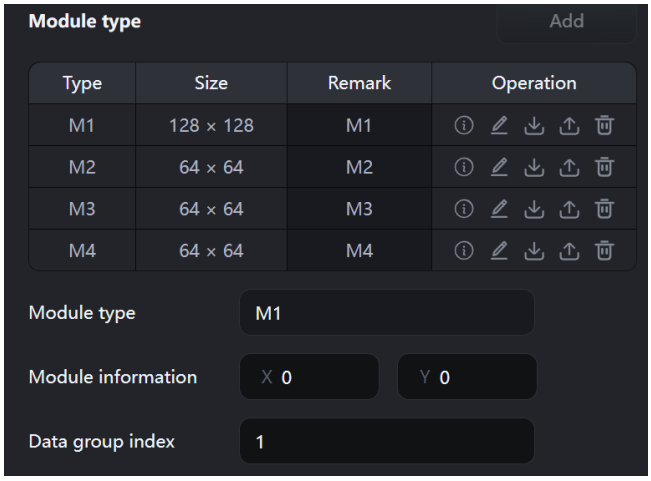


Fig 7.2.1.16 Right panel

The **Module type** interface is described in the table below.

Table 7.2-7 Module type

Item	Description
Model	Show the module type in the order of M1 to M4.
Size	Show the module width and height.
Remark	Show the remark for each module. Double-click to enter edit mode and modify the remark.

	View the scan count, chip combination, and number of data groups.
	Re-edit the drawing information.
	Import a routing file to overwrite the current module information.
	Export the current module information to a local file. Rotation angle can be selected.
	Delete the module information. The list will be reordered automatically.
Module type	Show the current module type. Not editable.
Module information	Show the coordinates of the selected module. Changes take effect immediately after editing.
Data group index	Show the data group index of the selected module. Changes take effect immediately after editing.

- Toolbar: Add, delete, and sort modules in the drawing area.

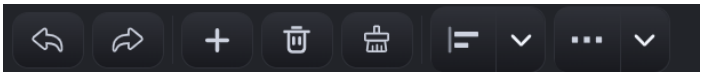


Fig 7.2.1.17 Toolbar

The toolbar is described in the table below.

Table 7.2-8 Toolbar

Item	Description
	Undo the last action.
	Redo the previously undone action.
	Add a module to the drawing area.
	Delete the selected modules in the drawing area.
	Clear all modules in the drawing area.
	Select multiple modules to align them.
	Select multiple modules to sort them in order.
	Display shortcut key instructions.
Zoom	Zoom in or out by switching the drop-down options or using Ctrl + mouse wheel.

- **Data group swap**: Click the **Data group swap** to open the pop-up. Two modes are supported: **Intelligent mode** and **Manual swap**.

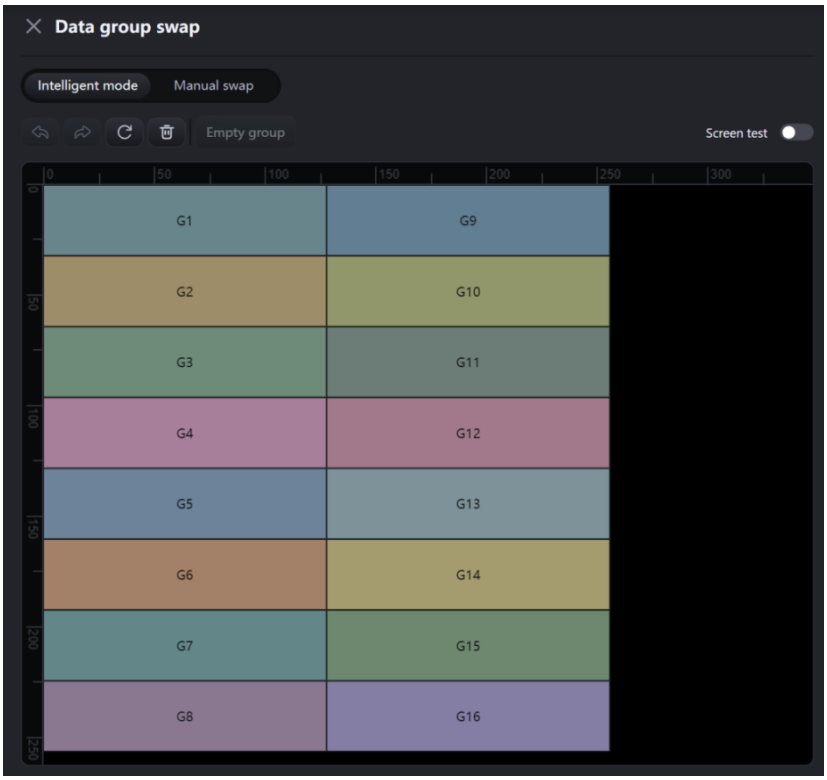


Fig 7.2.1.18 Multi-type module - Data group swap

Enable **Screen test** to view the LED screen effects. Colors vary by data group number.

Module information (irregular module)

Display basic module information, refer to Single type module for more information.

Cabinet settings (irregular module)

Configure the basic cabinet parameters, refer to **Cabinet settings (Multi-type module)** for details.

Performance settings

The display effect of the cabinets can be adjusted, supporting configuration of **Refresh rate**, **Grayscale mode**, **No signal action**, **Grayscale**, **GCLK**, **Power-on fade-in**, **DCLK**, **Blanking**, and view the **Brightness efficiency**.

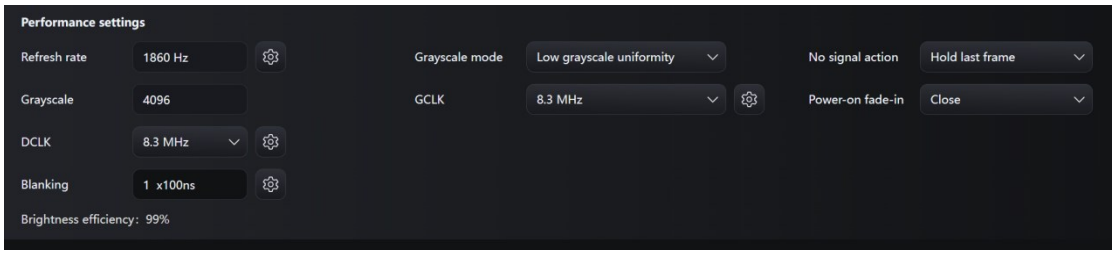


Fig 7.2.1.19 Performance settings

- **Refresh rate**: Indicate how many times per second the LED screen refreshes the image. A higher refresh rate results in a more stable and flicker-free display.
- **Grayscale**: Select a mode to adjust the gamma value of low-grayscale regions in the gamma table, ensuring smoother transitions in dark areas.
- **No signal action**: Configure what the receiver displays when the input signal is invalid.
- **Grayscale**: Higher grayscale levels provide richer color depth and smoother gradients.
- **GCLK**: Display clock. A higher GCLK value increases refresh rate, grayscale, and brightness efficiency.
- **Power-on fade-in**: When enabled, the screen gradually brightens upon startup to protect the LED beads.
- **DCLK**: Pixel clock. A higher DCLK increases the receiver's horizontal load capacity. Click ⚙ to adjust the DCLK duty ratio.

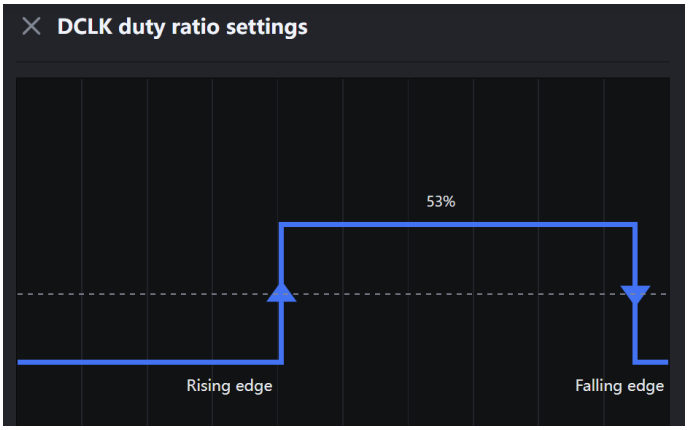


Fig 7.2.1.20 DCLK duty ratio settings

- **Blanking**: Help address dark or inactive LED beads to enhance overall display performance. Click  to configure 4051 parameters for further optimization

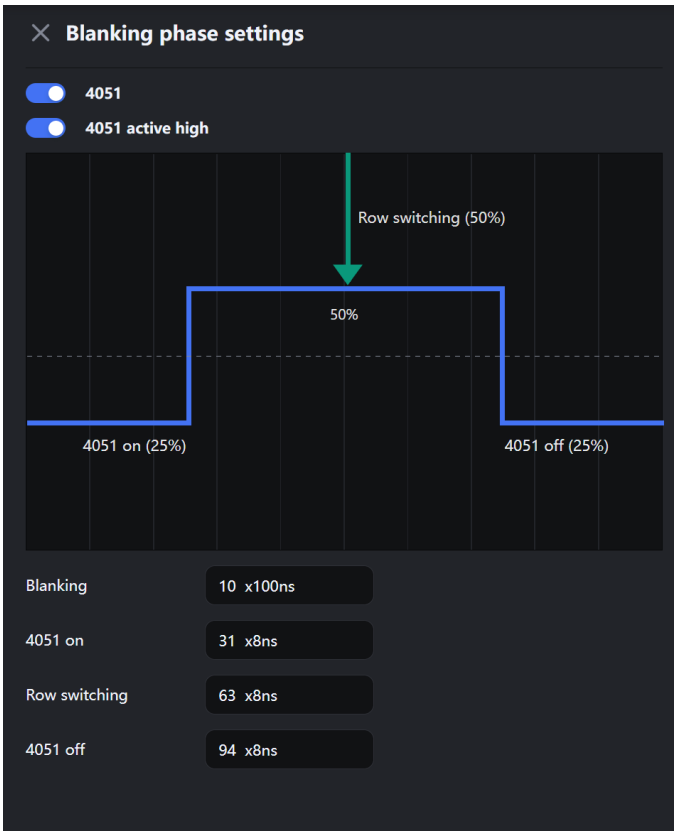


Fig 7.2.1.21 Blanking phase settings

- **Brightness efficiency**: Lower blanking, lower refresh rate, and higher grayscale result in a higher brightness efficiency.

7.2.2 Driver & Decoder IC

Driver IC

The chip parameters can be adjusted to optimize the display effect of the LED cabinet, including chip parameter settings and advanced settings.

To configure chip parameters, adjust the current gains of red, green, and blue by dragging the slider.

Fig 7.2.2.1 Current gain

Reset, import, and export parameters using the function buttons in the upper-right corner.

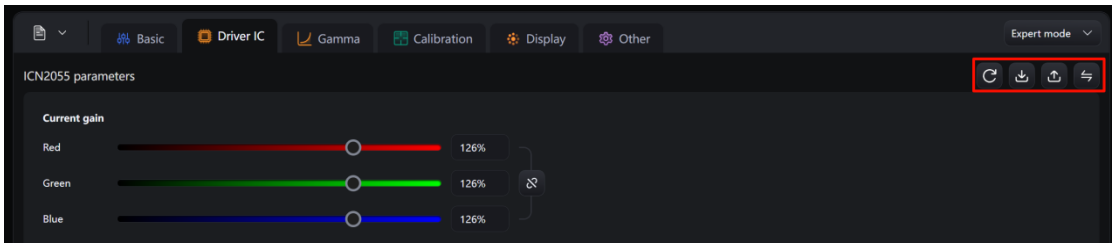


Fig7.2.2.2 Driver IC - function buttons

The chip parameter settings section is described in the table below.

Table 7.2-9 Chip parameter settings

Item	Description
Current adjustment	Increasing the red, green, and blue current levels results in higher brightness.
	Synchronize the red, green, and blue currents for adjustment.
	Reset chip parameters to their default values.
	Import chip parameters from a file.
	Export the chip parameters to a local file.
	Switch between the chip parameter settings interface and the register configuration interface.

- Chip parameter settings: Adjust driver IC parameters to address issues such as low-grayscale color blocks, color shift, color spots, first dim line, high-contrast coupling, and cross-board color uniformity, thereby optimizing the display performance.
- Advanced settings: Switch to the register interface and adjust register level parameters to optimize the display effect.

Decoder IC

Adjust the blanking to eliminate upper ghosting and reduce caterpillar artifacts caused by LED short circuits.

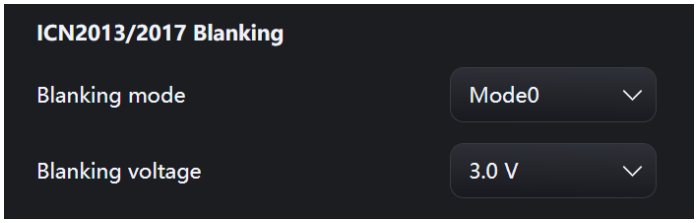


Fig 7.2.2.3 Decoder IC

7.2.3 Gamma

Configure gamma values for different grayscale levels in the gamma table to optimize LED display performance across various grayscale ranges.

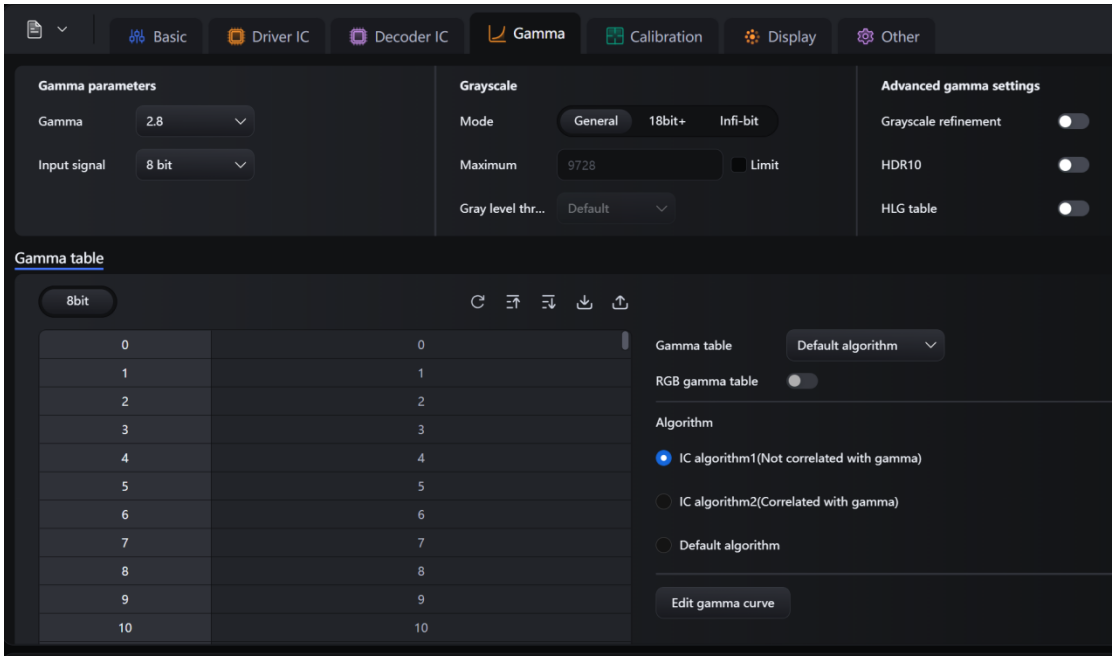


Fig 7.2.3.1 Gamma

Gamma parameters

- Gamma: Select a gamma value to adjust the values in the gamma table.
- Input signal: Select the color depth of the receiver.

Grayscale

The grayscale supports three modes: **General**, **18bit+**, and **Infi-bit**. Switching modes will affect the gamma table, HDR10, HLG table values.

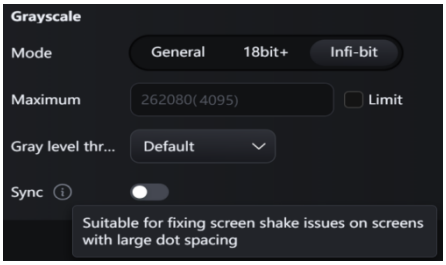


Fig 7.2.3.2 Grayscale

The **Grayscale** section is described in the table below.

Table 7.2-10 Grayscale

Item	Description
Mode	Expand the gamma values in the gamma table. The maximum value is 16bit, and 18bit+ and Infi-bit expand 2bit and 6bit respectively based on the general value.
Maximum	Show the maximum gamma value for different modes.
Limit	Limit the maximum gamma value of the general mode.
Gray level threshold	Multiply the gamma value; only supports Infi-bit mode.
Sync	Fix screen flickering on screens with large pixel spacing. The switch appears only when **Infi-bit mode** is enabled.

Advanced gamma settings

You can enable **Grayscale refinement**, **HDR10**, and **HLG table**. Select **Grayscale refinement** to enable this function.

Gamma table

Supports setting gamma values for all grayscale and adjusts the display of cabinets at different grayscale.

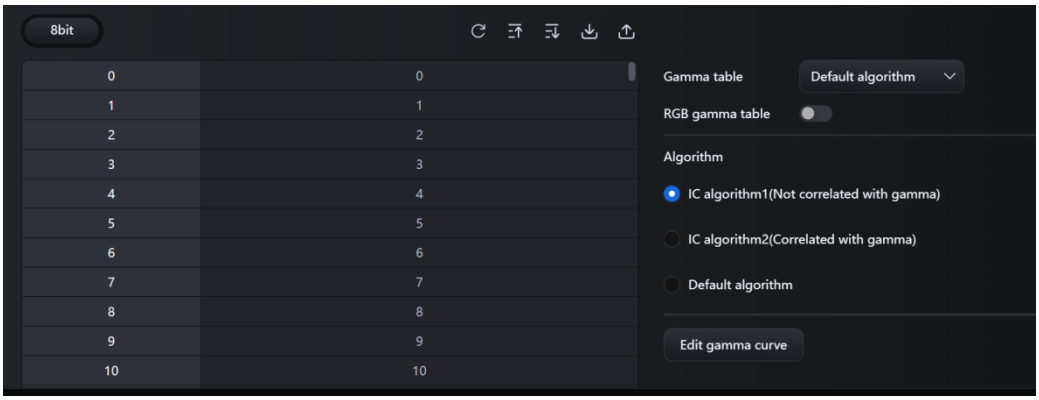


Fig 7.2.3.3 Gamma table

The **Gamma table** section is described in the table below.

Table 7.2-11 Gamma table

Item	Description
Gamma table	Select **Default algorithm** or **Custom gamma table**. The gamma table is editable only in **Custom gamma table** mode.
RGB gamma table	Modify the gamma values for the red, green, and blue components

Algorithm	Select **IC algorithm** and **Default algorithm**. The **IC algorithm** is based on the driver IC, while the **Default algorithm** uses the built-in gamma table.
	Reset the gamma table.
	Swap the gamma value with the one above.
	Swap the gamma value with the one below.
	Export the gamma table to a local file.
	Import a local parameter file to the gamma table.
Edit gamma curve	Edit the gamma curve to adjust the gamma table.

After editing gamma curve, click **Apply** to change the gamma table.

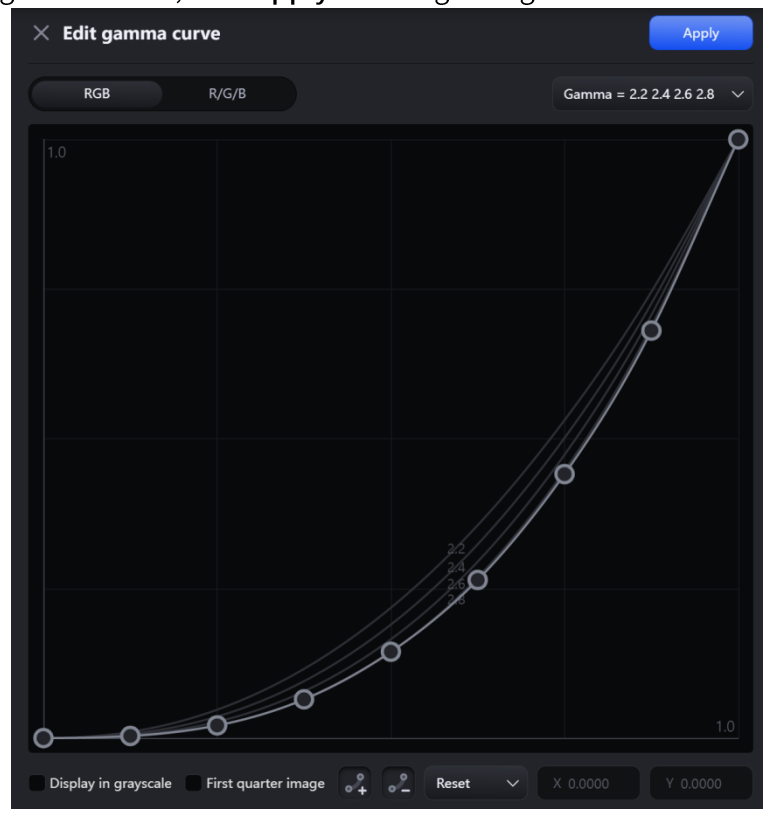


Fig 7.2.3.4 Edit gamma curve

The **Edit gamma curve** interface is described in the table below.

Table 7.2-12 Edit gamma curve

Item	Description
First quarter image	Display the first quarter of the gamma curve in the drawing area.
	Add anchor points to the gamma curve in the drawing area.
	Remove anchor points from the gamma curve in the drawing area.
RGB	Modify the white gamma curve.

R/G/B	Individually adjust the red, green, and blue gamma curves.
Display in grayscale	When selected, converts the vertical axis of the gamma curve to grayscale values.
Reset	Reset the gamma curve to the default values.
Apply	Apply the gamma curve to the gamma table.
Drawing area	Adjust anchor points to edit gamma curve.

Grayscale refinement

This feature is designed to address issues where lower grayscale appears brighter than higher one, or higher grayscale appears darker than lower one, due to factors such as circuit design or chip performance. It has two modes: **White (Normal grayscale refinement)** and **RGBW (Infi-bit grayscale refinement)**.

Quick start

Step 1 Enable **Grayscale refinement** in **Advance gamma settings**, and then click **Grayscale refinement** tab.

Step 2 Click **Measure** to open the **Grayscale refinement measurement** pop-up.

Step 3 Set the grayscale refinement measurement mode to match the grayscale mode of the gamma table. After configuring **Preferences**, click **Measure** to start the data measurement with the color meter.

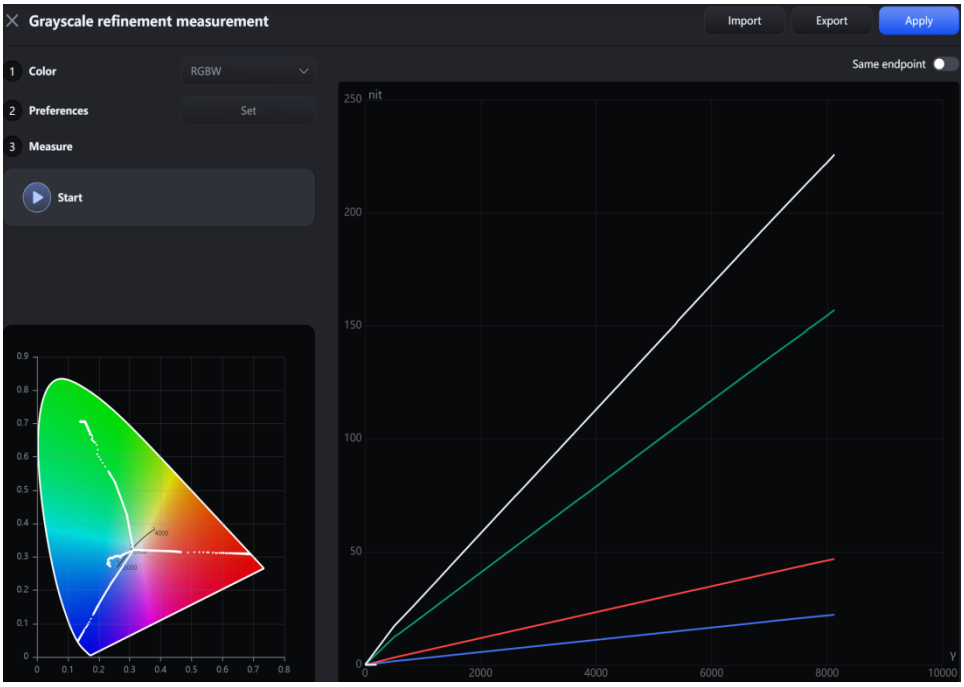


Fig7.2.3.5 Grayscale refinement measurement

Step 4 After measurement, click **Apply** to update the color cast table and refinement table.

The **Grayscale refinement** tab is described in the table below.

Table 7.2-13 Grayscale refinement measurement

Item	Description
Global refinement	Disable: Click **Measure**, and select **RGBW** for **Color**. Then the **Preferences** menu is available. Enable: Click **Measure**, disable **White** and select **RGBW** for **Color**. Then the **Preferences** menu is unavailable.
Color cast table	View and modify the color cast table.
Refinement table	View and modify the refinement table.
	Export the color cast table and refinement table to a local file.
	Import a local file to the the color cast table and refinement table.
Reset	Reset the color cast table and refinement table.
Measure	Open the Grayscale refinement measurement window.
Detect	Detect receivers.

Grayscale refinement measurement uses a color meter to measure the brightness and chromaticity coordinates of each grayscale level for red, green, blue, and white on the LED display. Based on the selected refinement mode, the system applies algorithms to generate new color cast and refinement table, optimizing the display performance.

The **Grayscale refinement measurement** pop-up is described in the table below.

Table 7.2-14 Grayscale refinement measurement

Item	Description
RGBW (Infi-bit gray refinement)	Select **Infi-bit** for the grayscale mode of gamma table.
White (Normal gray refinement)	Select **Normal** or **18bit+** for the grayscale mode of the gamma table.
Same endpoint	When selected, all curves in the view area have the same endpoint.
Measure	Measure the curve in the current grayscale mode.
Import	Import local measurement data into the view area.
Export	Export the measurement data in the view area to a local file.
Preferences	Click **Set** to open the pop-up. 1. **Refinement mode**: Switch between **Human eye mode** or **Professional mode (DCI)**. 2. **Grayscale**: Set the initial value in **Grayscale**. 3. **Width**: Select the value in **Width**.

	4. Click the blank area to save the settings.
Apply	Update the color cast table and refinement table.
View area	Show the measurement curves.

HDR10

You can adjust **HDR10** gamma table to optimize the HDR video display.

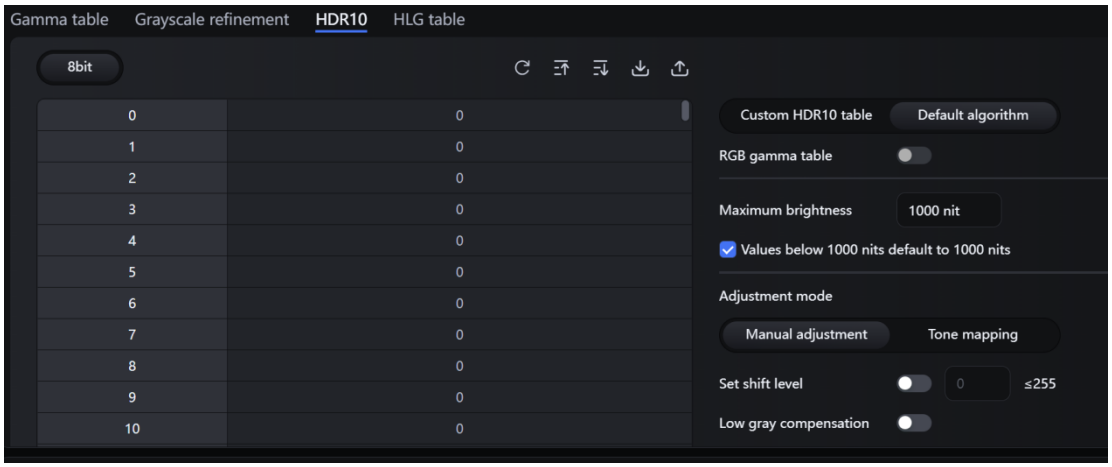


Fig 7.2.3.6 HDR10

The **HDR10** tab is described in the table below.

Table 7.2-15 HDR10

Item	Description
Custom HDR10 table	Enable the **HDR10** in **Advanced gamma settings** so that the grayscale can be displayed according to gamma values.
RGB gamma table	Modify the gamma values for the red, green, and blue component.
	Reset the gamma table.
	Swap the gamma value with the one above.
	Swap the gamma value with the one below.
	Export the gamma table to a local file.
	Import a local parameter file to the gamma table.
Maximum brightness	Adjust the maximum brightness of the display.
Adjustment mode	Adjust the values in the gamma table. Supports **Manual adjustment** and **Tone mapping**.

HLG table

Adjust **HLG table** to optimize the HLG video display.

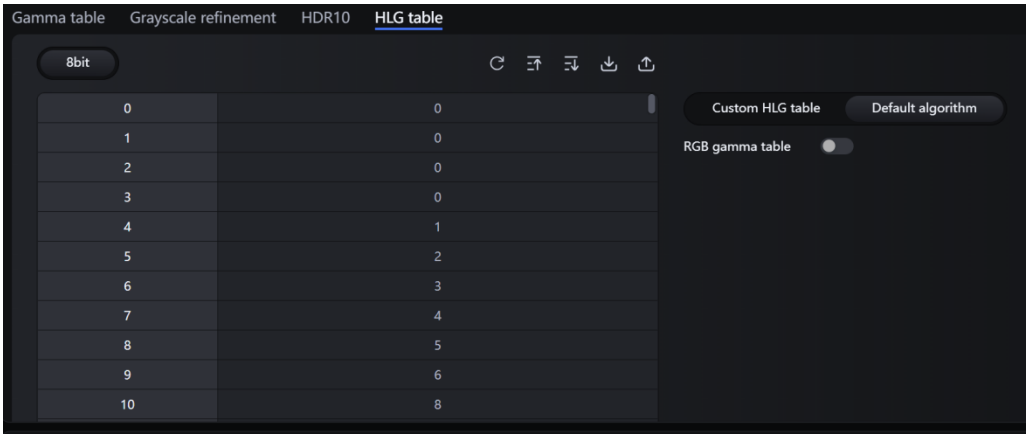


Fig 7.2.3.7 HLG table

The **HLG table** tab is described in the table below.

Table 7.2-16 HLG table

Item	Description
HLG table	Enable **HLG table** in **Advanced gamma settings** so that the grayscale can be displayed according to gamma values.
RGB gamma table	Modify the gamma values for the red, green, and blue component.
	Reset the gamma table.
	Swap the gamma value with the one above.
	Swap the gamma value with the one below.
	Export the gamma table to a local file.
	Import a local parameter file to the gamma table.

7.2.4 Calibration

Status

Switch the calibration status of the cabinets.

Coefficient source

Select the source of the cabinet calibration coefficient.

Advanced deseam

Enable or disable this feature.

Color gamut adjustment

Enable or disable this feature.

Multi-layer calibration

Adjust by mode: Switch between grayscale mode and gamma value mode.

- **Grayscale mode**: Set the valid gray range for the low and high layers.

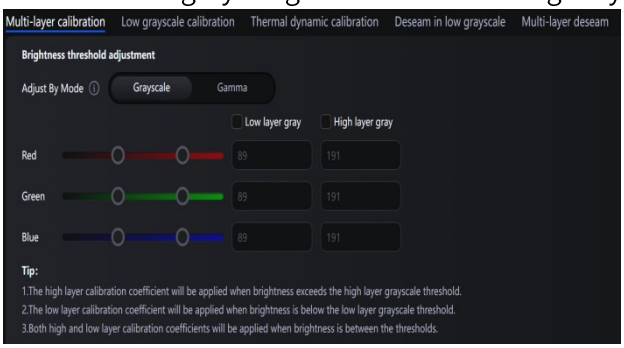


Fig 7.2.4.1 Multi-layer calibration - Grayscale mode

-**Low layer gray**: Enable or disable the low layer calibration.

-**High layer gray**: Enable or disable the high calibration.

-**Brightness threshold adjustment**: Use sliders or enter values to set the high and low layer thresholds with a range of 0~255.

- **Gamma value mode**: Set the valid gamma range for the low and high layers.

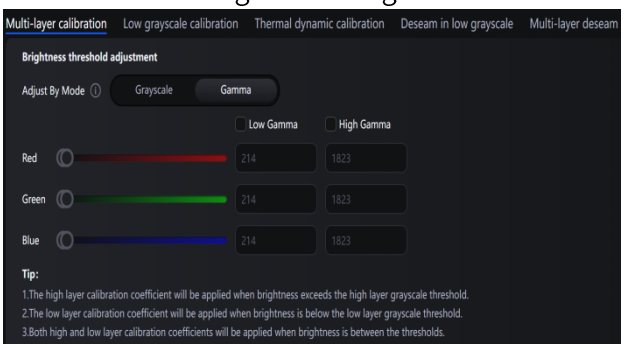


Fig 7.2.4.2 Multi-layer calibration - Gamma value mode

- **Low Gamma**: Enable or disable the low layer calibration.
- **High Gamma**: Enable or disable the high calibration.
- **Brightness threshold adjustment**: Use sliders or enter values to set the high and low gamma with a range of 0~65535.

Low grayscale calibration

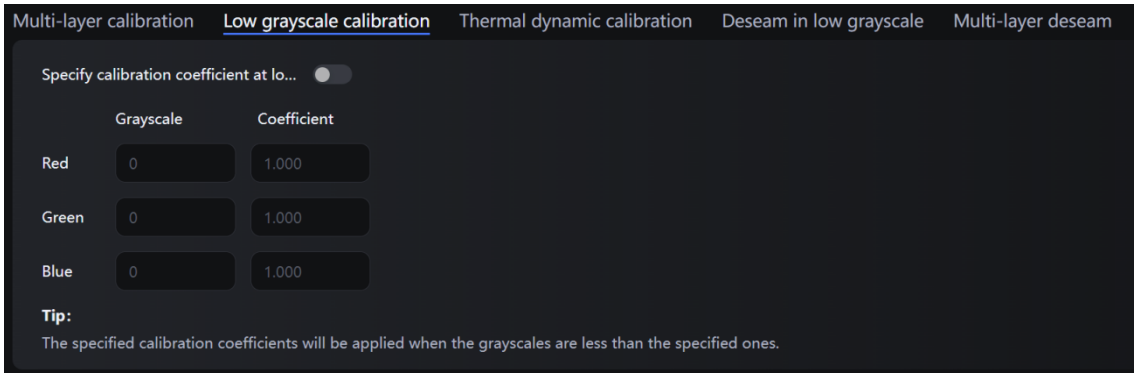


Fig 7.2.4.3 Low grayscale calibration

When **Specify calibration coefficient at low grayscale** is enabled, the specified

calibration coefficient will be applied when the grayscale values are less than the specified ones.

- **Grayscale**: Set the specified threshold values for Red, Green, and Blue.
- **Coefficient**: Set the specified calibration coefficients.

Thermal dynamic calibration

Toggle **Thermal dynamic calibration** on or off to enable or disable this function. When enabled, it dynamically performs thermal or color temperature compensation for the display based on real-time temperature, eliminating thermal effects of screens.

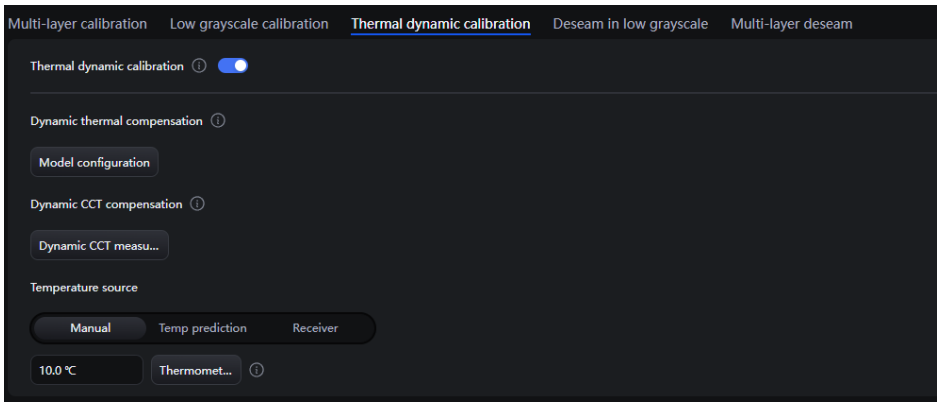


Fig 7.2.4.4 Thermal dynamic calibration

- **Model configuration**: Configure the threshold and cabinet coefficient model for temperatures above the calibration temperature. Click this button to access the **Model configuration** interface.
- **Dynamic CCT measurement**: Configure the dynamic color temperature model for the screen. Click this button to access the model measurement interface. This feature requires a compatible sender.
- **Temperature source**: Get screen temperature. You can apply different models based on temperature changes to adjust calibration coefficients and color temperature. This helps optimize calibration results and screen color performance.
  - **Manual**: Enter the screen temperature value manually.
  - **Temp prediction**: Click this tab to access the measurement interface. Measure the screen surface using multiple test patterns with the FTS-100 thermometer. Once the model is saved to the sender, it automatically predicts the screen temperature. This feature requires a compatible sender.
  - Receiver: Displays the temperature of the board sensor. Click to refresh the temperature.

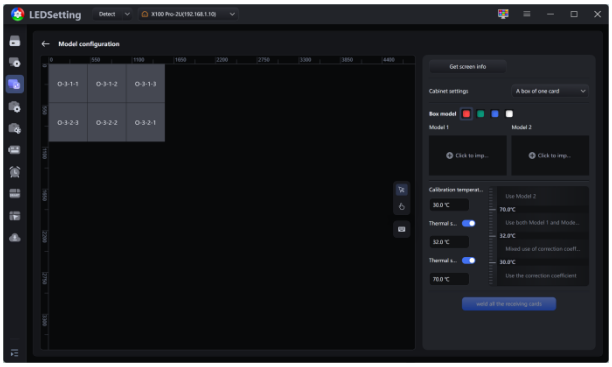


Fig 7.2.4.5 Model configuration

The **Model configuration** tab is described in the table below.

Table 7.2-17 Model configuration

Item	Description
Get screen info	Click to refresh the screen mapping and display it on the left.
Cabinet settings	Supports 1 receiver per cabinet, 2 receivers per cabinet, 4 receivers per cabinet, and 6 receivers per cabinet.
Connection mode	1 receiver per cabinet: Not available. 2 receivers per cabinet: Horizontal, vertical. 4 receivers per cabinet: Horizontal, vertical, 2 rows 2 cols. 6 receivers per cabinet: Horizontal, vertical, 3 rows 2 cols, 2 rows 3 cols.
Cabinet model	Switch the cabinet simulation image below. Supports red (default), green, blue, and white.
Model 1	Import: Supports files in the same formats as the legacy software: 3wCoef, 3fCoef, 9wCoef, 9fCoef. The system verifies the file name upon import and automatically fills in Sync threshold 1. Read: Read back the selected cabinet and save it to the specified folder. Delete: Delete the current cabinet model.
Model 2	Same operations as Model 1.
Calibration temperature	Enter a temperature from 0~100°C or 32~212°F.
Threshold 1	Enable or disable Threshold 1. Input range: Calibration temperature + 1.1°C~100°C (when Threshold 2 is enabled, the maximum is Threshold 2 − 1.1°C).

Threshold 2	Enable or disable Threshold 2. Input range: Threshold 1 + 1.1°C~100°C.
	Normal mode: Select by cabinet.
	Highlight mode: Select by receiver.
	Shortcut. Ctrl+0: Zoom to 100%.
Save to all receivers	Click to save the model configuration to all receivers.

NOTE

- 0°C ~ Calibration Temperature: Use calibration coefficients
- Calibration Temperature ~ Threshold 1: Use calibration coefs and Model 1
- Threshold 1 ~ Threshold 2: Use Model 1 and Model 2
- Threshold 2 ~ 100°C: Use Model 2

Deseam in low grayscale

Enable **Specify deseam coefficient in low grayscale** to apply the specified deseam coefficient when the grayscale values are less than the specified ones.

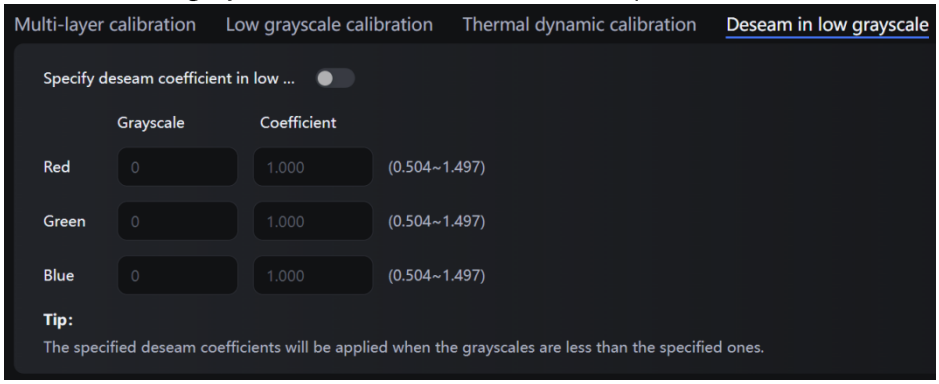


Fig 7.2.4.6 Deseam in low grayscale

- **Grayscale**: Set the specified threshold values for **Red**, **Green**, and **Blue**.
- **Coefficient**: Set the specified deseam coefficients.

Multi-layer deseam

Set the grayscale range where the **Multi-layer deseam** applies.

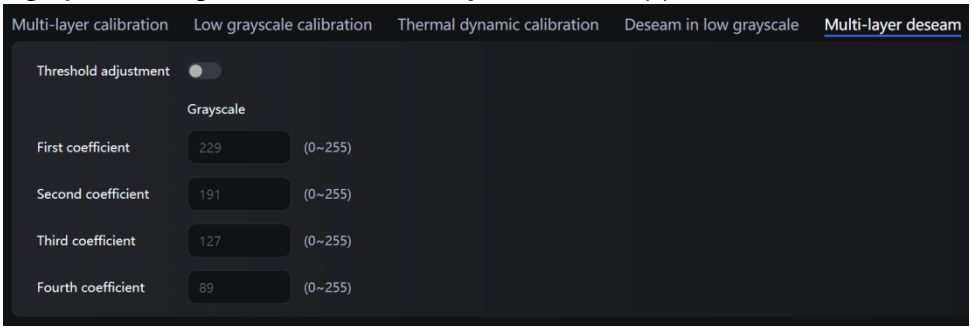


Fig 7.2.4.7 Multi-layer deseam

7.2.5 Display

White balance

Adjust the ratio of red, green, and blue to enhance the display's white balance.

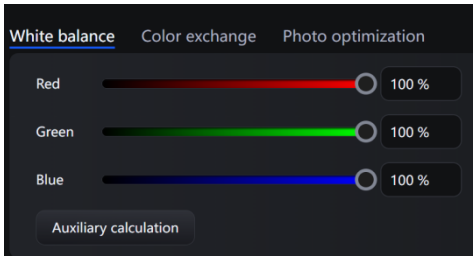


Fig 7.2.5.1 White balance

- **Auxiliary calculation:** Click to open the drawer and configure the settings.

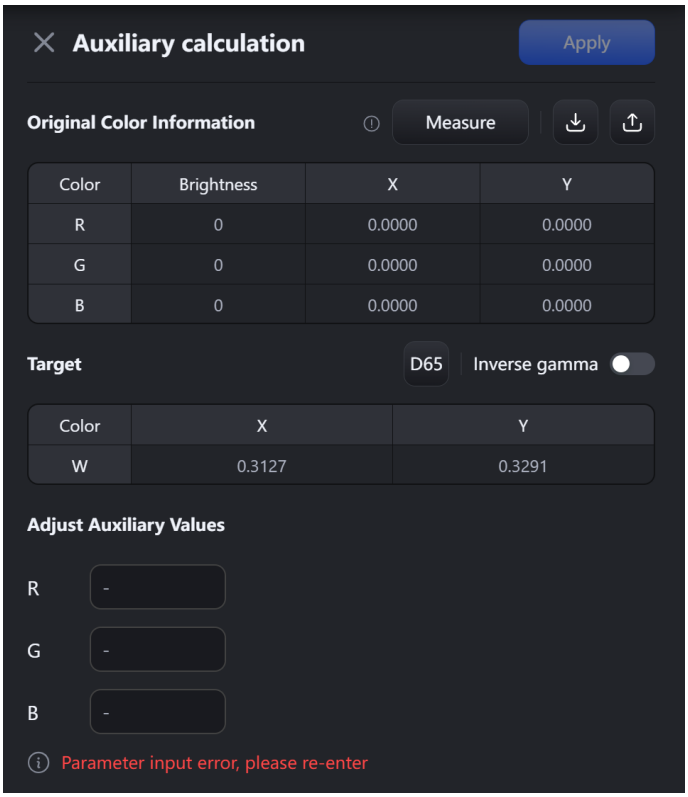


Fig 7.2.5.2 Auxiliary calculation

- **Original color**: Supports **Measure**, **Import**, and **Export**.
- **Target**: Defaults to **D65** . **Inverse gamma** is disabled by default.
- **Adjust auxiliary value**: Automatically calculate the auxiliary value based on **Original value** and **Target**.
- **Apply**: Click **Apply** to apply the auxiliary value and close the drawer.

Color exchange

Adjust the RGB signal output sequence from the video source to the receiver pins.

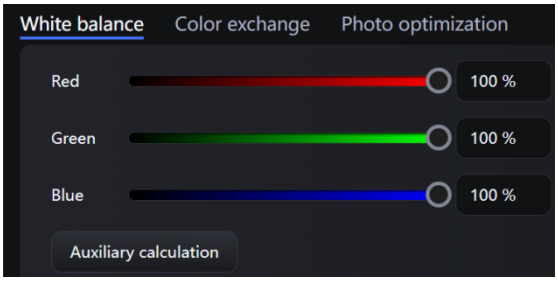


Fig 7.2.5.3 Color exchange

Photo optimization

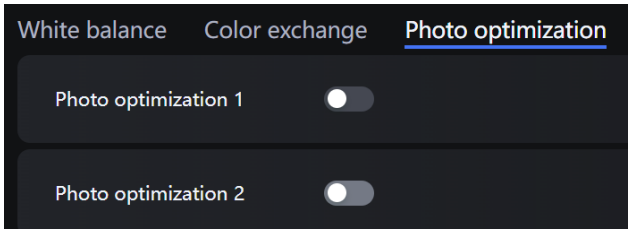


Fig 7.2.5.4 Photo optimization

Enhance photo quality.

- **Photo optimization 1**: Enable/disable the function
- **Photo optimization 2**: Optimize the black field time during LED screen swap scan.

7.2.6 Other

Phase

Shift signal frequency by adjusting SCLK, LAT, swap scan, and RGB phase parameters to prevent screen interference from receiver frequency conflicts.

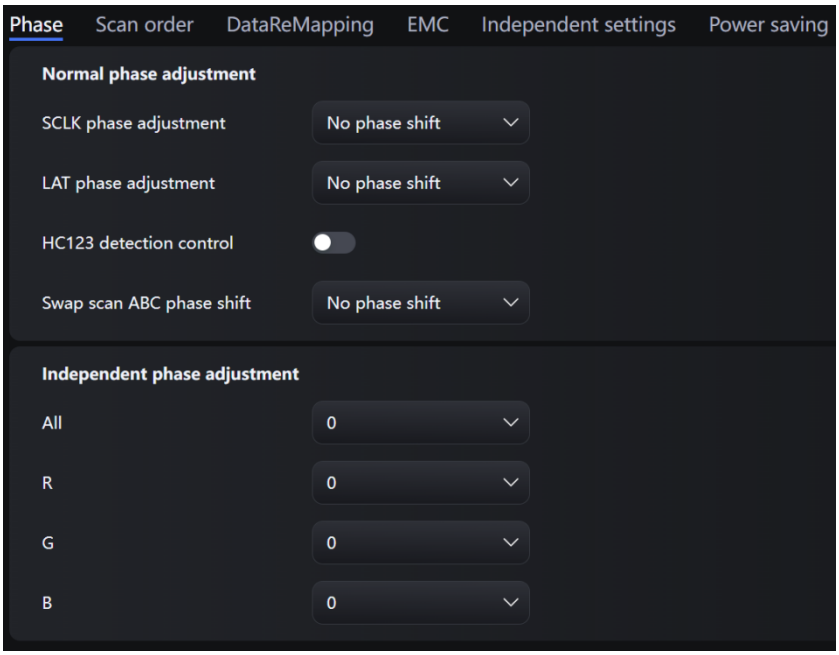


Fig 7.2.6.1 Phase

Scan order

Switch between progressive and interlaced scanning for display output row selection, requiring receiver firmware support.

DataReMapping

Improve routing efficiency for the receiver.

EMC

Adjust the system clock and SCLK phase shift to improve the hardware's immunity to electromagnetic interference.

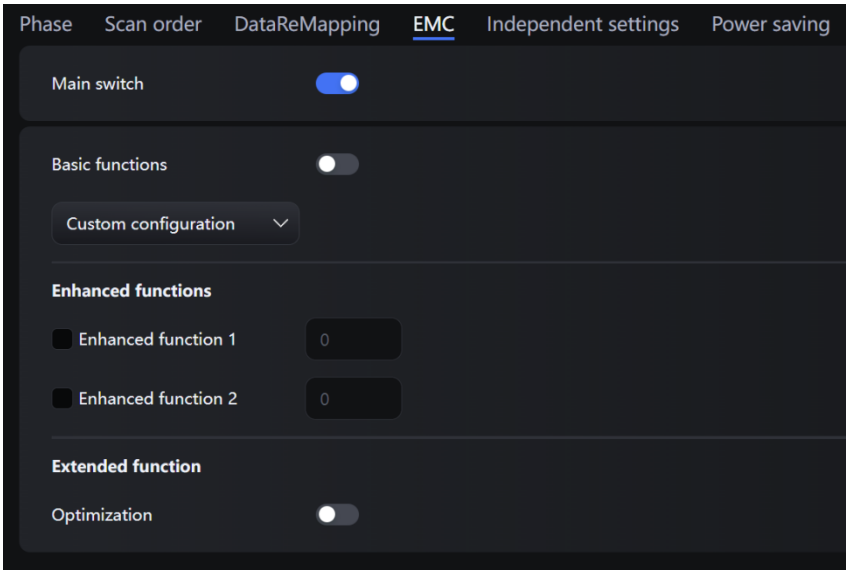


Fig 7.2.6.2 EMC

Independent settings

Turn on/off the green status indicator on the receiver.

7.2.7 Intelligent Settings

Use **Intelligent settings** to configure receiver parameters and light up the modules. (This function requires receiver firmware support.) The software supports 3 types of module parameter configurations: **Single type module**, **Multi-type module**, and **Irregular module**.

- **Single type module**: Within a single module, it supports only one data group and one regular routing.
- **Multi-type module**: Within a single module, it supports multiple data groups and multiple regular routings.
- **Irregular module**: Within a single module, it supports multiple data groups and multiple irregular routings.

Single type module

➢ **Wizard 1**

Click **Intelligent settings** to enter Wizard 1, and select **Single type module** as the module type.

➢ **Wizard 2**

Set single type module information.

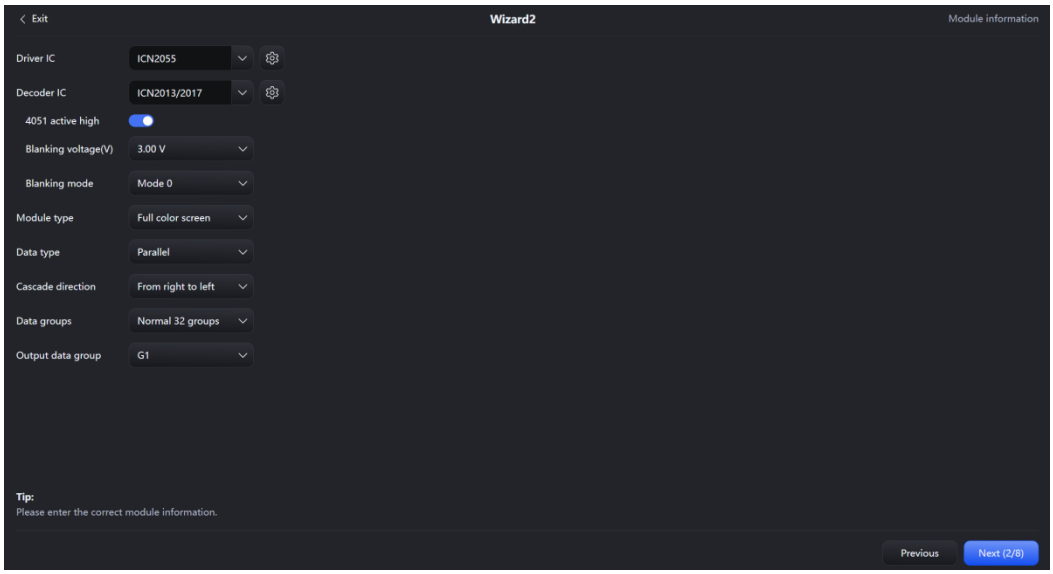


Fig 7.2.7.1 Single type module - Wizard 2

The **Wizard 2** interface is described in the table below.

Table 7.2-18 Single type module - Wizard 2

Item	Description
Driver IC	Select the driver IC based on the module.
Decode IC	Select the decoder IC based on the module.
Module type	Select between **Full color screen**, **Monochrome screen**, and **Dual color screen**.
Data type	Set the module data type.
Cascade direction	When the cabinet position is incorrect, use this function to make the screen display normally.
Data groups	Set the number of data groups output by the receiver.
Output data group	Select the position of receiver data group for Intelligent settings.

➢ **Wizard 3**

Set the data polarity of modules. Switch between **Image 1** and **Image 2** and select the corresponding option based on the screen image.

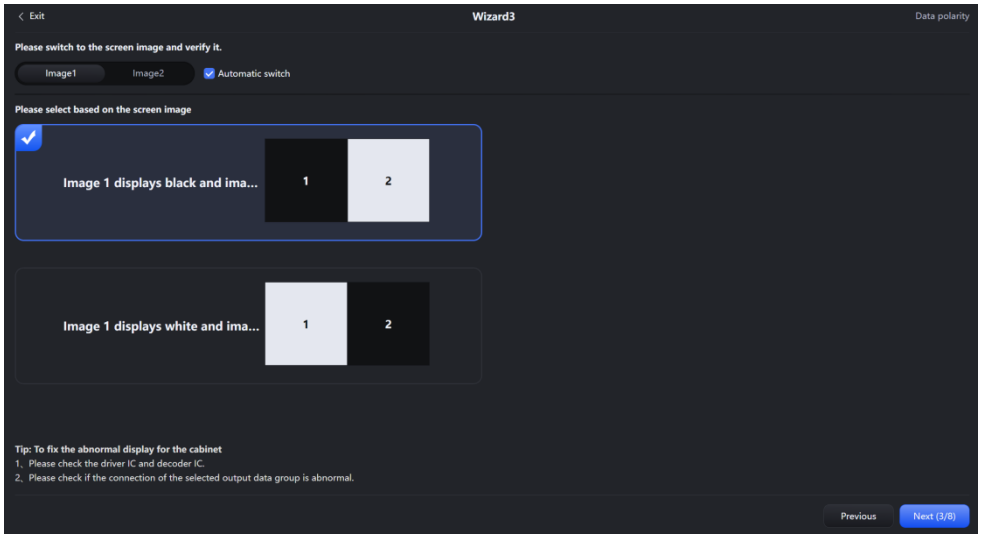


Fig 7.2.7.2 Single type module - Wizard 3

➢ **Wizard 4**

Set the OE polarity of modules. Switch between Image 1 and Image 2 and select the corresponding option based on the screen image. **Wizard 4** will appear only when the driver IC is a normal chip.

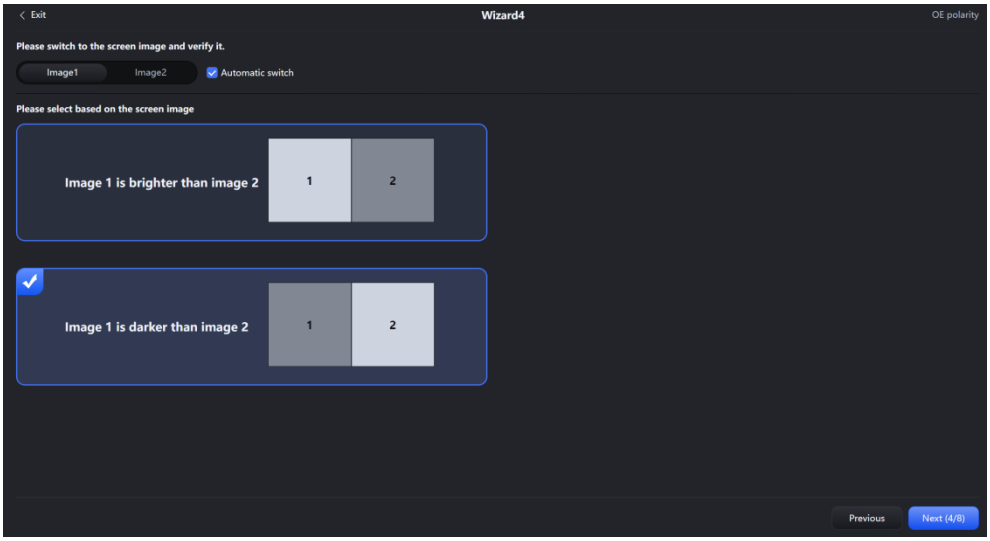


Fig 7.2.7.3 Single type module - Wizard 4

➢ **Wizard 5**

Set the signal output order of red, green, and blue from the video source to the receiver pins. Switch between **Image 1**, **Image 2**, **Image 3**, and **Image 4**; select the corresponding option according to the display status.

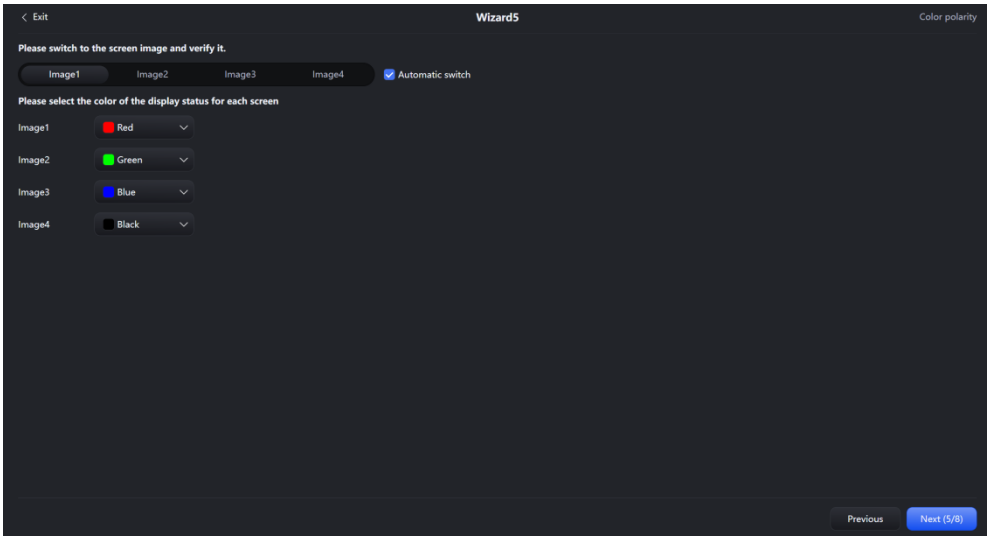


Fig 7.2.7.4 Single type module - Wizard 5

➢ **Wizard 6**

Set the **Row/Col** of each data group according to the screen.

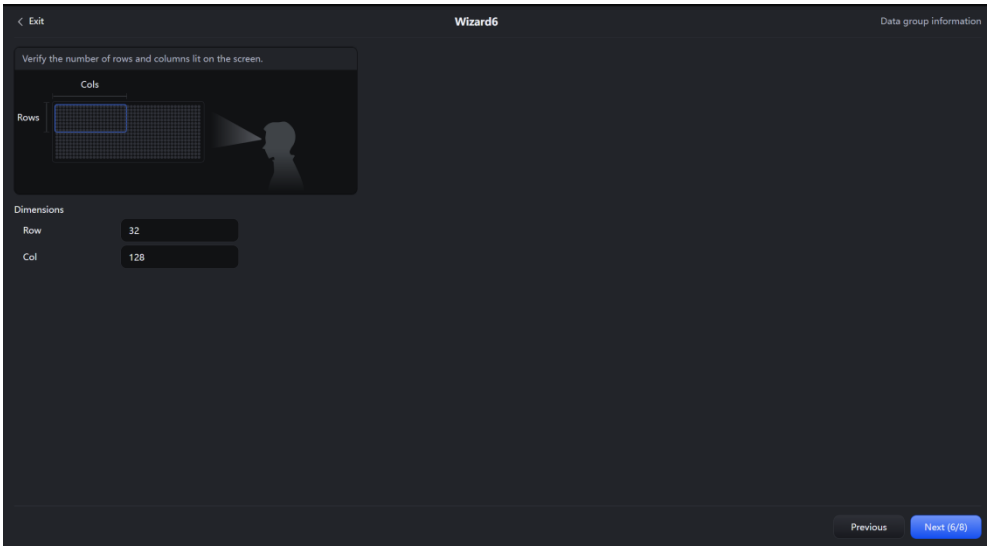


Fig 7.2.7.5 Single type module - Wizard 6

➢ **Wizard 7**

Set the number of rows displayed per scan for a single data group based on the number of rows shown on the module.

After selecting the row count, click  to calculate the number of **Empty points/scan**, or manually set the number of **Empty points/scan**. The **Scan count** will be automatically calculated and displayed based on the entered values.

Enable **Vertical routing** as needed. (It is disabled by default.)

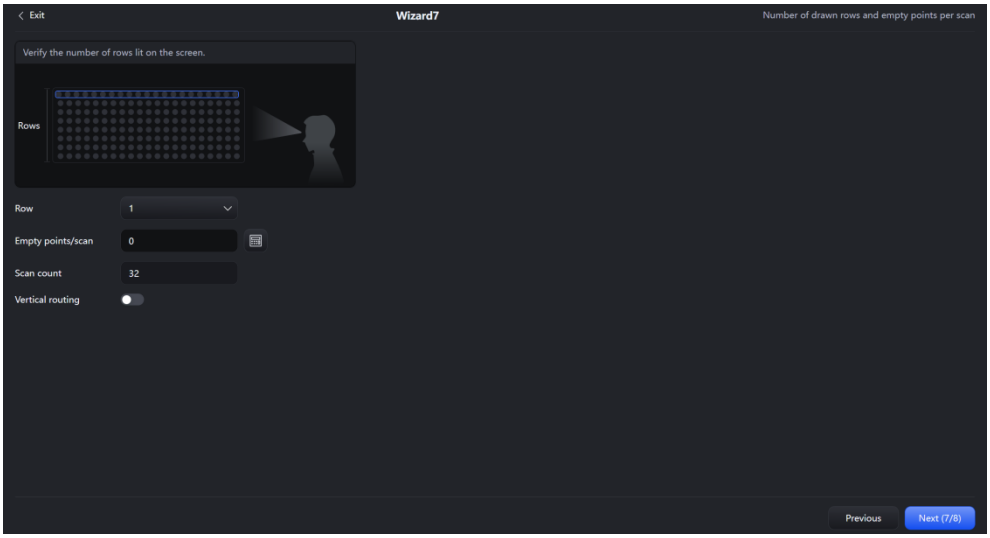


Fig 7.2.7.6 Single type module - Wizard 7

➢ **Wizard 8**

Set the drawing information and routing table.

Drawing vertically (from top to bottom or bottom to top) constrains the cascade direction to vertical, while drawing horizontally (from left to right or right to left) constrains it to horizontal. Enabling Vertical scan in Wizard 7 changes the cascade

direction to vertical.

This interface consists of a function bar and a drawing area.

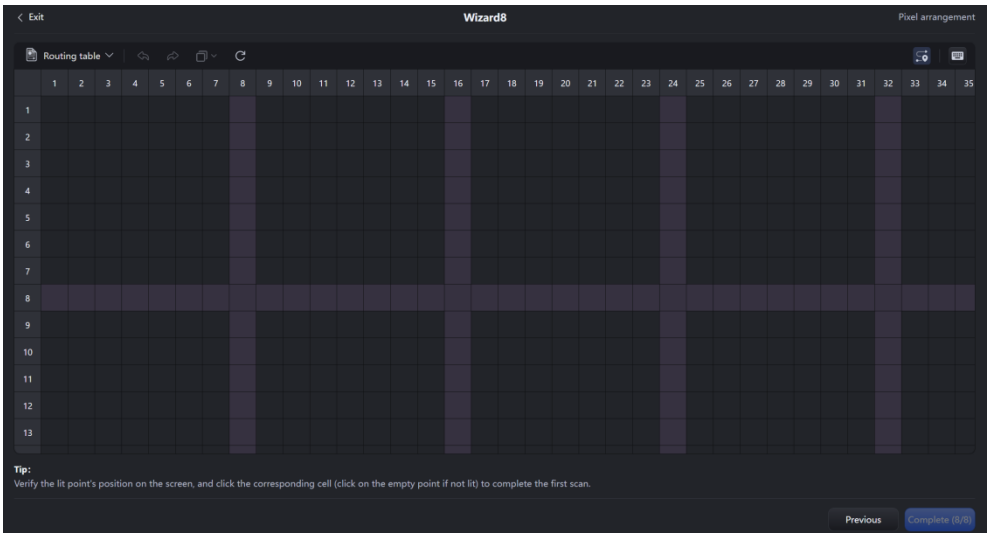


Fig 7.2.7.7 Single type module - Wizard 8

- Function bar

Fig 7.2.7.8 Single type module - Wizard 8-Function bar

The function bar is described in the table below.

Table 7.2-19 Single type module - Wizard 8 - Function bar

Item	Description
Routing table	Select **Recent**, **Import from local** or **Export to local**.
	Undo the last action.
	Redo the previously undone action.
	Repeat the current drawing.
	Add an empty point.
Empty point configuration	Open the **Empty point configuration** window.
	Clear the drawing and start over.
	Show the guide for draw at first scan.
	Open the **Shortcut keys** panel.
Previous	Return to **Wizard 7**.
Complete	Complete the Intelligent settings. The **Basic** tab will display the updated information.
Exit	Exit the Intelligent settings.

Configure empty points for the first scan, and the same empty points will be applied to all subsequent scans. Click  to reset the empty point. Click  to cancel the empty

point or  to set the empty point.

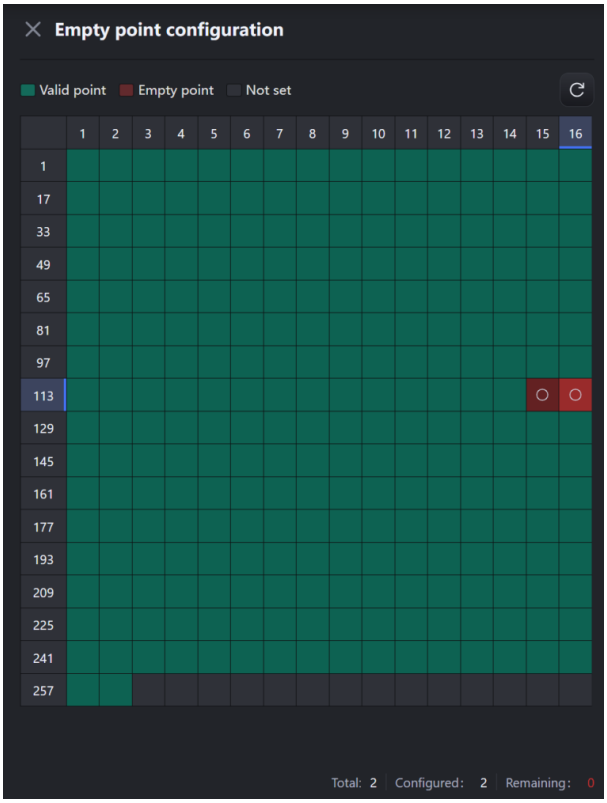


Fig 7.2.7.9 Empty point configuration

- Drawing area

  Display the drawing information of the module. You can draw points according to the blinking dots on the module.

  Before the first scan is complete, click the drawing area to draw points. After completing the first scan, click the drawing area to draw scans.

Multi-type module

➢ **Wizard 1**

Click **Intelligent settings** to enter **Wizard 1**, and select **Single type module** as the module type.

➢ **Wizard 2**

Set **Driver IC**, **Decoder IC** and **Module size**.

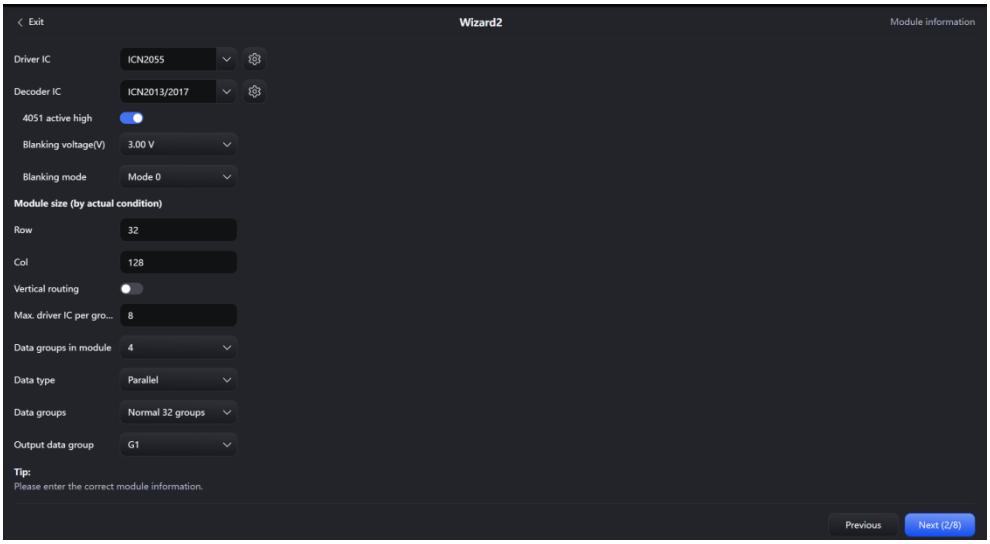


Fig 7.2.7.10 Multi-type module - Wizard 2

Multi-type module is described in the table below.

Table7.2-20 Multi-type module - Wizard 2

Item	Description
Driver IC	Select the driver IC according to the module.
Decoder IC	Select the decoder IC according to the module.
Module size	Set the number of columns and rows according to the actual module size.
Vertical routing	Enable this function when the route direction is vertical.
Data groups in module	Set the number of data groups in the module which is up to four.
Max. driver IC per group	The number of chips in the data group with the most pixel points occupied by the first scan among all data groups of the module.
Data groups	Set the number of data groups output by the receiver.
Output data group	Select the position of receiver data group for Intelligent settings.
Data type	Set the module data type.
Previous	Return to Wizard 1.
Next	Go to Wizard 3.
Exit	Exit the Intelligent settings.

➢ **Wizard 3**

Set the data polarity of modules. Refer to Single type module - Wizard 3.

➢ **Wizard 4**

Set the OE polarity of modules. Refer to Single type module - Wizard 4.

➢ **Wizard 5**

Set the signal output order of red, green, and blue from the video source to the receiver

pins. Refer to Single type module - Wizard 5.

➢ **Wizard 6**

Set the **Row/Col** of each data group according to the screen. Refer to Single type module - Wizard 6.

➢ **Wizard 7**

Set the number of rows displayed per scan for a single data group based on the number of rows shown on the module. Refer to Single type module - Wizard 7.

➢ **Wizard 8**

Set the drawing information and routing table. The interface consists of a function bar and a drawing area.

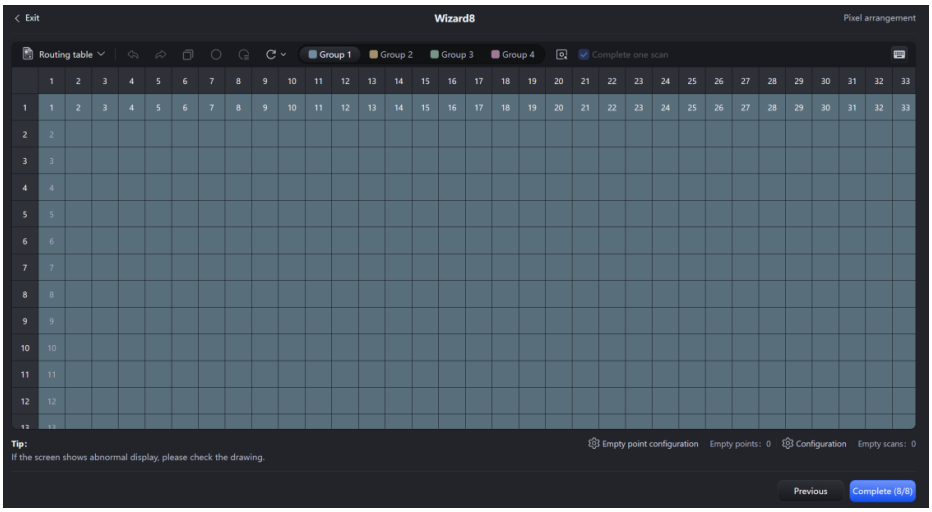


Fig 7.2.7.11 Multi-type module - Intelligent settings

Click the drop-down menu to switch data groups and open the **Smart drawing** pop-up.

Step 1 Modify the data group index.

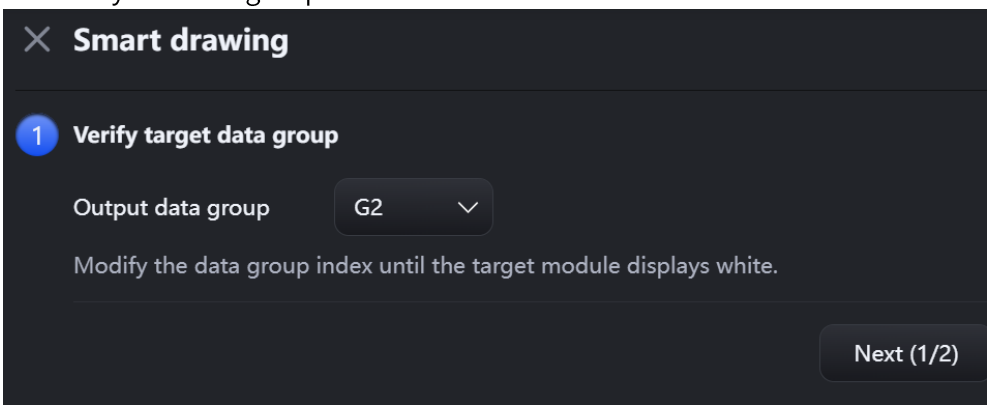


Fig 7.2.7.12 Verify target data group

Step 2 Verify chip count per scan.

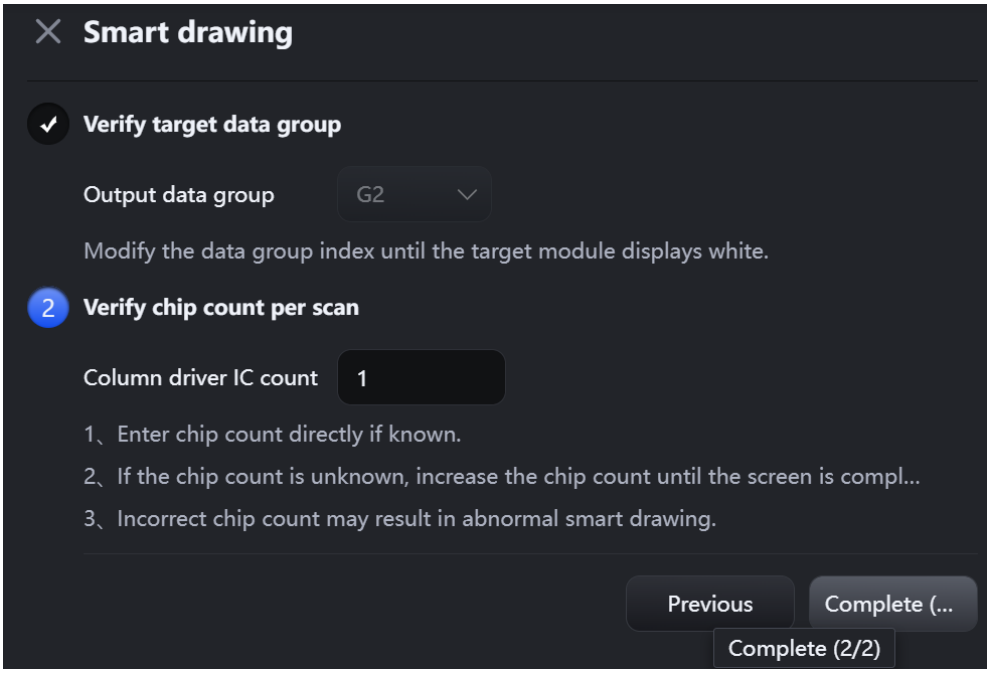


Fig 7.2.7.13 Verify chip count per scan

- Function bar

The Function bar is described in the table below.

Table 7.2-21 Multi-type module - Wizard 8 - Function bar

Item	Description
Complete one scan	When enabled, the first scan will be completed.
	Add an empty point to the current position.
	Add an empty scan to the current position.
Empty point configuration	Open the **Empty point configuration** pop-up.
Configuration	Open the pop-up of empty scan configuration.
Routing table	Select **Recent**, **Import from local** or **Export to local**.
	Undo the last action.
	Redo the previously undone action.
	Repeat the current drawing.
Previous	Return to Wizard 7.
Complete	Complete the Intelligent settings. The Basic tab will display the updated information.
Exit	Exit the Intelligent settings.

In **Configuration** pop-up, configure the empty scan positions and quantities for each data group.

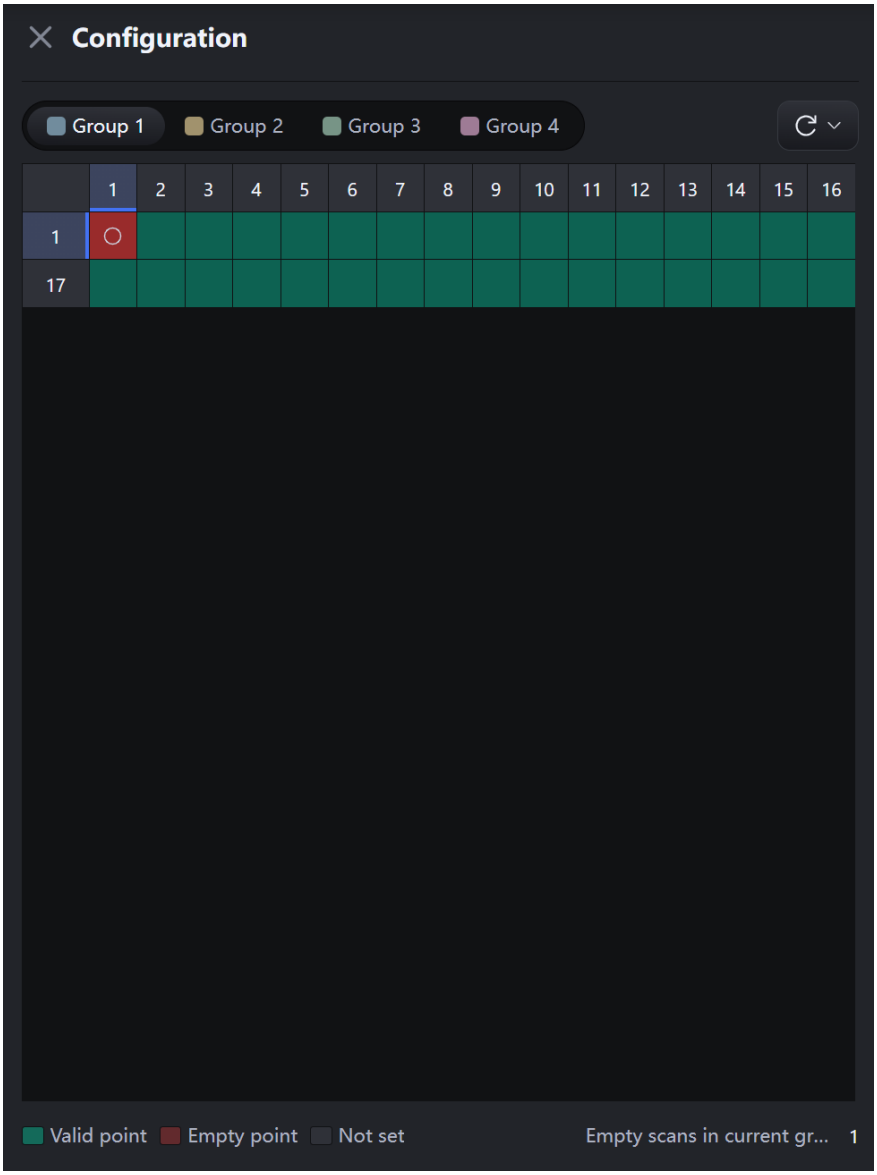


Fig 7.2.7.14 Multi-type module - Wizard 8 -Configuration

The **Configuration** pop-up is described in the table below.

Table 7.2-22 Multi-type module - Wizard 8 - Configuration

Item	Description
Group 1-4	Select data groups and configure empty points for each data group..
Reset current group	Reset the empty scan of the current data group.
Reset all groups	Reset empty scans of all data groups.
Empty scan drawing area	Set the position and number of empty scans.

- Drawing area:

  Display the drawing information of the module. You can draw points according to

the blinking dots on the module.

Before the first scan is complete, click the drawing area to draw points. After completing the first scan, click the drawing area to draw scans.

Irregular module

➢ **Wizard 1**

Click **Intelligent settings** to enter Wizard 1, and select **Irregular module** as the module type.

➢ **Wizard 2**

Set **Driver IC**, **Decoder IC** and **Module size**.

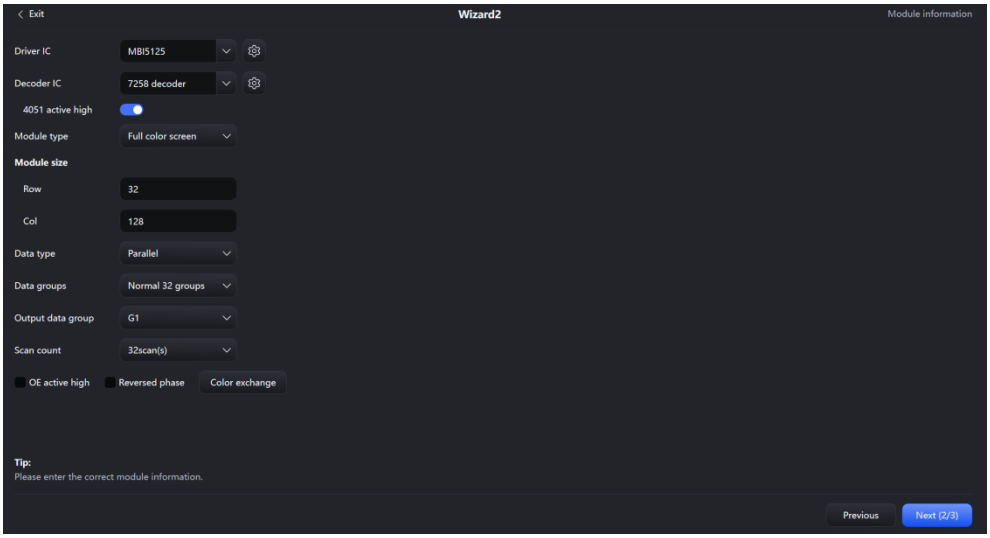


Fig 7.2.7.15 Irregular module - Wizard 2

The **Wizard 2** interface is described in the table below.

Table7 .2-23 Irregular module - Wizard 2

Item	Description
Driver IC	Select the driver IC based on the module.
Decoder IC	Select the decoder IC based on the module.
Module size	Set the row and col.
Module type	Select between Full color screen, Monochrome screen, and Dual color screen.
Data type	Set the module data type.
Data groups	Set the number of data groups output by the receiver.
Output data group	Select the position of receiver data group for Intelligent settings.
Scan count	Set the module scan count.
OE active high	Set the OE polarity of modules.
Reversed	Set the data polarity of modules.

phase	
Color exchange	Set the RGB signal output sequence from the video source to the receiver pins
Previous	Return to Wizard 1.
Next	Go to Wizard 3.
Exit	Exit the Intelligent settings.

➢ **Wizard 3**

The **Wizard 3** interface is divided into the **Routing type** and Cabinet construction area. After adding a routing type, you can add data groups in the drawing area to construct the cabinet.

Routing type

Routing type is allowed to be added, edited, and viewed, and up to 128 types can be added.

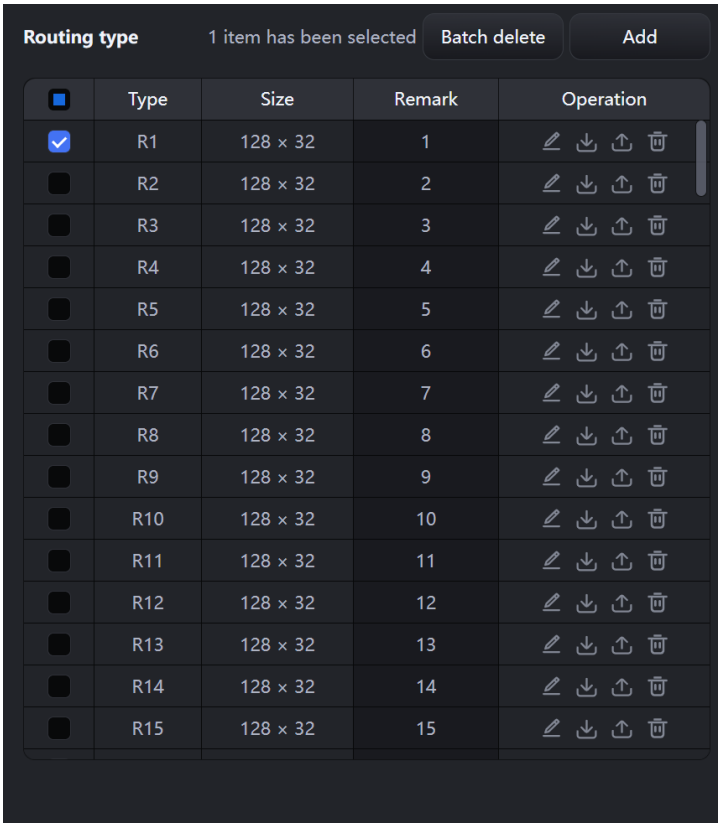


Fig 7.2.7.16 Routing type list

The **Wizard 3** interface is described in the table below.

Table 7.2-24 Irregular module - Wizard 3 - Routing type

Item	Description
Batch delete	Batch delete the selected routing types.
Add	Add a new routing type. Unavailable if the total reaches 128 types.
Type	Display the routing types in order.
Size	Display the width and height of each routing type.
Remark	Display the remark of each routing type. Double-click to edit.
	Open the drawing interface for the routing type.
	Import a routing type from a local file.
	Export routing parameters to a local file.
	Delete a single routing type.

Click **Add** to open the **Add routing type** pop-up, where you can add routing types by selecting **New** or **Import**.

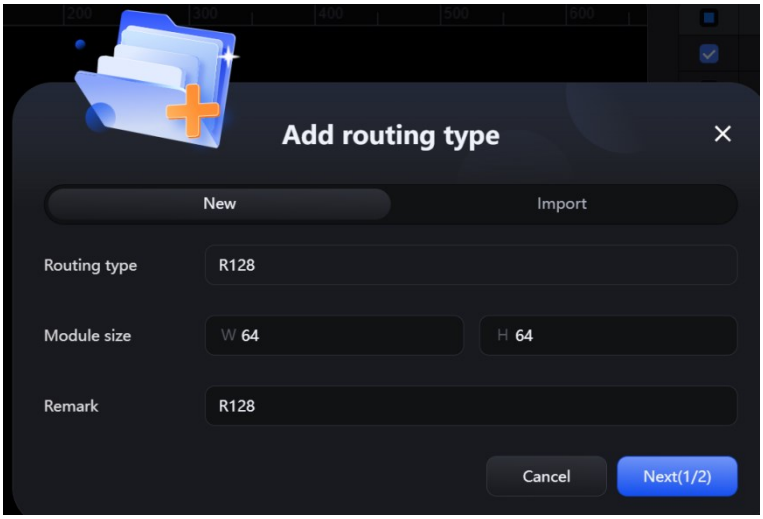


Fig 7.2.7.17 Adding routing type

New: After configuring the module size, enter the drawing interface to create a new routing type.

Import: Import a routing type from a local file.

Cabinet construction area

This area consists of a toolbar and a drawing area.

- Toolbar: Add, delete, align, or swap the data groups in the drawing area.

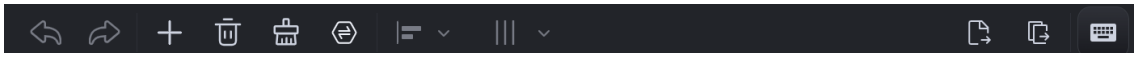


Fig 7.2.7.18 Wizard 3 Toolbar

The toolbar is described in the table below.

Table 7.2-25 Irregular module - Wizard 3 - Routing type

Item	Description
	Undo the last action.
	Redo the previously undone action.
	Open the pop-up to add modules.
	Delete the selected modules in the drawing area.
	Delete all modules in the drawing area.
	Click to apply pixel transformation to the selected data group. Supports **Stretch**, **Rotate**, **Align**, **Mirror**, **Scatter**, and **Circular mapping**.
	Align the selected modules.
	Sort the selected modules in order.
	Export valid points: Export the cabinet as a local CSV file.
	Batch export: Select a path to generate corresponding cabinet files from the parameter files in that path.
	Open the shortcut key panel.
Zoom	Zoom in or out using Ctrl + mouse scroll.

- Drawing area

  Add or edit data groups, and build the cabinet. Click **Complete** to complete the Intelligent settings, and the **Basic** tab will display the updated information.

  Select data groups, and the information of the selected data groups will be displayed on the right side of the drawing area.

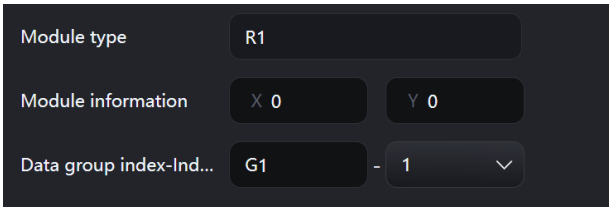


Fig 7.2.7.19 Selecting data groups

Drawing interface

In **Wizard 2**, select **Parallel** as the **Data type** to enter the parallel drawing interface, or select **Serial** to enter the serial drawing interface.

In **Parallel drawing** interface, you can draw for parallel modules. The interface includes a toolbar and a drawing area.

- Toolbar: It is described in the table below.

Table 7.2-26 Parallel drawing interface - Toolbar

Item	Description
	Export or import routing table information.
	Undo the last action.
	Redo the previously undone action.
	Add an empty point at the current position.
	Smart drawing; Confirm the data group index of the module and the number of chips scanned in the current group.
	Reset drawing information.
	Pixel transformation; Click to apply pixel transformation to the drawing interface. Supports **Stretch**, **Rotate**, **Align**, **Mirror**, **Scatter**, and **Circular mapping**.
	Smart cut; Click to select the target output data group and the number of chips scanned in the current group to cut a regular rectangular routing table and generate the target irregular routing.
	When enabled, each scan can be drawn independently.
	Open **Shortcut keys** panel.
Complete	Complete drawing and update routing type.
Cancel	Cancel drawing.

- Drawing area

  If **Scan pixel by pixel** is not selected, the drawing follows the single type module approach. If it is selected, you can switch **Scan count** to draw for each scan independently.

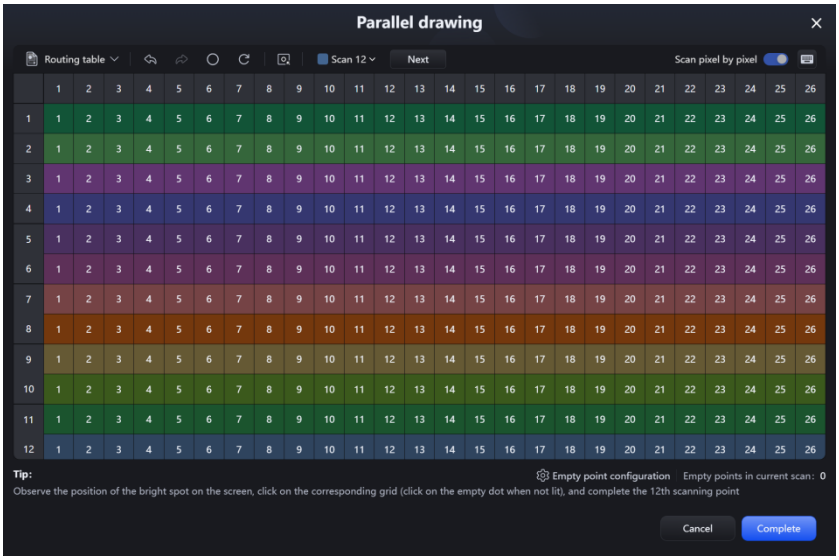


Fig 7.2.7.20 Parallel drawing

In **Serial drawing** interface, you can draw for parallel modules. Refer to the **Parallel drawing** interface.

Fig 7.2.7.21 Serial drawing

7.2.8 Function Buttons

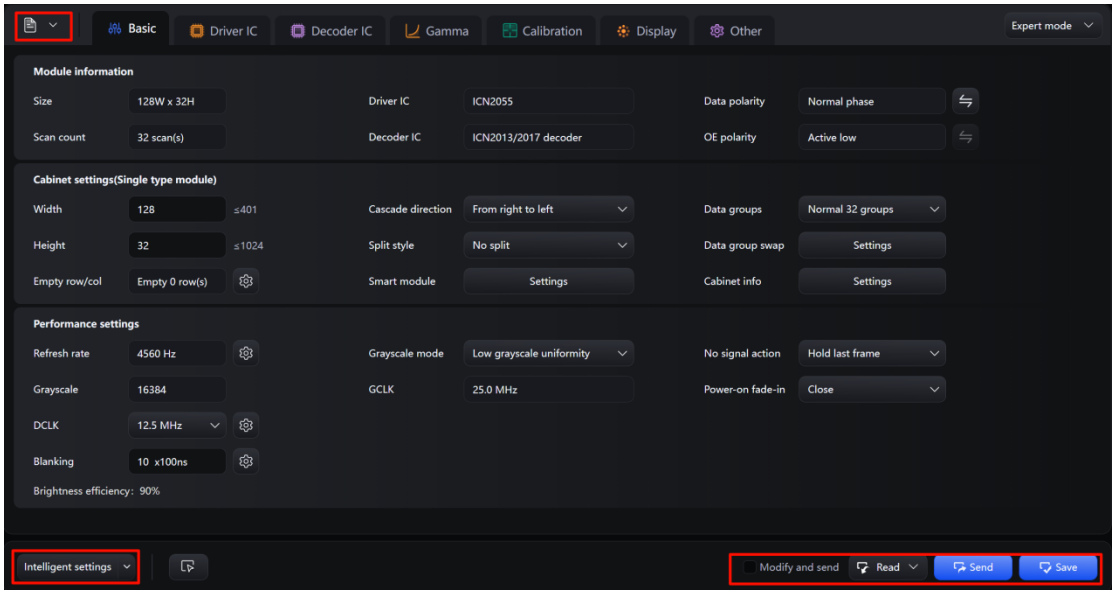


Fig 7.2.8.1 Function buttons

The function buttons are described in the table below.

Table 7.2-27 Function buttons

Item	Description
	Import/Export screen parameter files.
Intelligent settings	Enter the Intelligent settings wizard and configure screen parameters.
Modify and send	Enable to send parameter changes in real time.
Read	Select the parameter location and read screen parameters into the software.
Send	Send parameters to the screen. Parameters will be lost after power-off.
Save	Save parameters to the screen. Parameters will be retained after power-off.

Specify receiver

Select **Priority** or **Graphics** to specify receivers before performing operations such as Intelligent settings, Data group swap, Parameter sending, Parameter saving, and Parameter reading.

In the **Basic** tab, click  to open the **Specify receiver** pop-up. If the **Specify receiver** is enabled, the icon will appear as  . When the function is enabled, the status bar displays the index of the selected receiver: 

- **Priority**: Configure **Sender**, **Port**, and **Receiver**.

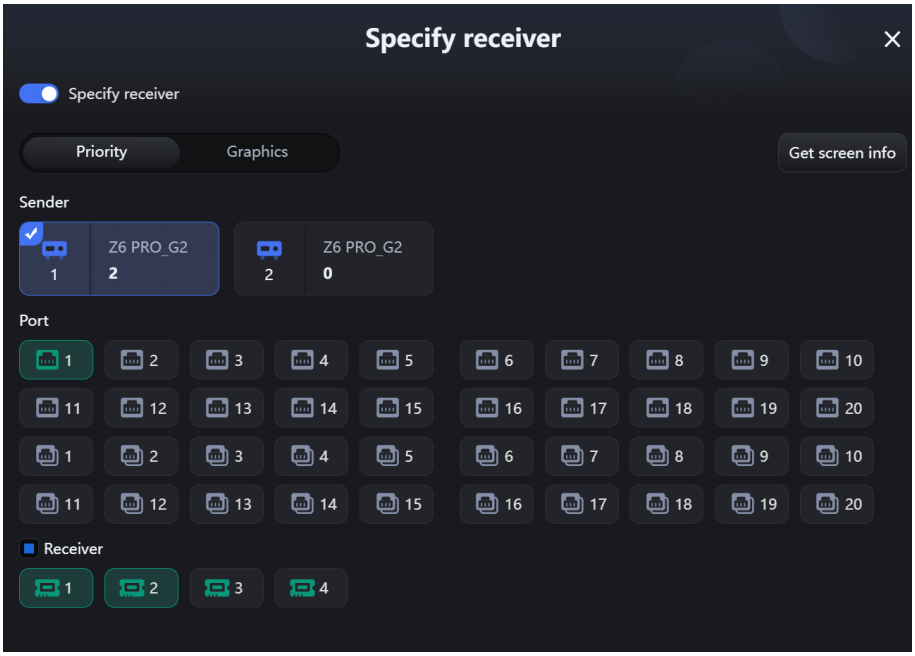


Fig 7.2.8.2 Priority

- **Graphics**: Click the graphics to specify receiver.

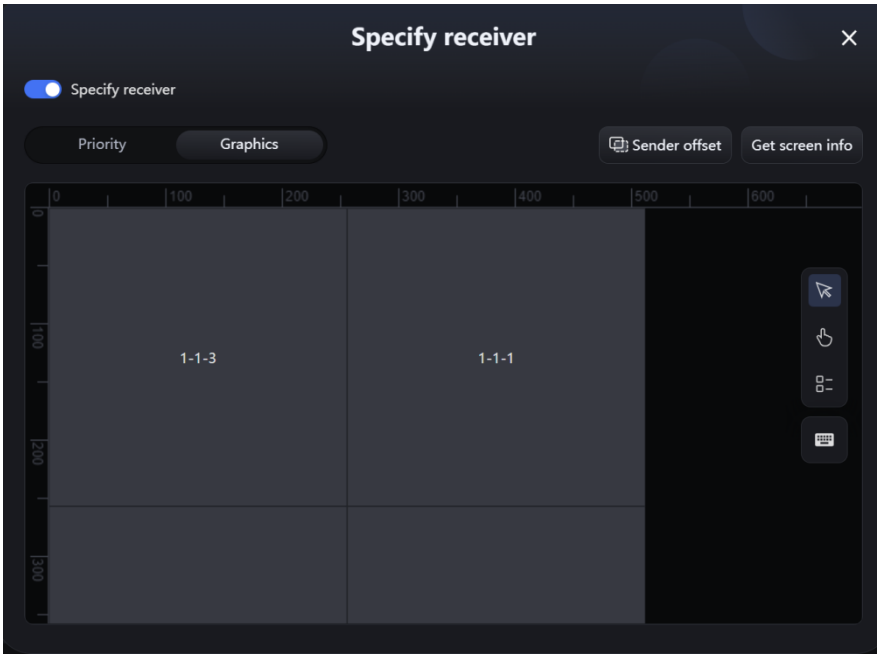


Fig 7.2.8.3 Graphics

The **Graphics** tab is described in the table below.

Table 7.2-28 Graphics

Item	Description
Sender offset	Open the **Sender offset** pop-up.
Get screen info	Get the screen information and refresh the display.
	In **Normal mode**, click to view and select the specified receiver.
	In **Highlight mode**, click to highlight the display and select the

	specified receiver.
	Open the **Configure cabinet type** pop-up.
	Open the **Shortcut keys** panel.

In **Configure cabinet type** pop-up, you can add the configuration type, each of which can specify receivers. Select a type to quickly specify receivers.

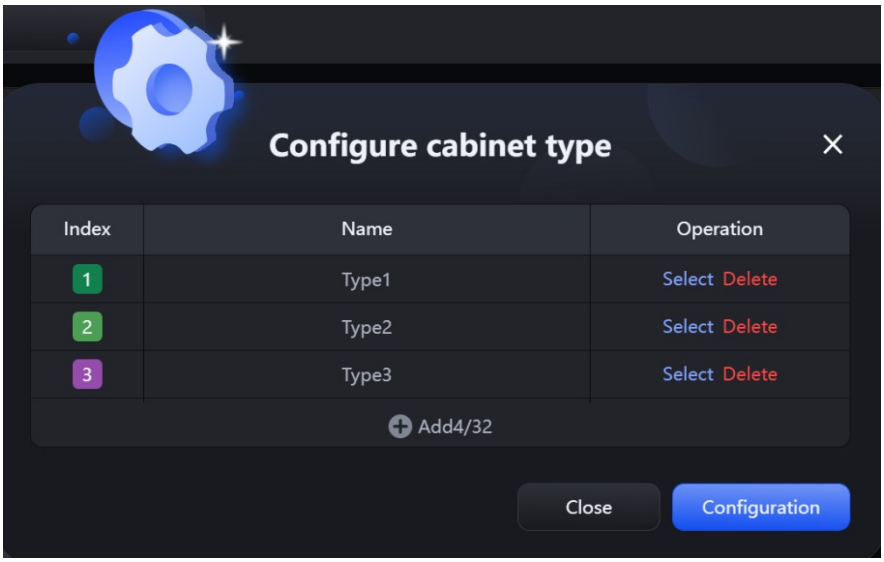


Fig 7.2.8.4 Configure cabinet type

The **Configure cabinet type** pop-up is described in the table below.

Table 7.2-29 Configure cabinet type

Item	Description
Index	Display index numbers in different colors to distinguish cabinet configuration types.
Name	Display the name of each index.
Select	Set the receivers in the cabinet as specified receivers.
Delete	Delete the cabinet type configuration.
Close	Close the pop-up without affecting included or specified receivers.
Configure	Open the pop-up where you can select a receiver to set is as the target cabinet type.

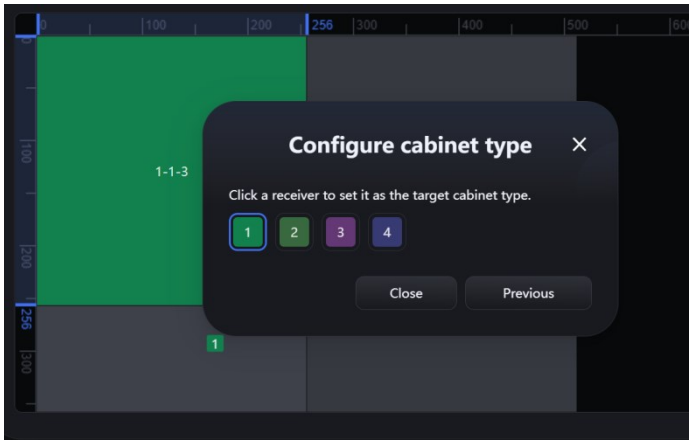


Fig 7.2.8.5 Configure cabinet type

Configuration: Displays the list of available configuration types and allows selecting different receiver index for configuration.

Receiver index numbers in different colors indicate the corresponding configuration type. Click **Close** to exit the function, or click **Previous** to return to the previous step.

7.3 Screen Mapping

Configure the mapping of receivers connected to each sender port based on the number of cabinets and physical connection. Both **Standard mode** and **Custom mode** are supported.

7.3.1 Device List

Display the number of connected senders and their Ethernet port information.

Fig 7.3.1.1 Device list

The device list section is described in the table below.

Table 7.3-1 Device list

Item	Description
All senders (2)	Number in parentheses shows the current sender cascade count.
Processor	Display the processor name. Click to switch to different senders; the Ethernet port list will be expanded accordingly.
	Open the **Settings** pop-up.
	Open the search input box to search the sender No.
1	Display different Ethernet port index.
Rcv(0)	Display the number of receivers connected to each Ethernet port. Different colors represent different ports and can be customized.
0%	Display the load percentage of each Ethernet port.

Click to open the **Settings** pop-up.

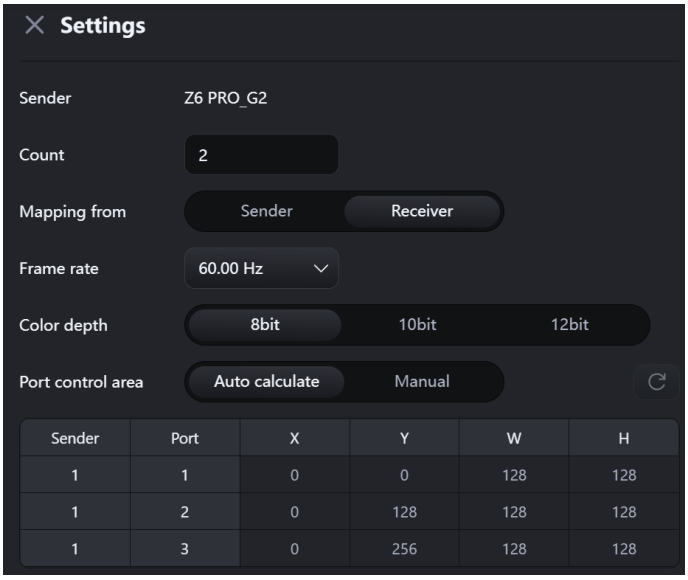


Fig 7.3.1.2 Settings

The **Settings** pop-up is described in the table below.

Table 7.3-2 Settings

Item	Description
Sender	Display the name of connected sender.
Count	Display the number of cascaded senders. If the entered number exceeds the actual count, the software will simulate the excess.
Mapping from	Same as in the sender settings; used to switch the mapping source.

Frame rate	Select the frame rate from the drop-down. The value will affect the load calculation of the Ethernet port.
Color depth	Switch between color depth options. Options vary by sender and affect the load calculation of the Ethernet port.
Port control area	Choose **Auto calculate** or **Manual**; the table is not editable in **Manual** mode.

Click the color icon before **Rcv** in the device list to set the **Port color**. You can change the port color in real time.

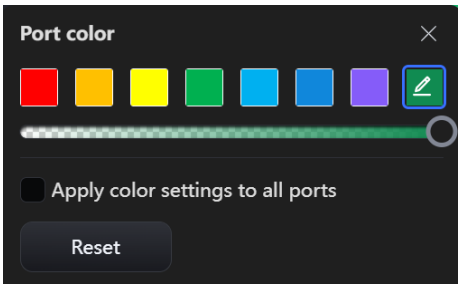


Fig 7.3.1.3 Port color

Switch between the 8 preset colors, or click  to open the **Color** pop-up. When **Apply color settings to all ports** is enabled, any color change will apply to all Ethernet ports. Click **Reset** to restore the color settings to their default values.

In the **Color** pop-up, use the color picker to select a color or enter RGB values, and switch between presets or previously used colors.

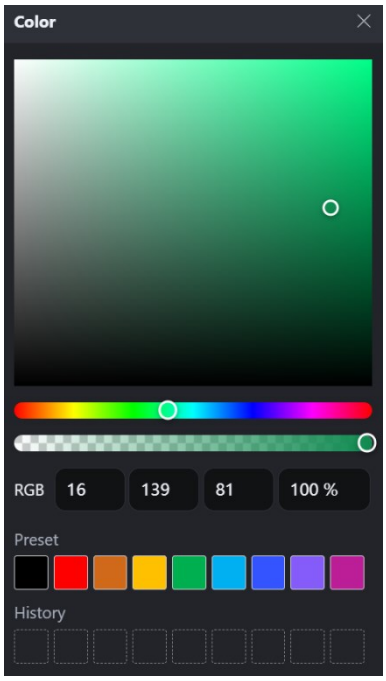


Fig 7.3.1.4 Custom port color

Right-click the Ethernet port to access setting options.

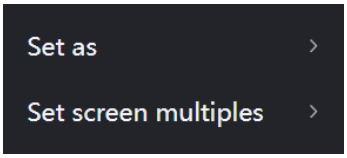


Fig 7.3.1.5 Context menu

- **Set as**: Set the selected Ethernet port as the backup port.
- **Set screen multiples**: Set different screen multiples.

7.3.2 Standard Mode

Quick start

Step 1 Click the drawing area, and configure the **Total rcv** (Total receiver)and **Rcv size** (Receiver size) as needed. Then add receivers to the drawing area.

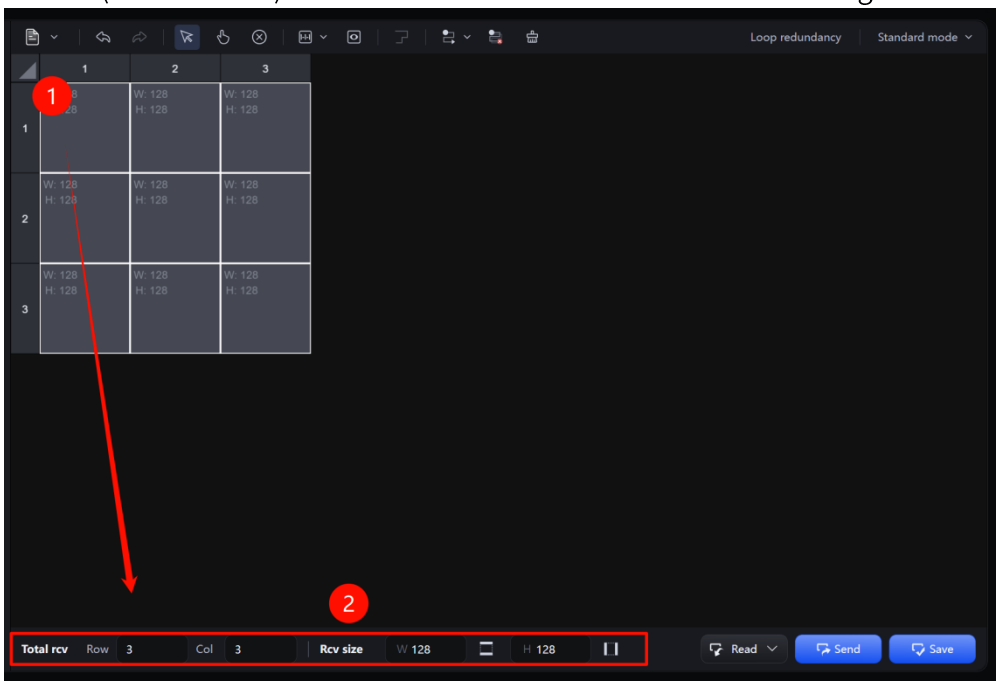


Fig 7.3.2.1 Set drawing area

Step 2 Create the topology for each sender port according to the actual receiver mapping.

Fig 7.3.2.2 Creating topology

Step 3 After creating the topology, click **Send** and observe the display performance.

Toolbar

Use the toolbar to number Ethernet ports, highlight and number receivers, and perform other related operations.

Figure 7.3.2.3 Standard mode - Toolbar

The toolbar is described in the table below.

Table 7.3-3 Standard mode - Toolbar

Item	Description
	Undo the last action.
	Redo the previously undone action.
	Click a row, then select a receiver to display the highlight effect at the specific screen location.
	Set the selected receiver as an empty one, which cannot be used for mapping.
	Set the **Full screen numbering**, **Numbering by port**, and **Repair numbering font library**.
	Display the receiver No. Click to show the serial numbers for all receivers except the first and last ones.
	Select a single receiver and click the button to open the **Output data offset** pop-up.

	Quickly configure the mapping for selected receivers.
	Delete all mappings.
	Delete all receivers.
Zoom	Zoom in and out using Ctrl + mouse wheel.
	Import or export mapping files.

During cabinet and module installation, positional deviations may occur. Use the **Output data offset** function to adjust the receiver's data port output and ensure proper image display.

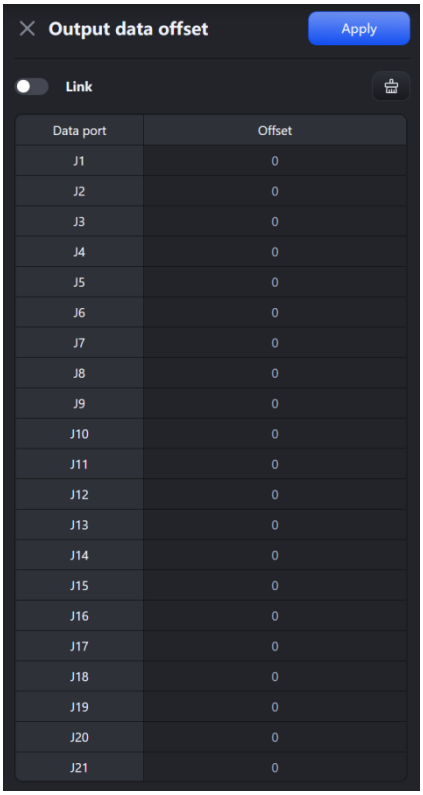


Fig 7.3.2.4 Output data offset

The **Output data offset** pop-up is described in the table below.

Table 7.3-4 Output data offset

Item	Description
Data port	J1-J64 Data port
Offset	Set offset pixels for the corresponding data port.
Link	Enable it to offset all output data.
	Reset offset for all data ports.
Apply	Apply the offset.

Cabinet configuration

Configure the **Total rvc** and **Rcv size** and create the topology.

- **Total rvc**: Set the number of receivers in the drawing area.

Fig 7.3.2.5 Total rvc

- **Rcv size**: Display the receiver No. and set the receiver's width and height.

Fig 7.3.2.6 Rcv size

- Click  to modify the width and height of all receivers in the same column.
- Click  to modify the width and height of all receivers in the same row.

Drawing area

The area supports following interactive operations.

Table 7.3-5 Drawing area - interactive operations

Action	Description
Left-click	Create the mapping in the drawing area.
Left-click and drag	Create the mapping for multiple receivers.
Right-click	Delete the current and all subsequent mappings.
Ctrl+Z	Undo the last action.
Ctrl+Y	Redo the previously undone action.
Click the top-left corner of the table header	Select/Deselect all receivers.
Drag the horizontal header	Select multiple columns of receivers
Drag the vertical header	Select multiple rows of receivers.

7.3.3 Custom Mode

Quick start

Step 1 Choose the port based on your actual LED display configuration. Then click the drop-down arrow and select Custom to set the Receiver load capacity.

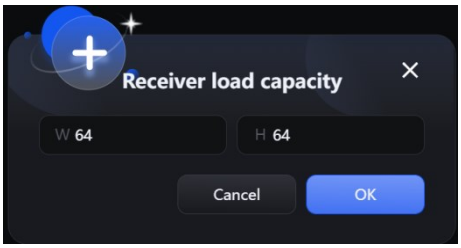


Fig 7.3.3.1 Custom receiver load capacity

Step 2 Click (right of the port), then hold and drag in the drawing area to add multiple receivers. The mapping will be auto-filled based on the drag sequence. Use the **Numbering** function to align the mapping with the physical cabling.

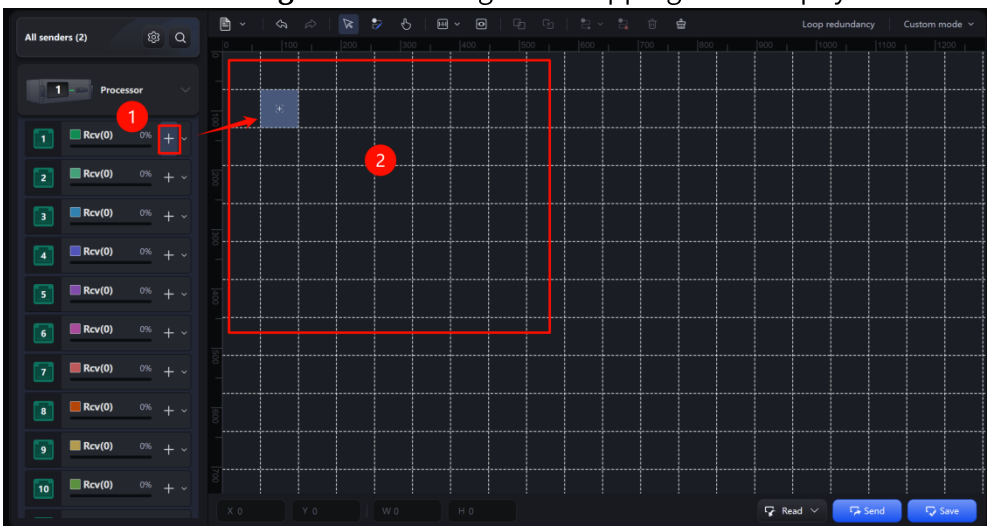


Fig 7.3.3.2 Add receiver

Step 3 After setting the mapping, click **Send** and check the LED display output.

Top toolbar

You can switch between **Standard mode** and **Custom mode** for screen mapping.

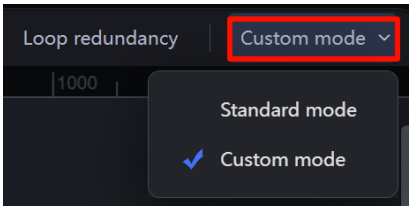


Fig 7.3.3.3 Screen mapping - Mode switching

Other toolbar buttons:

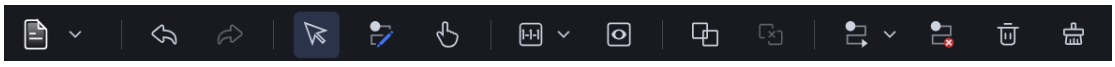


Fig 7.3.3.4 Custom mode - Toolbar

Functions of custom mode toolbar are described below.

Table 7.3-6 Toolbar in custom mode

Item	Description
	Undo the last action.
	Redo the last undone action.
	Manually draw mapping over the receiver area.
	Highlight the selected receivers on the screen.
	Support **Full screen numbering**, **Numbering by port**, and **Repair numbering font library**

	Display all receiver numbers except the first and last.
	Combine selected receivers into a group.
	Break the selected group into individual receivers.
	Quickly set mapping for selected receivers using the specified topology.
	Delete all mappings for the current ports.
	Remove selected receivers.
	Remove all receivers.
	Import/Export mapping files.

Drawing area

- **Add receiver:** Click the button (right of the port) to add receivers. A grid guide will be displayed on the interface.

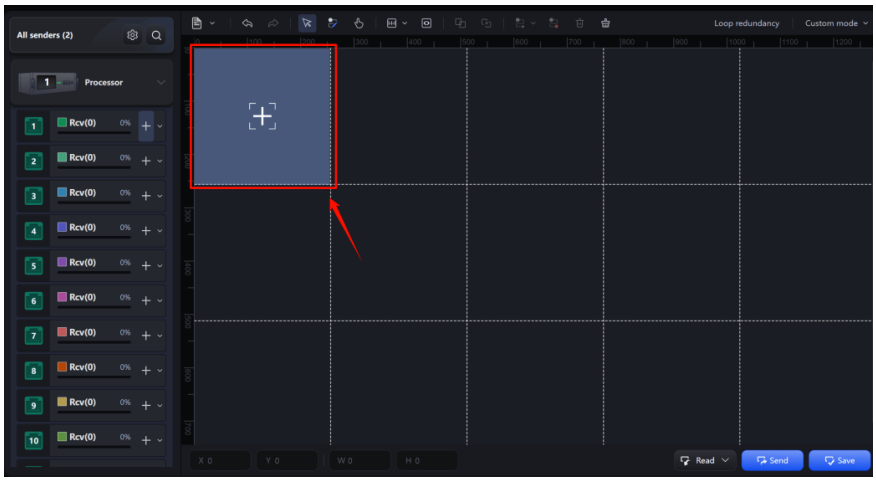


Fig 7.3.3.5 Add receiver

- Click: Add one receiver.
- Drag: Continuously add multiple receivers. The mapping will be auto-filled based on the drag sequence.
- Auto-calculate: The system updates the port load capacity and receiver count in real-time.

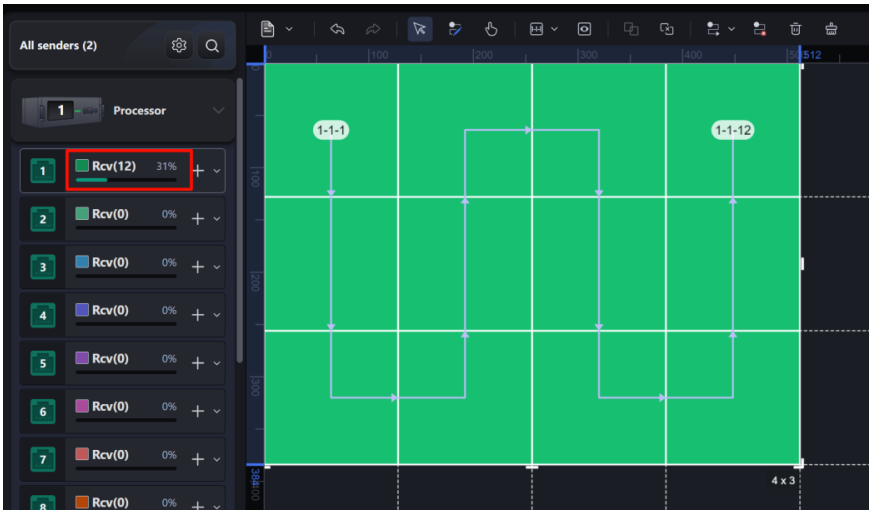


Fig 7.3.3.6 Load capacity changes

- Context menu: Right-click the canvas to display the corresponding menu.
  - Right-click blank area: Some functions are the same as the top toolbar.
  - **Paste as next port**: Auto-paste the copied mapping to the next available port.

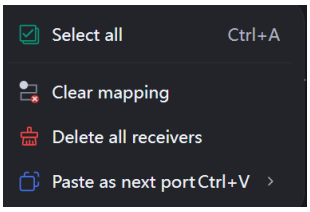


Fig 7.3.3.7 Blank area context menu

  - Right-click receiver area: Some functions are the same as the top toolbar.
  - **Output data offset**: Set the output data offset for the selected receiver (same as in **Standard mode**).

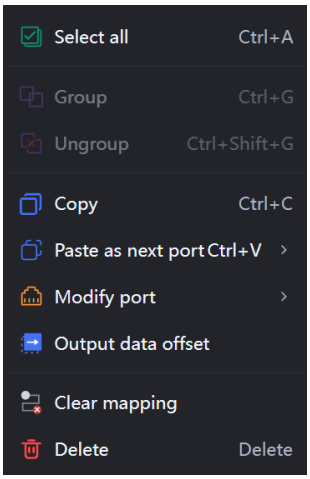


Fig 7.3.3.8 Receiver area context menu

- Keyboard shortcuts in Custom mode

Table 7.3-7 Custom mode shortcuts

Shortcut	Description
Ctrl + A	Select all receivers that have been added.
Ctrl + C	Copy the selected receivers and their mapping.
Ctrl + V	Paste to the next available port.
Ctrl + Z	Undo the last action.
Ctrl + Y	Redo the last undone action.
Ctrl + G	Group (same as the **Group** button on the toolbar).
Ctrl + Shift + G	Ungroup (same as the **Ungroup** button on the toolbar).
Ctrl + Mouse Wheel	Zoom in/out the entire interface.
Ctrl + 0	Reset zoom to 100%.
Delete	Remove selected receivers.

- Dynamic canvas

  The canvas in the **Screen mapping** interface expands automatically as needed.

  Rules:

  - Drag the receivers downward or to the right when the canvas space is insufficient. The canvas will automatically expand as needed.
  - After expansion, the canvas automatically shrinks to fit the content if there are unused areas.
  - Hold Ctrl and scroll the mouse wheel to zoom the interface and adjust the drawing area.

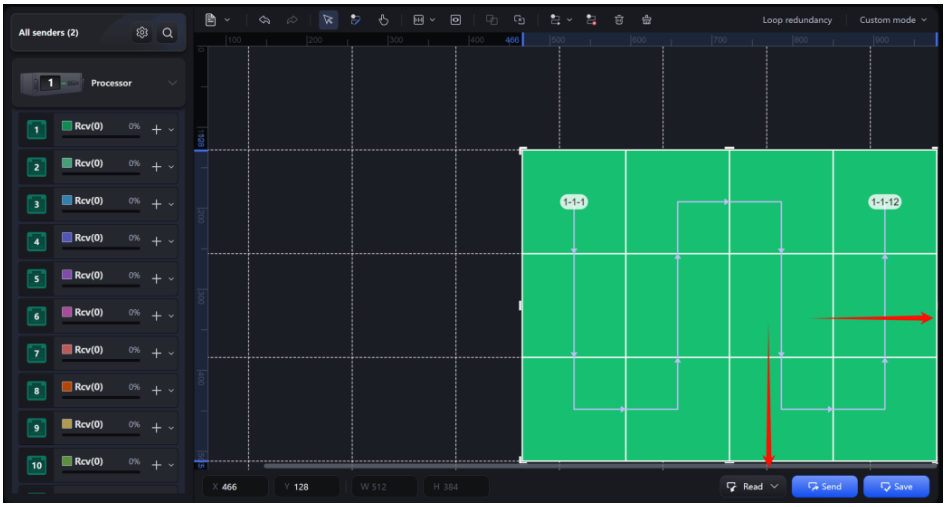


Fig 7.3.3.9 Dynamic canvas expansion

Bottom toolbar

- Cabinet information configuration: Set the width, height, and position of the selected receiver.
  - **W/H**: Set the width and height of the selected receiver.
  - **X/Y**: Set the position (coordinates) of the selected receiver.

Fig 7.3.3.10 Custom mode - Set width, height, and position

- Function buttons

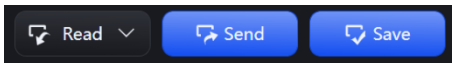


Fig 7.3.3.11 Function buttons

Descriptions of the function buttons are shown below.

Table 7.3-8 Function buttons

Item	Description
Read	Read back the receiver mapping and load it into the software.
Send	Send the real-time mapping to all receivers. The parameters will be lost after a power cycle.
Save	Save the mapping to all receivers to retain it after a power cycle.

7.3.4 Loop Redundancy

The **Loop redundancy** function allows quick configuration of primary-backup relationship. Two modes are available: **Single device** and **Dual devices**.

Single device

Set the primary-backup relationship between different ports on the same sender.

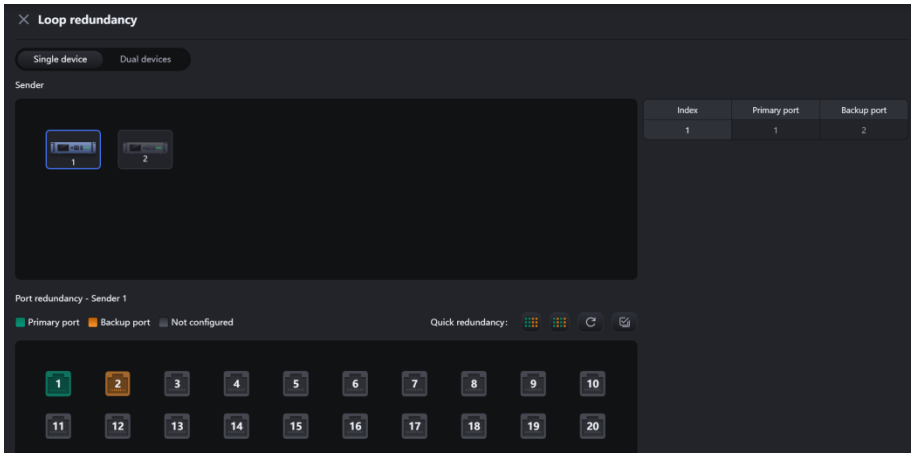


Fig 7.3.4.1 Loop redundancy - Single device

- **Sender**: List all currently connected senders. Click a sender to switch to it.
- **Port redundancy**: Click an unused port (**Not configured**), then click a port with a configured mapping (**Primary port**). The unused port will be set as the backup for

the primary port.

Example: In the figure below, Port 2 is set as the backup for Port 1.

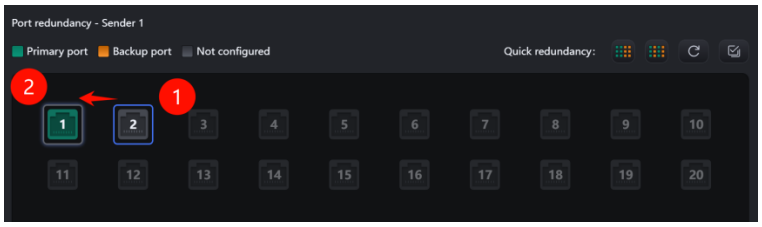


Fig 7.3.4.2 Set port redundancy

Quick redundancy

Fig 7.3.4.3 Single device- Quick redundancy

The function buttons of **Quick redundancy** are described below.

Table 7.3-9 Quick redundancy functions

Item	Description
	**Port redundancy (evenly split)**: Split all ports into two halves: the first half are primary and the second half are backup.
	**Port redundancy (adjacent)**: Set each pair of adjacent ports so that the first is primary and the second is backup.
	**Reset**: Clear all redundancy settings.
	**Apply to all senders**: Apply the current redundancy configuration to all senders.

- Primary - Backup table: Lists the configured primary - backup port pairs. Each row shows the index number, the primary port, and its corresponding backup port.
  - **Primary port:** Ports with configured mappings, listed in sequence.
  - **Backup Port**: The backup port paired with each primary port.

Index	Primary port	Backup port
1	1	2
2	3	4
3	5	6
4	7	8
5	9	10
6	11	12
7	13	14
8	15	16
9	17	18
10	19	20

Fig 7.3.4.4 Primary - Backup table

Dual devices

Set the primary-backup relationship between two senders.

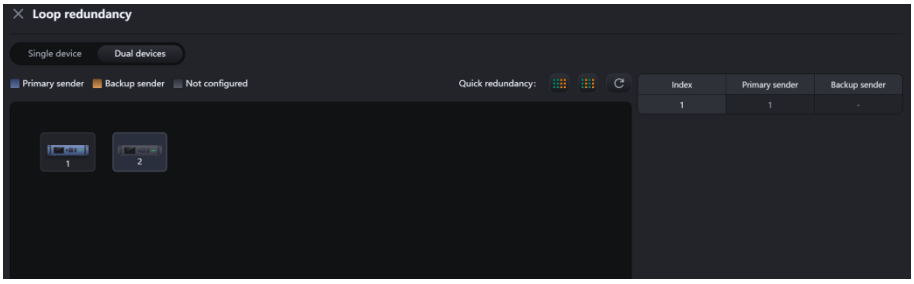


Fig 7.3.4.5 Loop redundancy - Dual devices

Quick redundancy

Fig 7.3.4.6 Dual devices- Quick redundancy

The function buttons of **Quick redundancy** are described below.

Table 7.3-10 Quick redundancy functions

Item	Description
	**Sender redundancy (evenly split)**: Split all senders into two halves: the first half are primary and the second half are backup.
	**Sender redundancy (adjacent)**: Set each pair of adjacent senders so that the first is primary and the second is backup.
	**Reset**: Clear all redundancy settings.

- Custom redundancy: Click an unused sender (**Not configured**), then click a sender with a configured mapping (**Primary sender**). The unused sender will be set as the backup for the primary sender.

  Example: In the figure below, Sender 2 is set as the backup for Sender 1.

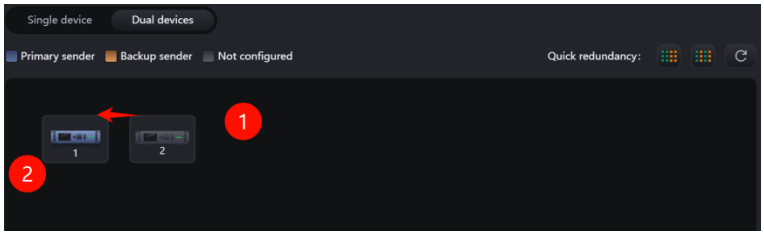


Fig 7.3.4.7 Set sender redundancy

- Primary - Backup table: Lists the configured primary - backup sender pairs. Each row shows the index number, the primary sender, and its corresponding backup sender.

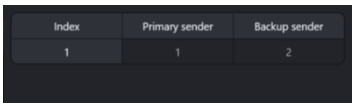


Fig 7.3.4.8 Primary - Backup table

8. Brightness Coefficient Adjustment

Brightness coefficient adjustment (also known as **brightness calibration**) refers to adjusting the LED display brightness to achieve high uniformity after calibration. This process often involves lowering the maximum brightness of most LEDs. The brightness calibration coefficients consist of R, G, and B components.

This feature includes three modules: **Edit by pixel**, **Edit by receiver**, and **Deseam**.

8.1 Quick Start

8.1.1 Brightness/Chroma Calibration

Step 1 Go to the **Edit** by pixel tab and click **Get screen info**.

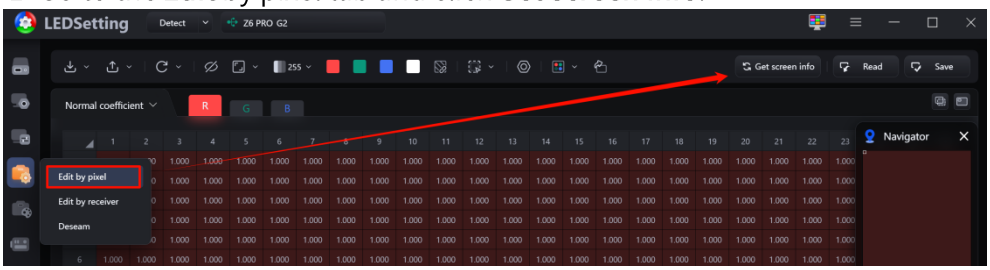


Fig 8.1.1.1 Get screen info

Step 2 Click  to set the size and position of the calibration canvas according to the actual screen.

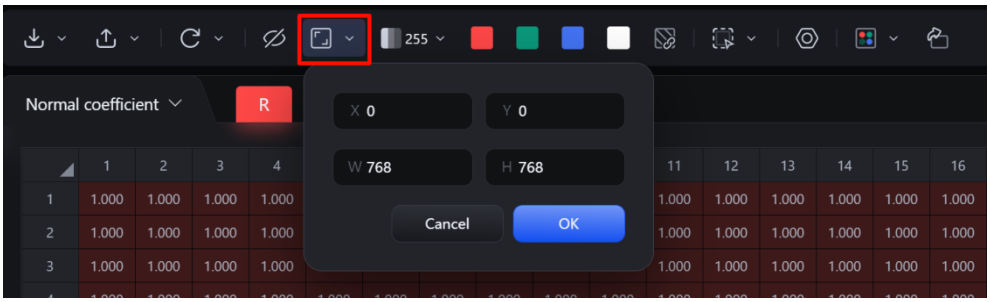


Fig 8.1.1.2 Set screen size and position

Step 3 Click  to import brightness calibration coefficients. Alternatively, manually set coefficients in the coefficient adjustment area.

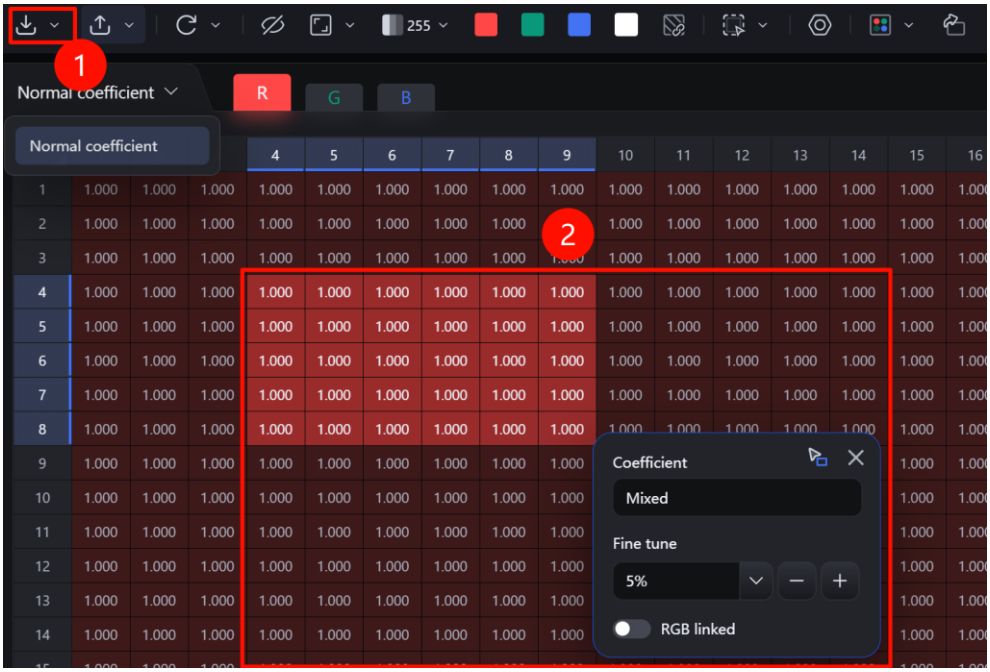


Fig 8.1.1.2 Set brightness calibration coefficients

Step 4: Click  to open the **Calibration settings** pop-up window. Then, select the desired options under **Calibration coefs source** and **Calibration** (mode).

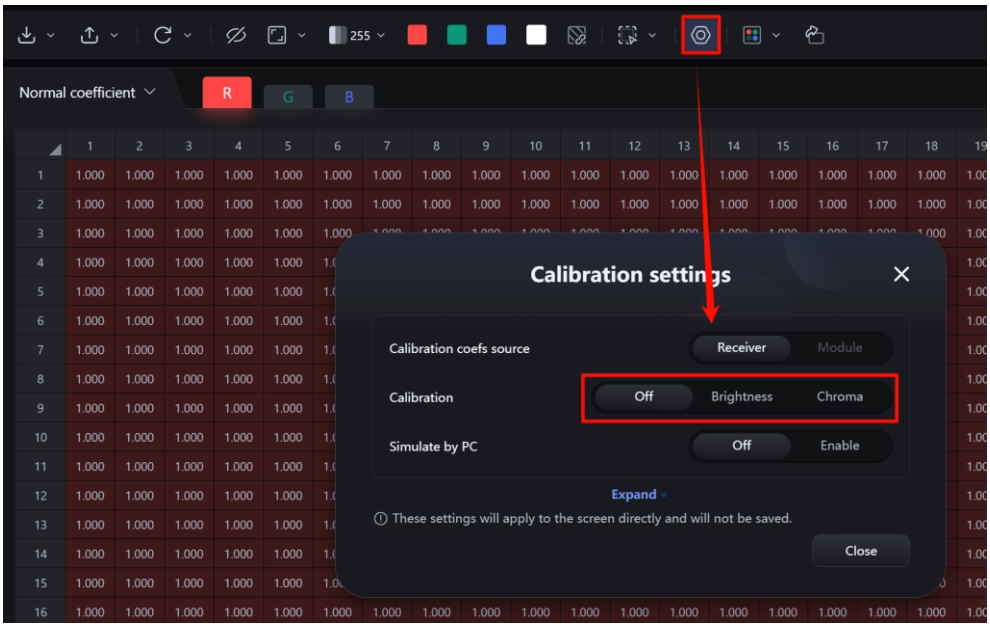


Fig 8.1.1.4 Enable brightness calibration of receiver

Step 5: Select **Normal coefficient** under **Coefficient type**. Then, click **OK** to save the normal calibration coefficients.

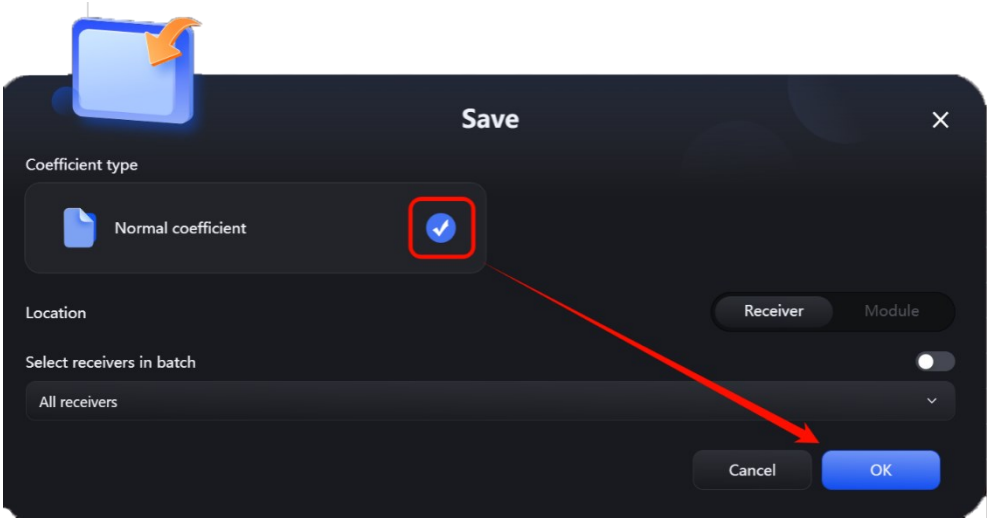


Fig 8.1.1.5 Save calibration coefficients

Step 6: Check the screen and enable calibration.

8.1.2 Deseam

Step 1 Go to the **Deseam** tab and click **Get screen info**.

Step 2 Click  to set the size and position of the calibration canvas according to the actual screen.

Step 3 Click  and **Enable** the module, then set the module size as required.

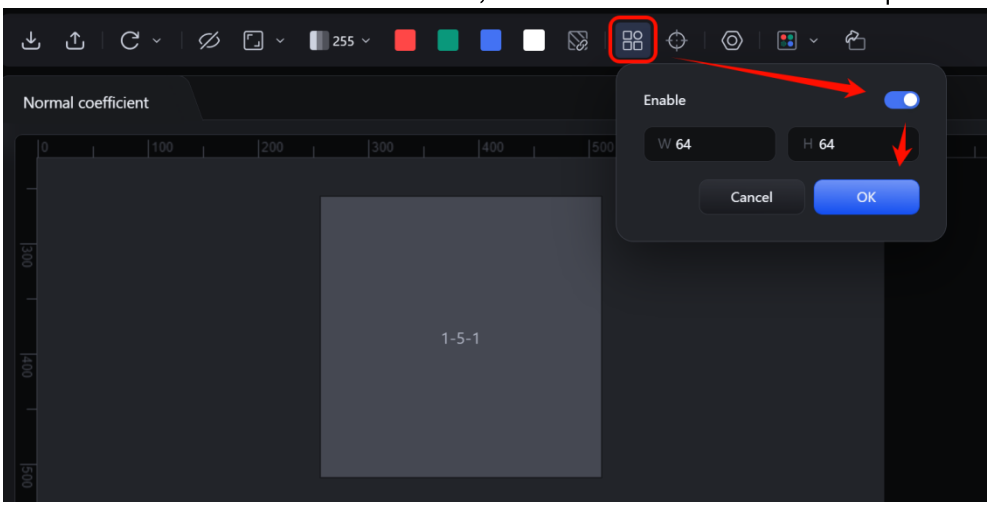


Fig 8.1.2.1 Set module size

Step 4 After reading the calibration coefficients, select the target seams and configure the deseam coefficients as required. Then, click **Apply deseam coefficients** to save the updated values for the selected seams.

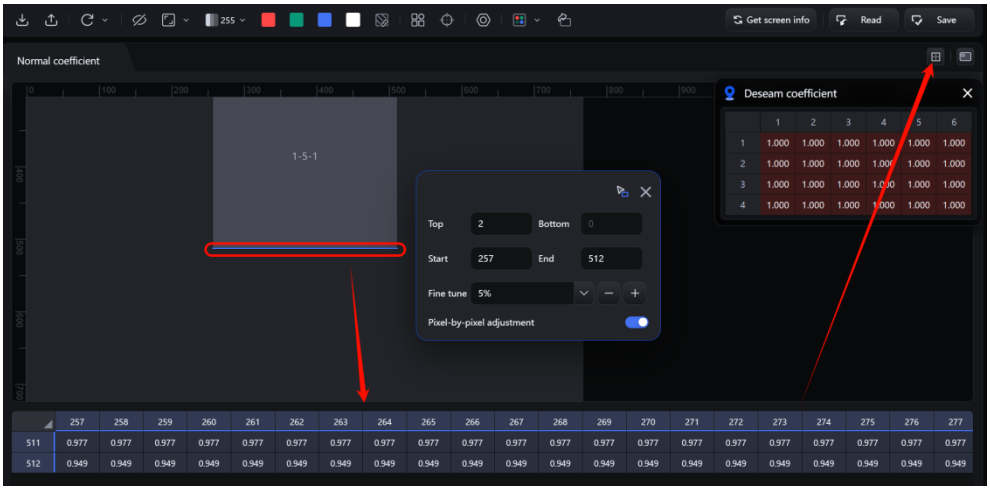


Fig 8.1.2.2 Set deseam coefficients

Step 5: Click  to open the **Calibration settings** pop-up window. Then, select the desired options under **Calibration coefs source** and **Calibration** (mode).

Step 6: Click the **Save** button and select **Normal coefficient** as the **Coefficient type**. Then, click **OK** to save the coefficients.

Step 7: Check the screen and enable calibration to view the effect after deseam.

8.2 Edit by Pixel

Toolbar

The toolbar of the **Edit by pixel** interface is shown below:

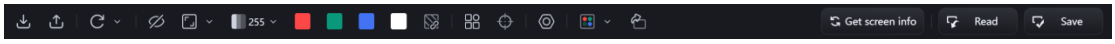


Fig 8.2.1 Toolbar for edit by pixel

- **Import:** Click  to open the drop-down menu, and select a desired method to import a local calibration coefficient file.

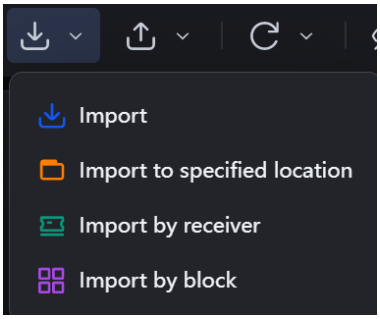


Fig 8.2.2 Import

The available options in the **Import** drop-down menu are described in the table below.

Table 8.2-1 Import menu

Item	Description
Import	Import all calibration coefficients, which will be automatically cropped to match the calibration canvas size.
Import to specified location	Set initial coordinates and import the coefficients to the specified location.
Import by receiver	Import the calibration coefficients by receivers. The results will be displayed in the list.

- **Import by block**

Step 1 Click **Select calibration coefficient** to load a coefficient file.

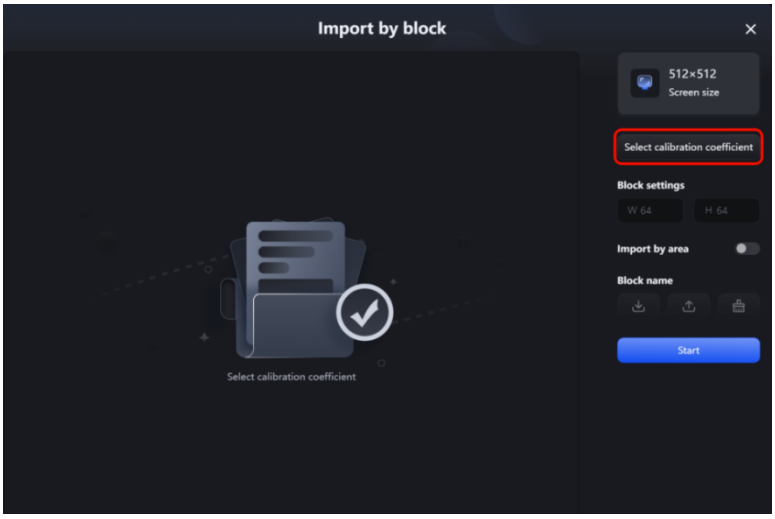


Fig 8.2.3 Load a coefficient file

Step 2 Configure the **Block settings**, **Import by area**, and **Sub-block** respectively.

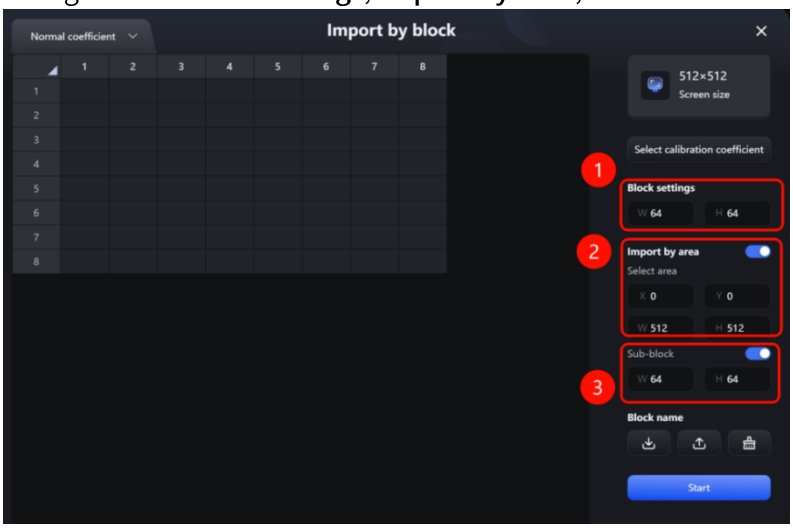


Fig 8.2.4 Set blocks

NOTE

1. If the loaded coefficient file contains predefined areas or sub-blocks, configure the **Select area** and **Sub-block** accordingly.

2. The block size cannot exceed the block size defined in the coefficient file.

3. The sub-block size cannot be smaller than the sub-block size defined in the coefficient file.

Step 3: Set the **Block name**, supporting batch import via a block name file.

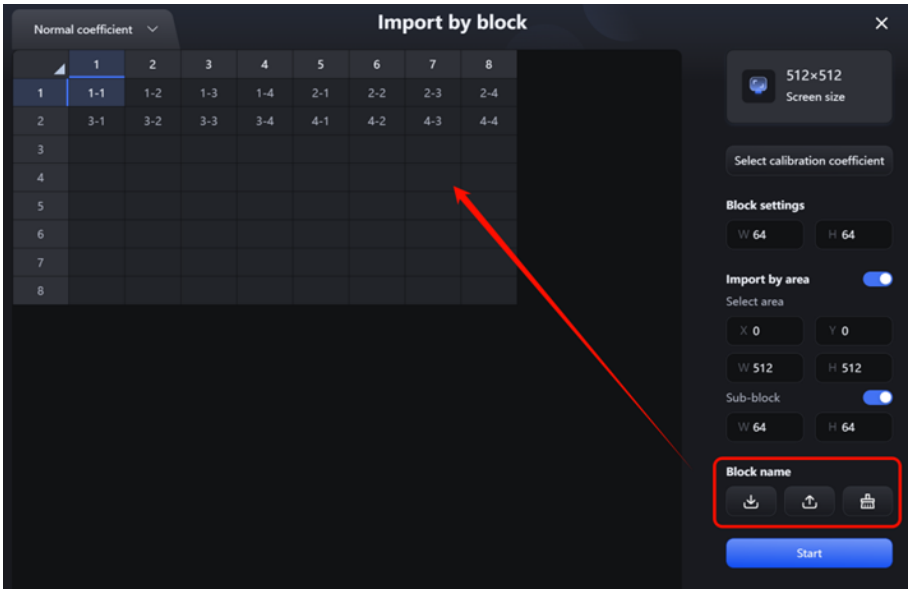


Fig 8.2.5 Import block name file

You may also manually enter a block name. Fuzzy matching is supported to locate files within the directory.

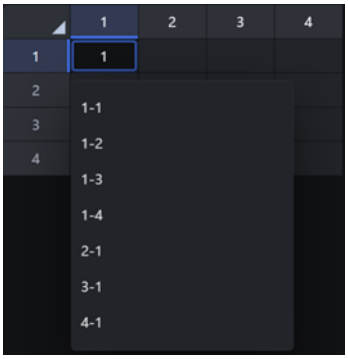


Fig 8.2.6 Enter block name

Step 4: Click the **Start** button to import the coefficients.

NOTE

Successfully imported areas will be highlighted in green while failed imports will be highlighted in red.

- **Export**: Click  to open the drop-down menu and select a desired method to export calibration coefficients to a local file.

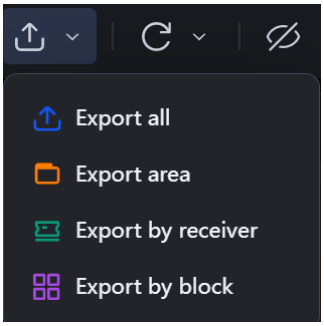


Fig 8.2.7 Export

The available options in the **Export** drop-down menu are described in the table below.

Table 8.2-2 Export menu

Item	Description
Export all	Export all calibration coefficients of the entire screen.
Export area	Export coefficients for a selected area.
Export by receiver	Export coefficients by receiver (filename format: Port No.-Receiver No.).
Export by block	Export coefficients by block with custom parameters.

Other toolbar functions are listed below.

Table 8.2-3 Other toolbar functions

Item	Description
	Show/Hide the calibration canvas.
	Enter a value in the input field or drag the slider to adjust the grayscale of the calibration canvas.
	Click to switch to the corresponding color for the calibration canvas.
	**Test pattern linked**: When enabled, test pattern of the processor will be activated in sync.
	Set start point, width, and height for region selection.
	**Calibration settings:** Configure calibration mode / source.
	**Virtual screen settings:** Configure switch and rules for virtual screens.
	Select a desired rotation option to load the coefficient file, and generate a new coefficient file with the selected rotation applied.
Get screen info	Click this button to retrieve screen information and refresh the content displayed on screen.

Read	Read back calibration coefficients from the receiver and load them into the software.
Save	Save calibration coefficients to receivers or modules.

- Virtual screen calibration

Step1: Click Virtual screen to enable the virtual screen calibration. The interface will display a Virtual green tab.

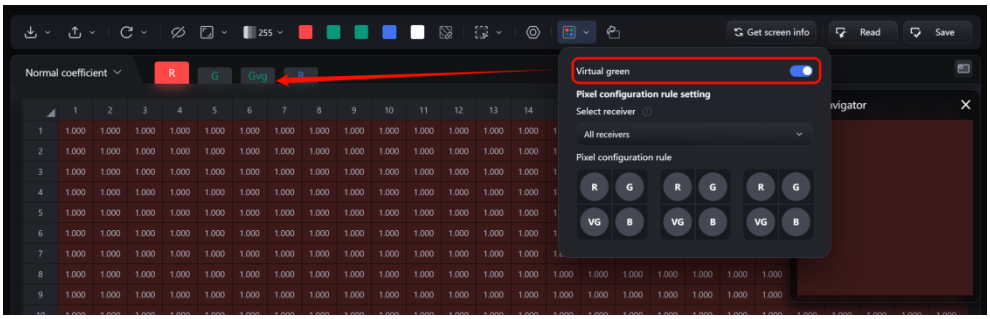


Fig 8.2.8 Enable virtual screen

Step2: Switch between different pixel configuration rules, as shown in the figure below.

Fig 8.2.9 Pixel configuration rule

Step3: Set the calibration coefficients and click **Save** to check the display effect.

- Save & read back: You can select **Coefficient type**, switch **Calibration coefs source**, and specify the receiver.
- **Select receivers in batch**: Select different receivers from the drop-down list.
- **Rotate calibration coefs**:
  - Two rotation methods: **Single** and **Batch.** In **Single** mode, you can rotate one calibration coefficient file; in **Batch** mode, all calibration coefficient files in the selected path are rotated.
  - Three rotation angles: **90° CW** (clockwise), **90° CCW** (counterclockwise), and **180°**.

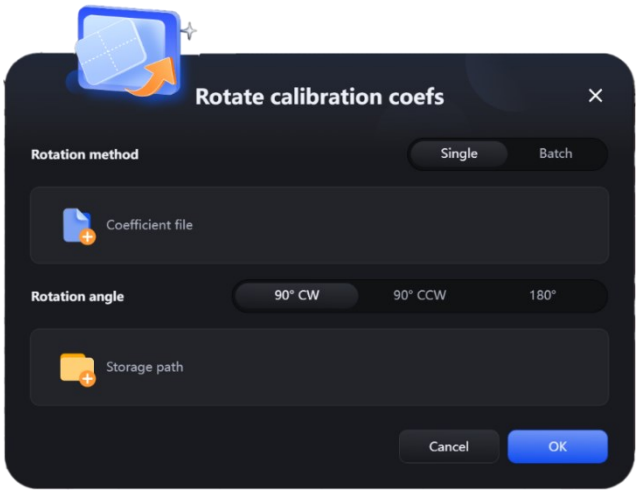


Fig 8.2.10 Rotate calibration coefs

Calibration coefficient adjustment area

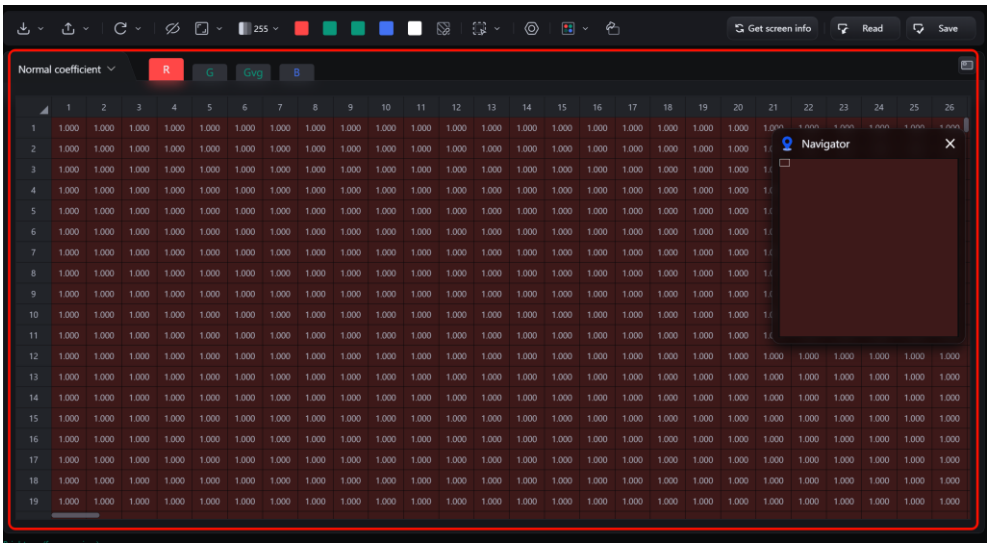


Fig 8.2.11 Calibration coefficient adjustment area

Each "cell" in the coefficient adjustment area represents one pixel.

The coefficient editing is described in the table below.

Table 8.2-4 Interaction rules for coefficient editing

Action	Description
Click a cell	Select a single pixel to open the coefficient editing popup.
Double-click a cell	Edit coefficients for the selected pixel.
Drag to select	Select multiple pixels to open the coefficient editing popup.
Drag from header	Selects an entire row/column of pixels to open the coefficient editing popup.
Click top-left corner	Select all pixels to open the coefficient editing popup.

Right-click	Open the function menu.

- Coefficient editing pop-up: You can modify the calibration coefficients of selected cells by direct input or fine-tuning.

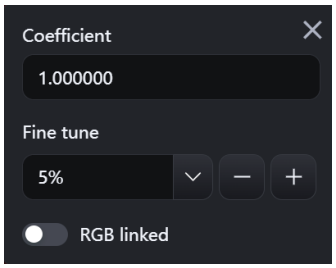


Fig 8.2.12 Editing popup

  - **RGB linked**: When enabled, adjustments apply to all R/G/B channels simultaneously; when disabled, changes only affect the coefficients in the currently selected tab.
  - Drag with the left mouse button to move the popup. Click  to make the pop-up follow the selected parameter position.
- Coefficient type: Switch coefficient types and color components from the top-left of the editing area.
- **Navigator:** Displays the current window position within the canvas. You can drag to navigate. Click  to enable/disable the **Navigator**.

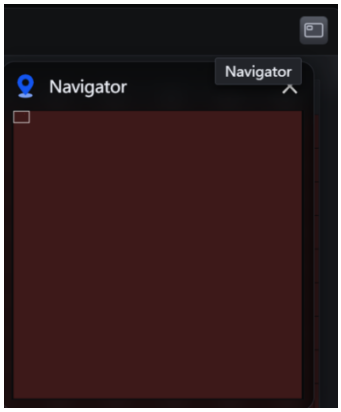


Fig 8.2.13 Navigator

- Context menu:

  Actions include copy, paste, and area selection. For certain coefficient types, you can switch the display format.
  - Format: **Normal coefficient** or **Low-layer coefficient** (default range: 0~1, not editable).
  - For the chip low brightness coefficient, right-click **Coefficient format** to change the display format.

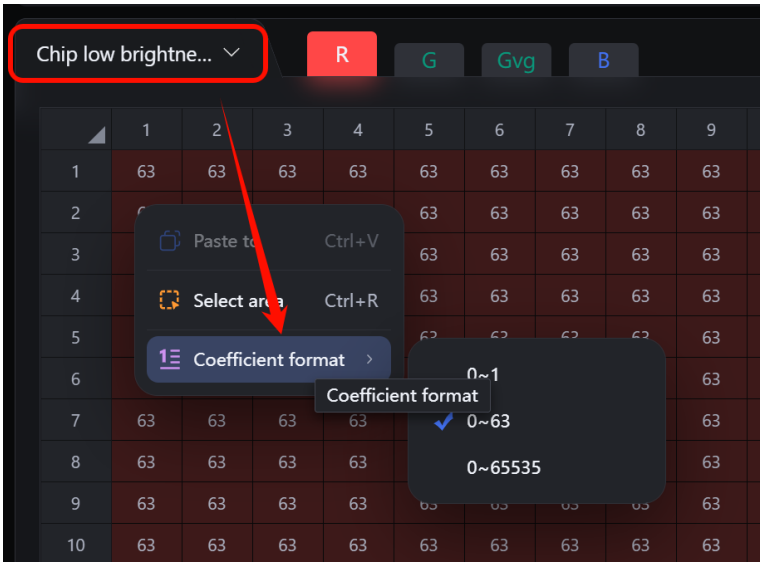


Fig 8.2.14 Coefficient format

NOTE

When switching the format from 0~1 to 0~63, the coefficient is converted as follows:

Extended coefficient = original coefficient × 64.

(In the 0~63 format, the coefficient adjustment step size is 1. The value is rounded to the nearest integer.)

The shortcut keys for the coefficient area are described in the table below.

Table 8.2-4 Coefficient area shortcuts

Shortcut	Description
Ctrl+A	Select all pixels and the coefficient editing dialog appears.
Ctrl+C	Copy the selected pixels.
Ctrl+V	Paste the copied coefficients to the current position.
Ctrl+R	Quickly open the area selection window.

Bottom status bar

Display calibration mode and source status.

- When calibration is disabled, the text turns red: Calibration off
- When the calibration mode does not match the current interface, the text turns red: Chroma(from receiver)
- In normal status, the text is displayed in green: Brightness(from receiver)
- When **Simulate by PC** is enabled: Simulate by PC(Calibration off)

8.3 Edit by Receiver

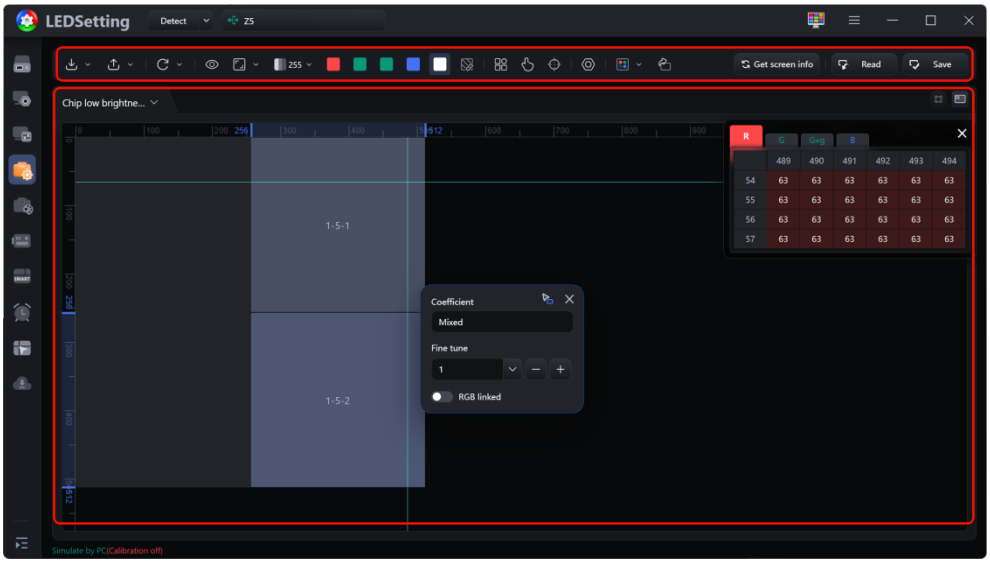


Fig 8.3.1 Edit by receiver

Toolbar

Functions: Import, Export, Show/Hide screen, Screen size, Switch screen color, Grayscale, Coefficient rotation, Calibration settings. Refer to Section 8.2 Edit by Pixel.

Other functions are listed below.

Table 8.3-1 Edit by receiver

Item	Description
	Open the **Module size** popup to set width and height.
	Click to select receivers. Selected receivers are highlighted.
	Display a cross cursor in the coefficient adjustment area. Coefficients at the cursor position are shown in the preview area.

- **Module size:** When enabled, all receivers are divided into multiple modules based on the specified width and height.

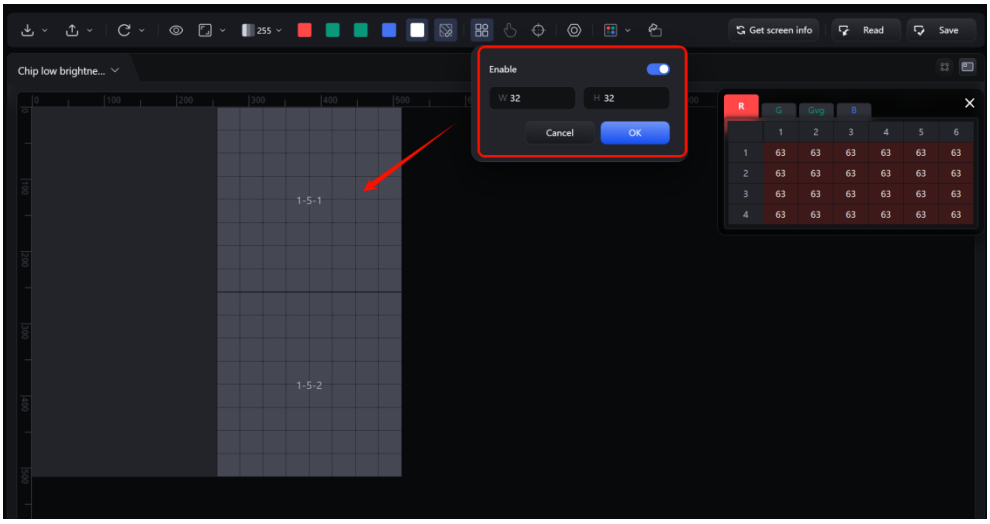


Fig 8.3.2 Set module size

Coefficient adjustment area

- Context menu (**Module size** disabled):

  Select the desired receiver area and right-click to open the menu.

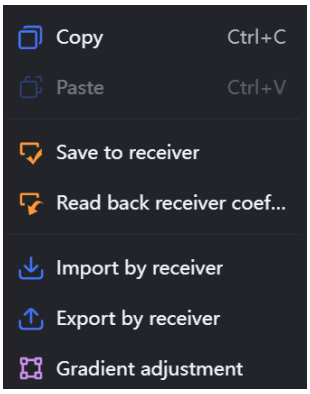


Fig 8.3.3 Receiver context menu

The options in the receiver context menu are described below.

Table 8.3-2 Receiver context menu

Item	Description
Copy	Copy the real-time coefficients from the selected receiver area.
Paste	Paste the copied real-time coefficients.
Save to receiver	Save the current coefficient type to the selected receiver.
Read back receiver coefficients	Read back the coefficients from the selected receiver.
Import by receiver	Import coefficients to the selected receiver area.
Export by receiver	Export coefficients from the selected receiver area and save them to a local file.

Gradient adjustment	Perform gradient adjustment on the coefficients of the selected receiver area (Virtual Screen Calibration must be disabled).

- Context menu (**Module size** enabled):

  Select the desired receiver area and right-click to open the menu.

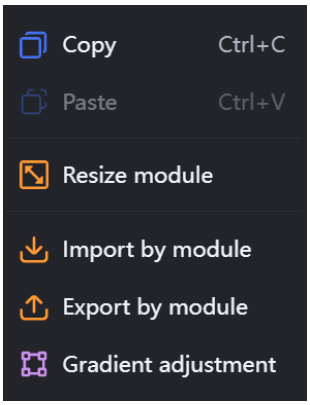


Fig 8.3.4 Module context menu

The options in the module context menu are described below.

Table 8.3-3 Module context menu

Item	Description
Copy	Copy the real-time coefficients from the selected receiver area.
Paste	Paste the copied real-time coefficients.
Resize module	Open the **Module size** popup.
Import by module	Import the coefficients to the selected module area.
Export by Module	Export the coefficients from the selected module area and save them to a local file.
Gradient adjustment	Perform gradient adjustment on the coefficients of the selected module area.

- Coefficient editing

  Click a receiver or module to open a pop-up window for coefficient editing. Changes will be applied to the selected receiver area.

- **Gradient adjustment**

  Access **Gradient adjustment** via the right-click context menu.

  - **General Mode**: Set parameters for the top/bottom/left/right edges; calibration coefficients in the middle are auto-adjusted based on differences.
  - **Custom Mode**: Set parameters for edges, corners, and the center point; calibration coefficients are auto-adjusted into gradients based on differences.
  - Click **Apply gradient coefficients** (top-right) to transfer the gradient values to the calibration coefficient and reset the gradient parameters.

Fig 8.3.5 Gradient adjustment

8.4 Deseam

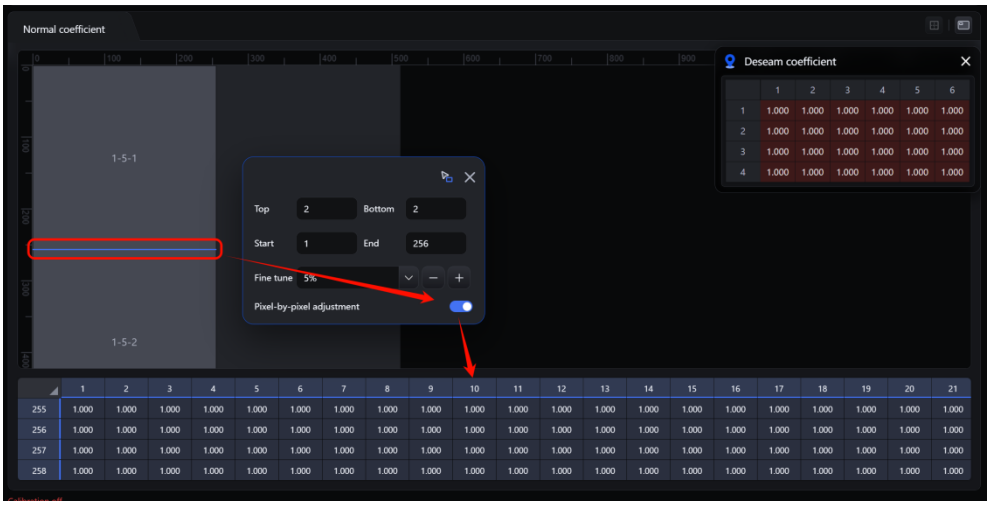


Fig 8.4.1 Brightness calibration – Deseam

Toolbar

(Refer to Sections 8.2 Edit by Pixel and 8.3 Edit by Receiver for details)

- **Reset**: Reset the deseam coefficients of all seams or selected seams
- **Apply deseam coefficients**: After adjusting the coefficients for the selected seam, apply the deseam coefficients to the calibration coefficients.

Coefficient adjustment area

- Deseam settings: Select seams to adjust the deseam range and coefficients.

Fig 8.4.2 Brightness calibration – Deseam

- Deseam range settings:
  - Horizontal seam: Set the **Top-Bottom** height (in pixel rows).
  - Vertical seam: Set **Left-Right** width (in pixel columns).
  - **Start-End** coordinate fields define the seam position.
- **Pixel-by-pixel adjustment**: Disabled by default. When enabled, detailed pixel information for the selected seams is displayed. Cell interaction rules are the same as in the **Edit by pixel** interface.

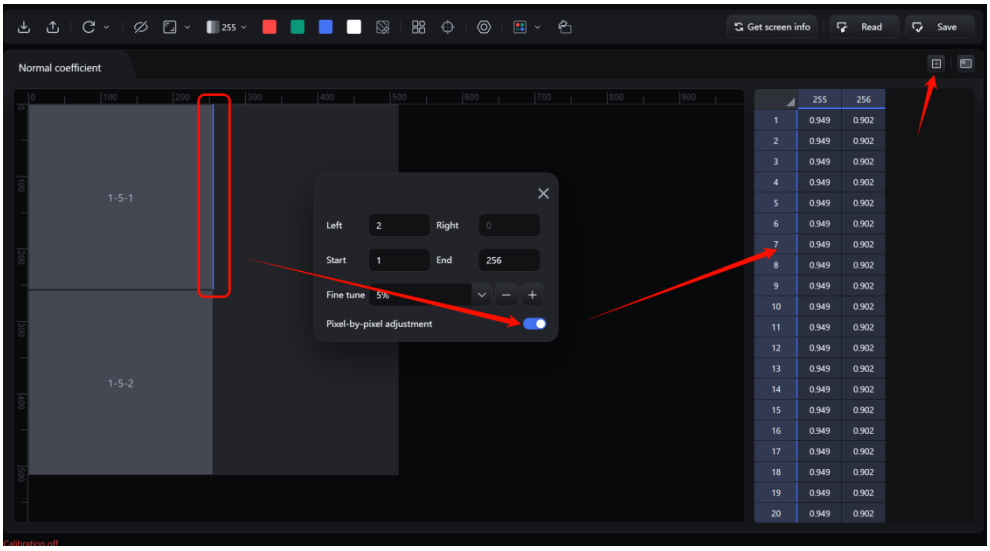


Fig 8.4.3 Pixel-by-pixel adjustment

- Context menu: Select a seam and right-click to open the context menu.

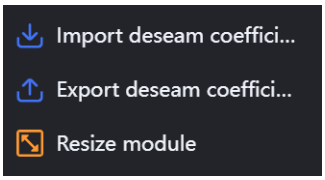


Fig 8.4.4 Seam context menu

The options in the seam context menu are described below.

Table 8.4-1 Seam context menu

Item	Description

Resize module	Open the **Module size** pop-up window.
Import deseam coefficients	Import deseam coefficients to the position where the selected seam is located.
Export deseam coefficients	Export deseam coefficients to a local file.

📖 *NOTE*

The exported deseam coefficients include seam positions. When importing these coefficients, ensure they are applied to the corresponding positions to maintain accuracy.

- Seam selection: Select one or multiple seams for adjustment.
  - Click to select a single seam.

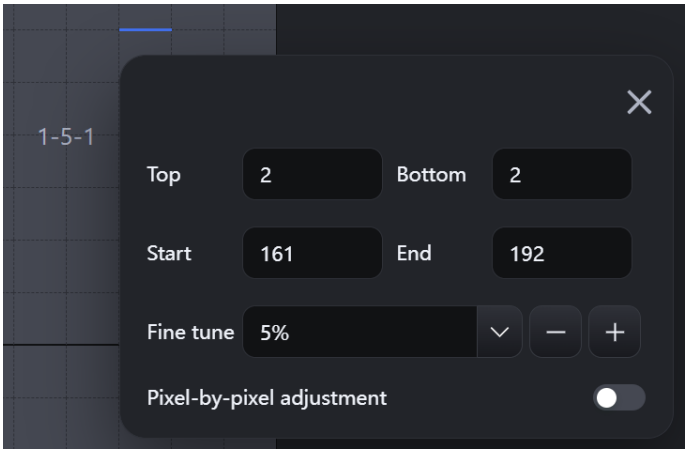


Fig 8.4.5 Select a single seam

  - Use Ctrl to select multiple seams (**Pixel-by-pixel adjustment** and **Start**/**End** editing are unavailable).

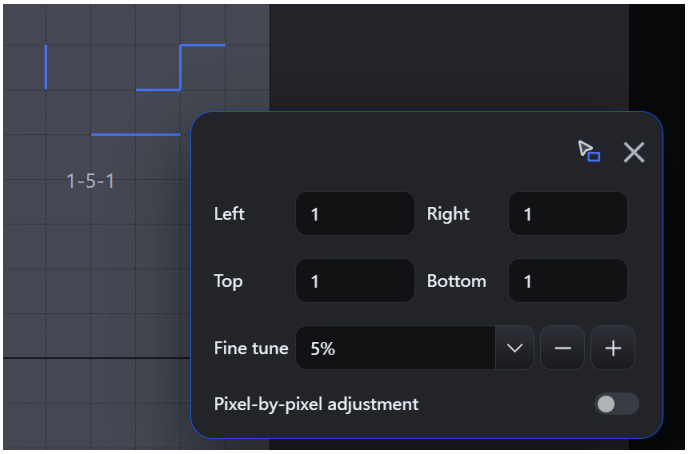


Fig 8.4.6 Use Ctrl to select multiple seams

  - Hold down the left mouse button and drag to box-select multiple seams.

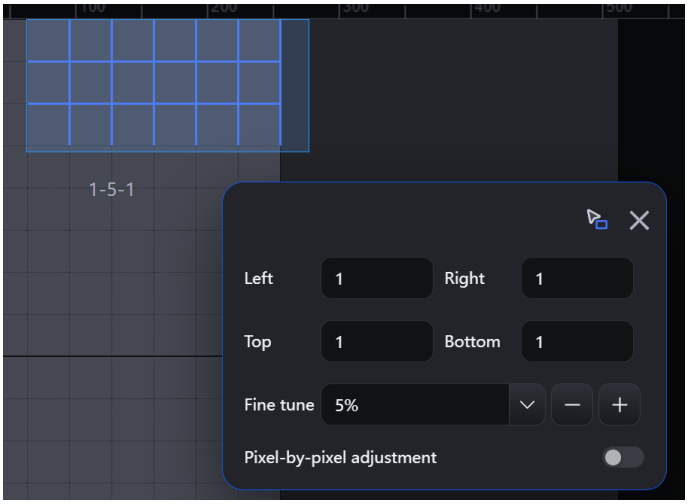


Fig 8.4.7 Box-select multiple seams

9. Chroma Coefficient Adjustment

Chroma calibration uses chroma compensation to adjust one primary color with the other two via color mixing. It includes nine components: Rr, Rg, Rb, Gr, Gg, Gb, Br, Bg, and Bb. This chapter covers **Color gamut adjustment** and **Batch adjustments** only. See Chapter 8 for other functions.

9.1 Color Gamut Adjustment

To open the **Color gamut adjustment** interface, go to the **Edit by pixel** tab and click .

Step 1 Use the **Original values after calibration** table to obtain the original gamut of the display. You can set the original gamut of the receiver by editing the table parameters, using a color meter, or importing data.

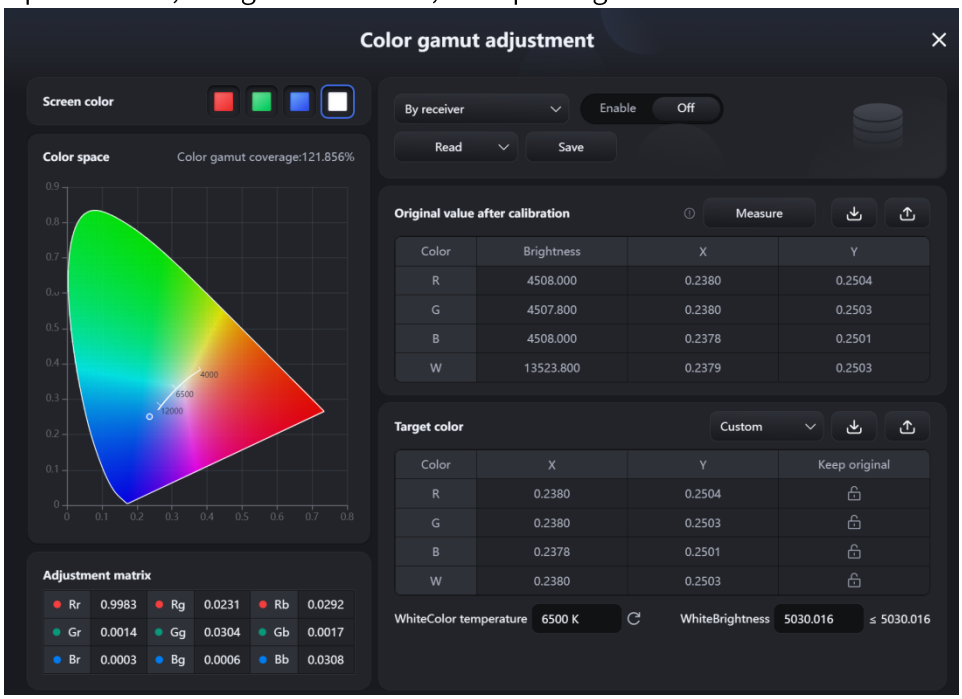


Fig 9.1.1 Color gamut adjustment

NOTE

If the screen has already been calibrated, read the calibration coefficients first. Then, enable the calibration function as needed before adjusting the color gamut.

Step 2 To set the **Target color**, you can switch between target color options, modify the table values, or import target color data.

Step 3 Click **Approximate value**, and then click to reset the value to 6500K. Adjust the **White color temperature** and **White brightness**; the system will then generate the adjustment matrix automatically.

Step 4 Select between **By receiver** and **By coefficients**.

- **By receiver**: Click **Enable**, then click **Save** to complete the receiver color gamut adjustment. Check the screen to see the updated effect.

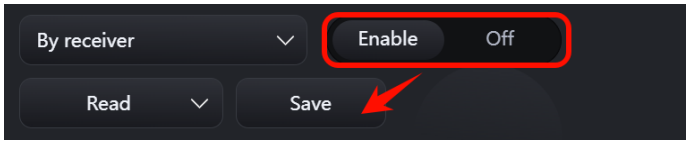


Fig 9.1.2 Adjustment by receiver

- **By coefficients:** Click **Apply to calibration coeffs** to enable chroma calibration and save the calibration coefficients. Then check the screen to see the updated effect.

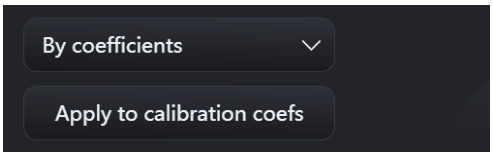


Fig 9.1.3 By coefficients

9.2 Batch Adjustment

Go to the **Edit by receiver** tab and click . Select **Batch settings** or **Apply in batch**.

Step 1 Click **Batch settings** to open the **Batch adjustment** interface, where you can select adjustment modes, add batches, or edit batch information by modifying values or importing data.

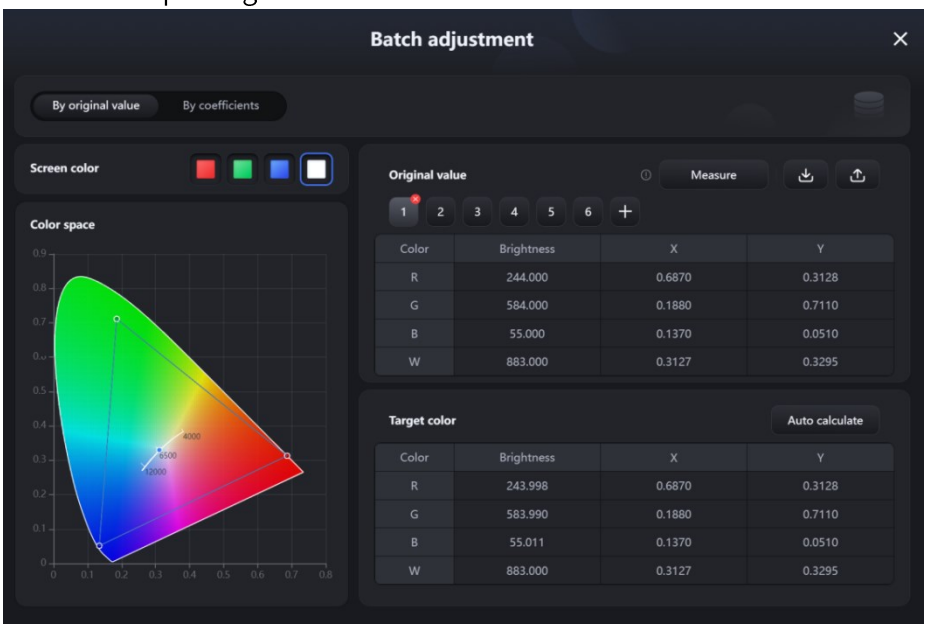


Fig 9.2.1 Batch adjustment

NOTE

If the screen has already been calibrated, read the calibration coefficients first. Then, enable the calibration function as needed before batch adjustment.

Step 2 Close the **Batch adjustment** window, click , and select **Apply in batch**. Then click a receiver to set it as the target batch.

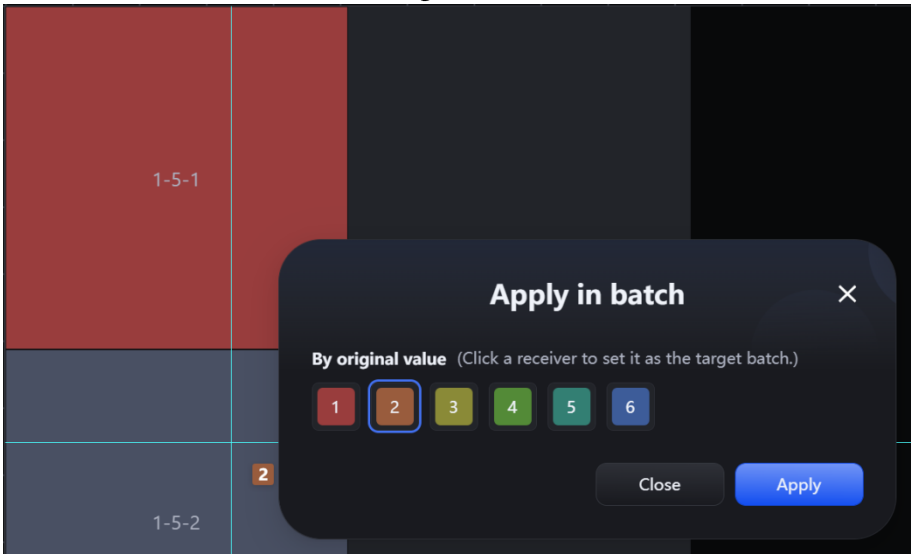


Fig 9.2.2 Apply in batch

9.3 Other Calibration

9.3.1 Multi-Layer Calibration

Brightness calibration

Step 1 Go to **Screen Parameters**>**Calibration**, enable **Low layer gray** and **High layer gray**, set the thresholds, and then save the parameters to the receiver.

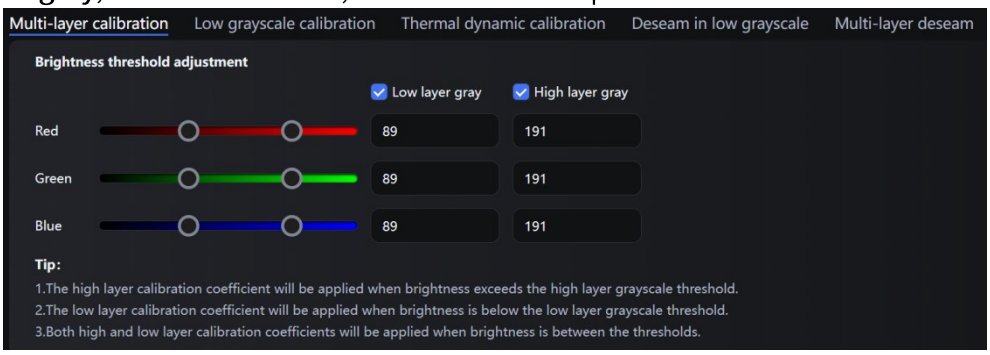


Fig 9.3.1.1 Enable multi-layer calibration

Step 2 Click **Edit by pixel**, and then click **Get screen info**. In the **Save** window, select **Normal coefficient** and **Low layer coefficient**, then click **OK**.

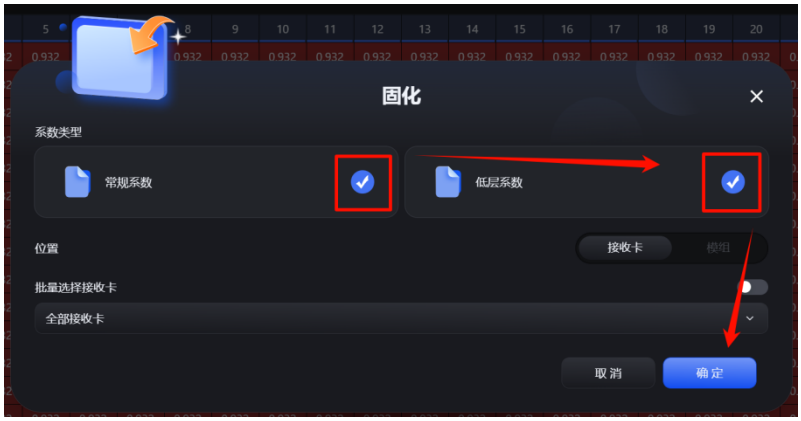


Fig 9.3.1.2 Save high/low layer coefficient

Step 3 Set the grayscale threshold range,and ensure that **High-layer calibration** and **Low-layer calibration** are enabled in the calibration settings. Then check the screen display effect.

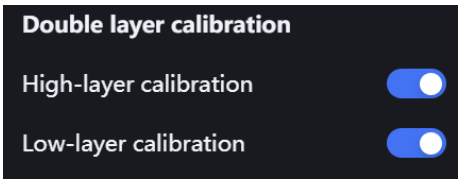


Fig 9.3.1.3 Enable double layer calibration

Chroma calibration

When **Double layer calibration** is enabled, either **High layer first** or **Low layer first** can be selected in chroma calibration.

- Display effect of the main components Rr, Gg, and Bb: The output is determined by the defined threshold settings.
- Display effect of the minor components Rg, Rb, Gr, Gb, Br, and Bg:
  - In Low layer first mode, the minor components use only the low layer calibration coefficients.
  - In High layer first mode, the minor components use only the high layer calibration coefficients.

9.3.2 Chip Low Brightness Calibration

Step 1 Click **Get screen info** and set calibration coefficients. In the **Save** window, select **Chip low brightness compensation coefficient**, then click **OK**.

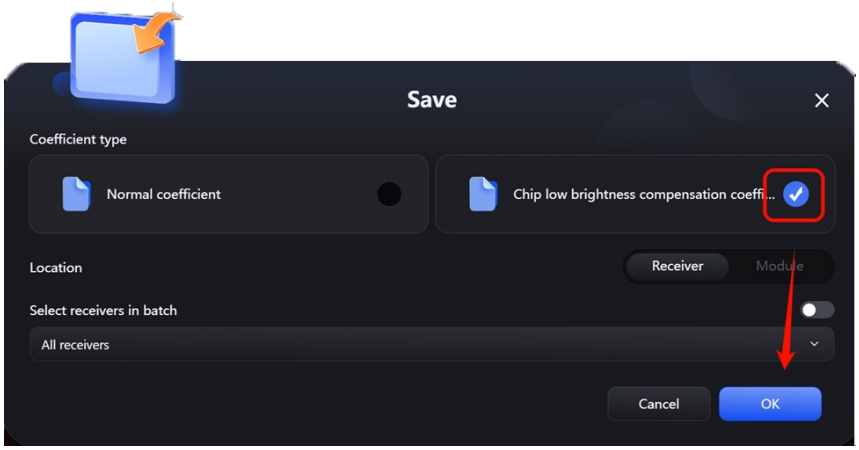


Fig 9.3.2.1 Save chip low brightness compensation coefficient

Step 2 Open the **Calibration settings** window, select **Chip low brightness calibration**, and switch to the **Chip low brightness calibration** to view the corresponding parameters.

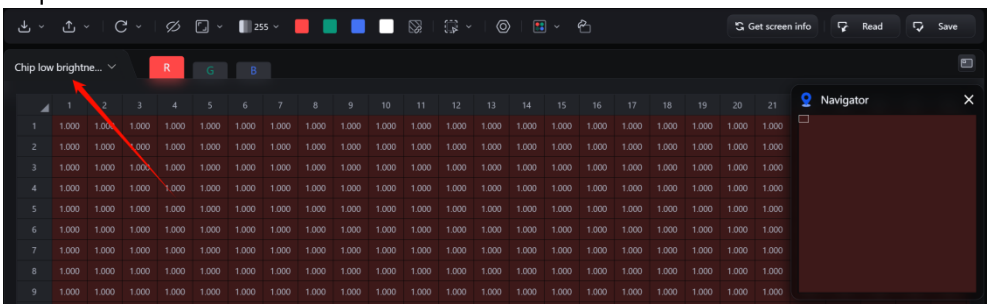


Fig 9.3.2.2 Enable chip low brightness calibration

Step 3 Lower the canvas grayscale and check the display to observe the effect of the chip low brightness coefficients.

9.3.3 Sender Cascade Calibration

Step 1 When multiple senders are cascaded, go to the calibration page, configure the **Sender offset settings**, and click **OK** to save the offsets.

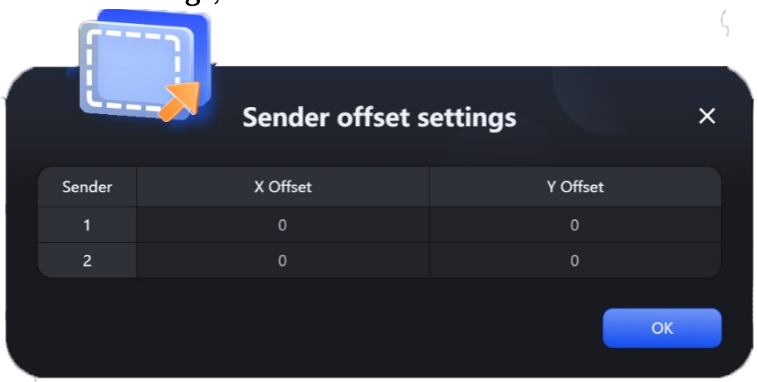


Fig 9.3.3.1 Sender offset settings

Step 2 Click **Get screen info** and  to set the calibration screen size and position based on the actual display.

Step 3 Select the calibration coefficient type and format.

Step 4 Import the calibration coefficients, or configure them in the coefficient adjustment area.

Step 5 Click  to open the **Calibration settings** window, and select the calibration source and calibration mode as required.

Step 6 In the **Save** interface, configure the coefficients for the sender and receiver, then start the saving process. After completion, check the effect on the corresponding LED display.

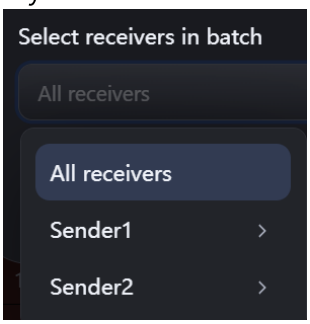


Fig 9.3.3.2 Save coefficients for senders

10. Accessories

10.1 Multi-Function Card

The multi-function card iM9 is an essential accessory used with Colorlight senders for real-time environmental monitoring and remote control.

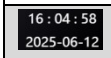
Multi-function card list

This interface displays all connected multi-function cards in sequence.

Fig 10.1.1 Multi-function card list

The multi-function card list is described in the table below.

Table 10.1-1 Multi-function card list

Item	Description
	Switch between multi-function cards; the interface will display information for the selected card.
	Internal clock time of the multi-function card.
	Synchronize the multi-function card's clock with the computer's local time.
	Restore the selected multi-function card to factory settings.
	Connected sender and Ethernet port number.
Search	Detect and refresh the list of multi-function cards.

10.1.1 Sensor Information

The **Sensor information** tab contains **Onboard** and **Expansion sensor**.

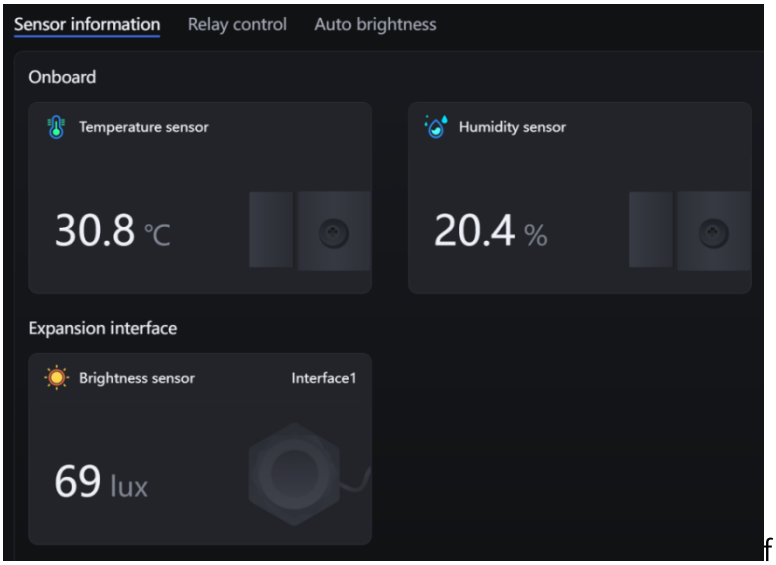


Fig 10.1.1.1 Sensor information

Onboard sensor

Supports temperature and humidity monitoring. The software automatically retrieves data from the onboard sensors.

External sensor

The **Expansion interface** is described in the table below.

Table 10.1-2 Expansion interface

Item	Description
Name	External sensor name and icon.
Sensor type	Brightness, temperature, humidity, noise, smoke, and air quality.
Data	Detected environmental values.
Interface location	Location of the external sensor interface on the multi-function card.

10.1.2 Relay Control

This function controls the multi-function card's relay to power the LED display on or off. Custom commands can be set for quick power management.

Fig 10.1.2.1 Relay control

LED screen power supply

Allows delay time configuration to control the relay's open/close state.

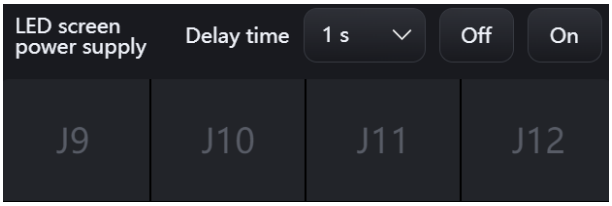


Fig 10.1.2.2 LED screen power supply

Click **Delay time** to adjust the interval for open/close operations. Click 

to control the open/close states of relays J9–J12. When the relay icon is green, it indicates the relay is currently closed.

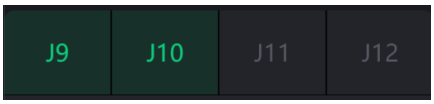


Fig 10.1.2.3 Relay status

When **Scheduled control** is enabled, you can configure scheduled control commands.

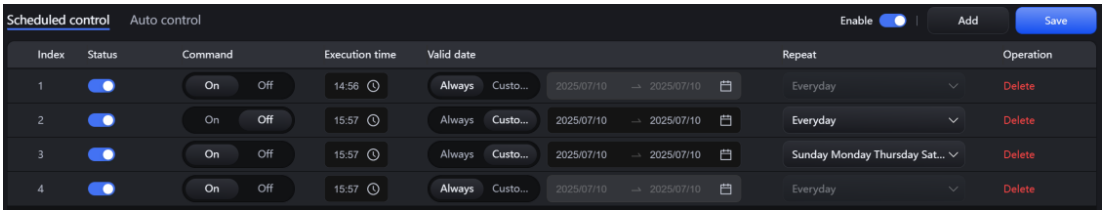


Fig 10.1.2.4 Scheduled control

The **Scheduled control** interface is described in the table below.

Table 10.1-3 Scheduled control

Item	Description
	Toggle the scheduled control. When disabled, commands cannot be edited.
Add	Add a scheduled command to the list; up to 10 commands are supported.
Save	Save the scheduled commands to the multi-function card.
Index	Display the command sequence.
Status	Enable or disable the command.
Command	Set the command action to close or open.
Execution time	Set the execution time.
Valid date	Select **Always** or **Custom**; when **Custom** is selected, set the command's active dates.
Repeat	Select which days the command runs; default is everyday.
Operation	Click **Delete** to remove the scheduled command.

NOTE

Both **Valid date** and **Repeat** limit the execution time of the command. The command will only be executed when both conditions are met.

When **Auto control** is enabled, configure automatic control commands.

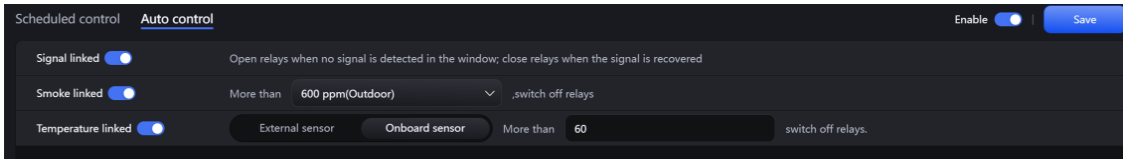


Fig 10.1.2.5 Auto control

The **Auto control** interface is described in the table below.

Table 10.1-4 Auto control

Item	Description
Enable	When disabled, commands cannot be edited.
Signal linked	When enabled, the relay automatically disconnects if no signal is detected.
Smoke linked	When enabled, the relay automatically disconnects based on the detected smoke level. An external smoke sensor is required.
Temperature linked	When enabled, the relay automatically disconnects based on the detected temperature. The temperature source can be switched.

After configuring the scheduled and auto control commands, click **Save** to apply and activate the settings.

Relay J13-J16

Click Off On to set the relay to open and closed states. When **Auto control** is enabled, set automatic control commands for the specified relays. Command settings are consistent with those for the screen power control. (Relays J13–J16 do not support "Signal linked".)

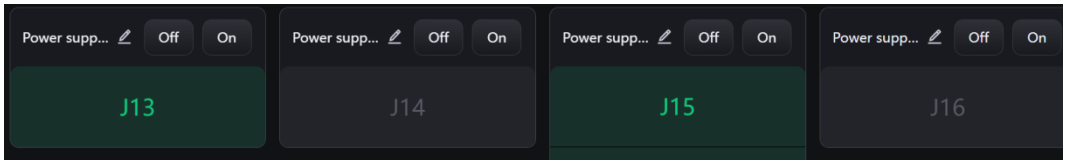


Fig 10.1.2.6 Relay J13-16 interface

10.1.3 Auto Brightness

Enable **Auto brightness** first. You can also set the brightness that will be used when ambient illuminance cannot be detected.

Fig 10.1.3.1 Enable auto brightness

The **Auto brightness** interface is described in the table below.

Table 10.1-4 Auto brightness

Item	Description
	Toggle **Auto brightness**. When enabled, manual brightness is ineffective.
Linear	Default mode; the adjustment curve is in linear form.
Gamma	The adjustment curve follows a gamma pattern.
Inverse gamma	The adjustment curve follows an inverse gamma pattern.
Custom	Customize brightness levels independently.
	Restore the curve to the default shape for the selected mode.

In the curve adjustment panel, the horizontal axis represents ambient illuminance, and the vertical axis represents the screen brightness. Drag the anchor points to modify the shape of the automatic brightness adjustment curve.

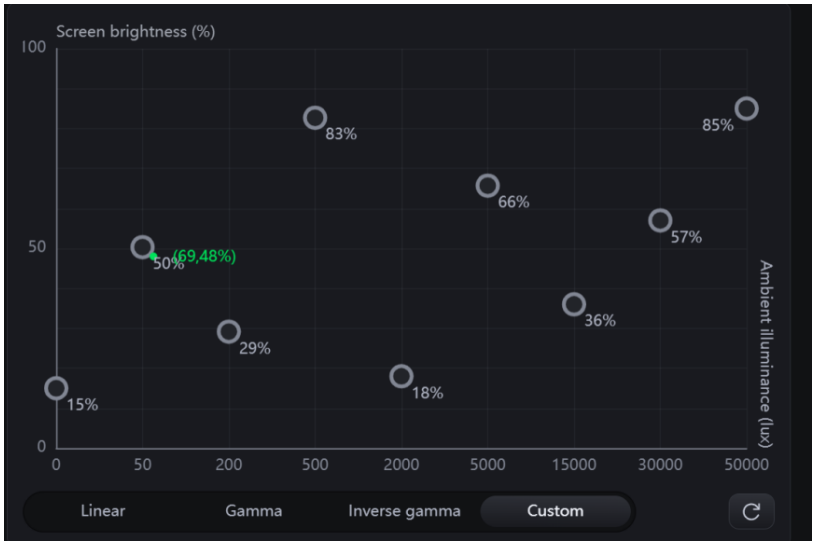


Fig 10.1.3.2 Curve adjustment panel - Custom

10.2 3D Box

This function detects 3D box type, connection status, program type, board temperature, and other information.

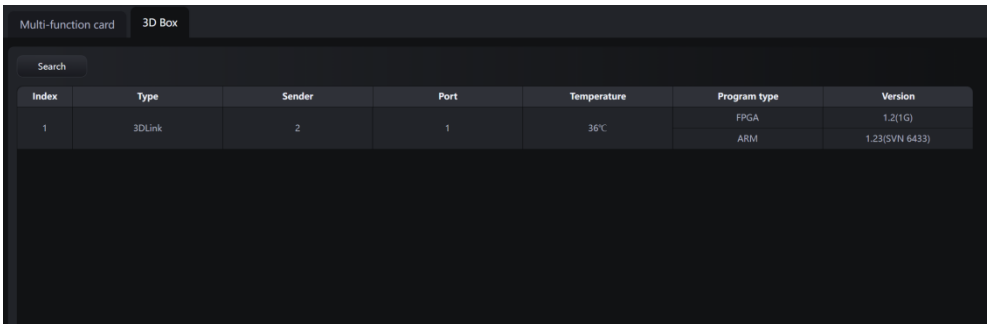


Fig 10.2.1 Detecting 3D Box

📖 *NOTE*

The LEDSetting does not support 3D Box detection when connected to the sender via LAN.

11. Smart Module

Click **Smart module** in the navigation bar to open the Smart module interface, where you can view module connection status and edit smart module label information.

Prerequisite: In **Screen config**>**Screen parameters**>**Smart module settings**, ensure the smart modules are correctly configured and the parameters are saved to the receivers.

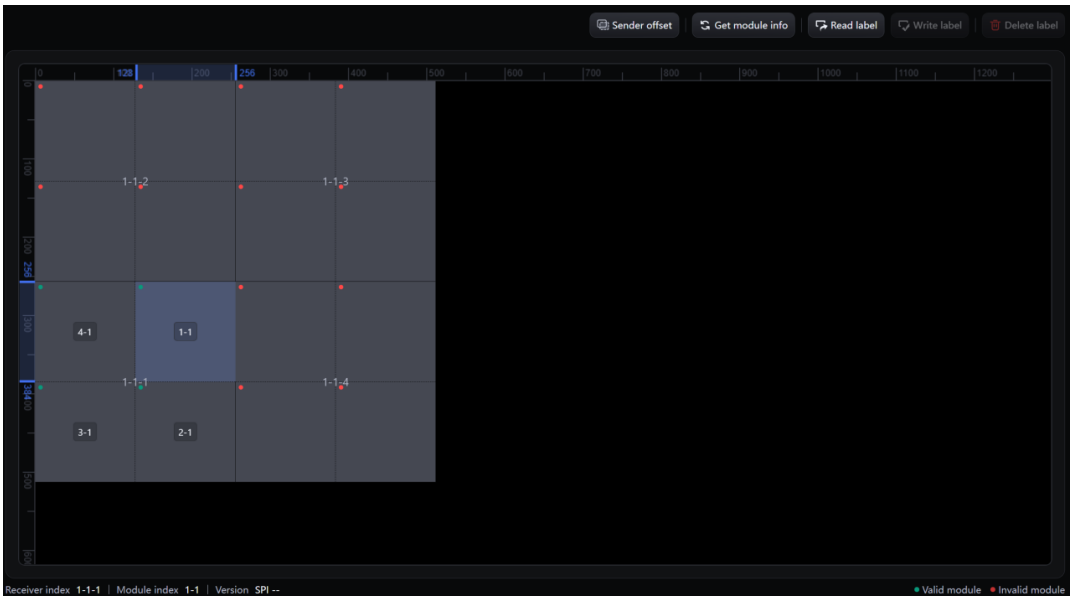


Fig 11.1 Smart module information

Toolbar

The toolbar at the top of the interface contains the following buttons:

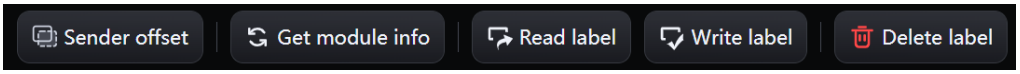


Fig 11.2 Smart module toolbar

The toolbar is described in the table below.

Table 11-1 Smart module toolbar

Item	Description
Sender offset	When cascading senders, configure the sender offset. See Section 9.3.3 Sender Cascade Calibration.
Get module info	Retrieve the current module information and refresh the overall interface.
Read label	Retrieve all module labels. The label editing area will display the label information of the selected module.
Write label	Click and then enter the password to write the label to the module.
Delete label	Delete all labels from the modules.

🕮 *NOTE*

By default, the label editing panel is hidden. It appears only after clicking **Read label**.

Editing area

Receivers and their corresponding smart module are arranged according to the topology.

- Module status is shown in the upper-left corner:  indicates valid, and  indicates invalid.
- Tab status is shown in the upper-left corner:  indicates the tab has been written, and  indicates it has been edited but no saved.

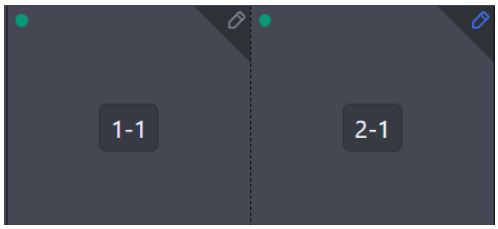


Fig 11.3 Tab status

Click the module tab to edit tab information.

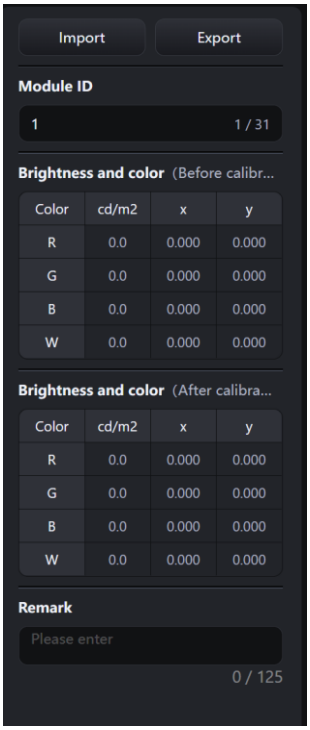


Fig 11.4 Tab editing

The tab editing interface is described in the table below.

Table 11-2 Tab editing

Item	Description
Import	Import the label file.
Export	Export the label information.
Module ID	Enter the module ID (maximum 31 characters).
Brightness and color (Before calibration)	Edit brightness and color parameters before calibration.
Brightness and color (After calibration)	Edit brightness and color parameters after calibration.
Remark	Enter remarks (maximum 125 characters).

Click **Write label** after tab editing to save the changes.

Status bar

- **Receiver index, Module index, and Version**: By default, the label with the smallest index is selected. When a different module is selected, the index and version update accordingly.
- Tab status (**Written**/**Edited**)and module status (**Valid**/**Invalid module**).

Fig 11.5 Status bar

12. Scheduled Command

To use this function, the software must remain running, and the devices must stay connected.

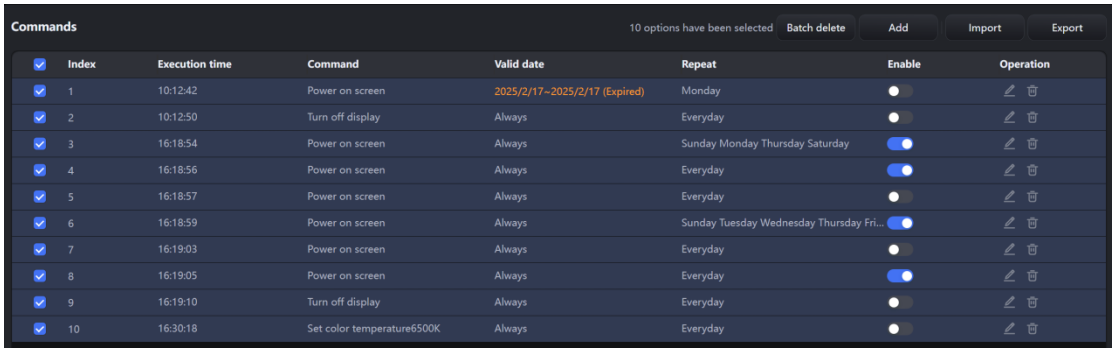


Fig 12.1 Scheduled commands

Toolbar

The toolbar is described in the table below.

Table 12-1 Scheduled commands toolbar

Item	Description
Batch delete	Delete all selected scheduled commands.
Add	Open the **Add** window where you can edit and add commands.
Import	Import scheduled commands from a local file.
Export	Export the current commands to a local file.

In the **Add** window, you can set **Execution time** and **Command**, **Valid date**, and **Repeat**.

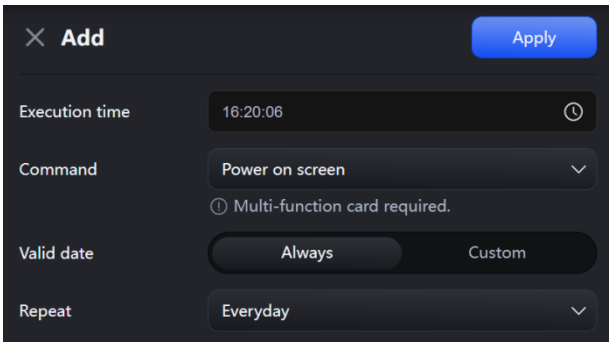


Fig 12.2 The **Add** window

The **Add** window is described in the table below.

Table 12-2 Add window

Item	Description
Execution time	Set execution time (accurate to the second).
Command	**Power on/off screen:** Works with the multi-function card to control the LED display power relay. **Blackout/Disable blackout**: Enable or disable black screen mode. **Set screen brightness/color temperature**: Adjust the sender's brightness and color temperature.
Valid date	**Always/Custom:** When **Custom** is selected, set the date when the command is active
Repeat	Set the frequency of command repetition.
Apply	Apply the change.

NOTE

- Both **Valid date** and **Repeat** limit the execution time of the command. The command will only be executed when both conditions are met.
- The **Power on/off screen** commands require a multi-function card. If no card is detected, the software will display an error message.

Command list

The command list interface is described in the table below.

Table 12-3 Command list

Item	Description
Checkbox	Select to enable batch deletion of commands.
Index	Command sequence index.
Execution time	Scheduled execution time, accurate to the second.
Command	Command content.
Valid date	Can be set to specific weekdays or everyday.
Repeat	Set the frequency of command repetition.
Enable	Enable or disable the command.
	Edit the command.
	Delete the command.

13. Advanced Deseam

The purpose of deseam is to ensure uniform brightness across the entire display. The software supports deseam or advanced deseam. Deseam adjusts the receiver's calibration coefficients, while advanced deseam operates independently and does not modify the calibration coefficients.

Quick start

Prerequisite: Both the sender and receivers must support the **Advanced deseam**.

Step 1 Go to the **Advanced deseam** interface and click **Get screen info**.

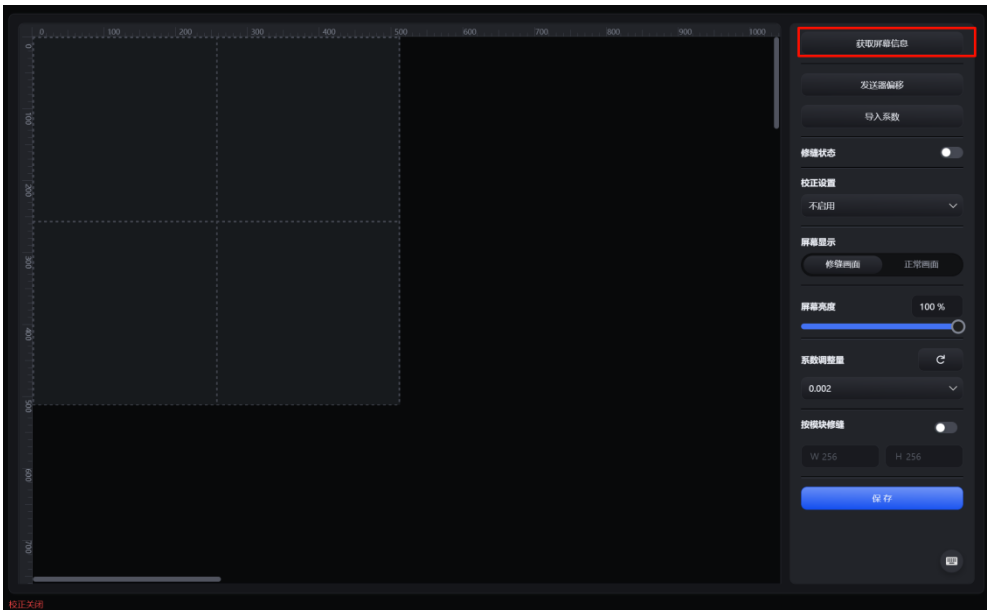


Fig 13.1 Get screen info

Step 2 Enable **Seam correction** and set **Screen view**.

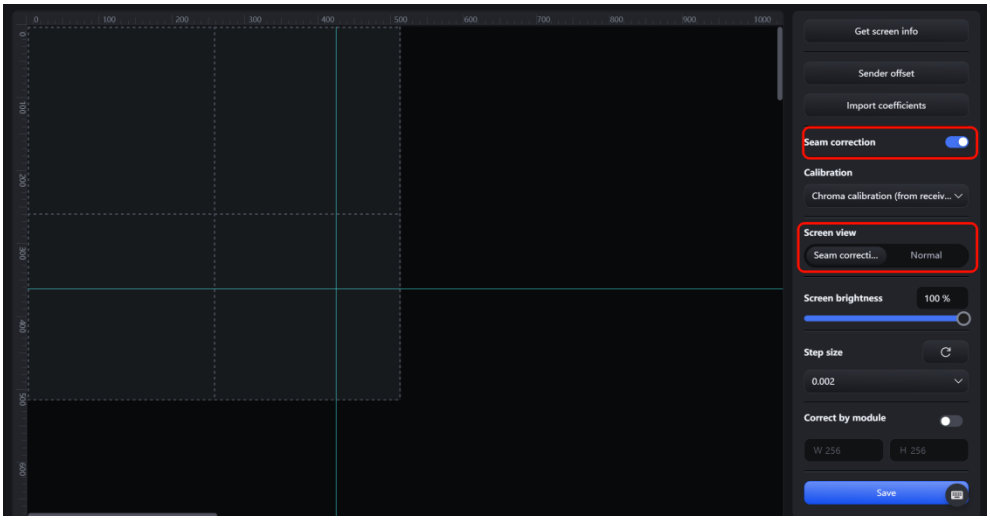


Fig 13.2 Enable **Seam correction**

Step 3 To set the module size, click the seam and fine-tune the coefficients by clicking − +.

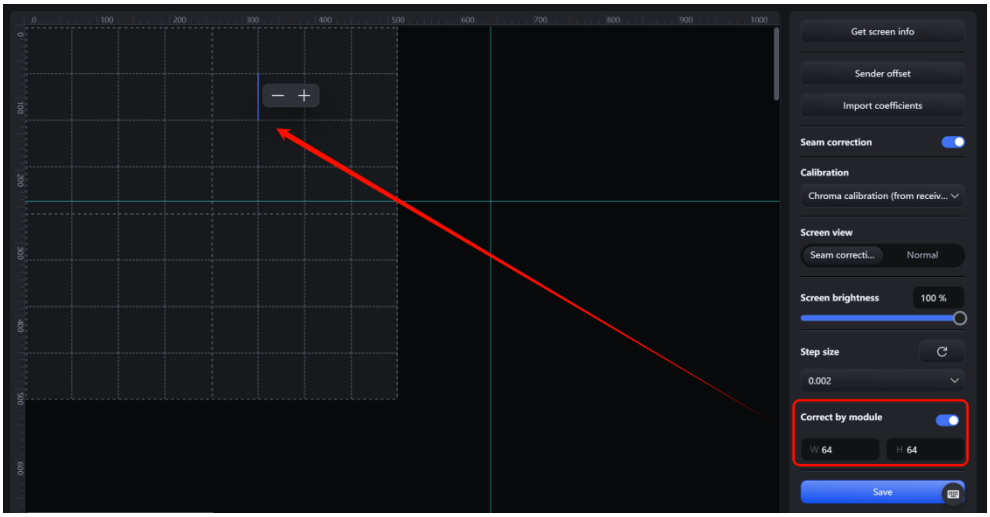


Fig 13.3 Adjust deseam coefficients

Step 4 Repeat Step 3 until all deseam coefficients are adjusted. Click **Save** to store the coefficients to the receivers, then check the display effect.

Advanced deseam panel

The advanced deseam panel is described in the table below.

Table 13-1 Advanced deseam panel

Item	Description
Get screen info	Retrieve the current screen configuration and refresh the display.
Sender offset	Set the sender's offset position.
Import coefficients	Import a deseam coefficient file; changes take effect immediately.
Screen correction	Enable or disable the deseam view on the current display.
Calibration	Select the calibration mode and source from the drop-down menu.
Screen view	Switch deseam display; show crosshair position and screen correction in real time.
Screen brightness	Adjust screen brightness to check deseam results.
Step size	Set the fine-tuning increment as needed.
Correct by module	Enable it to divide the receiver area into more adjustable seams.
Save	Send deseam coefficients to the receivers and save them.

Edit area

In the edit area on the left side of the interface, click to select a seam, or hold Ctrl to select multiple seams, then click − + to fine-tune the coefficients.

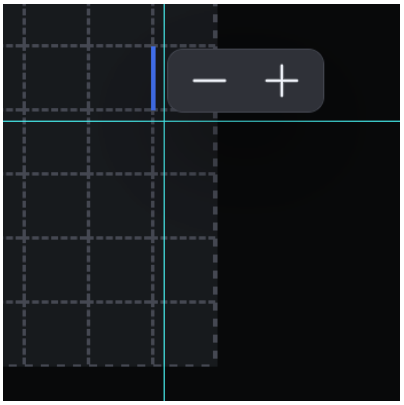


Fig 13.4 Select a single seam

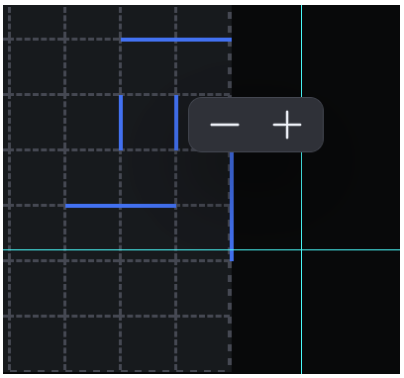


Fig 13.5 Hold Ctrl to select multiple seams

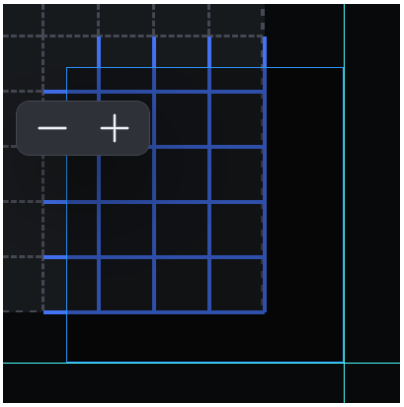


Fig 13.5 Hold Ctrl to select multiple seams

Shortcut keys:

- Use the arrow keys to navigate seams.
- Use the numeric keypad + and – to fine-tune coefficients.
- Press Ctrl+A to select all seams.
- Shortcuts are customizable.

14. Module Match

Click **Module match** to open this interface and manage coefficient files by module.

Prerequisite: The receiver firmware must support writing module UID, and the receiver parameters must be properly configured for smart modules.

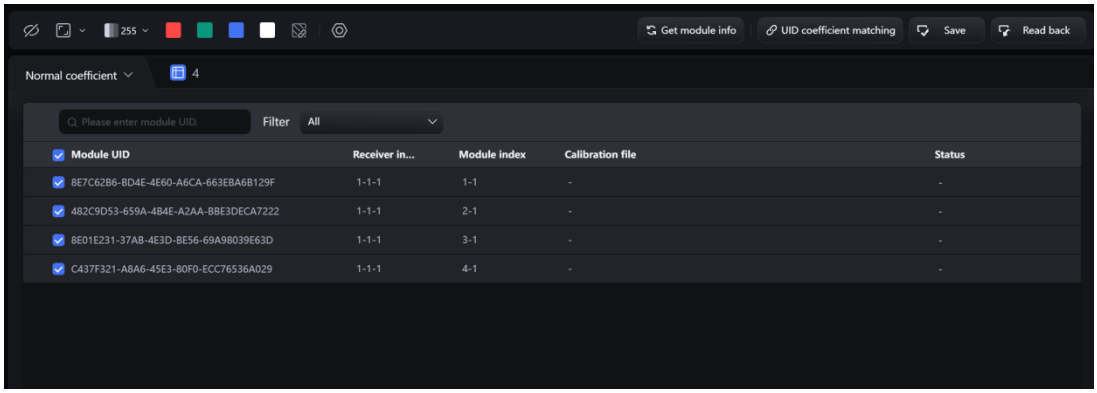


Fig 14.1 Module match

Quick start

Step 1 Click **Get module info** to detect modules and refresh the interface.

Step 2 Select **Normal coefficient** or **Low layer coefficient**, and select the desired module(s).

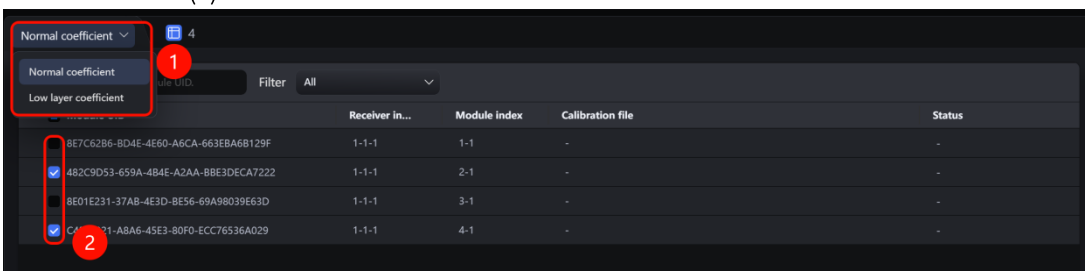


Fig 14.2 Select coefficient type and module(s)

Step 3 Click **UID coefficient matching**, then select the module coefficient file in the pop-up. Make sure to select the correct file format for brightness or chroma.

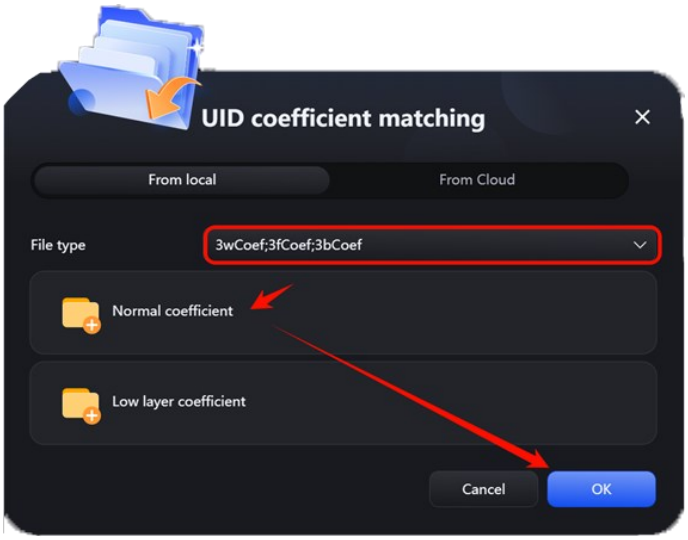


Fig 14.3 UID coefficient matching

Step 4 After a successful match, click **Save**, choose the file type, and save the coefficients to the corresponding module.

Toolbar

Refer to Section 8.2 for shared toolbar functions. The rest of the toolbar is described in the table below.

Fig 14-1 Module match toolbar

Item	Description
Get module info	Retrieve display and smart module information.
UID coefficient matching	Select parameter files from local storage or the cloud and match them to modules one by one.
Save	Save the specified type of calibration coefficients to the selected module.
Read back	Read back the specified type of calibration coefficients from the selected module and save them to a local folder.

You can choose **From local** or **From Cloud** in the **UID coefficient matching** pop-up.

- **From local**: Select the coefficient file type, choose a folder from the local device, and click **OK**. The software will automatically match the coefficient files in the folder to the selected modules.
- **From Cloud**: Make sure the coefficient files have been uploaded to the cloud as required.

Enter the **Server address**, **Username**, and **Password** to log in.

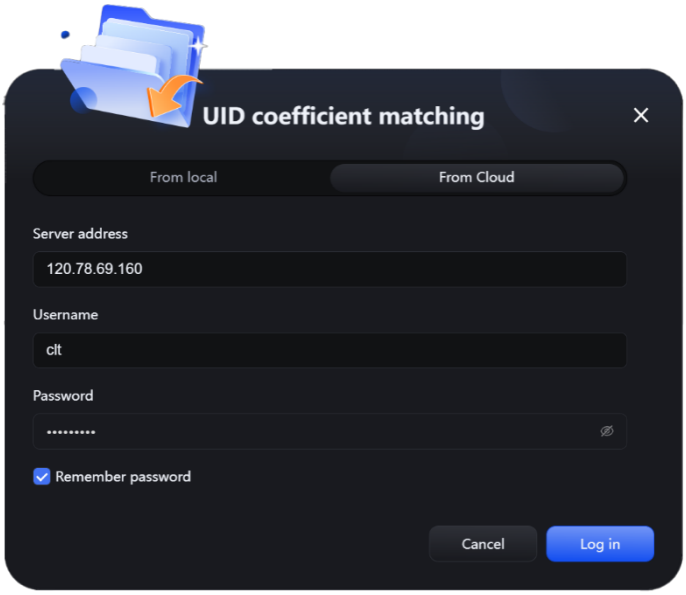


Fig 14.4 From Cloud - Log in

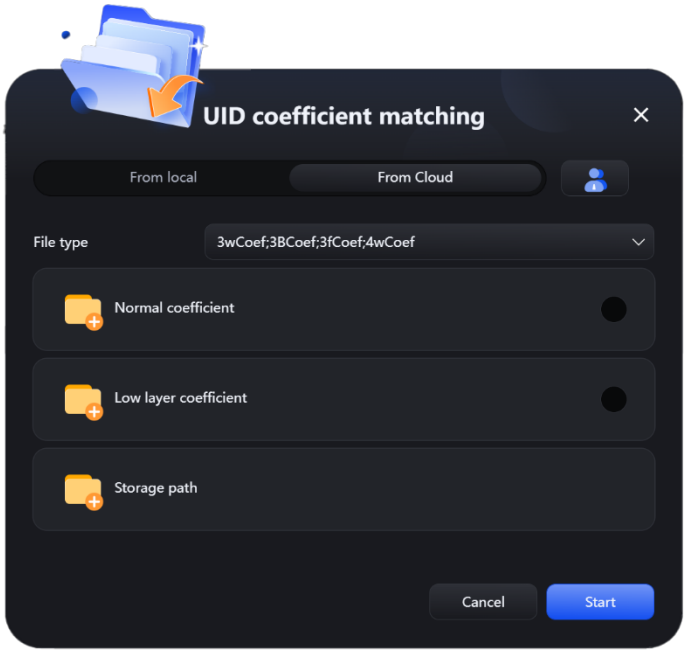


Fig 14.5 From Cloud - Select a file type

File type: Select brightness or chroma coefficient format from the drop-down.

Coefficient type: Select the coefficient type and configure its storage location. Cloud coefficients are first downloaded to the designated directory, and the matching results are displayed in the software.

User information: Click  to open the **User information** interface to view the server address and the current logged-in user.

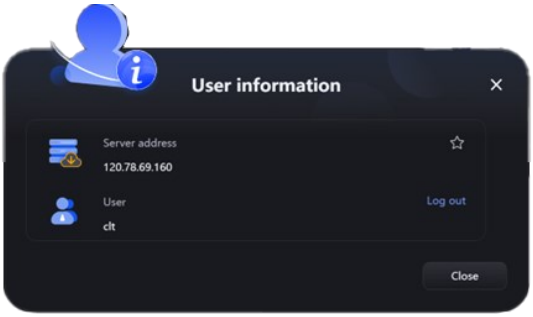


Fig 14.6 User information

Module match list

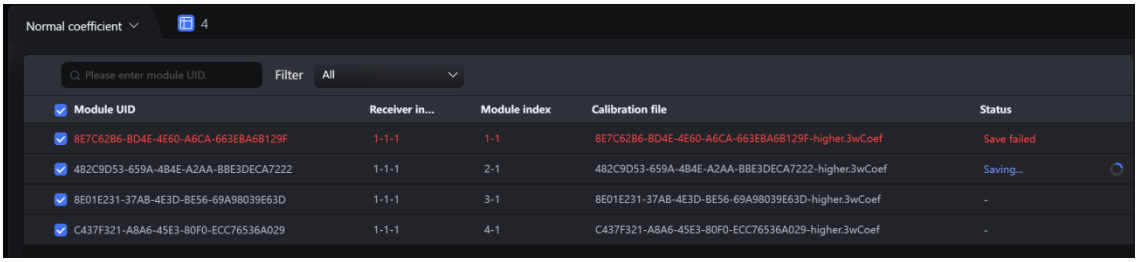


Fig 14.7 Module match list

The module match list is described in the table below.

Fig 14-2 Module match list

Item	Description
12	Total number of connected modules.
Please enter module UID.	Enter a module UID to automatically filter the list by matching UID.
Filter	Filter modules by their status.
Module UID	Module UID information.
Receiver index	Connection order: sender–Ethernet port–receiver.
Module index	Module's index on the current receiver.
Calibration file	Matched calibration coefficient file.
Status	Readback and save status.

NOTE

Filtering, saving, and readback are only available after selecting modules.

15. LEDTester

You can adjust the canvas effect and test the LED screen by modifying LEDTester parameters.

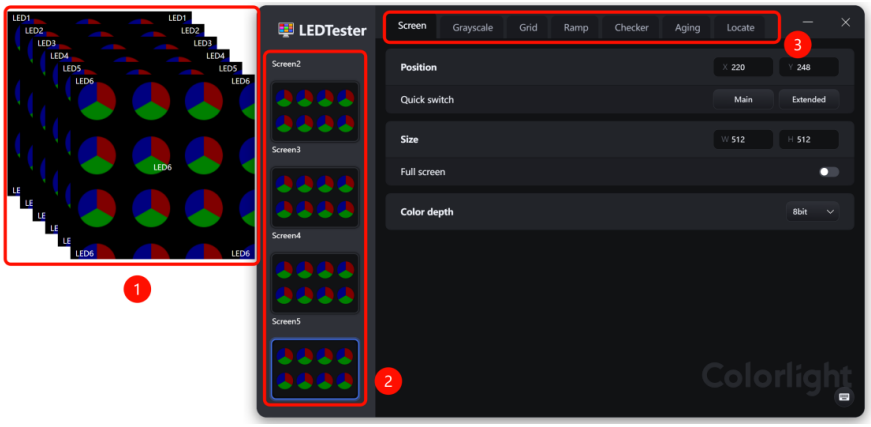


Fig 15.1 LEDTester

Screen pane: Preview the display effect, add or delete screens, and switch between different screens.

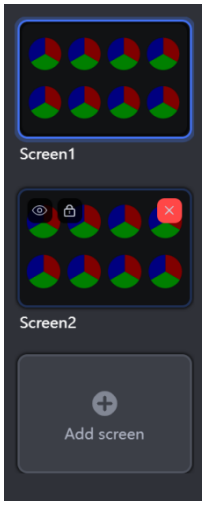


Fig 15.2 Screen pane

The screen pane is described in the table below.

Table 15-1 Screen pane

Item	Description
	Show or hide the screen.
	Lock or unlock the screen; locked screen cannot be moved.
	Delete the screen.
	Add the screen.
Screen switching	Click a screen to switch to it; its canvas is set as topmost.
	Open the shortcut key list.

Screen

Set the position and size of the canvas in this tab.

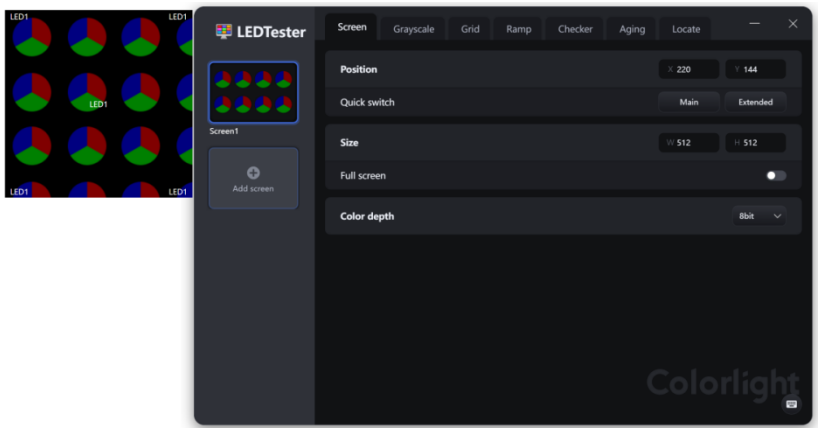


Fig 15.3 Screen

The **Screen** tab is described in the table below.

Table 15-2 Screen

Item	Description
X	Canvas horizontal position.
Y	Canvas vertical position.
W	Canvas width.
H	Canvas height.
Main screen	Set the canvas position to (0,0).
Extended screen	Move the canvas to the extended display.
Full screen	Match the canvas width/height to the PC screen resolution.

Grayscale

Set the canvas to a solid color to test the LED screen.

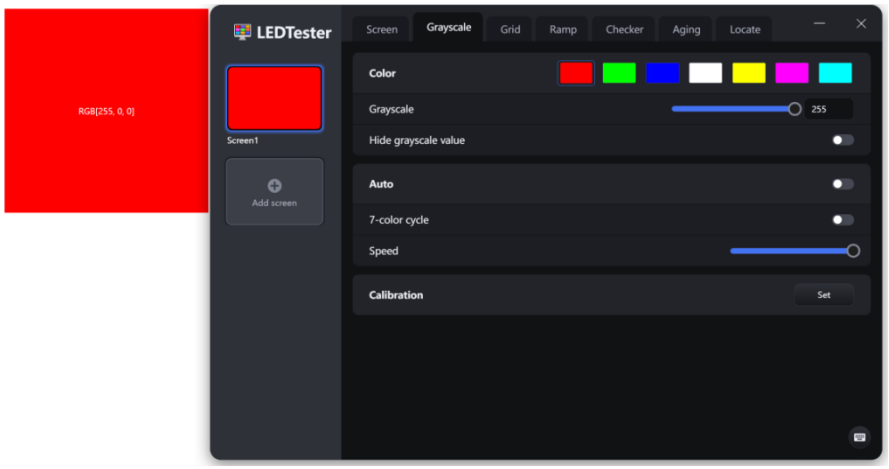


Fig 15.4 Grayscale

The **Grayscale** tab is described in the table below.

Table 15-3 Grayscale

Item	Description
Color	Click the color button to switch the canvas color.
Grayscale	Change the value or drag the slider to adjust the canvas grayscale.
Auto	When enabled, the canvas grayscale cycles automatically within the range of 0-255.
7-color cycle	When enabled, the canvas cycles grayscale by color order.
Hide grayscale value	Show or hide the grayscale value on the canvas.
Speed	Adjust the speed of automatic grayscale increments.
Calibration	Enable or disable calibration.

Grid

Set the canvas to display the grid for LED screen testing.

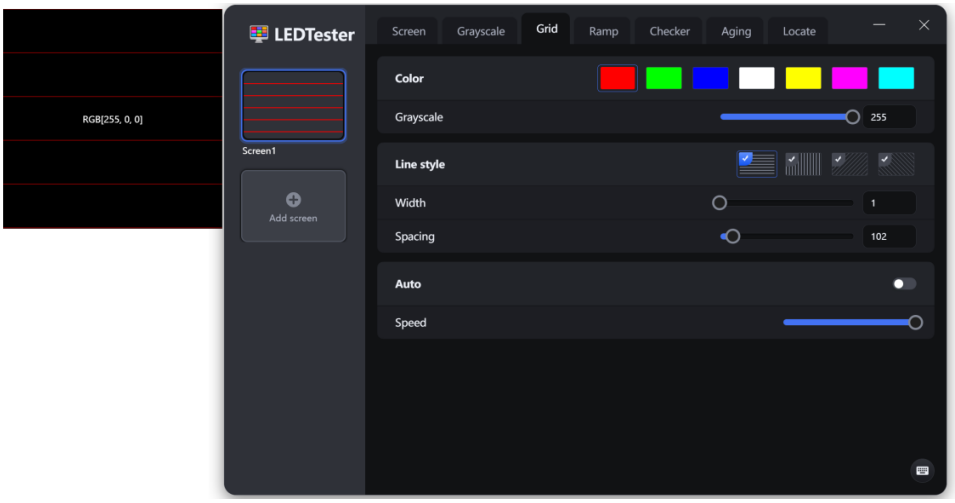


Fig 15.5 Grid

The **Grid** tab is described in the table below.

Table 15-4 Grid

Item	Description
Color	Click the color button to switch the grid color.
Grayscale	Change the value to adjust the grid grayscale.
Horizontal line	Show or hide horizontal grid lines.
Vertical line	Show or hide vertical grid lines.
Left diagonal line	Show or hide left diagonal grid lines.
Right diagonal line	Show or hide right diagonal grid lines.

Width	Change the value to adjust the grid line width.
Spacing	Change the value to adjust the spacing between grid lines.
Speed	Drag the slider to adjust the grid movement speed.

Ramp

Set the canvas to display a color ramp for LED screen testing.

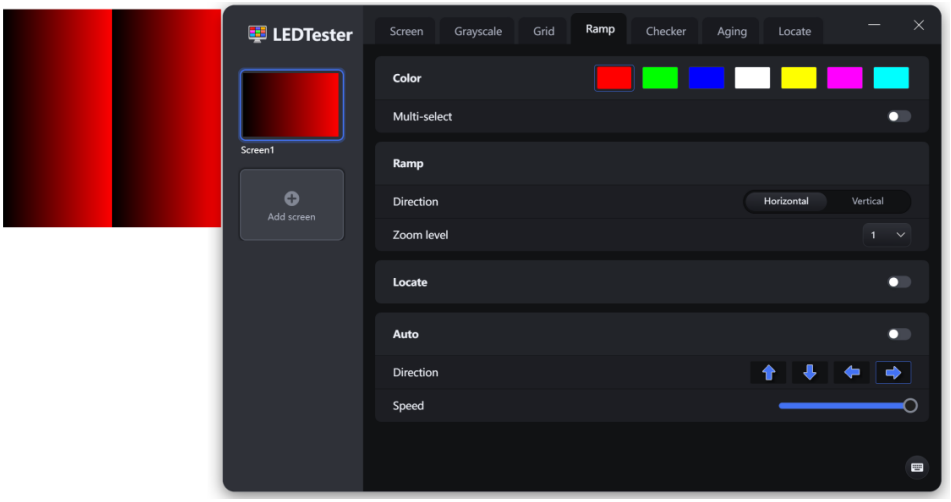


Fig 15.6 Ramp

The **Ramp** tab is described in the table below.

Table 15-5 Ramp

Item	Description
Color	Click the color button to switch the ramp color.
Muti-select	When enabled, choose multiple colors and the canvas displays ramps for each selected color.
Height	When **Muti-select** is enabled, change the value to adjust ramp height.
Zoom level	Change the value in the drop-down to adjust the number of pixels per grayscale level in the ramp.
Direction	Horizontal: The color ramp gradients from left to right in 0–255 grayscale. Vertical: The ramp gradients from top to bottom in 0–255 grayscale.
Auto-Direction	Change the ramp movement direction.
Auto-Speed	Move the slider to adjust the ramp movement speed.
Locate	When enabled, click on the canvas to add a crosshair marker. When disabled, the crosshair marker will be removed.

Checker

Set the canvas to display the checker for LED screen testing.

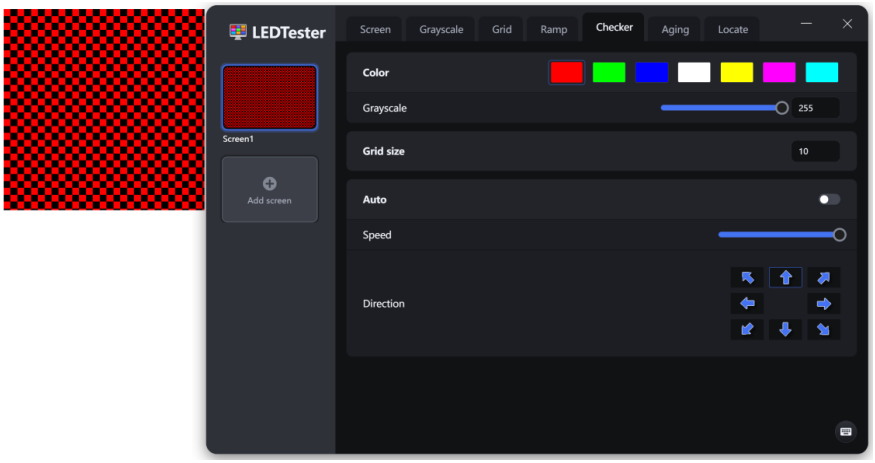


Fig 15.7 Checker

The checker tab is described in the table below.

Table 15.6 Checker

Item	Description
Color	Click the color button  to switch the checker color.
Grayscale	Modify the value or adjust the slider to set the canvas grayscale.
Grid size	Modify the value to adjust the grid size.
Auto	When enabled, the canvas starts moving automatically.
Speed	Adjust the slider to change the canvas movement speed.
Direction	8 directions available.

Aging

Set grayscale, ramps, grids, or media for LED screen aging tests.

Fig 15.8 Aging

Click **Edit** to open the **Edit test items** interface. Select the desired options to add them to the aging test. By default, the **Aging** tab only displays **Grayscale** and **Ramp**; you can

add the **Grid** and **Media** to the tab.

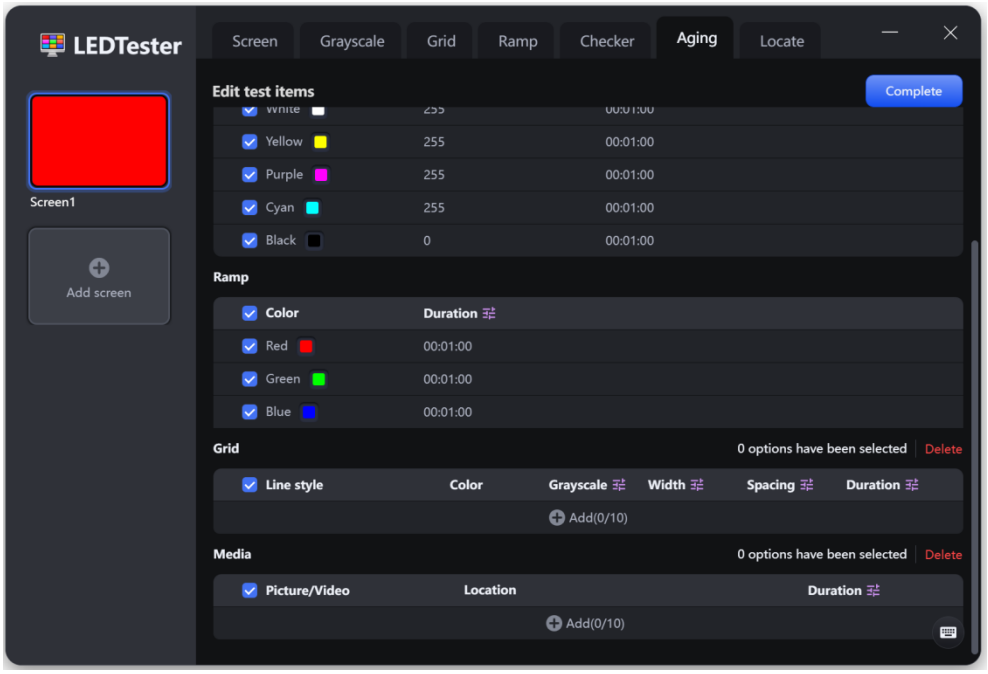


Fig 15.9 Aging - Edit test items

The **Edit** tab and **Edit test items** interface are described in the table below.

Table 15-7 Edit tab and Edit test items interface

Item		Description
Grayscale	Color	Select the color(s) to include in the cycle.
	Duration	Set the display time for each color.
	Grayscale	Modify the grayscale value.
	Show value	When enabled, the grayscale value will be displayed in the canvas.
Ramp	Color	Select the color(s) to include in the cycle.
	Duration	Set the display time for each color.
Grid	Color	Select the grid color from the drop-down.
	Grayscale/Width/Spacing	Adjust the grayscale value, width, and spacing of the grid.
	Duration	Set the interval for switching between line styles.
	Line style	Select one or more line styles (horizontal, vertical, left diagonal, right diagonal) for mixed display.
Media	⊕	Add picture or video files.
	Location	Displays the path of the file.
	Duration	Set the total display time for all pictures in

		the directory.
Item		Description
Grayscale	Color	Select the color(s) to include in the cycle.
	Duration	Set the display time for each color.
	Grayscale	Modify the grayscale value.
	Show value	When enabled, the grayscale value will be displayed in the canvas.

Click  to set grayscale, width, spacing, and duration for the entire test item.

Click **Complete** to save the changes and return to the **Aging** tab.

Locate

Set parameters based on the cabinet and module information to locate the module position.

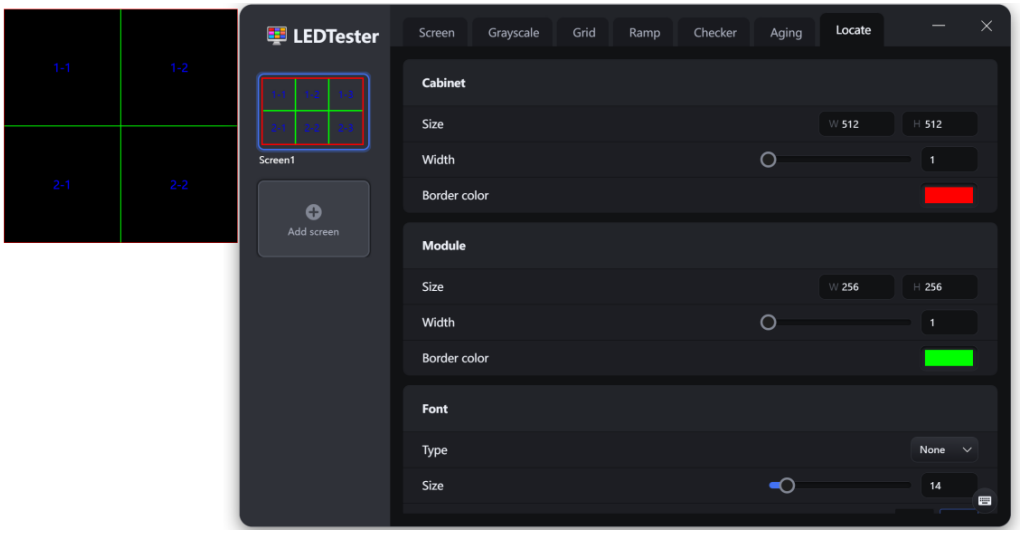


Fig 15.10 Locate

The **Locate** tab is described in the table below.

Table15-8 Locate

Item	Description
W	Set cabinet/module width.
H	Set cabinet/module height.
Width	Set cabinet/module border width.
Boarder color	Set cabinet/module border color.
Type	Set module index font type.
Size	Set module index font size.
Direction	Set module index direction.
Module index color	Set module index font color.
Background	Set canvas background (color/picture).

Right-click the canvas to open the context menu for quick canvas operations. Select the test pattern in the menu to switch the canvas to this pattern.

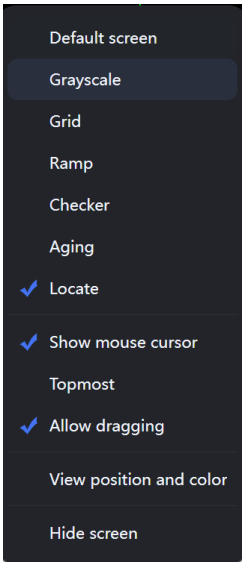


Fig 15.11 Canvas context menu

The canvas context menu is described in the table below.

Table 15-9 Canvas context menu

Item	Description
Hide screen	Close the canvas and hide the screen in the test tool.
Show mouse cursor	Display the mouse cursor on the playback canvas.
Topmost	Keep the canvas on top of all other layers.
Allow dragging	Allow moving the canvas by dragging it with the mouse and resizing the canvas.
View position and color	Show the cursor's coordinates and color value when hovering over the canvas.

16. Player Mode

In the title bar, click the **Detect** drop-down and choose **Player Mode**.

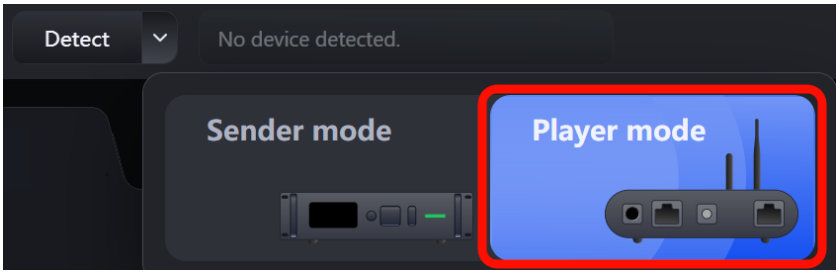


Fig 16.1 Switch to Player mode

Device information

This interface displays the information of all connected devices.

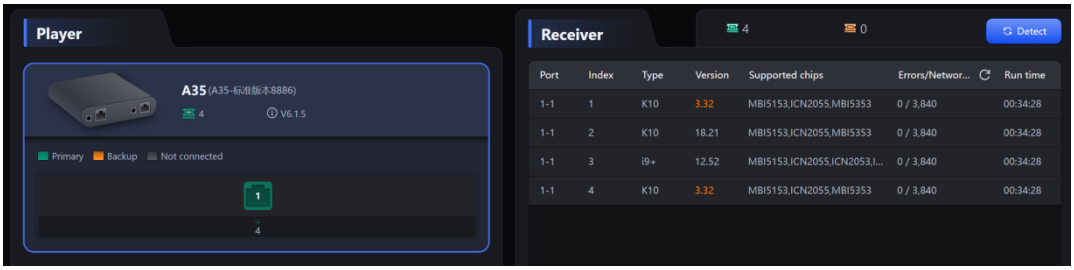


Fig 16.2 Device information

Click **Detect** in the title bar to display device information.

The left section of the interface displays sender/player information, while the right section shows receiver information. For more details, see Chapter 4.

When multiple players are cascaded, all connected player devices are listed. Click a player icon to switch to the corresponding device and configure its parameters. To access more advanced player features, please download the PlayerMaster software.

Screen configuration

Configure the screen parameters. Then click **Save** to save the changes to the receivers connected to the player. For more details, see Section 7.2.

Create the topology according to the LED display layout. Then click **Save** to apply the topology to the receivers connected to the player. For more details, see Section 7.3.

Statement

Due to possible changes in product batches and production processes, the text and pictures in the document may be adjusted and revised to match accurate product information, specifications, and features. Colorlight may make improvements and changes to this document without prior notice. Please refer to the actual product.

Thank you for choosing Colorlight Cloud Tech Ltd. product. If you have any questions or suggestions during use, please contact us through official channels. We will do our utmost to provide support and listen to your valuable suggestions. For more information and updates, please visit www.colorlightinside.com or scan the QR code

Colorlight

Official Website

Colorlight Cloud Tech Ltd

Service Phone：4008 770 775
Official Website：www.colorlightinside.com
Head Office Address: 37F-39F, Block A, Building 8, Zone C, Phase III,
Vanke Cloud City, Xili Street, Nanshan District, Shenzhen, China