



LED Controller

User Manual

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Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 Note	Provides additional information to emphasize or supplement important points of the main text.
 Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

TABLE OF CONTENTS

Chapter 1 Introduction	1
1.1 Product Introduction	1
1.2 Device Specifications	1
1.3 Overall Configuration Process.....	3
Chapter 2 Display Mapping.....	5
2.1 Online Project Display Mapping	5
2.1.1 Online Project Setup Procedure	5
2.1.2 Add and Manage Devices.....	6
2.1.3 (Optional) Configure Optical Port	14
2.1.4 Add Cabinets	18
2.1.5 Edit Cabinet Configuration File	20
2.1.6 Configure Cabinet Layout and Port Connections	21
2.1.7 Adjust Display Layout.....	25
2.2 Demo Project Display Mapping	29
2.2.1 Demo Project Setup Procedure	29
2.2.2 Add Device and Cabinets	30
2.2.3 Configure Cabinet Layout and Port Connections	33
2.2.4 Deploy Display Mapping Configuration	35
Chapter 3 Standard Cabinet Configuration.....	37
3.1 Standard Cabinet Configuration Procedure.....	37
3.2 Set Up Smart LED Module Mapping Environment.....	42
3.2.1 Auto Setup	42
3.2.2 Manual Setup.....	43
3.3 Configure LED Module Parameters.....	48
3.3.1 Configure Smart LED Module Mapping Parameters	48
3.3.2 Configure LED Module Extended Attributes	52
3.4 Configure Receiving Card Parameters	54
3.4.1 Construct Cabinet	54
3.4.2 Configure Data Group Parameters	56
3.4.3 Configure Module and Cascading Parameters.....	57
3.4.4 Rotate Cabinets.....	58
3.5 Debug Receiving Card	59
3.6 Apply Receiving Card Configuration	60
3.6.1 Sync Receiving Card Configuration	60
3.6.2 Batch Configure Receiving Cards	61
Chapter 4 Custom-Shaped Cabinet Configuration	62
4.1 Custom-Shaped Cabinet Configuration Procedure.....	62
4.2 Configure Module and Cascading Parameters.....	67
4.3 Construct Cabinet	71
Chapter 5 Display Content Configuration	74
5.1 Operate a V-Series Video Wall.....	74

5.2 Operate Video Wall of C66S Controller	79
5.2.1 Manage Signal Sources	79
5.2.2 Bind Signal Sources to Video Wall	81
5.2.3 Edit Signal Source Window	82
5.2.4 Manage Scenes	84
5.2.5 Manage Plans.....	85
5.3 Create Programs	85
5.3.1 Create and Play Programs.....	86
5.3.2 Manage Materials	98
Chapter 6 Display Parameters Configuration.....	104
6.1 Calibrate Receiving Card	104
6.2 Configure Source Parameters	108
6.2.1 Applicable Devices	108
6.2.2 Configure Signal Source Parameters.....	109
6.2.3 Configure Output Parameters.....	113
6.3 Configure Image Effect	116
6.4 Configure General Parameters	124
6.5 Configure Network Parameters of LED Controller.....	129
6.6 Configure IoT Parameters	135
6.7 Configure LED Controller Working Mode	140
6.8 Configure LED Controller Cascading/Self-Splicing	141
Chapter 7 Display/Device Maintenance	143
7.1 View Display Status.....	143
7.2 View LED Controller Status	144
7.3 Maintain Receiving Card	146
7.4 Maintain Device	150
7.5 Use Toolbar.....	153
7.5.1 Search for Cloud Files.....	153
7.5.2 Compare/Sync Parameters	156
7.5.3 Repair LED Controller.....	157
7.5.4 Test Display Effect.....	158
7.5.5 Use HikMe.....	159
7.5.6 Set the Client.....	161

Chapter 1 Introduction

1.1 Product Introduction

LED Tool Client is a powerful and user-friendly software application. By adding various screen controlling devices (hereinafter referred to as devices) in the client, it enables convenient management of full-color LED displays (hereinafter referred to as displays or screens). The client supports multiple functions and is suitable for various scenarios such as meeting rooms, studios, stadiums, airports, train stations, banks, advertising, and home theaters.

You can add the following devices into the client:

- LED controllers
- Video wall controllers (all video wall controllers mentioned in this document must be equipped with at least an LED controller board)
- LED all-in-one displays
- LED poster displays



Note

To focus on the core operational workflow, this document will primarily revolve around LED controllers and video wall controllers. LED all-in-one displays and LED poster displays, as integrated devices, share a similar basic operational logic with LED controllers and can be referenced in the relevant sections.

1.2 Device Specifications

LED all-in-one Display

DS-D4512CB108-2FQ, DS-D4515CB135-2FQ, DS-D4518CB162-2FQ

LED Poster Display

DS-D4512CH-1FQ, DS-D4515CH-1FQ, DS-D4518CH-1FQ, DS-D4525CH-1FQ, DS-D4512CH-1FQF, DS-D4515CH-1FQF, DS-D4518CH-1FQF

Video Wall Controller

DS-C60S, DS-C66S

LED Controller

LED controllers are categorized by their maximum supported resolutions as follows:

Supported Resolution	Supported LED Controller Series
2K resolution	• DS-DT60C/V/B/P series • DS-DT30C/V/B/P series • DS-TC/V/B/U Series
4K resolution	• DS-DT60C/V/B/P series • DS-TC/V/B/U series
Ultra 4K resolution	• DS-DT90C/V/P series • DS-TV series

The compatible receiving card models for each LED controller series are as follows:

LED Controller Series	Compatible Receiving Card Models
DS-DT90/60/30/20 series	• DS-DR series AXS-type and HUB-type receiving cards • DS-T series AXS-type and HUB-type receiving cards
DS-T series	• DS-DR series HUB-type receiving cards • DS-T series HUB-type receiving cards

1.3 Overall Configuration Process

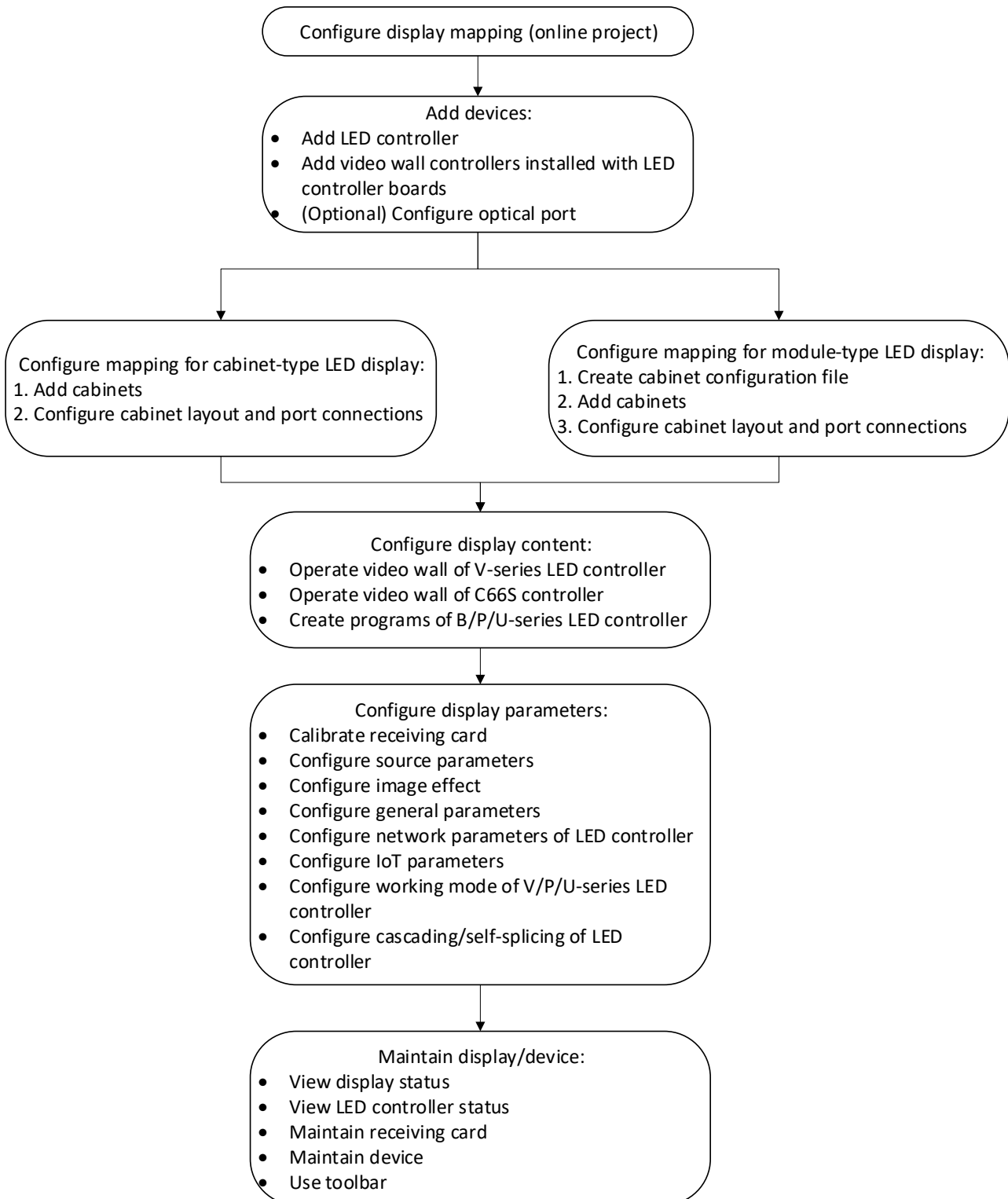


Figure 1-1 First-Time Configuration Process (Online Project)

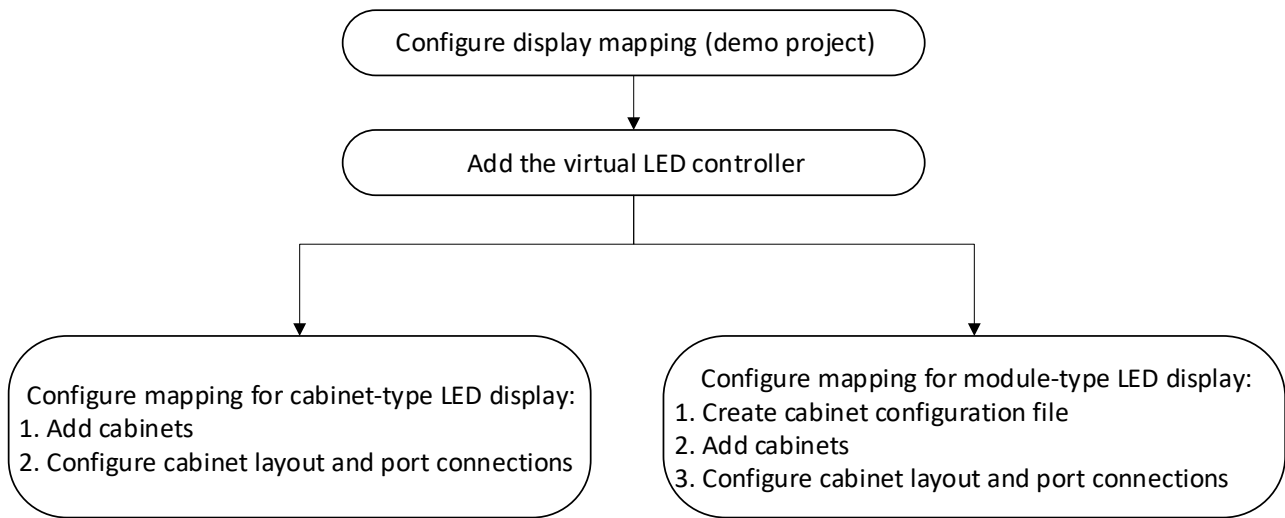


Figure 1-2 First-Time Configuration Process (Demo Project)

Chapter 2 Display Mapping

2.1 Online Project Display Mapping

2.1.1 Online Project Setup Procedure

Applicable Devices

All series of LED controllers and video wall controllers.

Before You Start

- For an LED controller: Use Ethernet cables to connect multiple network ports of the LED controller to multiple cabinets, and then use an Ethernet cable or Wi-Fi to connect the LED controller to the client-installed computer. Only certain LED controllers support Wi-Fi connection.
- For a video wall controller: Use Ethernet cables to connect multiple network ports of an LED controller board in the video wall controller to multiple cabinets, and then use an Ethernet cable to connect the video wall controller to the client-installed computer. Only certain video wall controllers support the installation of LED controller boards.

Function Description

An online project is a core function that enables direct configuration of display parameters, cabinet layouts, and network connections by adding physical devices (e.g., LED controllers/video wall controllers). It supports real-time display mapping debugging and visual control, designed for on-site commissioning and batch deployment scenarios.

Steps

Step 1 Use the default online project or create a new online project.

Step 2 Use the default screen or create a new display.

Step 3 Add devices (see "2.1.2 Add and Manage Devices").

Step 4 (Optional) For long-distance transmission using two DT90 series LED controllers, configure optical port mode based on the actual number of connected screens (see "2.1.3 (Optional) Configure Optical Port").

Step 5 Add cabinets (see "2.1.4 Add Cabinets").

Step 6 (Optional) If you find that the cabinet configuration file does not match the on-site display, edit the cabinet configuration file. See "2.1.5 Edit Cabinet Configuration File".

Step 7 Configure cabinet layout and network port connections (see "2.1.6 Configure Cabinet Layout and Port Connections").

Step 8 (Optional) You can perform the following operations as required:

- Adjust the display layout (see “2.1.7 Adjust Display Layout”).
- Hover over an online project to edit its name, export it, or delete it.
- On other client-installed computers, click **Import Project** to migrate device parameters and display mapping configuration from other systems.

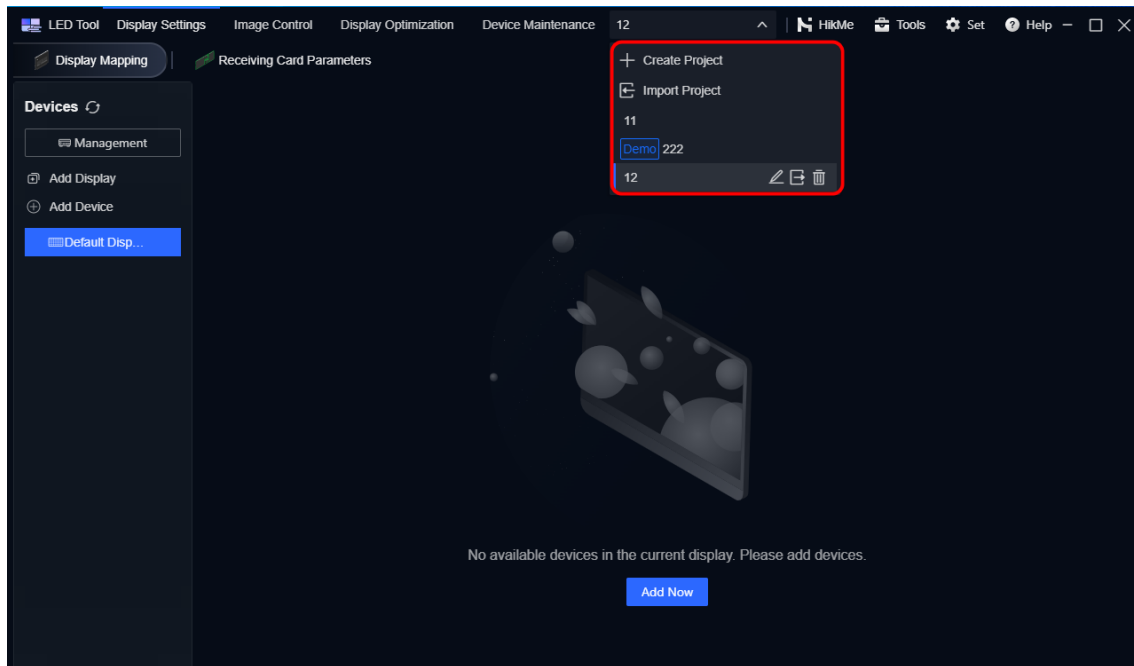


Figure 2-1 Online Project

2.1.2 Add and Manage Devices

Step 1 Select an online project:

- Use the default online project.
- Click **Create Project** to create a new online project.

Step 2 On the **Display Settings > Display Mapping** page, select a display:

- Use the default screen.
- Click **Add Display** to add a new display.

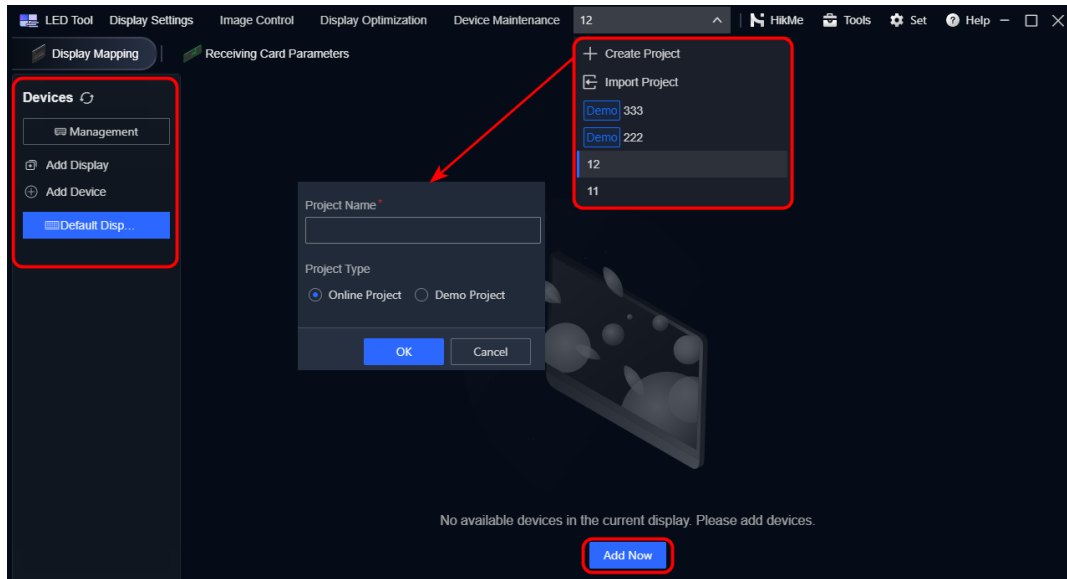


Figure 2-2 Display Mapping Page

Step 3 Use either of the following methods to open the **Add Device** window.

- Click **Management**, and click **Add Device**.
- Click **Add Device**.
- Hover over the target display and click . Devices are added to the target display by default. If you need to specify another display, select the target display in the **Add to** parameter.
- Click **Add Now**.

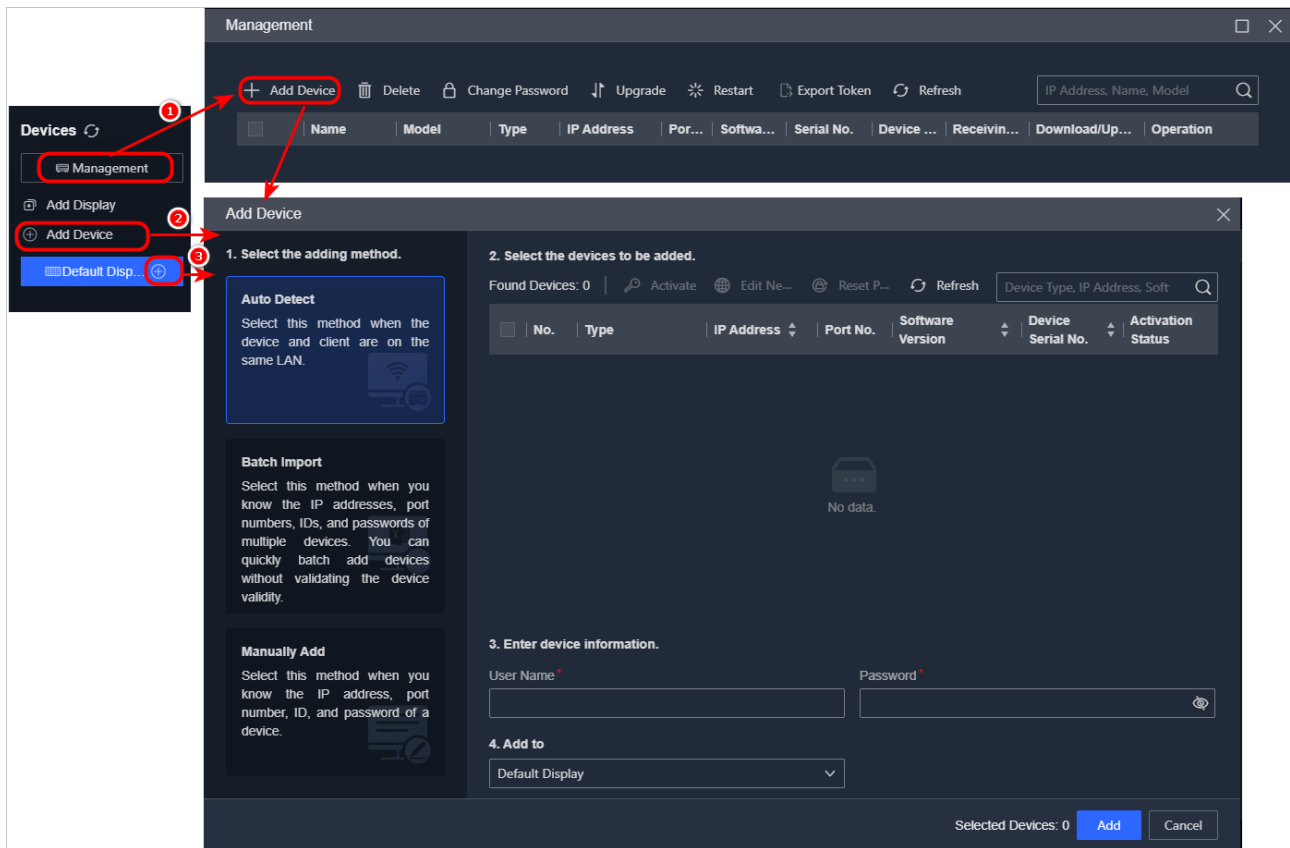


Figure 2-3 Open Add Device Window

Step 4 Use either of the following methods to add devices.

- Add Online Devices
- Batch Import Devices
- Manually Add Single Device
-

Add Online Devices

Step 1 Click **Auto Detect**.

Step 2 (Optional) You can perform the following operations as required:

- Reset the password of a device:
 - 1) Select a device, and click **Reset Password**.
 - 2) Click **Export** to export the password file.
 - 3) Send the exported password file to the technical support to obtain a new password file.
 - 4) Click **Import** to import the new password file.
 - 5) Enter the new password and confirm password.
 - 6) Click **OK**.

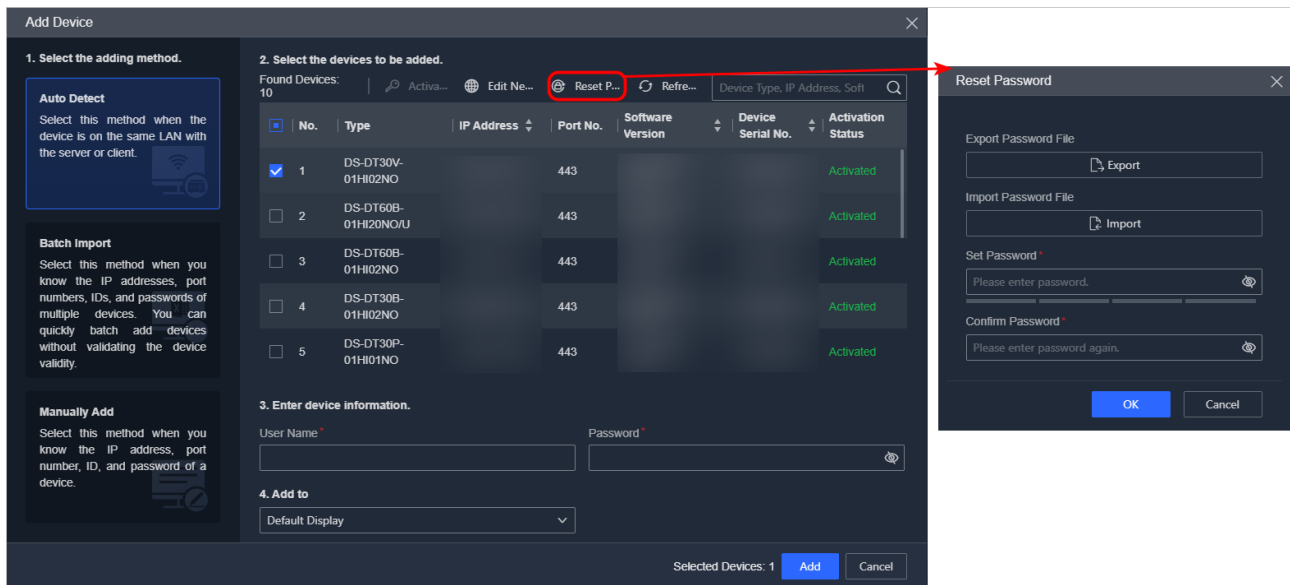


Figure 2-4 Reset Password

- Edit network parameters: Select a device and click **Edit Network Parameters**.

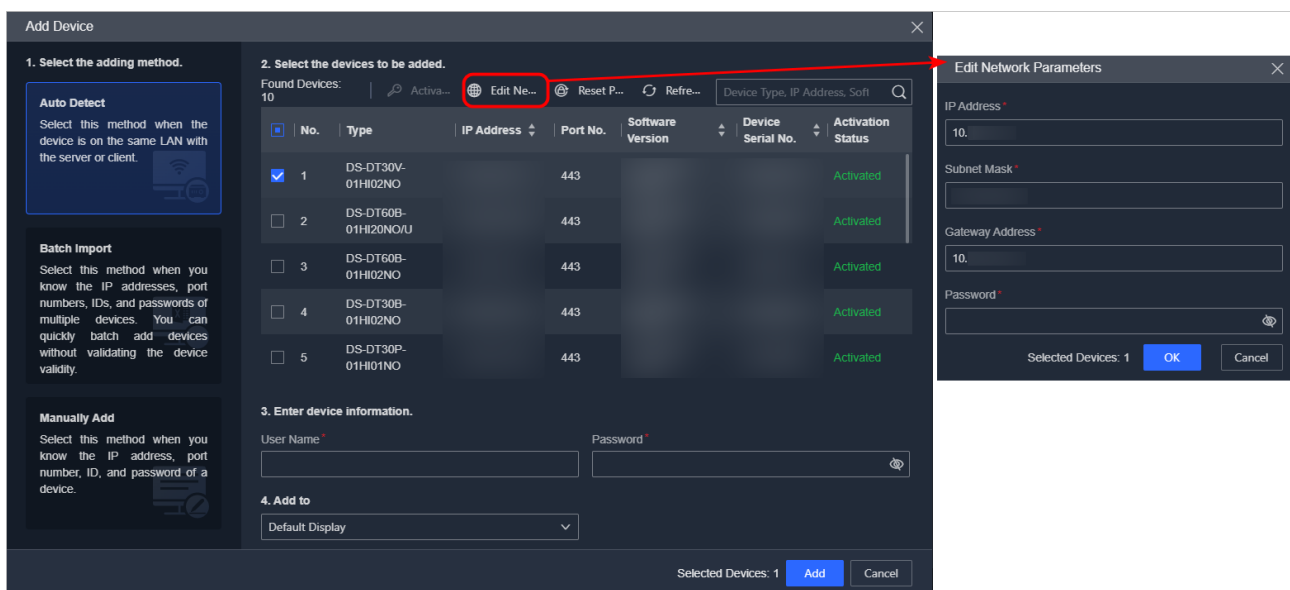


Figure 2-5 Edit Network Parameters

- Rescan for online devices: Click **Refresh**.

Step 3 Select the devices that use the same activation password, enter the user name and password, select the group, and then click **Add**.

Add Device

1. Select the adding method.

Auto Detect
Select this method when the device is on the same LAN with the server or client.

Batch Import
Select this method when you know the IP addresses, port numbers, IDs, and passwords of multiple devices. You can quickly batch add devices without validating the device validity.

Manually Add
Select this method when you know the IP address, port number, ID, and password of a device.

2. Select the devices to be added.

Found Devices: 10 | [Activa...](#) | [Edit Ne...](#) | [Reset P...](#) | [Refre...](#) | [Q](#)

☒	No.	Type	IP Address	Port No.	Software Version	Device Serial No.	Activation Status
☒	1	DS-DT30V-01HI02NO		443			Activated
☐	2	DS-DT60B-01HI20NO/U		443			Activated
☐	3	DS-DT60B-01HI02NO		443			Activated
☐	4	DS-DT30B-01HI02NO		443			Activated
☐	5	DS-DT30P-01HI01NO		443			Activated

3. Enter device information.

User Name* Password*

4. Add to

Default Display

Selected Devices: 1 [Add](#) [Cancel](#)

Figure 2-6 Add Online Devices

Note

If a device is not activated, select the device and click **Activate**.

Batch Import Devices

Step 1 Click **Batch Import**.

Step 2 Click **Download Template** and enter the device information in the template file.

Step 3 Click to upload the file, select the display, and then click **Add**.

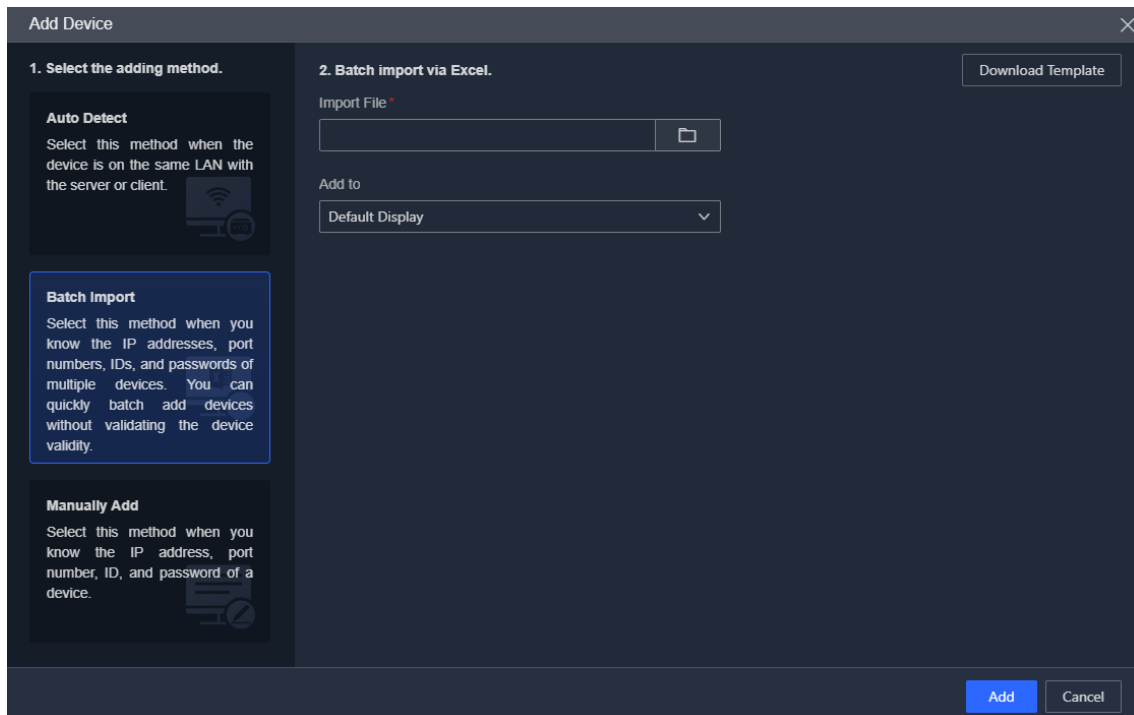


Figure 2-7 Batch Import Devices

Manually Add Single Device

Step 1 Click **Manually Add**.

Step 2 Enter the device information and click **Add**.

- Check **Sync Device Time** to synchronize the device time with the time of the client-installed computer.
- Enable **Add Offline** to add offline devices. To update the offline device status, click  next to **Devices**, click **Refresh** in the **Management** window, or restart the client.
- To add an LED controller, you need to select the target display.
- If you add a video wall controller, all LED controller boards in the video wall controller will automatically belong to the display of that video wall controller.

Figure 2-8 Manually Add Devices

**Note**

To add multiple devices, repeat the operation described above.

Manage Added Devices

- Reconnect the currently offline devices and retrieve the latest data from the added online devices:
 - Click  next to **Devices**.
 - Click **Refresh** in the **Management** window.
- Adjust the association between devices and displays: Drag a device directly to another display.
- Manage non-default displays:
 - Hover over a non-default display, right-click to open the menu, and select **Rename** or **Delete**.
 - When a non-default display contains an LED controller board, you can only rename the non-default display.
- Manage a single device: Hover over a device, right-click to open the menu, and select **Rename**, **Restart**, or **Delete**. Offline devices and LED controller boards support only renaming.
- Manage multiple devices in the **Management** window:
 - Select one or multiple devices, and click **Delete**.
 - Select one or multiple devices that use the same login password, and click **Change Password**.
 - Select one or multiple devices, and click **Restart**.
 - Select one or multiple devices, and click **Export Token**.
- Manage a single device in the **Management** window:
 - Click **Edit** to modify the device name, IP address, port number, username or password, or enable **Sync Device Time**. Device time synchronization is only supported on LED controllers.

- Click **Receiving Card Details** to check the receiving card configurations for all Ethernet ports on the current device. When using multiple receiving cards for one display, make sure all receiving cards have the same firmware version. If versions don't match, upgrade the receiving cards immediately.

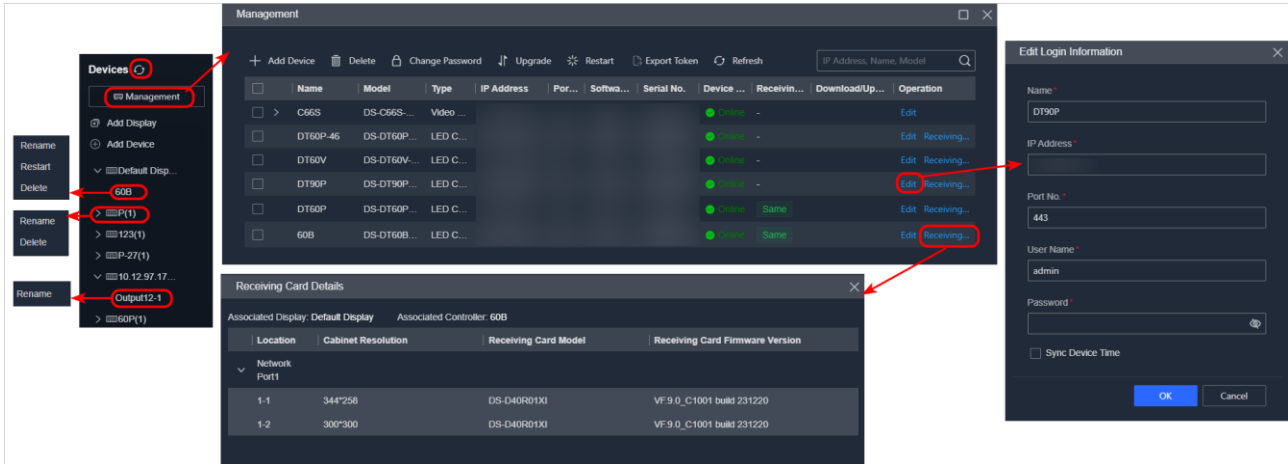


Figure 2-9 Manage Added Devices

- Initialize a device: If a device is not initialized on the **Display Mapping** page, upgrade it as prompted by the system error message.
- Access the device web interface: Click the device IP address to open and log in to the web management interface. You can remotely control the device through this interface.
- Upgrade devices in the **Management** window:
 - Upgrade LED controllers: Select one or multiple LED controllers, click **Upgrade**, set the device type to **LED Controller**, and choose an online or offline upgrade method.
 - Upgrade all receiving cards connected to LED controllers: Select one or multiple LED controllers, click **Upgrade**, set the device type to **Receiving Card**, and choose an online or offline upgrade method.
 - Upgrade the main control boards of the video wall controllers: Select one or multiple video wall controllers, click **Upgrade**, and use the locally stored main control board upgrade file to complete the upgrade.
 - Upgrade all LED controller boards of the video wall controllers: Select one or multiple video wall controllers, click **Upgrade**, and use the locally stored LED controller board upgrade file to complete the upgrade.
 - Upgrade all receiving cards connected to LED controller boards: Click  of a video wall controller to show its LED controller boards. Select one or multiple LED controller boards, click **Upgrade**, and choose an online or offline upgrade method.

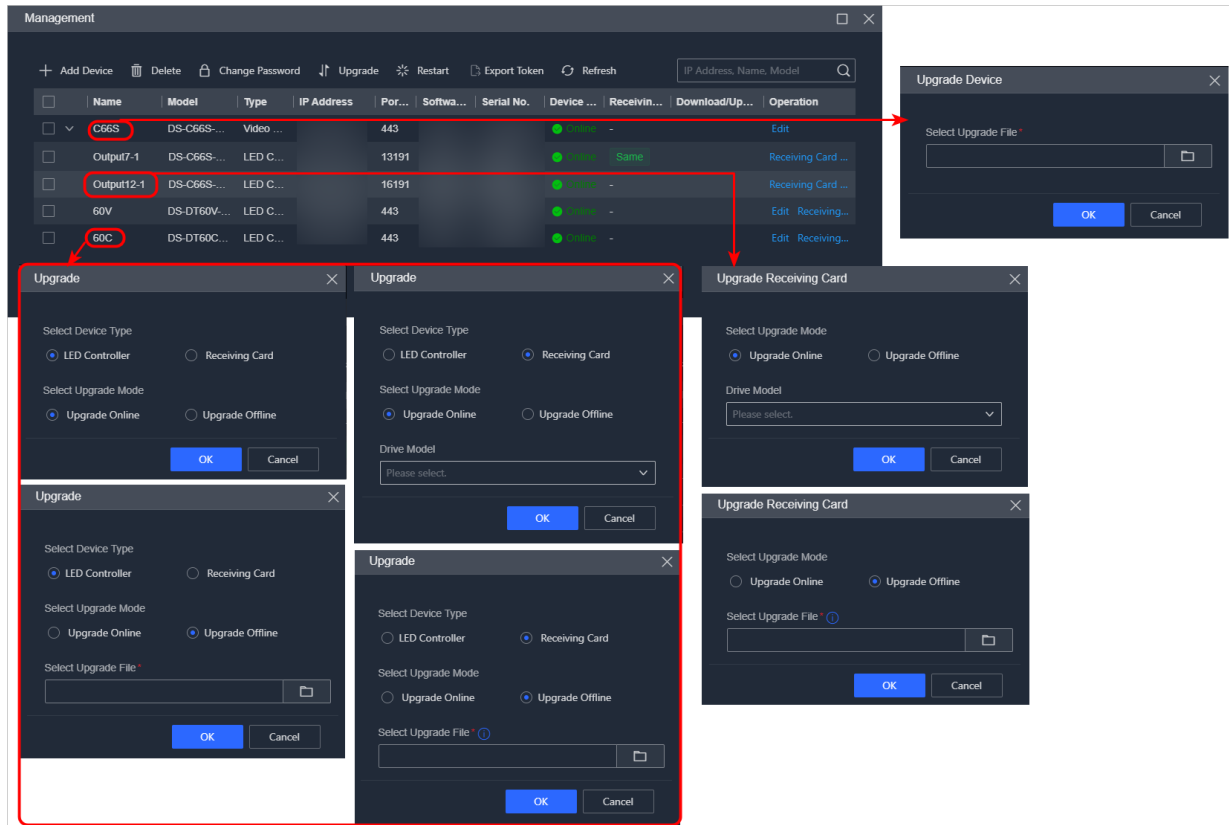


Figure 2-10 Upgrade Devices

2.1.3 (Optional) Configure Optical Port

Applicable Devices

DT90C/V/P and ultra 4K DS-TV series LED controllers.

Description

To achieve long-distance driving of a single or two LED displays, two DT90 series LED controllers can be connected via a fiber optic network (set as Transmitter and Receiver respectively). This setup requires an optical switch and configuration of the controllers' optical ports.

Important

- The two LED controllers used for optical port communication must be of the same series and same model.
- The controller's role (Transmitter/Receiver) is determined by the physical connection:
 - Transmitter: The LED controller connected to the computer network.
 - Receiver: The LED controller directly connected to the LED display(s).

Single-Display Configuration

Step 1 To achieve long-distance driving of a single LED display, connect the devices as follows:

- 1) Use an Ethernet cable to connect the computer to the LAN port of LED controller A (Transmitter).
- 2) Use multiple Ethernet cables to connect the DATA OUT ports of LED controller B (Receiver) to the LED display.
- 3) Use optical fibers to connect the SFP+ ports of both controllers to the optical switch.

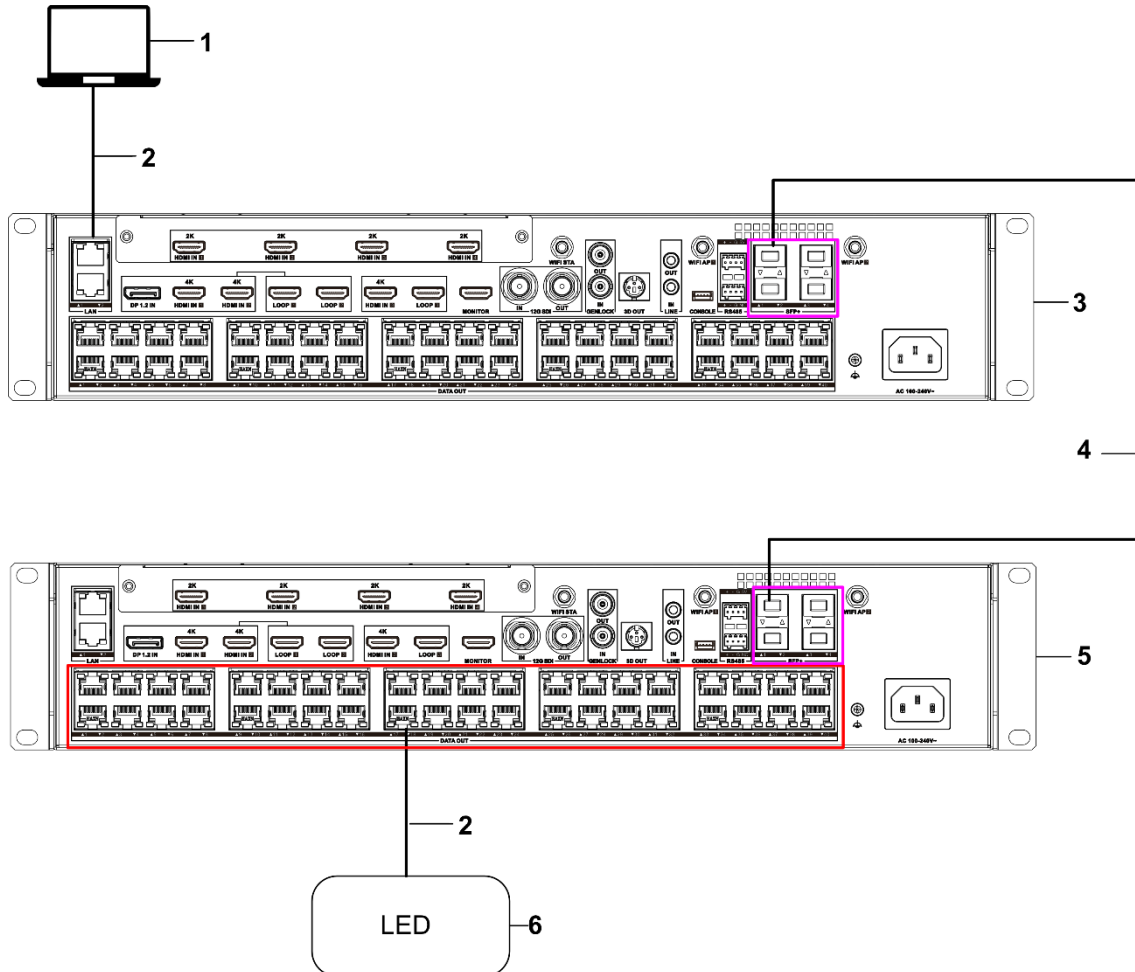


Figure 2-11 Single-Display Connection Topology

1. Computer	2. Ethernet cable
3. LED controller A (Transmitter)	4. Optical network (optical fibers and optical switch)
5. LED controller B (Receiver)	6 LED display

Step 2 Plan the fiber connections:

- 1) Determine the number of optical fibers required based on the mapping between LED display and DATA OUT ports.
- 2) Connect the SFP+ ports with the same number on both controllers to the optical switch using separate fibers.

Table 2-1 SFP+ Port Mapping

SFP+ Port	DATA OUT Port Range		
	40-Port Device	24-Port Device	16-Port Device
SFP+ 1	1 to 10	1 to 8	1 to 8
SFP+ 2	11 to 20	9 to 16	9 to 16
SFP+ 3	21 to 30	17 to 24	
SFP+ 4	31 to 40		

Step 3 After adding both LED controllers in the computer, configure them as follows:

- LED controller A (Transmitter): Uses optical port transmit mode by default. No additional setup is required.
- LED controller B (Receiver): Navigate to **Device Maintenance > Settings > Optical Port Configuration**, and select **Optical Port Receive Mode**.

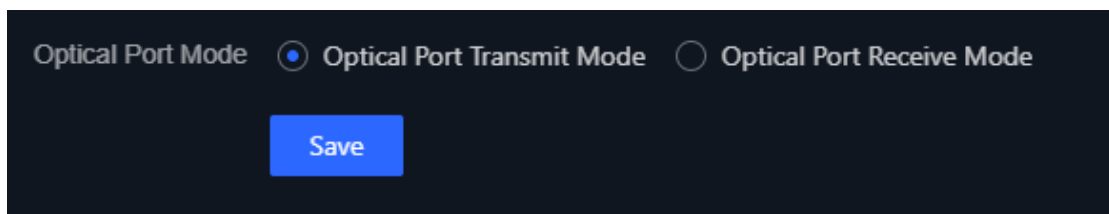


Figure 2-12 Configure Optical Port Mode

Note

After configuring the display mapping parameters, connect the video source to the transmitter controller (LED controller A in this example) to display video.

Dual-Display Configuration

Step 1 To achieve long-distance driving of two LED displays, connect the devices as follows:

- 1) Use an Ethernet cable to connect the computer to the LAN port of LED controller A (Transmitter).
- 2) Use multiple Ethernet cables to connect the DATA OUT ports of Device A to the LED display 1.
- 3) Use multiple Ethernet cables to connect the DATA OUT ports of LED controller B (Receiver) to the LED display 2.

Table 2-2 SFP+ Port Mapping

SFP+ Port	DATA OUT Port Range		
	40-Port Device	24-Port Device	16-Port Device
SFP+ 1	1 to 10	1 to 8	1 to 8
SFP+ 2	11 to 20	9 to 16	9 to 16
SFP+ 3	21 to 30	17 to 24	
SFP+ 4	31 to 40		

Step 3 After adding both LED controllers in the computer, configure them as follows:

- LED controller A (Transmitter): Navigate to **Device Maintenance > Settings > Optical Port Configuration**, and select a readback mode as required. LED controller A uses optical port transmit mode by default.
 - To control the LED display 1, select **Local Display Readback**.
 - To control the LED display 2, select **Peer Display Readback**.
- LED controller B (Receiver): Navigate to **Device Maintenance > Settings > Optical Port Configuration**, and select **Optical Port Receive Mode**.

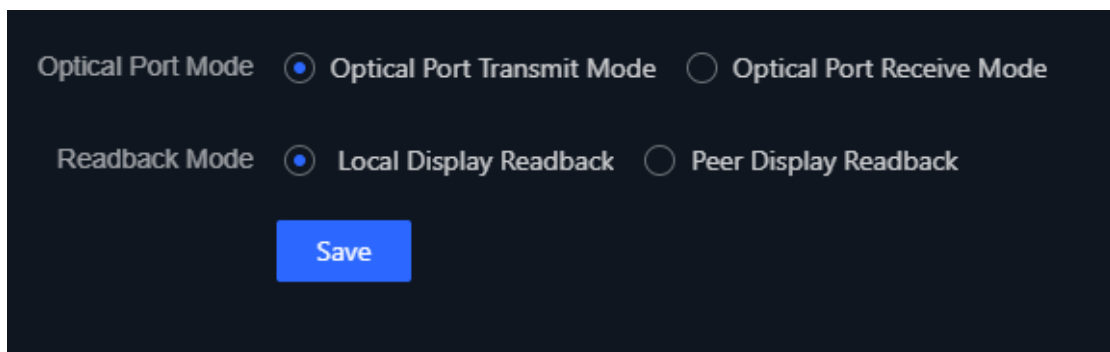


Figure 2-13 Configure Optical Port Mode

Note

After configuring the display mapping parameters, connect the video source to the transmitter controller (LED controller A in this example) to display video.

2.1.4 Add Cabinets

Step 1 On the **Display Settings > Display Mapping** page, select a device.

- The loading status of each network port and the device output resolution will be shown on the right.

- On the canvas, click  of the device name to hide the device name or click  to show device name.

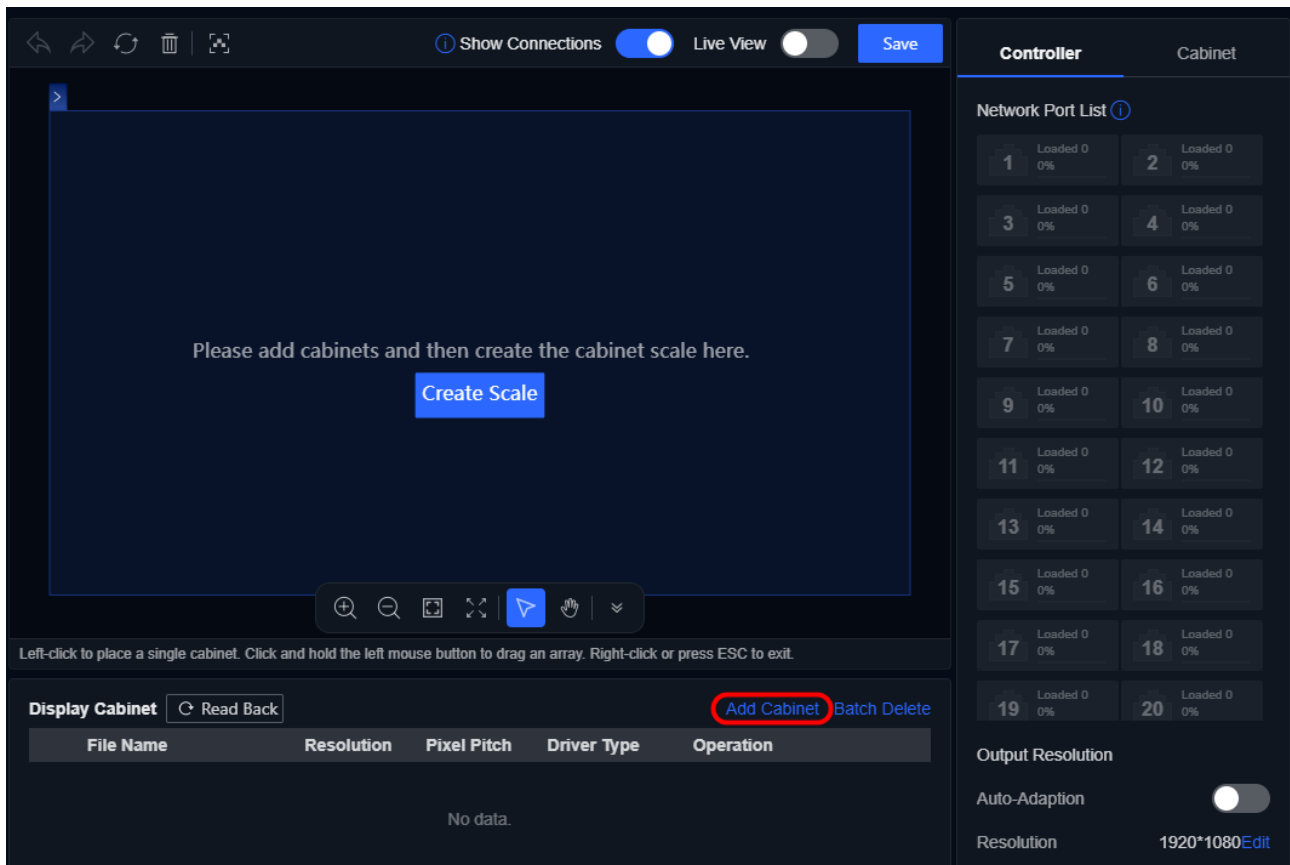


Figure 2-14 Add Cabinet

Step 2 Click **Add Cabinet** and use either of the following methods to add the cabinet configuration file:

- If there is a cabinet configuration file on the computer, select **Import from Local File**, click  to select one or multiple configuration files, and click **Add**.
 - Search the cabinet configuration from the cloud. For details, see "7.5.1 Search for Cloud Files".
 - Create the cabinet configuration files and save them on the computer. For details, see "Chapter 3 Standard Cabinet Configuration" and "Chapter 4 Custom-Shaped Cabinet Configuration".
 - Contact the product supplier to obtain the cabinet configuration files.
 - If you know the LED module serial number or order number, select **Load from Cloud**. Enter the LED module serial number or order number, select the searched configuration files, and click **Add**.
 - Load the cabinet configuration file from the display area (only supported by certain cabinets).
- 1) Select **Load from Display Area**.

- 2) Click **Select Display Area(s)**.
- 3) Choose the network port on the device connected to the target receiving card, and then click **OK**.
- 4) Click **Add**.

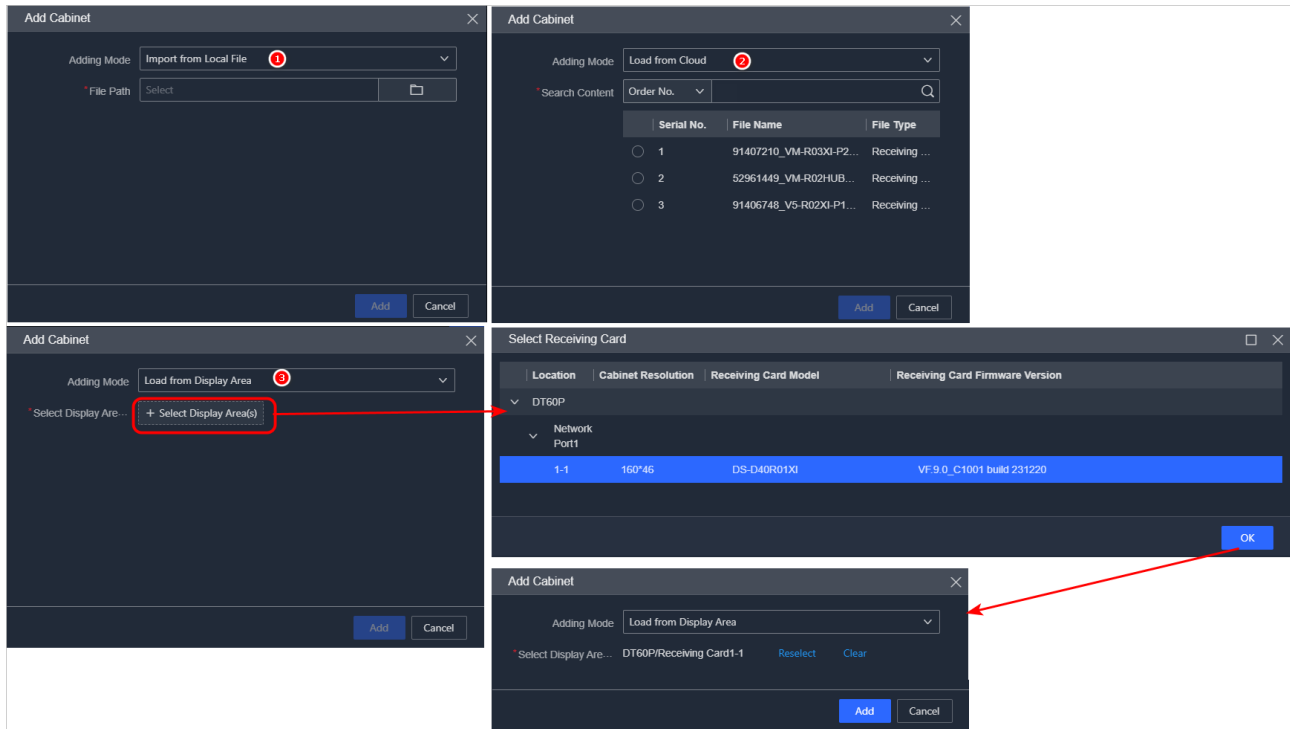


Figure 2-15 Add Cabinet Configuration File

2.1.5 Edit Cabinet Configuration File

Step 1 If you find that the cabinet configuration file does not match the on-site display, click  to edit the cabinet configuration file.

Step 2 Based on the actual receiving card model, edit the product model.

Step 3 Edit the following parameters as required:

- LED module switching and cascading is supported only on certain HUB receiving cards. Open the LED module switching and cascading window to configure. For details, see “3.4.3 Configure Module and Cascading Parameters”.

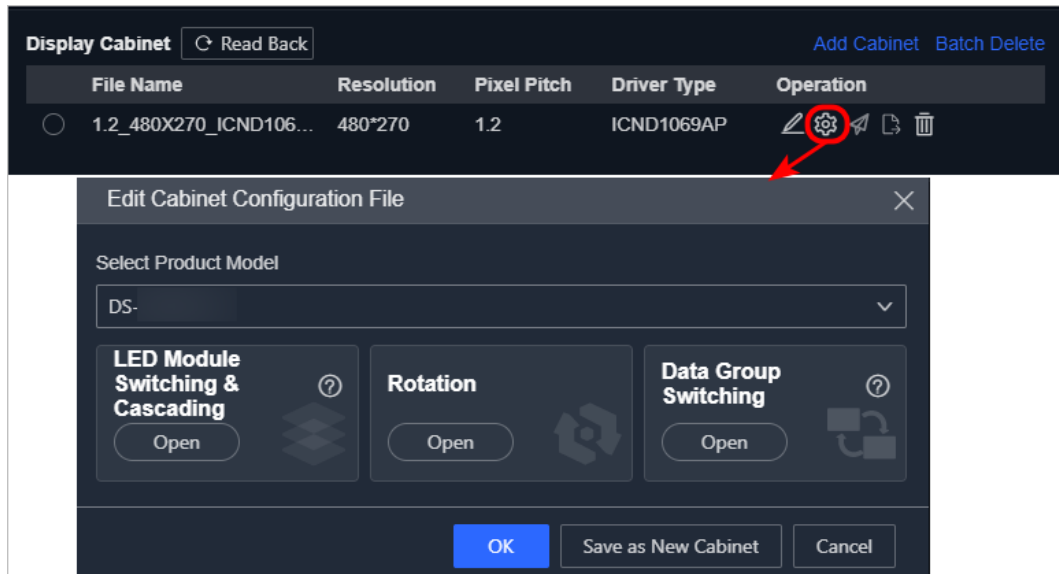


Figure 2-16 Edit Cabinet Configuration File

- Open the rotation window, select a rotation angle, and click **Apply**. To fine-tune the rotation, select a method, and click **Apply**.

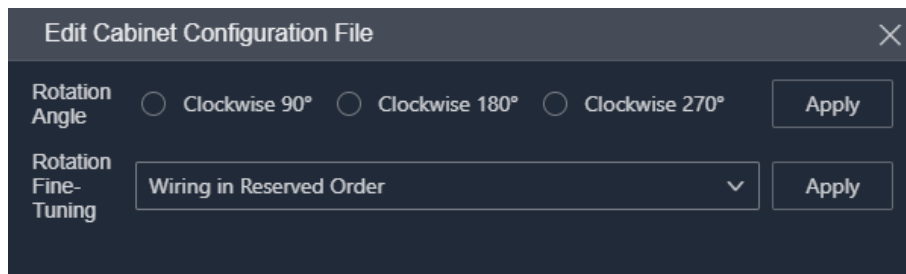


Figure 2-17 Rotate Cabinet

- Open the data group switching window to configure. For details, see “3.4.2 Configure Data Group Parameters”.

Step 4 Click **OK** to save the edited parameters to the current cabinet configuration file.

- After you edit the cabinet configuration file, the cabinet configuration file on the canvas will also be updated synchronously. However, the edited cabinet configuration file will not be applied to the device.
- To apply the edited cabinet configuration file to the device, drag the edited file to the canvas, configure the cabinet scale and network port connection, and click **Save**.

Step 5 (Optional) Click **Save as New Cabinet** to save the edited parameters as a new cabinet configuration file.

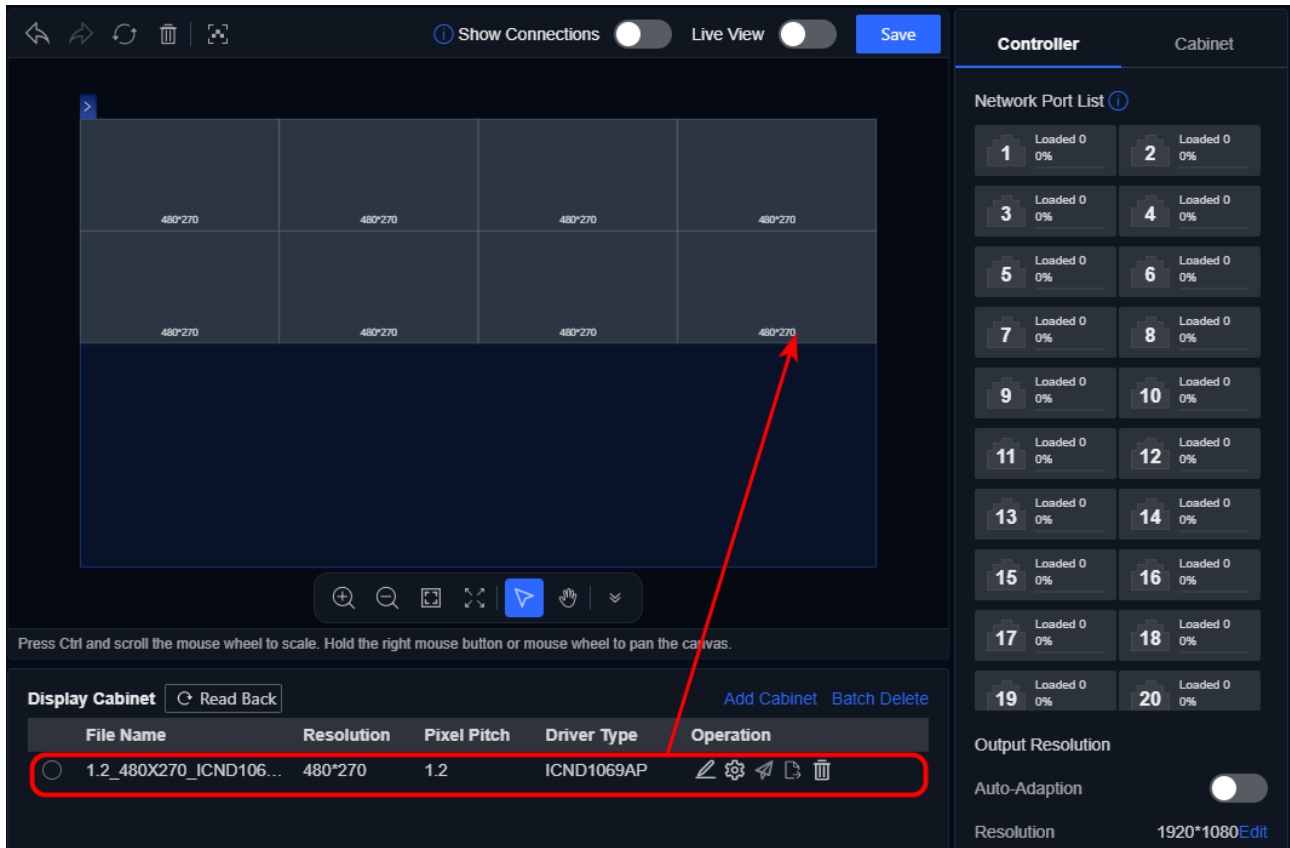
2.1.6 Configure Cabinet Layout and Port Connections

Step 1 On the **Display Settings > Display Mapping** page, select a device.

Step 2 Enable **Auto-Adaption** or set the output resolution manually.

Step 3 Add cabinets to the canvas to match the physical display layout:

- Select the target cabinet configuration file, and left-click on the canvas to add cabinets. Each left-click on canvas generates one cabinet.



- Click **Create Scale**, select an added cabinet configuration file, set the rows and columns, and click **OK**.
 - To use other unadded cabinet configuration files, click **Add Cabinet**.
 - After creating the scale, the system will automatically deploy the cabinet configuration file to the device and enable **Show Connections**.

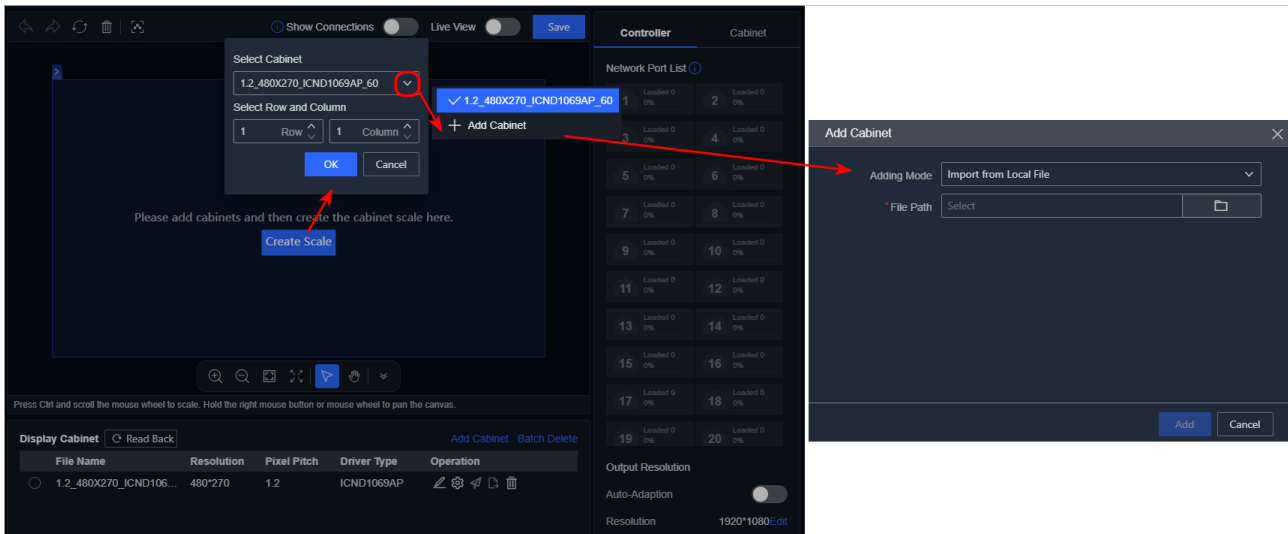


Figure 2-19 Create Display Scale

Step 4 In the **Controller** window, configure port connections according to the actual connections between the cabinets and network ports.

- The direction of the network port connection is determined by both the operation sequence and the selected network port's connection direction. The following three connection methods are supported:
 - Sequential selection: Click on multiple cabinets in the order of connection.
 - Box selection: Click on one cabinet, then hold down the left mouse button and drag to draw a box around other cabinets that need to be connected.
 - Shift continuous selection: Click the first cabinet, hold down the Shift key, and then click the last cabinet to select all cabinets between them.
- To cancel a selected network port connection direction icon, simply click on that icon.
- After configuring a standardized matrix display by clicking **Create Scale**, you can connect network ports on the canvas by matching the port numbers shown on the physical display.
- For a regular matrix display generated by the **Create Scale** function, complete the connections on the canvas according to the network port numbers on the physical display.

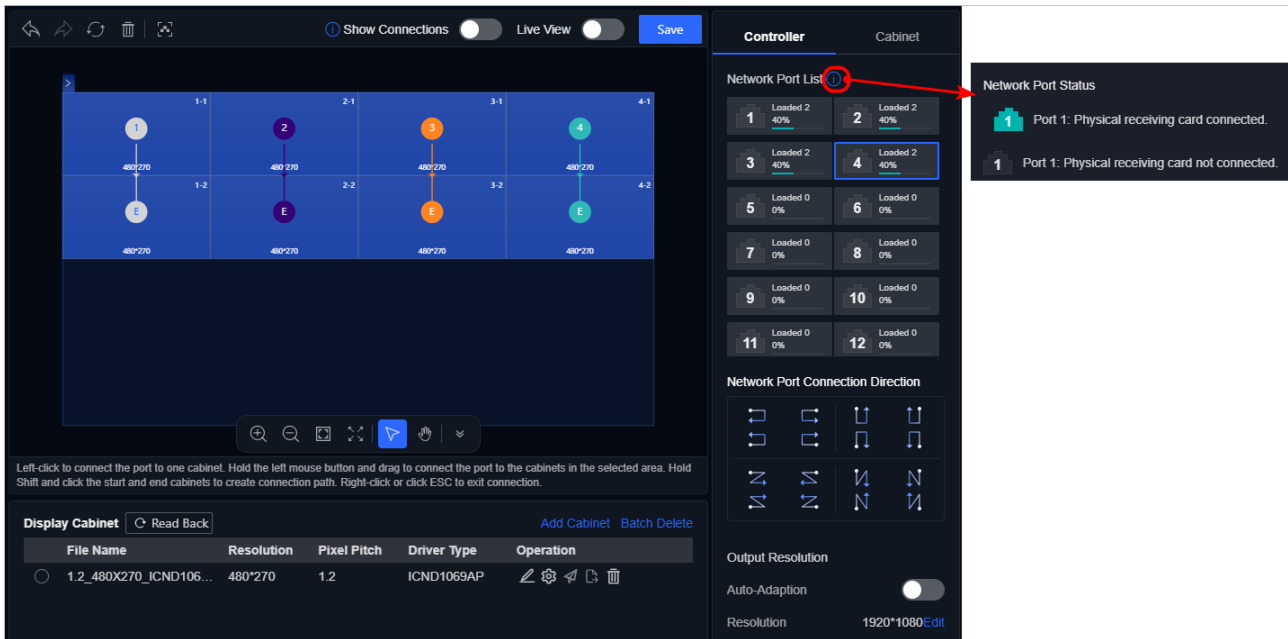


Figure 2-20 Set Display Mapping

Step 5 Save display mapping parameters:

- LED controller or LED controller board of other video wall controllers: Click **Save**.
- LED controller board of C66S video wall controller:
 - Save only the display mapping parameters: Click **Save** and then click **Save Mapping & Connections**.
 - Save the configuration and splice multiple LED controller boards into a video wall: Click **Save**, and then sequentially click **Save Mapping & Connections** and **Save Splicing Position**.

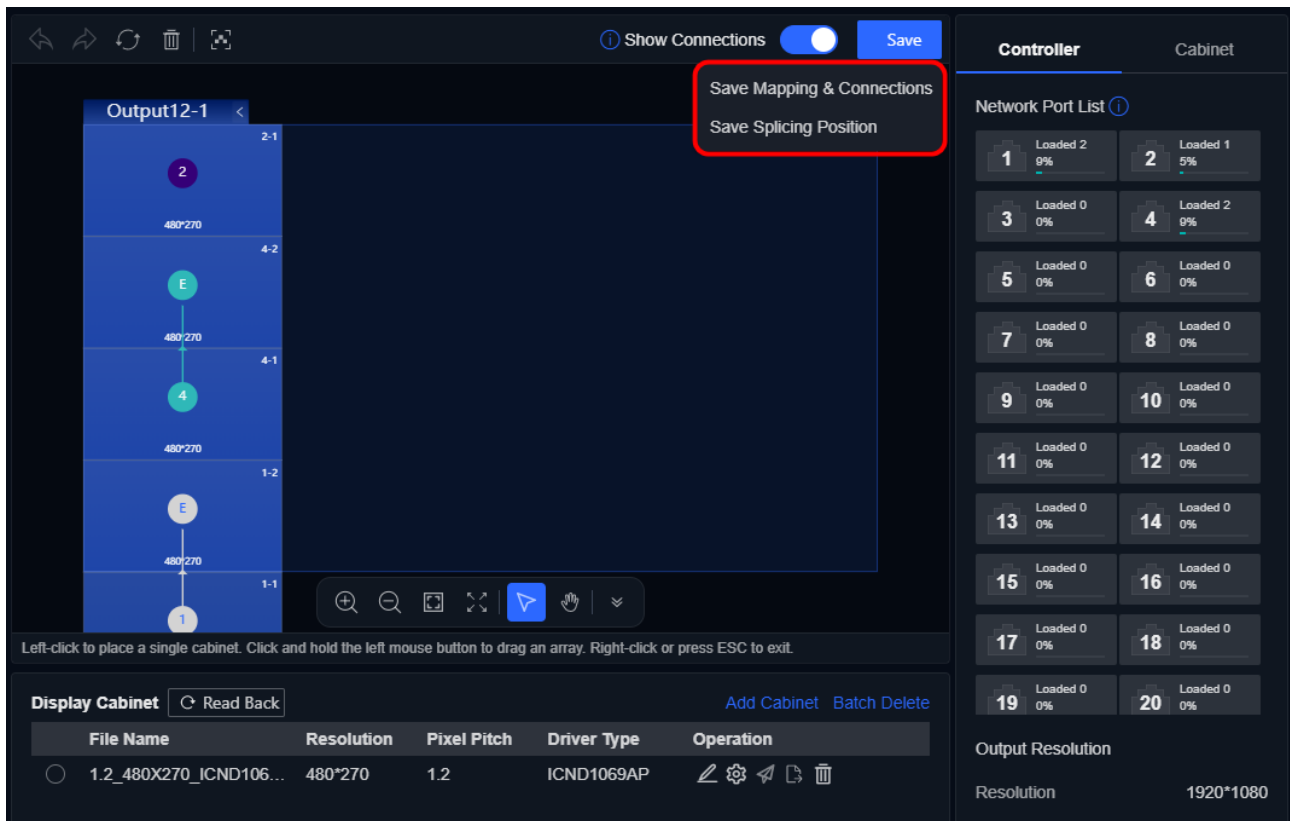


Figure 2-21 Save Splicing Position

Step 6 (Optional) If prompted about a driver IC and receiving card firmware mismatch, check the cabinet configuration file or upgrade the receiving card firmware.

2.1.7 Adjust Display Layout

Manage Cabinet Configuration File

After obtaining the cabinet configuration file, perform these management operations as needed:

- Rename: Click  to edit the file name.
- Deploy: Click  to deploy the cabinet configuration file to the device. If prompted about a driver IC and receiving card firmware mismatch, check the cabinet configuration file or upgrade the receiving card firmware.
- Export: Click  to export the cabinet configuration file to the computer.
- Delete:
 - Delete a single cabinet configuration file: Click  to move the file.
 - Batch delete cabinet configuration files: Click **Batch Delete**, select the files and click **Delete**.



Figure 2-22 Batch Delete Files

Adjust Cabinet Parameters and Canvas

- Basic functions:
 - Preview display: Click **Live View**. This function is supported only by LED controllers, not video wall controllers.
 - Adjust size: Drag the top border of the display cabinet area to resize.
 - View cabinet info: After configuring the correct display mapping, select a cabinet and click **Cabinet** on the right side of the **Display Mapping** page to check its coordinates and basic info.
 - Perform receiving card test: After configuring the correct display mapping, select a cabinet and click **Cabinet** on the right side of the **Display Mapping** page, enable **Receiving Card Self-Test**, and choose a test pattern. This function is supported only on certain receiving cards.

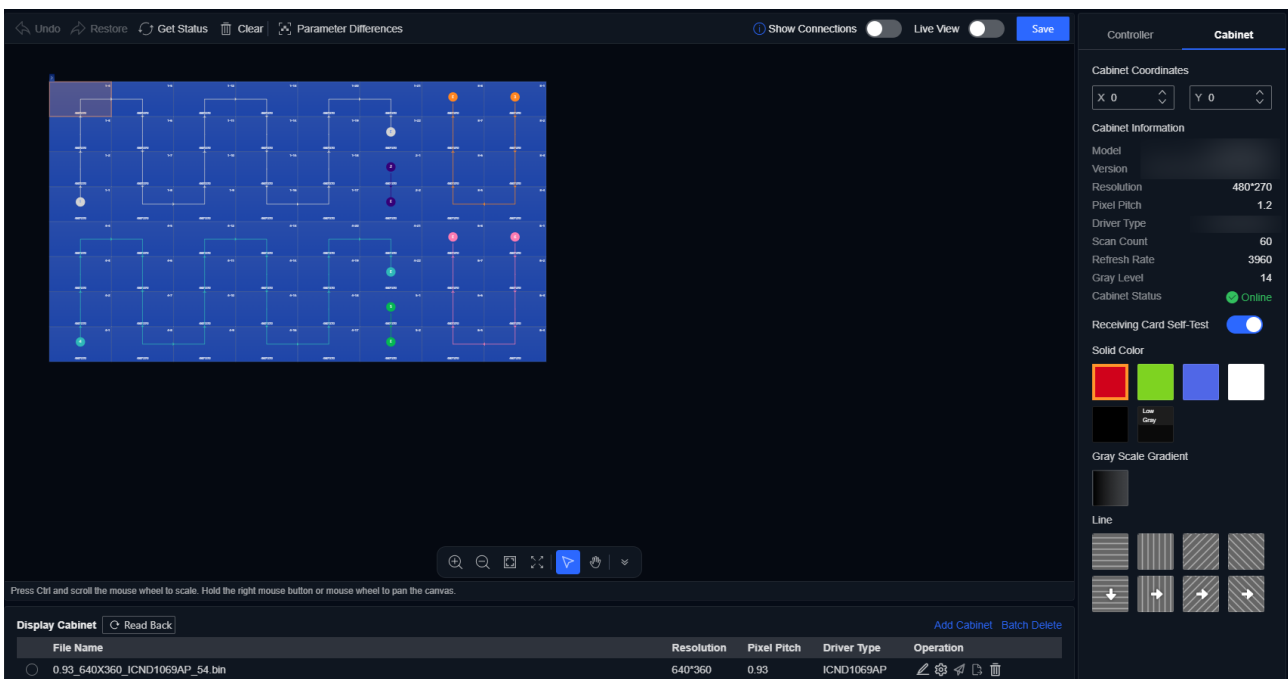


Figure 2-23 View Cabinet Information

- Manage a single cabinet:
 - Add cabinet: Right-click a cabinet, select **Expand**, set layout, and click **OK**.
 - Modify cabinet: Right-click a cabinet, select **Edit Cabinet**, and then choose another cabinet configuration file.
 - Delete port connections: Right-click a cabinet, and select **Delete Connection**.
 - Delete cabinet: Right-click a cabinet, and select **Delete Cabinet**.
- Manage multiple cabinets:
 - Clear port connections: Click **Clear**, select **Clear Network Port Connection**, select the network ports, and then click **OK**.
 - Clear all cabinets & connections: Click **Clear**, and then select **Clear Canvas**.
- Control the canvas via buttons:
 - Click **Read Back** to obtain the latest cabinet configuration.
 - Click **Get Status** to obtain the current display layout and port connections.
 - Click **Parameter Differences** to show different cabinet configuration files in distinct colors.
- Control the canvas via the canvas toolbar:
 - Click  to expand the canvas toolbar; click  to collapse it.
 - Click , move the mouse to any position on the canvas, hold down the left button and drag to move the canvas.
 - Click  and then select a cabinet to freely move its position.
 - Click  to automatically fit the canvas to the current computer screen size.
 - Click  to zoom in on the canvas.
 - Click  to zoom out the canvas.
 - Click  to enter full-screen mode for the canvas.

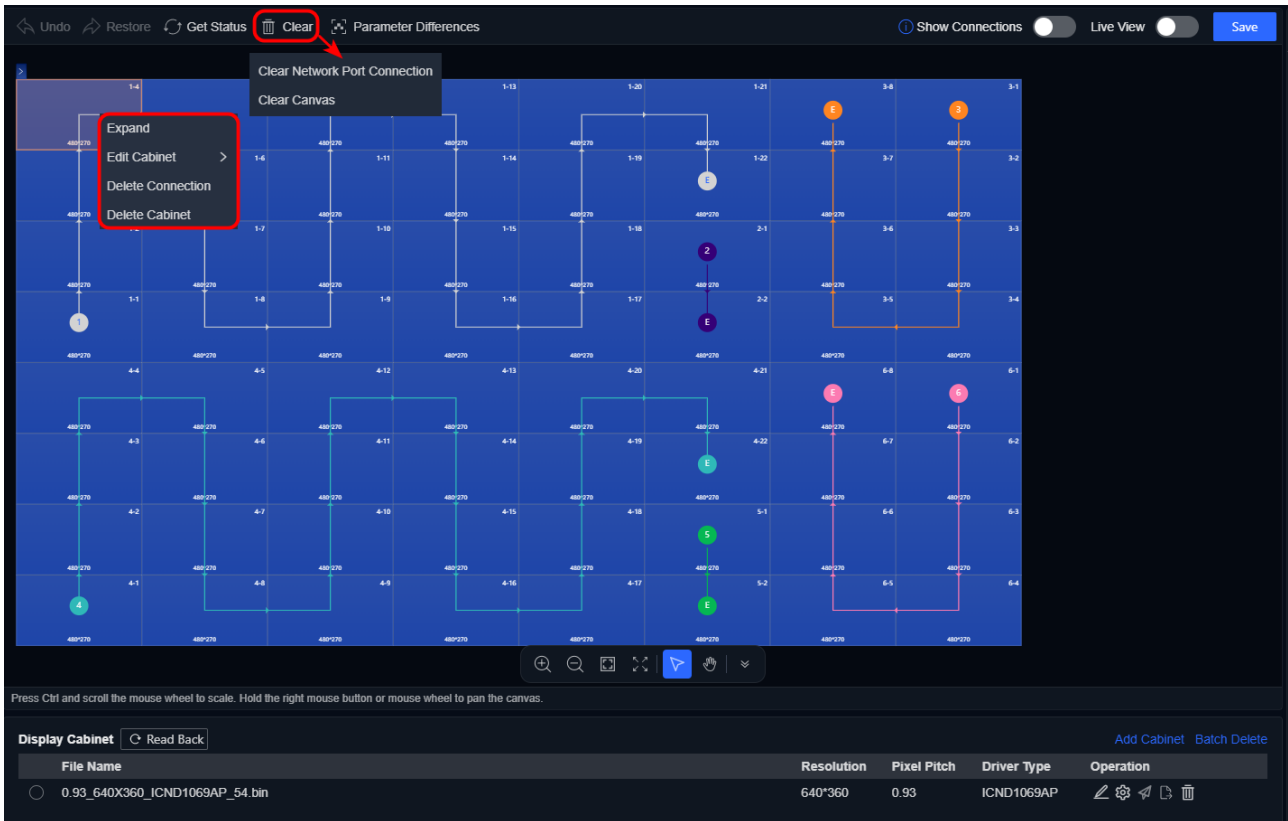


Figure 2-24 Configure Cabinet Parameters

Use Shortcut Keys

In addition to UI buttons and canvas toolbar, the system provides full shortcut key support (see table below).

Table 2-3 Shortcut Keys

Function		Shortcuts
Delete operation	Delete cabinets and network port connections	Select the cabinets, and press Delete .
Canvas panning	Move the canvas horizontally	Hold Shift and move the mouse wheel up or down.
	Move the canvas vertically	Move the mouse wheel up and down.
	Drag the canvas	• Hold the mouse wheel and move the mouse. • Hold the right mouse button and move the mouse.
Zoom controls	Zoom in	• Hold Ctrl and press +. • Hold Ctrl and move the mouse wheel up.
	Zoom out	• Hold Ctrl and press -.

Function		Shortcuts
		• Hold Ctrl and move the mouse wheel down.
	Zoom to the selected cabinet(s)	Select one or multiple cabinets, and press Ctrl + D .
	Show the overall range of the current display	Press Ctrl + F .
	Reset zoom to 100% (1:1)	Press Ctrl + O .
Edit operations	Restore	Press Ctrl + Y .
	Undo	Press Ctrl + Z .
	Select all	Press Ctrl + A .
	Copy selected cabinets	Select cabinets with mouse, and press Ctrl + C .
	Paste copied cabinets	Press Ctrl + V .
Cancel actions	Cancel network port connection	Press ESC .
	Cancel cabinet adding	Press ESC .

2.2 Demo Project Display Mapping

2.2.1 Demo Project Setup Procedure

Applicable Devices

All series of LED controllers and video wall controllers.

Function Description

A demo project provides a virtual debugging environment for display mapping configuration, enabling the addition of virtual devices to simulate setup processes. Physical devices can be bound at any time for actual deployment. This functionality is designed for demonstration purposes and training scenarios.

Steps

Step 1 Create a new demo project.

Step 2 Use the default screen or create a new display.

Step 3 Add the virtual LED controller and cabinets (see "2.2.2 Add Device and Cabinets").

Step 4 Configure cabinet layout and network port connections (see "2.2.3 Configure Cabinet Layout and Port Connections").

Step 5 Deploy virtual LED controller configurations to physical displays (see “2.2.4 Deploy Display Mapping Configuration”).

Step 6 (Optional) You can perform the following operations as required:

- Hover over a demo project to edit its name, export it, or delete it.
- On other client-installed computers, click **Import Project** to migrate device parameters and display mapping configuration from other systems.

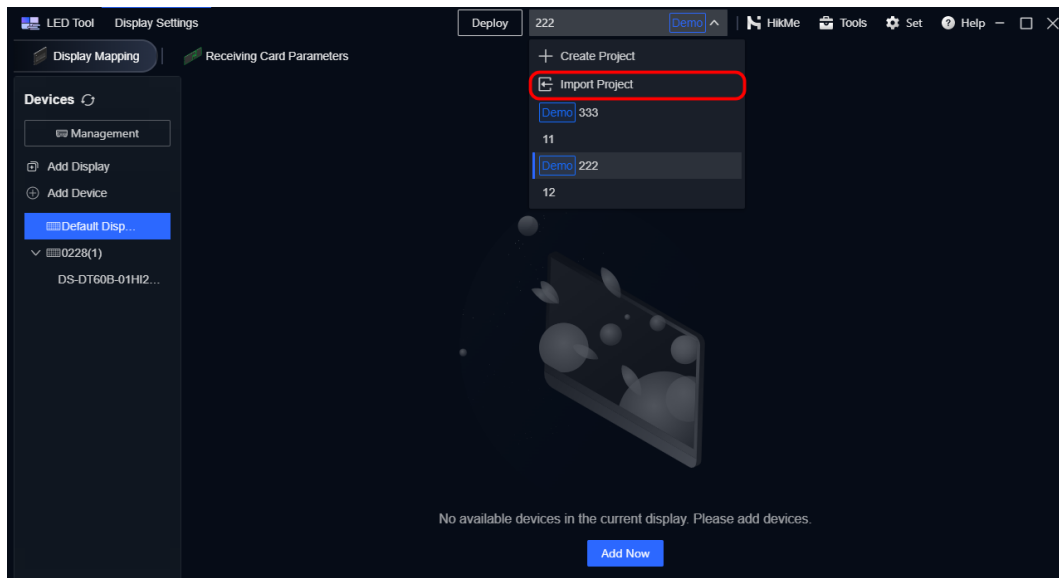


Figure 2-25 Import Demo Project

2.2.2 Add Device and Cabinets

Step 1 Click **Create Project** and select **Demo Project**.

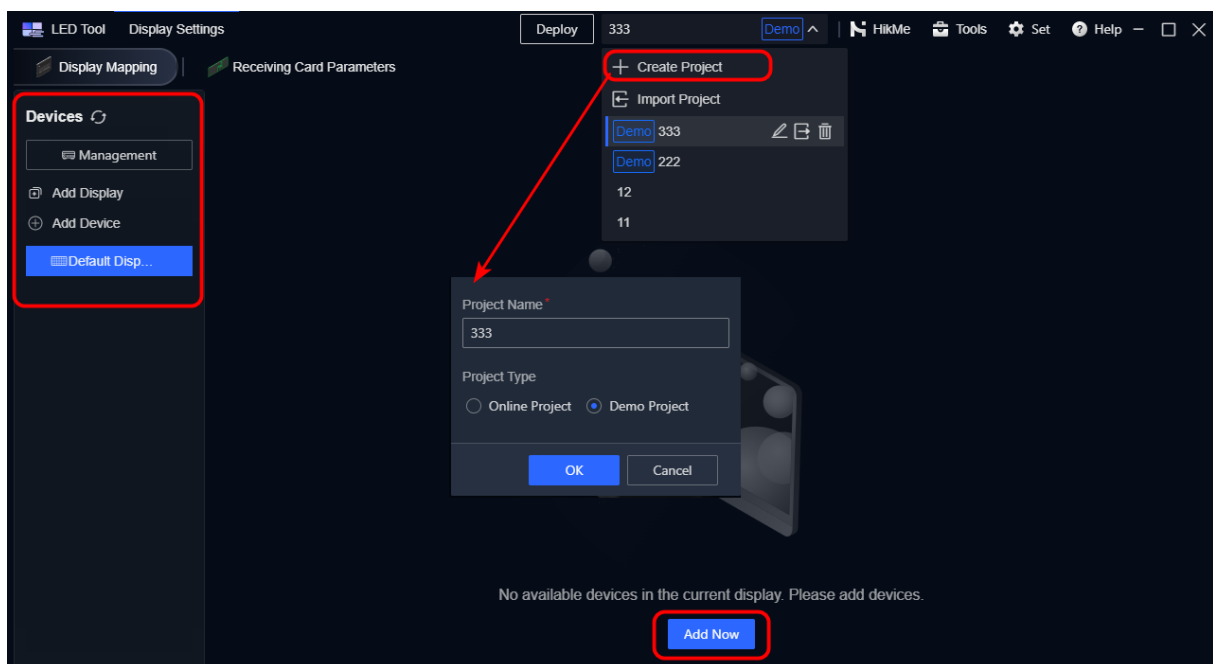


Figure 2-26 Create Demo Project

Step 2 On the **Display Settings > Display Mapping** page, select a display:

- Use the default screen.
- Click **Add Display** to add a new display.

Step 3 Use either of the following methods to add the virtual LED controller.

- Click **Management**, and click **Add Device**.
- Click **Add Device**.
- Hover over the target display and click . Devices are added to the target display by default. If you need to specify another display, select the target display in the **Add to** parameter.
- Click **Add Now**.

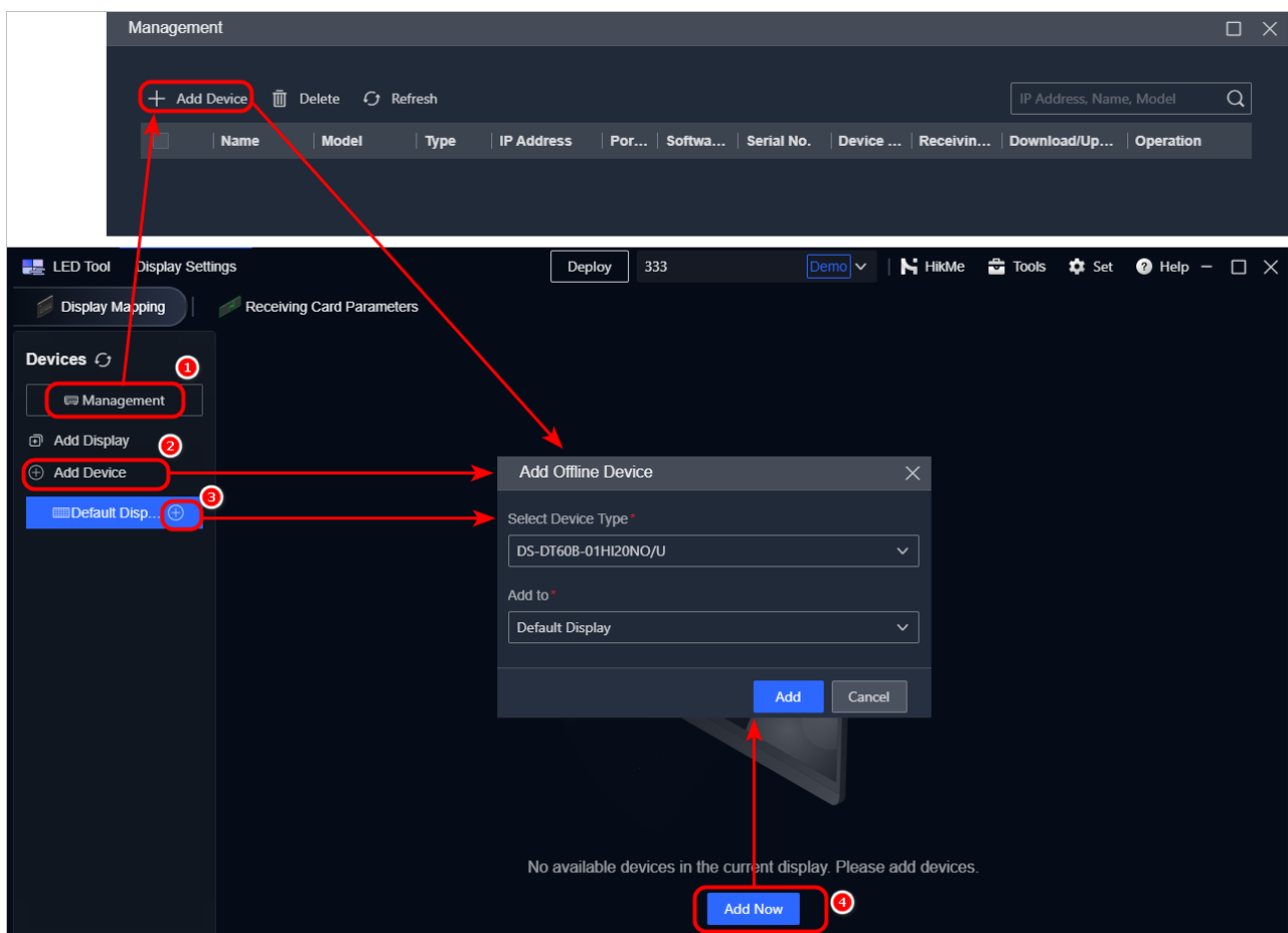


Figure 2-27 Add Virtual LED Controller

Step 4 Select the virtual LED controller and click **Add Cabinet**.

- The loading status of each network port and the device output resolution will be shown on the right.
- On the canvas, click  of the device name to hide the device name or click  to show device name.

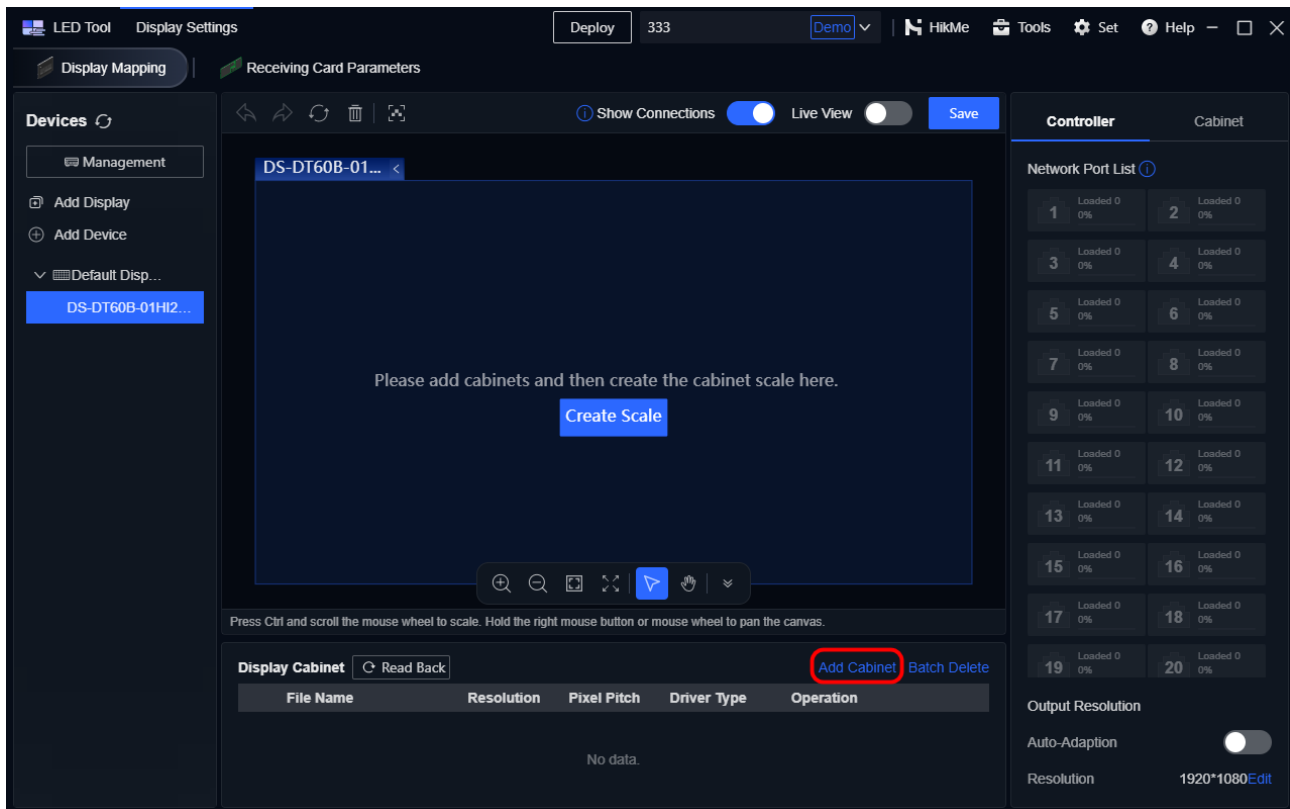


Figure 2-28 Select Virtual LED Controller

Step 5 Use either of the following methods to add the cabinet configuration file:

- If there is a cabinet configuration file on the computer, select **Import from Local File**, click  to select one or multiple configuration files, and click **Add**.
 - Search the cabinet configuration from the cloud. For details, see “7.5.1 Search for Cloud Files”.
 - Create the cabinet configuration files and save them on the computer. For details, see “Chapter 3 Standard Cabinet Configuration” and “Chapter 4 Custom-Shaped Cabinet Configuration”.
 - Contact the product supplier to obtain the cabinet configuration files.
- If you know the LED module serial number or order number, select **Load from Cloud**. Enter the LED module serial number or order number, select the searched configuration files, and click **Add**.
- Select **Load from Display Area**, select a display area, and click **Add**. Only certain cabinets support loading the configuration file from the display area.

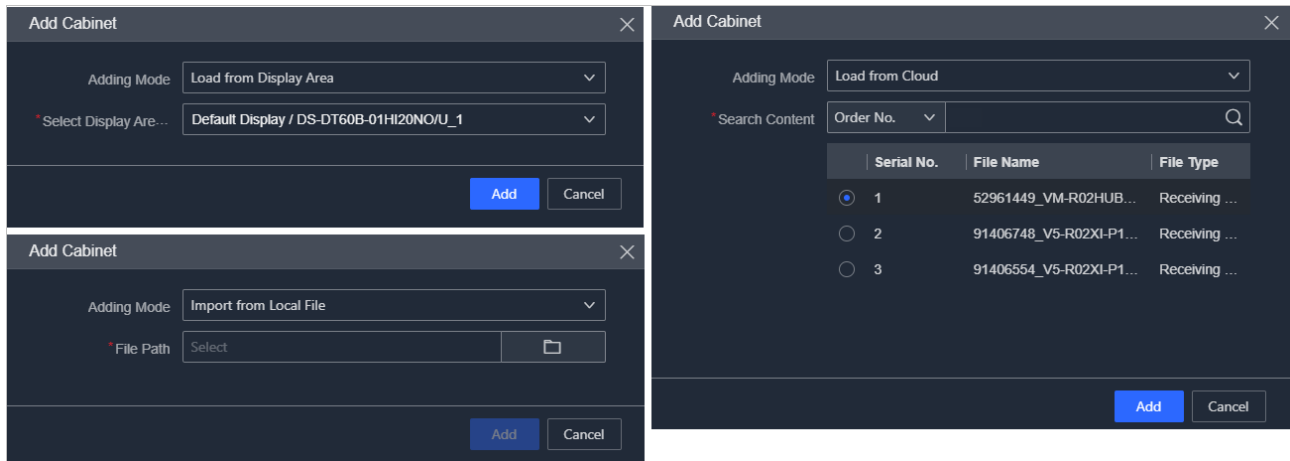


Figure 2-29 Add Cabinet Configuration File

Step 6 (Optional) You can manage the cabinet configuration file as required. For details, see “Manage Cabinet Configuration File”.

2.2.3 Configure Cabinet Layout and Port Connections

Step 1 Enable **Auto-Adaption** or set the output resolution manually.

Step 2 Add cabinets to the canvas to match the physical display layout:

- Select the target cabinet configuration file, and left-click on the canvas to add cabinets. Each left-click on canvas generates one cabinet.

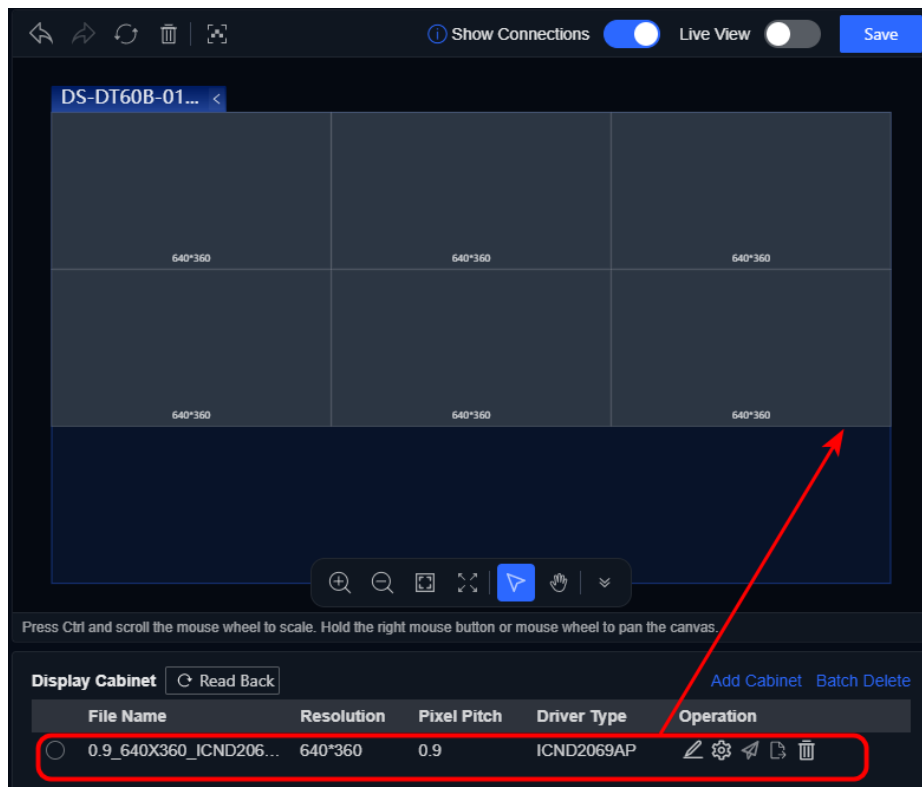


Figure 2-30 Drag Cabinet Configuration Files to Canvas

- Click **Create Scale**, select an added cabinet configuration file, set the rows and columns, and click **OK**.
 - To use other unadded cabinet configuration files, click **Add Cabinet**.
 - After creating the scale, the system will automatically deploy the cabinet configuration file to the device and enable **Show Connections**.

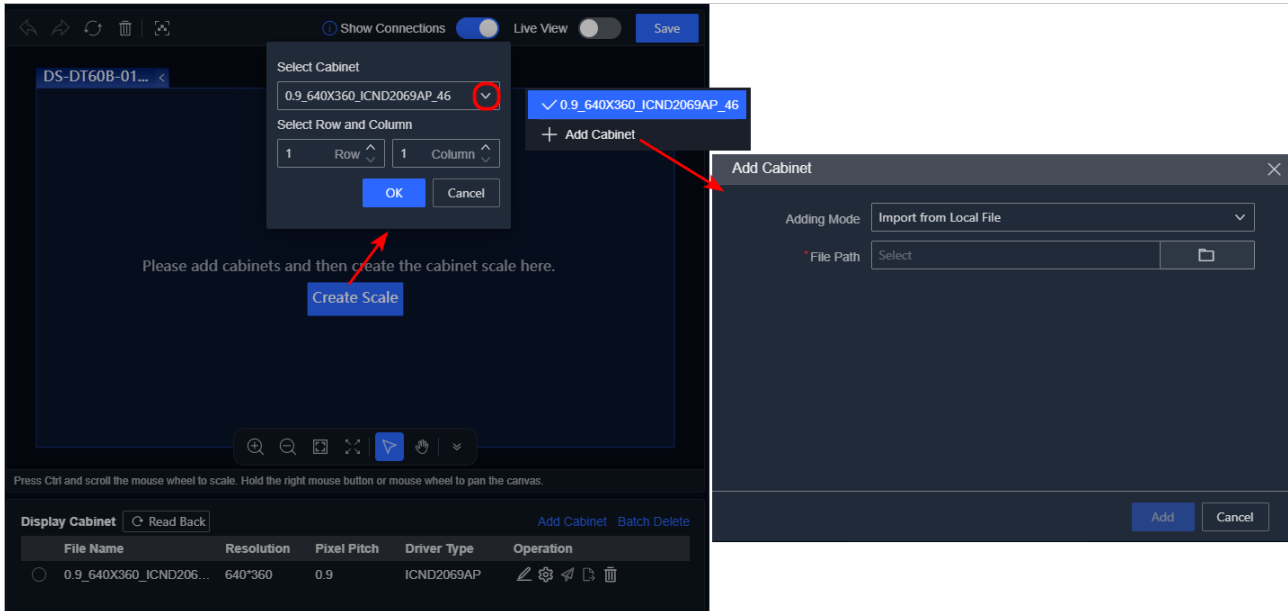


Figure 2-31 Create Display Scale

Step 3 In the **Controller** window, configure port connections according to the actual connections between the cabinets and network ports.

- The direction of the network port connection is determined by both the operation sequence and the selected network port's connection direction. The following three connection methods are supported:
 - Sequential selection: Click on multiple cabinets in the order of connection.
 - Box selection: Click on one cabinet, then hold down the left mouse button and drag to draw a box around other cabinets that need to be connected.
 - Shift continuous selection: Click the first cabinet, hold down the Shift key, and then click the last cabinet to select all cabinets between them.
- To cancel a selected network port connection direction icon, simply click on that icon.

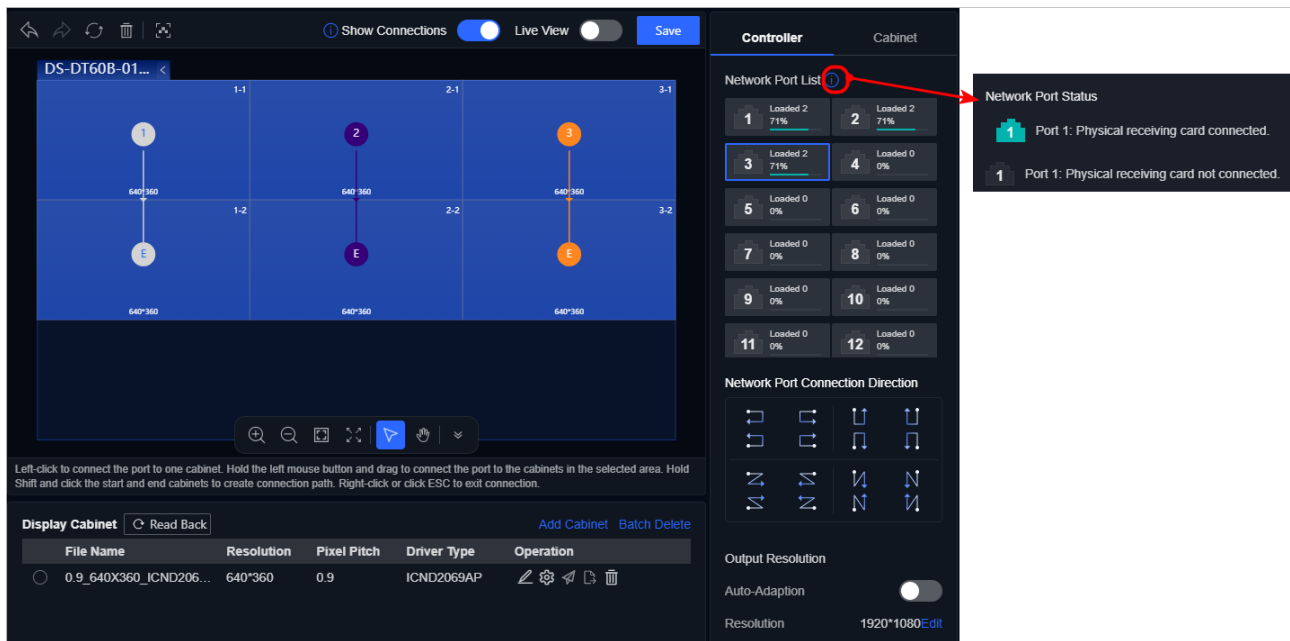


Figure 2-32 Set Display Mapping

Step 4 Click **Save**.

Step 5 (Optional) Configure cabinet parameters. For details, see “2.1.5 Edit Cabinet Configuration File”.

2.2.4 Deploy Display Mapping Configuration

This function is used to deploy the display mapping configuration from the virtual LED controller to the physical display.

Step 1 On the **Display Settings > Display Mapping** page, click **Deploy**.

Step 2 Click Select Online Device.

- Add online devices.
- Manually add devices.

Step 3 Click **Deploy**.

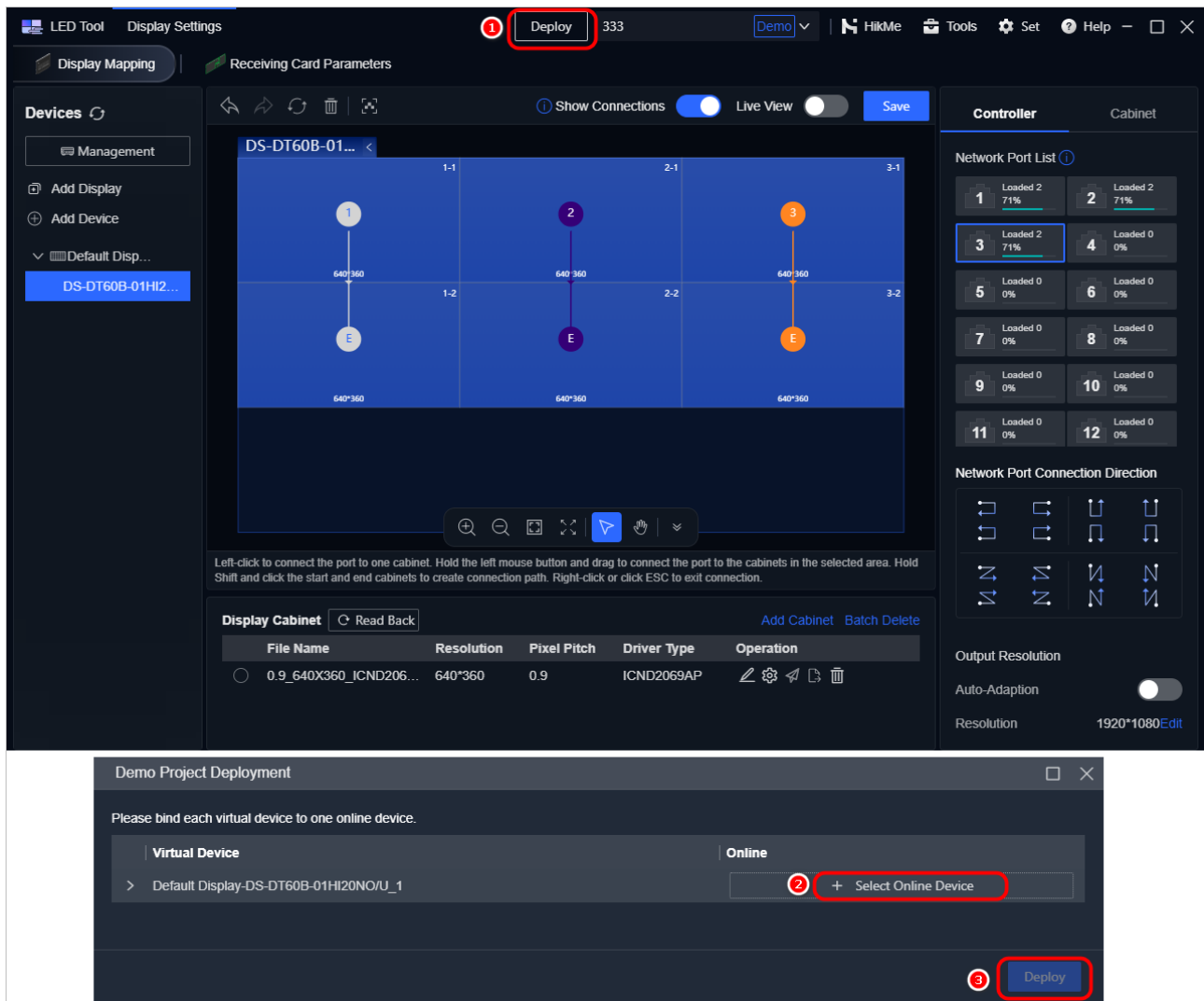


Figure 2-33 Deploy Display Mapping Configuration

Chapter 3 Standard Cabinet Configuration

3.1 Standard Cabinet Configuration Procedure

Applicable Devices

All series of LED controllers and video wall controllers.

Function Description

Standard cabinets refer to standard rectangular matrix units composed of LED modules. On the **Receiving Card Configuration** page, you can configure parameters directly. The client provides the following modes to accommodate different scenarios:

- Online project: Supports online, direct connection, and offline modes. The online mode is the default.
- Demo project: Supports offline and direct connection modes. The offline mode is the default.

The configuration process varies depending on the selected mode. The general operational procedure will be described below.

Steps

Step 1 Navigate to **Display Settings > Receiving Card Parameters**, and select a mode based on actual requirements:

- Online mode: Select a device.

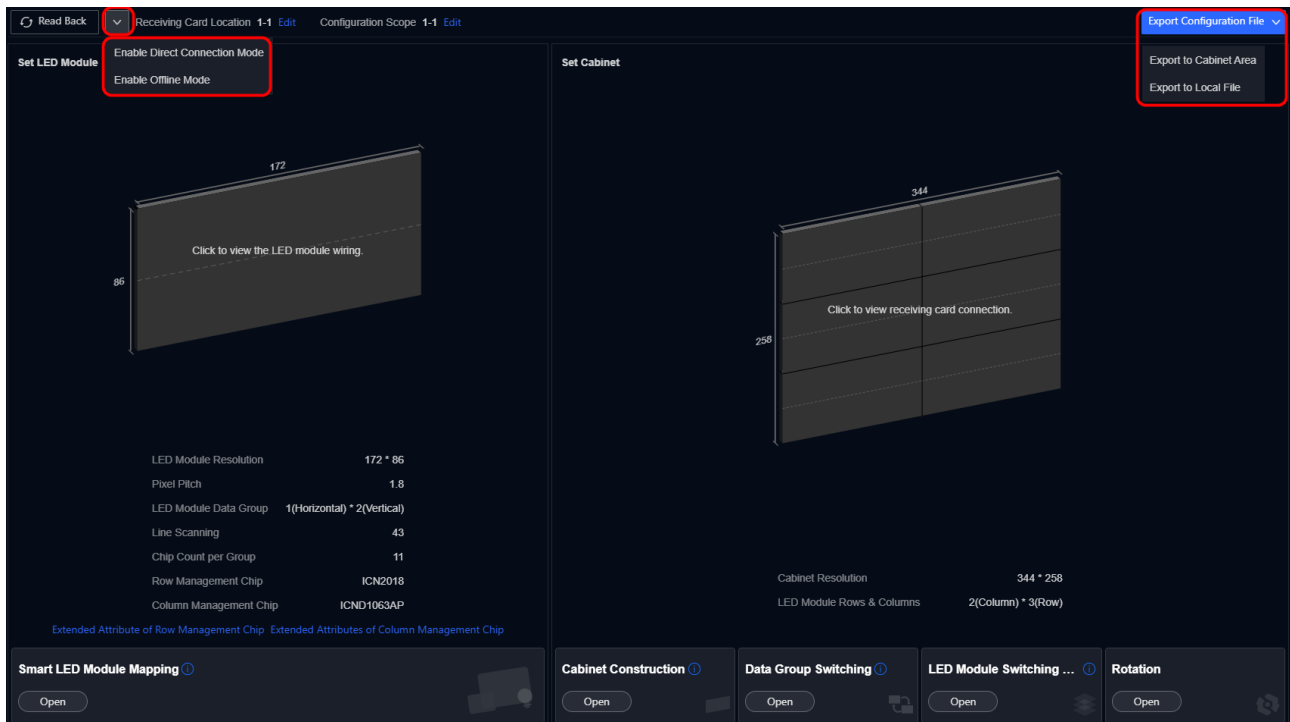


Figure 3-1 Receiving Card Parameters Page (Online Mode)

- Offline mode: Click  to enable offline mode, select the corresponding receiving card model, and click **OK**.

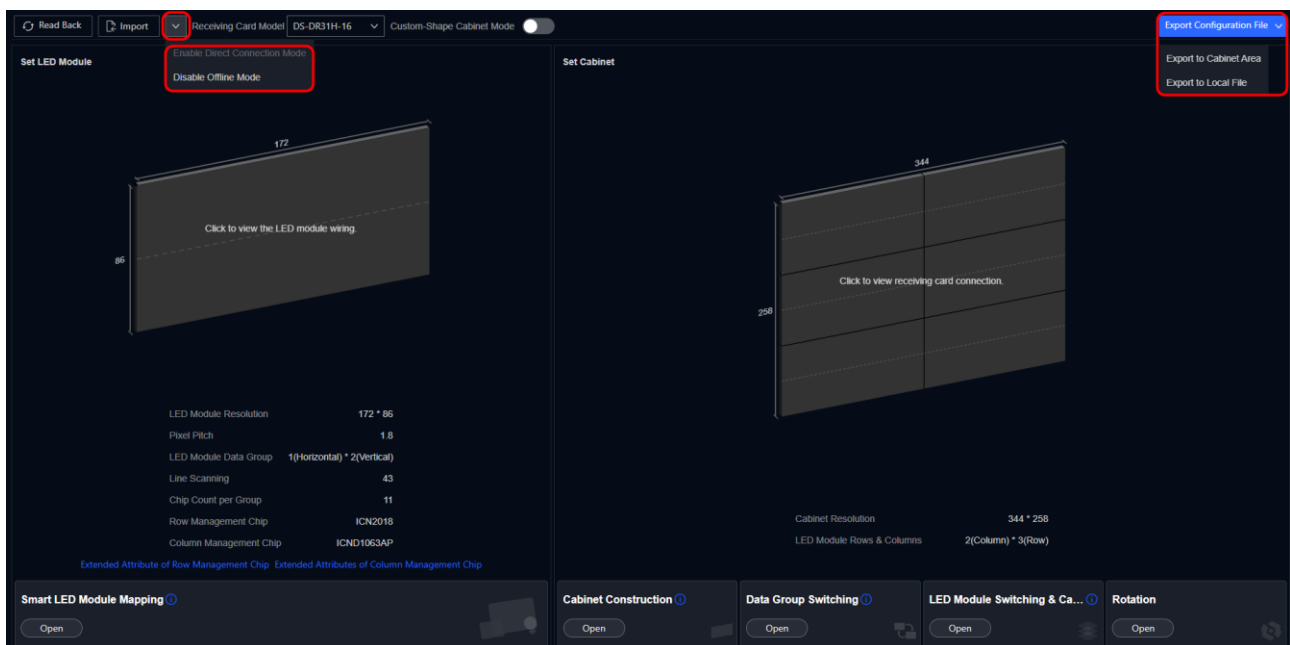


Figure 3-2 Receiving Card Parameters Page (Offline Mode)

- Direct connection mode: Click  to enable direct connection mode.

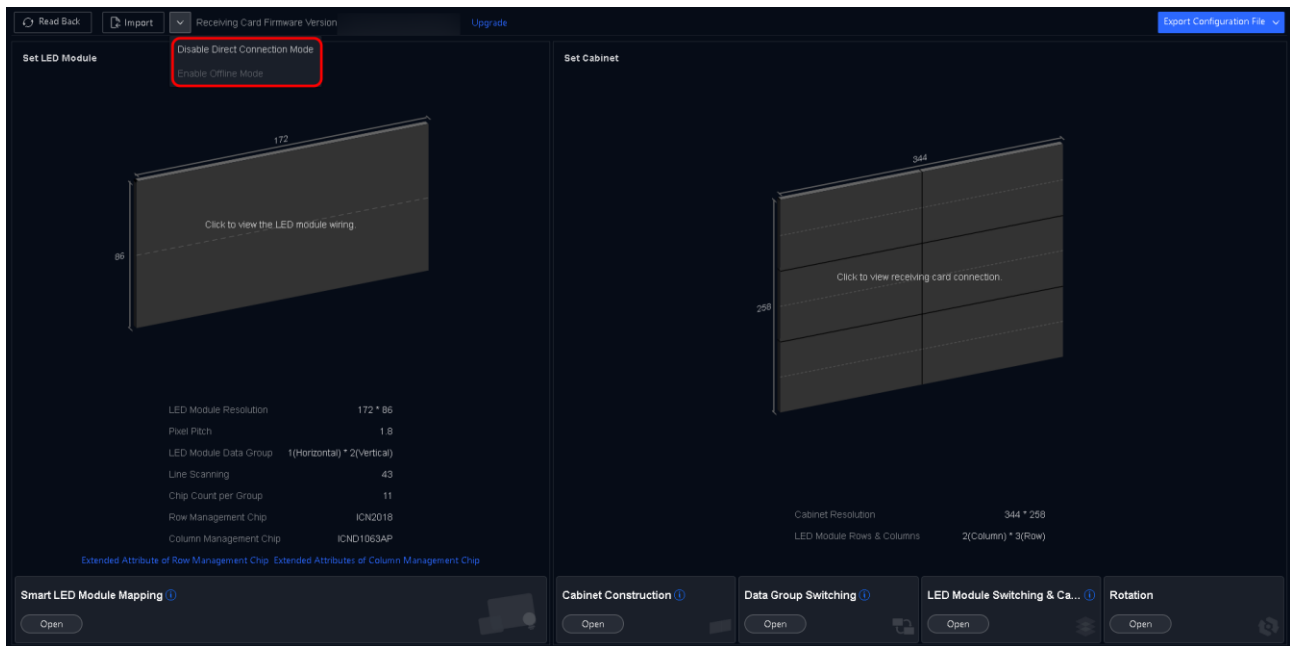


Figure 3-3 Receiving Card Parameters Page (Direct Connection Mode)

Note

In the direct connection mode, you can click **Upgrade** and select the receiving card version to directly upgrade the connected receiving card.

Step 2 (Optional, applicable to online mode) When one device controls multiple receiving cards, select a specific receiving card.

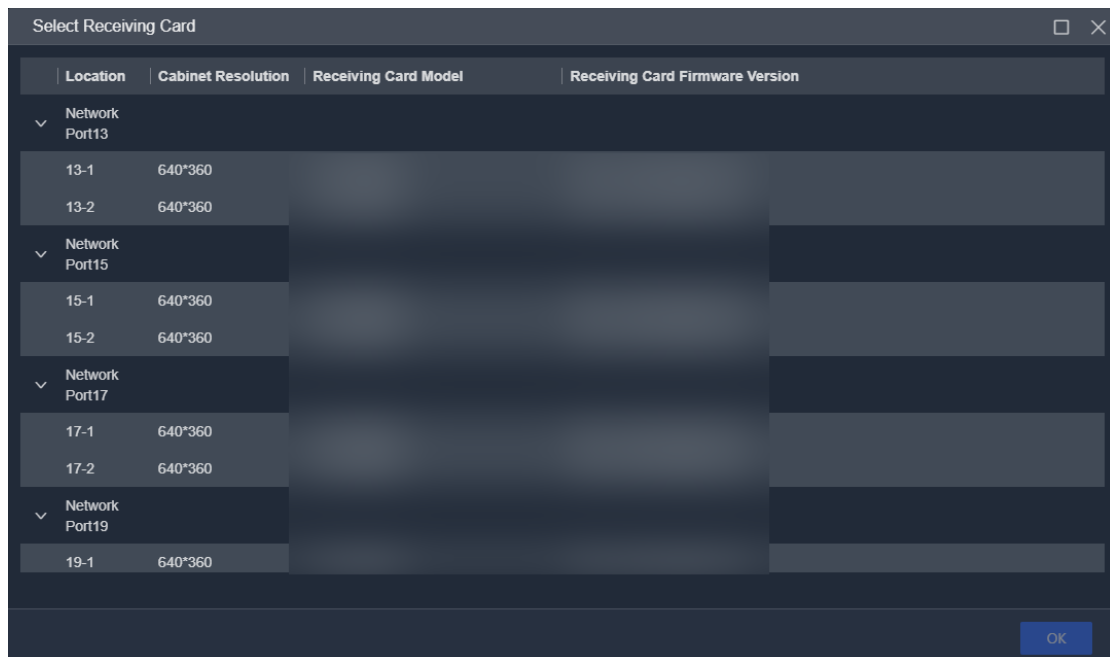


Figure 3-4 Select Receiving Card

Step 3 (Optional, applicable to online and direct connection modes) Set up the smart LED module mapping environment. For details, see “3.2 Set Up Smart LED Module Mapping Environment”.

Step 4 Create or import an LED module configuration file:

- (Optional, applicable to offline mode) If the computer has a saved LED module configuration file or cabinet configuration file, click **Import** to load the file.
- If no configuration file exists, open the smart LED module mapping window, create the LED module configuration file (see “3.3.1 Configure Smart LED Module Mapping Parameters”).

Step 5 Verify LED module illumination and take corresponding actions:

- Poor display effect: Adjust the extended attributes of row/column management chip. For details, see “3.3.2 Configure LED Module Extended Attributes”.
- Unable to illuminate: Open the smart LED module mapping window and recreate the LED module configuration file.
- Abnormal RGB colors: Click to view the LED module wiring and set the corresponding color for each channel.

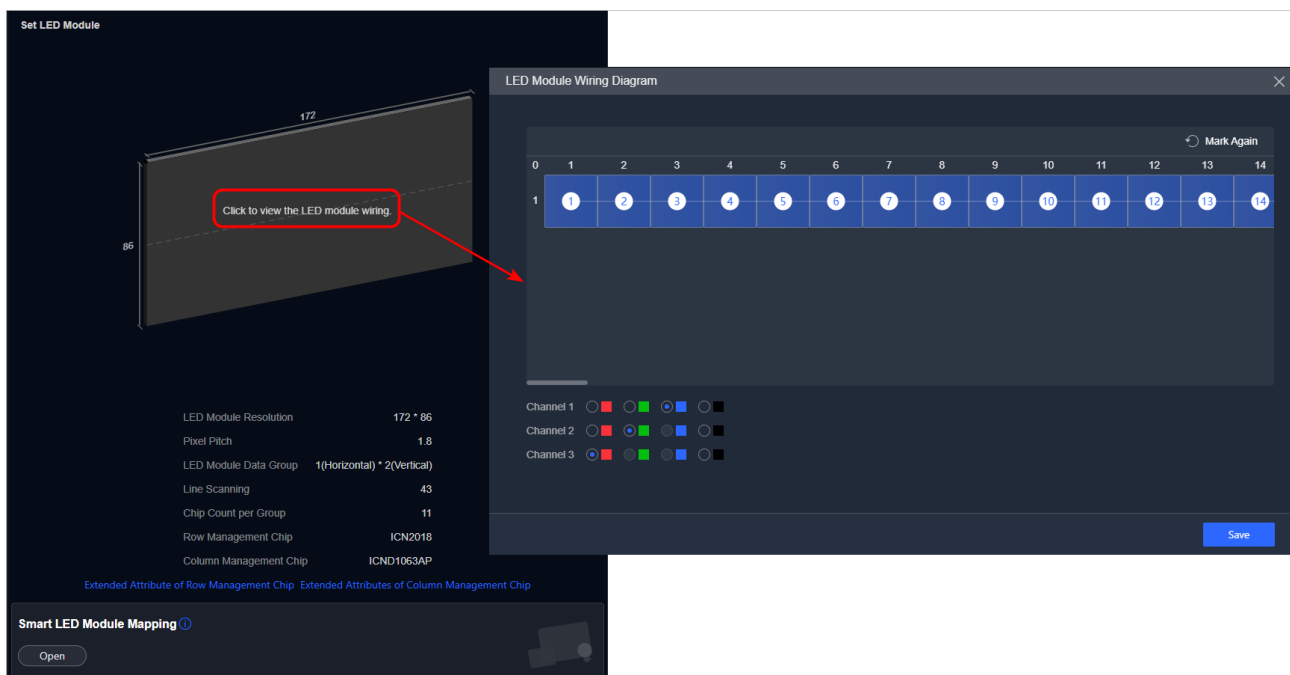


Figure 3-5 Adjust LED Module Wiring

- Normal display effect: Proceed to the next steps.

Step 6 Configure the cabinet configuration file:

- HUB receiving card: Configure the data groups (see “3.4.2 Configure Data Group Parameters”) and LED modules and cascading parameters (see “3.4.3 Configure Module and Cascading Parameters”) in sequence.

- **AXS receiving card:** Construct the cabinet (see “3.4.1 Construct Cabinet”). If the data group image on the display is scrambled, configure the data groups (see “3.4.2 Configure Data Group Parameters”).
- **Rotation configuration:** Configure the cabinet rotation parameters based on the actual cabinet installation method (see “3.4.4 Rotate Cabinets”).
- **Verify cabinet parameters:** Click to view the receiving card connection to check whether the cabinet parameters are correct.

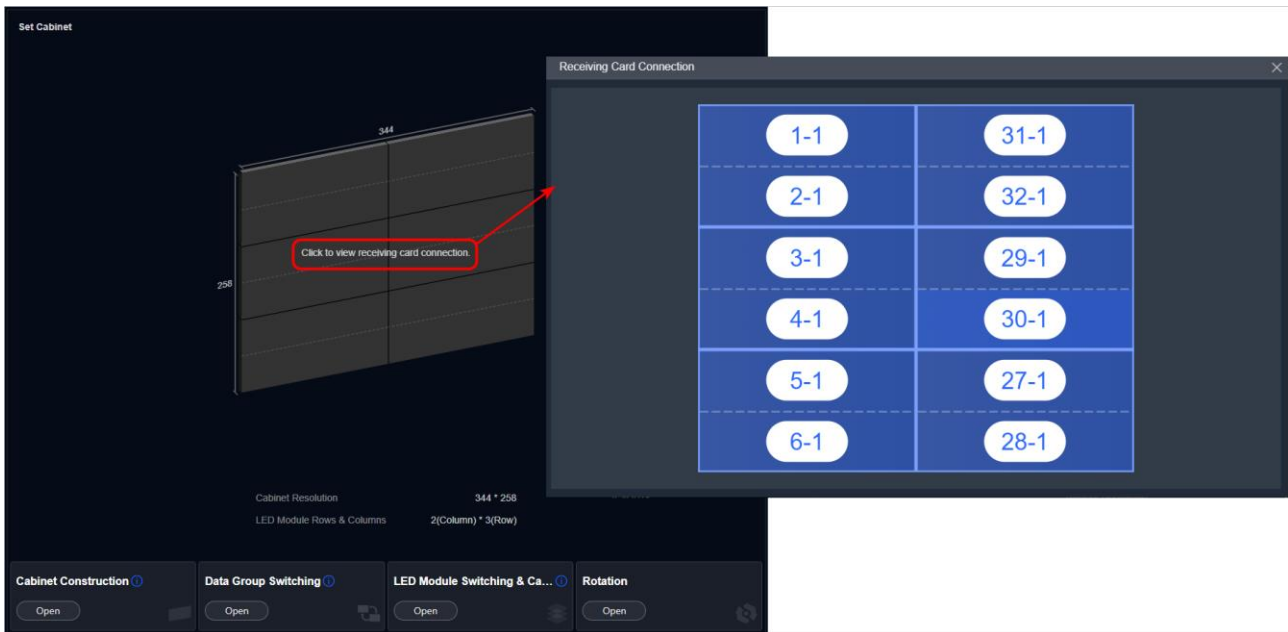


Figure 3-6 View Receiving Card Connection

Step 7 Click **Export Configuration File** to save the cabinet configuration file to the cabinet area or computer.



Figure 3-7 Export Configuration File

3.2 Set Up Smart LED Module Mapping Environment

3.2.1 Auto Setup

Step 1 Navigate to **Display Settings > Receiving Card Parameters**, open the smart LED module mapping window, and click **OK** in the pop-up window.

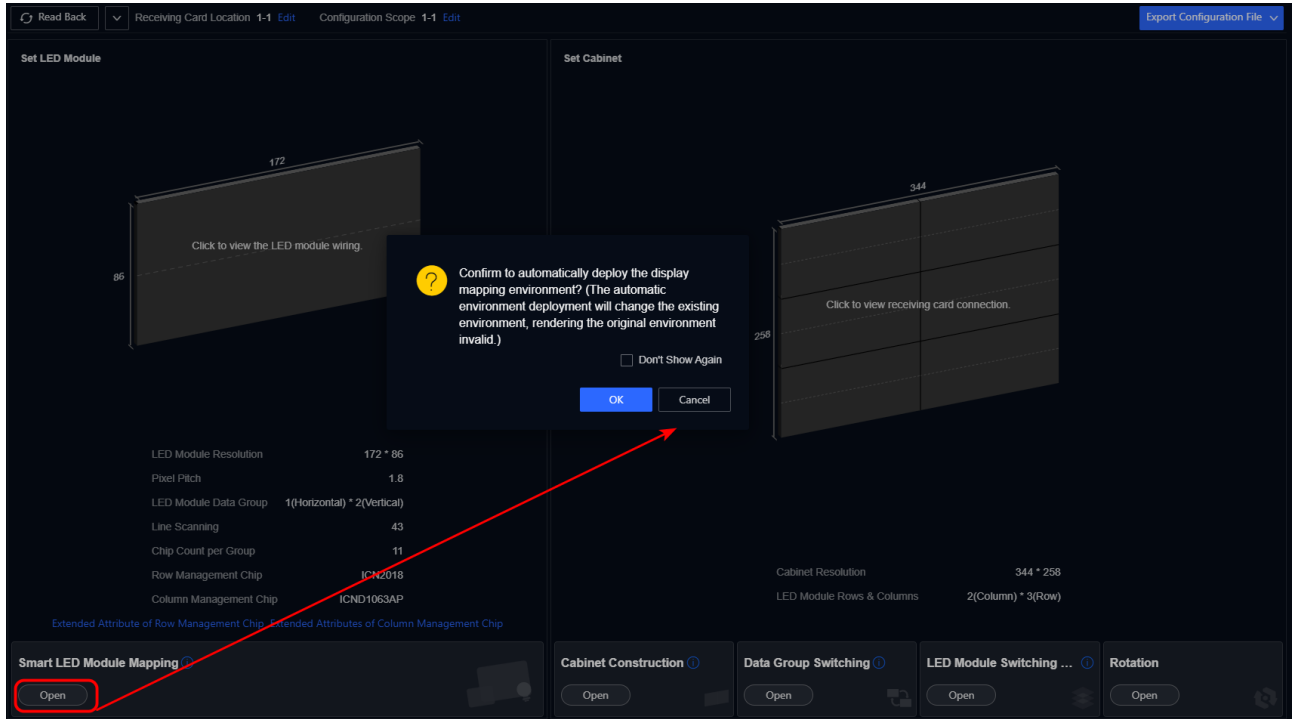


Figure 3-8 Auto Environment Setup

Step 2 The system will auto-configure parameters. If any parameters fail, manually supplement the configuration. The system will automatically configure all parameters. If any parameters fail to be configured successfully, manually complete the settings. Once all parameters are successfully configured, click **OK**.

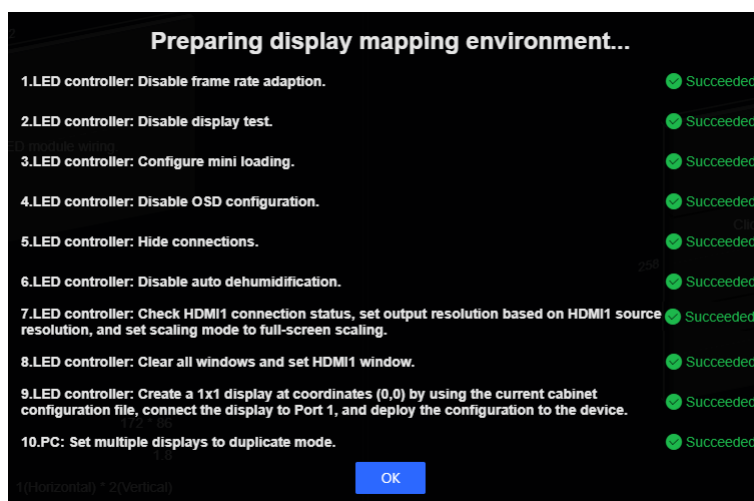


Figure 3-9 View Setup Progress

3.2.2 Manual Setup

This section describes the general workflow for manually setting up the smart LED module mapping environment. For ease of understanding, the demonstration in this section is based on the following typical minimal configuration:

- The device's management Ethernet port (LAN 1) is connected to a computer.
- The device's data output port (DATA OUT 1) is connected to a single receiving card.
- Only the minimum number of LED modules necessary for display mapping are connected to the receiving card.
- The device resolution matches the computer resolution (both are set to 1920 × 1080 in this section).

The subsequent steps will detail the operational method from device connection to display mapping configuration.

Connect Devices

- Connect a device to the client-installed computer:
 - LED controller: Use an Ethernet cable to connect the LAN 1 port to the computer.
 - Video wall controller: Use an Ethernet cable to connect the main control board's LAN port to the computer.
- Connect the device to a single receiving card:
 - LED controller: Use an Ethernet cable to connect the DATA OUT 1 port to the receiving card's Ethernet port.
 - Video wall controller: Use an Ethernet cable to connect the LED controller board's Ethernet port to the receiving card's Ethernet port.
- Establish video signal connection:
 - LED controllers (DT60 and certain DS-T series): Use an HDMI cable to connect the HDMI 1 port to the computer.
 - LED controllers (DT90 series and certain DS-T series): Use an HDMI cable to connect the HDMI 2.0-1 port to the computer.
 - LED controllers (DT30 series and certain DS-T series): No HDMI connection is required.
 - Video wall controllers: Use an HDMI cable to connect the HDMI 1port on the HDMI input board to the computer.
- Connect receiving cards to LED modules:
 - AXS receiving card: Fully tile all LED modules within a single cabinet.
 - HUB receiving card: Connect the LED module to the JH1 port.

Configure Input and Output Parameters

Step 1 Ensure the device has been added in the client (refer to "2.1.2 Add and Manage Devices").

Step 2 Configure the signal source:

- C/B-series LED controllers: Navigate to **Image Control > Source Management**, set the EDID resolution of HDMI1 to 1920 × 1080, and the frame rate to 60 Hz.

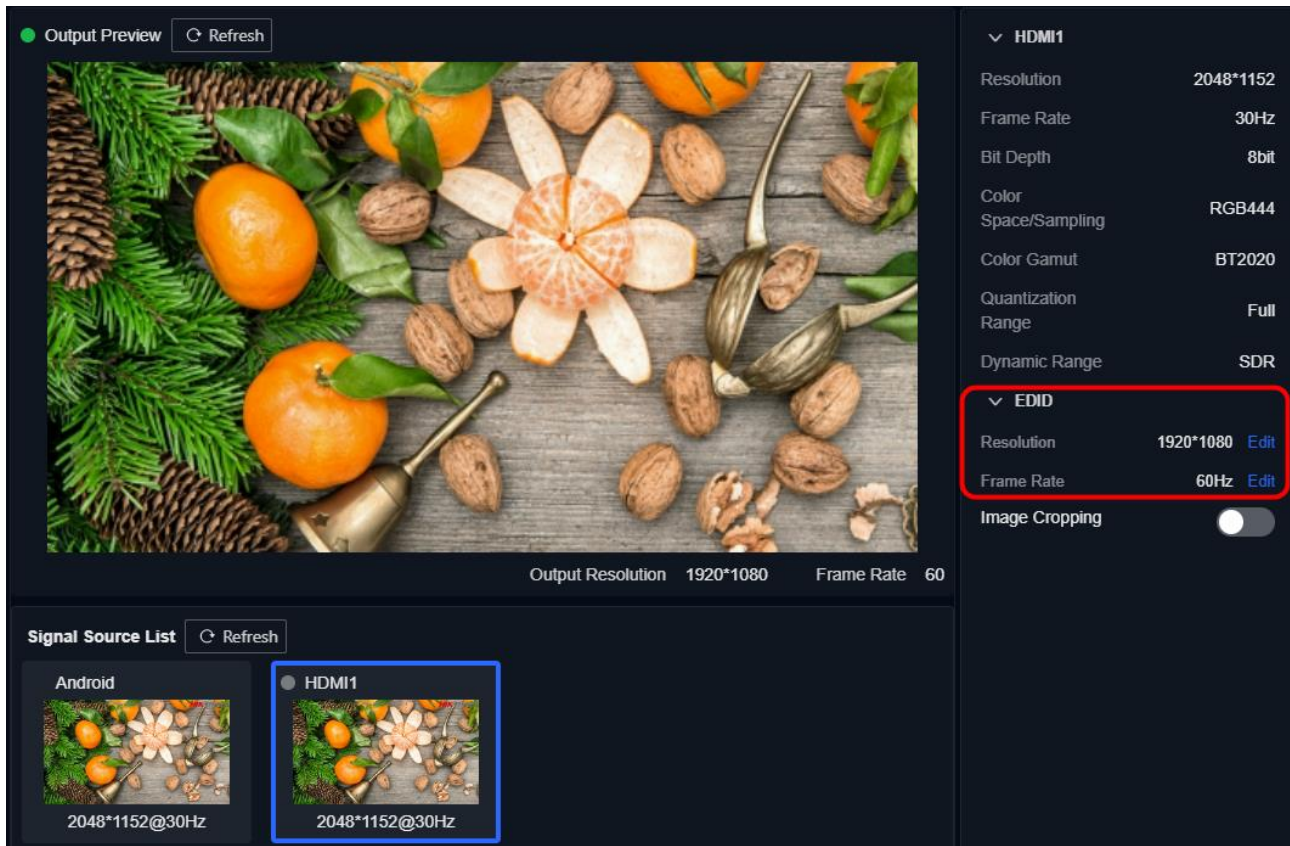


Figure 3-10 Configure Signal Source Parameters (DT60B)

- V/P/U-series LED controllers: Navigate to **Image Control > Content Control**, create an HDMI1 signal source window with the window size and resolution set to 1920 × 1080.

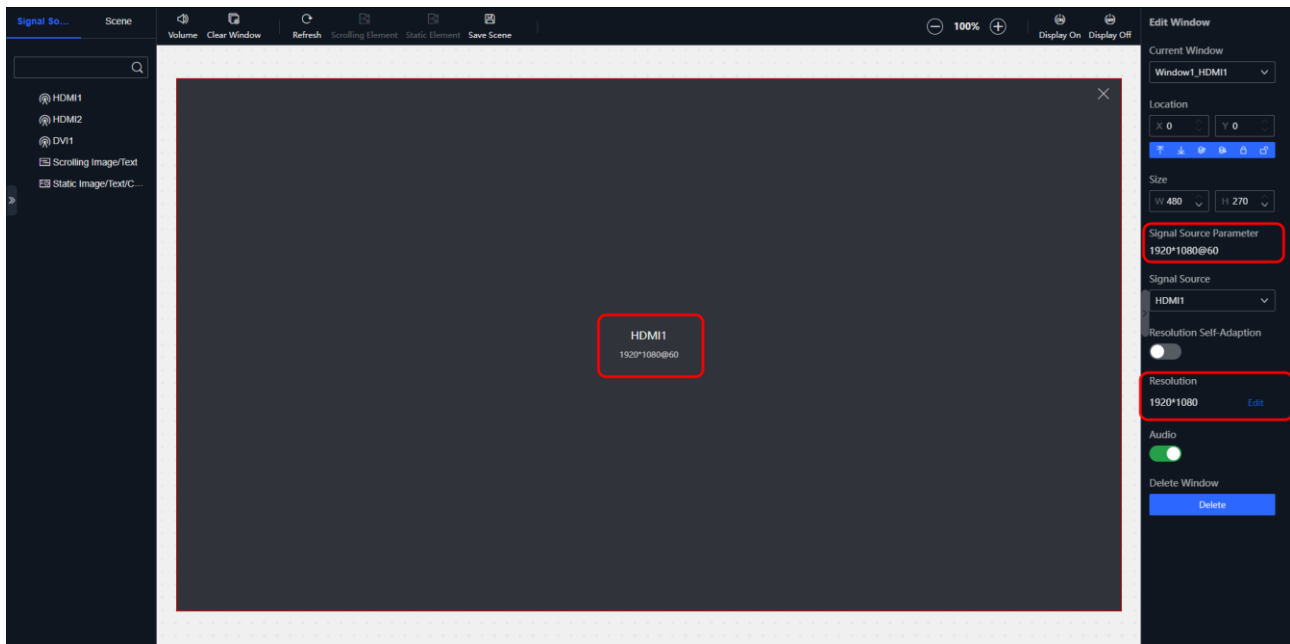


Figure 3-11 Configure Signal Source Parameters (DT60V)

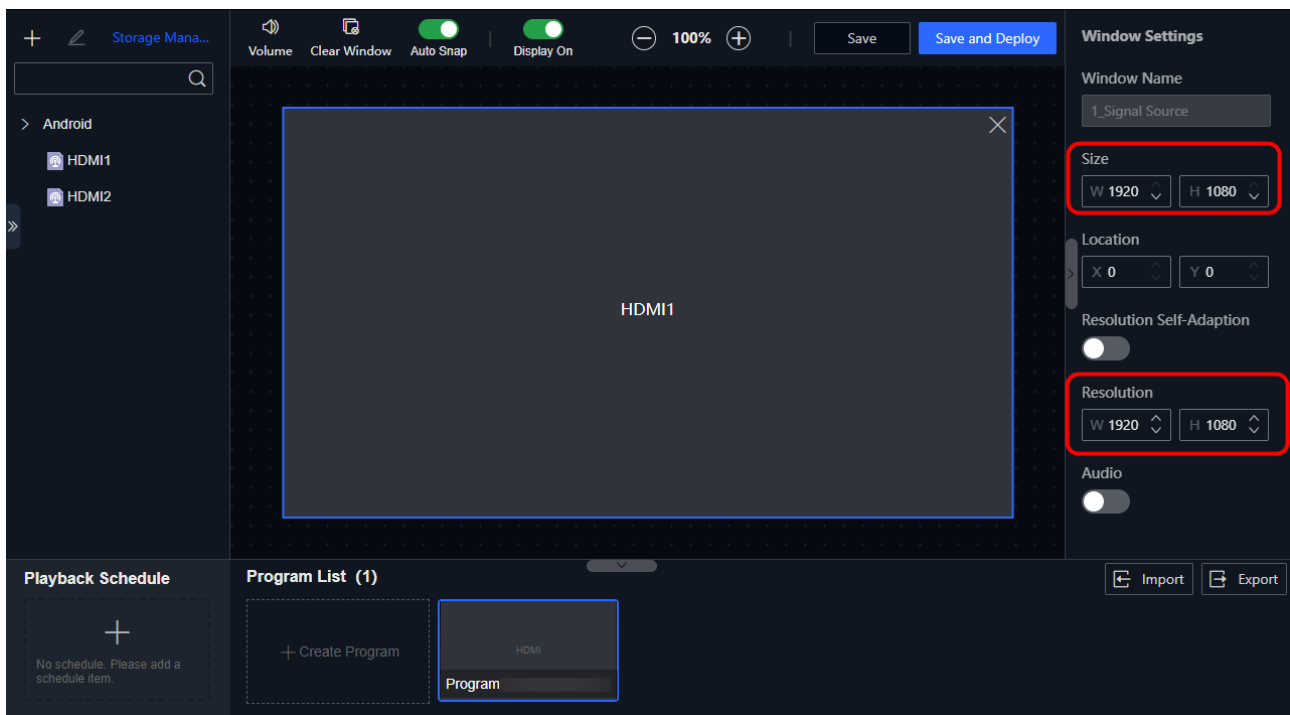


Figure 3-12 Configure Signal Source Parameters (DT90P Series)

- C66S video wall controllers: If a video wall in custom shape has already been configured on the web page, the client will automatically read the configuration. Otherwise, the client will automatically create an LED video wall and bind it to the LED controller boards.
- Other video wall controller models: Log in to the device web page, enter **Wall Configuration** page, create an LED video wall with a resolution of 1920 × 1080, and bind it to the LED controller boards.

Step 3 Configure output parameters:

- LED controllers: Navigate to **Image Control > Source Management**, select HDMI1 as the output source with a resolution of 1920 × 1080, and select **Pixel-to-Pixel Mode** as the scaling mode (certain devices do not require setting the output source and scaling mode).

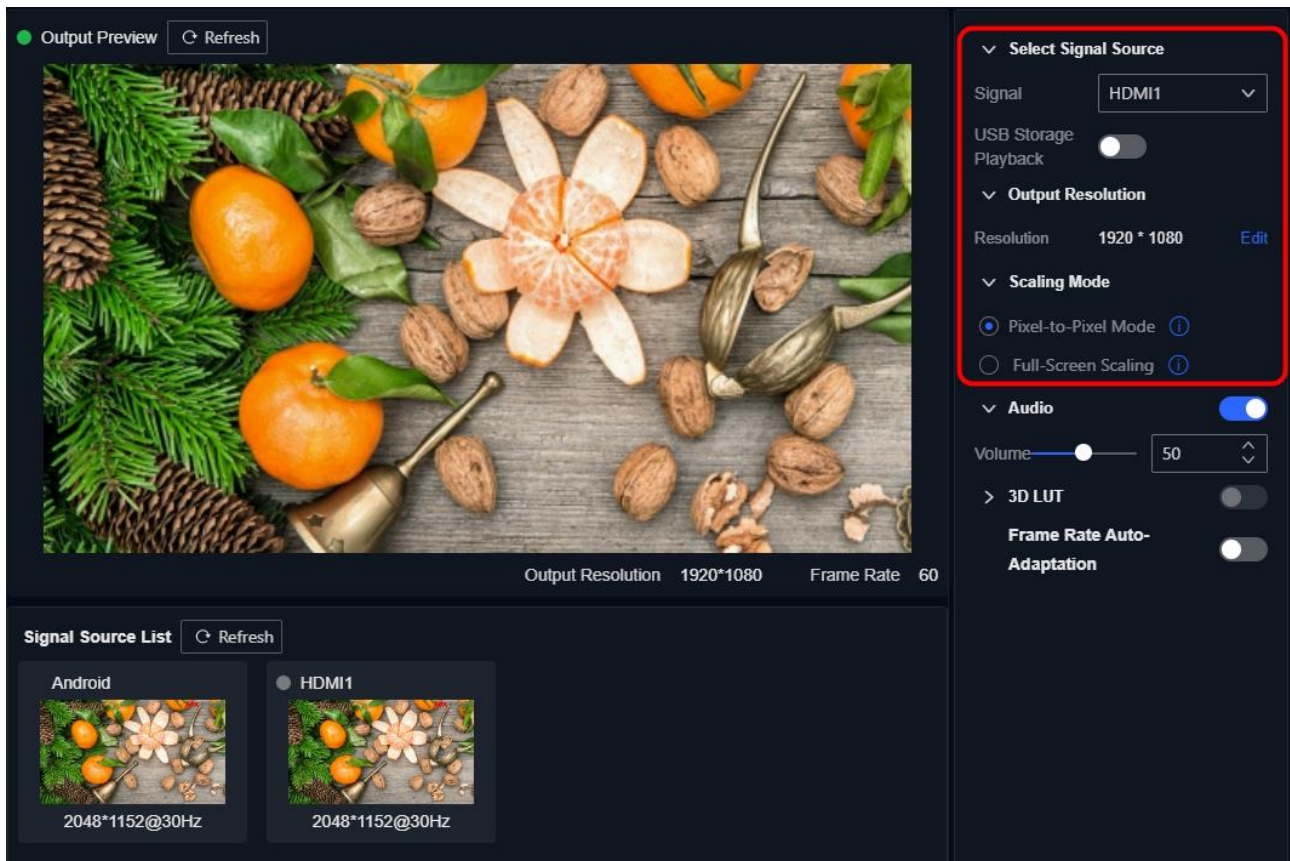


Figure 3-13 Configure Output Parameters of LED Controller

- Video wall controllers: Navigate to **Image Control> Source Management** to verify the output resolution and frame rate (image preview is not supported).

Configure Computer

Set the computer resolution to 1920 × 1080. For LED controllers, set multiple displays to duplicate mode (this requirement does not apply to video wall controllers).

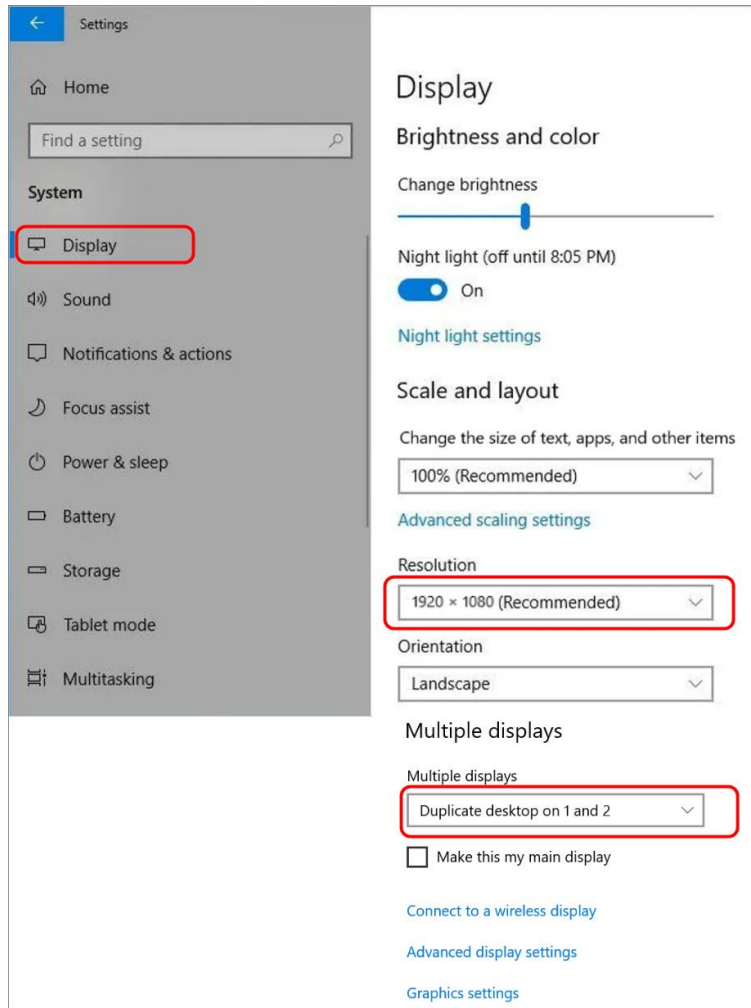


Figure 3-14 Configure Computer (Windows 10 System)

Configure Display Mapping Parameters

Step 1 In the client, select the device and navigate to **Display Settings > Display Mapping**.

Step 2 Drag the default cabinet configuration file to the canvas.

Step 3 Connect network port 1 to the cabinet and click **Save**.

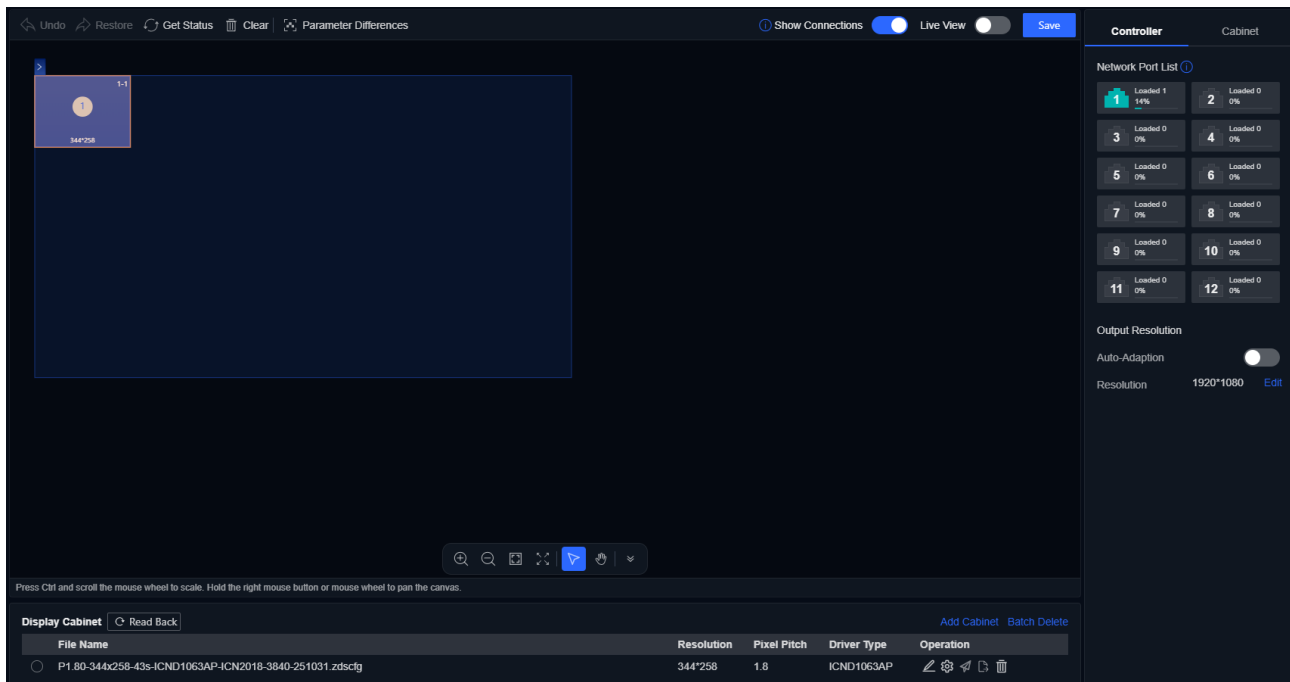


Figure 3-15 Configure Display Mapping for LED Controller

3.3 Configure LED Module Parameters

3.3.1 Configure Smart LED Module Mapping Parameters

Step 1 On the **Display Settings > Receiving Card Parameters** page, open the smart LED module mapping window.

Step 2 Based on actual LED module parameters, set the parameters and then click **Next**.

- **Data Group Settings:** Not required for HUB75E module (with 1 horizontal group and 2 vertical groups) or HUB320 module (with 2 horizontal groups and 2 vertical groups). For other cases, enable this function and set the corresponding parameters.
- **Custom-Shaped LED Module Settings:** Enable this function when the sizes of the left and right data groups on the LED module are inconsistent.
- If prompted about a driver IC and receiving card firmware mismatch, check the column management chip type or upgrade the receiving card firmware.

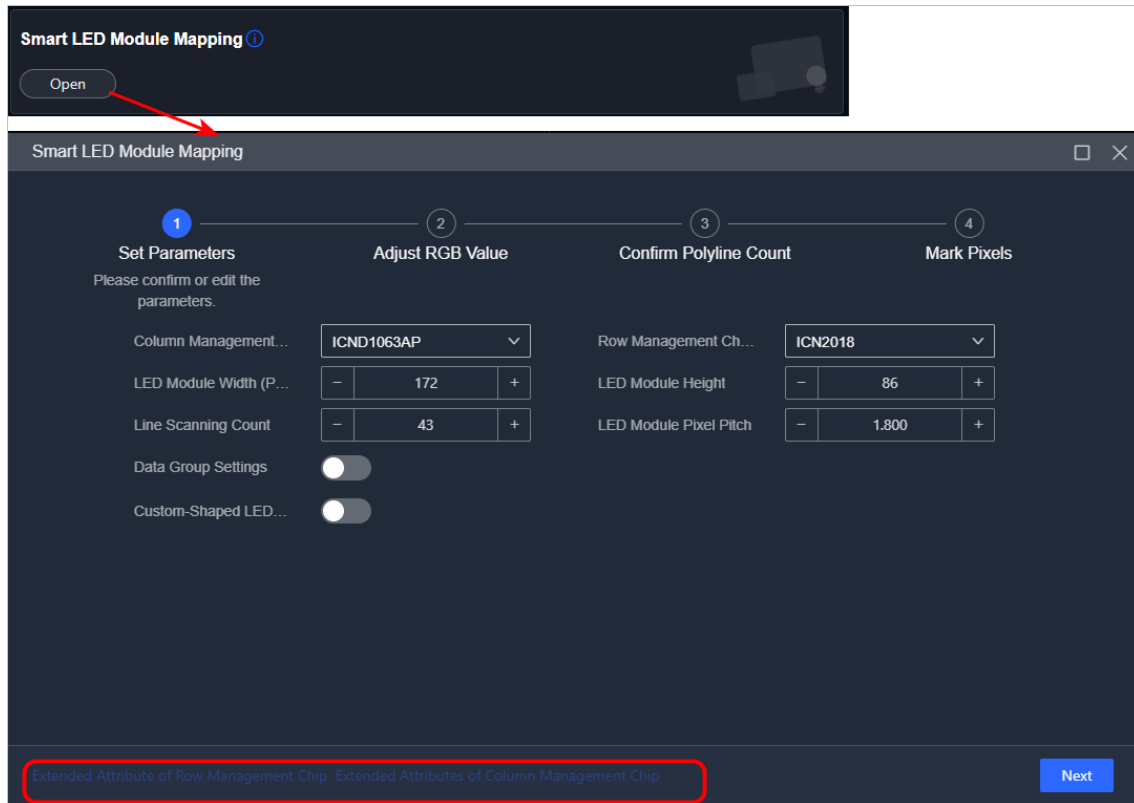


Figure 3-16 Set Parameters

Step 3 Follow the test sequence, select the corresponding color based on the color displayed on the LED module, and click **Next**.

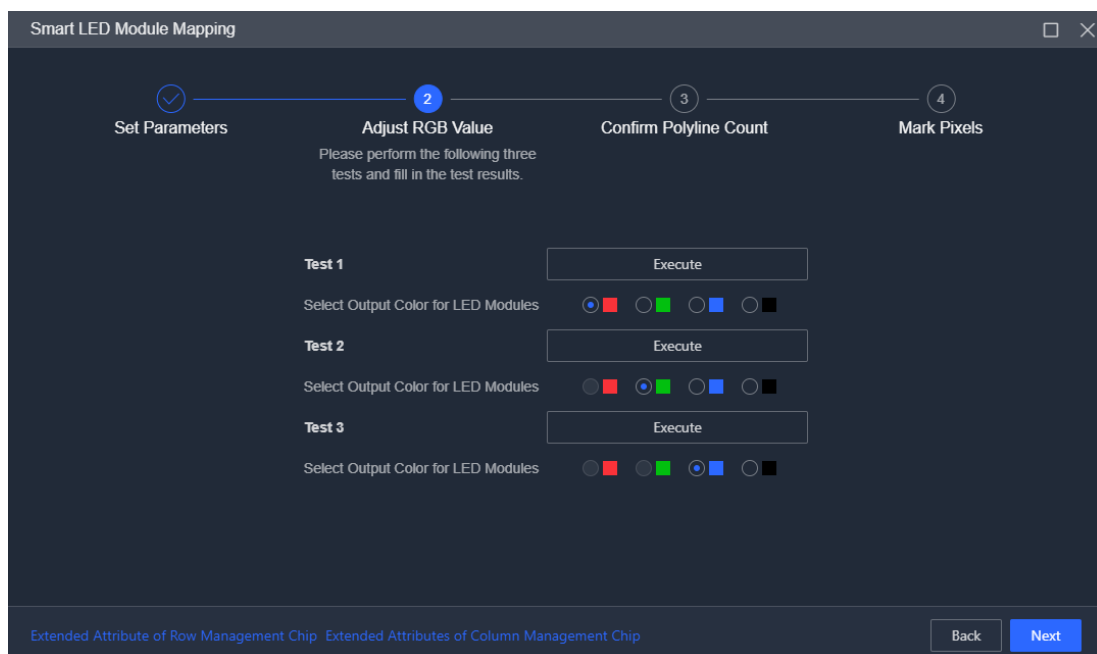


Figure 3-17 Adjust RGB

Step 4 Based on the actual illuminated position and quantity of the LED modules, select the straight line position and set the straight line count, and then click **Next**.

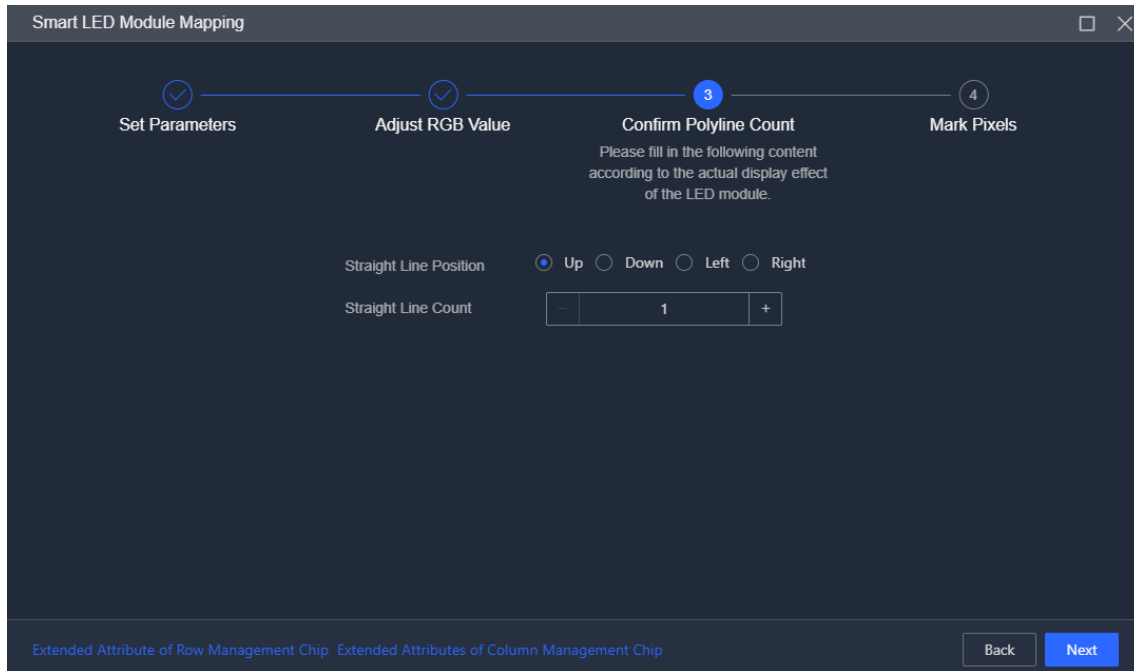


Figure 3-18 Confirm Polyline Count

Step 5 If the parameters indicate row extraction characteristics (the height/row scan ratio of a non-transposed module is a non-integer, or the width/row scan ratio of a transposed module is a non-integer), the system will pop up a prompt.

- If the parameters are correct, click **Yes**. The system will guide you to Step 7 and Step 8.
- If the parameters are incorrect, click **No** and return to check the parameters in the previous steps.

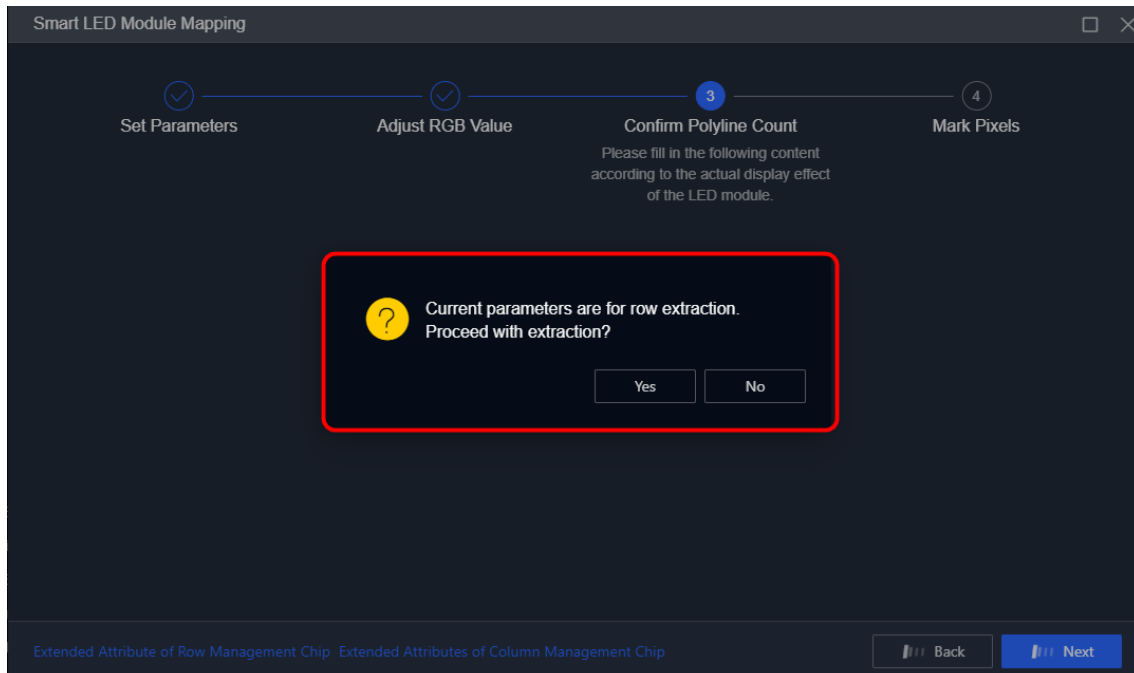


Figure 3-19 Row Extraction Prompt

Step 6 Mark the pixels based on the pixel blinking status of the LED module:

- Blinking: Mark as a normal pixel by using the left mouse button or keyboard arrow keys.
- Not blinking: Mark as an empty point by using the right mouse button or keyboard spacebar. Before marking an empty point, please confirm that the LED bead is not missing.

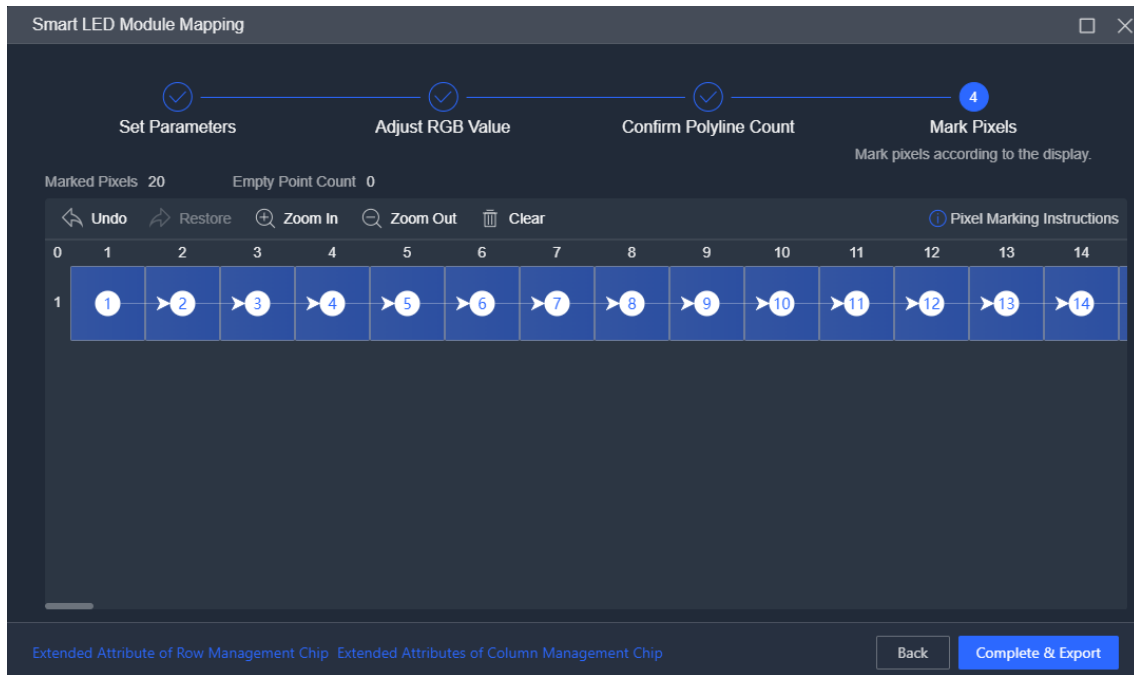


Figure 3-20 Mark Pixels

Step 7 (Optional, only for row extraction) After entering the **Switch Data Group** page, the signal source image will be displayed in the upper-left corner. Based on the actual blinking data group positions on the LED modules, click the corresponding data group positions on the canvas in the same order to ensure the virtual layout matches the physical layout.

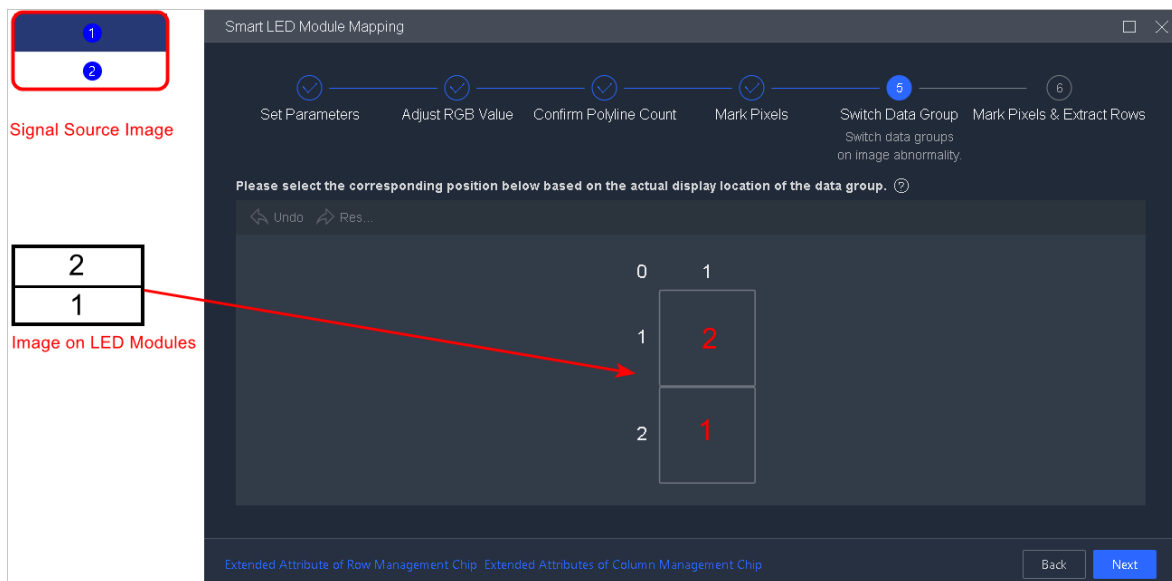


Figure 3-21 Switch Data Group

Step 8 (Optional, only for row extraction) Mark the pixels and extract rows based on the pixel blinking status of the LED module.

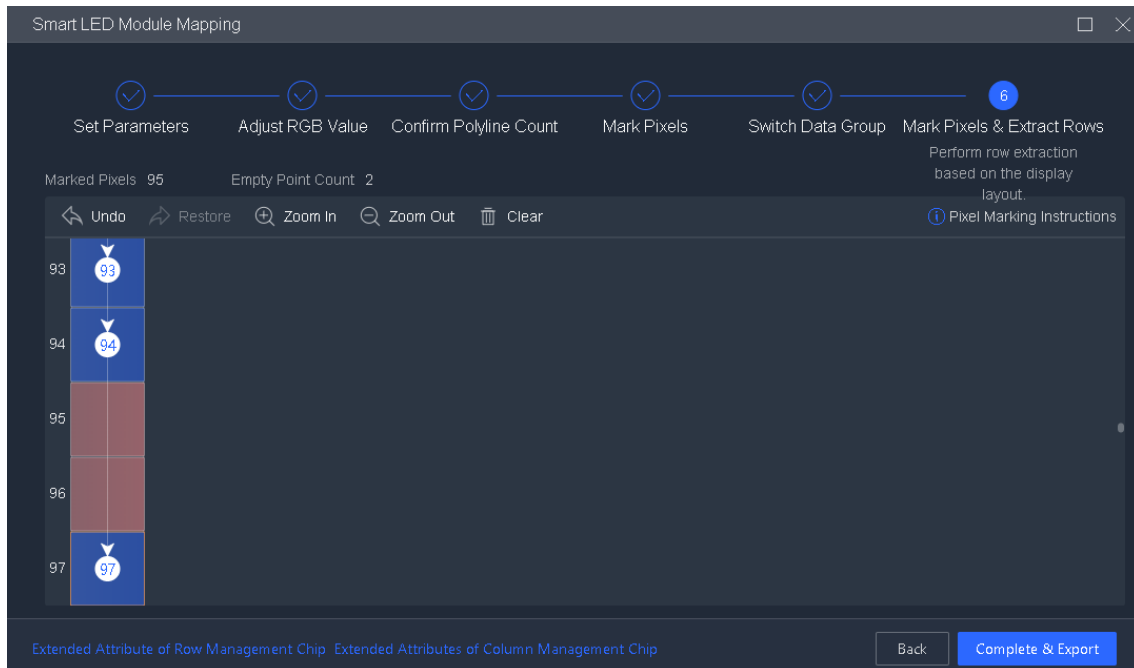


Figure 3-22 Mark Pixels and Extract Rows

Step 9 Click **Complete & Export** to export the LED module configuration file.

Note

The **Extended Attribute of Row Management Chip** and **Extend Attributes of Column Management Chip** buttons are located in the lower left corner of the **Smart LED Module Mapping** page. Click them to configure the LED module parameters as needed.

3.3.2 Configure LED Module Extended Attributes

If the LED module lights up but the display effect is unsatisfactory, configure the following parameters as required:

- Edit the extended attributes of row management chip:
 - 1) On the **Display Settings > Receiving Card Parameters** page, click **Extended Attribute of Row Management Chip**.
 - 2) Click **Get** to obtain the current configuration.
 - 3) Enable **Shallow Enhancement** as required or change the shallow potential level.
 - 4) Click **Set**.
- Click **Extended Attributes of Column Management Chip** to configure the following parameters:
 - Timing parameters: On the **Timing Parameters** page, click **Get** to load the current settings, modify parameters, and click **Save**.

- Effect parameters in normal mode: On the **Effect Parameters** page, select the default parameters or click **Get** to load settings, modify parameters, and click **Save**.
- Effect parameters in advanced mode: On the **Effect Parameters** page, click **Advanced Mode**, click **Get Advanced Parameters**, double click a parameter to edit its value, and click **Save**.

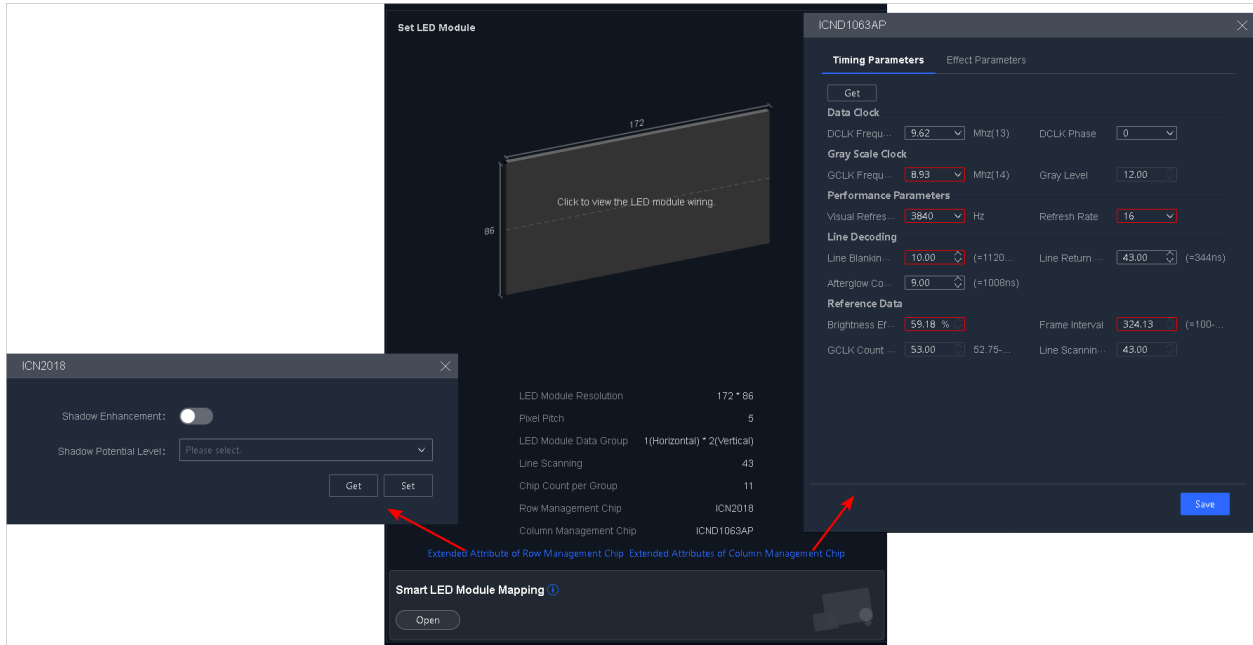


Figure 3-23 Configure LED Module Extended Attributes

Note

For vision chip modules, click **Extended Attributes of Column Management Chip** to edit the related parameters.

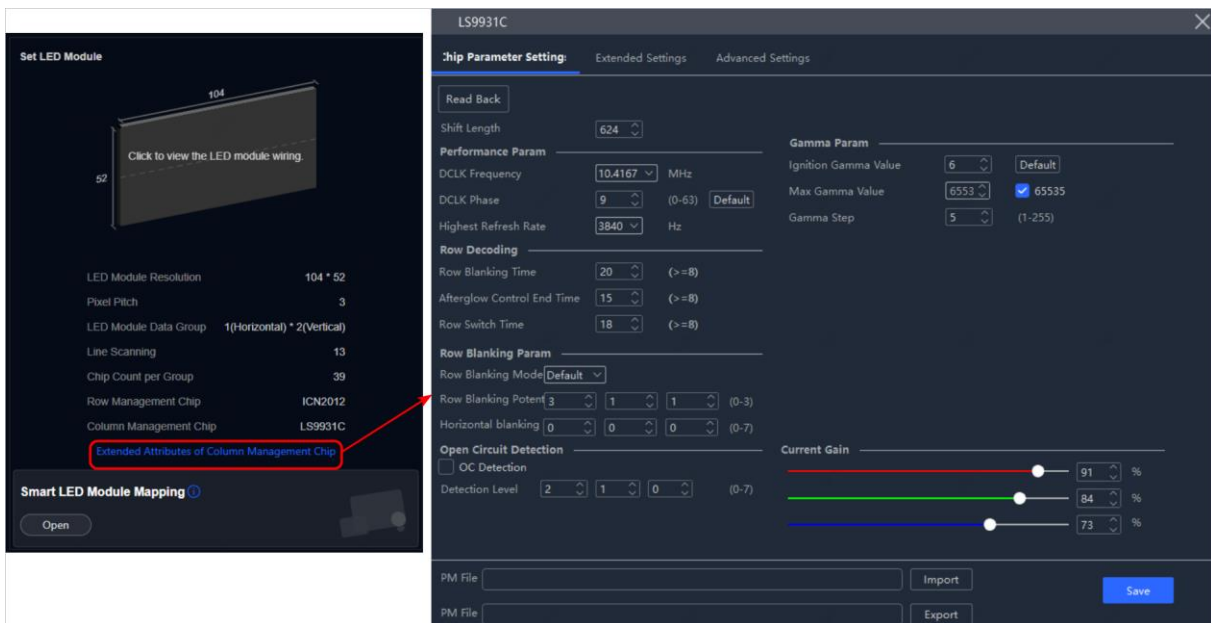


Figure 3-24 Configure Vision Chip Module

3.4 Configure Receiving Card Parameters

3.4.1 Construct Cabinet

Step 1 AXS receiving card: On the **Display Settings > Receiving Card Parameters** page, open the **Cabinet Construction** window.

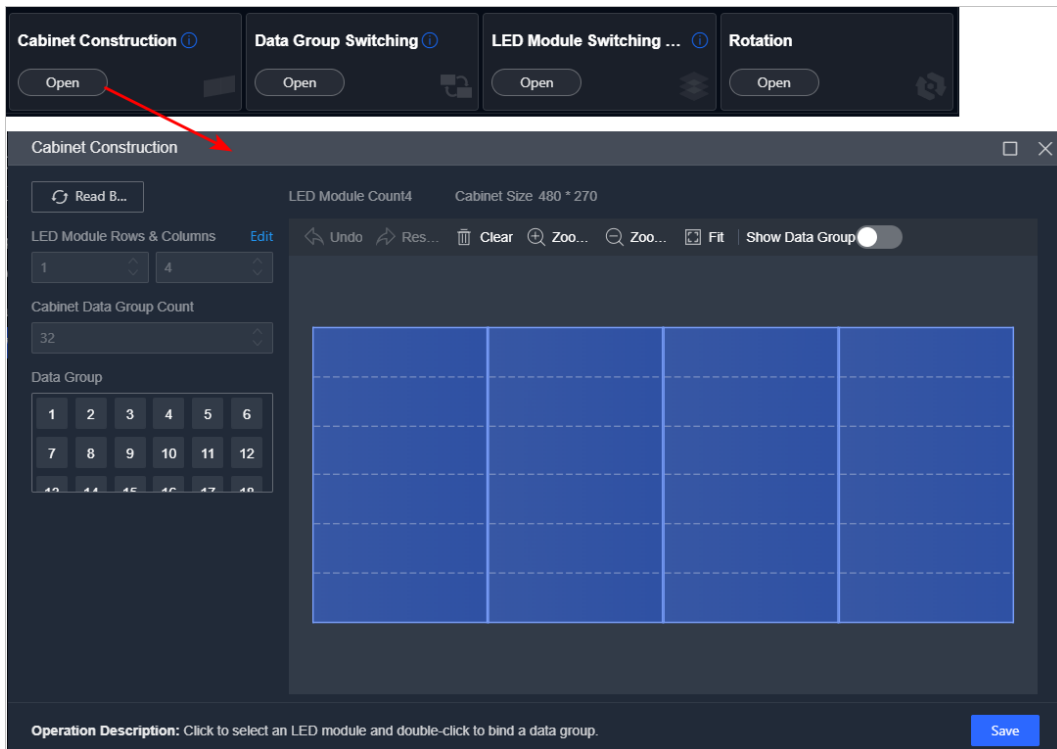


Figure 3-25 Cabinet Construction Page

Step 2 Click **Show Data Group**. The signal source image will appear in the upper-left corner, and the LED module row/column settings window will pop up. Set the number of rows and columns according to the actual number of LED modules.

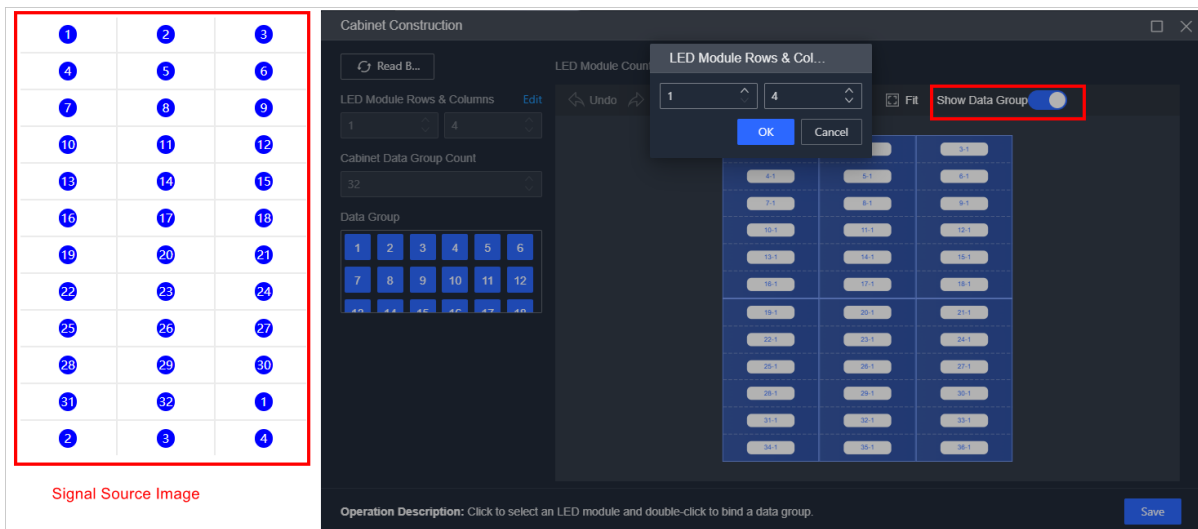


Figure 3-26 Show Data Group

Step 3 On this page, bind the LED modules to the data groups based on the actual data group positions displayed on the LED modules:

- 1) Select a data group in the data group area on the left.
- 2) Double-click the corresponding LED module position on the canvas on the right to complete the binding.
- 3) Repeat the operation until all LED module positions are bound to a data group.

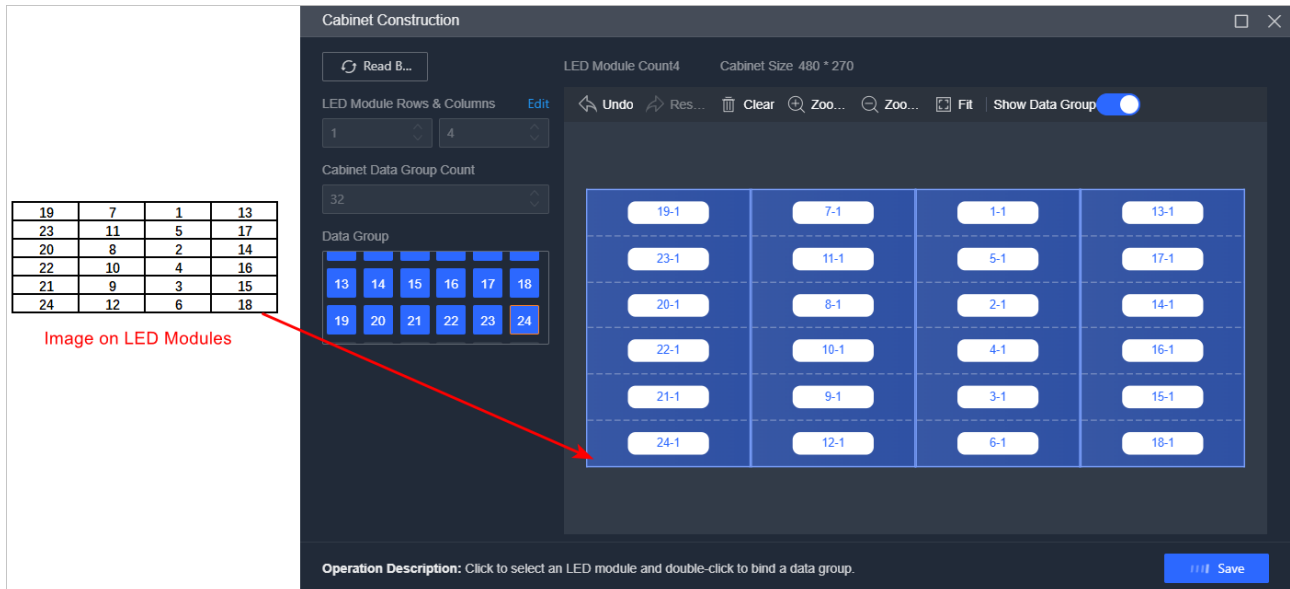


Figure 3-27 Bind Data Groups

Step 4 (Optional) Adjust the canvas:

- Click **Zoom In** or **Zoom Out** to adjust the canvas scale.
- Click **Fit** to make the LED modules adapt to the canvas size.
- Click **Undo** to cancel the binding between the data group and the LED module from the previous step.
- Click **Clear** to remove all binding relationships on the canvas.
- Click **Restore** to restore the binding between the data group and the LED module from the previous step.

Step 5 (Optional) Open LED module row extraction and add the data groups when:

- Non-transposed modules: Height/row scan ratio is non-integer.
- Transposed modules: Width/row scan ratio is non-integer.

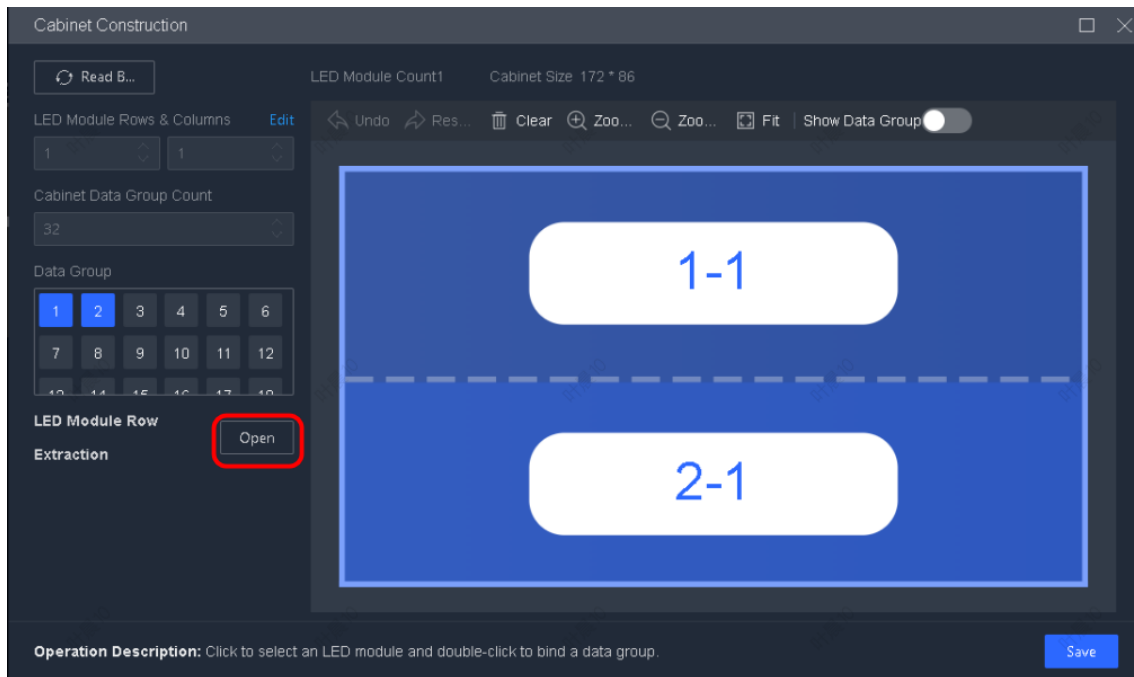


Figure 3-28 Row Extraction

Step 6 Click **Save**.

Step 7 (Optional) Click **Read Back** to refresh the parameters shown in this window.

3.4.2 Configure Data Group Parameters

Step 1 On the **Display Settings > Receiving Card Parameters** page, open the **Data Group Switching** window.

- HUB receiving card: This function must be configured.
- AXS receiving card: If data group image on the display is scrambled after the cabinet construction, configure this function.

Step 2 The signal source image will be displayed in the upper-left corner. Based on the actual blinking data group positions on the LED modules, click the corresponding data group positions on the canvas in the same order to ensure the virtual layout matches the physical layout.

Step 3 Click **Save**.

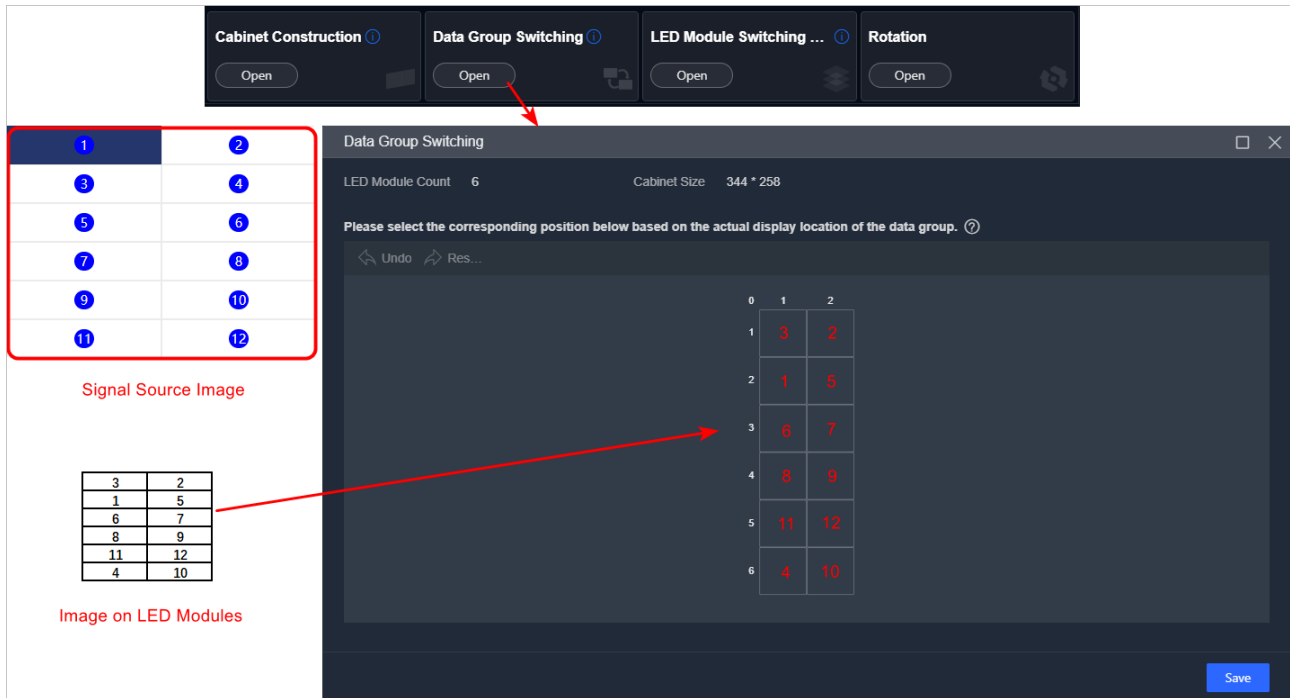


Figure 3-29 Configure Data Group Parameters

3.4.3 Configure Module and Cascading Parameters

Step 1 HUB receiving card: On the **Display Settings > Receiving Card Parameters** page, open the **LED Module Switching & Cascading** window.

Step 2 Based on the actual display layout, set the horizontal LED module count and vertical LED module count.

Step 3 Depending on the receiving card configuration mode, use the corresponding method to confirm the physical connection between the receiving card signal ports and the LED modules:

- Online mode: Click **Show JH Port**. The corresponding signal port number will be displayed on the physical LED modules. For a cascaded LED module group, only the first module in the group displays the signal port number.
- Offline mode/direct connection mode: The **Show JH Port** function is not available in this mode. Please directly check the physical connection between the LED modules and the receiving card signal ports.

Note

The physical silkscreen on the receiving card's signal port is labeled as "JH + number"(e.g., JH1). Only the number part is displayed on the client page and the LED module.

Step 4 Based on the physical connection confirmed in Step 3, bind each receiving card signal port to its corresponding LED modules in the page:

- To bind a single module: Click a signal port, and then double-click the corresponding single module on the canvas.
- To bind a cascaded module group:
 - 1) Enable **Cascading Configuration Mode** and select the cascade direction.
 - 2) Click a signal port, and then sequentially double-click all LED modules in the cascade group on the canvas, following the physical connection order.

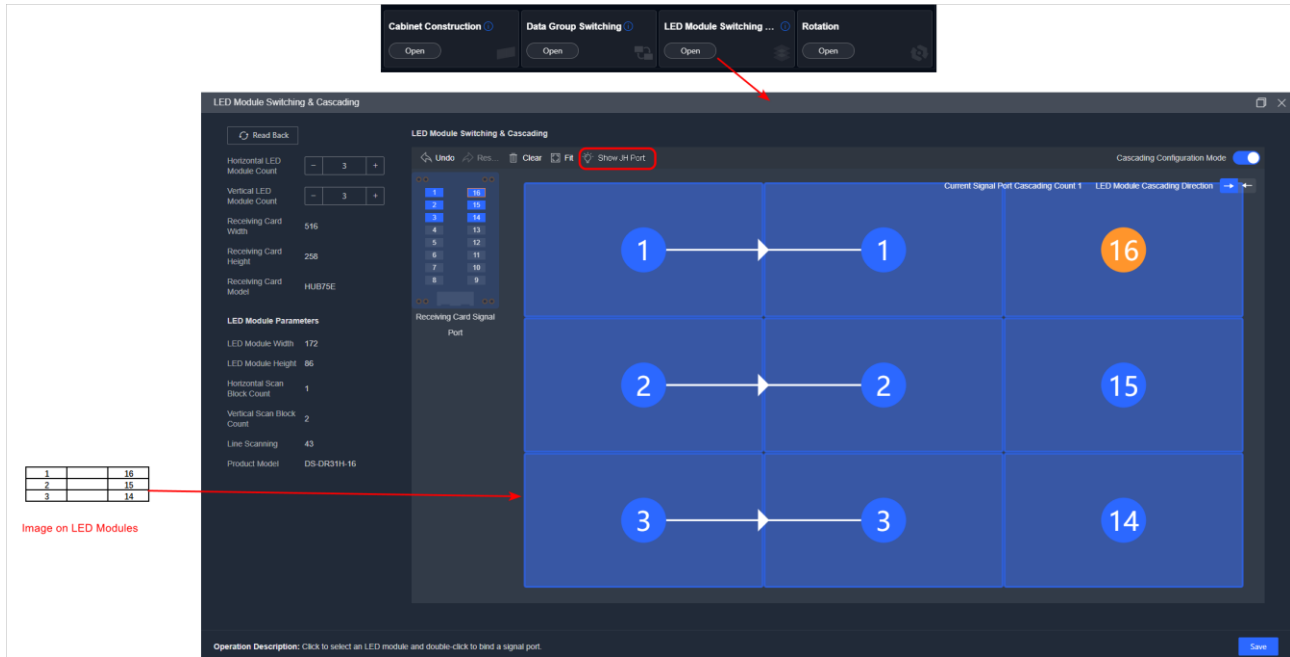


Figure 3-30 Configure Module and Cascading Parameters (Online Mode)

Step 5 (Optional) Use canvas tools to adjust the configuration. For details, see “3.4.1 Step 4”.

Step 6 Click **Save**.

Step 7 (Optional) Click **Read Back** to refresh the parameters shown in this window.

3.4.4 Rotate Cabinets

Step 1 On the **Display Settings > Receiving Card Parameters** page, open the **Rotation** window.

Step 2 According to the actual cabinet installation method, select a rotation angle and click **Apply**.

Step 3 (Optional) Select a fine-tuning method and click **Apply**.

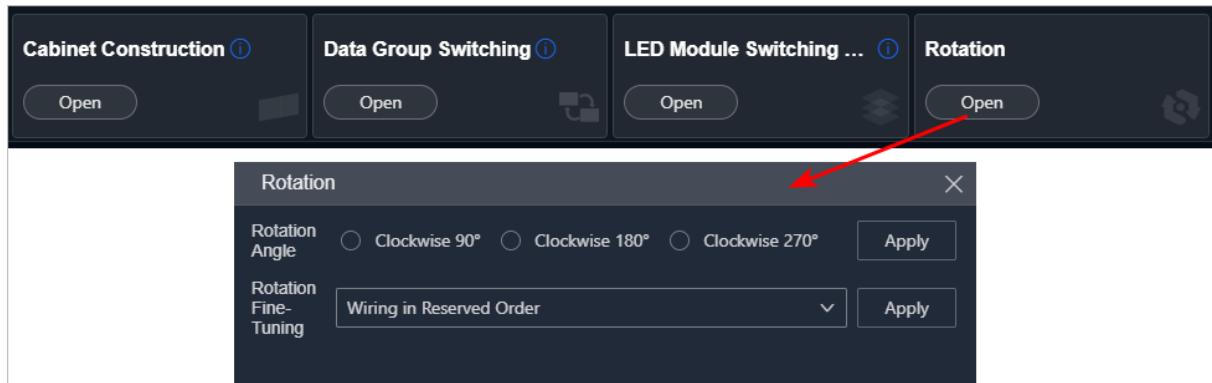


Figure 3-31 Rotate Cabinets

3.5 Debug Receiving Card

Note

- This function is for qualified technicians only.
- Only the online mode supports receiving card DMA and monitoring.

On the **Display Settings > Receiving Card Parameters** page, press shortcut Alt+Q+W (case-insensitive) to access the **Receiving Card Debugging** page. Adjust the receiving card parameters or IC chip parameters as required.

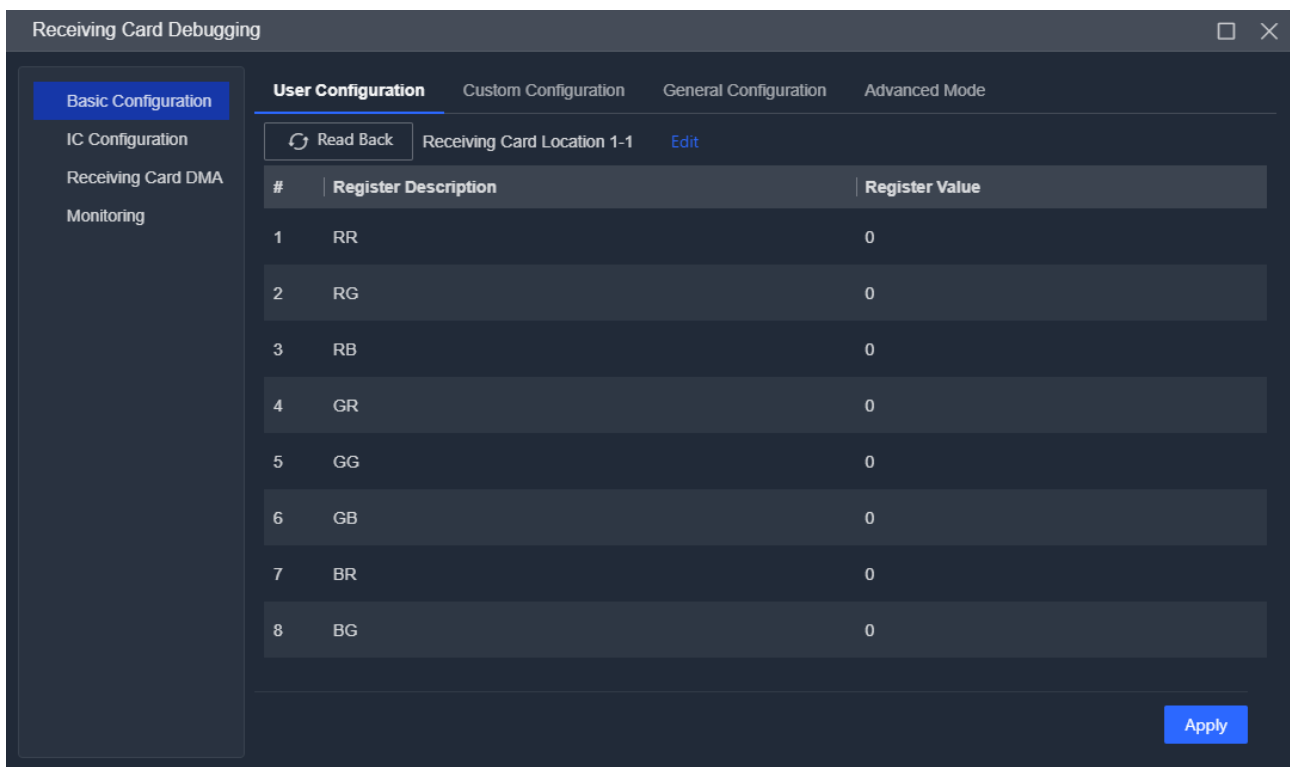


Figure 3-32 Debug Receiving Card

3.6 Apply Receiving Card Configuration

Function Description

This function allows batch synchronization of receiving card parameters to other receiving cards, improving configuration efficiency. Select the appropriate operation procedure based on your specific requirements.

Important

- This function is available only in online mode.
- The following parameters are excluded from synchronization and require separate configuration:
 - Smart LED module mapping parameters (see "3.3.1 Configure Smart LED Module Mapping Parameters").
 - Receiving card debugging parameters (see "3.5 Debug Receiving Card").

3.6.1 Sync Receiving Card Configuration

Use this function to copy parameters from one receiving card to other receiving cards.

Step 1 On the **Display Settings > Receiving Card Parameters** page, ensure that the parameters of the currently selected receiving card are fully configured.

Step 2 Click **Edit** next to **Configuration Scope** to set the target configuration scope.

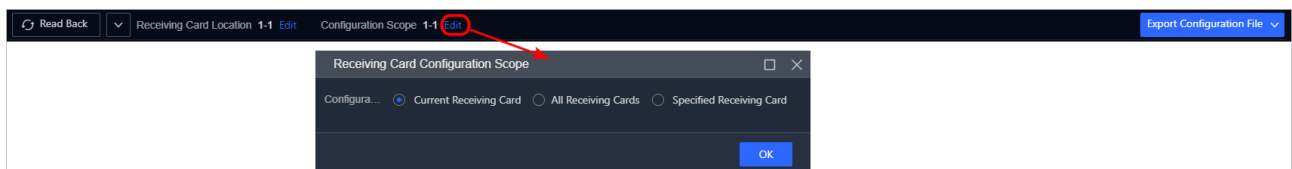


Figure 3-33 Edit Receiving Card Configuration Scope

- Select **All Receiving Cards** and then select the target LED controller.

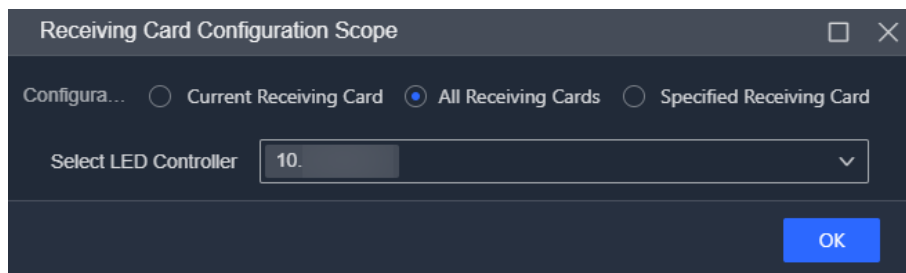


Figure 3-34 Select All Receiving Cards

- Select **Specified Receiving Card** and choose one of the following methods. The system will automatically select the current receiving card by default, and this selection cannot be canceled.

- Select by topology: Select the specific receiving cards in the topology diagram. Make sure the display mapping parameters are complete in advance. For details, see "2.1 Online Project Display Mapping".
- Select by physical address: Check specific receiving cards in the list.

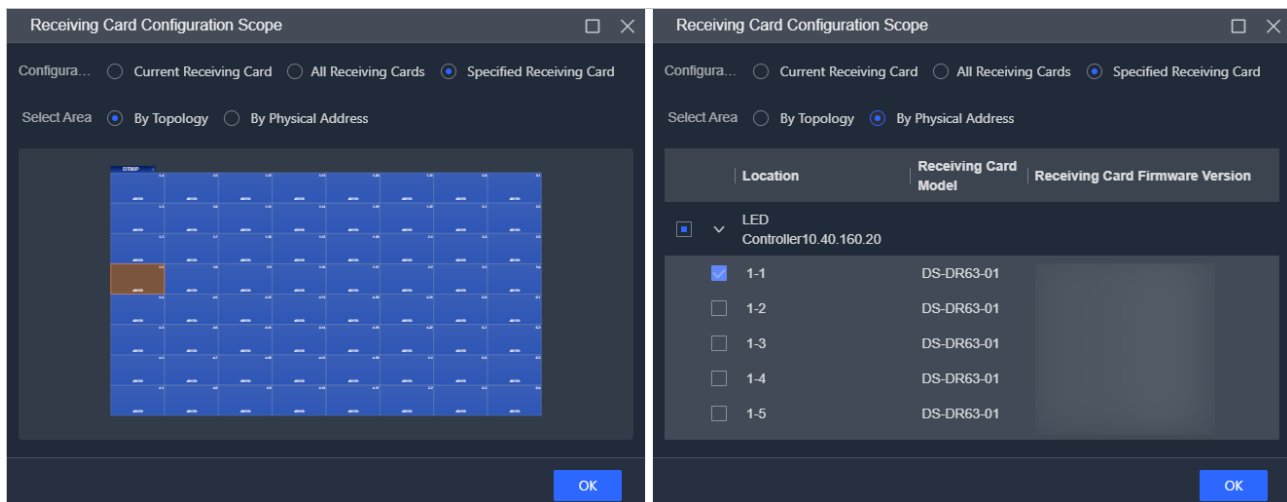


Figure 3-35 Select Specific Receiving Card

Step 3 Click **OK**.

3.6.2 Batch Configure Receiving Cards

Use this function to apply new parameters to multiple receiving cards.

Step 1 On the **Display Settings > Receiving Card Parameters** page, click **Edit** next to **Configuration Scope** to set the target configuration scope.

- Select **All Receiving Cards** and then select the target LED controller.
- Select **Specified Receiving Card** and then choose the area by topology or physical address.

Step 2 Click **OK**.

Step 3 Configure the receiving card parameter. For details, see "3.4 Configure Receiving Card Parameters". These parameters will be uniformly applied to the receiving cards selected in Step 1.

Chapter 4 Custom-Shaped Cabinet Configuration

4.1 Custom-Shaped Cabinet Configuration Procedure

Applicable Devices

DT90 series LED controllers with version 1.1 or above.

Function Description

Custom-shaped cabinets refer to logically irregular units formed by LED modules arranged in a non-matrix pattern (e.g., offsets or stepped layouts). On the **Receiving Card Configuration** page, you can enable **Custom-Shape Cabinet** to configure parameters.

Important

Custom-shaped cabinet configuration is supported only in online mode and offline mode.

Steps

Step 1 Upgrade the receiving card firmware:

- 1) Navigate to the **Display Settings** page and click **Management**.
- 2) Check the target LED controller and click **Upgrade**.
- 3) Select **Receiving Card** and **Upgrade Offline**.
- 4) Import the receiving card firmware file obtained from technical support and click **OK**.

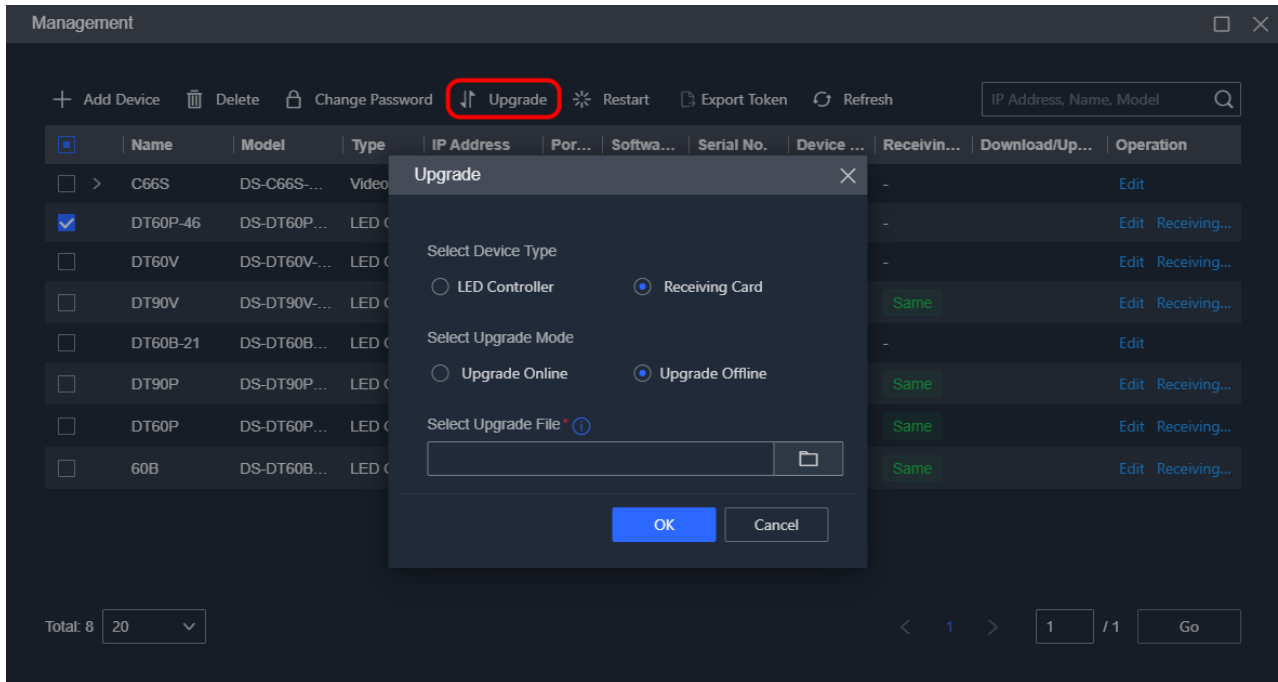


Figure 4-1 Upgrade Receiving Card

Step 2 Select the target LED controller and navigate to **Display Settings > Receiving Card Parameters**.

Step 3 (Optional, applicable to online mode) When one device controls multiple receiving cards, select a specific receiving card.

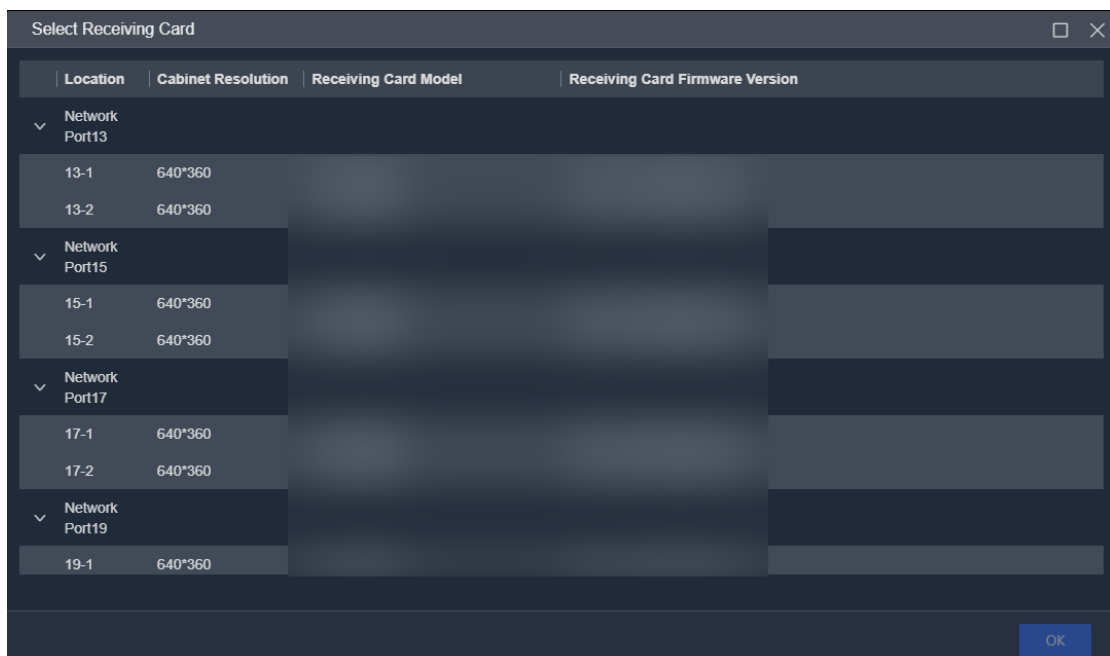


Figure 4-2 Select Receiving Card

Step 4 Enable the custom-shaped cabinet mode:

- Online mode: The system automatically detects custom-shaped cabinets and switches to the custom-shaped cabinet mode.

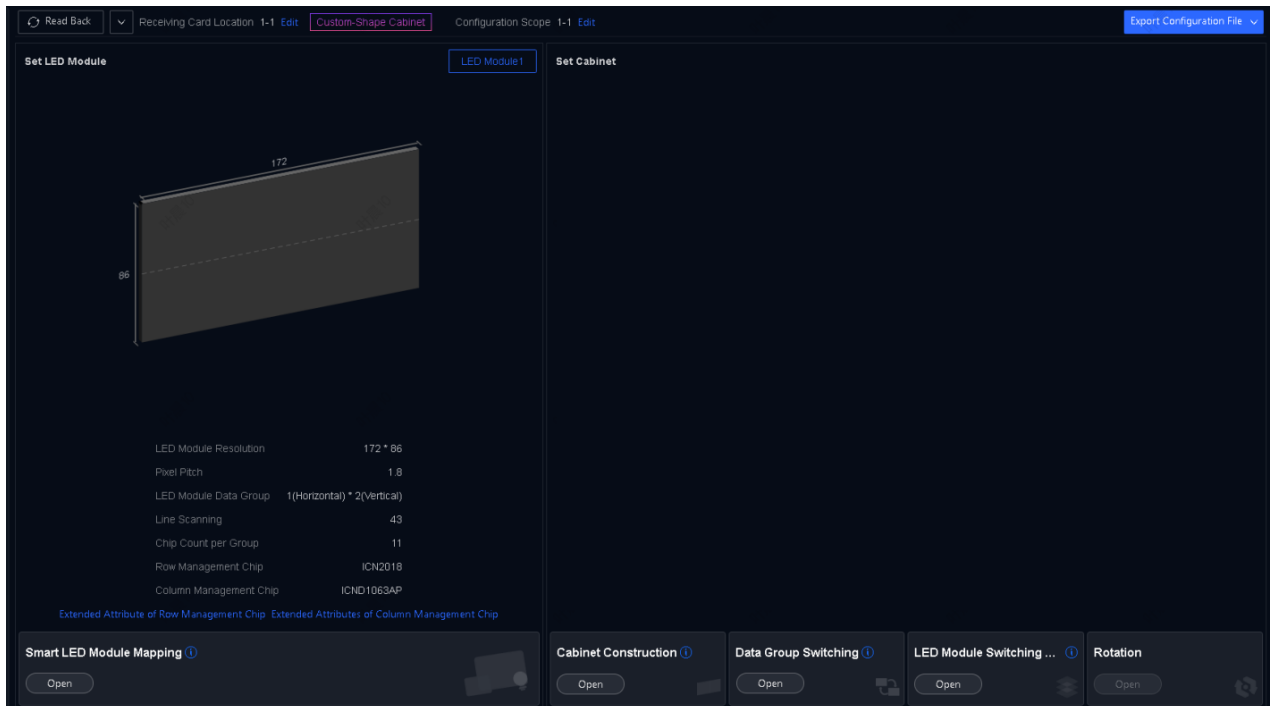


Figure 4-3 Custom-Shaped Cabinet Mode (Online Mode)

- Offline mode:
 - 1) Click  to enable offline mode, select the corresponding receiving card model, and click **OK**.
 - 2) Manually enable **Custom-Shape Cabinet Mode**.

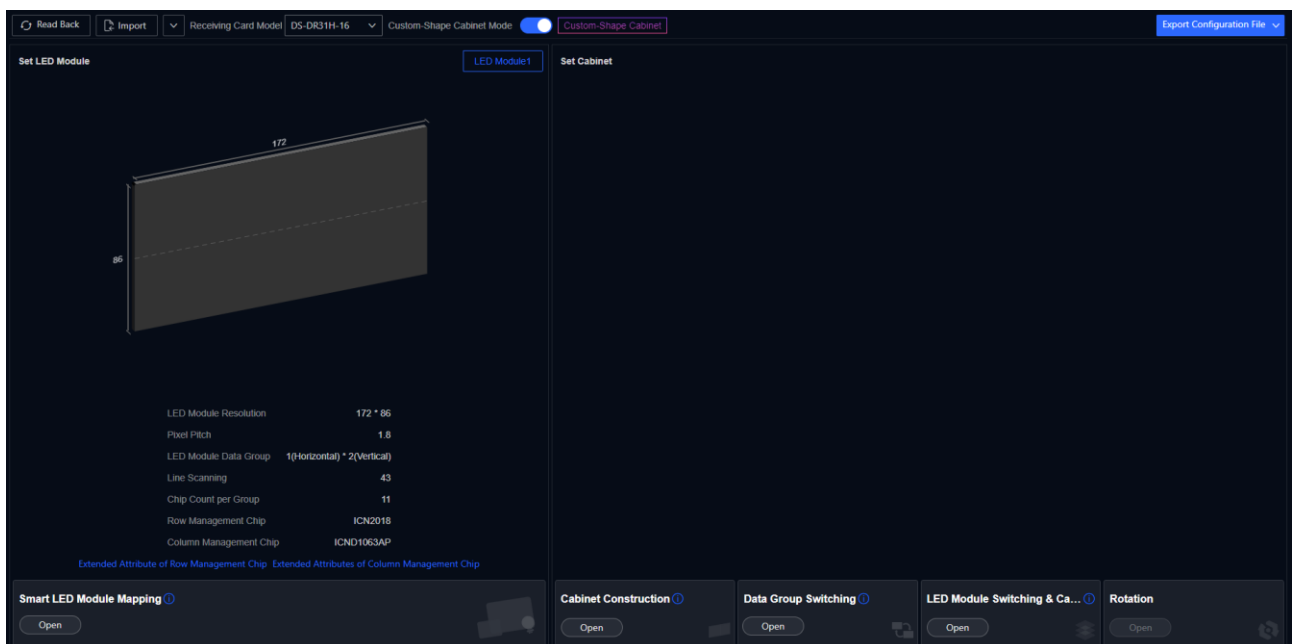


Figure 4-4 Enable Custom-Shaped Cabinet Mode (Offline Mode)

Step 5 (Optional, applicable to online mode) Set up the smart LED module mapping environment.
For details, see “3.2 Set Up Smart LED Module Mapping Environment”.

Step 6 Create or import an LED module configuration file:

- (Optional, applicable to offline mode) If the computer has a saved LED module configuration file or cabinet configuration file, click **Import** to load the file.
- If no configuration file exists, open the smart LED module mapping window, create the LED module configuration file (see “3.3.1 Configure Smart LED Module Mapping Parameters”).

Step 7 Verify LED module illumination and take corresponding actions:

- Poor display effect: Adjust the extended attributes of row/column management chip. For details, see “3.3.2 Configure LED Module Extended Attributes”.
- Unable to illuminate: Open the smart LED module mapping window and recreate the LED module configuration file.
- Abnormal RGB colors: Click to view the LED module wiring and set the corresponding color for each channel.

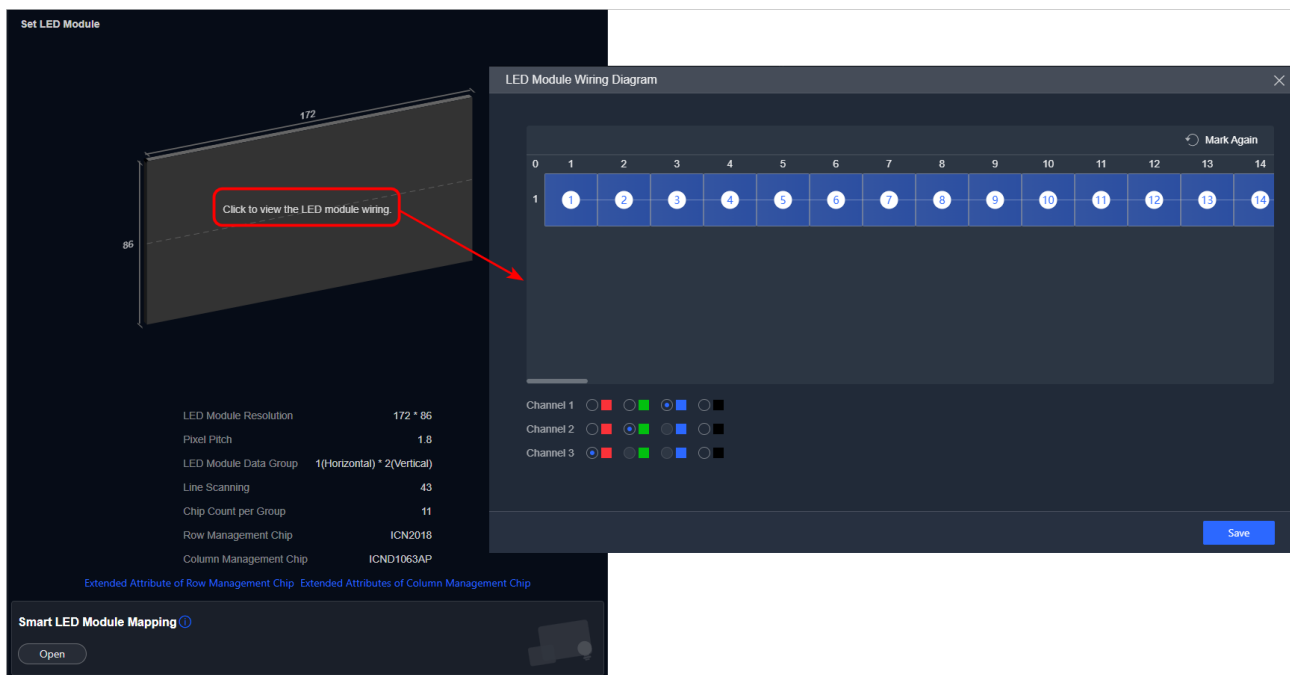


Figure 4-5 Adjust LED Module Wiring

- Normal display effect: Proceed to the next steps.

Step 8 Configure the cabinet configuration file:

- HUB receiving card: Configure the data groups (see “3.4.2 Configure Data Group Parameters”) and LED modules and cascading parameters (see “4.2 Configure Module and Cascading Parameters”) in sequence.

- **AXS receiving card:** Construct the cabinet (see “4.3 Construct Cabinet”). If the data group image on the display is scrambled, configure the data groups (see “3.4.2 Configure Data Group Parameters”).

Step 9 Verify the cabinet parameters: After completing the configuration, check the receiving card shape displayed in the **Set Cabinet** area.

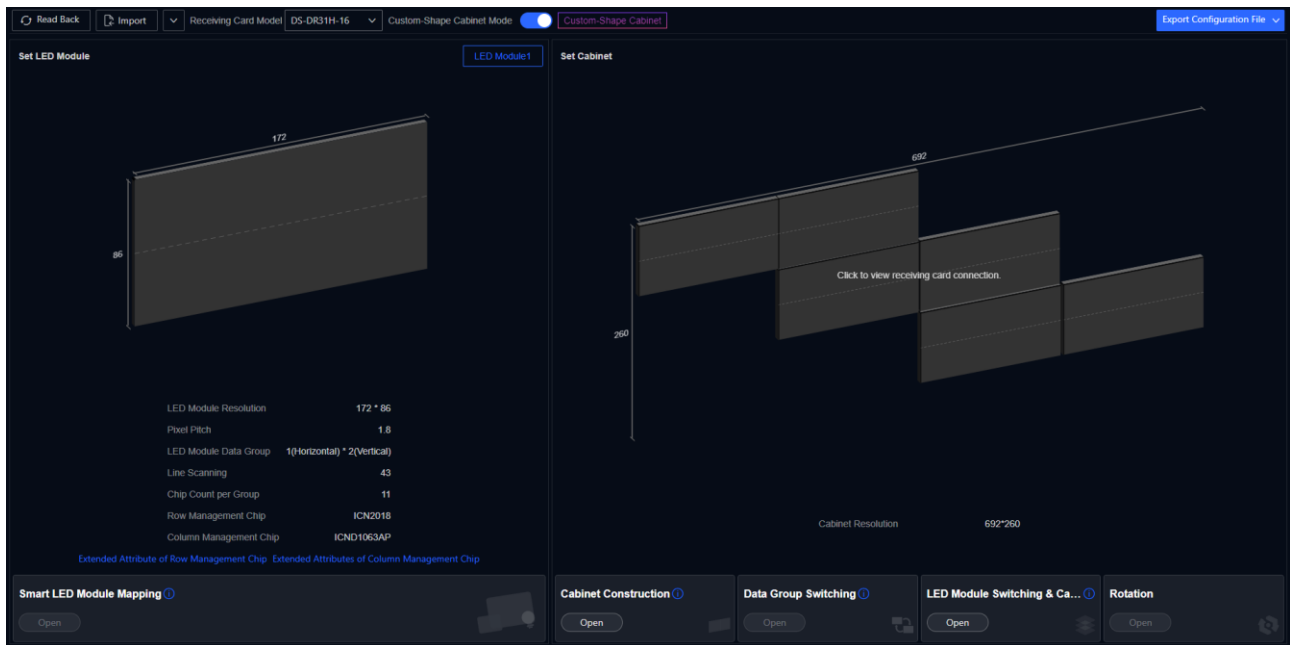


Figure 4-6 Receiving Card Configuration Page

Step 10 Click **Export Configuration File** to save the cabinet configuration file to the cabinet area or computer.

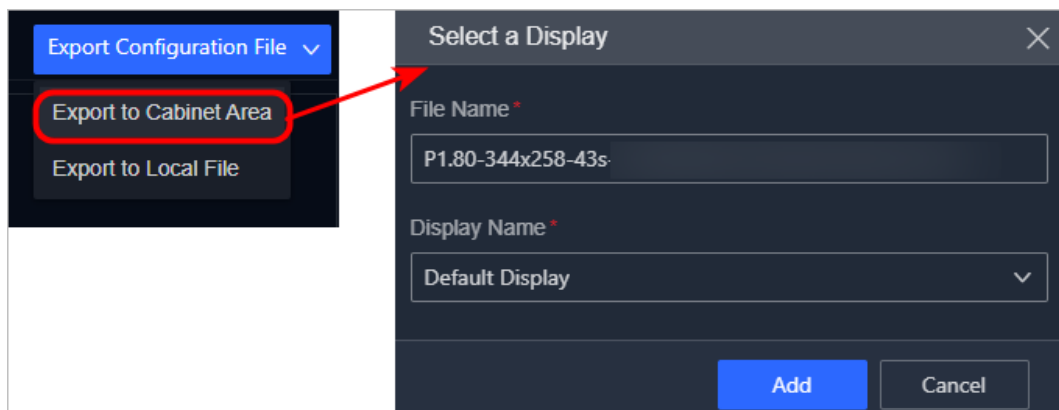


Figure 4-7 Export Configuration File

Step 11 View the custom-shaped cabinet shape on the **Display Mapping** page:

- 1) Export the custom-shaped cabinet configuration file from the **Receiving Card Configuration** page to the cabinet area.
- 2) On the **Display Mapping** page, drag this custom-shaped cabinet from the cabinet area onto the canvas to view its shape.

- 3) (Optional) Click **Live View** to check the display effect of the signal source on the custom-shaped cabinet.

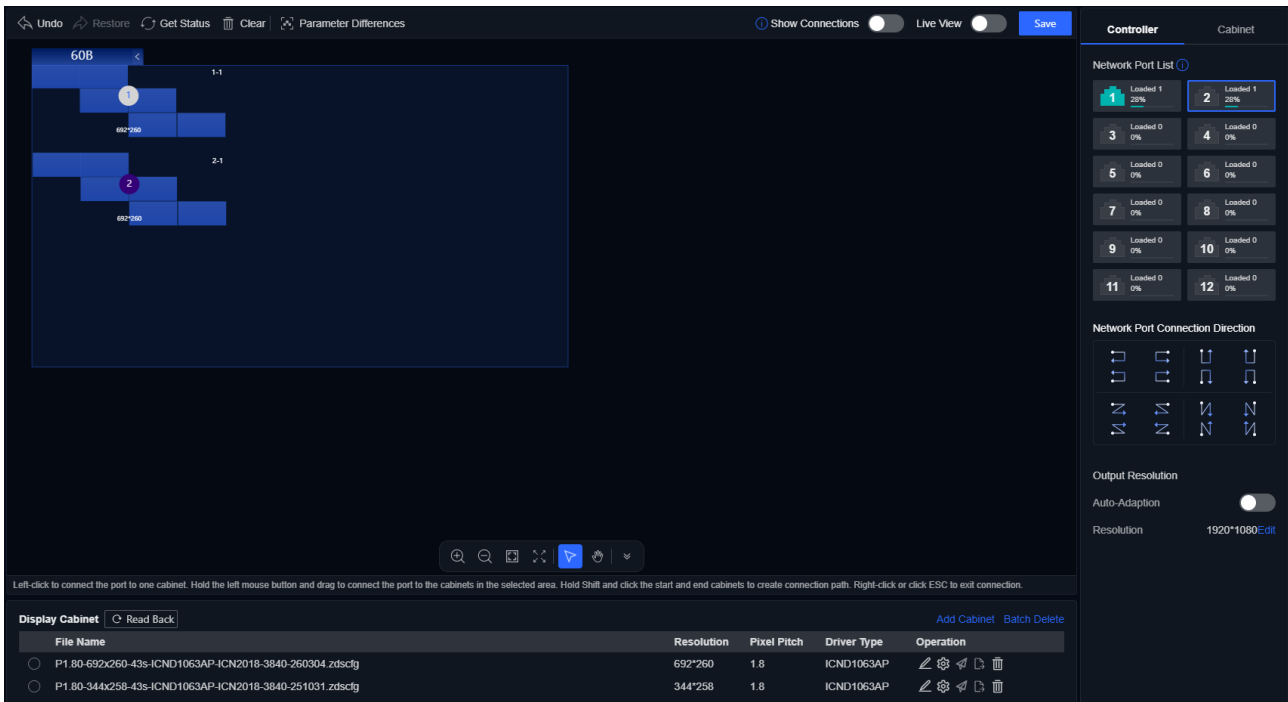


Figure 4-8 Display Mapping Page

4.2 Configure Module and Cascading Parameters

Step 1 On the **Display Settings > Receiving Card Parameters** page, open the **LED Module Switching & Cascading** window.

Step 2 Click **Clear** and **Clear LED Modules**.

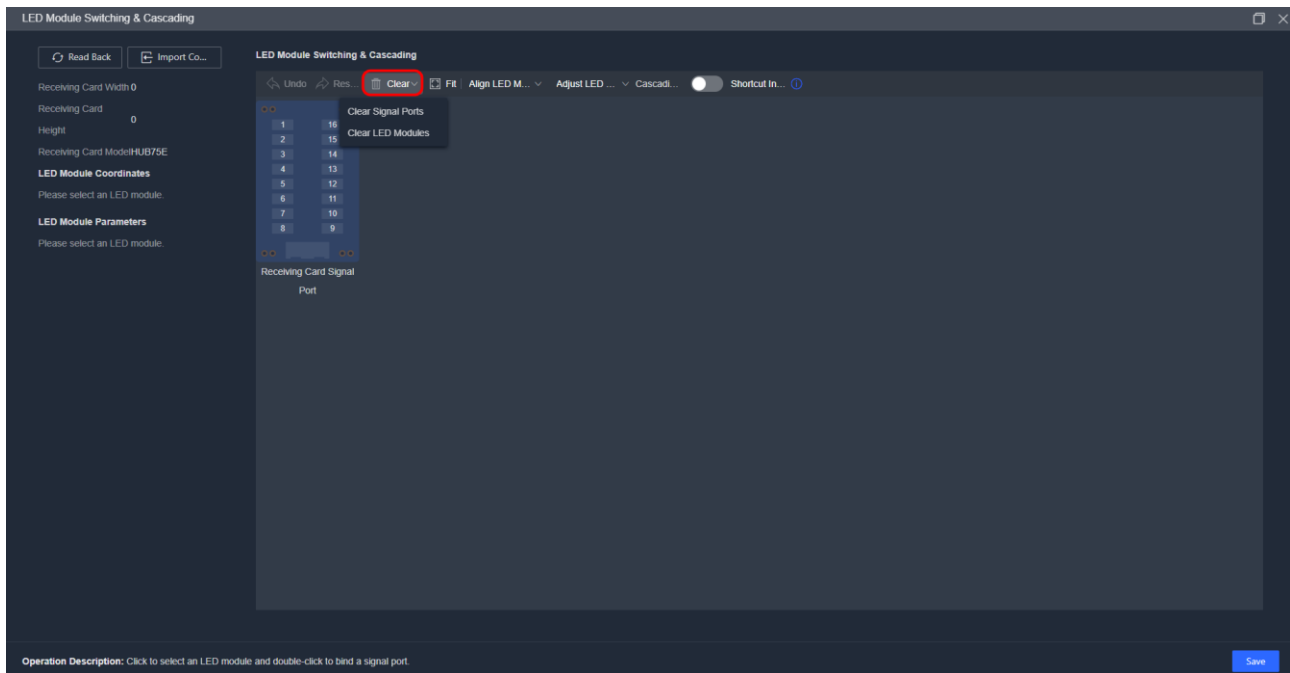


Figure 4-9 Clear LED Modules

Step 3 Import LED module configuration file:

- 1) Click **Import Configuration File** and select the saved LED module configuration file (see Step 1) and click **Add**.
- 2) Confirm the LED module information.
- 3) Set the number of module rows and columns according to the actual quantity of this module type on the physical display, and then click **OK**.
- 4) (Optional) If the display contains multiple types of LED modules that share identical row management chips, column management chips, row scan values, and RGB parameters, repeat the steps above to import the configuration file for each module type.

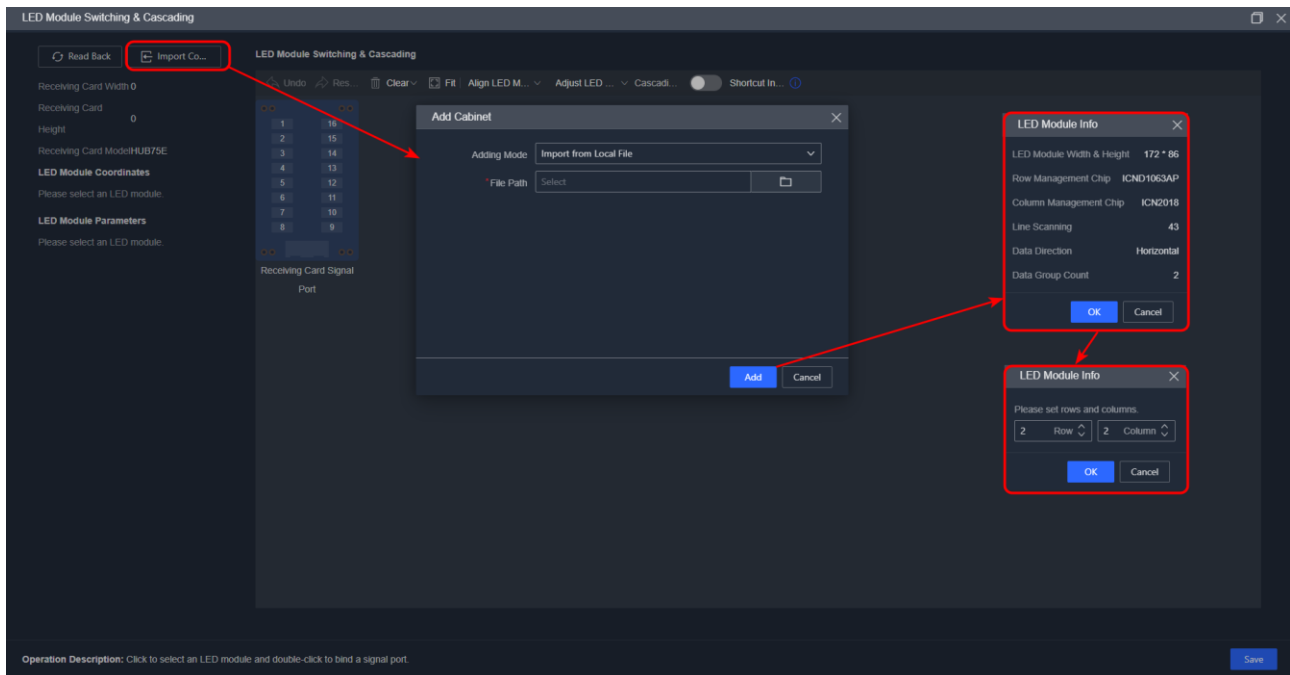


Figure 4-10 Import LED Module Configuration File

Step 4 Choose any of the following methods to adjust the layout on the canvas based on the actual arrangement of modules on the physical display:

- Drag modules to specific positions.
- Position modules by entering their coordinates.
- Select a cabinet and use the **Align LED Modules** and **Adjust LED Module Spacing** functions to adjust the module layout.

Note

The physical silkscreen on the receiving card's signal port is labeled as "JH + number"(e.g., JH1). Only the number part is displayed on the client page and the LED module.

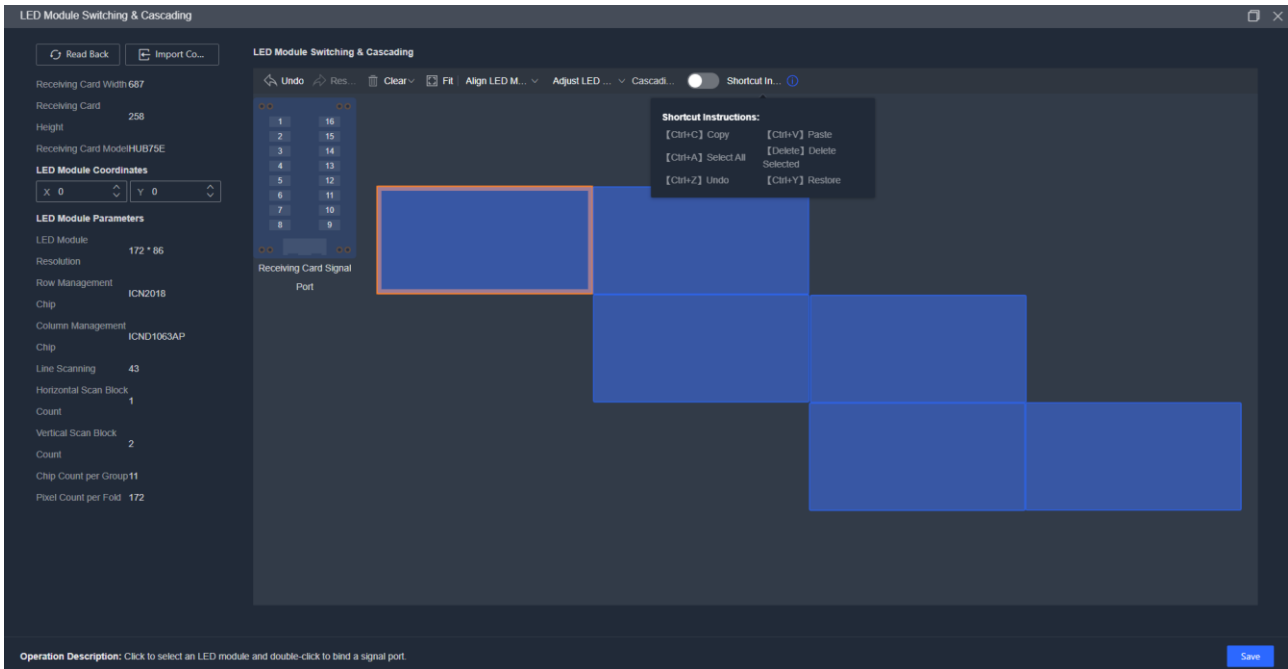


Figure 4-11 Adjust LED Module Layout

Step 5 Bind the corresponding modules to each receiving card signal port based on the physical connection:

- Bind a single module: Click a signal port, and then double-click the corresponding single module on the canvas.
- Bind a cascaded module group:
 - 1) Enable **Cascading Configuration Mode**.
 - 2) Click a signal port, and then double-click all modules in the cascaded group on the canvas in the order of the cascade chain.

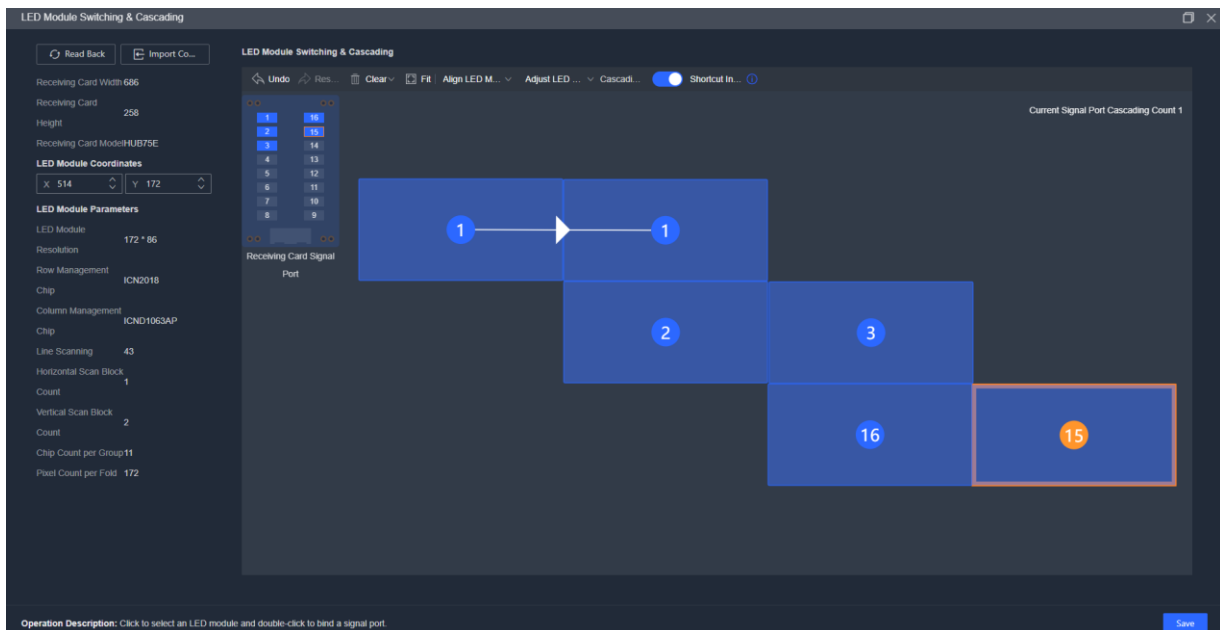


Figure 4-12 Bind Receiving Card Signal Port to LED Module

Step 6 (Optional) Use canvas tools to assist configuration:

- Click **Fit** to make the LED modules adapt to the canvas size.
- Click **Undo** to cancel the binding between the data group and the LED module from the previous step.
- Click **Clear** to remove all binding relationships on the canvas.
- Click **Restore** to restore the binding between the data group and the LED module from the previous step.
- Use shortcut keys to adjust the canvas.

Step 7 Click **Save**.

Step 8 (Optional) Click **Read Back** to refresh the parameters shown in this window.

4.3 Construct Cabinet

Step 1 On the **Display Settings > Receiving Card Parameters** page, open the **Cabinet Construction** window.

Step 2 Click **Clear** and **Clear LED Modules**.

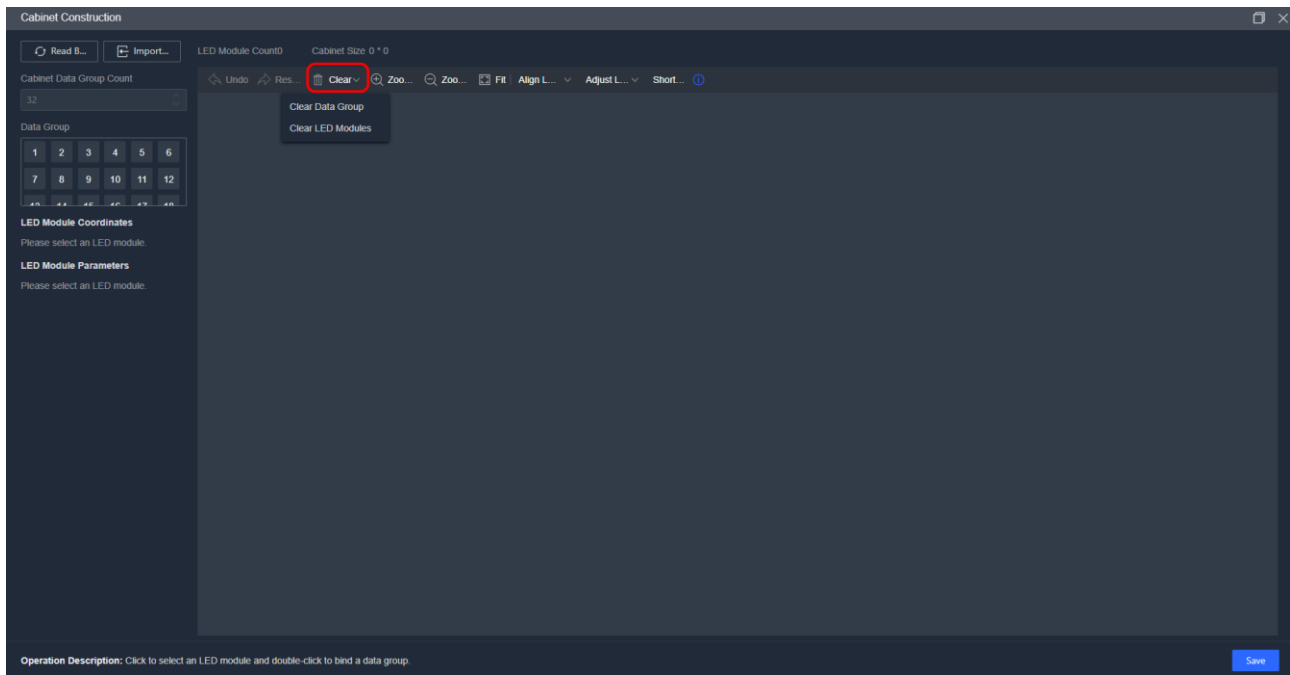


Figure 4-13 Clear LED Modules

Step 3 Import LED module configuration file. For configuration method, see “4.2 Step 3”.

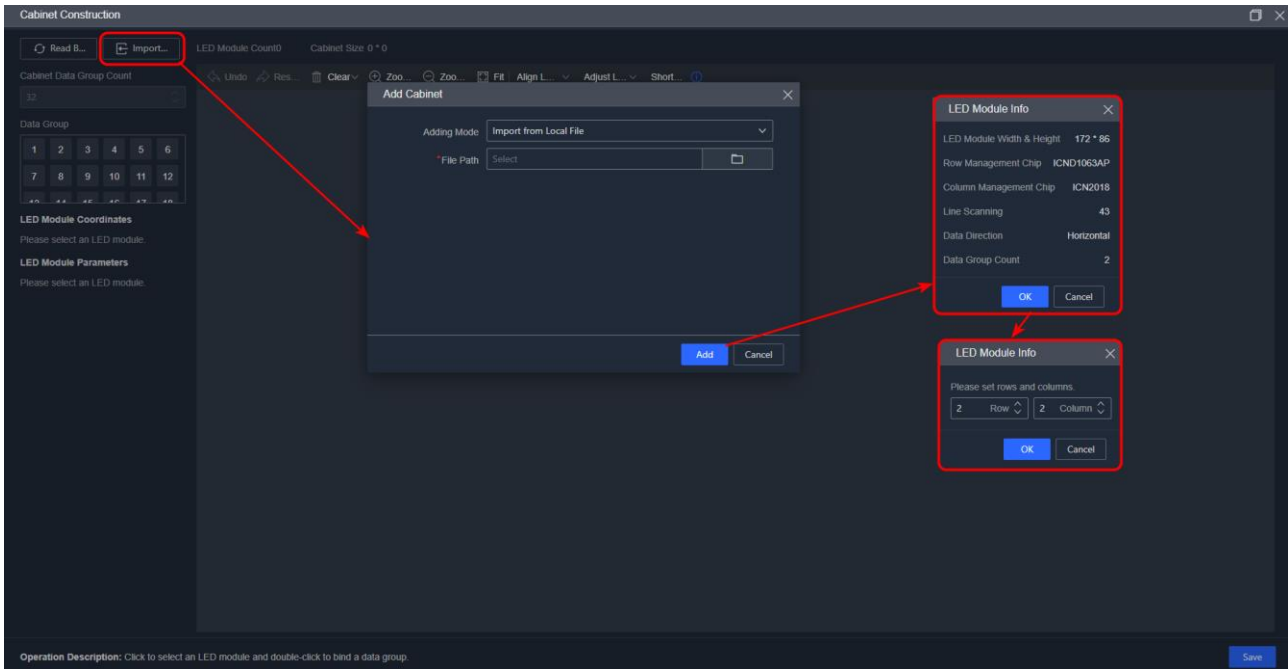


Figure 4-14 Import LED Module Configuration File

Step 4 Choose any of the following methods to adjust the layout on the canvas based on the actual arrangement of modules on the physical display:

- Drag modules to specific positions.
- Position modules by entering their coordinates.
- Select a cabinet and use the **Align LED Modules** and **Adjust LED Module Spacing** functions to adjust the module layout.

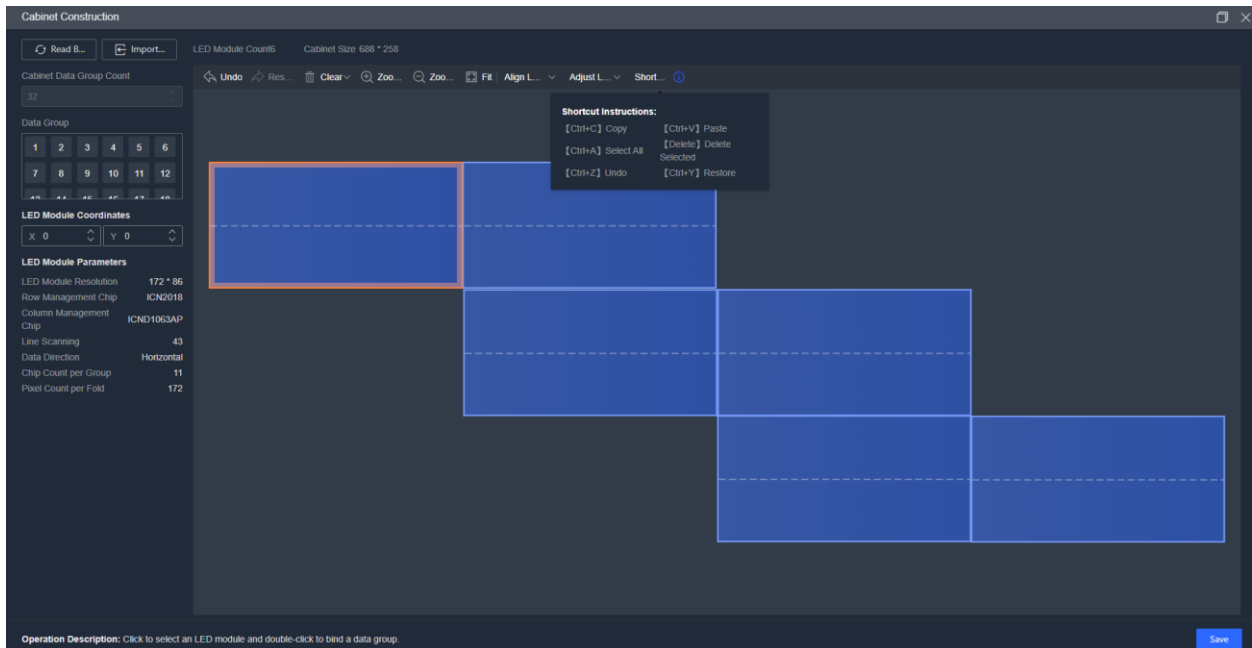


Figure 4-15 Adjust LED Module Layout

Step 5 Bind the LED modules to the data groups according to the physical connection between the modules and the receiving card ports (physically silkscreened as "JH + number"):

- 1) Select a data group in the left **Data Group** area.
- 2) Double-click the corresponding module position on the right canvas to complete the binding.
- 3) Repeat the operation until all module positions are bound to a data group.

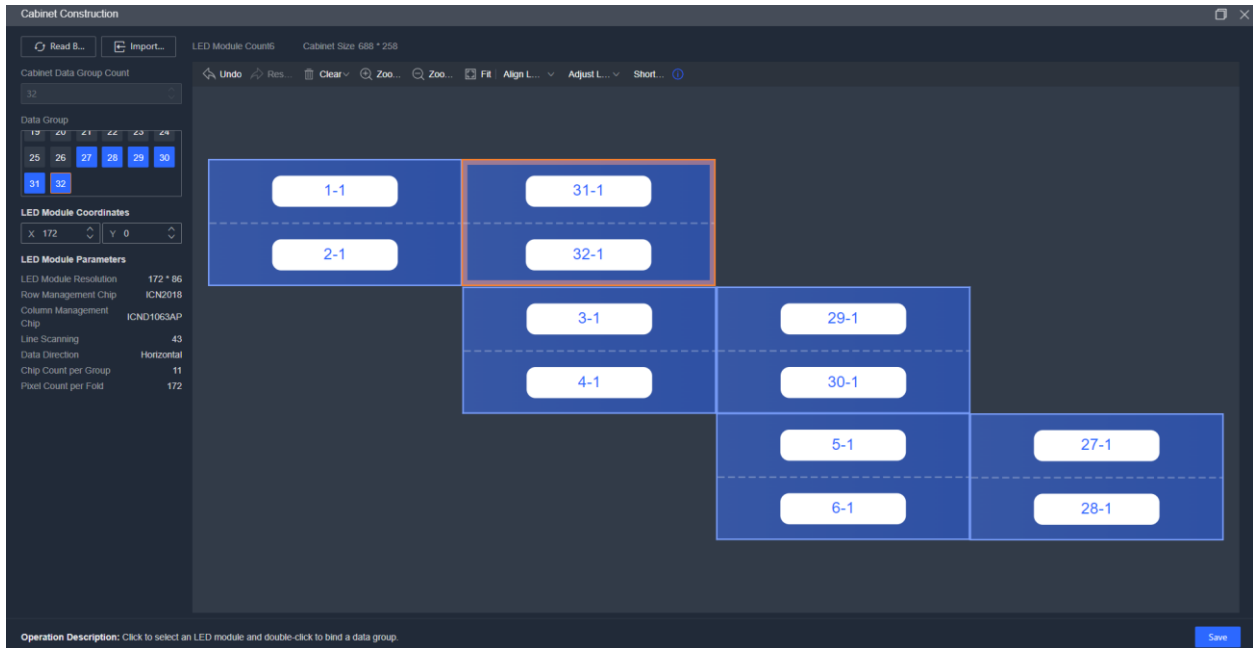


Figure 4-16 Bind Data Group to LED Module

Step 6 (Optional) Use canvas tools to assist configuration. For configuration method, see “4.2 Step 6”.

Step 7 Click **Save**.

Step 8 (Optional) Click **Read Back** to refresh the parameters shown in this window.

Chapter 5 Display Content Configuration

5.1 Operate a V-Series Video Wall

Applicable Devices

DT90V, DT60V, and certain DS-TV series LED controllers.

Important

- The scrolling window and static image/text/clock window support only JPG and JPEG images.
- Scrolling window: Supports up to 5 scrolling text elements and 3 scrolling image elements.
- Static image/text/clock window: Supports up to 5 static text elements, 3 static image elements, 1 digital clock, and 1 dial clock.

Steps

Step 1 Select a V-series LED controller, and navigate to **Image Control > Content Control**.

Step 2 Select a video wall layout.

The following example uses a mixed layout of scrolling text/image + signal source + static image/text/clock. To edit the layout, click on a blank area outside the layout range to bring up the quick layout window.

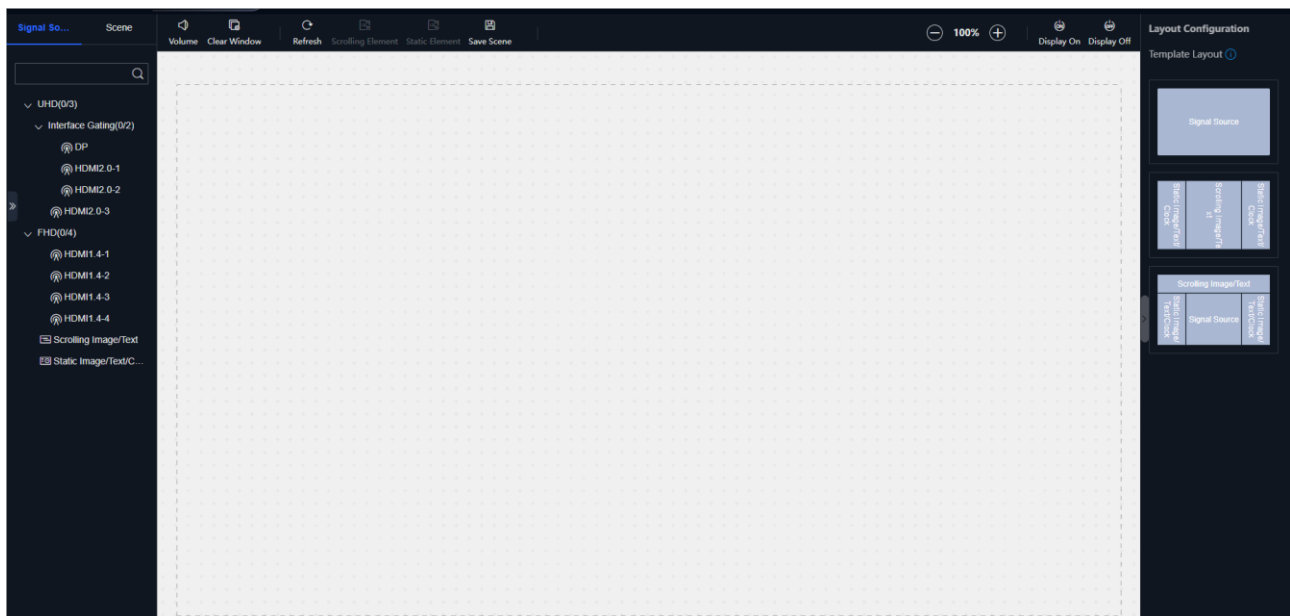


Figure 5-1 Select a Layout (DT90V Series)

Step 3 Configure the signal source:

- 1) Select a signal source from the left and drag it to the signal source area:

- DT90V series: 4K inputs (HDMI 2.0/SDI/DP) support 1-to-3 distribution and 2K inputs (HDMI 1.4/DVI) support 1-to-4 distribution.
- 2K DT60V/DS-TV series: All inputs supports 1-to-3 distribution.
- 4K DT60V/DS-TV series: HDMI 1 input is limited to 1-to-1 distribution and other inputs support 1-to-3 distribution.

2) Configure the signal source window:

- Directly move the window or enter the X and Y values to adjust the window location.
- Click the corresponding icon to stick the window on top, stick the window at bottom, move up the window, move down the window, lock the window, and unlock the window.
- Move the mouse to the window edge to adjust the window size or enter the W and H values.
- Select a signal source to switch the signal source.
- Set resolution or enable **Resolution Self-Adaption**.
- Click **Delete** or  to unbind the signal source from the video area.

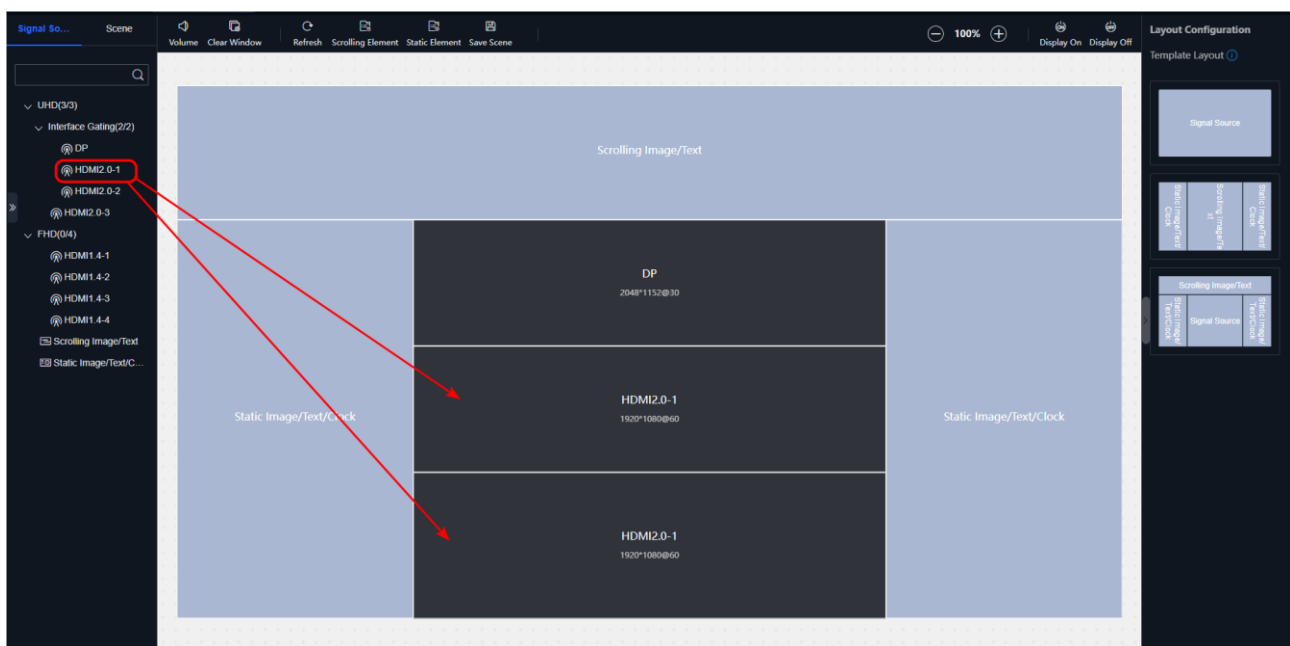


Figure 5-2 Configure Signal Source

Step 4 Configure the scrolling text/image window:

- 1) Click the scrolling window to set the window location, window size, scrolling speed and direction.
- 2) Click **Subtitle** and select **Text** or **Image**.
- 3) Use either of the following methods to add the scrolling elements to the scrolling window:

- Click on the scrolling window where you want to add a scrolling element.
- Drag a scrolling element to the scrolling window and then draw the desired area.

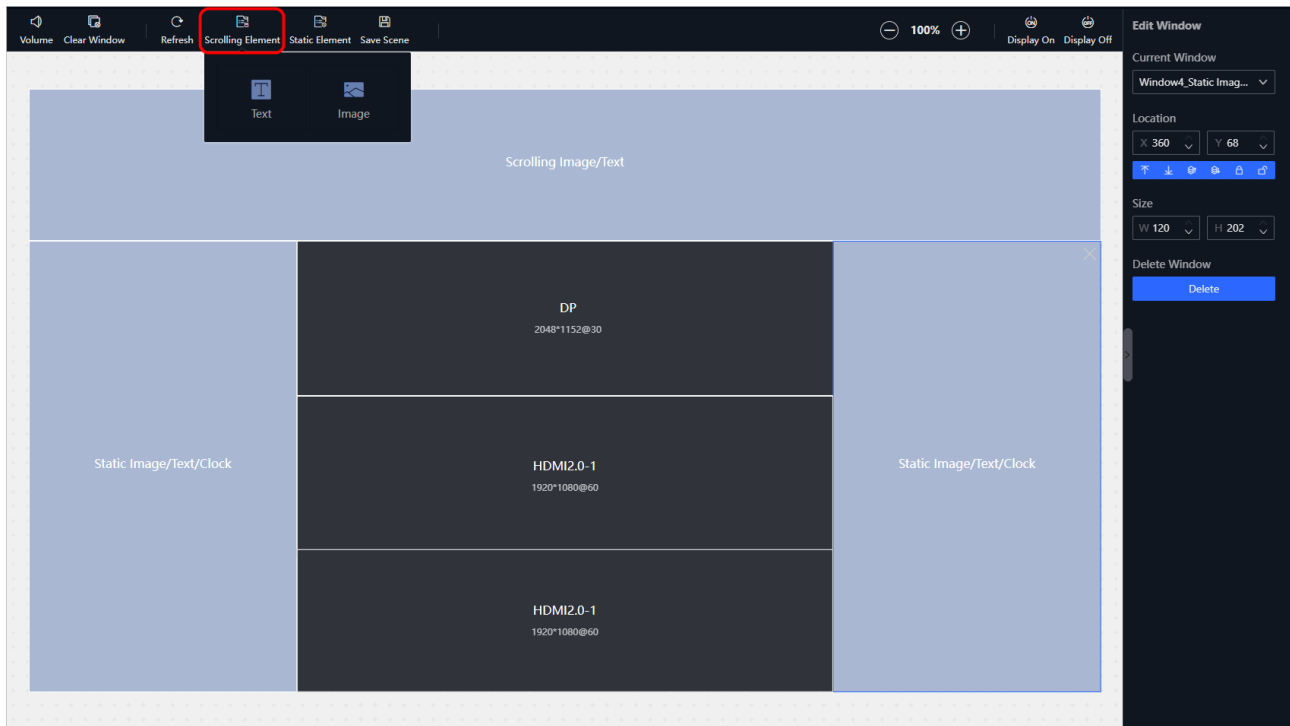


Figure 5-3 Select Scrolling Element Type

4) Edit the scrolling element.

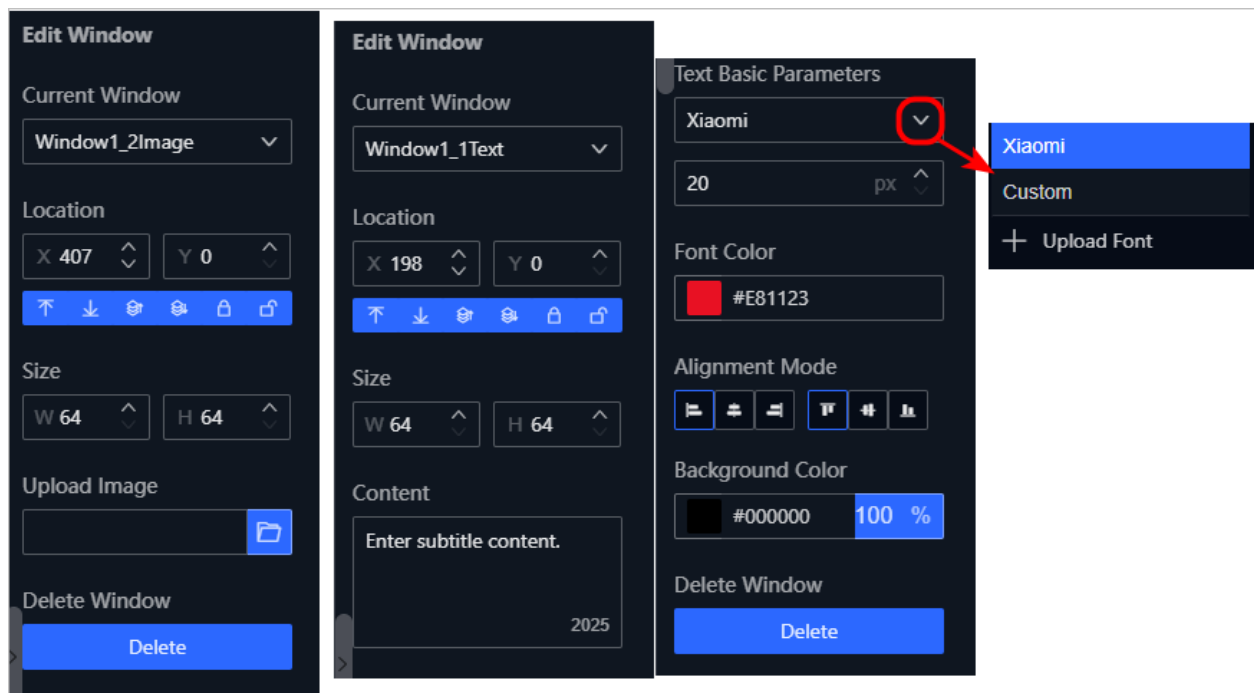


Figure 5-4 Edit Text or Image Subtitle

Step 5 Configure the image/text/clock window:

- 1) Click **Static Image/Text/Clock Element** and select **Text**, **Image**, **Digital Clock**, or **Dial Clock**.
- 2) Use either of the following methods to add the static element to the image/text/clock area:
 - Click on the static window where you want to add a static element.
 - Drag a static element to the static window and then draw the desired area.
- 3) Edit the static element.

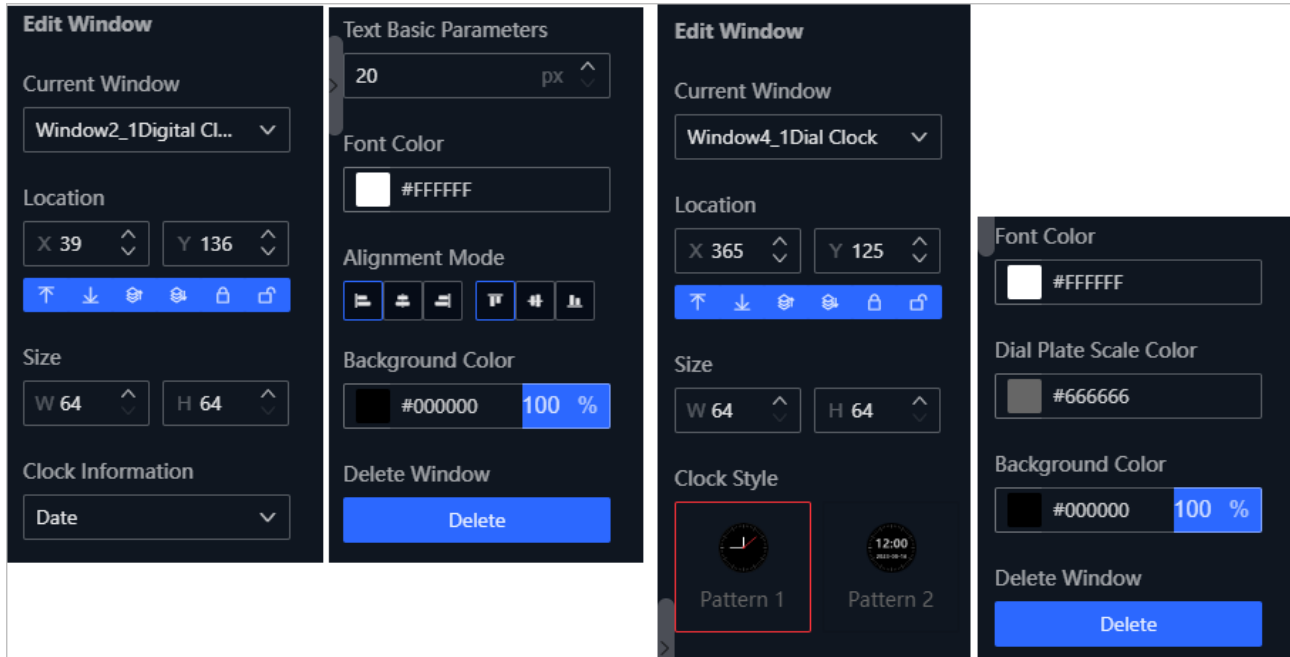


Figure 5-5 Edit Clock

Step 6 Select the audio source and adjust the volume.

- Each signal type has specific limits (indicated next to the type label), as shown in the figure below:
 - Maximum number of UHD (Ultra High Definition) signals: 3
 - Maximum type of interface gating signal sources: 2
 - Maximum number of FHD (Full High Definition) signals: 4
- To output audio from an interface gating source, first drag the interface gating source onto the video wall.
- One video wall allows the output of only one audio. Make sure you have enabled audio output on the **Configuration > Signal Configuration** page. See “6.2.3 Configure Output Parameters”.

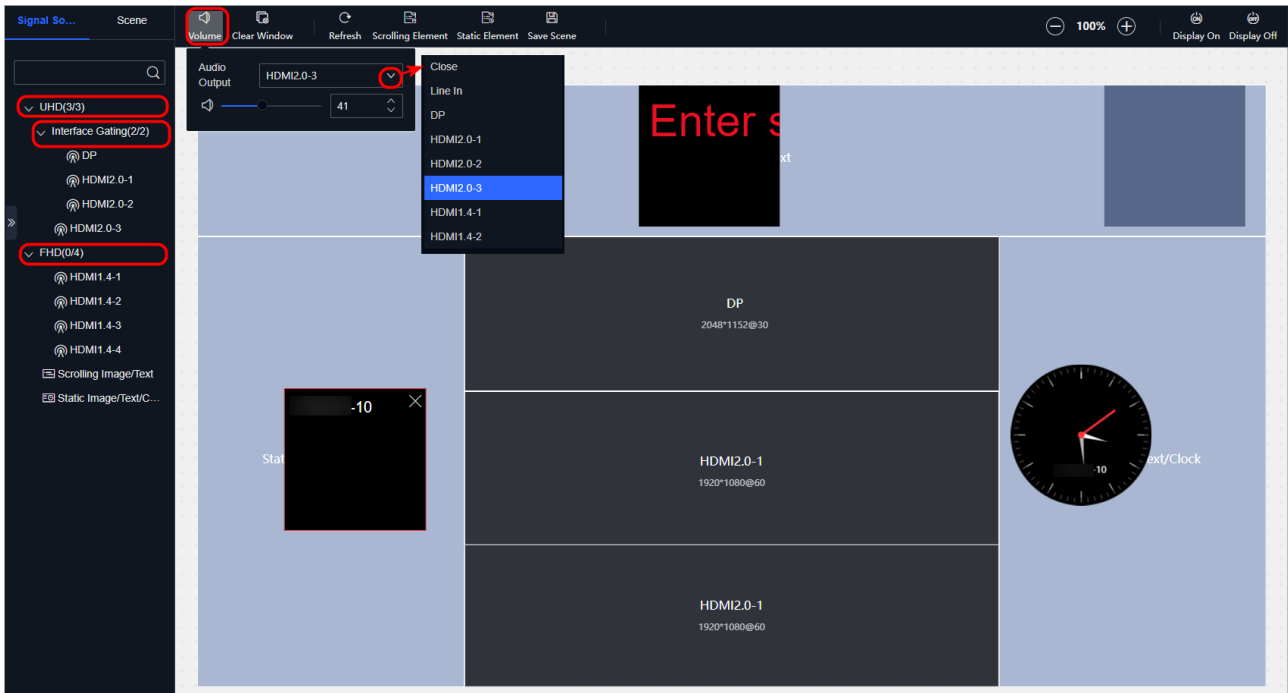


Figure 5-6 Configure Audio Output

Step 7 (Optional) You can perform the following operations as required:

- Click **Display On** or **Display Off** to control the display status.
- Click **Save Scene** to save the current video wall configuration as a new scene or overwrite the existing scene.

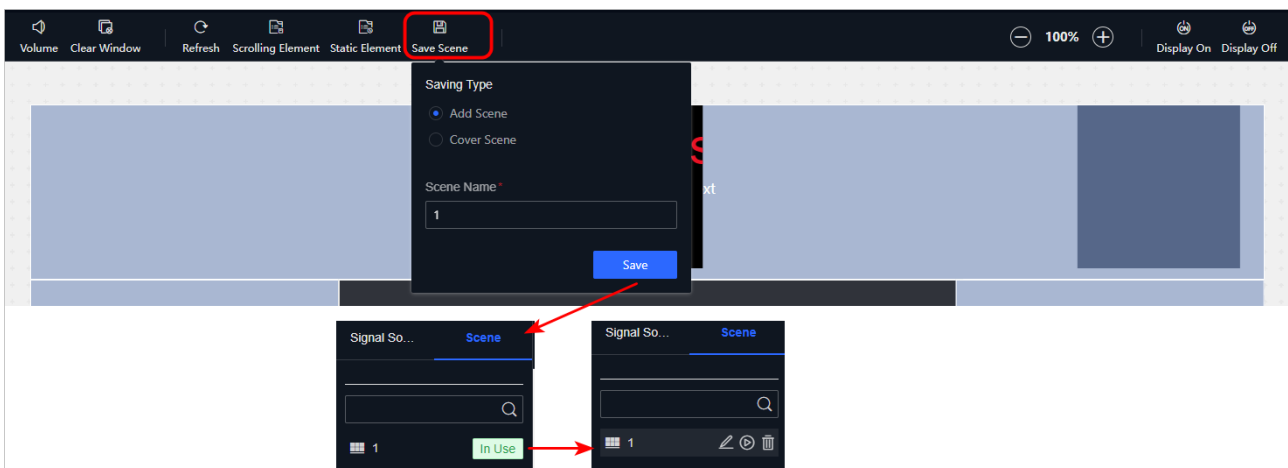


Figure 5-7 Save Scene

- Click **Scene**, click a scene and then click an icon to edit, recall or delete the scene.

5.2 Operate Video Wall of C66S Controller

5.2.1 Manage Signal Sources

Add a Network Source

Step 1 Select the adding mode:

- Add a network source via IP address: Navigate to **Image Control > Content Control**, click , and select **IP Address**.

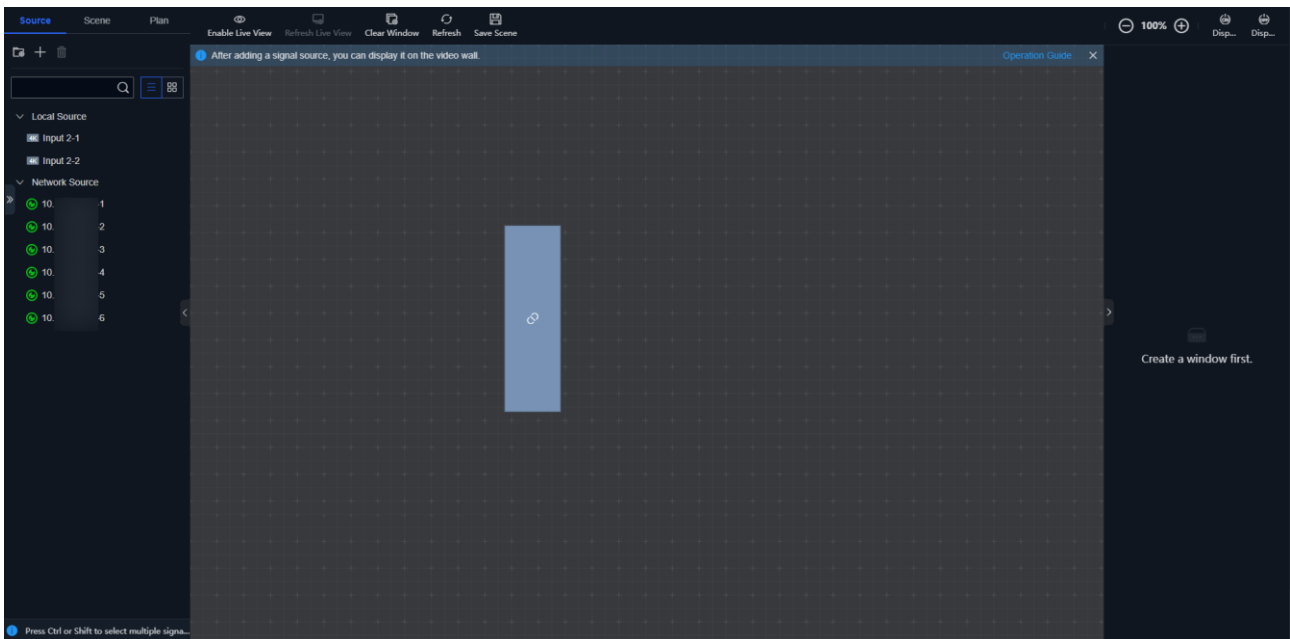


Figure 5-8 C66S Content Control Page

- Add a network source via URL: On the same page, click  and select **URL**.

Step 2 Fill in the network source information:

- IP address method:
 - Enter the signal source information and stream media information. Click **More** to set parameters like the transmission protocol and stream type.
 - Enable **Get Stream via Streaming Server** to have the streaming server forward real-time preview data, reducing network load.
 - If adding a multi-channel IPC or NVR device, the system will automatically recognize and add all channels.
- URL method: Enter the device name and the URL address.

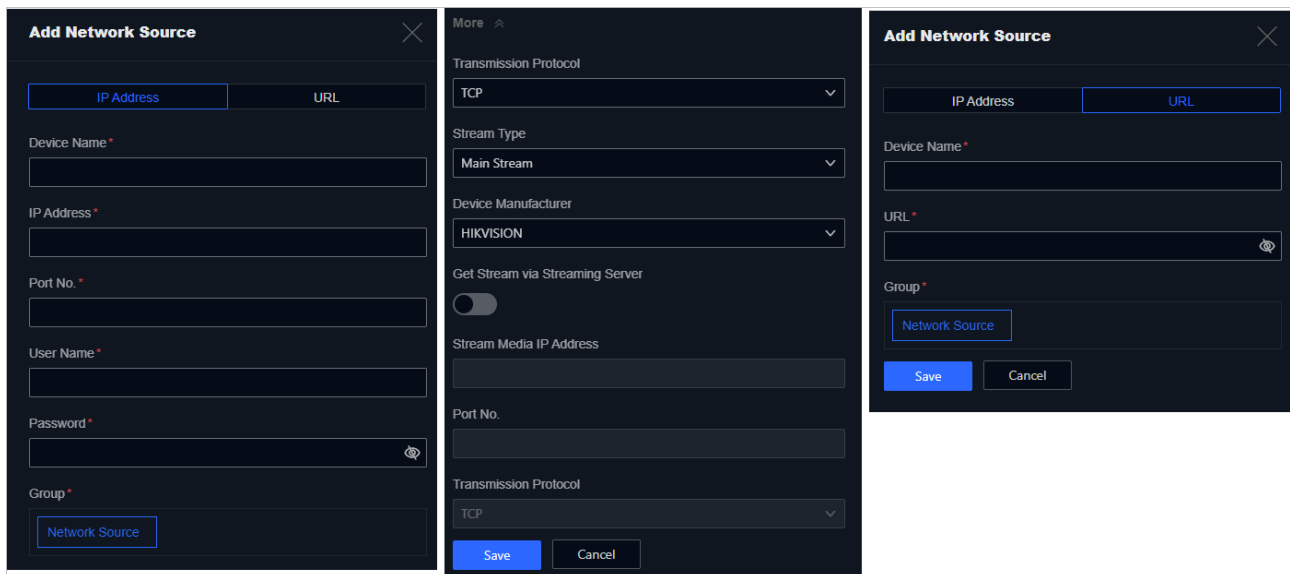


Figure 5-9 Add Network Source

Step 3 Click **Save**.

Create a Source Group

Step 1 Click .

Step 2 Enter the group name and add multiple signal sources to the created group.

You cannot add the network signal sources together with the local signal sources to the same signal source group.

Step 3 Click **OK**.

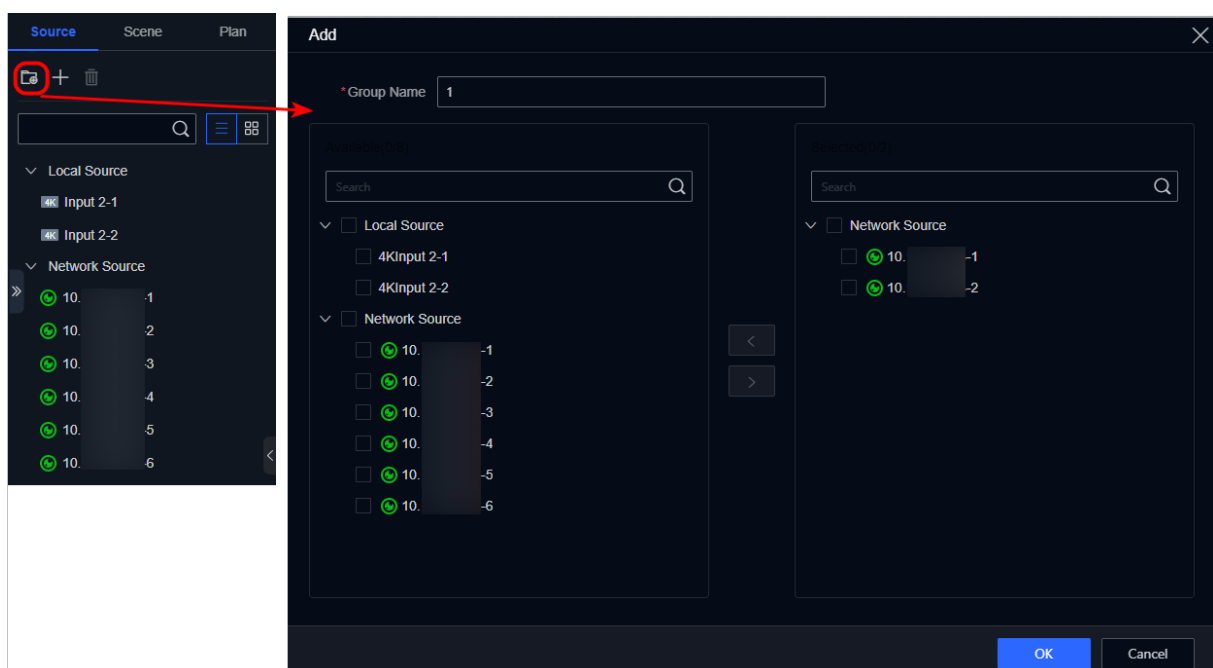


Figure 5-10 Create a Source Group

Manage Network Sources

- Edit a network source: Hover over a network signal source and then click  to edit its parameters.
- Batch delete network sources: To batch delete invalid network signal sources, you can select multiple network signal sources with the Ctrl or Shift key pressed and then click .

5.2.2 Bind Signal Sources to Video Wall

Before You Start

- The LED controller boards only support the video wall in custom shape mode. If the video wall in custom shape mode has been configured on the web page, the client will automatically read the configuration. If no video wall in custom shape mode is configured on the web page, the client will automatically create an LED video wall and bind it to the LED controller board.
- Ensure the LED video wall is configured with mapping parameters: After configuring the mapping parameters on the **Display Mapping** page, click **Save**, and then sequentially click **Save Mapping & Connections** and **Save Splicing Position**.

Important

- Ensure the signal source fully covers the output port area; otherwise, any part of the image beyond the output port will not be displayed.
- Before dragging a network signal source to the video wall, make sure that the decoding board is in the device.
- To create a new signal source group, see “Create a Source Group”.

Steps

Select the signal source type and drag it to the video wall:

- Single signal source: Drag directly to the output port.
 - Local signal sources support one-to-many dragging (see "Limitations of One-to-Many Association for Local Sources" for details).
 - Network signal sources support repeated wall display. The specific number of repetitions depends on the decoding capability of the decoding board.
- Multiple network signal sources: Hold down the Ctrl/Shift key to select multiple sources and drag them.
- Multiple local signal sources: Hold down the Ctrl key to select multiple sources and drag them.
- Signal source group: Drag a default or newly created group to the output port.

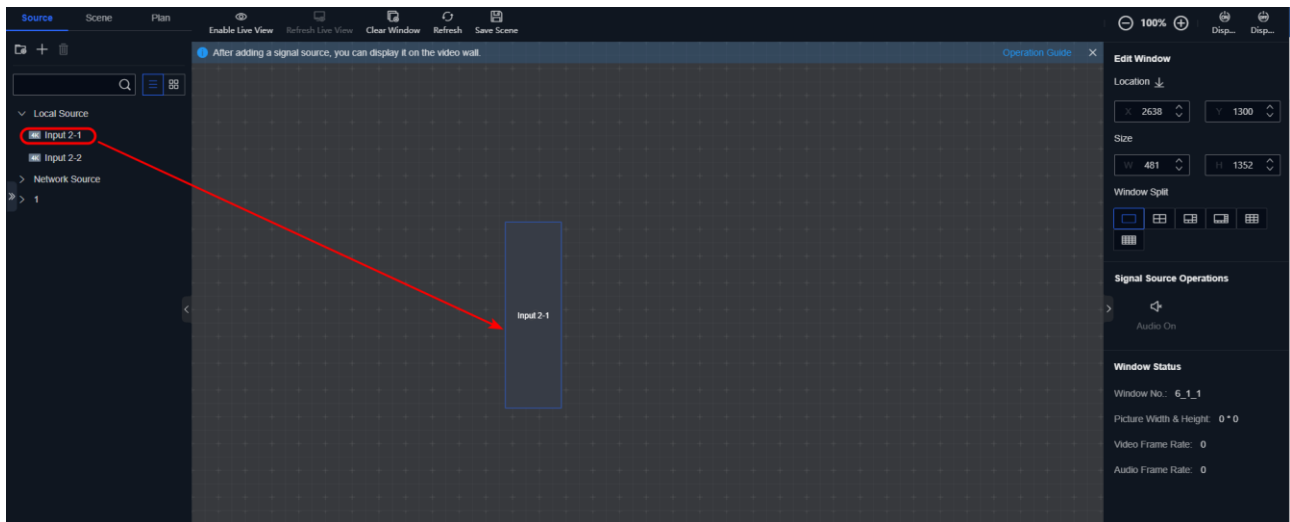


Figure 5-11 Bind Local Signal Source to Video Wall

Limitations of One-to-Many Association for Local Sources

- The maximum number of signal sources that can be displayed on a single video wall is shown in the table below.

Table 5-1 Maximum Number of Signal Sources on a Video Wall

Input Board Type	Maximum Number of Signal Sources on a Video Wall
HD input board	8 channels
UHD input board	3 channels
SDI input board	5 channels

- Rule for multiple video walls: The total number of channels = sum of the configured channels for each video wall.

5.2.3 Edit Signal Source Window

Manage Window

- Move a window: Drag the window directly or enter X/Y values for precise positioning.
- Quick actions: Click  to set the window to the bottom, and click  in the upper-right corner of the signal source window to lock window.
- Adjust window size: Drag the edges of the window or enter W/H values for precise adjustment.
- Set window split: Select a window split icon.
- View window status.

Control Audio and Signals

- Enable audio output: First set the audio output port on the **Video Wall Configuration** page of the device web page and then click **Audio On**.

- Operate network signal sources: Supports stopping decoding and setting decoding delay levels.

Preview Signal Sources

- Single window preview: Click  in the upper-right corner of a single signal source window. Click  to cancel the preview.
- Global preview: Click **Enable Live view**, **Close Live View**, or **Refresh Live View** at the top of the **Video Wall Operation** page.

Note

Before previewing a network signal source, make sure that the decoding board is in the device.

Control Display

- Click **Display On** to wake all screens of the LED video wall from sleep mode.
- Click **Display Off** to put all screens of the LED video wall into sleep mode.

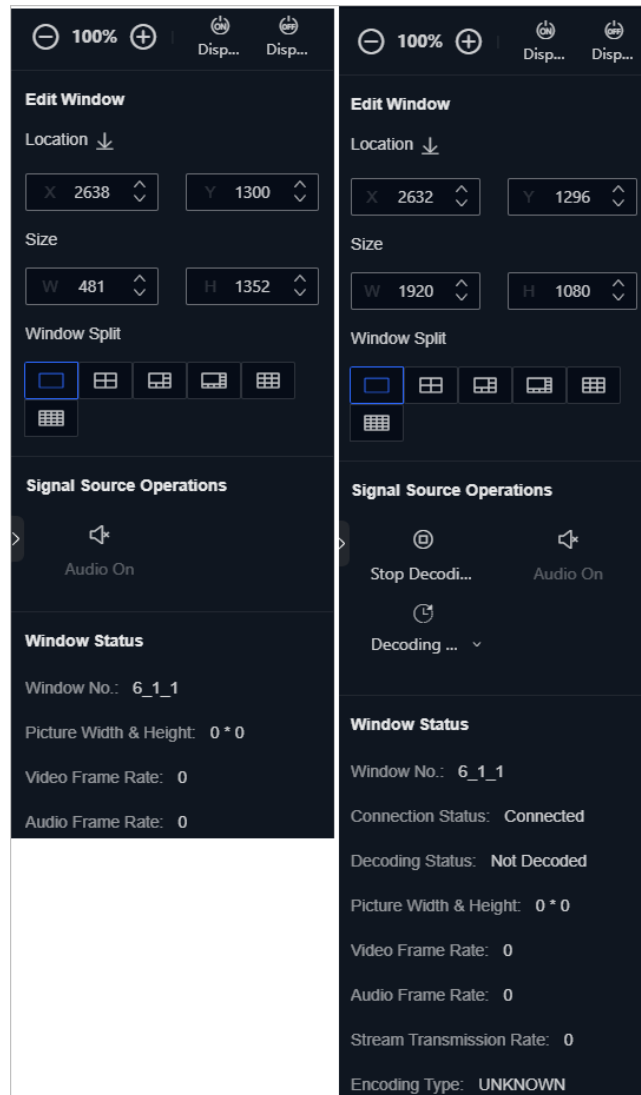


Figure 5-12 Edit Signal Source Window

Manage Signal Sources

- Quick actions:
 - Click **Clear Window** to remove all associated signal sources from the current video wall.
 - Click **Refresh** to refresh all associated signal sources on the current video wall.
- Source group auto-switching:
 - 1) Ensure a network signal source group has been created. For details, see "Create a Source Group".
 - 2) Click  in the upper-right corner of the signal source window.
 - 3) Select the newly created network signal source group, set the interval, and click **Start Auto-Switch**.

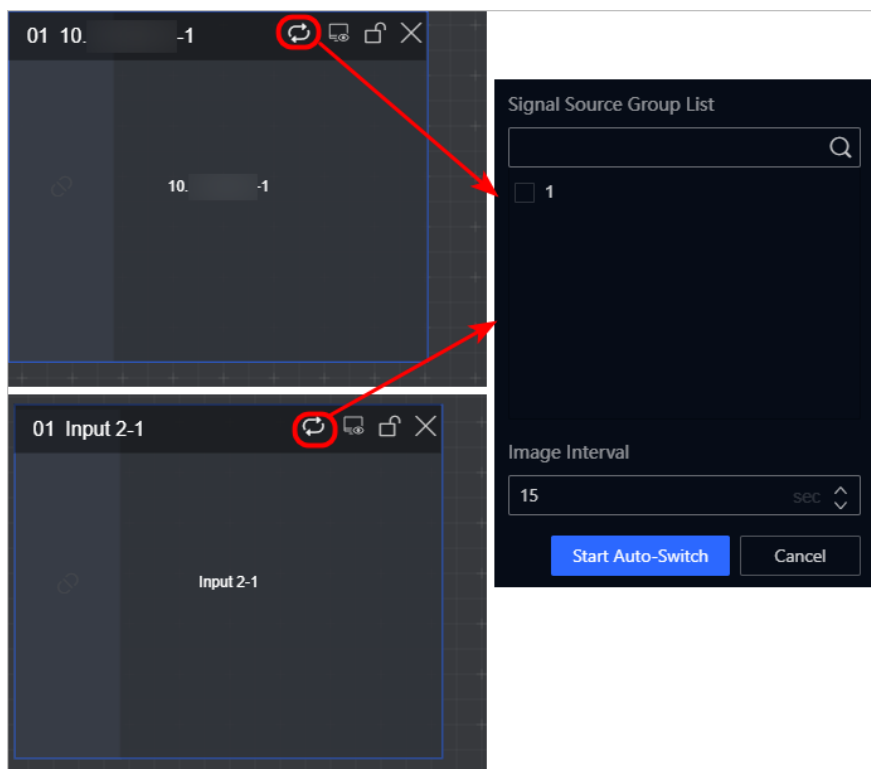


Figure 5-13 Set Source Group Auto-Switching

5.2.4 Manage Scenes

- Save scene: Click **Save Scene** to save the current video wall configuration as a new scene or overwrite the existing scene.

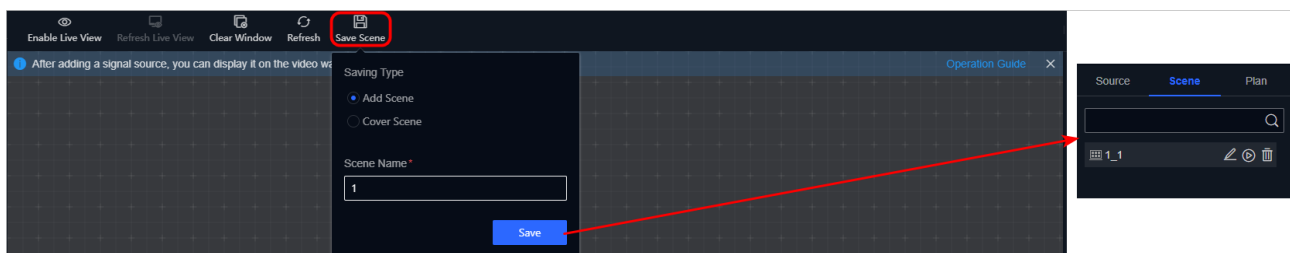


Figure 5-14 Manage a Scene

- Call/edit/delete scene: Click **Scene**, hover over a scene name and click the corresponding icon.

5.2.5 Manage Plans

You can add multiple scenes and set the scene schedule in a plan.

- Add a plan:
 - 1) Click **Plan**.
 - 2) Click  and set the plan name.
 - 3) Click **Add Task**, select the scene, and set the interval.
 - 4) (Optional) Enable **Execute Plan Automatically** and set the schedule.
 - 5) Click **Save**.

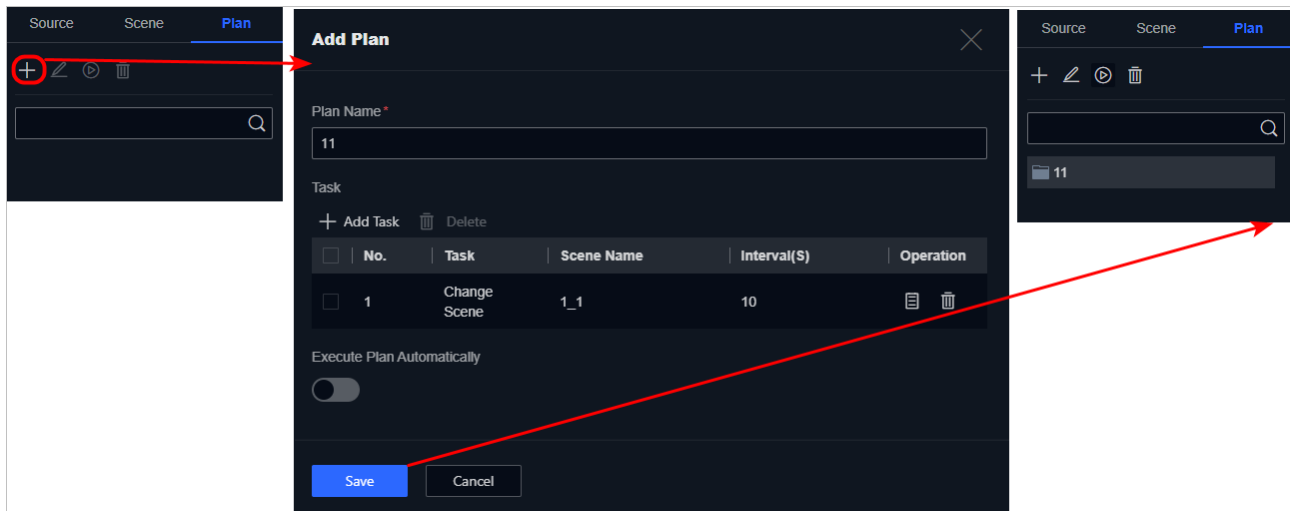


Figure 5-15 Manage a Plan

- Call/edit/delete plan: Click a plan and then click the corresponding icon.

5.3 Create Programs

Applicable Devices

DT90P, DT60B/P, DT30B/P, and DS-TB/U series LED controllers.

Function Description

A program refers to content played on the video wall according to preset template, materials, and schedule. Different device series support varying types of materials. This section uses the DT90P as an example for explanation.

Important

- Supported material types for different device series are detailed in the table below.

Table 5-2 Comparison Table of Materials Supported by Devices

Material Type	B Device	P/U Device
Application		√
Signal source		√
Image	√	√
Video	√	√
PDF file	√	√
PPT file	√	√
Web page	√	√
Clock	√	√
Text	√	√
Table	√	√
Stream media	√	√
Network camera (IPC)	√	√

- Currently, only WonderCast application is supported.

5.3.1 Create and Play Programs

Create and Play One Normal Program

Important

- Special material restrictions:
 - Each program can only contain one clock.
 - After dragging a PPT file or an application to the program window, non-signal source materials will be automatically cleared, and background image, background color, or background music cannot be configured.
 - Currently, only WonderCast application is supported. After deploying a program containing WonderCast application, the home page of the WonderCast application will be displayed. Follow the on-screen instructions to proceed.
- DT90P series loading rules:
 - Hybrid 4K signal sources (2× HDMI 2.0, 1× DP 1.2, 1× built-in Android) support 2-out-of-4 simultaneous input.
 - Hybrid 4K signal sources (HDMI 2.0 and DP 1.2) and independent 4K signal sources (HDMI 2.0 and SDI) support 1-to-3 output.

- 2K signal sources (HDMI 1.3, up to 1080p) support 1-to-4 output.
- DT60P/DS-TU series loading rules:
 - 2K version: External signal sources support 1-to-2 output, and the built-in Android source occupies 1 layer.
 - 4K version: External HDMI 1 signal source supports 1-to-1 output (4K@30 Hz), other external sources support 1-to-2 output (1080p), and the built-in Android source occupies 1 layer.
- DT30P series loading rules: External signal sources support 1-to-1 output, and the built-in Android source occupies 1 layer.

Steps

Step 1 Select a P-series LED controller and navigate to **Image Control > Content Control**.

Step 2 In the popped-up program creation window, select **Normal**, set the program name and program resolution, and select a template.

- If you click **Restore to Display Size**, the actual size of the connected display will be used as the program resolution.
- If you want to customize the layout, select **Blank Page**.
- After creating a program, you can click **Edit** on the right side of the program attributes to edit the program type, name, resolution, or template.

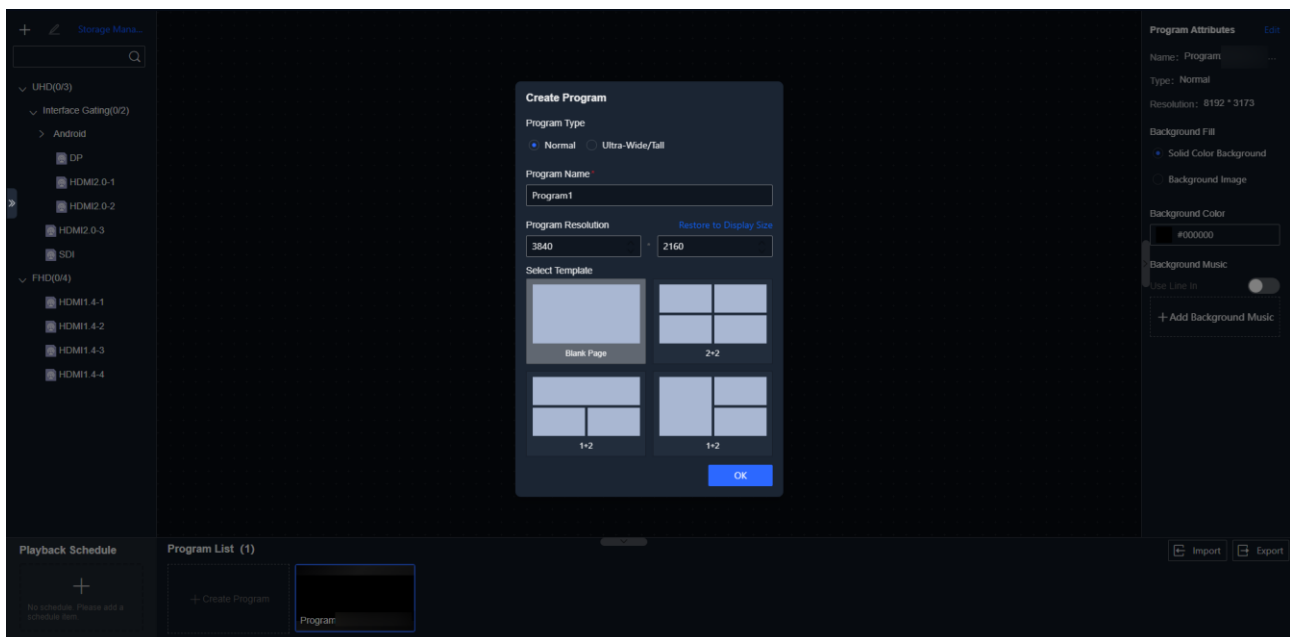


Figure 5-16 Create a Normal Program

Step 3 Click **+** to upload the locally saved materials or to add the material.

- Normal programs support application, signal source, image, video, document, web page, clock, text, table, stream media, IPC, and music materials.

- If you batch upload materials, make sure the total size of the uploaded materials does not exceed the remaining available storage space on the system.
- Supported material formats are as follows:
 - Images: BMP, JPG, PNG, GIF
 - Documents: PDF, PPT
 - Videos: ASF, AVI, MPG, 3GP, MOV, MKV, WMV, FLV, MP4, RM
 - Web pages: Prefixes http and https
 - Stream media: Prefix rtsp
- Each signal type has specific limits (indicated next to the type label), as shown in the figure below:
 - Maximum number of UHD (Ultra High Definition) signals: 3
 - Maximum type of interface gating signal sources: 2
 - Maximum number of FHD (Full High Definition) signals: 4

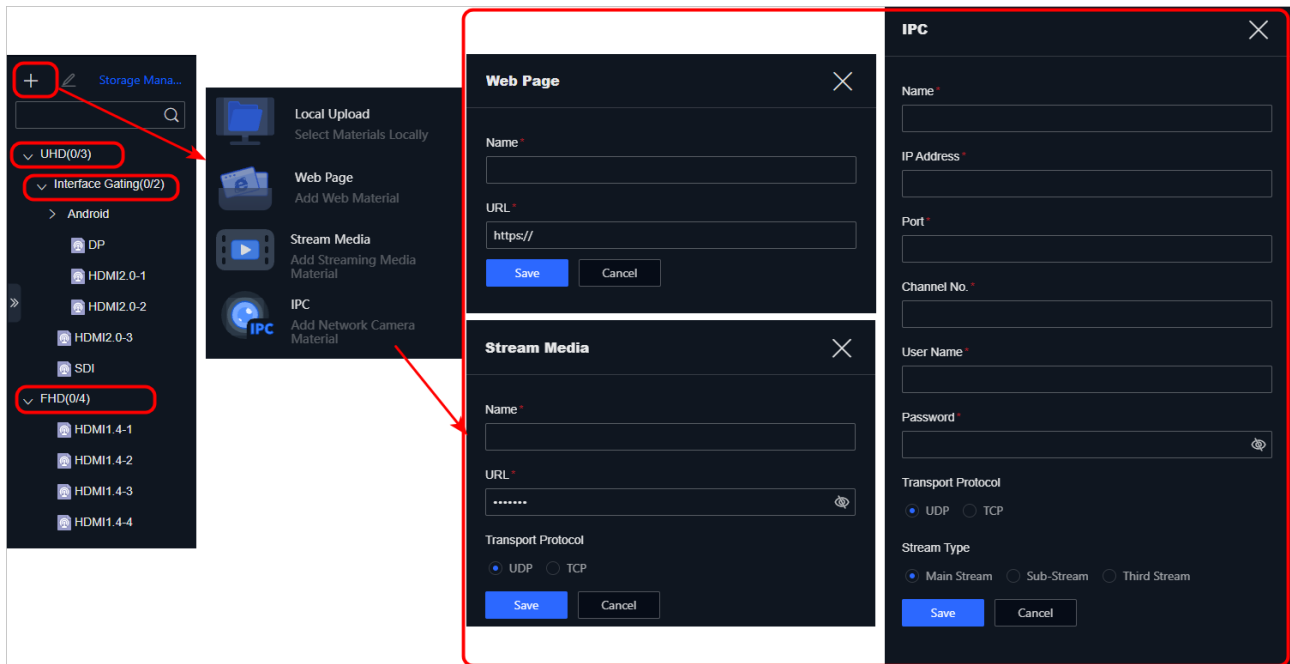


Figure 5-17 Add Materials for Normal Program

Step 4 (Optional) When internal storage is insufficient, you can use external storage to save locally uploaded images, videos, documents, and music.

- 1) Insert a FAT32-formatted USB drive into the device.
- 2) Use either of the following methods to access the **Storage Management** interface and click **Switch to External Storage**:
 - Navigate to **Device Maintenance > Settings > Storage Management**.
 - On the **Content Control** page, click **Storage Management**.

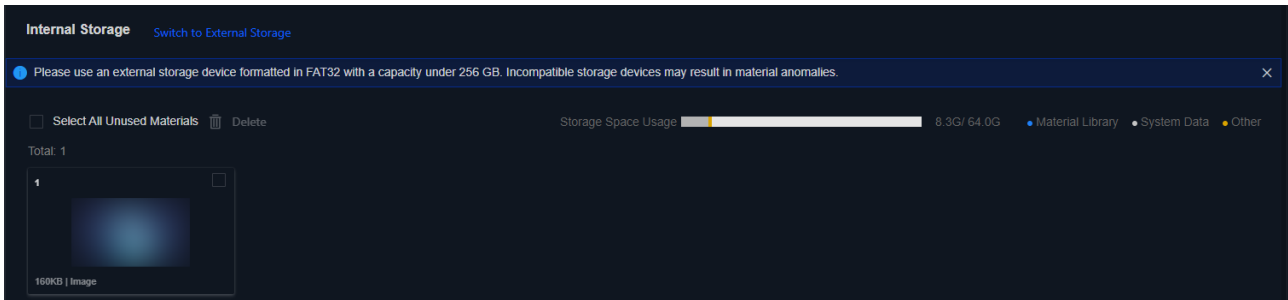


Figure 5-18 Switch to External Storage

- 3) On the **Content Control** page, click  to upload the locally saved images, videos, documents, and music. The uploaded files will be automatically stored to the USB drive.

Step 5 Click and hold the left mouse button to drag a material to the program window. Repeat this operation to bind multiple materials with the program window.

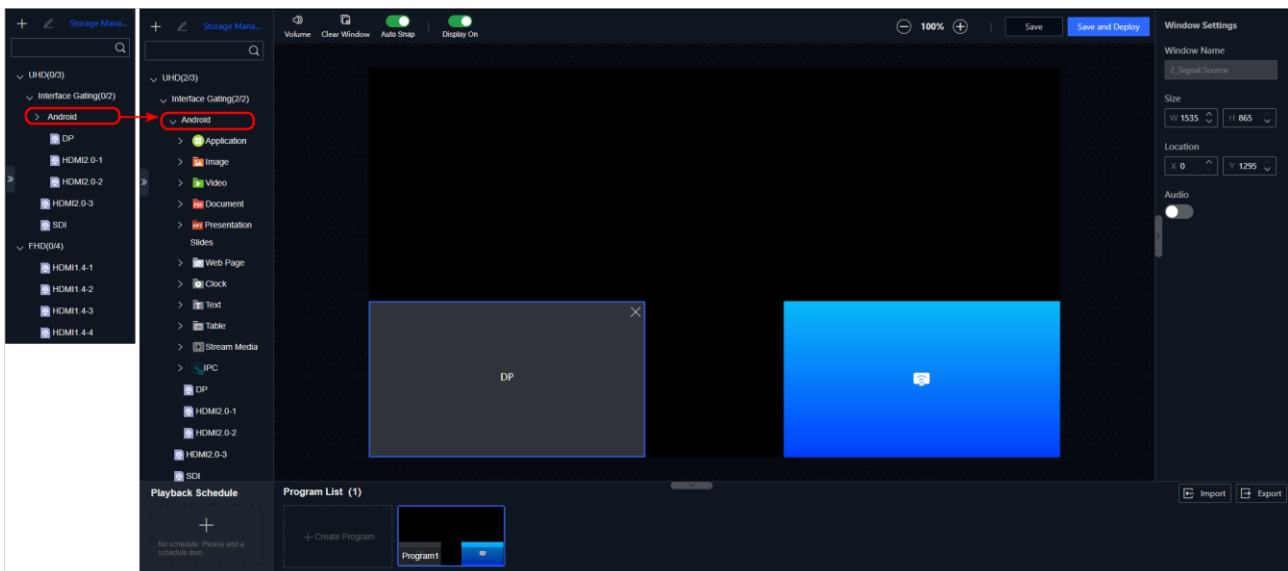


Figure 5-19 Bind Materials with Normal Program



Note

- To clear all bounded materials, click **Clear Window**.
- To edit the material name, select a material and click .
- By default, **Auto Snap** and **Display On** are enabled. It is recommended to keep the default settings.

Step 6 Click **Save and Deploy**.

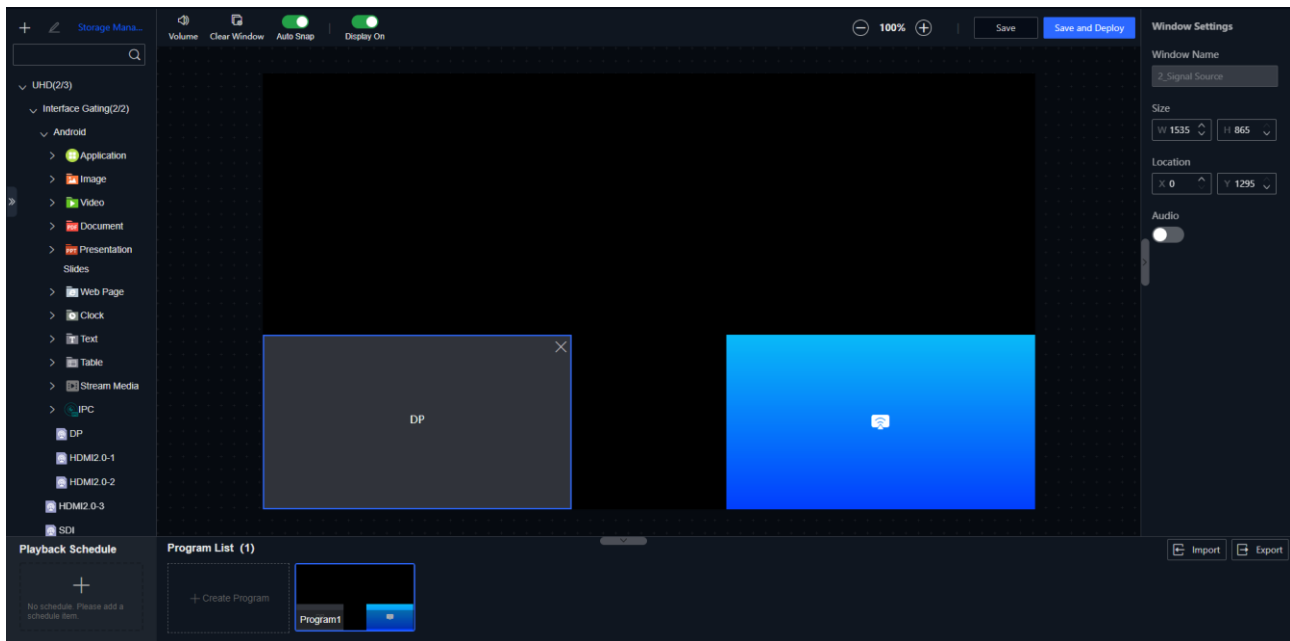


Figure 5-20 Deploy a Normal Program

Create and Play One Ultra-Wide/Tall Program

Applicable Scenario

When the width or height of an actual display exceeds 4096 pixels, it is recommended to create an ultra-wide/tall program.

Important

- Device loading limitations:
 - DT90P/DT60P/DT30P/DS-TU series and 2K DT60B/DT30B/DS-TB series: Program resolution $\leq 1920 \times 1200$ pixels.
 - 4K DT60B/DT30B/DS-TB series: Program resolution $\leq 4094 \times 2160$ pixels.
 - All devices: Single fold length ≤ 4096 pixels.
- Layout rules:
 - The device automatically sets the number of folds based on the resolution, with a maximum of 8 folds.
 - A maximum of 8 materials can be placed in a single fold.
 - When one material spans multiple folds, the number of materials allowed per fold is reduced by 1.

Steps

Step 1 Select a P-series LED controller and navigate to **Image Control > Content Control**.

Step 2 In the popped-up program creation window, select **Ultra-Wide/Tall**, and set the program resolution based on the actual display resolution.

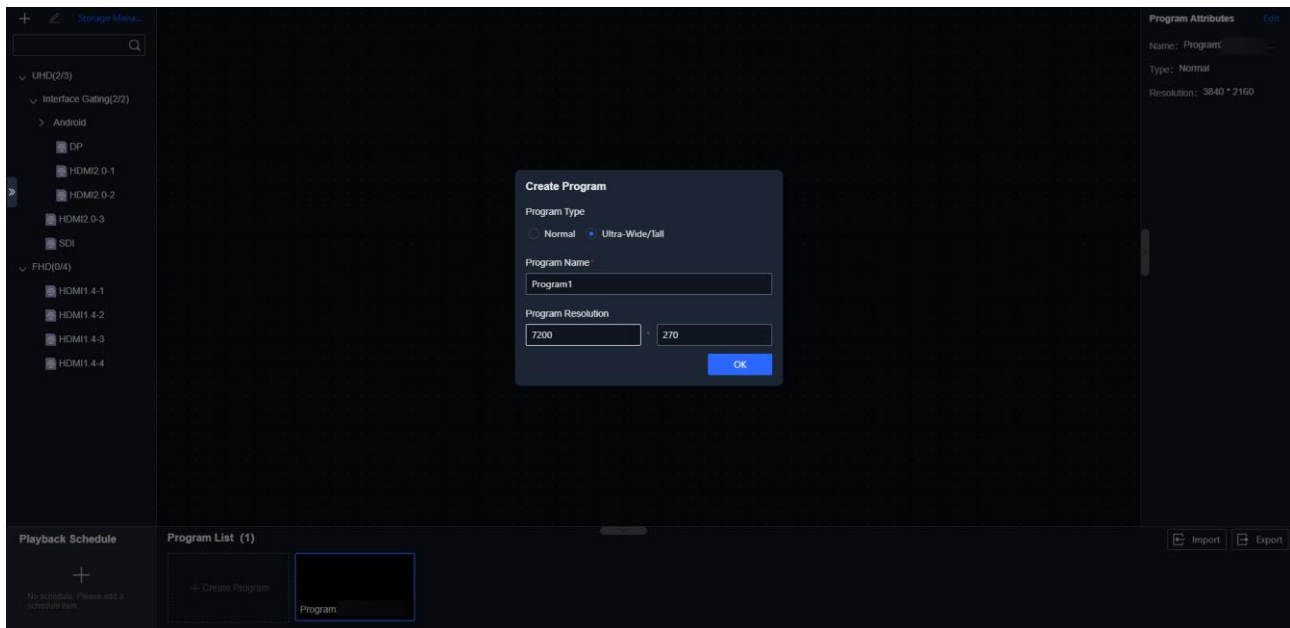


Figure 5-21 Create Ultra-Wide/Tall Program

Step 3 Click  to upload the locally saved images.

- A ultra-wide/tall program supports only image, text, clock, and music materials.
- Supported image formats include BMP, JPG, PNG, and GIF.

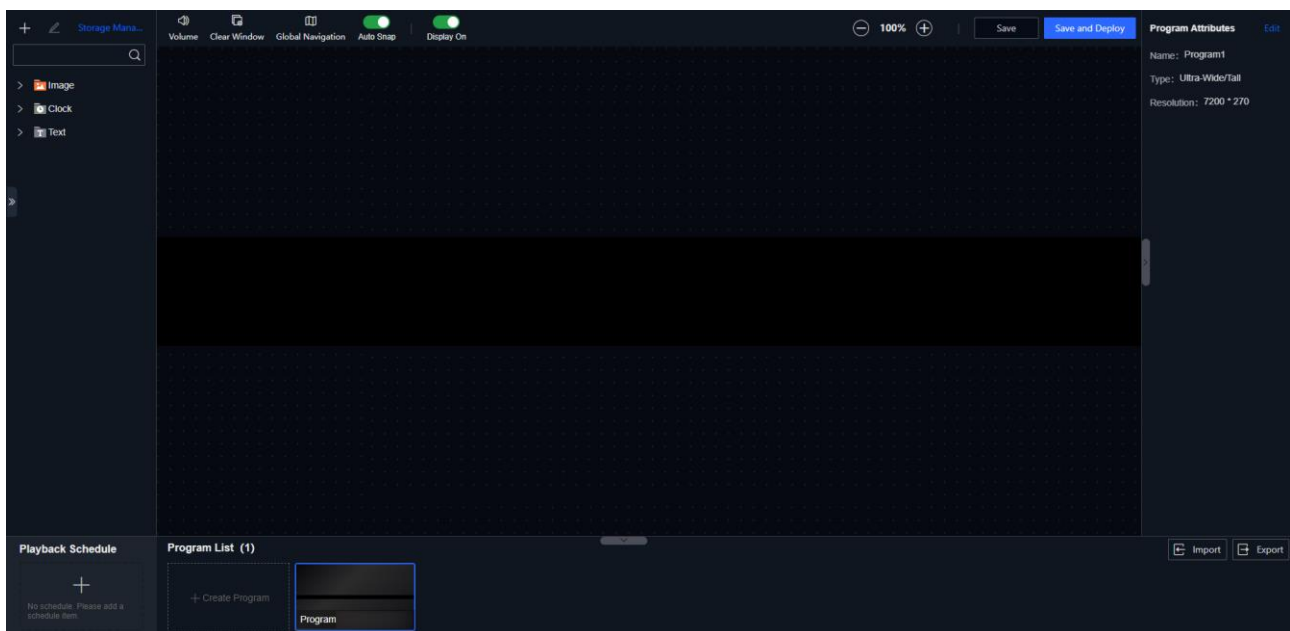


Figure 5-22 Add Materials for Ultra-Wide/Tall Program

Step 4 (Optional) When internal storage is insufficient, you can use external storage to save locally uploaded images and music.

- 1) Insert a FAT32-formatted USB drive into the device.

- 2) Use either of the following methods to access the **Storage Management** interface and click **Switch to External Storage**:
 - Navigate to **Device Maintenance > Settings > Storage Management**.
 - On the **Content Control** page, click **Storage Management**.

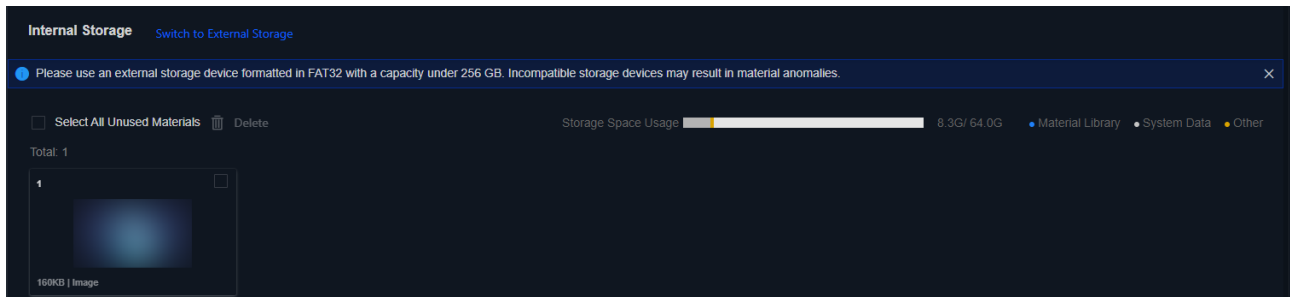


Figure 5-23 Switch to External Storage

- 3) On the **Content Control** page, click  to upload the locally saved images and music. The uploaded files will be automatically stored to the USB drive.

Step 5 Click and hold the left mouse button to drag a material to the program window. Repeat this operation to bind multiple materials with the program window.

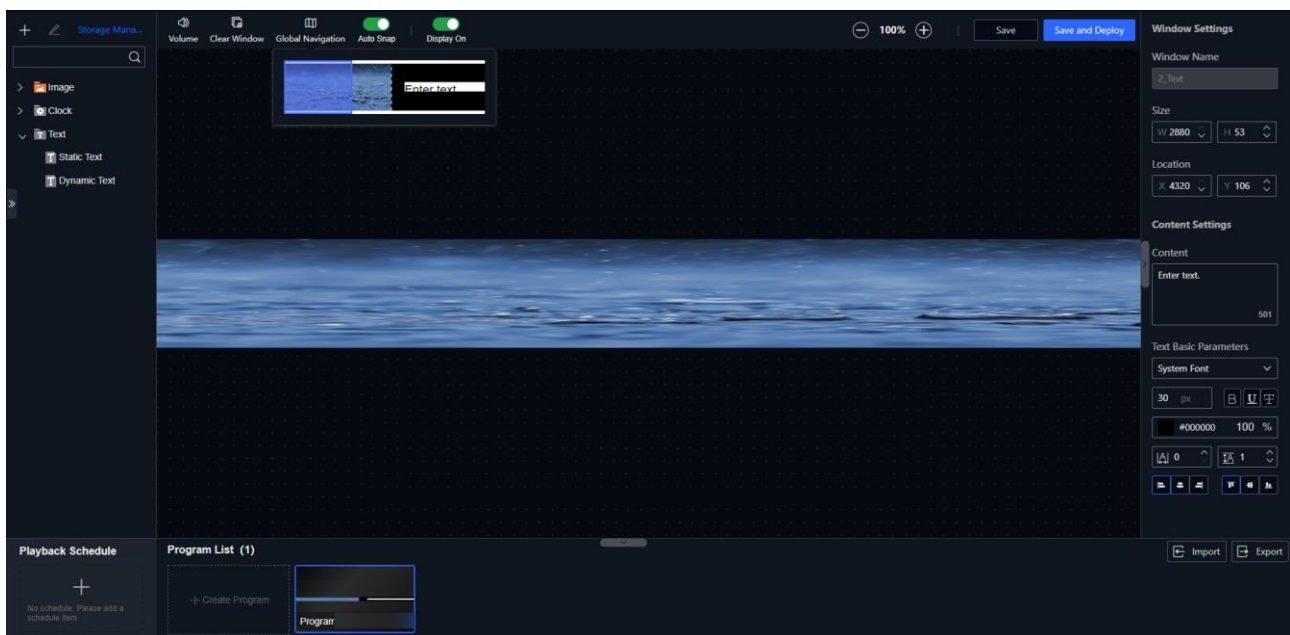


Figure 5-24 Bind Materials with Ultra-Wide/Tall Program



Note

- To clear all bounded materials, click **Clear Window**.
- To edit the material name, select a material and click .
- By default, **Auto Snap** and **Display On** are enabled. It is recommended to keep the default settings.

- For ultra-wide/tall program, you can click **Global Navigation** to view the materials bound with each fold.

Step 6 Click **Save and Deploy**.

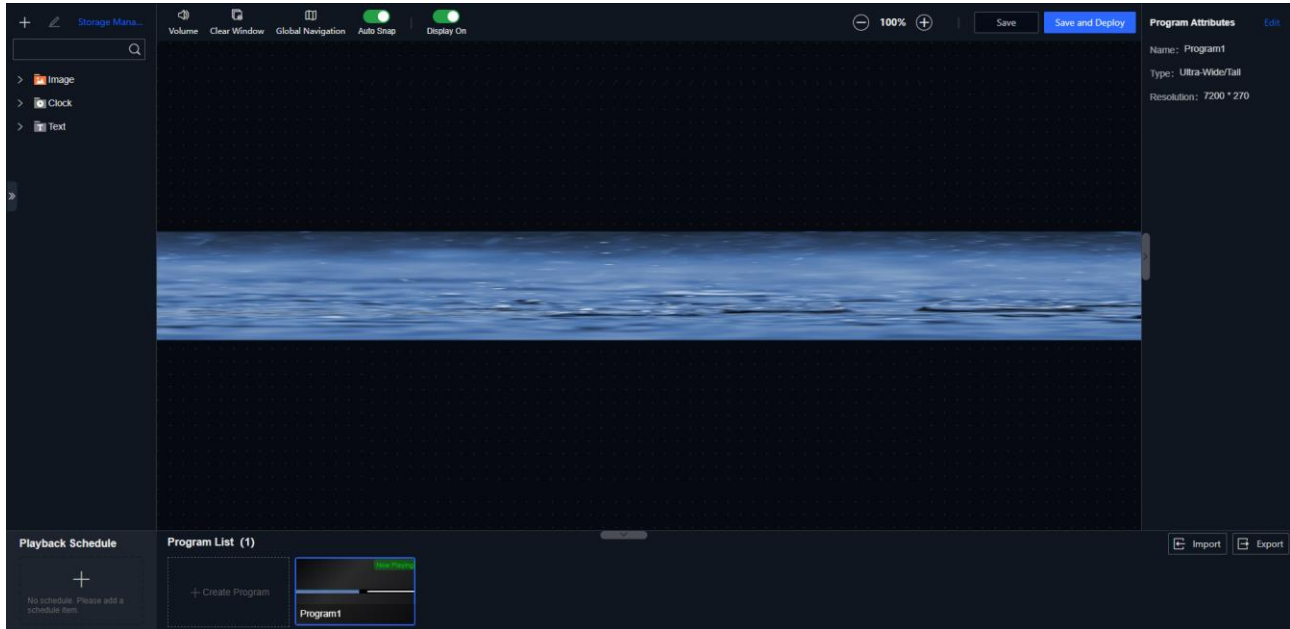


Figure 5-25 Deploy an Ultra-Wide/Tall Program

Create and Play Multiple Programs

To play different programs at different times, create multiple programs and set the playback schedule. This method applies to both normal programs and ultra-wide/tall programs. The following uses normal programs as an example.

Step 1 Create the first program and save it. For details, see “Create and Play One Normal Program” or “Create and Play One Ultra-Wide/Tall Program”.

Step 2 Click **Create Program**, set the program parameters, and bind materials to the program window.

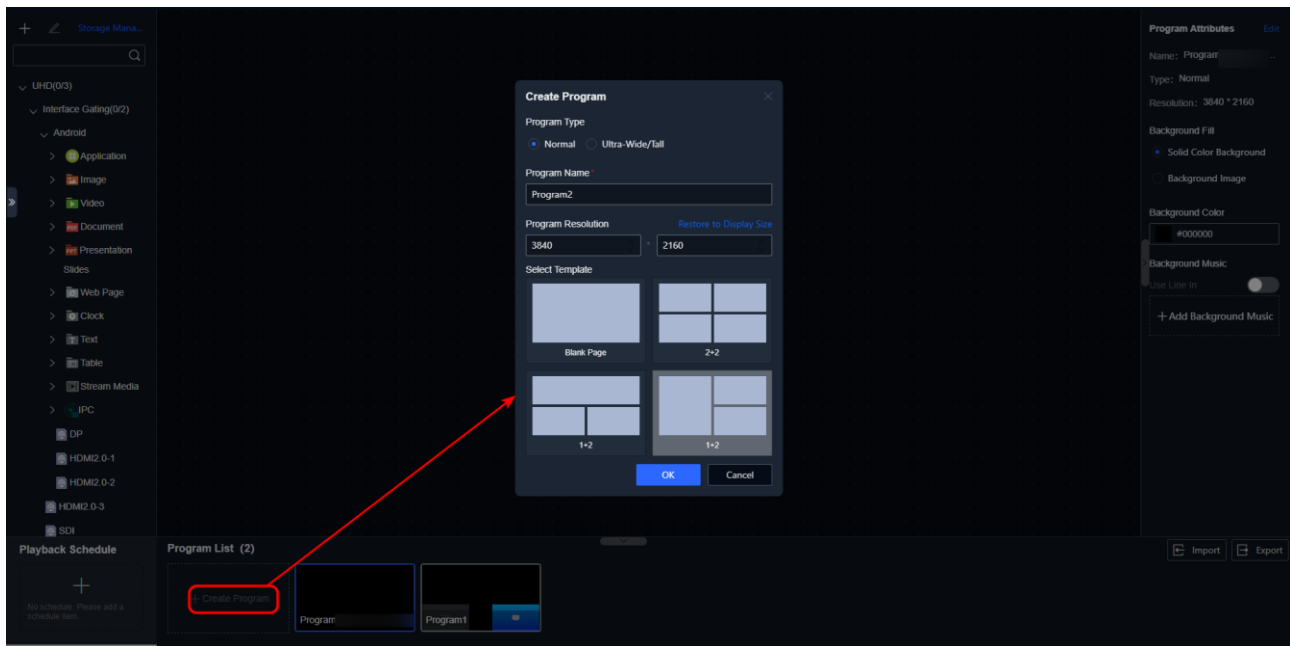


Figure 5-26 Create a New Normal Program

Step 3 Click  on the schedule area to create the schedule.

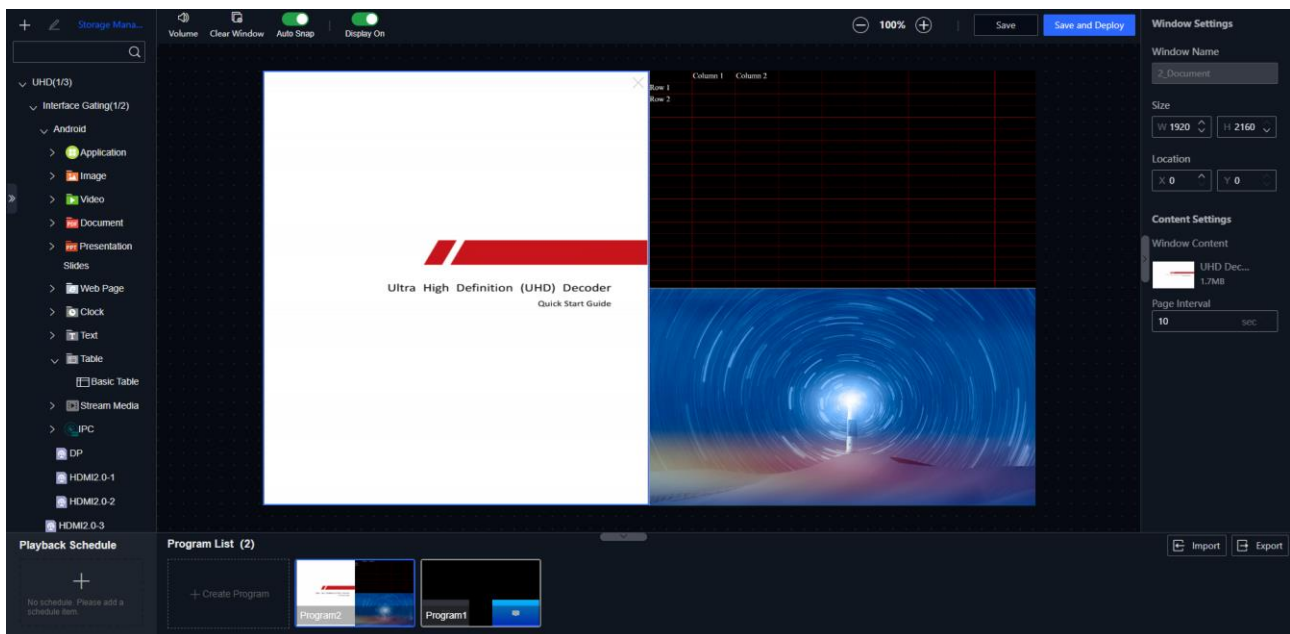


Figure 5-27 Create the Schedule

- Select **Auto-Switch**, drag programs to the playlist, and click **Save and Deploy**.
 - To clear the playlist, click **Clear**.
 - To save only the auto-switching schedule without deploying, click **Save**.

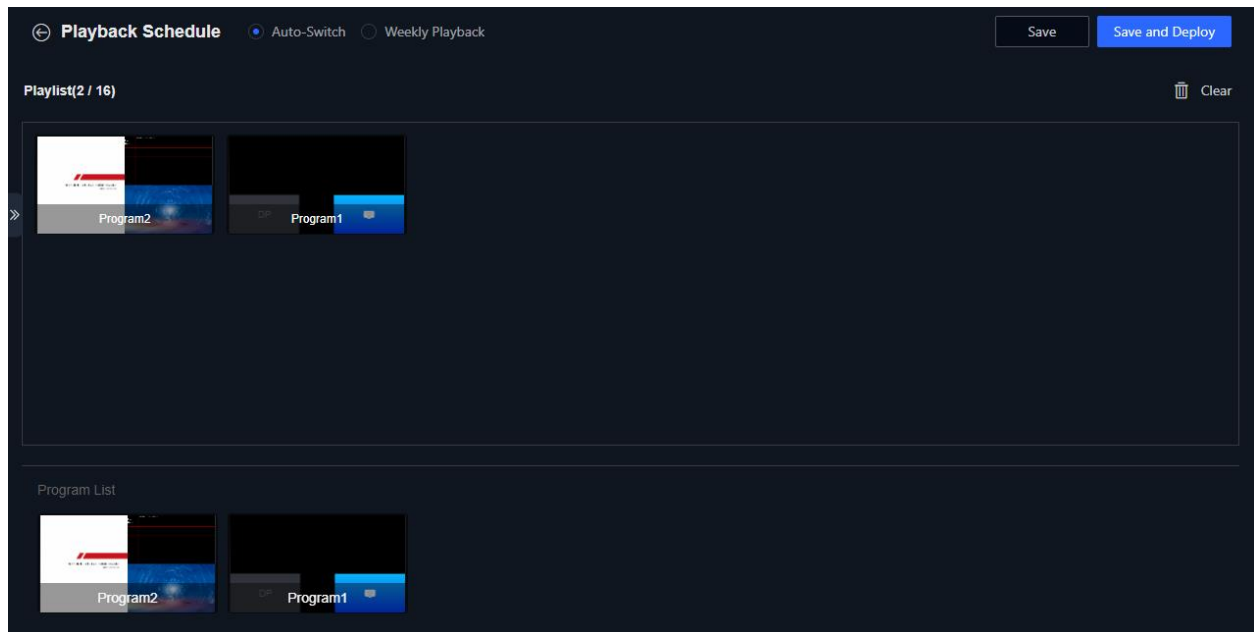


Figure 5-28 Set Auto-Switching Schedule

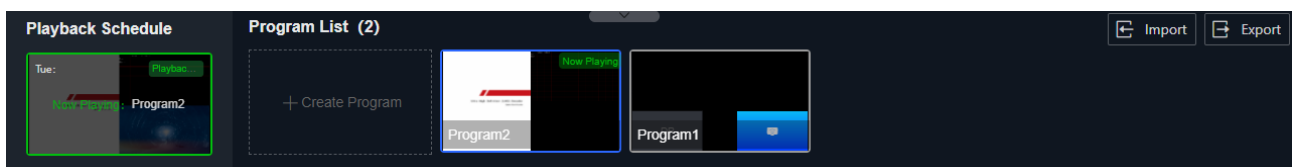


Figure 5-29 Auto Switch Normal Programs

- Select **Weekly Playback**, and set the programs and duration on the schedule.
- 1) On the schedule, left click the mouse to select the start time and hold the mouse to select the end time.
 - 2) Select a program and click **OK**.

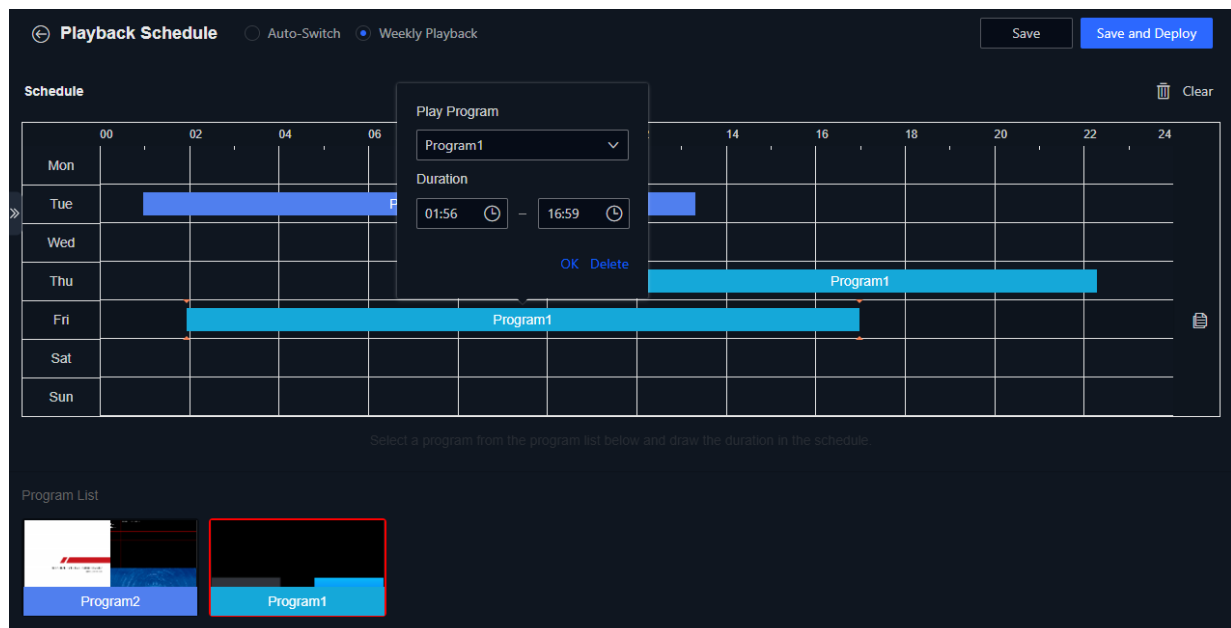


Figure 5-30 Configure the Schedule

- 3) Click **Save and Deploy**.
- 4) (Optional) You can perform the following operations as required:
 - Click **Delete** to delete the current schedule item.
 - Click  to copy the current schedule item settings to the selected weekdays and weekends.
 - Click **Clear** to clear all schedule items.
 - Click **Save** to save the schedule.

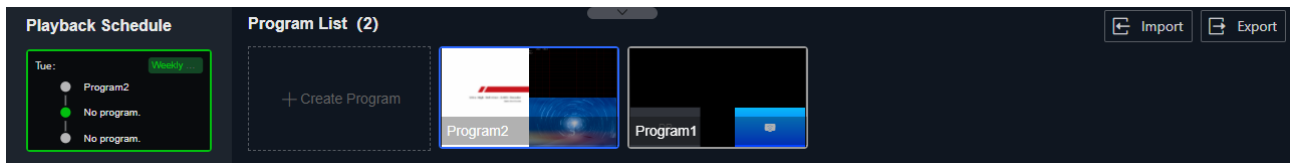


Figure 5-31 Weekly Playback of Normal Programs

Set Other Program Parameters

On the **Content Control** page, you can configure the following parameters for normal programs or ultra-wide/tall programs:

- Click on a blank area outside the program range to add a background color, background image, or background music.
 - Background music supports MP3, WAV, and WMA formats.
 - Enable **Use Line In** to play audio input from the device's Line In port.

Note

Enabling Line In will automatically mute audio from all other signal sources.

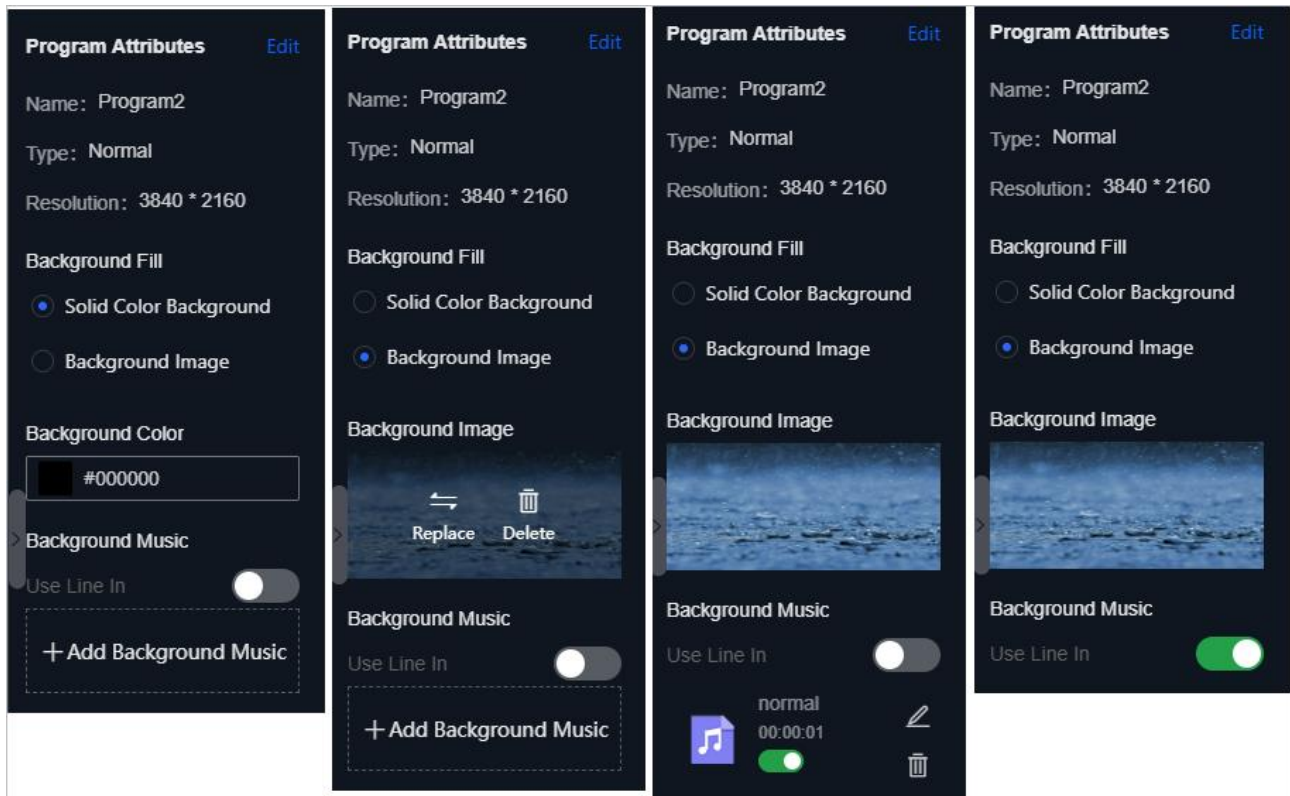


Figure 5-32 Add a Background

- Adjust the volume.
- Set the display status:
 - If you enable **Display On**, the display exits the sleep mode.
 - If you disable **Display On**, the display enters the sleep mode.
- Manage a program and schedule by hovering to reveal action icons:
 - Deploy: Click  to deploy the program or schedule.
 - Edit: Click  to edit the program or schedule.
 - Export: Select a non-editable program, and click  to export the program, materials and schedule to the USB flash drive. During export, you can enable **Autoplay Program from USB Flash Drive**.
 - Delete: Click  to delete the program.
 - Stop: Click  to stop the program.
- Export/Import data:
 - Insert a USB flash drive into the device and click **Import** to import all programs, materials and the schedule in the USB flash drive to the device.
 - Insert a USB flash drive into the device and click **Export** to export all programs, materials and the schedule.

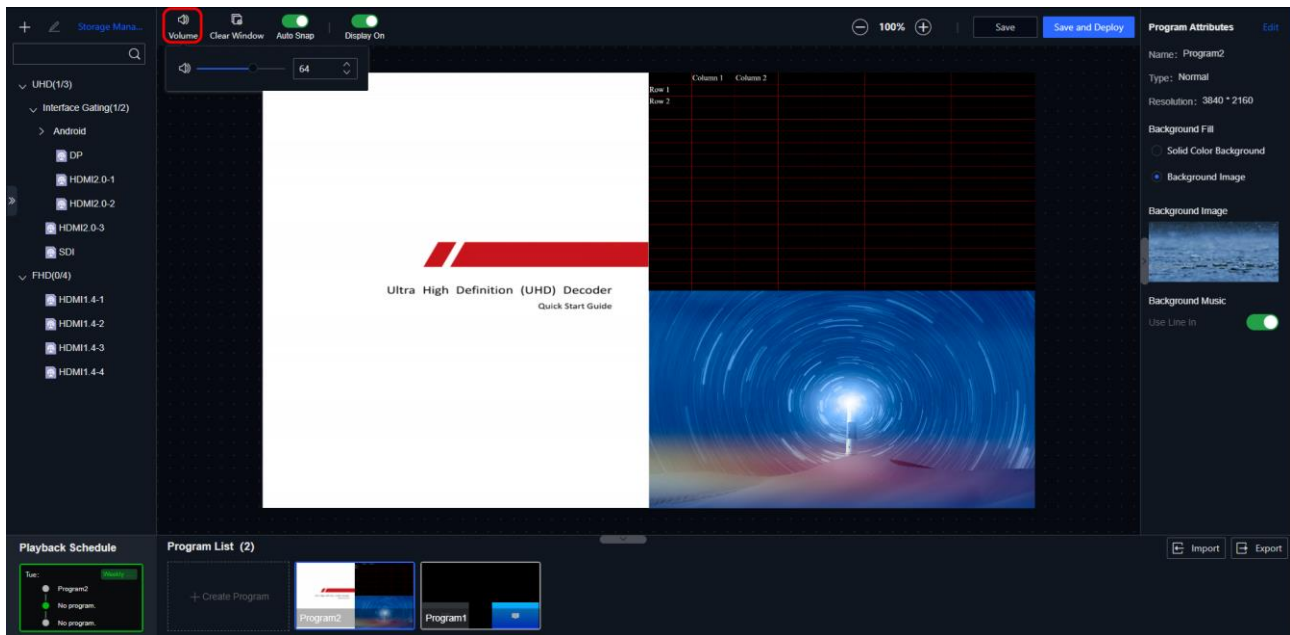


Figure 5-33 Manage Program

Note

- Only USB flash drives in FAT32 format are supported.
- Do not remove the USB drive until the system prompts that the import or export operation is complete, as this may cause data loss.

5.3.2 Manage Materials

Material Type

- Normal program: Support application, signal source, image, video, document, web page, clock, text, table, stream media, IPC, and music materials.
- Ultra-wide/tall program: Support image, text, clock, and music materials.

Common Material Operations

- Adjust the window position: Select the material window, and then drag with left mouse button or directly enter position coordinates.
- Adjust the window size: Drag window edges, enter width/height values, or double-click to fill the program sub-window (double-click again to restore original size).

Set Specific Material Parameters

After selecting the target material in the program window, you can configure its parameters.

- WonderCast material: Enable **Keep Projection Code Visible** as required.
- Signal source material:
 - Manually set the resolution or enable **Resolution Self-Adaption**.
 - Enable audio. Each program can output only one audio source.

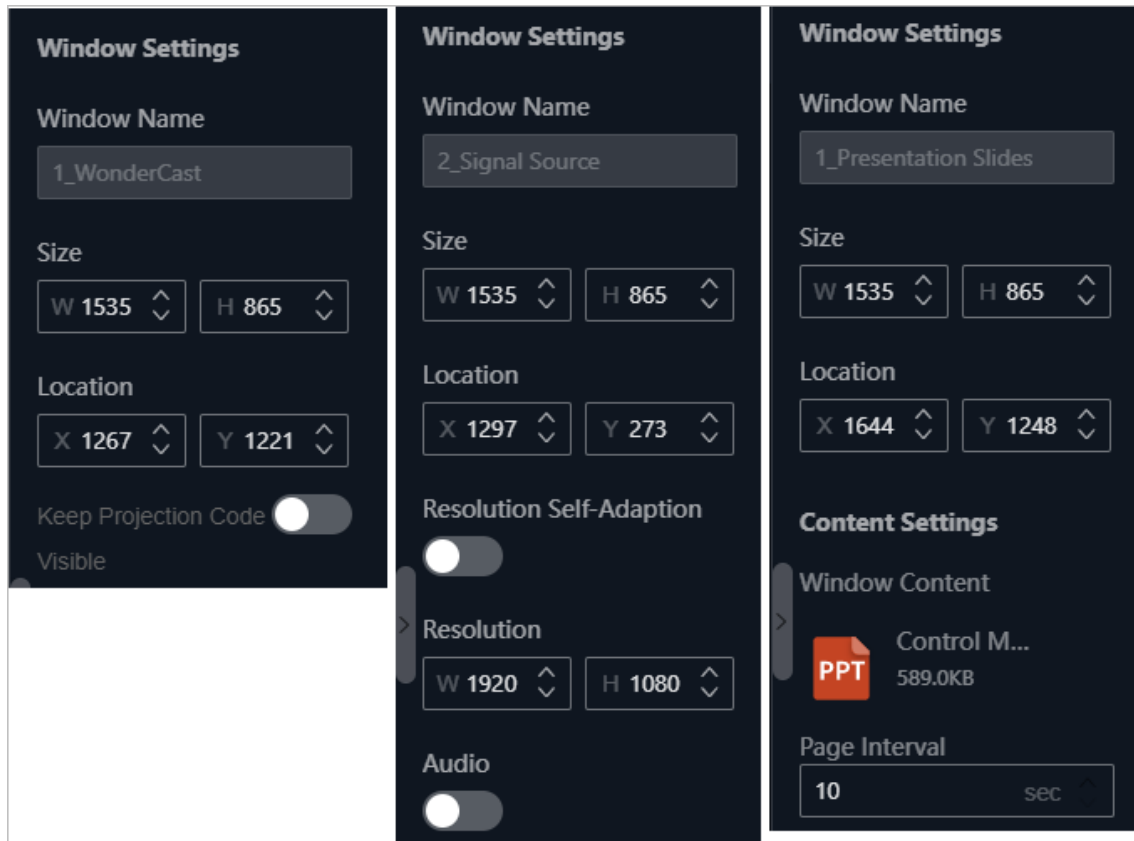


Figure 5-34 Configure Application/Signal Source/PPT File Material

- Image and video materials:
 - Click **Add More Materials** to upload the locally saved images or videos, or to select the images or videos from the material library.
 - Click and hold  to adjust the playing order of the image or video.
 - Set an interval for each image.
 - Adjust the corner radius of the image window.
 - Audio from only one material (video, stream media, or IPC) is active per program. It is automatically enabled for the first material added to the program window. To use audio from a different material, select it and enable **Use Audio Tracks**.
- PPT document and PDF document materials: Set the page interval in the range of 10 to 120 seconds.
- Web page material: Set the webpage refresh interval.

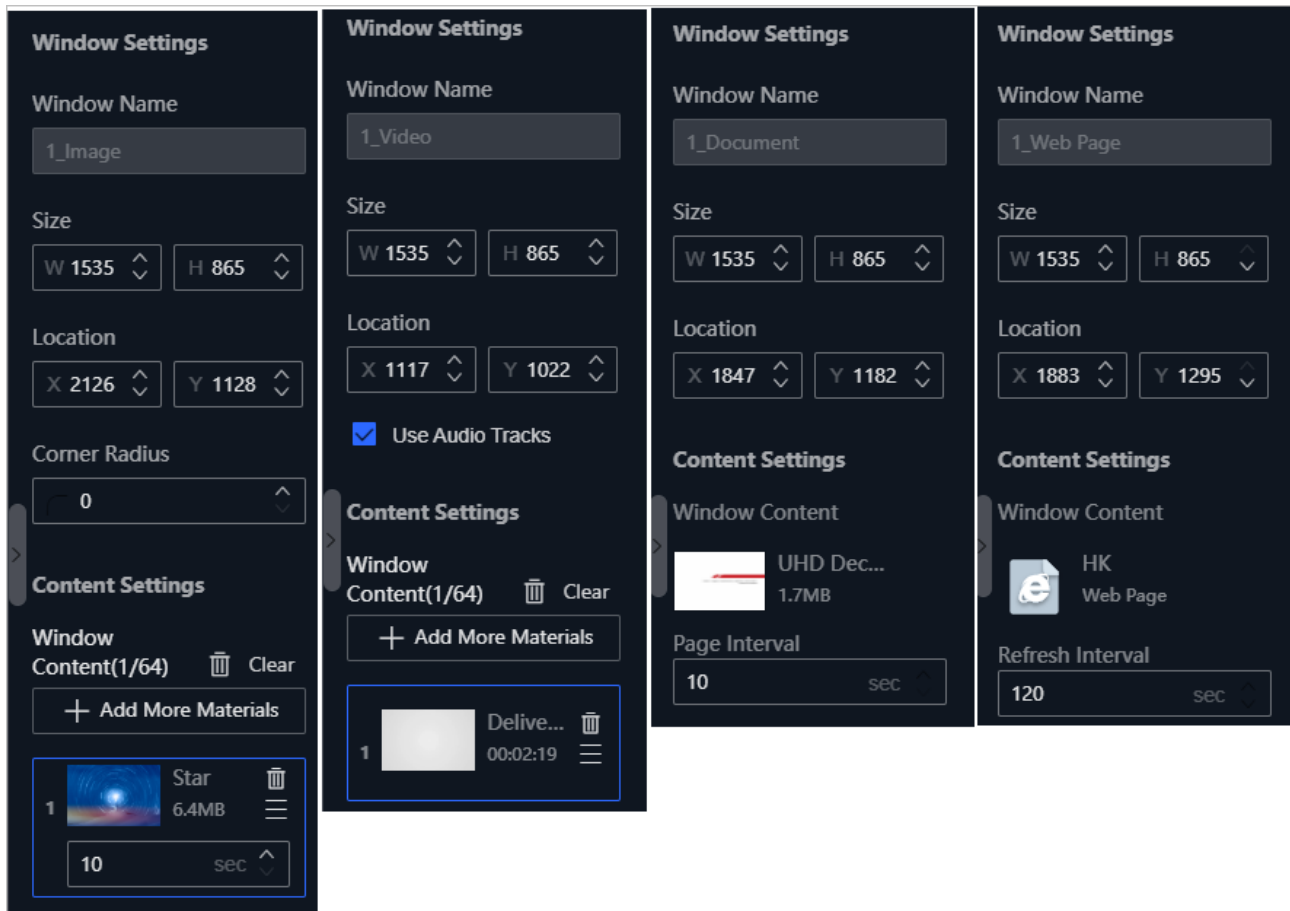


Figure 5-35 Configure Image/Video/PDF File/Webpage Material

- Stream media and IPC materials: Audio tracks from only one material (video, stream media, or IPC) is enabled per program. The audio tracks are automatically enabled for the first material added to the program window. To use audio tracks from a different material, select the target material and enable **Use Audio Tracks**.

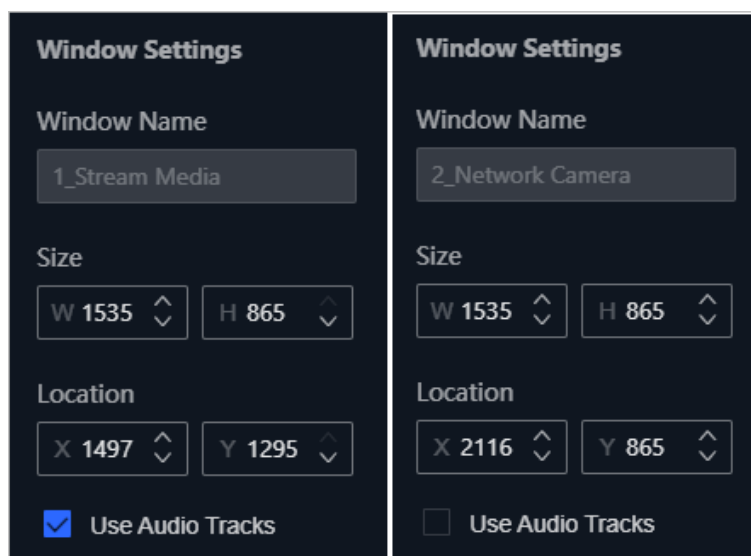


Figure 5-36 Configure Stream Media/Network Camera Material

- Clock material:
 - Supports 7 types of clocks. One program allows only one clock.
 - Click  to hide the clock template and time.
 - Edit the clock template, font size, and font color.
- Text material:
 - Enter the content, and set the text basic parameters, text stroke, text shadow, and text background.
 - For the dynamic text material, set the scrolling direction and speed.

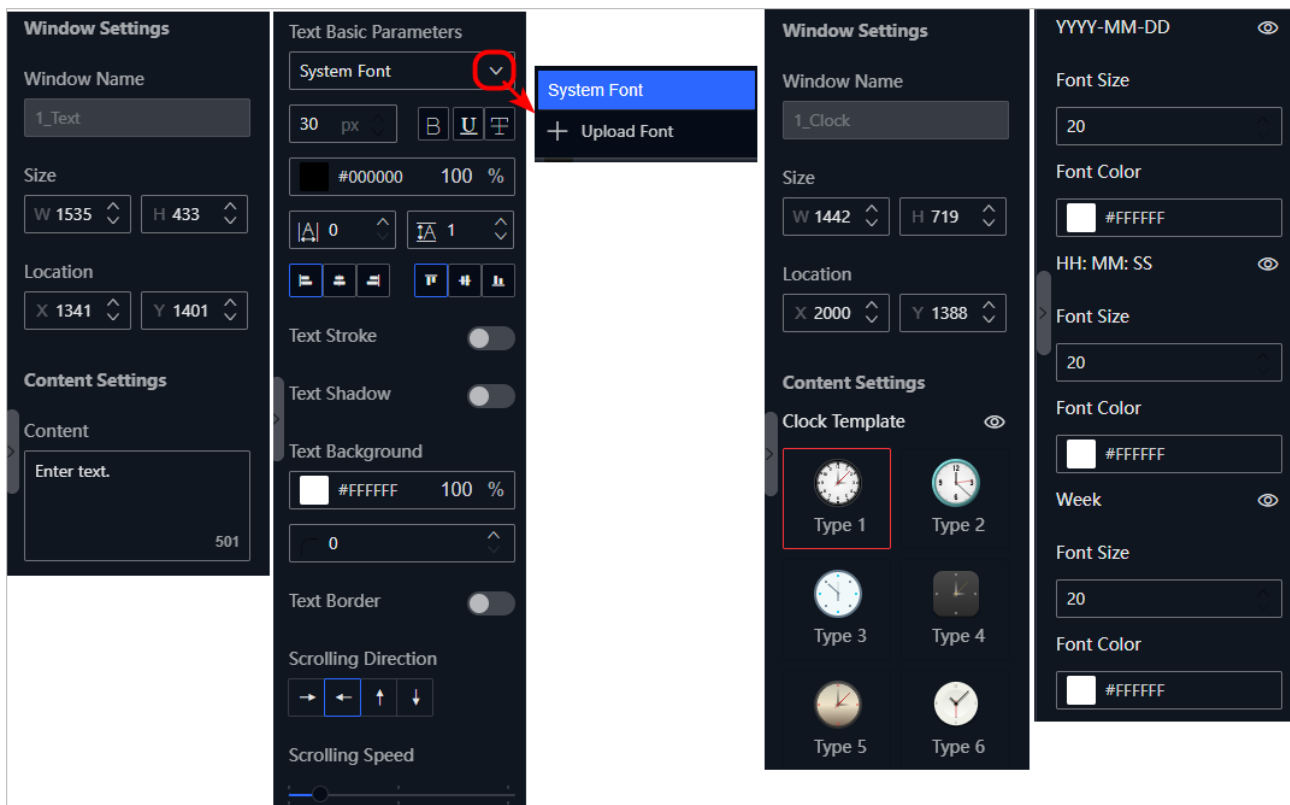


Figure 5-37 Configure Text/Clock

- Table material: Click **Edit Table** to edit the table content and style in the pop-up window.

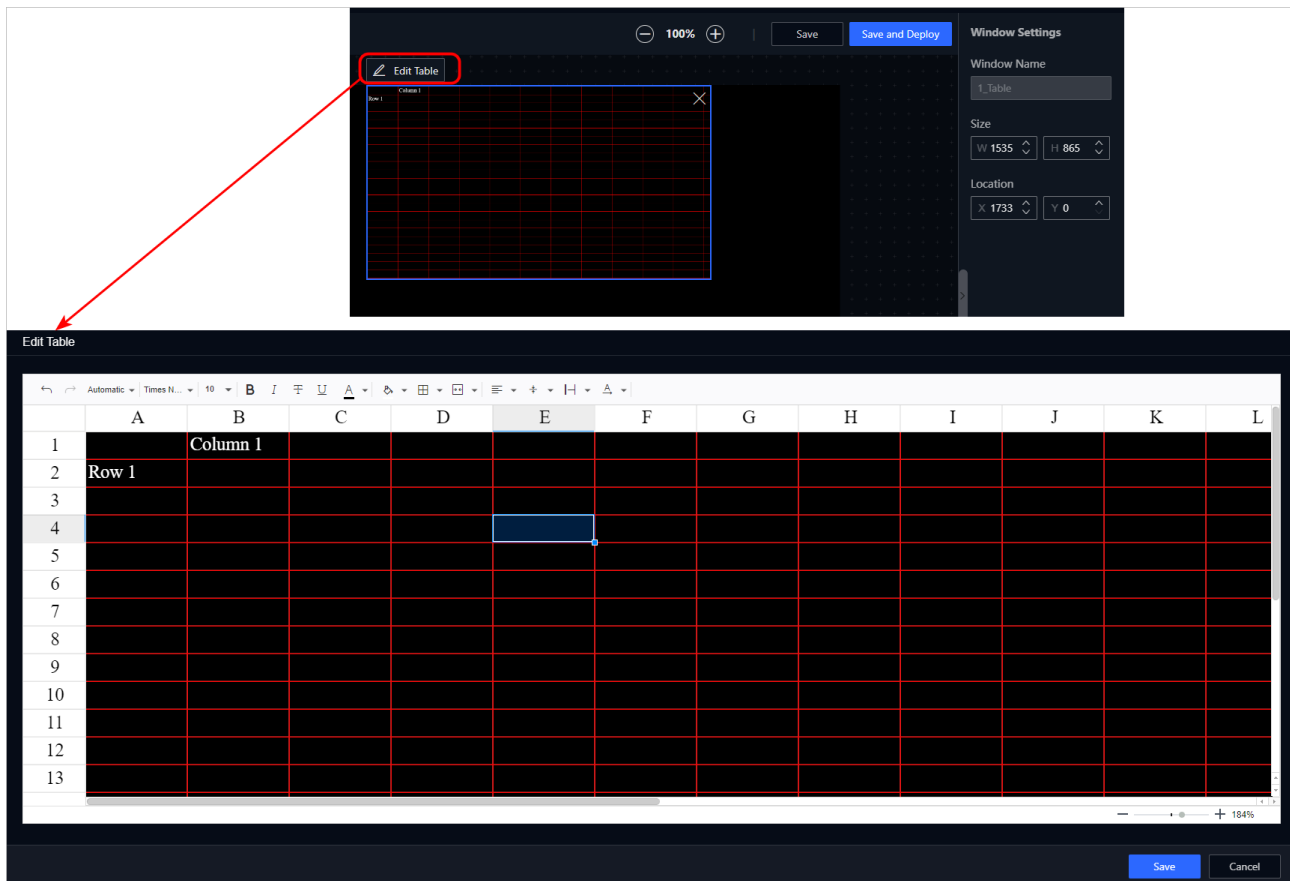


Figure 5-38 Manage Clock Material

Delete Materials

Step 1 Use either of the following methods to access the **Storage Management** interface.

- Navigate to **Device Maintenance > Settings > Storage Management**.
- On the **Content Control** page, click **Storage Management**.

Step 2 Check the materials to delete or select all unused materials.



Note

All materials are displayed on both the internal storage page and external storage page.

Step 3 Click **Delete**.

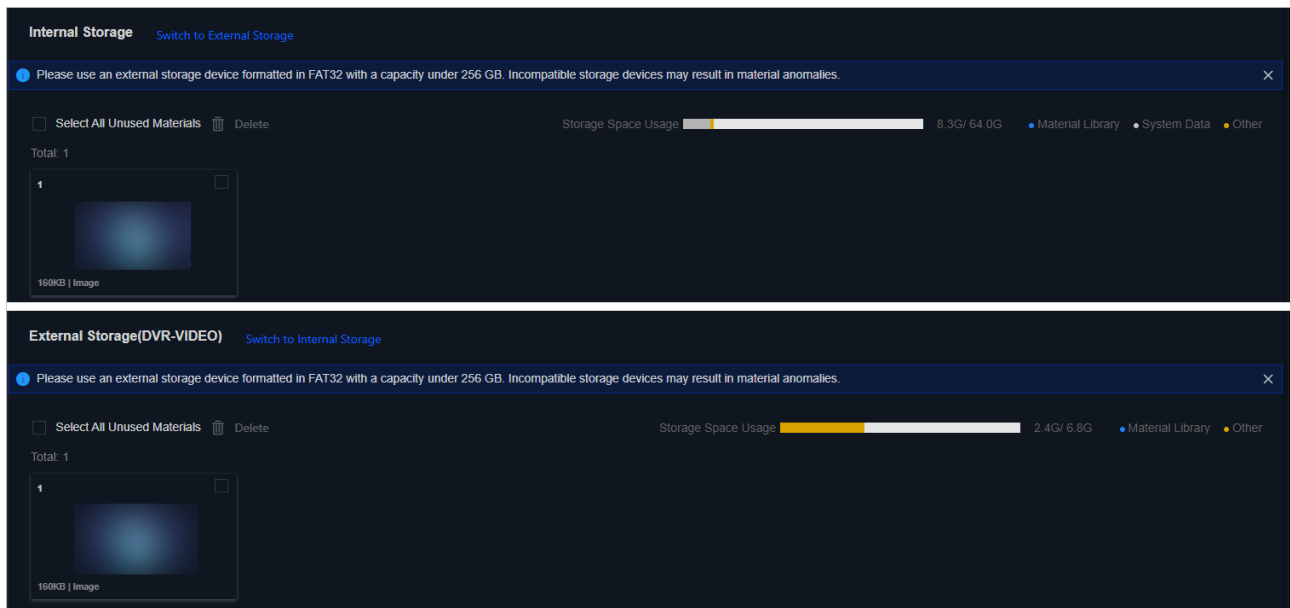


Figure 5-39 Storage Management Page

Chapter 6 Display Parameters Configuration

6.1 Calibrate Receiving Card

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device or display, and navigate to **Display Optimization > Calibration**.

Step 2 Enable all supported calibration functions based on LED module capabilities:

- All LED modules support brightness/chroma calibration.
- Only certain LED modules support low gray calibration and multi-grayscale calibration.

Step 3 Check whether the display effect meets the requirements and calibrate the display when the display effect is unsatisfactory:

- 1) In the **Test/Location** window, enable **Display Test**.
- 2) Select a pure color, gray scale, line, dots, or grid to check whether the display color is normal or whether the dead pixels exist. If the existing solid color does not meet the requirements, click  to add a new color. You can edit and delete the newly added color.



Figure 6-1 Test/Locate Screen

Step 4 If the calibration is needed but the calibration area is unclear, you can enable **Quick Locate** in the **Test/Location** window.

Step 5 Select the calibration area:

- You can select a single or multiple cabinets.

- You can enable **Show LED Module** and select a single or multiple LED modules.

Step 6 Select an appropriate method according to the receiving card type:

- Calibrate AXS receiving card (see “Calibrate AXS Receiving Card”).
- Calibrate HUB receiving card (see “Calibrate HUB Receiving Card”).

Step 7 (Optional) You can perform the following operations as required:

- If the calibration effect is unsatisfactory, select the calibration areas and click **Clear Calibration Data**.
- Select the calibration areas and click **Export Data** to export the calibration data of the selected areas.

Calibrate AXS Receiving Card

Step 1 Load the factory calibration data from the LED modules:

- 1) After selecting cabinets or LED modules, click **Load Calibration File from LED Modules** in either of the following ways:
 - Click the button in the **Display Calibration** window.
 - Choose the option from the right-click menu.
- 2) Click **Live View** in the pop-up window to check the display effect.
- 3) If the display effect is satisfactory, click **Save**.

Step 2 Load cloud calibration file when factory calibration data is unavailable:

- Select cabinets or LED modules, and then click **Load Calibration File from Cloud** from the right-click menu.
- If cloud loading fails, follow the steps below to import manually:
 - 1) Enable **Show LED Module**.
 - 2) Select one or more LED modules, right-click and choose **View & Copy LED Module SN**.
 - 3) Go to the **Tools** menu in the upper-right corner of the client, open **Cloud File Search**, obtain the corresponding factory calibration file for the LED modules, and save it locally.
 - 4) Select multiple LED modules, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Live View** to load the calibration file from the local storage.
 - 5) If the display effect meets the requirements, select multiple LED modules again, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Save** to complete the final loading.

Step 3 Manually calibrate the display when the display effect is unsatisfactory:

- 1) In the **Display Calibration** window, adjust RGB values in permille (enable **Sync Adjustment** for uniform RGB changes).
- 2) Click **Live View** to preview the display effect.
- 3) If the display effect is satisfactory, click **Save**.

Step 4 Manually calibrate seams when bright or dark seams exist:

- 1) Enable **Show LED Module**.
- 2) Click **Seam Calibration**.
- 3) Set the seam direction and width, and adjust the RGB values (enable **Sync Adjustment** for uniform RGB changes).
- 4) Click **Live View** to preview the display effect.
- 5) If the display effect is satisfactory, click **Save**.

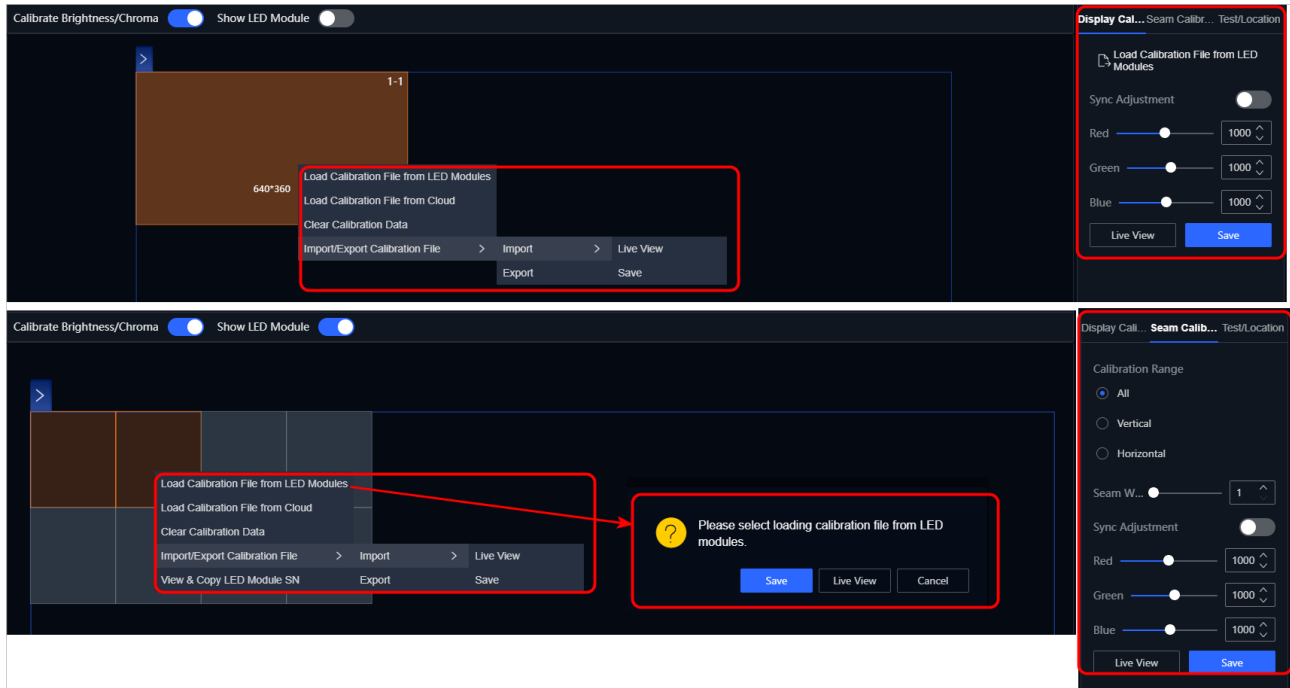


Figure 6-2 Calibrate AXS Receiving Card

Step 5 Load the local calibration file when the manual adjustment is unsatisfactory:

- 1) Contact the product supplier to obtain the calibration file and save it locally.
- 2) Select cabinets or LED modules, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Live View** to load the calibration file from the local storage.
- 3) If the display effect meets the requirements, select cabinets or LED modules again, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Save** to complete the final loading.

Calibrate HUB Receiving Card

Step 1 Load cloud calibration file:

- Select cabinets or LED modules, and then click **Load Calibration File from Cloud** from the right-click menu.
- If cloud loading fails, follow the steps below to import manually:
 - 1) Enable **Show LED Module**.
 - 2) Select one or more LED modules, right-click and choose **View & Copy LED Module SN**.
 - 3) Go to the **Tools** menu in the upper-right corner of the client, open **Cloud File Search**, obtain the corresponding factory calibration file for the LED modules, and save it locally.

- 4) Select multiple LED modules, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Live View** to load the calibration file from the local storage.
- 5) If the display effect meets the requirements, select multiple LED modules again, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Save** to complete the final loading.

Step 2 Manually calibrate the display when the display effect is unsatisfactory:

- 1) In the **Display Calibration** window, adjust RGB values in permille (enable **Sync Adjustment** for uniform RGB changes).
- 2) Click **Live View** to preview the display effect.
- 3) If the display effect is satisfactory, click **Save**.

Step 3 Manually calibrate seams when bright or dark seams exist:

- 1) Enable **Show LED Module**.
- 2) Click **Seam Calibration**.
- 3) Set the seam direction and width, and adjust the RGB values (enable **Sync Adjustment** for uniform RGB changes).
- 4) Click **Live View** to preview the display effect.
- 5) If the display effect is satisfactory, click **Save**.

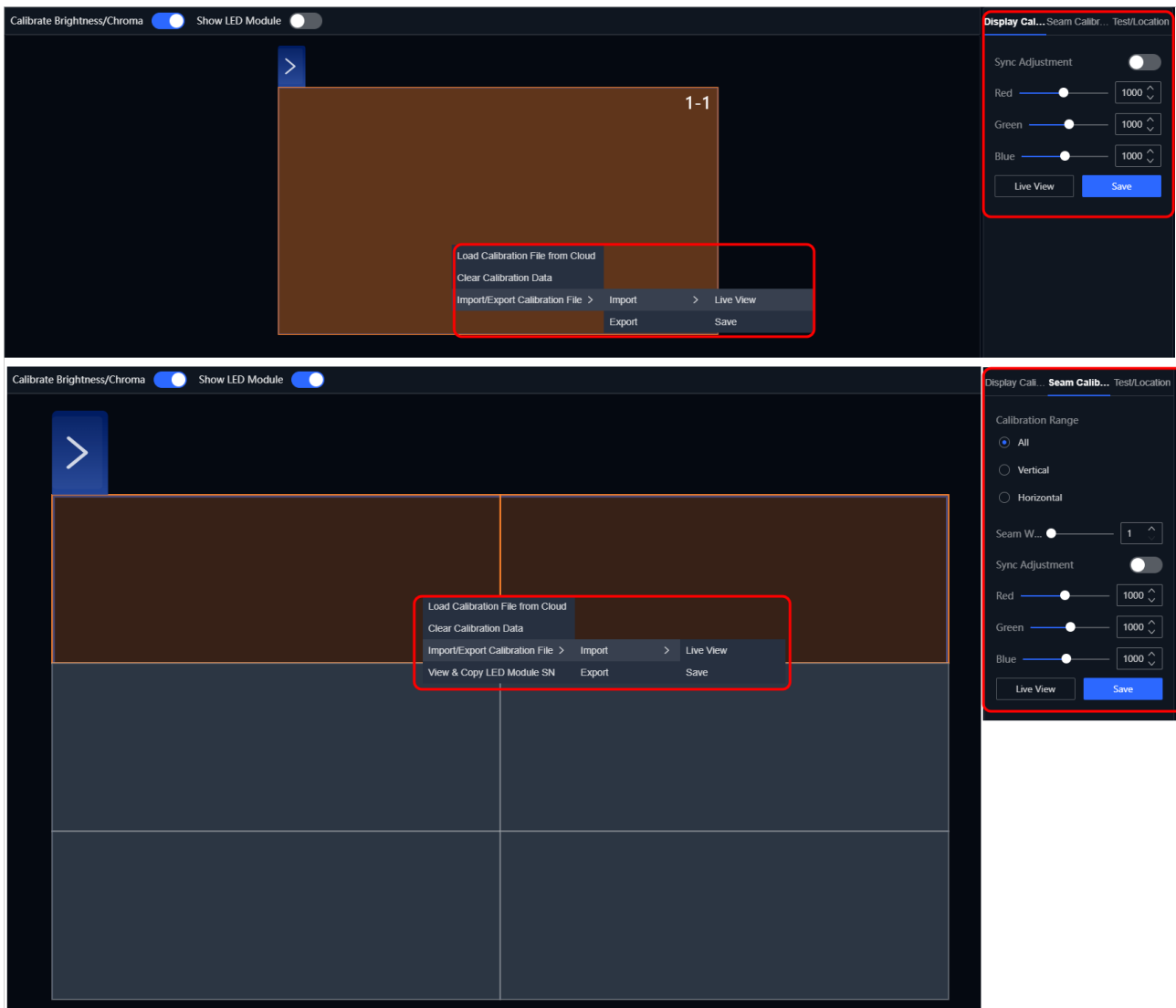


Figure 6-3 Calibrate HUB Receiving Card

Step 4 Load the local calibration file when the manual adjustment is unsatisfactory:

- 1) Contact the product supplier to obtain the calibration file and save it locally.
- 2) Select cabinets or LED modules, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Live View** to load the calibration file from the local storage.
- 3) If the display effect meets the requirements, select cabinets or LED modules again, right-click and choose **Import/Export Calibration File**, and then click **Import** and **Save** to complete the final loading.

6.2 Configure Source Parameters

6.2.1 Applicable Devices

- Devices that support configuring source parameters: All series of LED controllers except for the DS-DT30B-01NO and DS-TC01.

- Devices that support viewing output resolution and frame rate: All series of video wall controllers.

Note

The DS-DT30B-01NO and DS-TC01 devices do not have an HDMI port and therefore do not support configuring source parameters.

6.2.2 Configure Signal Source Parameters

Step 1 Select an LED controller, and navigate to **Image Control > Source Management**.

Step 2 Click a signal source to adjust the following parameters:

- All series of LED controllers support editing EDID parameters.
- Only 4K signal sources (HDMI2.0, SDI and DP) of the DT90 series LED controllers support HDR configuration. See “Configure HDR Functionality”.
- Only DT60 and DT90 series LED controllers support image cropping. See “Crop Input Image”.
- Only DT90 series LED controllers with version 1.1 or above support overriding input source information. See “Override Input Source Information”.
- The C/B-series LED controllers only show the connected signal sources and V/P-series LED controllers show all signal sources.

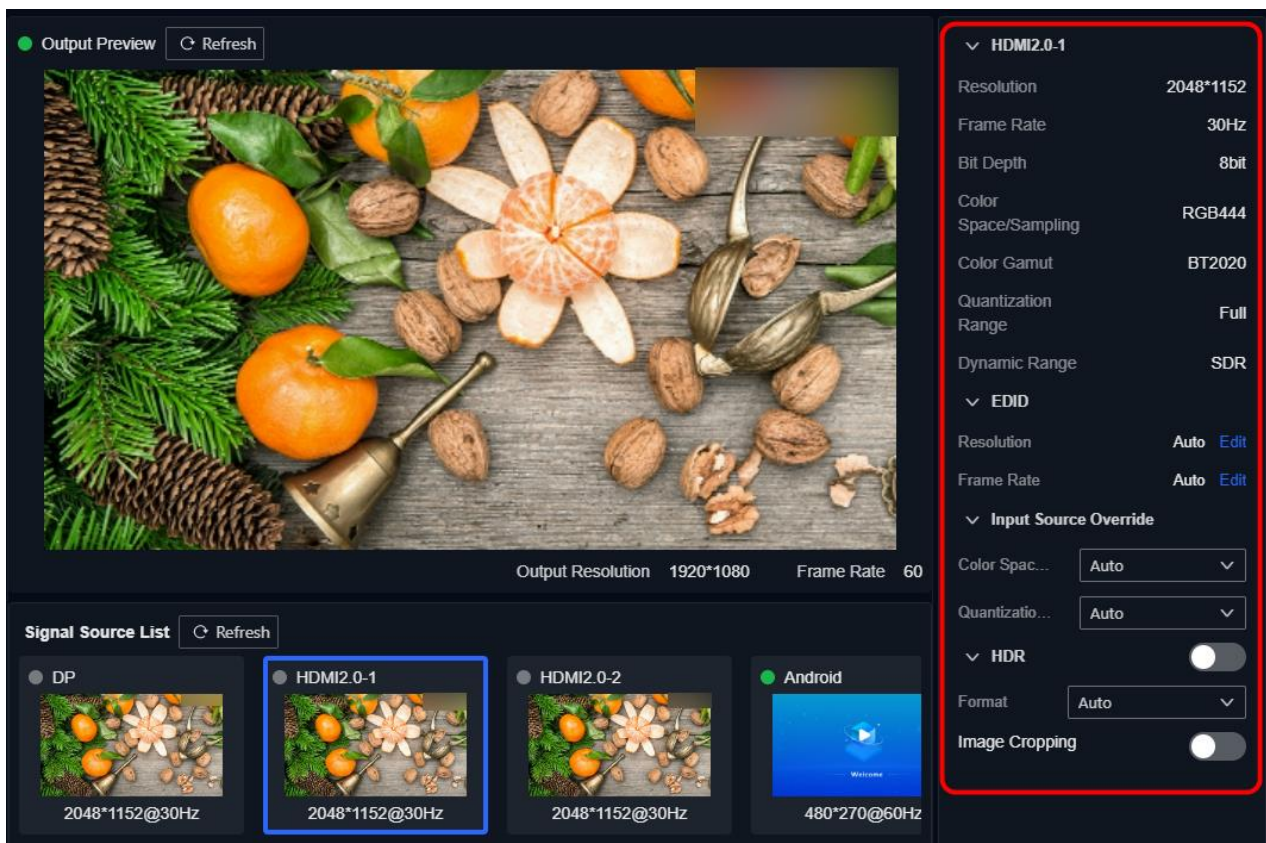


Figure 6-4 Configure Signal Source Parameters (DT90P Series)

Configure HDR Functionality

Important

- Only the 4K sources (HDMI 2.0, SDI, and DP) of the DT90 series LED controllers support HDR configuration.
- After enabling HDR, ensure the display's receiving card supports HDR effects to view HDR content on the display.
- The device will only activate HDR processing when the signal source conditions, output bit depth, and HDR format meet the requirements listed in the table below. Otherwise, the device will output SDR content.

Table 6-1 HDR Processing Rules

Signal Source Conditions	Output Bit Depth Setting	HDR Format Selection	Output Effect
10-bit + HDR video	Auto/10-bit	Auto/HDR10	HDR10 output
10-bit + HDR video	Auto/10-bit	HLG	HLG mode output
10-bit + Non-HDR video	Auto/10-bit	Auto/HLG	HLG mode output
Non-10-bit + HDR video	10-bit	Auto/HLG	HLG mode output

Steps

Step 1 On the **Source Management** page, set the image bit depth to **Auto** or **10 Bit**.

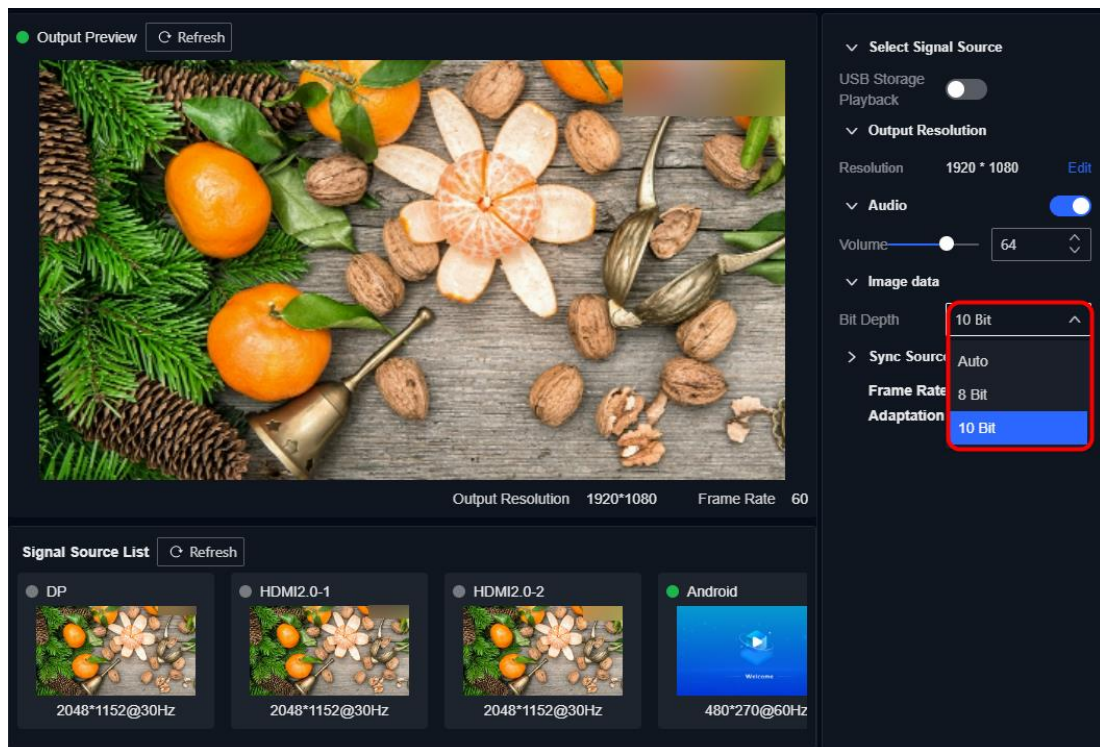


Figure 6-5 Configure Image Bit Depth

Step 2 On the **Source Management** page, select a 4K signal source, enable HDR, and select the format.

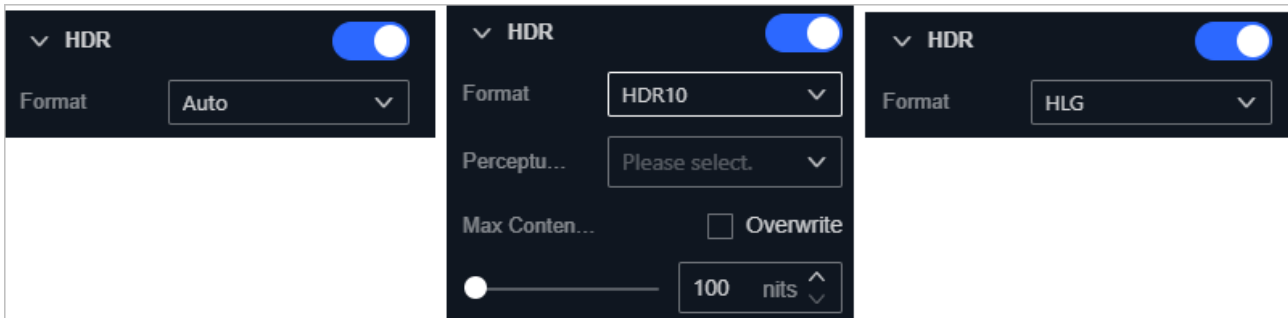


Figure 6-6 Configure HDR Functionality

Crop Input Image

This feature is only supported by DT60 and DT90 series LED controllers.

Step 1 Enable **Image Cropping**.

Step 2 Select a constraint ratio.

Step 3 Set the crop area:

- Free ratio mode: Drag the border directly in the input image preview to adjust its position and size, or enter the X (horizontal start point) and Y (vertical start point) coordinate values.
- Fixed ratio mode: Drag the border directly to adjust the position, or enter the X and Y coordinate values.

Step 4 Enter the width and height values for the crop area.

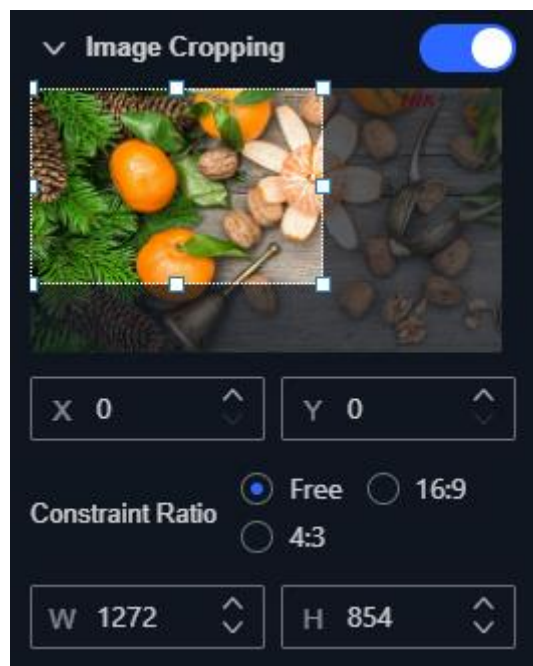


Figure 6-7 Crop Input Image

Override Input Source Information

Only DT90 series LED controllers with version 1.1 or above support this function.

This feature can be used to manually set input signal parameters to correct display abnormalities in the following scenarios:

- Color deviation occurs on the display.
- The LED controller incorrectly auto-detects the input source information, resulting in an overly dark/bright image or abnormal colors.
- A specific signal source device's signal format needs to be forcibly matched.

Select the color space/sampling and quantization range based on the type of signal source device:

Signal Source Device Type	Recommended Color Space/Sampling	Recommended Quantization Range	Description
Computers, graphics cards	RGB	Full Range	Suitable for direct connection to computer-based devices to ensure accurate colors and normal contrast.
Set-top boxes, cameras, video conferencing equipment	YUV422	Limited Range	Suitable for broadcasting and video devices to ensure signal compatibility and stable image output.
Professional imaging equipment (high-quality scenarios)	YUV444	Auto or Limited Range	Suitable for professional production environments requiring extreme color accuracy.
Uncertain or general scenarios	Auto (Recommended)	Auto (Recommended)	The LED controller auto-detects the settings, suitable for most situations.

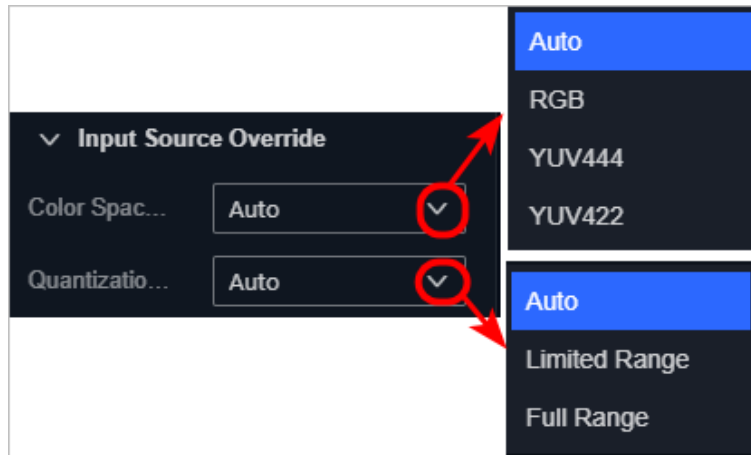


Figure 6-8 Overwrite Input Source

6.2.3 Configure Output Parameters

Select an LED controller and navigate to **Image Control > Source Management** to set the output parameters.

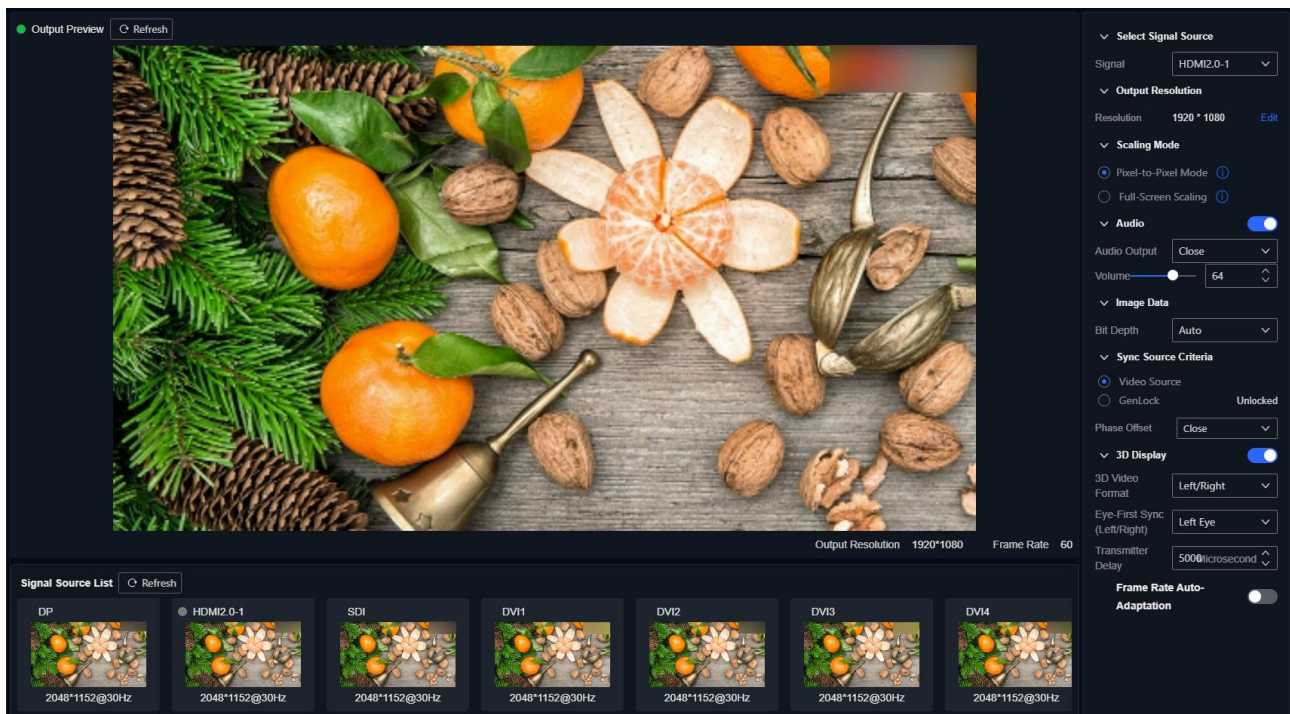


Figure 6-9 Source Management Page (DT90C Series)

Note

The output preview image auto-refreshes at 5 seconds.

- Select a signal source: Only C/B-series LED controllers and V/P-series LED controllers in sync mode support this function. Choose a specific source or AUTO mode (automatically switches to the latest connected source). Only 2K C-series devices do not support AUTO mode.

- USB storage playback: Only the DT90P, DT60B/P, DT30V, and certain DS-TB/U series LED controllers support this function. After enabling **USB Storage Playback**, the system will automatically loop through video and image files in the root directory of the USB drive.

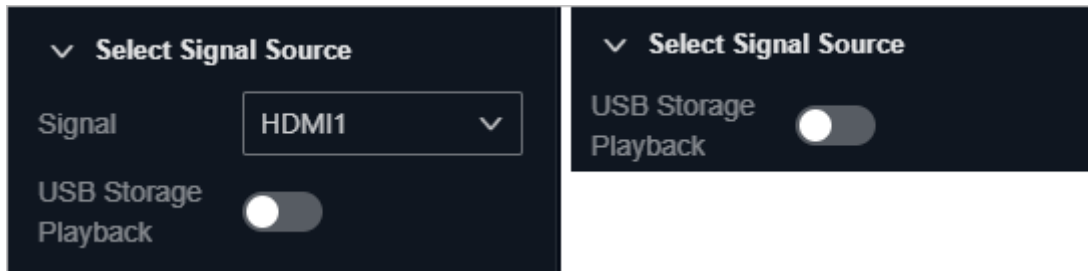


Figure 6-10 Configure USB Storage Playback

- Set the resolution: Click **Edit** to manually adjust the output resolution.
- Select a scaling mode: Only C/B-series LED controllers and V/P-series LED controllers in sync mode support this function. Choose **Pixel-to-Pixel Mode** or **Full-Screen Scaling** as needed.
- Adjust the audio:
 - Control volume or disable audio output.
 - For DT30V, DT60V, DT90V and DS-TV LED controllers, select an audio source to be output.

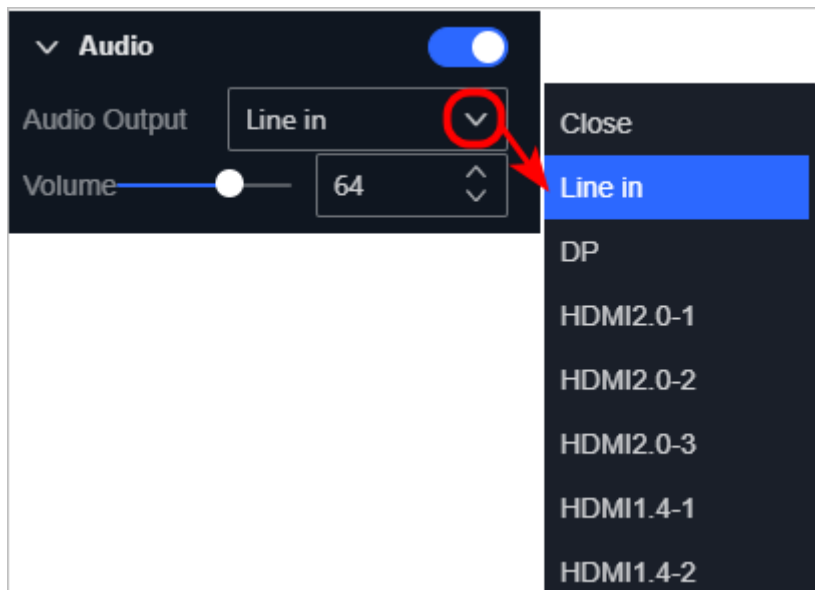


Figure 6-11 Configure Audio

- 3D LUT function: When the receiving card supports the 3D LUT function, you can use this feature to apply color filter effects to the display. Import the 3D LUT file into the client and enable **3D LUT** to add color filter effects to the display.

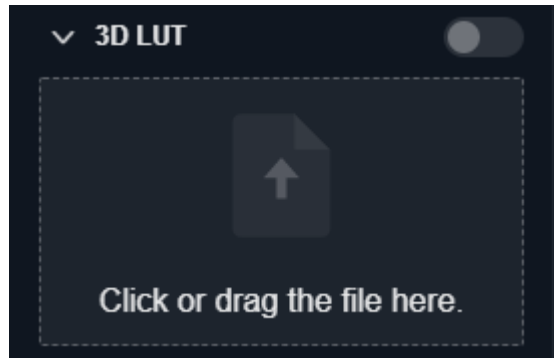


Figure 6-12 Configure 3D LUT

- Frame rate auto-adaption: Enable **Frame Rate Auto-Adaptation**.
- 3D display function: See “3D Display Function”.
- Source synchronization function: See “Source Synchronization Function”.

3D Display Function

Enable **3D Display** and configure parameters when either of the following conditions is satisfied:

- A 4K resolution C/B-series LED controller is connected to a 3D sync signal transmitter via a multi-function card.
- A DT90 series LED controller is connected to a 3D sync signal transmitter.



Figure 6-13 Configure 3D Display

Source Synchronization Function

Applicable Devices

DT90V/P series LED controllers.

Function Description

This function utilizes frame-level synchronization technology to resolve timing issues in multi-device collaboration scenarios, primarily applied in:

- Multi-screen splicing: Eliminates image tearing between LED cabinets.
- Heterogeneous input sources: Synchronizes signals from diverse video sources (e.g., cameras, computers).

- Professional production: Integrates with Genlock signals for studio-grade applications (e.g., broadcast studios).

Steps

Step 1 Select the synchronization reference source:

- **Internal:** Uses the LED controller's built-in 60 Hz clock. Choose this mode when a single LED controller drives one LED display. This mode can avoid microsecond-level timing deviations in multi-controller environments.
- **Video Source:** Synchronizes with the input signal's timing. Used for live broadcasts (concerts/conferences), multi-source switching systems, or non-standard timing devices (e.g., gaming consoles).
- **Genlock:** Locks to an external sync generator's pulse for nanosecond-level precision. Used for studio multi-screen systems (e.g., TV studios). Before selecting Genlock, connect the required devices as follows:
 - 1) Connect the Genlock transmitter to the GENLOCK IN port of the first LED controller.
 - 2) Connect the GENLOCK OUT of each controller to the GENLOCK IN of the next.
 - 3) Repeat until all controllers are chained.

Step 2 Set the phase offset:

- **Off:** No adjustment (immediate synchronization by default).
- **Angle:** Enter degrees ($1^\circ \approx 0.28 \text{ ms @60 Hz}$) for fine delay calibration within a cycle.
- **Score:** Enter a percentage to quickly align devices with different frame rates.
- **Absolute Value:** Enter rows and pixels. The system calculates the delay for precise fixed-duration control.

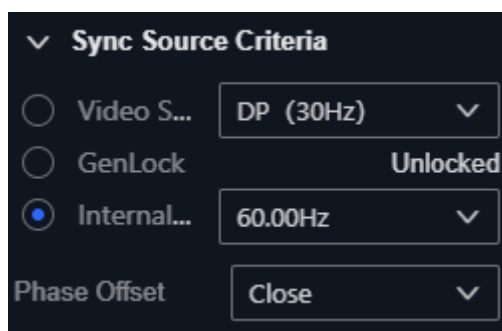


Figure 6-14 Sync Source Criteria

6.3 Configure Image Effect

Configure Display Effect

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device or display, and navigate to **Display Optimization > Display Effect**.

Step 2 Click **Display Test** to check the display color and dead pixels:

- Automatic detection: Enable **Auto Switch Test Pattern** to cycle through all test images (including solid colors, gray scale, lines, dots, and grid).
- Manual detection: Manually select a test image. The custom solid color can be added, modified or deleted.

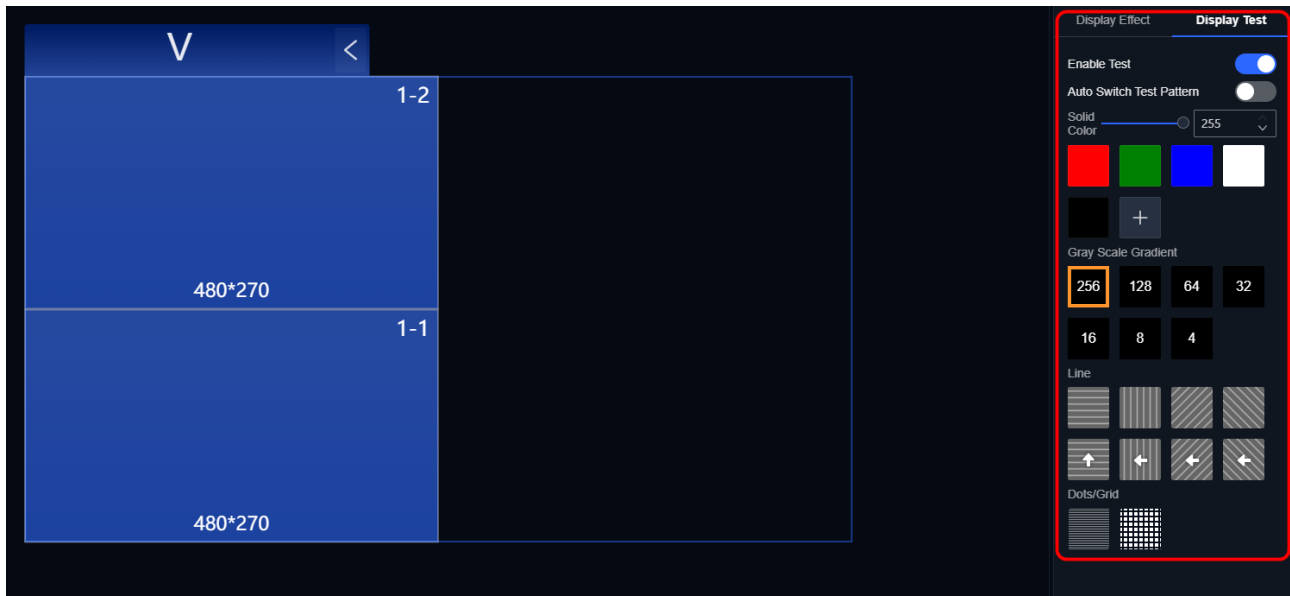


Figure 6-15 Test Display

Step 3 Adjust the basic parameters:

- 1) Select a preset mode.
- 2) Adjust the brightness value:
 - Manual adjustment: Drag the brightness slider or enter a value directly.
 - Automatic adjustment: After the device is connected to a light sensor, and the light sensor parameters are configured in the **IoT Configuration** page, auto mode is available. Click **Configuration** to enter the **Sensor Settings** page for auto-brightness configuration.
- 3) Set energy saving parameters:
 - Enable **Eye Protection Mode** to reduce brightness and power consumption.
 - Enable **Dynamic Energy Saving** and set the strength coefficient. Only certain receiving cards support this function.

Step 4 If the preset mode and basic parameters do not meet display requirements, configure the following advanced parameters:

- Enable thermal compensation when prolonged operation causes display abnormalities due to temperature rise (supported only by DT60/DT90 series LED controllers and certain receiving cards):
 - 1) Import the thermal compensation file:
 - For a single device: Select the device, and click **Local Import** and **Import Thermal Compensation File**. The system will automatically enable thermal compensation.
 - For a display: Select the display and perform the same steps. If thermal compensation is not enabled automatically, enable it manually.
 - 2) Adjust the compensation ratio based on the actual display effect.

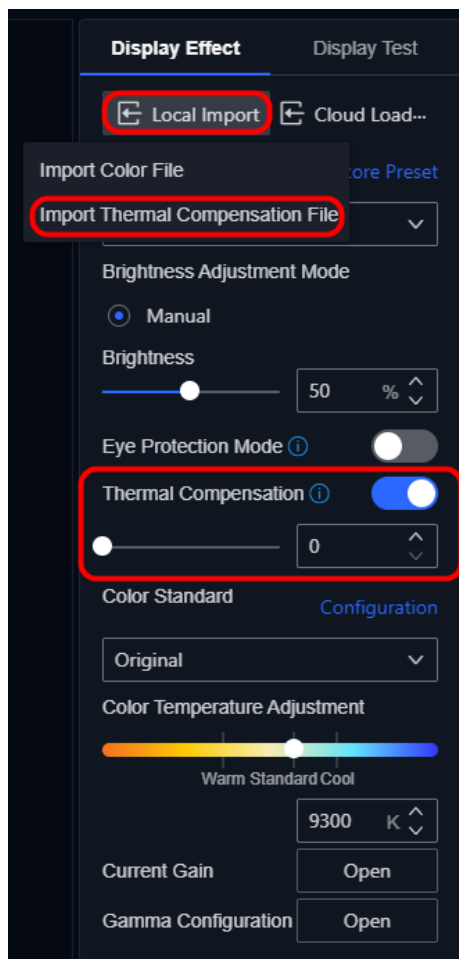


Figure 6-16 Configure Thermal Compensation

- Configure color gamut and color standard:
 - 1) Select a color standard. If you want to select **Custom**, click **Configuration** and set the color standard.
 - Normal mode: Applicable to most LED controllers. Supports configuring target gamut standards and RGB values.

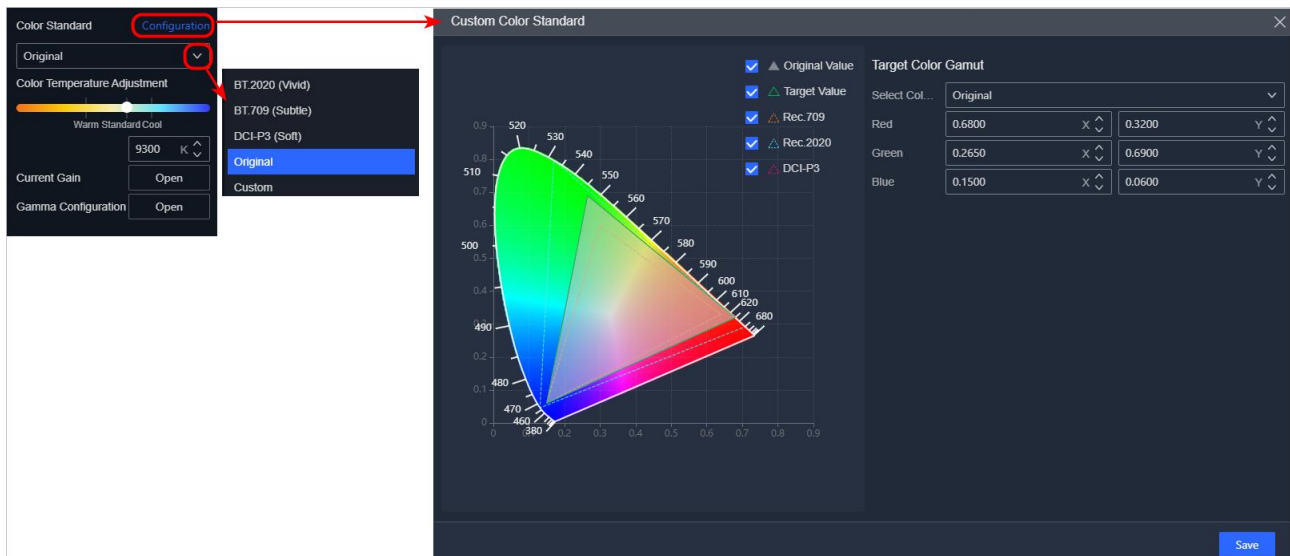


Figure 6-17 Select Color Standard (Normal Mode)

- Advanced mode: Supported only by DT30 series LED controllers with version V1.1 or above. To use this mode, first obtain the display original data using a colorimeter. It allows separate configuration of the RGB values and color temperature for both the original and target color gamuts, as well as the target gamut standard. Supports import and export of gamut parameter files.

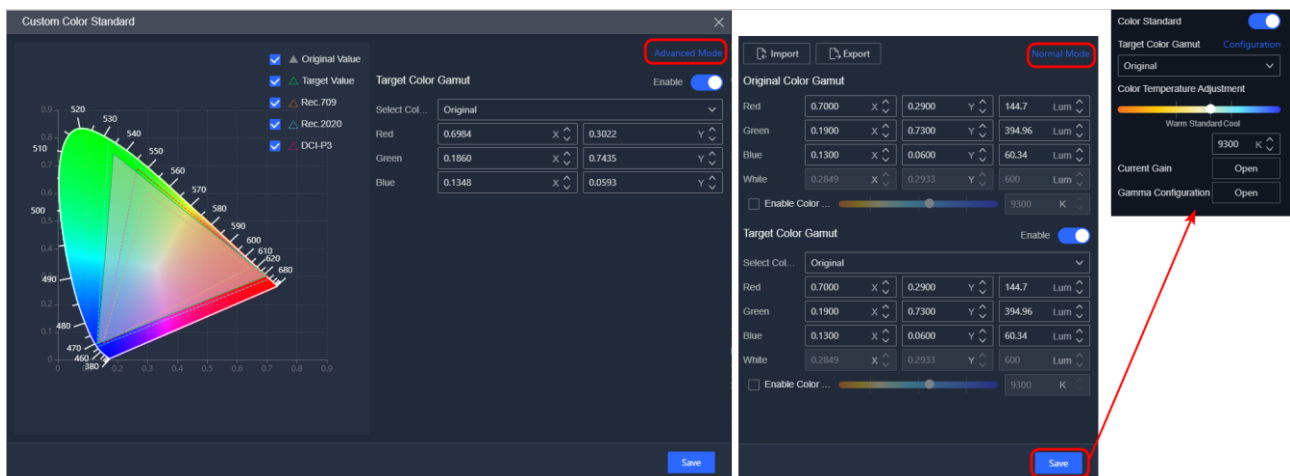


Figure 6-18 Select Color Standard (DT30 Series V1.1 Version)

- 2) Drag the color temperature slider directly on the **Display Effect** page.
- 3) Adjust the regional RGB values: Open **Current Gain**, select the areas, and adjust the RGB values.

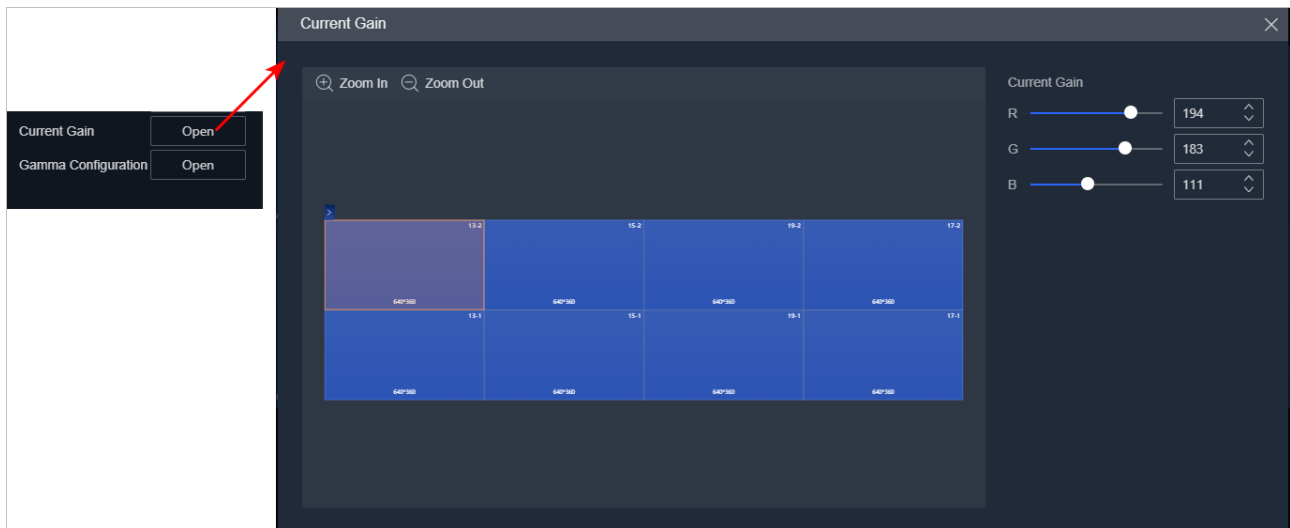


Figure 6-19 Current Gain Window

- Configure Gamma parameters:

- 1) Open **Gamma Configuration**.

- 2) Adjust contrast:

- Edit the Gamma coefficient: Decreasing the coefficient brightens dark area details, while increasing it enhances contrast.
- Enable **Ultra-Low Gray Control** to further reduce the display's minimum brightness and improve contrast (supported only by certain receiving cards).

- 3) Set the environment brightness. Increase the value in bright environment.

- 4) Address the low-gray anomalies:

- Low-gray flicker or limited quantization range: Adjust the initial brightness level. To adjust the quantization range, see “Override Input Source Information”.
- Overly dark initial grayscale: Increase the initial brightness value.
- Low-gray strobe: Enable **Frame Rate Adaptation** (supported only by C/B-series LED controllers).
- Uneven grayscale: Enable **Gray Scale Optimization** (supported only by certain receiving cards).

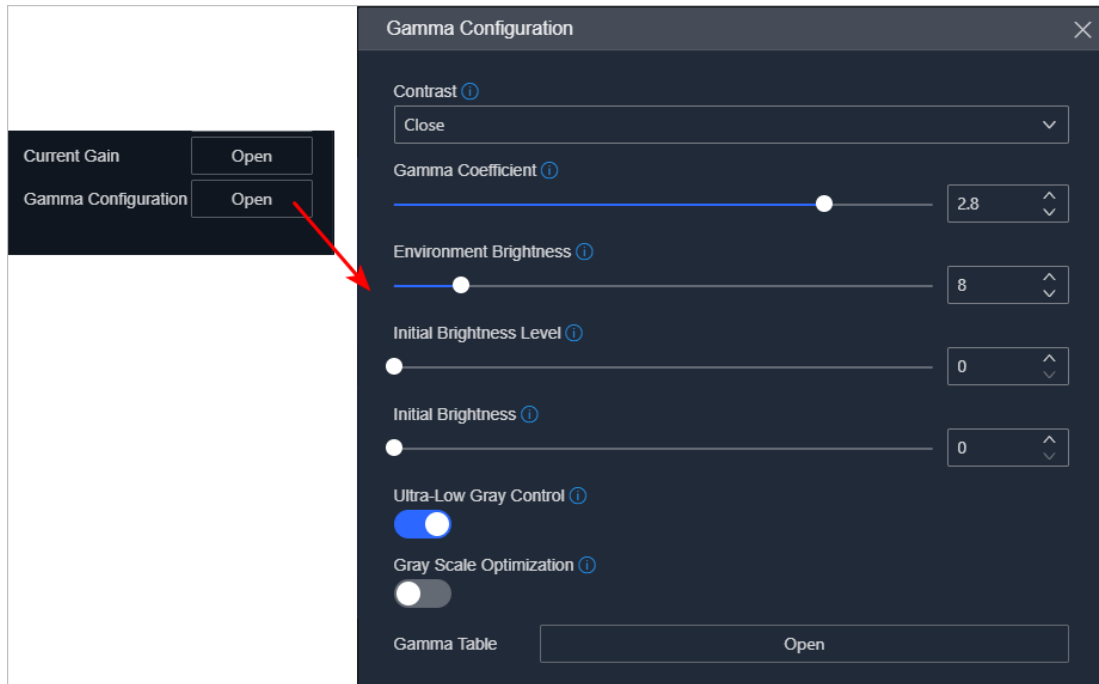


Figure 6-20 Gamma Configuration Window

Step 5 When a display is controlled by multiple devices, you can take the following steps to synchronize multi-device display effects:

- 1) Check consistency: Select devices one by one, open the **Gamma Table**, and verify if Gamma curves are consistent.
- 2) Export reference file: Select the device with the best effect and export its color file.

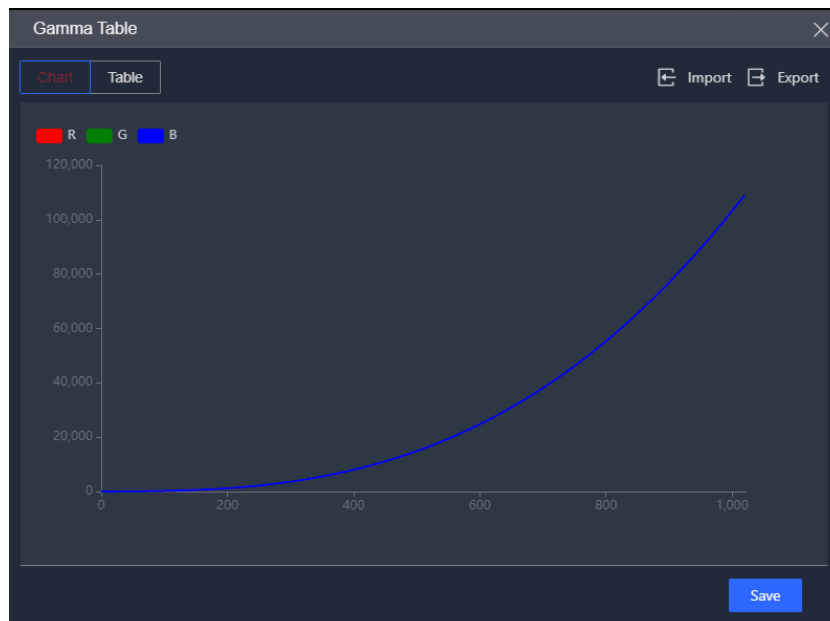


Figure 6-21 View Gamma Table

- 3) Batch apply: Select the display, open the **Gamma Table**, and click **Import** to apply the correct color file to all devices controlling the display.

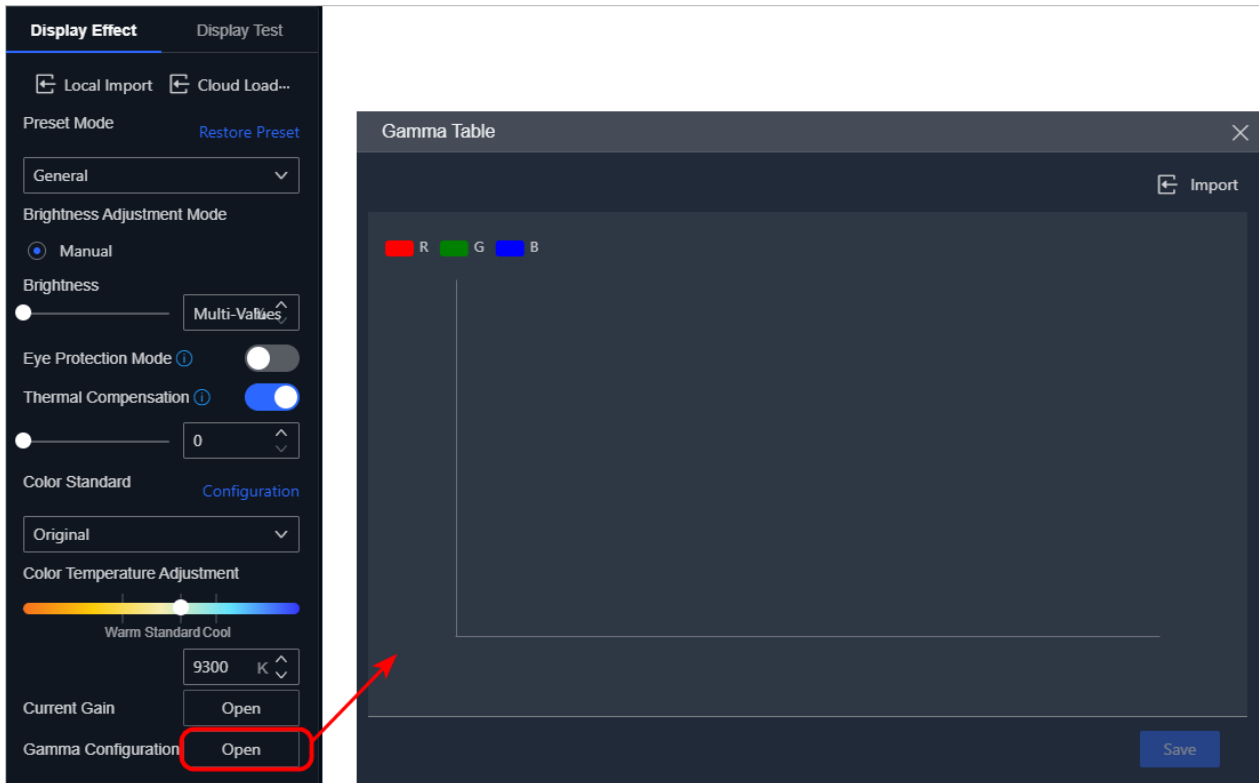


Figure 6-22 Sync Multi-Device Display Effects

Step 6 (Optional) You can perform the following operations as required:

- Click **Restore Preset** to restore the default parameters of the selected preset mode.
- When you cannot set the color standard or enable gray scale optimization, you can add a color file:
 - Click **Local Import** to import a locally saved color file, then click **Add**.
 - Click **Cloud Loading**, set the search content. Select a color file, and click **Add**.

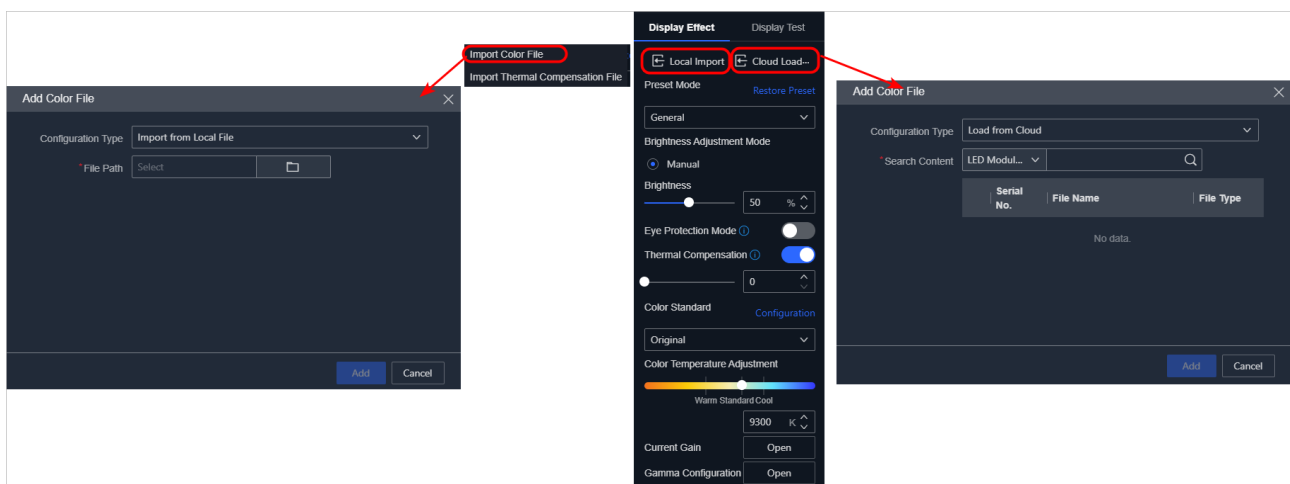


Figure 6-23 Add Color File

Configure Startup Image of LED Controller

Applicable Devices

All series LED controllers.

Steps

Step 1 Select an LED controller.

Step 2 Navigate to **Display Maintenance > Settings > Preference > Startup Image**.

Step 3 Select an image as the startup image, and click **Save**.

- **Current Image:** The current image will be used as the startup image.
- **Custom:** You can click  to upload an image to function as the startup image.

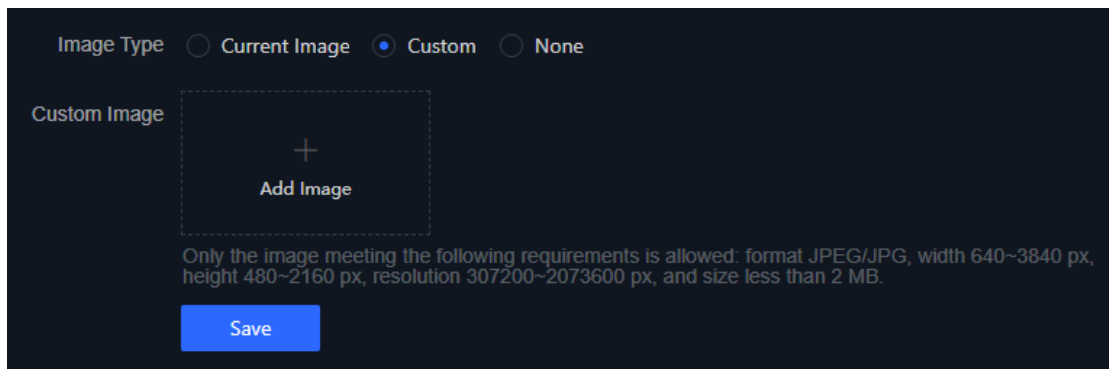


Figure 6-24 Configure Startup Image of LED Controller

Configure No-Signal Images

Applicable Devices

All series of LED controllers and video wall controllers.

Important

No-signal images vary with the device type. This chapter uses a C-series LED controller as an example.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > Preference > No Signal Image**.

Step 3 Select the images to display when the signal interruption occurs, and click **Save**.

- **Last Frame:** The last frame image will be displayed when the signal interruption occurs.
- **Aging Mode:** The display enters random solid color mode and flashes regularly when the signal interruption occurs.

- **Custom Picture:** Click  to upload an image to display when the signal interruption occurs.

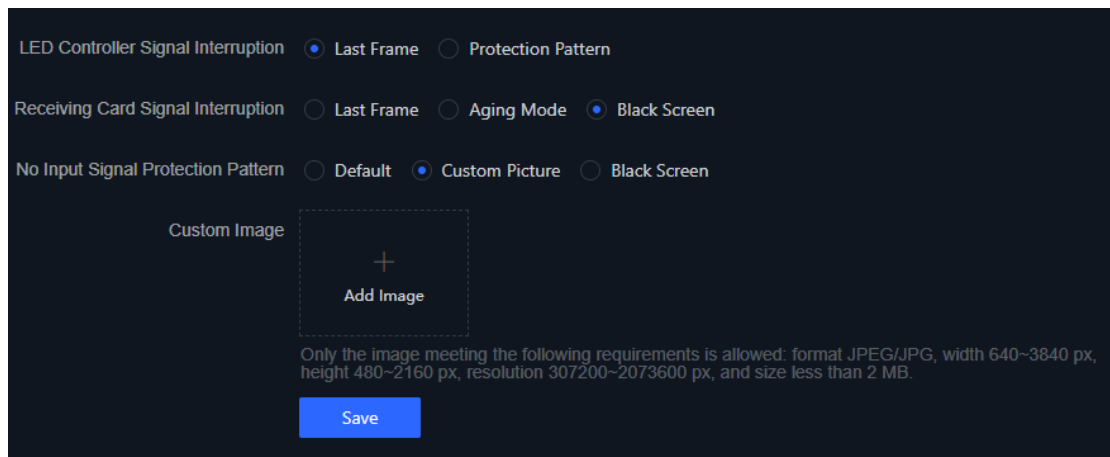


Figure 6-25 Configure No Signal Images of C-Series LED Controller

6.4 Configure General Parameters

Configure Time of LED Controller

Applicable Devices

All series LED controllers.

Steps

Step 1 Select an LED controller, and navigate to **Display Maintenance > Settings > System > System Information > Time Settings**.

Step 2 Select a time zone.

Step 3 Set the time parameters:

- The C/V-series LED controllers only support manual time configuration. You can set the time manually or click **Sync with Computer Time** to make the device time consistent with the computer time.
- The B/P/U-series LED controllers support NTP configuration and manual time configuration.
 - If you select **Manual Time Sync**, set the time manually or click **Sync with Computer Time** to make the device time consistent with the computer time.
 - If you select **NTP Sync**, enter the server address, NTP port, and interval.

Step 4 (Optional) For the C/V-series LED controllers, enable **DST** and set the related parameters.

Step 5 Click **Save**.

The figure shows two side-by-side screenshots of the 'Configure Time' interface. The left screenshot is for C/V Series devices, showing 'Manual Time Sync' mode with a 'Set Time' field set to 00:52:55 and a 'DST' section with an 'Enable' toggle and start/end time settings. The right screenshot is for B/P/U Series devices, showing 'NTP Sync' mode with fields for 'Server Address', 'NTP Port', and 'Interval', and a 'Save' button at the bottom.

Figure 6-26 Configure Time (Left: C/V Series, Right: B/P/U Series)

Configure Serial Port Parameters

Applicable Devices

All series LED controllers.

Steps

For connection to central control or third-party devices, navigate to **Display Maintenance > Settings > System > Serial Port Configuration** to set parameters, ensuring identical settings on both connected devices.

The figure shows a screenshot of the 'Configure Serial Port Parameters' interface. It includes a 'Select Serial Port' dropdown set to '1', a 'Serial Port Type' dropdown set to 'RS485', and several configuration fields: 'Duplex Mode' (Half Duplex), 'Baud Rate' (115200), 'Data Bit' (8), 'Stop Bit' (1), and 'Parity Type' (None). A 'Save' button is located at the bottom.

Figure 6-27 Configure Serial Port Parameters

Configure Font for V-Series LED Controller

Applicable Devices

DT90V, DT60V, and certain DS-TV series LED controllers.

Steps

Step 1 Select a V-series LED controller.

Step 2 Navigate to **Display Maintenance > Settings > Preference > Font Settings**.

Step 3 Click  to select a font file and click **Upload**.

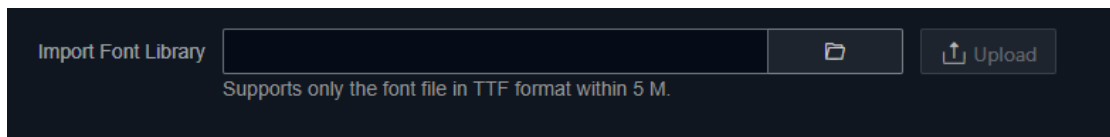


Figure 6-28 Configure Font

Configure Device Backup of LED Controller

Applicable Devices

DT90C/V, DT60C/V, and certain DS-TC/V series LED controllers.

Steps

Step 1 Select an LED controller.

Step 2 Navigate to **Device Maintenance > Backup > Device Backup**.

Step 3 Select a backup device.

Step 4 (Optional) You can perform the following operations as required:

- Select whether to enable **Forced Switch to Standby Card**. Only certain receiving cards support this function.
- When a cabinet contains multiple receiving cards, select a receiving card type.

Step 5 Click **Save**.

Figure 6-29 Configure Device Backup of LED Controller

Configure Network Port Backup

Applicable Devices

- DT90 and DT60 series: All models support network port backup.
- DT30 and DS-T series: Only dual-port models support network port backup.
- All series of video wall controllers.

Before You Start

The Ethernet ports on the rear panel of the device are grouped into several backup pairs in top-to-bottom columns. For example:

- DATA OUT 1 and DATA OUT 2 form one pair.
- DATA OUT 3 and DATA OUT 4 form one pair.
- DATA OUT 5 and DATA OUT 6 form one pair.

Before enabling the data port backup function, you must connect both ports within the same backup pair to the LED display. If the connections are incorrect (for example, connecting DATA OUT 1 and DATA OUT 3 to the display), the data port backup function cannot be enabled.

Steps

Step 1 Select a device.

Step 2 Navigate to **Device Maintenance > Backup > Network Port Backup**.

Step 3 Enable backup.

Step 4 (Optional) When a cabinet contains multiple receiving cards, select a receiving card type.

Step 5 Click **Save**.

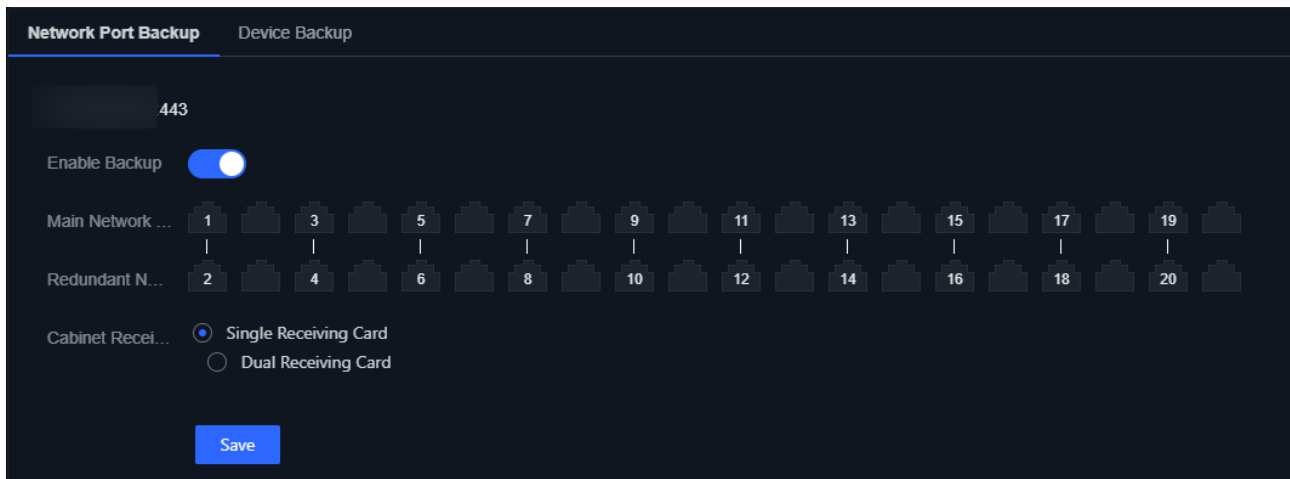


Figure 6-30 Configure Network Port Backup

Configure Timed Parameters

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > Schedule**.

Step 3 On the **Scheduled Display On/Off** page, enable the function and set the screen on time and screen off time.

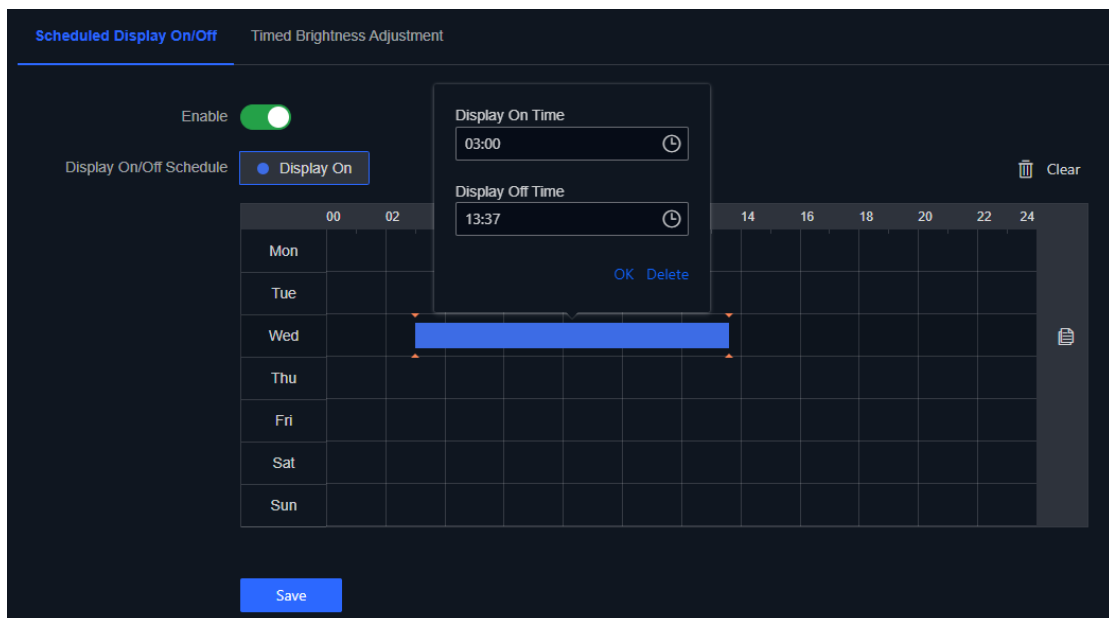


Figure 6-31 Configure Scheduled Display On/Off

Step 4 Click **Timed Brightness Adjustment**, enable the function, and set the target brightness value and duration.

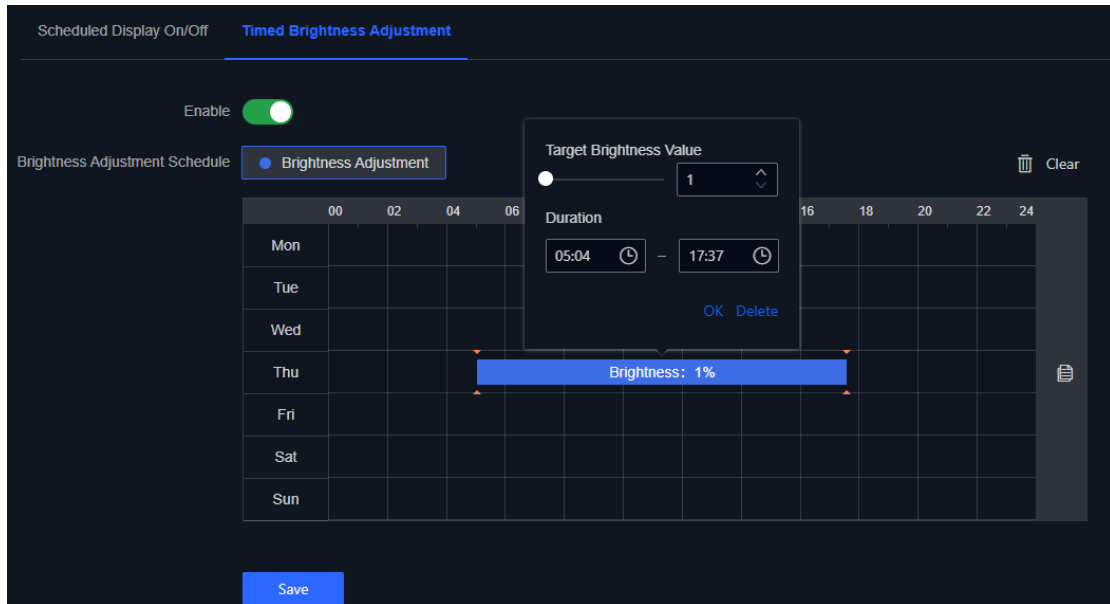


Figure 6-32 Configure Timed Brightness Adjustment

Configure OSD

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Go to **Display Maintenance > Settings > OSD Configuration** to customize OSD text color and OSD background color. OSD is enabled by default. You can disable OSD or restore the default OSD parameters as required.

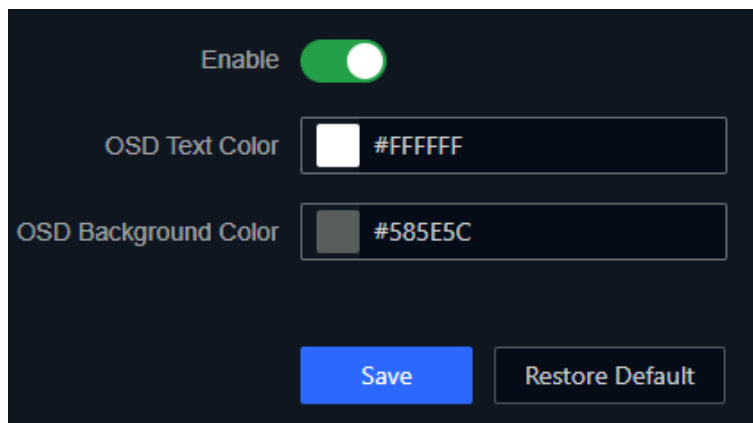


Figure 6-33 Configure OSD

6.5 Configure Network Parameters of LED Controller

Only the LED controllers support the configuration of network parameters, while the video wall controllers do not support the configuration of network parameters through this client.

Configure Wired Network Address

Applicable Devices

All series LED controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > Network > Network Configuration > TCP/IP**.

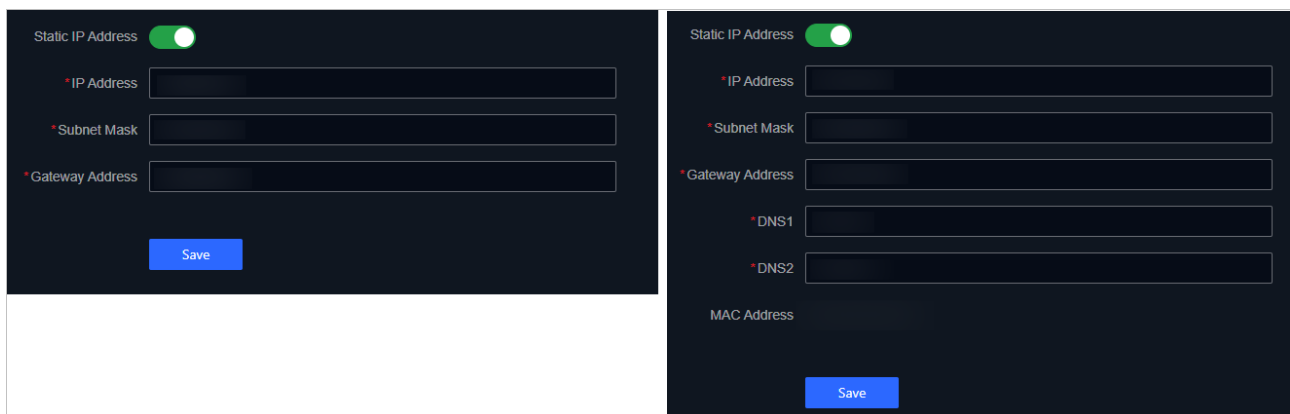
Step 3 Enable **Static IP Address**.

Step 4 Set the static wired IP address according to the device's networking method:

- If the device is directly connected to the computer, set an unused IP address from the local network as the wired network address of the device. Ensure that the device can still connect to the local network and remain on the same subnet as the computer.
- If the device is connected to the local network via an Ethernet cable, the device will automatically obtain an IP address. You can set the automatically obtained IP address as the wired network address of the device, or set an unused IP address from the local network as the wired network address of the device. Ensure that the device and computer are on the same subnet.

Step 5 Click **Save**.

Step 6 Enter the configured wired IP address of the device in the browser of the computer to log in to the device web page.



The figure displays two side-by-side screenshots of the LED Tool Client's network configuration interface. Both screenshots show a dark-themed window with a 'Static IP Address' toggle switch at the top, which is turned on. The left screenshot, for C/V Series devices, includes input fields for '* IP Address', '* Subnet Mask', and '* Gateway Address', followed by a blue 'Save' button. The right screenshot, for B/P/U Series devices, includes input fields for '* IP Address', '* Subnet Mask', '* Gateway Address', '* DNS1', and '* DNS2', followed by a 'MAC Address' label and a blue 'Save' button.

Figure 6-34 Configure Wired Network Address (Left: C/V Series, Right: B/P/U Series)

Configure Wireless Network Address

Applicable Devices

DT90P, DT60B/P, DT30B/P, and DS-TB/U series LED controllers.

Important

When activating and logging in to the device for the first time, a wired connection must be used. If the device is connected to both a wired and wireless network simultaneously, it will prioritize the wired network.

Steps

Step 1 Connect a Wi-Fi antenna to the WIFI STA port of the device.

Step 2 Select a B/P/U-series device.

Step 3 Navigate to **Display Maintenance > Settings > Network > Network Configuration > Wi-Fi** and enable Wi-Fi.

Step 4 Select an available Wi-Fi network and click **Connect**.

Step 5 Click **Network Status** to view the IP address automatically obtained by the device after the device connects to the wireless network.

Step 6 Enable **Static IP Address**.

Step 7 Set the static wireless IP address:

- Set the automatically obtained IP address as the wireless network address of the device.
- Set an unused IP address from the local network as the wireless network address of the device. Ensure that the device and computer are on the same subnet.

Step 8 Click **Save**.

Step 9 When the wired network is unavailable or the Ethernet cable is removed, enter the configured wireless IP address of the device in the browser of the computer to log in to the device web page.

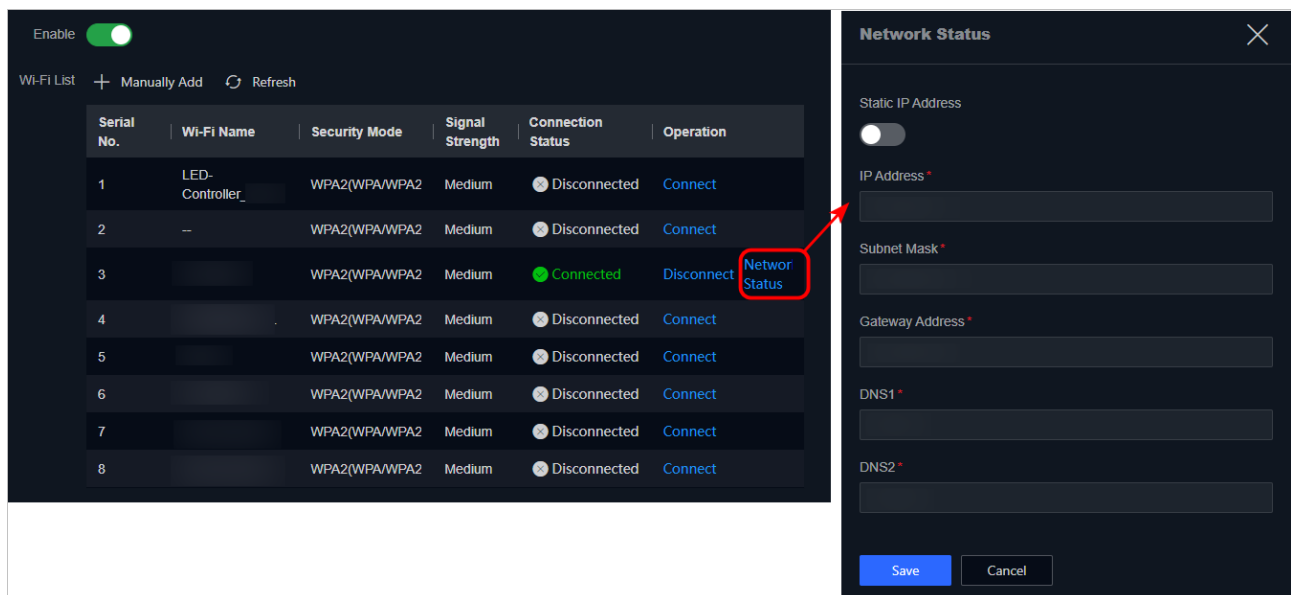


Figure 6-35 Configure Wireless Network Address

Configure Bluetooth

Applicable Devices

DT90P, DT60B/P, DT30B/P, and DS-TB/U series LED controllers.

Steps

Step 1 Connect a Wi-Fi antenna to the WIFI STA port of the device.

Step 2 Select a B/P/U-series device.

Step 3 Navigate to **Display Maintenance > Settings > Network > Network Configuration > Bluetooth** and enable Bluetooth.

Step 4 Use Bluetooth to connect the device to other devices:

- Select a Bluetooth device, click **Pair**. The Bluetooth device is paired after the pairing is successful.
- Select Bluetooth peripheral device, click **Pair**. The Bluetooth device is paired after the pairing is successful. Click **Connect** to connect the Bluetooth peripheral device to the device. The Bluetooth peripheral device is connected after the connection is successful.

Step 5 Click **Save**.

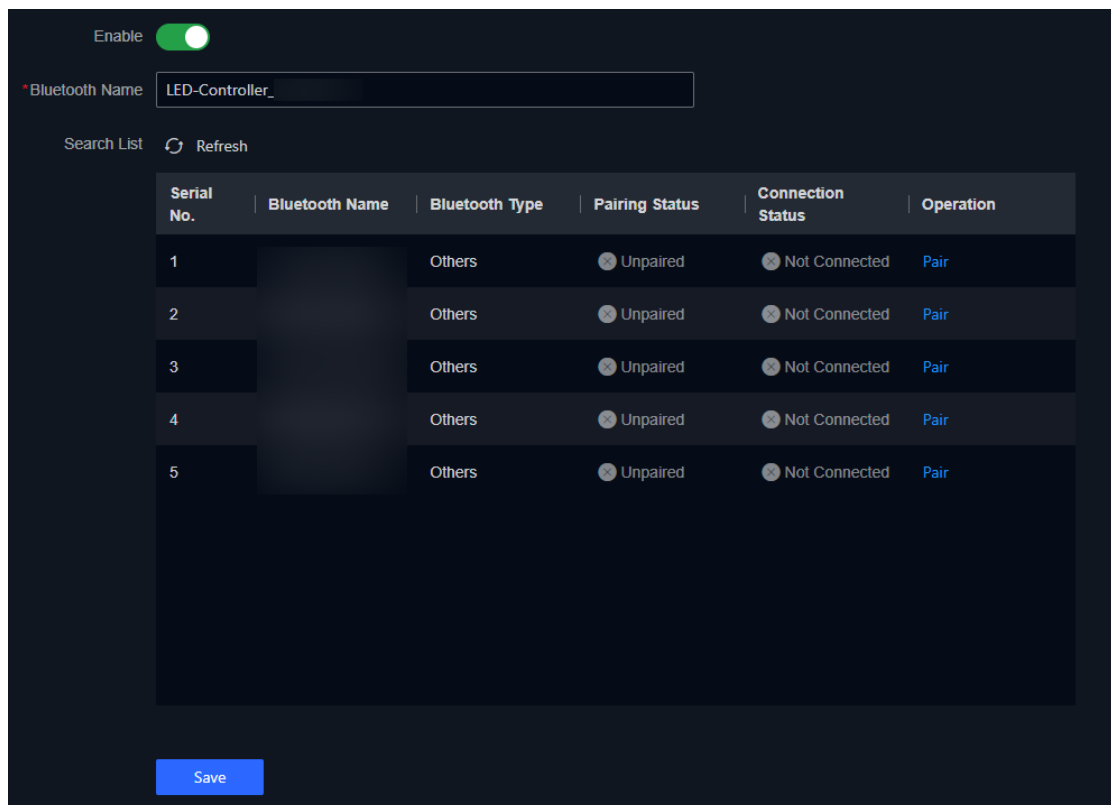


Figure 6-36 Enable Bluetooth

Configure Hot Spot

Applicable Devices

DT90P, DT60B/P, DT30B/P, and DS-TB/U series LED controllers.

Steps

Step 1 Connect a Wi-Fi antenna to the WIFI AP port.

Step 2 Select a B/P/U-series device.

Step 3 Navigate to **Device Maintenance > Settings > Network > Network Configuration > Hot Spot** and enable hot spot.

Step 4 (Optional) Configure hot spot parameters as required:

- After hot spot is enabled, the default name and password are used. You can edit the hot spot name and password.
- After hot spot is enabled, the network isolation function is turned on by default. To ensure the network security of the device, it is recommended to keep network isolation enabled.
- Edit the security, AP band, or AP channel.

Step 5 Click **Save**.

Figure 6-37 Configure Hot Spot

Configure OTAP Service

Applicable Devices

DT90P, DT60B/P, DT30B/P, and DS-TB/U series LED controllers.

Steps

Step 1 Navigate to **Display Maintenance > Settings > Network > Device Access > OTAP** and enable the OTAP service.

Step 2 Enter the target server address and port number, and customize the device ID and authentication code.

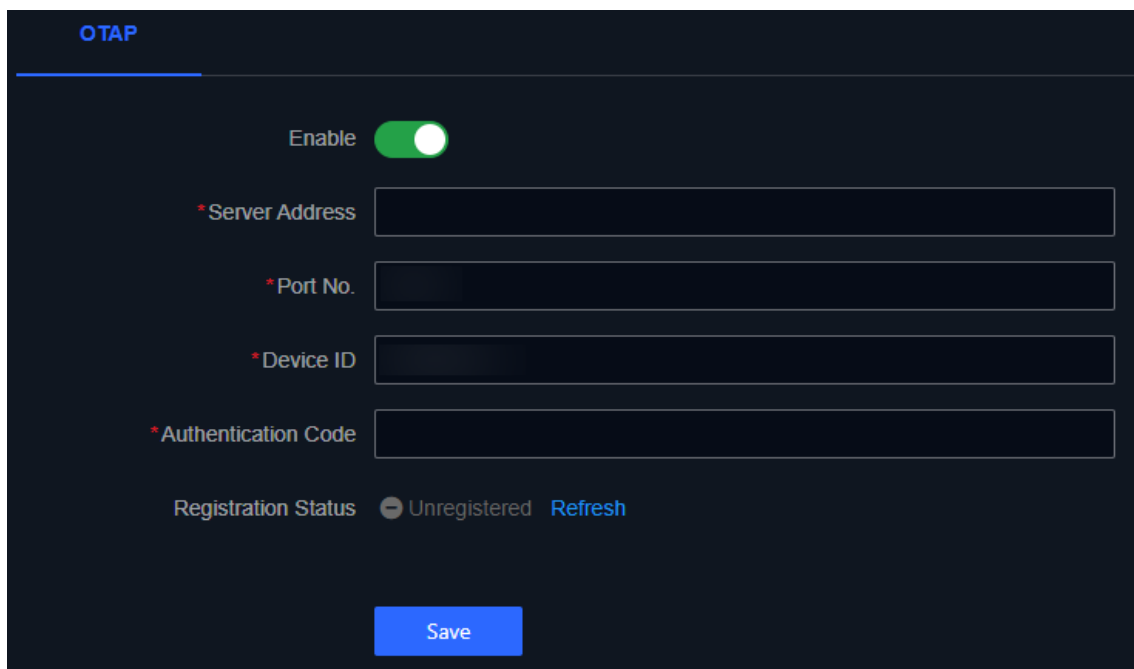
Step 3 Click **Save**.

Step 4 Add the device to the platform:

- 1) Log in to the corresponding platform and use the device's authentication code to complete the addition. Once successfully added, you can remotely configure the device, maintain settings, manage playback content, and monitor its status via the platform.
- 2) Handling the exception:
 - If the device goes offline abnormally due to server power failure or network issues, use the initially bound authentication code to re-add it.
 - A factory reset will clear the authentication code on the OTAP page. Be sure to record it in advance. If the authentication code is forgotten, contact the platform administrator and provide the device serial number to retrieve the original authentication code.

Step 5 (Optional) Click **Refresh** to update the registration status.

When the device has been successfully added to the platform, its status will be **Registered**.



OTAP

Enable ☒

* Server Address

* Port No.

* Device ID

* Authentication Code

Registration Status ⊖ Unregistered [Refresh](#)

[Save](#)

Figure 6-38 Configure OTAP Service

6.6 Configure IoT Parameters

View Multi-Function Card Information

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > IoT Configuration > Multi-Function Card Info**.

Step 3 View the current version of the multi-function card.

Step 4 (Optional) Click **Upgrade**, upload an upgrade file and click **OK**.

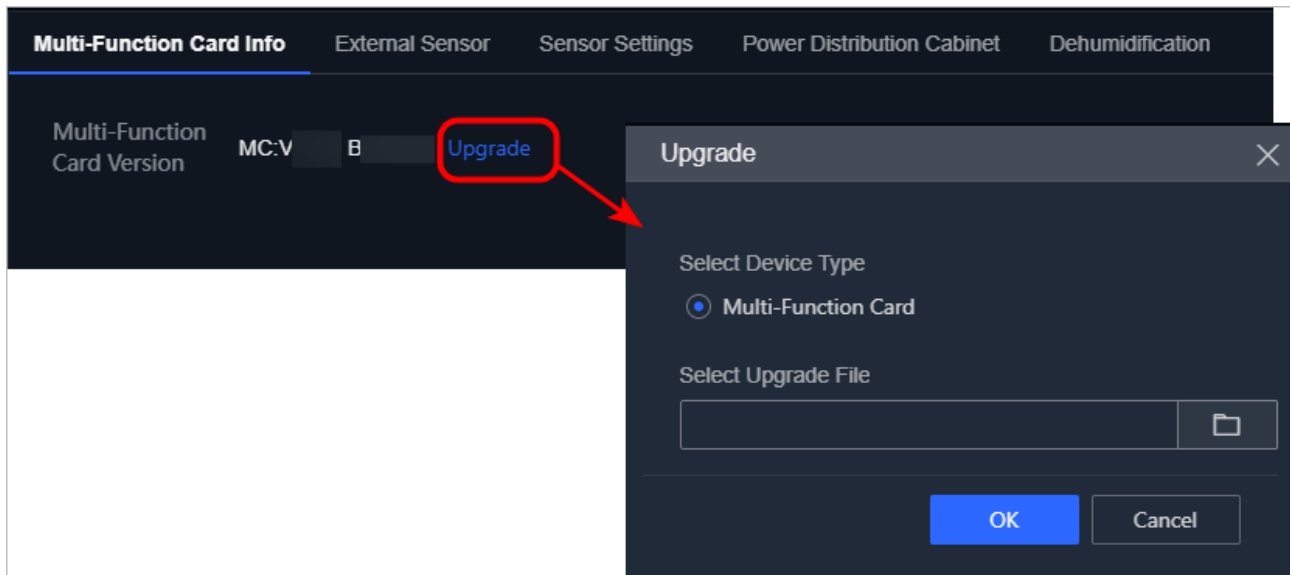


Figure 6-39 View Multi-Function Card Info

Configure External Sensors

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > IoT Configuration > External Sensor**, and select the sensor type and quantity for each channel, and click **Save**.

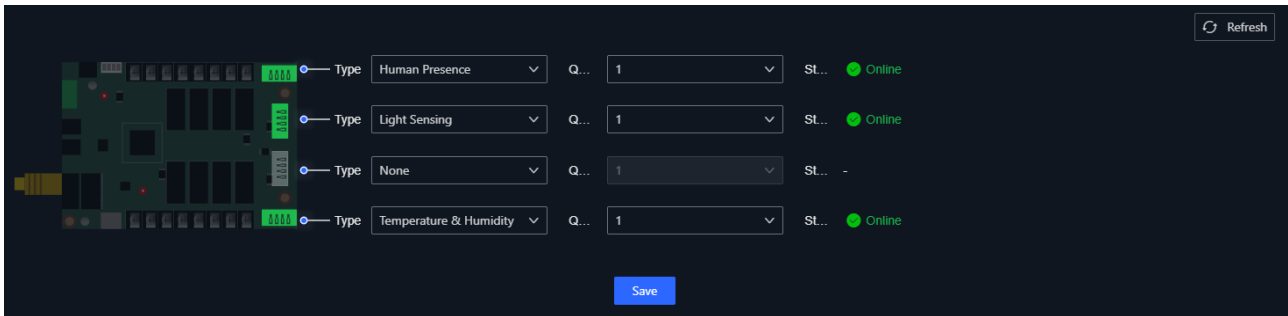


Figure 6-40 Configure External Sensors

Step 3 Navigate to **Display Maintenance > Settings > IoT Configuration > Sensor Settings**, monitor the following items, set the threshold, and click **Save**.

- When thresholds are exceeded, alarm messages and real-time values will display on the display and client.
- Certain receiving cards support detecting cabinet voltage and temperature.
- When the LED controller/LED controller board connects to a multi-function card with a temperature/humidity sensor, environmental temperature/humidity can be monitored:
 - 1) Select temperature/humidity sensor for the corresponding channel and set the quantity.
 - 2) Enable **Environment Temperature Detection** and **Environment Humidity Detection**, and set the thresholds.
- When the LED controller/LED controller board connects to a multi-function card with a human presence sensor, auto sleep can be configured:
 - 1) Select human presence sensor for the channel and set the quantity.
 - 2) Enable **Auto Sleep**.
 - 3) Set the time after which brightness decreases, the OSD prompts and the device sleeps.
- When the LED controller/LED controller board connects to a multi-function card with a light sensor, auto brightness can be configured:
 - 1) Select human presence sensor for the channel and set the quantity.
 - 2) Enable **Auto-Brightness**.
 - 3) Select the adjustment mode (linear or step), and add a brightness policy list.

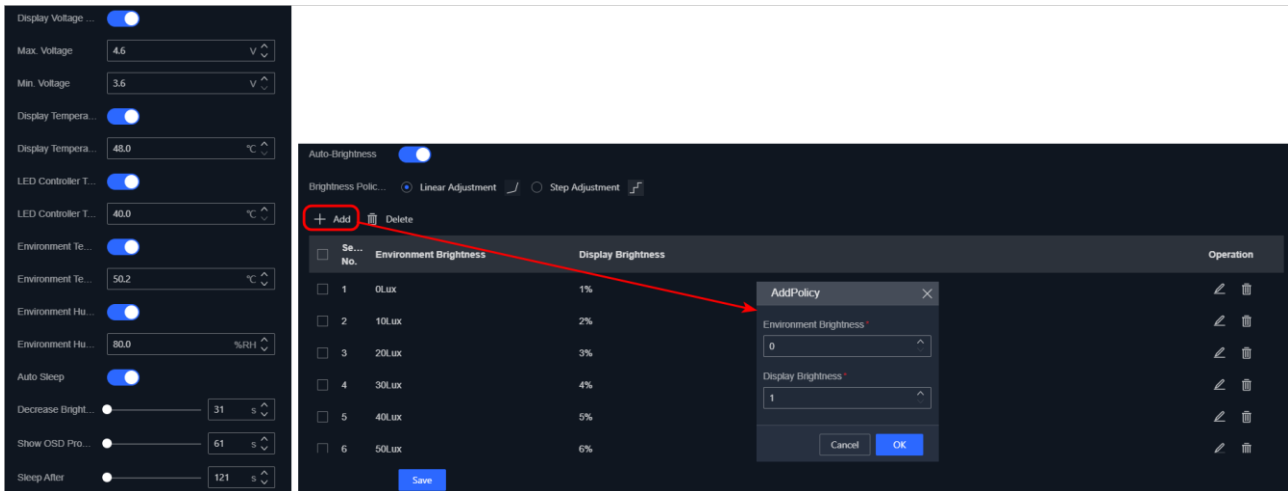


Figure 6-41 Set Alarm Thresholds

Control Power Distribution Cabinet via Multi-Function Card

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > IoT Configuration > Power Distribution Cabinet**.

Step 3 When the LED controller/LED controller board connects to a power distribution cabinet via a multi-function card, select **Dry Contact** as the linking method.

Step 4 Choose either method to control the cabinet's power state:

- Immediate on/off control:
 - 1) Turn on/off the corresponding channel to power the power distribution cabinet on/off.
 - 2) (Optional) When one multi-function card connects to multiple power distribution cabinets, assign device names for identification.
 - 3) Click **Save**.

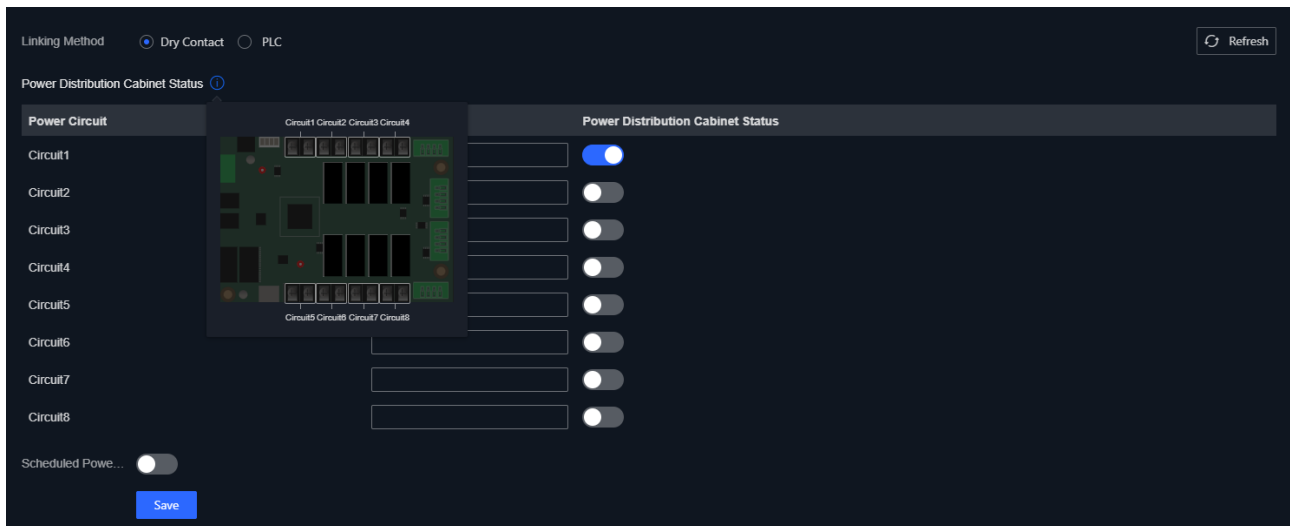


Figure 6-42 Immediate On/Off Settings

- Scheduled on/off control:
 - 1) Click **Add**, set the schedule, and click **OK**.
 - 2) Enable **Scheduled Power On/Off**.
 - 3) Click **Save**.

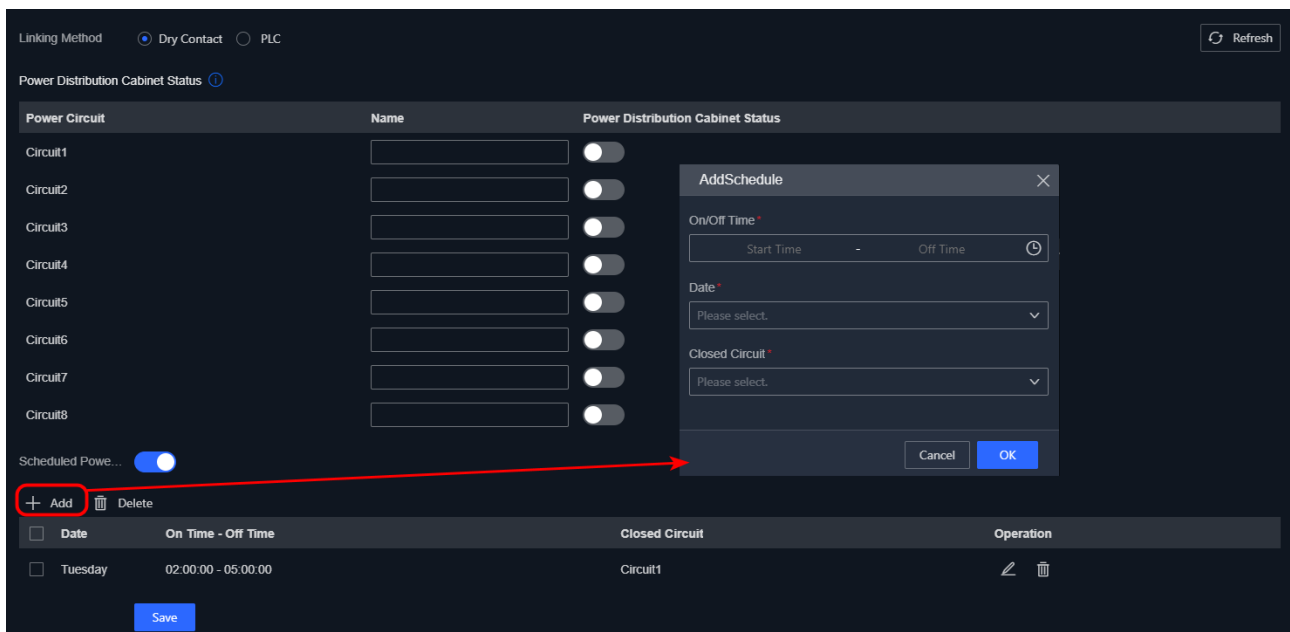


Figure 6-43 Scheduled On/Off Settings

Control Power Distribution Cabinet via Network

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > IoT Configuration > Power Distribution Cabinet**.

Step 3 For network control, select **PLC** as the linking method.

Step 4 Click  to edit the IP address and port number of the power distribution cabinet.

Step 5 (Optional) To control more power distribution cabinets, click **Add**, and enter the IP address and port number.

Step 6 Click **Save**.

Step 7 Power on the power distribution cabinet.

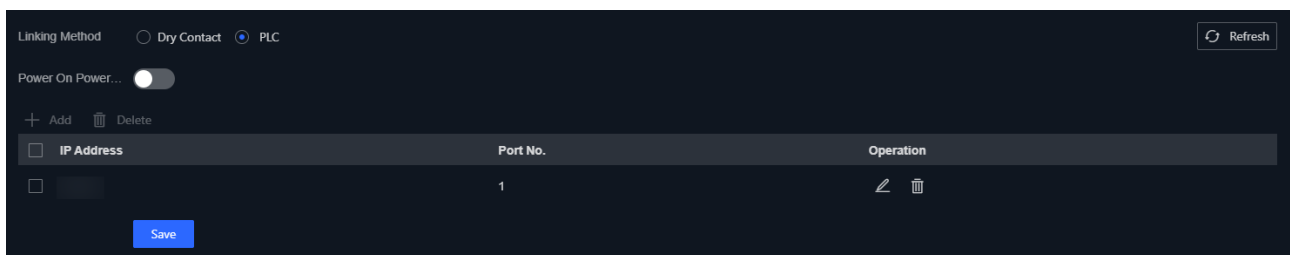


Figure 6-44 Control Power Distribution Cabinet via Network

Configure Auto Dehumidification

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device.

Step 2 Navigate to **Display Maintenance > Settings > IoT Configuration > Dehumidification**.

Step 3 Enable **Auto Dehumidification** and set the dehumidification parameters.

Step 4 Select the region according to the actual humidity condition of the device location. If you select **Custom**, set the time step, brightness step and duration.

- **Time Step:** The time interval between two consecutive brightness adjustments by the LED controller during a single dehumidification process. If the brightness is adjusted every 5 minutes, the time step is 5 minutes.
- **Brightness Step:** The minimum change in brightness for each adjustment by the LED controller during a single dehumidification process. If the brightness increases by 1 each time, the brightness step is 1.
- **Duration:** The total time of a single dehumidification process.
- **Usage:** The usage rate of the device.

Step 5 Click **Save** or **Save & Start**.

Step 6 (Optional) To stop the ongoing dehumidification process, click **Stop Current Dehumidification Process**.

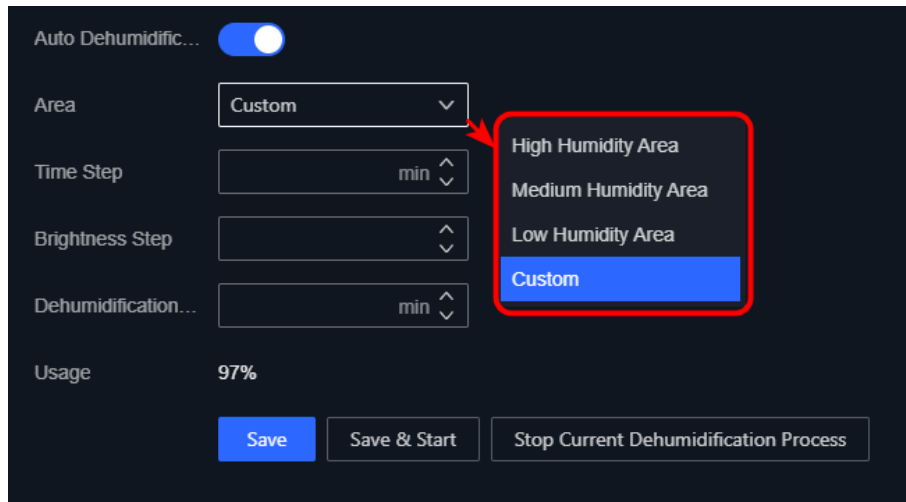


Figure 6-45 Configure Auto Dehumidification

6.7 Configure LED Controller Working Mode

Applicable Devices

DT60V/P and certain DS-TV/U series LED controllers.

Steps

Step 1 Select a V/P-series LED controller.

Only DT90 series LED controllers do not support working mode configuration.

Step 2 Navigate to **Display Maintenance > Settings > Working Mode**, and select a working mode.

- By default, the V/P/U-series LED controllers use video processing mode.
- When a V-series LED controller needs to work as a C-series LED controller, select **Sync Mode**.
- When a P/U-series LED controller needs to work as a B-series LED controller, select **Sync Mode**.

Step 3 Click **Save**. The device will restart to make the selected working mode effective.

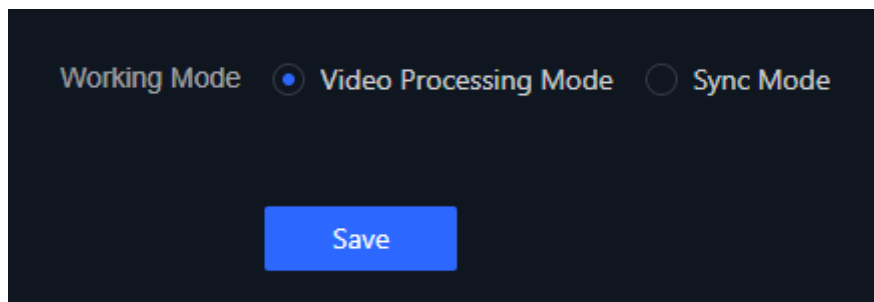


Figure 6-46 Configure Working Mode

6.8 Configure LED Controller Cascading/Self-Splicing

Applicable Devices

- Cascading support: DT60C/V, DT90C/V, and certain DS-TC/V series LED controllers.
- Self-splicing support:
 - LED controller-based: 4K DT60V/P and certain 4K DS-TV/U series LED controllers.
 - Video wall controller-based: 4K DT60C and certain 4K DS-TC series LED controllers.

Important

- A maximum of 16 LED controllers can be cascaded.
- When using a video wall controller with C-series LED controllers, disable the self-splicing function on the C-series LED controllers.

Steps

Step 1 Select an LED controller.

Step 2 Navigate to **Display Maintenance > Settings > Cascading & Self-Splicing**.

Step 3 Enable display cascading when multiple C/V-series LED controllers are cascaded. With display cascading enabled, you can view the cascading status of each device.

Step 4 Configure self-splicing:

- When multiple V/P-series LED controllers use themselves for video wall splicing, configure self-splicing as follows:
 - 1) Navigate to **Display Settings > Display Mapping** and position V/P-series LED controllers on the canvas.
 - 2) Enable display self-splicing. With display self-splicing enabled, you can view the self-splicing status of each device.
- When multiple C-series LED controllers connect to a video wall controller, and the video wall controller is used for video wall splicing, disable display self-splicing on the C-series LED controller.

Step 5 To show the IP addresses and serial numbers of LED controllers on the display, enable **Show Device ID**.

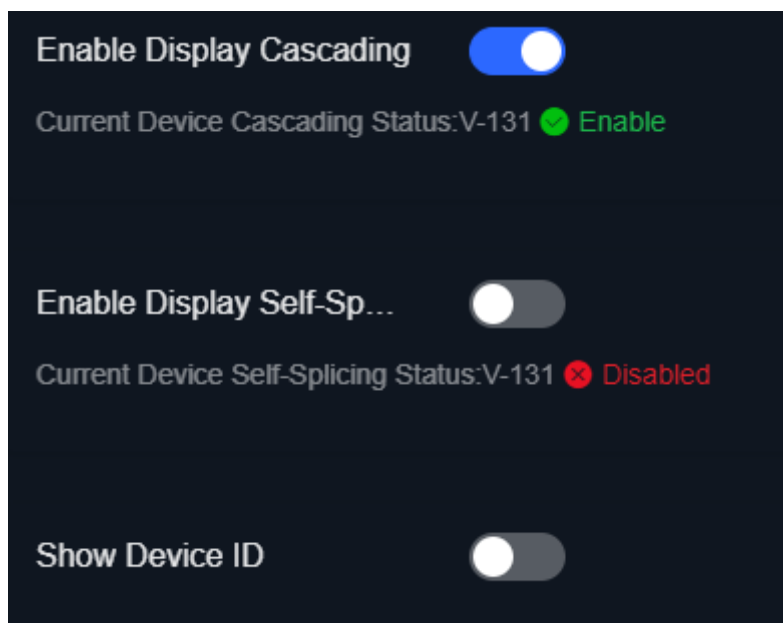


Figure 6-47 Configure Cascading/Self-Splicing Parameters

Chapter 7 Display/Device Maintenance

7.1 View Display Status

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device or screen.

Step 2 Navigate to **Display Maintenance > Display Maintenance**.

Step 3 Check if the display status is normal:

- Enable **Live View** at the top of the page to preview the image on the display.
- Enable **Show Connections** at the top of the page, and then the display will show the configured connections between the LED controller network ports and cabinets.
- Hover over a device to view the receiving card details. To view the receiving card debug information, click **Debug Info** and click **Read Back** or **Export** as required.

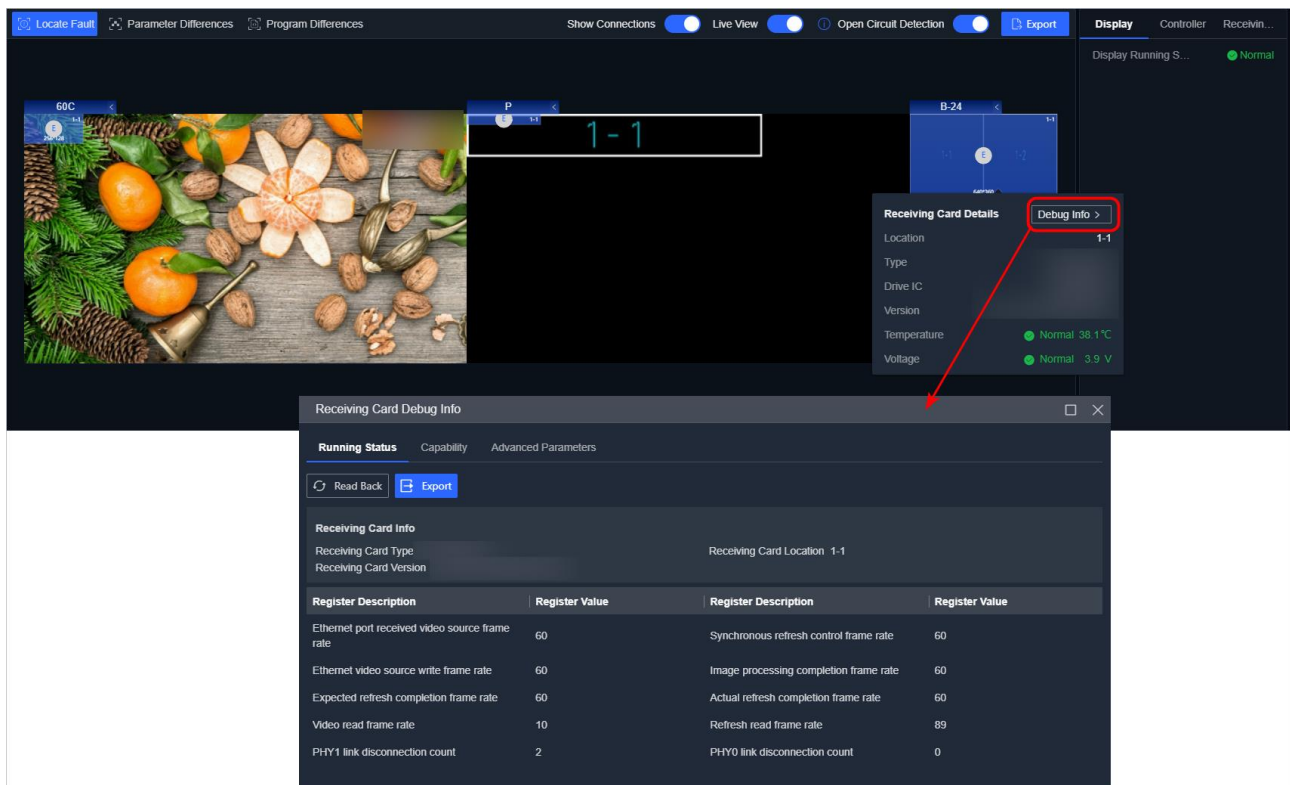


Figure 7-1 View Receiving Card Details

- Click **Local Fault** at the top of the page. The offline cabinets will be shown in red.

- Click **Parameter Differences** at the top of the page. If the receiving card configuration files of the cabinets are inconsistent, these cabinets will be shown in different colors.
- Click **Program Differences** at the top of the page. If the receiving card program versions of the cabinets are inconsistent, these cabinets will be shown in different colors.
- Click the **Display** window on the right side of the page to view the display running status. If the display runs abnormally, it will show the faulty devices and abnormal type.

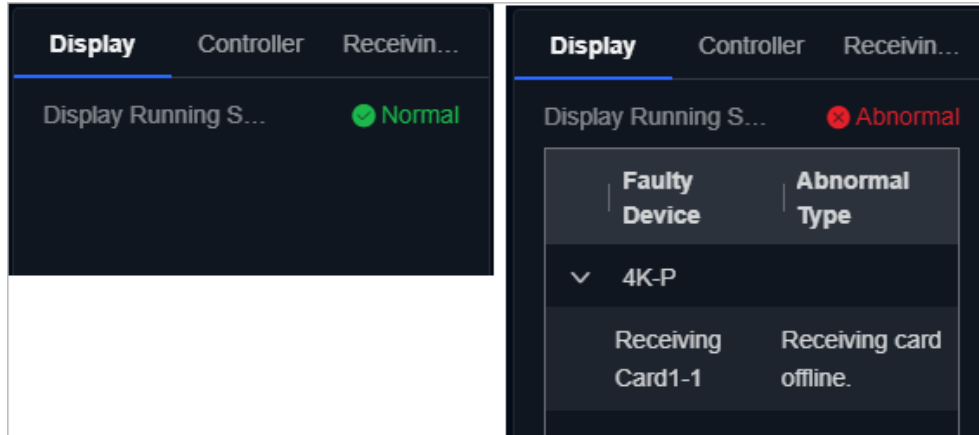


Figure 7-2 View Display Running Status

Step 4 (Optional) You can perform the following operations as required:

- Enable **Open Circuit Detection** to repair the cross phenomenon caused by damaged lamp beads. Before repairing the damaged lamp beads, disable open circuit detection.
- Select the cabinets and click **Export** to export the receiving card configuration file, receiving card program file, thermal compensation file, color file, or debug information file.

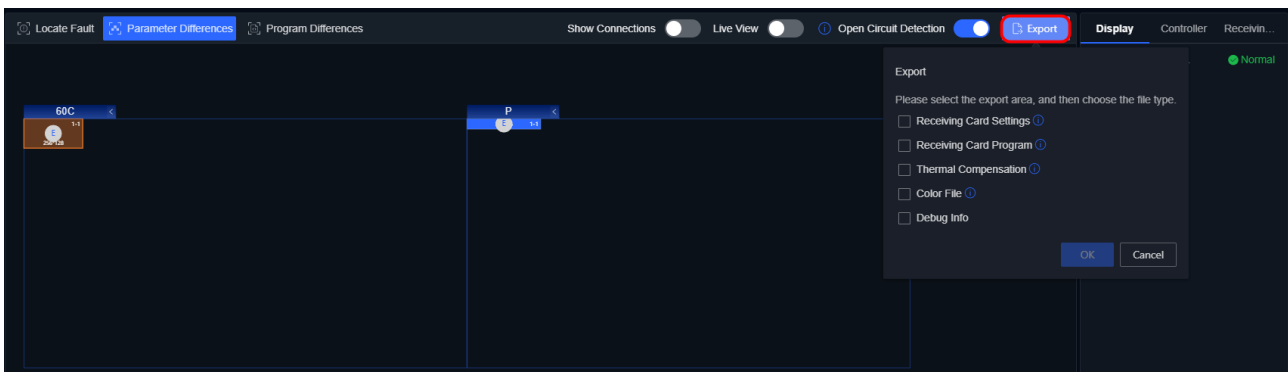


Figure 7-3 Export Receiving Card File

7.2 View LED Controller Status

Applicable Devices

All series LED controllers.

Steps

- Navigate to **Display Maintenance > Display Maintenance**, and select an LED controller. Click the **Controller** window on the right side of the page to view the basic information of the LED controllers. To copy the parameters, you can click **Copy Parameters**.



Figure 7-4 View LED Controller Information (Display Maintenance Page)

- Select an LED controller, and navigate to **Display Maintenance > Settings > System > System Information > Basic Info** to view its basic information.

The screenshot displays the 'Basic Info' and 'Running Status' sections of the LED Tool Client interface. The 'Basic Info' section on the left lists various device parameters, with 'Device Name' set to '4KV'. The 'Running Status' section on the right provides real-time monitoring data, including temperatures, humidity, display status, online status, and resource usage (memory and CPU). A 'Save' button is located at the bottom right of the 'Running Status' section.

Basic Info		Running Status	
Device Name	4KV	Device Temperature	● Normal 51°C
Device Model		Ambient Temperature	● Disconnected
Device Serial No.		Ambient Humidity	● Disconnected
Device Version		System Status	
Sub-System Version		Display Status	Display On
Loading Mode	Mini Loading	Online Status	● Online
Hardware Version		Memory Usage	69%
Receiving Card Model		CPU Usage	10%
Receiving Card Version		<button>Save</button>	
Display Scale	2 * 4		
Cabinet Model			
Driver Type			
Web Version			

Figure 7-5 View LED Controller Information (Basic Info Page)

7.3 Maintain Receiving Card

Applicable Devices

All series of LED controllers and video wall controllers.

Steps

Step 1 Select a device or display, and navigate to **Display Maintenance > Display Maintenance**.

Step 2 In the **Receiving Card** window, you can perform the following operations as required:

- If a receiving card is replaced after display mapping configuration, use the quick card change function to make the program and parameters of the newly installed receiving card consistent with other receiving cards. See "Configure Quick Card Change".
- Upgrade the selected receiving card, see "Upgrade Receiving Card".
- Check for color accuracy and dead pixels on the display, see "Test Receiving Card Condition".
- If the display flickers or there is poor contact between the receiving card and LED controller, check the bit error rate. See "Detect Bit Error Rate (BER)".

Configure Quick Card Change

Function Description

This function is used to quickly copy parameters for newly installed or replaced receiving cards. Both manual and auto modes are supported. Please choose the appropriate mode based on your requirements.

Important

- A correctly configured receiving card must be available as a reference.

- To use the automatic card replacement function, ensure that only one type of receiving card configuration file exists within a single LED controller area.

Steps

- Manual mode:
 - 1) Install the receiving cards and ensure that they are correctly connected to the LED controller.
 - 2) Open **Quick Card Change** in the **Receiving Card** window.
 - 3) Right-click on a correctly configured receiving card and click **Copy**.
 - 4) Right-click on the newly installed receiving cards and click **Paste**.
 - 5) Click **OK**.

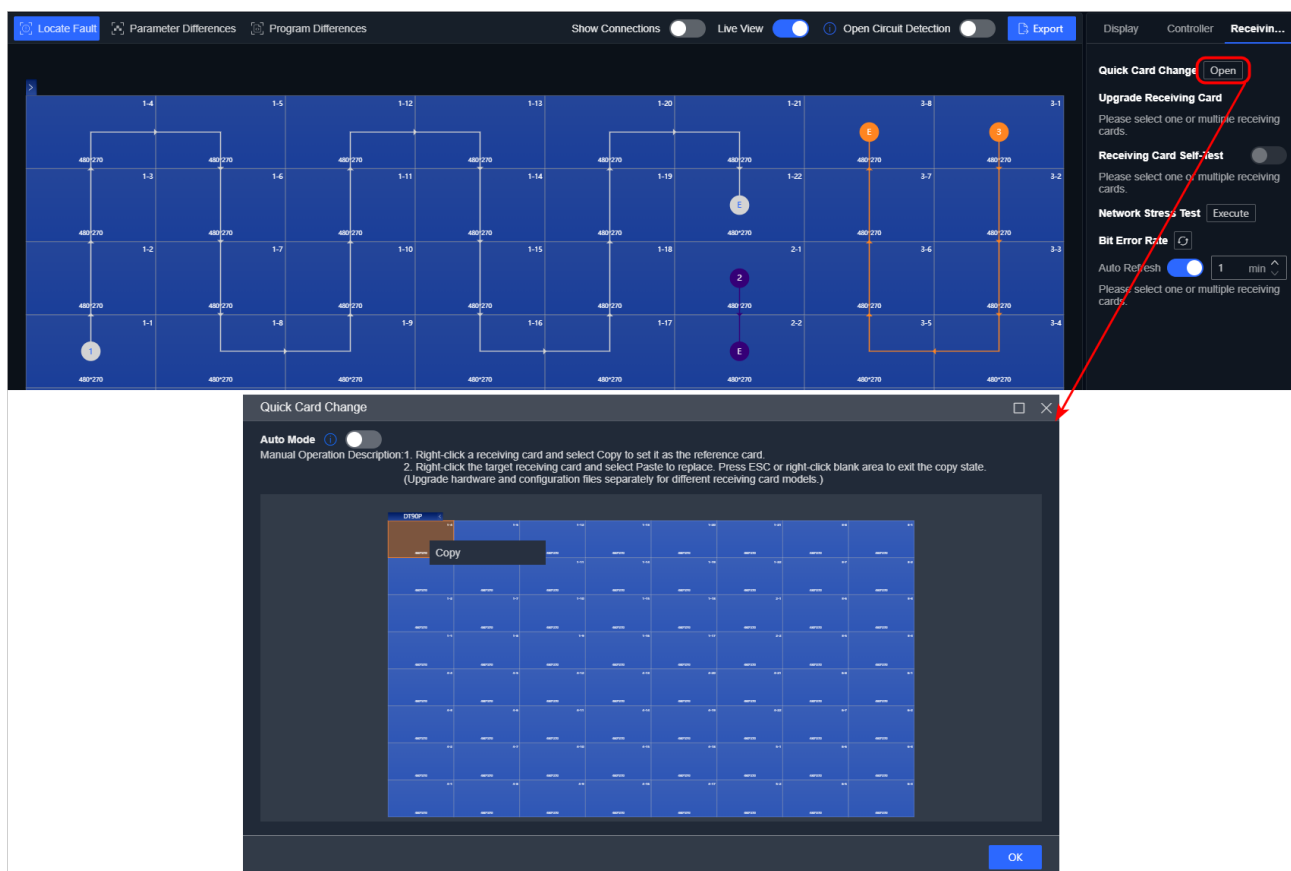


Figure 7-6 Manual Mode (DT90 Series)

- Auto mode:
 - 1) Open **Quick Card Change** in the **Receiving Card** window.
 - 2) Enable **Auto Mode** and click **OK**.
 - 3) Install the receiving cards. The system will then automatically copy the configuration from the currently active receiving card to new receiving cards.

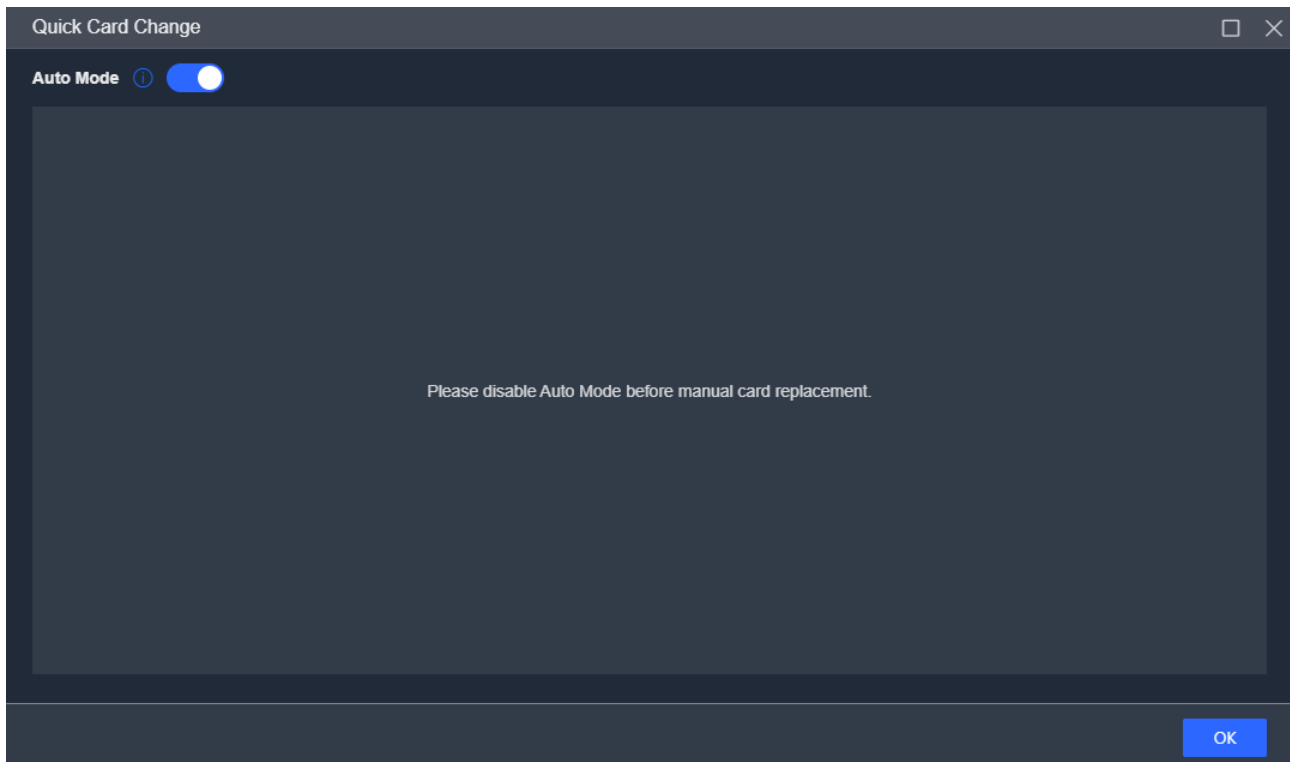


Figure 7-7 Auto Mode (DT90 Series)

Upgrade Receiving Card

Step 1 Select a single or multiple receiving cards.

Step 2 In the **Receiving Card** window, click  to upload the receiving card upgrade file.

Step 3 Click **Upgrade**.

Test Receiving Card Condition

Only certain receiving cards support receiving card self-test.

Step 1 Select a single or multiple receiving cards.

Step 2 In the **Receiving Card** window, enable **Receiving Card Self-Test**.

Step 3 Select a pure color, gray scale, or line to check whether the display color is normal or whether the dead pixels exist.

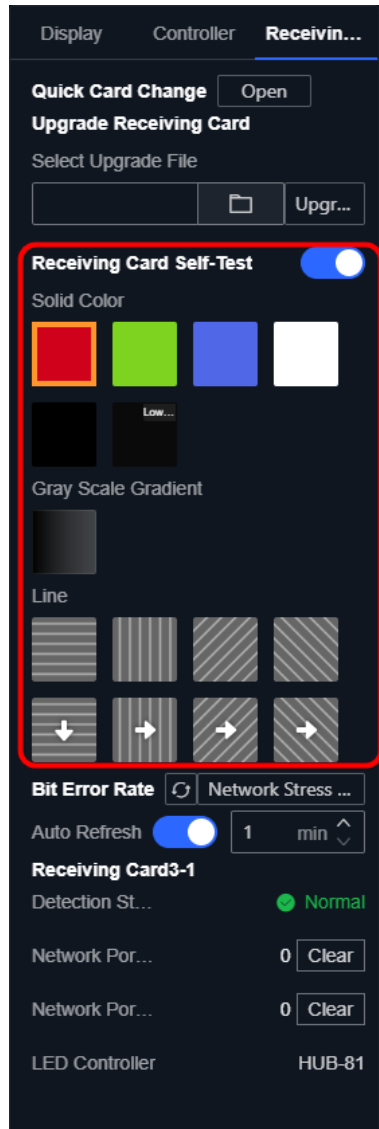


Figure 7-8 Test Receiving Card Condition

Detect Bit Error Rate (BER)

Only certain receiving cards support BER detection.

When the display exhibits abnormal flickering or unstable connections between the receiving card and LED controller, check the bit error rate in the **Receiving Card** window. The **Receiving Card** window displays accumulated BER values based on the configured auto-refresh interval.

- Edit the auto refresh interval as required.
- Click **Clear** to reset BER value.
- Click **Network Stress Test** to measure BER value for each network port. After the test, the BER value for each network port will be displayed and the test results will be included in the accumulated BER values in the **Receiving Card** window.
- Disable Auto Refresh during high-load scenarios if necessary.

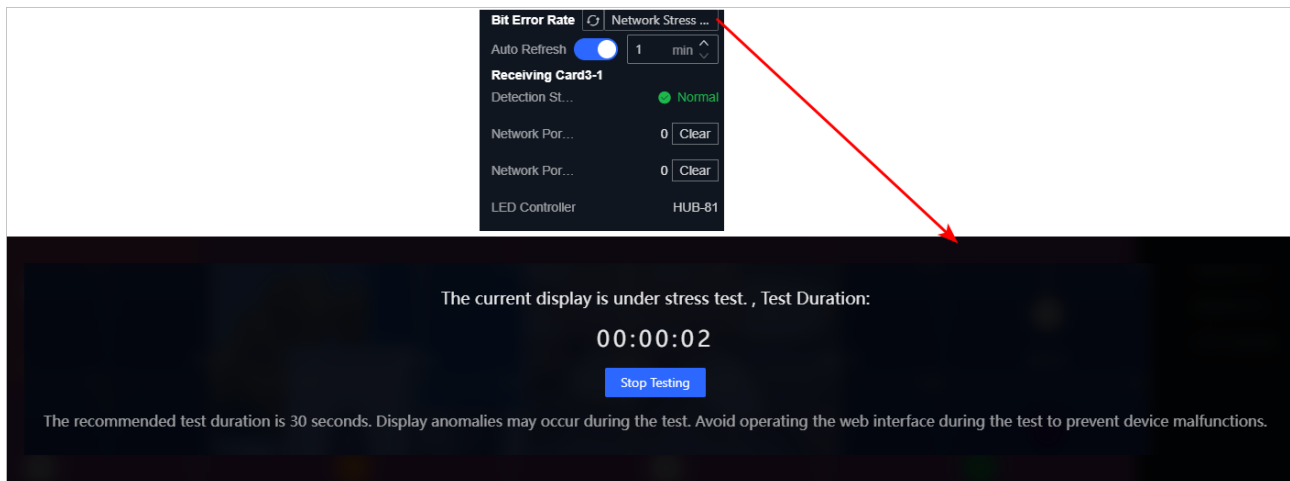


Figure 7-9 View BER Values

7.4 Maintain Device

Applicable Devices

All series of LED controllers and video wall controllers.

Restart

Step 1 Select a device and navigate to **Display Maintenance > Maintenance and Security > Restart**.

Step 2 You can restart the following devices:

- An LED controller supports restarting both the LED controller itself and the connected receiving cards.
- A video wall controller only supports restarting the receiving cards that are connected to the LED controller boards in the video wall controller.

Backup and Reset

Step 1 Select a device and navigate to **Display Maintenance > Maintenance and Security > Backup and Reset**.

Step 2 Export the configuration file of the LED controller or receiving card.

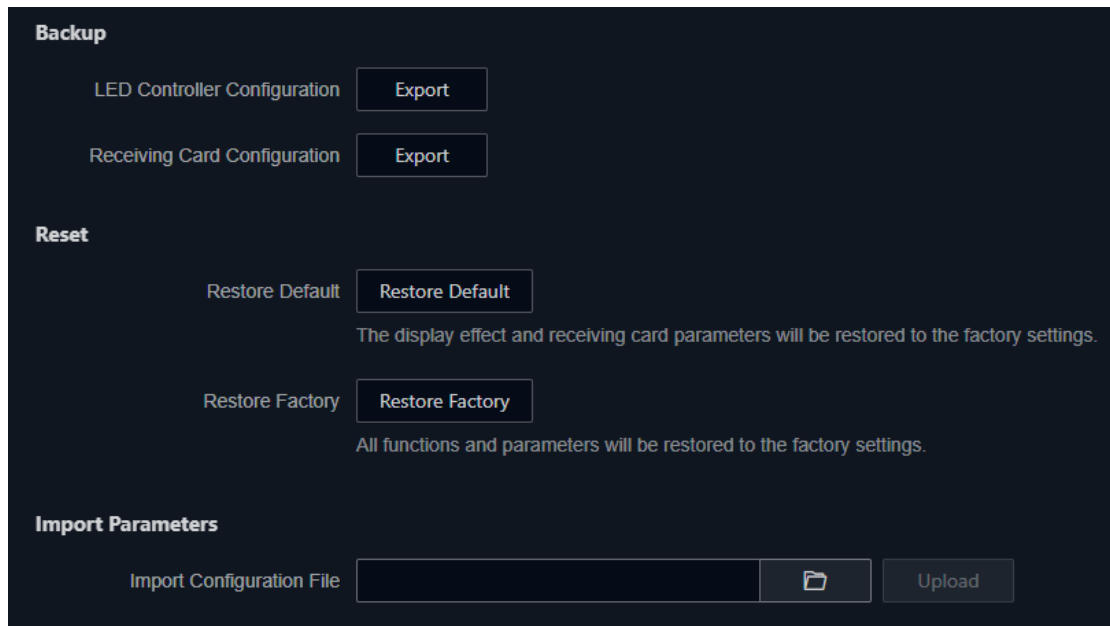


Figure 7-10 Backup and Reset Device

Step 3 Reset the device:

- Click **Restore Default** to restore the display effect and receiving card parameters to the factory settings. Please use this function with caution.
- Click **Restore Factory** to restore all functions and parameters to the factory settings. Please use this function with caution.

Step 4 Import configuration file: click  to select a locally saved configuration file and click **Upload**.

Log Management

Step 1 Select a device and navigate to **Display Maintenance > Maintenance and Security > Log**.

Step 2 Set the search condition and click **Search**.

Step 3 You can view the searched logs in the list below. You can click **Export** to export the logs.

Major Type

All Types

Sub Type

All Types

Time

00:00:00 - 23:59:59

Search

Reset

Export TXT

Export CSV File

Serial No.	Operation Time	Major Type	Sub Type	Remote Host IP Address	Description
01	16:47:26	Operation	Remote Login	-	
02	16:42:03	Operation	Remote Login	-	
03	16:23:42	Operation	LED Receiving Card Configuration	-	
04	16:22:46	Operation	Remote Login	-	
05	16:22:19	Operation	Remote Login	-	

Figure 7-11 Search Logs

Device Debugging

Step 1 Select a device and navigate to **Display Maintenance > Maintenance and Security > Device Debugging**.

Step 2 Dual power monitoring: If the device is equipped with dual power supplies, enable this function. When a power supply fails, the client will show a relevant alert under **Display Maintenance > Display Maintenance**.

Step 3 (Applicable to C/V-series LED controllers and LED controller boards) SSH (Secure Shell) service: Enable or disable SSH as needed. If remote login is not required, it is recommended to disable SSH to ensure network security.

Step 4 (Applicable to B/P/U-series LED controllers) Android maintenance:

- Enable **Log Records** to record the maintenance logs of the Android system.
- Click **Export** to export the ZIP file of the Android system maintenance logs.
- Enable **ADB Debugging**, and then use the Android Debug Bridge (ADB) tool and the device activation password to maintain the device Android system.

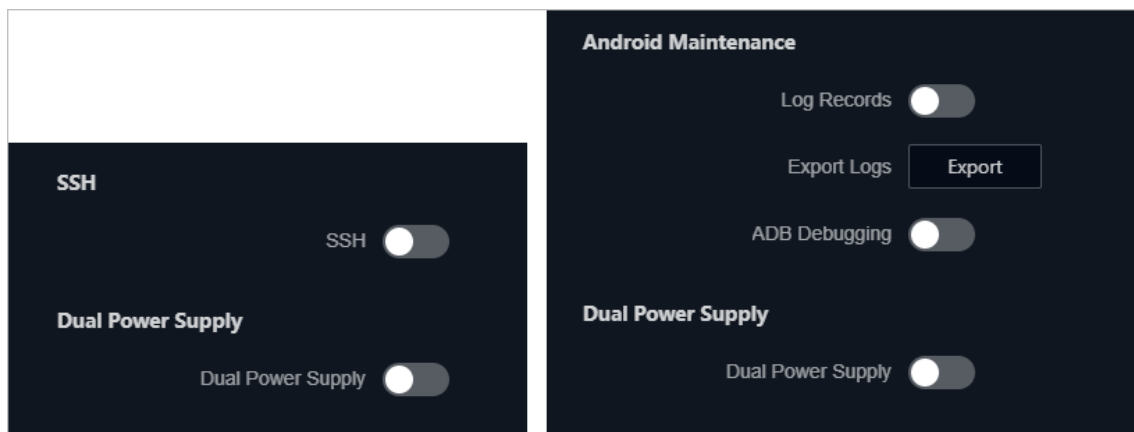


Figure 7-12 Device Debugging Page (Left: DT60C, Right: DT60P)

Permission Management

Step 1 Select a device and navigate to **Display Maintenance > Maintenance and Security > Permission Management**.

Step 2 Enable **Display-Off**.

Step 3 Select a display-off method.

Step 4 Set the display-on code. When the display is turned off, you can navigate to the **Permission Management** page and enter the display-on code to turn on the display.

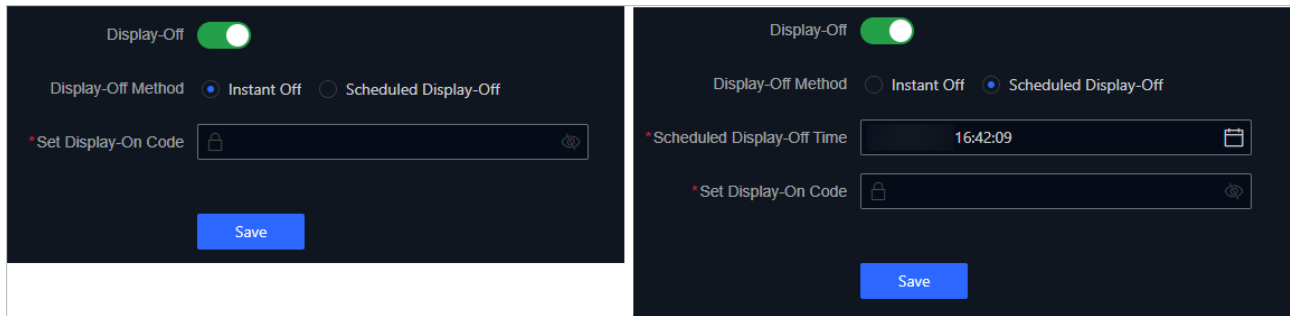


Figure 7-13 Permission Management Page

7.5 Use Toolbar

Applicable Devices

All series of LED controllers and video wall controllers.

7.5.1 Search for Cloud Files

When the computer with the client installed has access to the public internet, the client supports downloading receiving card configuration files, calibration files, color files, and receiving card upgrade packages from the cloud.

Step 1 Click **Tools** in the upper right corner of the client, and open **Cloud File Search**.

Step 2 Enter the search criteria and click **Search**.

- To search for receiving card configuration files, calibration files, or color files, see "Search for LED Module Configuration Files".
- To search for receiving card upgrade packages, see "Search for Receiving Card Upgrade Packages".
- To search for receiving card configuration files for third-party LED module, see "Search for Third-Party LED Module Configuration Files".

Step 3 Click  to download files locally for offline configuration.

Search for LED Module Configuration Files

Step 1 On the **LED module Configuration File** page, enter either of the following criteria: LED module serial number, LED module order number, cabinet serial number, or file name.

The file name supports up to 6 keywords, with each keyword containing at least 3 characters. Keywords should be separated by spaces and are case-sensitive.

Step 2 Select the file type: all, receiving card configuration file, or calibration file.

Step 3 Click **Search**.

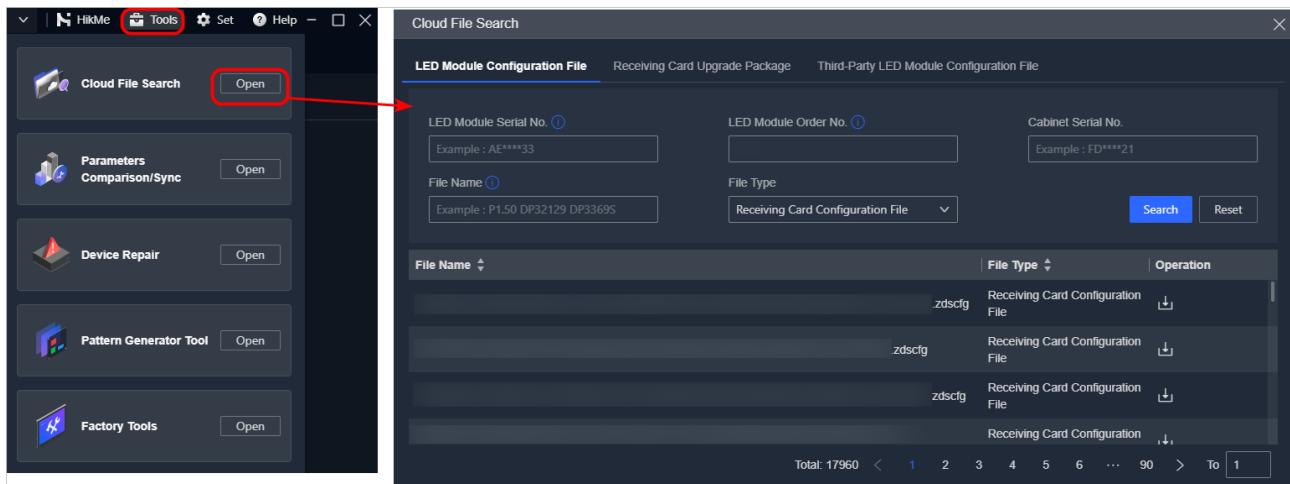


Figure 7-14 Search for LED Module Configuration File

Search for Receiving Card Upgrade Packages

On the **Receiving Card Upgrade Package** page, enter either of the following criteria:

- If you know the drive model and receiving card model, select **Drive IC Online Selection**. Select a drive model and receiving card model, and click **Search**.

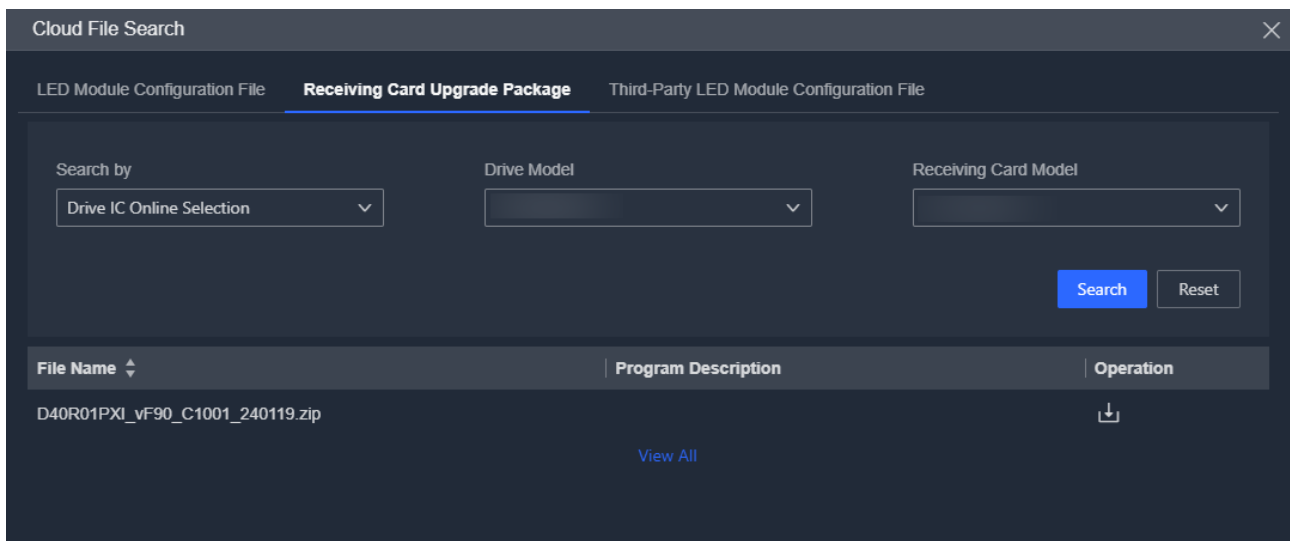


Figure 7-15 Select Drive Model

- If you have the configuration file saved locally and know the receiving card model, select **Local Config. File Parsing**. Click  to upload a local configuration file, select a receiving card model, and then click **Search**.

Cloud File Search

LED Module Configuration File **Receiving Card Upgrade Package** Third-Party LED Module Configuration File

Search by: Local Config. File Parsing

Configuration File:

Receiving Card Model: Please select.

Search **Reset**

File Name	Program Description	Operation
No data.		

Figure 7-16 Parse Local Configuration File

- If you know the LED module serial number and receiving card model, select **Serial No.** Enter the LED module serial number, select a receiving card model, and click **Search**.

Cloud File Search

LED Module Configuration File **Receiving Card Upgrade Package** Third-Party LED Module Configuration File

Search by: Serial No.

LED Module Serial No.: Example: AE****33

Receiving Card Model: Please select.

Search **Reset**

File Name	Program Description	Operation
No data.		

Figure 7-17 Enter Serial Number

Search for Third-Party LED Module Configuration Files

Step 1 On the **Third-Party LED Module Configuration File** page, select the manufacturer, LED module type, and pixel pitch.

Step 2 Enter the file name. The file name supports up to 6 space-separated keywords. Each keyword must contain at least 3 case-sensitive characters

Step 3 Click **Search**.

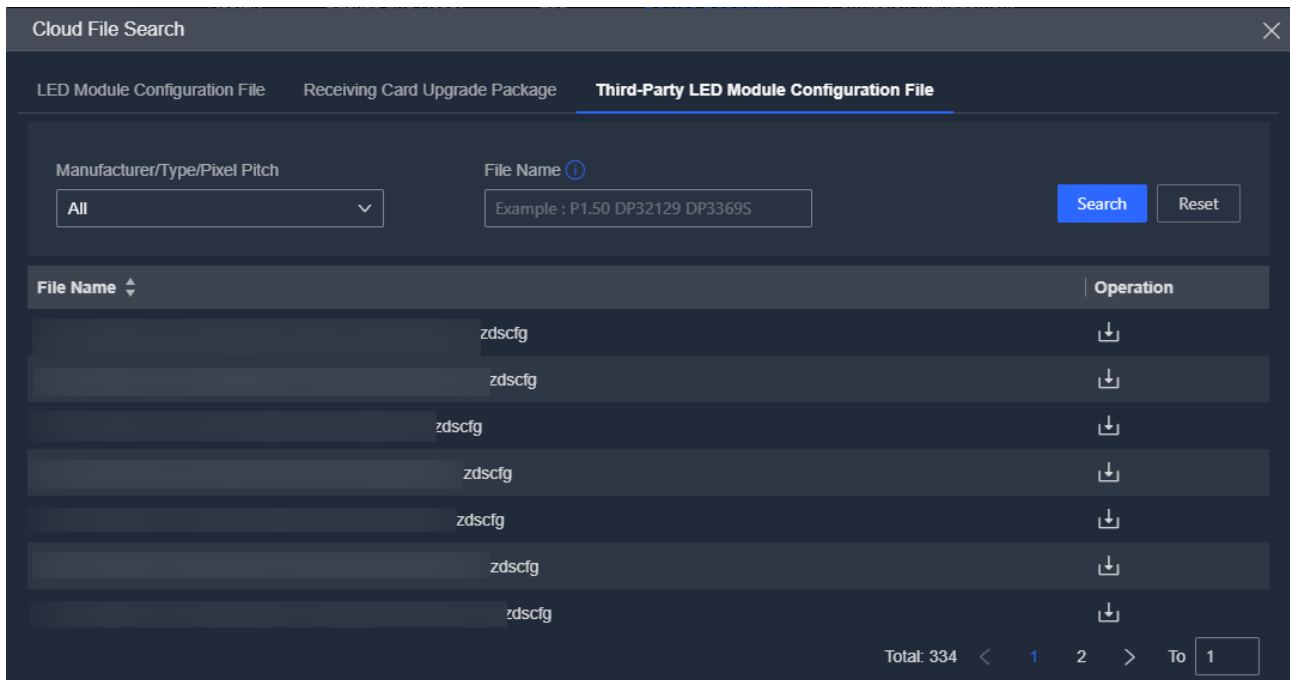


Figure 7-18 Search for Third-Party LED Module Configuration Files

7.5.2 Compare/Sync Parameters

Only online projects support parameter comparison and synchronization.

Compare Parameters

Step 1 Click **Tools** in the upper right corner of the client, and open **Parameters Comparison/Sync**.

Step 2 Select multiple target devices and choose the parameters to be compared.

Synchronize Parameters

Function Description

Synchronization scope includes:

- Brightness parameters: environment brightness, brightness, initial brightness, eye protection mode, dynamic energy saving
- Grayscale parameters: ultra-low gray control, gray scale optimization, initial gray level
- Color parameters: contrast, gamma coefficient, color standard, calibration, preset mode, color temperature adjustment, 3D LUT switch, 3D LUT ID

Steps

Step 1 Click **Tools** in the upper right corner of the client, and open **Parameters Comparison/Sync**.

Step 2 Click **Sync**, and select one device as the standard device.

Step 3 Check the other devices that require parameter synchronization, and then click **OK**.

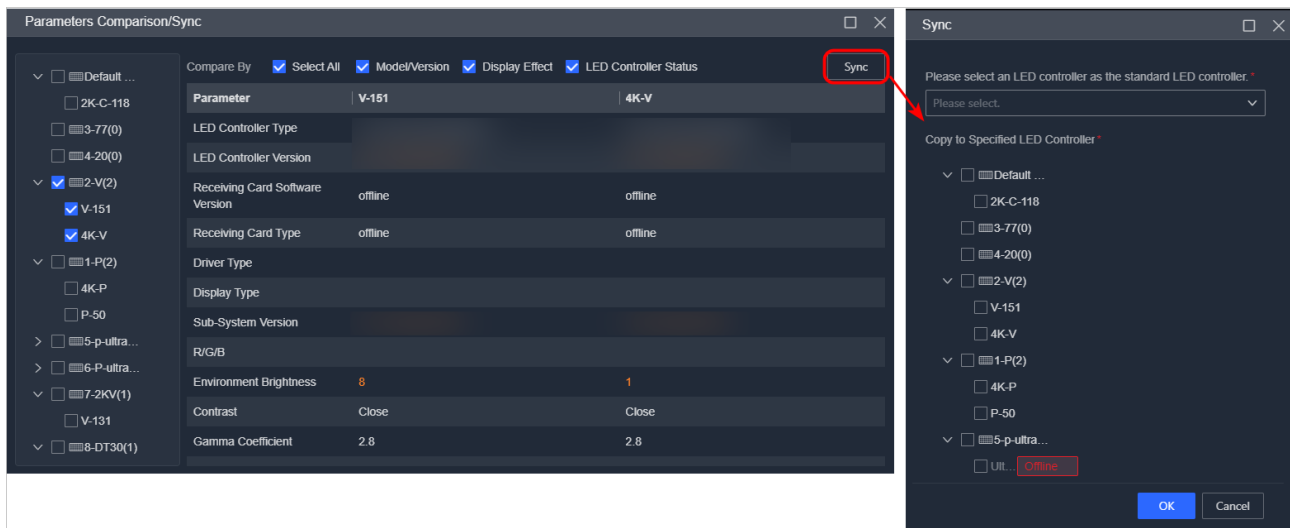


Figure 7-19 Compare/Sync Parameters

7.5.3 Repair LED Controller

Function Description

If you cannot start an LED controller, contact the product supplier to obtain the upgrade file, and use the device repair function to upgrade the LED controller.

Important

Only online projects support LED controller repair.

Steps

Step 1 Click **Tools** in the upper right corner of the client, and open **Device Repair**.

Step 2 Select the target LED controller and click **Repair by Upgrade File**.

Step 3 Enter the following fixed verification information in the pop-up window:

- Username: admin
- Password: hik12345
- Port: 8000

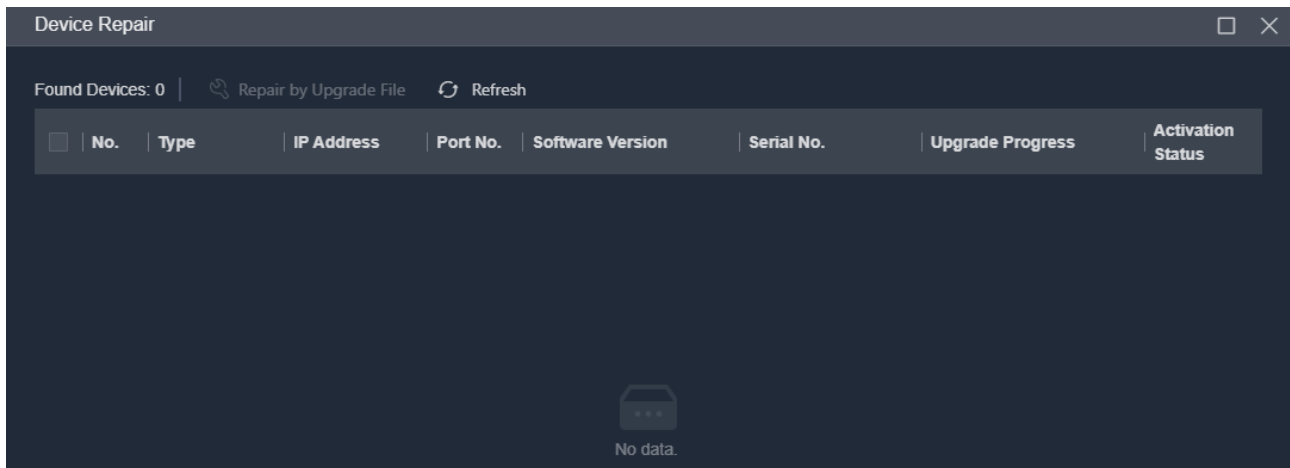


Figure 7-20 Repair LED Controller

7.5.4 Test Display Effect

Step 1 Click **Tools** in the upper right corner of the client, and open **Pattern Generator Tool**.

Step 2 Set the image area:

- Set the number of image creation windows: Click **Add** in the upper-left corner to add a new window and click  corresponding to a window to remove it.
- Set window position: Manually adjust the X and Y values, click the icon in the **Quick Settings** area, or drag the window to the target position.
- Set window size: Manually adjust the W and H values, drag the window edges to resize, double-click the window to maximize/restore it, or click  in the **Quick Settings** area to maximize the current window.
- Manage window status: Click **Hide**, **Show**, **Lock**, **Unlock**, **Pinned to Top**, or **Pinned to Bottom**.
- Overlay information: Enable **Overlay Information** and check the content to be overlaid.
- Reset window: Click **Reset** to restore the current window's position and size to default values.

Step 3 Set the test image:

- Solid color: Used to detect color uniformity, dead pixels, and dark spots.
- Grayscale gradient: Evaluates the display's gamma correction and color transition smoothness through grayscale gradients.
- Grid line: Used to detect geometric distortion, alignment of display splicing, and quickly locate abnormal pixels (such as dead pixels) via intersecting lines.
- Checkerboard: Used to detect pixel mapping accuracy, alignment of display splicing boundaries, and signal coupling issues (such as edge blurring/ghosting).
- Circle: Detects geometric distortion (such as warping, stretching, or compression) using concentric circle patterns, while also assessing color uniformity and edge focus.

- Test pattern: Evaluates dynamic display performance (such as refresh rate and motion blur) using controllable dynamic patterns.
- Location: Used to verify whether the data group order is correct.
- Text: Tests font rendering clarity, pixel support for text, and text display consistency on spliced displays.
- Video/image: Used for video aging tests or to verify display effects.
- Aging: Conducts aging tests on LED beads through prolonged playback and aging tests on the cabinet power supply via black-and-white screen flickering to induce current pulses.

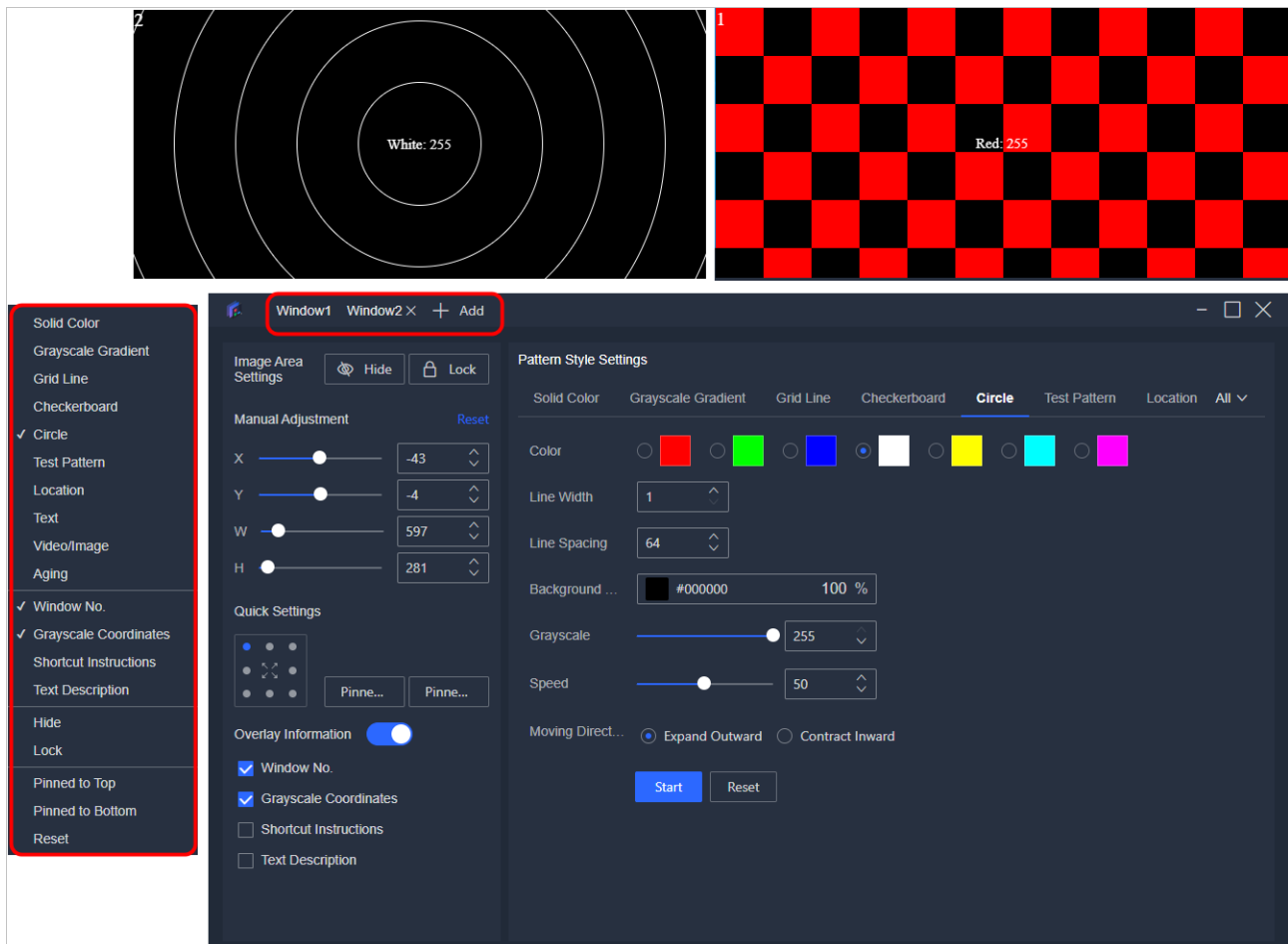


Figure 7-21 Pattern Generator Tool

Note

Right-clicking on the test image opens the shortcut menu for the pattern generator tool.

7.5.5 Use HikMe

Step 1 Click **HikMe** in the upper-right corner of the client, enter your user name and password, and then click **Log In**.

- If you haven't registered a HikMe account, click **Click here to jump to HikMe** to register on the web page.
- After a successful login, the session remains active until you manually click **Log Out** or close the LED Tool client.
- Once logged in, project files, configuration files, and their folders managed on the HikMe web page will be automatically synchronized to the HikMe window within the LED Tool client.

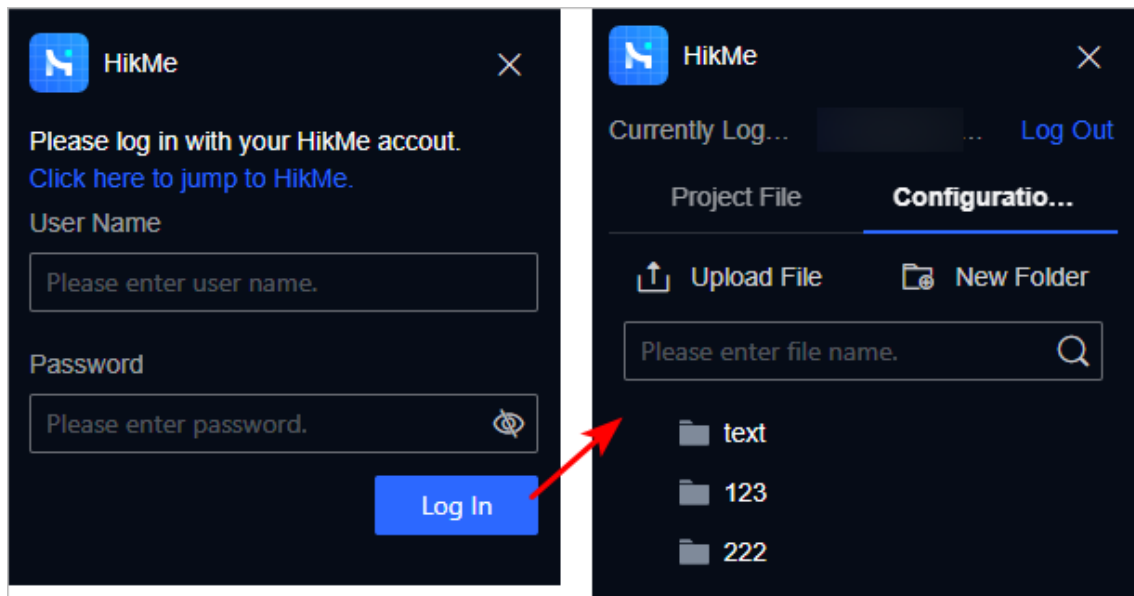


Figure 7-22 HikMe Login

Step 2 After logging into HikMe, you can perform the following operations:

- Back up a project: Hover over the target project (online or demo), click  to back up the project to the HikMe cloud.
- Manage project files on the **Project File** tab:
 - Click **Upload File** to upload locally stored project files to HikMe.
 - Click **New Folder** to create folders for organizing project files.
- Manage receiving card configuration files on the **Configuration File** tab:
 - Click **Upload File** to upload locally stored configuration files to HikMe.
 - Click **New Folder** to categorize and manage configuration files.
- For a folder: You can rename it () , uploading files to it () , or deleting it ().
- For a file: You can rename it () , importing it to the client () , downloading it to your local device () , or deleting it ().

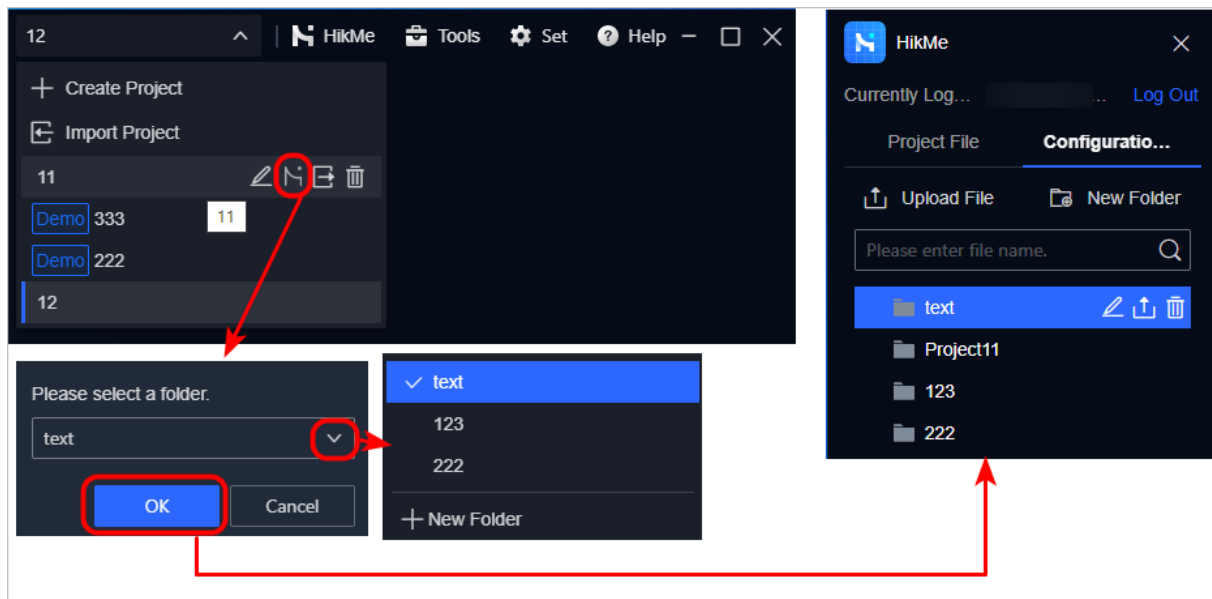


Figure 7-23 Manage HikMe Files

7.5.6 Set the Client

You can perform the following operations by using the menu in the upper-right corner of the client:

- Set system parameters: Click **Set > System Settings** to configure the online upgrade download path, software log save path, system language, UI theme, and client scaling.
- Control the reminder status of display mapping setup auto deployment: In the **System Settings** window, you can enable or disable this reminder. When disabled, this prompt will no longer appear on the **Receiving Card Configuration** page.

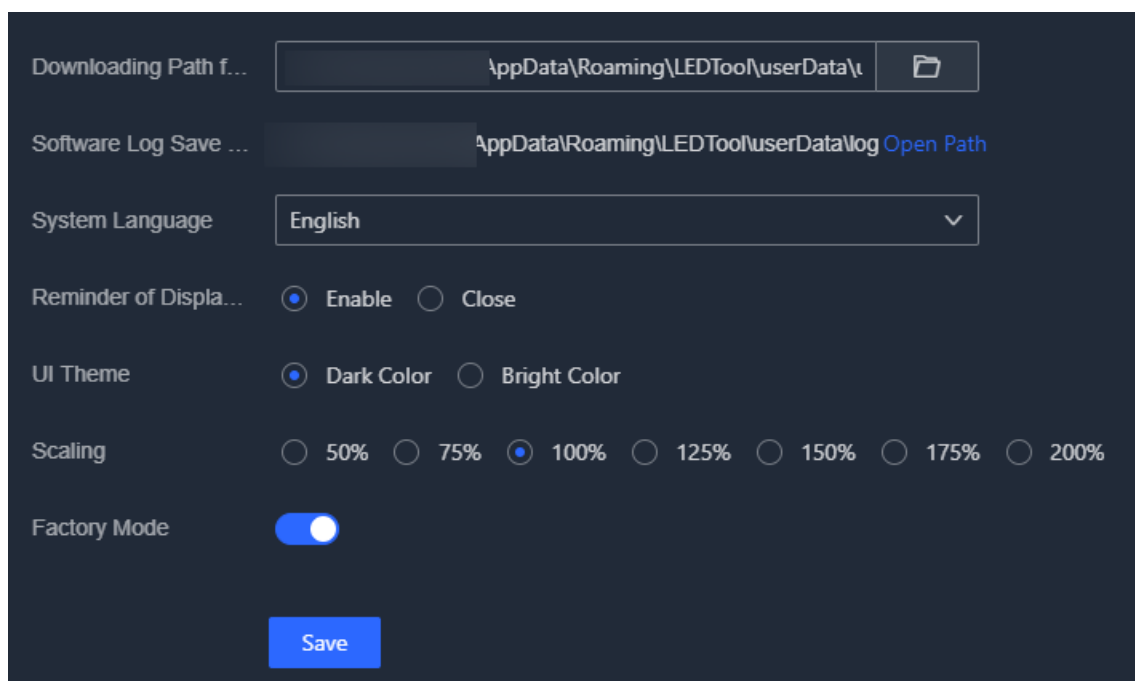


Figure 7-24 System Settings Window

- Configure one-click aging:
 - 1) Enable **Factory Mode** in the **System Settings** window.
 - 2) The **Factory Tools** option will appear in the **Tools** menu in the upper-right corner of the client.
 - 3) Open **Factory Tools** and select the target DT30 or DT90 series LED controller.
 - 4) Enable **Start One-Click Aging**. The display controlled by this LED controller will switch to the aging test image.

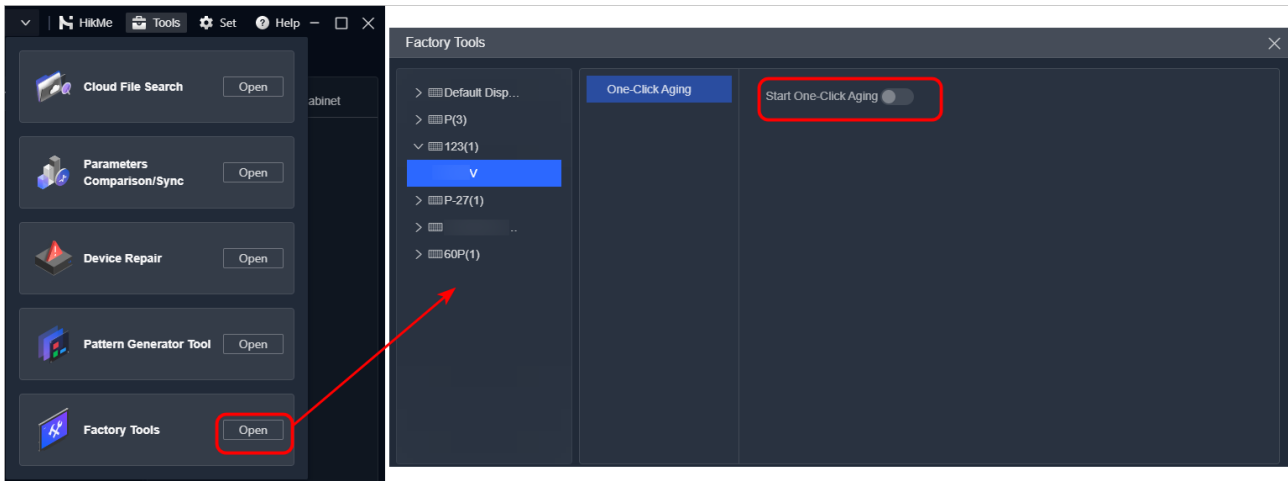


Figure 7-25 One-Click Aging Window

- Upgrade chip library: Click **Set > Component Management > Chip Library** to view the chip library version. If you cannot find the required chip for the LED module, you can click **Local Import** or **Online Upgrade** to upgrade the chip library. After the chip library is upgraded, the client will restart automatically.

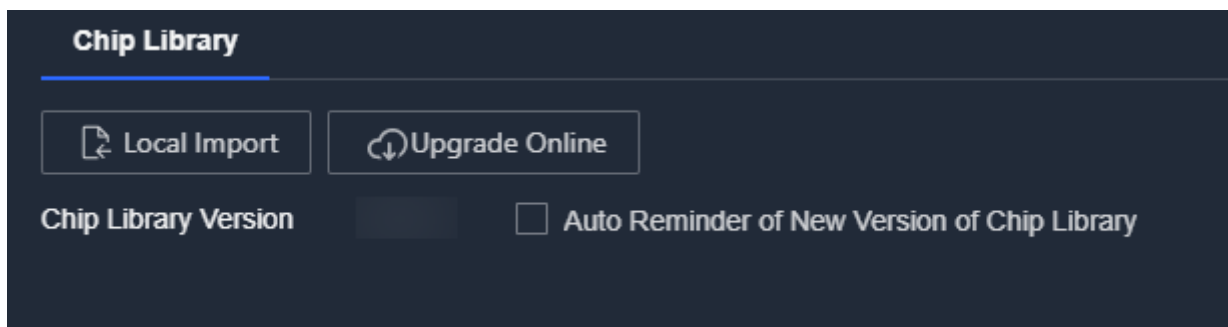


Figure 7-26 View Chip Library

- Manage client version: Click **Help > About** to view the current software version and set the auto reminder of detected new version.

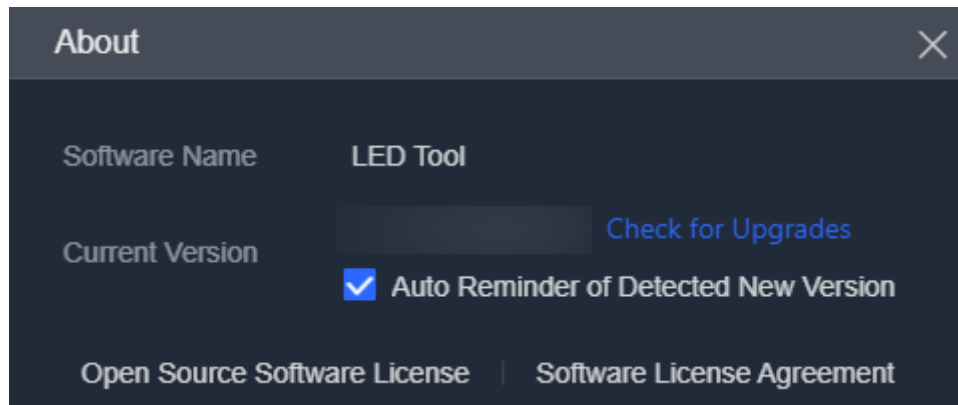
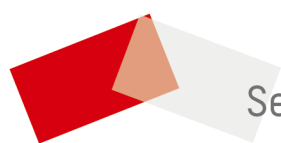


Figure 7-27 View Software Version

- View user manual: Click **Set** in the upper right corner of the client, and click **Help > User Manual** to view the client user manual.



See Far, Go Further