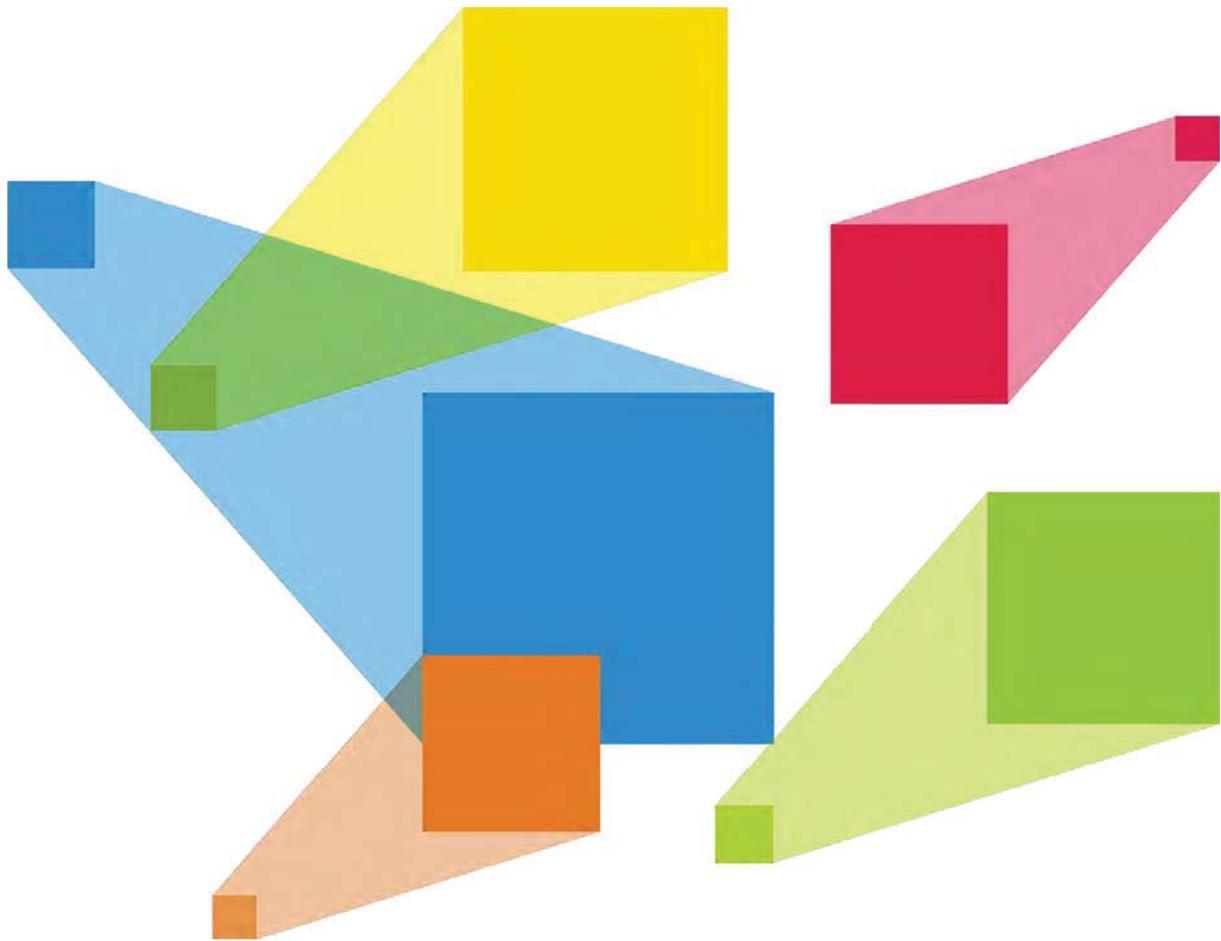


# PWD339PRO

## LED Controller



User Manual

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# 1 Device Connections

## 1.1 Input Cards

The PWD Series supports a variety of input sources. Connect the input sources to the matched input card connectors.

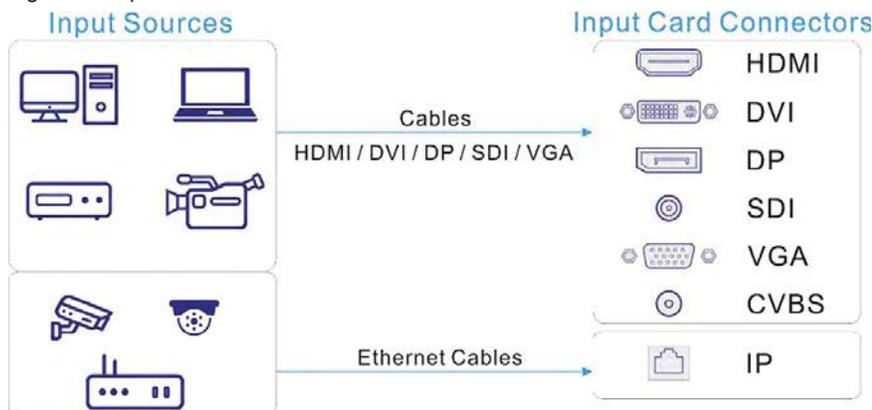
- DVI, HDMI, SDI, CVBS, VGA or DP input sources

Connect the input sources to the matched input card connectors using corresponding cables or converter cables.

- IP camera sources

Connect the input source to the Ethernet port of the H\_2xRJ45 IP input card using an Ethernet cable.

Figure 1-1 Input card connection



## 1.2 Output Card

The PWD Series provides two kinds of LED 4K sending cards: H\_16xRJ45+2xfiber sending card and H\_20xRJ45 sending card.

- When the H\_16xRJ45+2xfiber sending card is used for output, the OPT ports copy the outputs on the Ethernet ports. OPT 1 copies and outputs the data on Ethernet ports 1–8. OPT 2 copies and outputs the data on Ethernet ports 9–16.

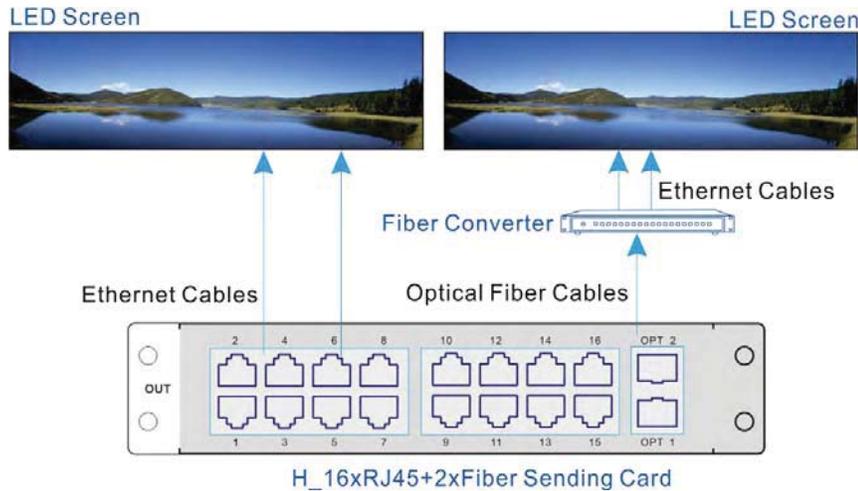
- Via Ethernet port

Connect the Ethernet ports directly to the LED screen based on the screen structure.

- Via OPT port

OPT ports are used for long-distance transmission. Connect the OPT ports to a fiber converter firstly, and then connect the fiber converter to the LED screen.

Figure 1-2 LED 4K sending card connection

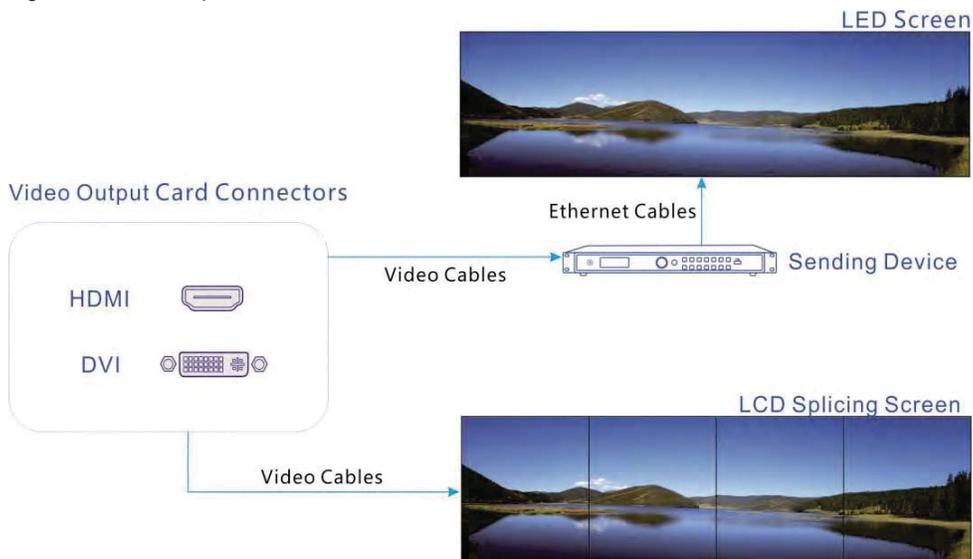


**Note:**

The H\_20xRJ45 sending card is connected and configured in the same way as the H\_16xRJ45+2xfiber sending card.

- When the video output card is used for output, the LED screen can be loaded by the sending device and the LCD screen can be loaded directly.
  - Via Ethernet cable
    - To load the LED screen, connect the output card connectors to the input connectors of the sending device, and connect the sending device to the LED screen via Ethernet cables, as well as configure the screen on the sending device.
  - Via video cable
    - To load the LCD screen, connect the output card connectors to input connectors of the LCD splicing screen via video cables.

Figure 1-3 Video output card connection



### 1.3 Power Supply

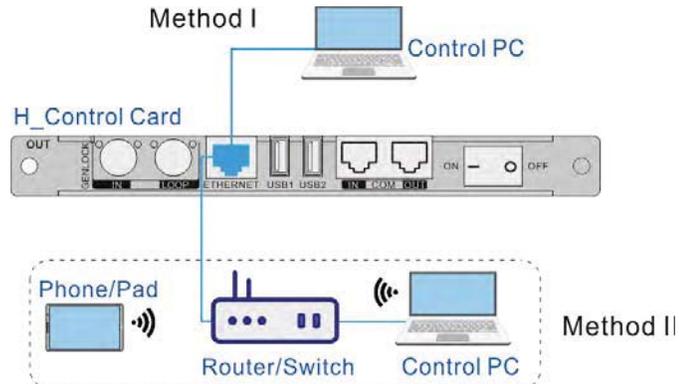
Connect the power connector on the rear panel to the electrical outlet using the supplied power cord.

## 1.4 Control Card

You can control the PWD Series devices on a control PC through either of the following two methods:

- Method I: Direct control for single-user control  
Connect the device Ethernet port to the control PC.
- Method II: Using a router or switch, for multiple user collaboration in a wired or wireless way  
Connect the Ethernet ports of both the device and control PC to the router or switch.

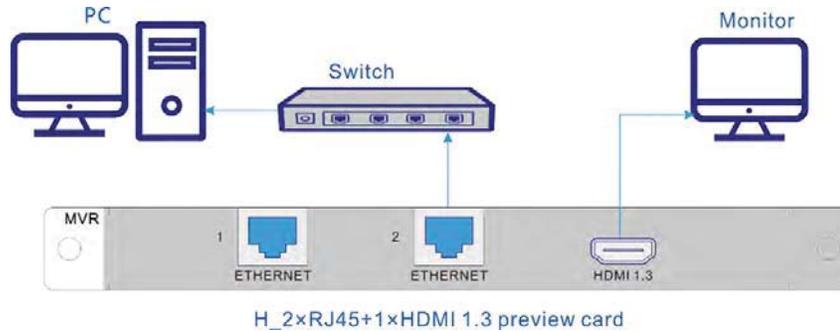
Figure 1-4 Control card connection



## 1.5 Preview Card

The PWD Series allows you to monitor the inputs and outputs on a PC or monitor.

Figure 1-5 Preview card connection



- Via Ethernet port:  
Connect one of the Ethernet ports on the preview card and the Ethernet port of the control card to the same switch for the input source and screen monitoring on the Web page.
- Via HDMI connector:  
Connect the HDMI connector of the preview card to a monitor for on-site monitoring.

## 2 Device Login

### 2.1 Power On/Off

The power switch is on the H\_Control card.

Figure 2-1 Control card



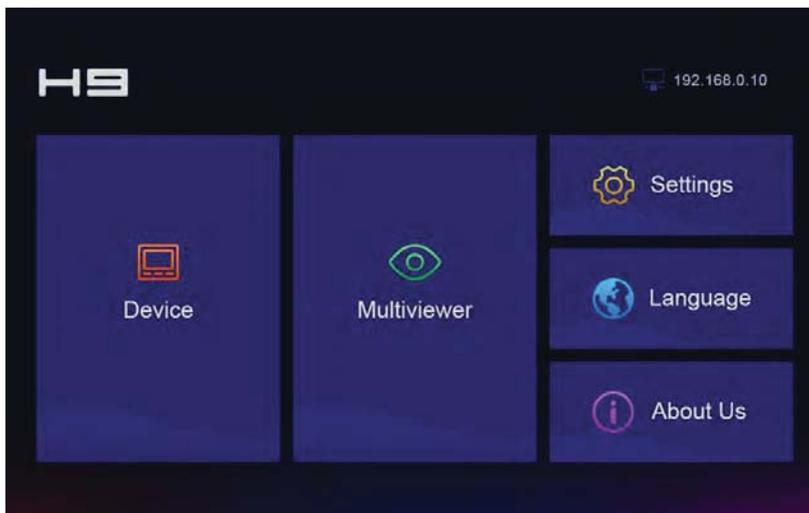
- – / On: Power on the device.
- O / Off: Power off the device.

#### Power on

Connect the power cord, and then set the rocker switch to **ON**. The home screen is displayed as follows after successfully powered on.

The device IP address is displayed at the top right on the home screen. The default IP address is 192.168.0.10.

Figure 2-2 Home screen



#### Power off

Set the rocker switch to **OFF**, and then disconnect the power cord if necessary.

### 2.2 Web Page Login

#### Prerequisites

- You have completed the connection as described in [1.4 Control Card](#).
- You have obtained the login user name and password. The default user name and password are "admin".

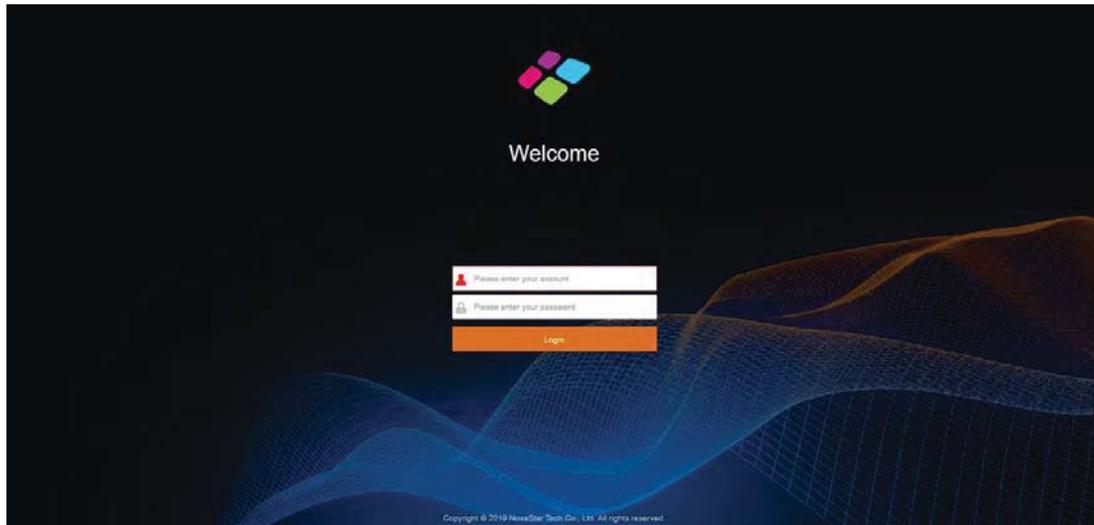
## Notes

- When an PWD Series device is connected directly to a control PC, the device and control PC must be on the same network segment and their IP addresses cannot conflict. For example, if the device IP address is 192.168.0.10, the IP address of the control PC must be 192.168.0.X and X cannot be 10.
- When an PWD Series device is connected to a control PC using a router or switch, you must set to automatically get the IP address, and select **Obtain an IP address automatically** for the network settings on the control PC.
  - a. Go to **Settings > Communication** from the home screen to enter the network settings screen.
  - b. Click the **IP Settings** tab to enter the IP settings screen.
  - c. Set the mode to **Automatic**.
  - d. Click **Main** at the top left to return to the home screen and the current device IP address appears at the top right.
  - e. Select **Obtain an IP address automatically** on the Internet protocol properties window on the control PC. The router or switch will assign the IP addresses to the device and control PC automatically.

## Operating Procedure

- Step 1 Open the suggested web browser on your computer, enter the device IP address in the address bar, and then press **Enter** to jump to the login interface for the Web page for the PWD Series devices.

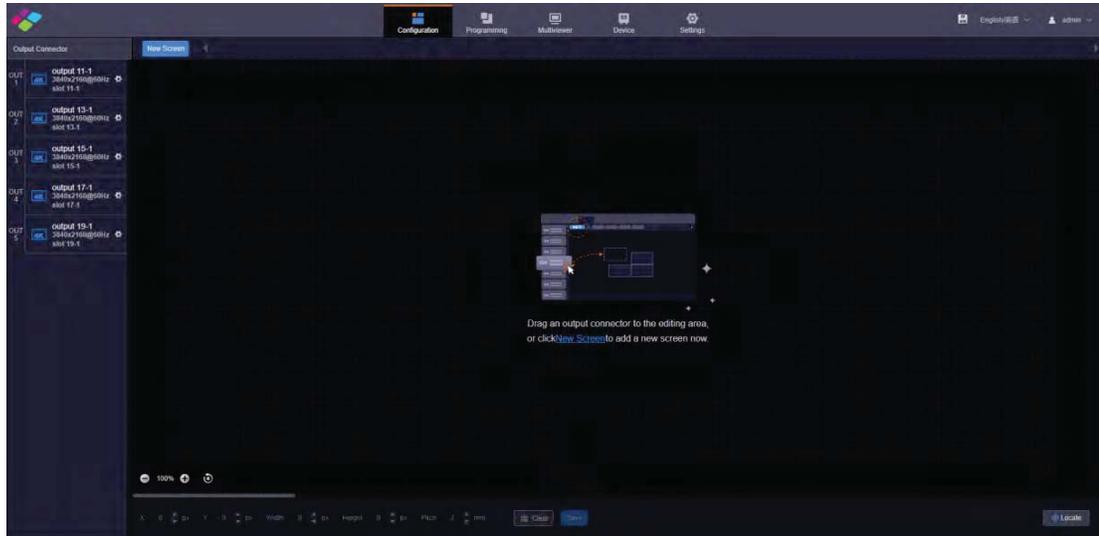
Figure 2-3 Web login page



- Step 2 Enter the user name and password, and click **Login** to log in to the Web page.

The default user name and password are both "admin".

Figure 2-4 Web page after login



## 3 Screen Configuration

### 3.1 LED Screen

Configure the screen based on the structure and data flow of the screen loaded by the current device. Associating the screen with the outputs will make it convenient for you to control the screen by area.

When you use different output cards, the screen configuration methods are different.

- Method I:

Use the LED 4K sending cards (H\_16xRJ45+2xfiber sending card and H\_20xRJ45 sending card) for output, a virtual 4K connector is displayed on the configuration page.

Use the fiber sending card for output, a connector with the sender icon is displayed on the configuration page.

- For the H\_16xRJ45+2xfiber sending card, an icon  is displayed.

- For the H\_20xRJ45 sending card, an icon  is displayed.

- For the H\_4xfiber sending card, an icon  is displayed.

---

**Note:**

The H\_16xRJ45+2xfiber sending card and H\_20xRJ45 sending card can be configured on the same screen when they have the same frame rate.

---

- Method II:

Use the DVI and HDMI output cards for output, note that only the connectors of the same type can be configured on the same screen.

### Web Operations

Step 1 Select **Configuration** to enter the screen configuration page.

Step 2 Click **New Screen** at the top to open the **New Screen** window.

Figure 3-1 New screen



Step 3 Enter a screen name. You can name the screen according to its location or input, which is easier for you to identify the screen quickly and precisely when operating the layers, presets and so on.

Step 4 Set the quantities of the rows and columns based on the screen structure.

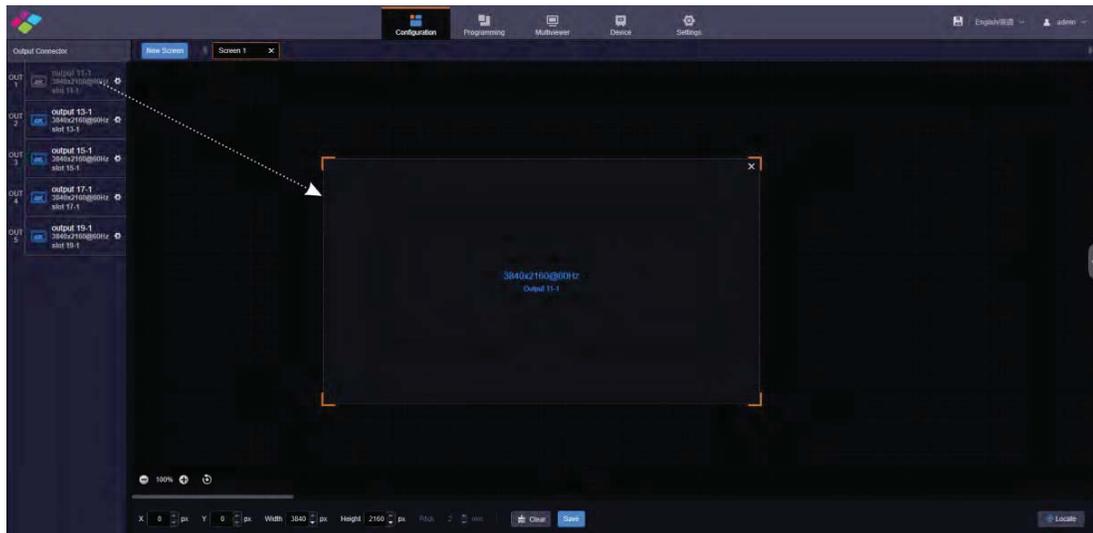
Step 5 Select the desired output card to load the screen, and then click and drag the sending card to the screen.

---

**Notes:**

- When you use the H\_16xRJ45+2xfiber sending card or H\_20xRJ45 sending card, it is recommended you go to **Settings > EDID Management > Output** to set the output resolution and frame rate first.
  - When you use the H\_4xfiber sending card, go to the **Device** page to configure the connector working mode first, and then go to **Settings > EDID Management > Output** to set the output resolution and frame rate.
  - When you use the DVI or HDMI output card, the real connector is displayed on the **Configuration** page, such as DVI or HDMI.
- 

Figure 3-2 LED screen configuration



- Highlighted connector: The output connector is not used by the screen.
- Gray connector: The output connector is used by the screen and cannot be used repeatedly.

Step 6 Click **Save** to save the screen settings.

## NovaLCT Operations

---

**Note:**

When the H\_16xRJ45+2xfiber sending card, H\_20xRJ45 sending card or H\_4xfiber sending card is used, you must configure the screen in NovaLCT.

---

Step 1 Go to **User > Advanced Synchronous System User Login**. Enter the password and click **Login**. The default password is "admin".

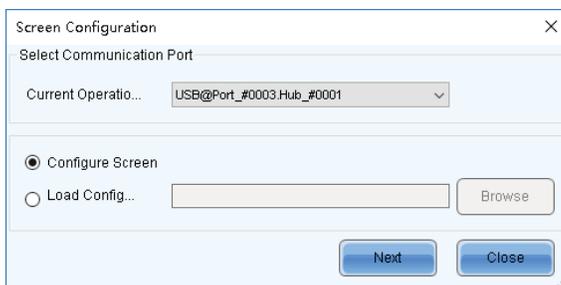
Figure 3-3 NovalCT (logged in)



Step 2 On the menu bar, go to **Settings > Screen Configuration** to open the **Screen Configuration** window.

Step 3 Select a communication port and click **Next**.

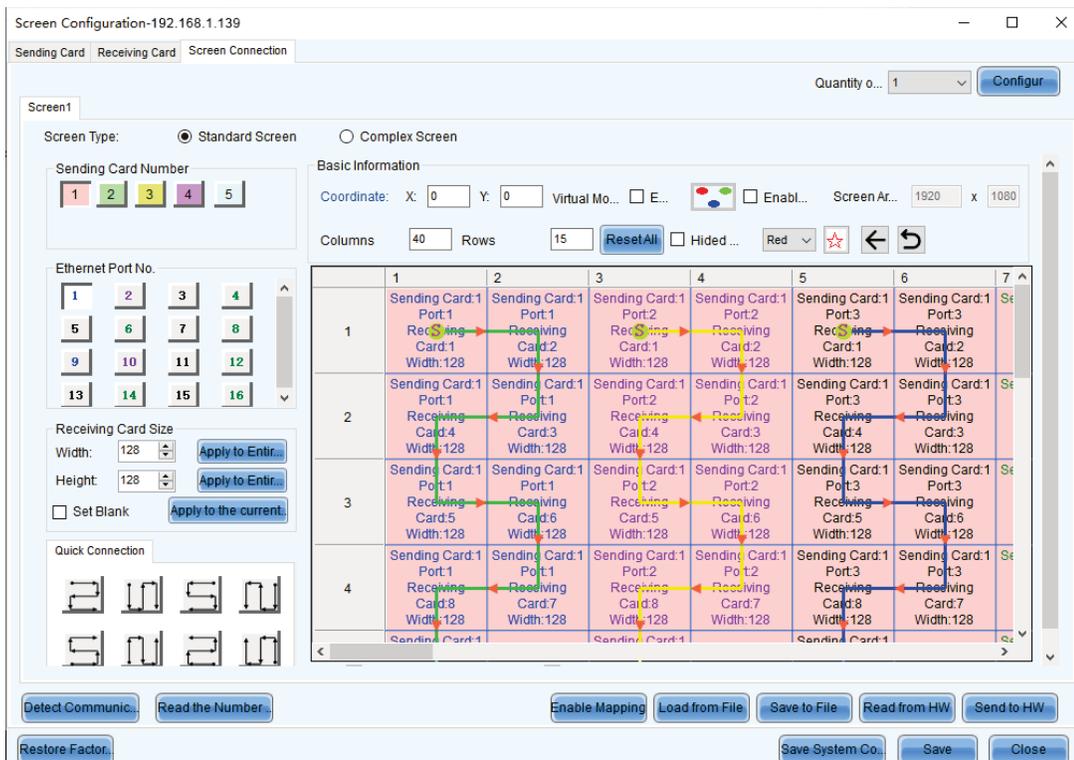
Figure 3-4 Select a communication port



Step 4 Select the **Sending Card** tab to select the desired input sources and click **Send**.

Step 5 Select the **Screen Connection** tab to show the screen configuration settings.

Figure 3-5 Screen configuration



- Step 6 Click the drop-down arrow next to **Quantity o...** on the top right to set the screen quantity and then click **Configure**. You can also increase or decrease screen quantity here.
- Step 7 Select the sending card number which indicates the sequence number of the installed H\_16xRJ45+2xfiber sending cards. The sending cards are numbered from left to right.
- Step 8 Set the column and row quantities of receiving cards, as well as the receiving card size (loading capacity) based on the current screen structure.
- Step 9 Select the Ethernet port number and draw lines between cabinets based on the cabinet connection and the connection mode between the device and screen.
- Step 10 After the settings, click **Send to HW** to complete the screen configuration.

---

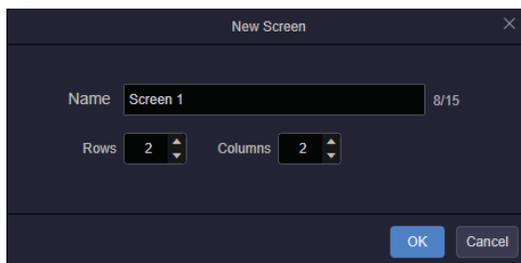
**Notes:**

- If some receiving cards are left blank, please cancel the connection of those cards according to on-site configuration.
  - For configuration for irregular screens, please refer to the NovaLCT User Manual.
  - For configuration for common and irregular screens, you can also use SmartLCT software from purplewave. For detailed information, please refer to the SmartLCT User Manual.
- 

## 3.2 LCD Screen

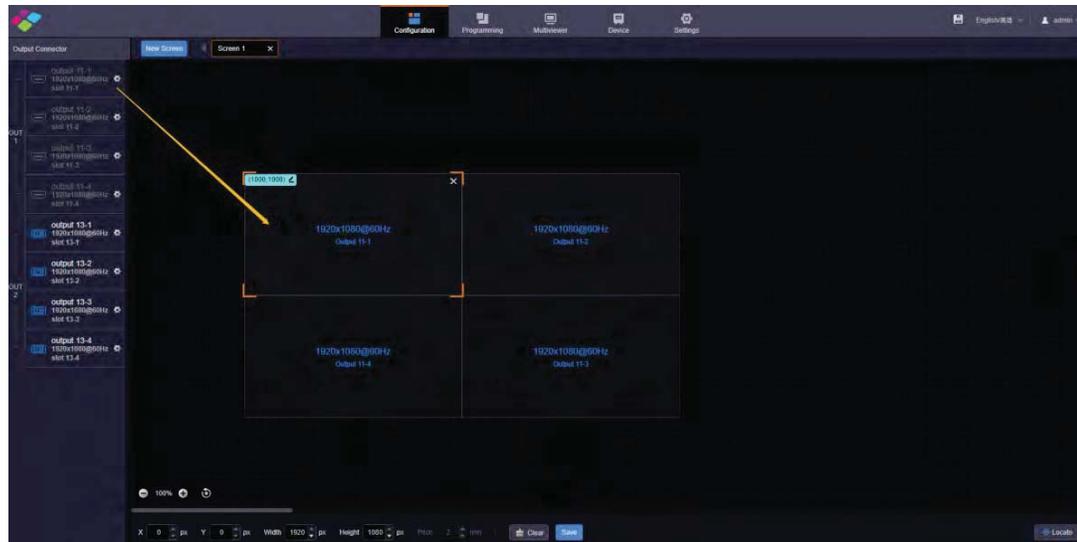
- Step 1 Select **Configuration** to enter the screen configuration page.
- Step 2 Click **New Screen** at the top to open the **New Screen** window.

Figure 3-6 New screen



- Step 3 Enter a screen name. You can name the screen according to its location or input, which is easier for you to identify the screen quickly and precisely when operating the layers, presets and so on.
- Step 4 Set the quantities of the rows and columns based on the screen structure.
- Step 5 Select the desired output card to load the screen, and then click and drag the video output card to the screen.
- Step 6 Click **Save** to save the screen settings.

Figure 3-7 LCD screen configuration



### Notes

- On the screen configurations page, click **Locate** at the bottom right, and the location information appears on the loaded screen, which is easier for you to configure the screen.
- For quickly locating the screen position in the editing area, select the loaded screen and click  at the top left next to the coordinates to enter the values of **X** and **Y**, and then click . The initial position is at the top left of the editing area.

Step 7 Set the LCD bezel compensation.

1. Click  on the right edge to expand the screen properties pane.
2. Check the box in front of **LCD Bezel Compensation** to turn on the bezel compensation function.
3. Enter the values in the **H Spacing** and **V Spacing** text boxes based on the LCD edge width.

### Note

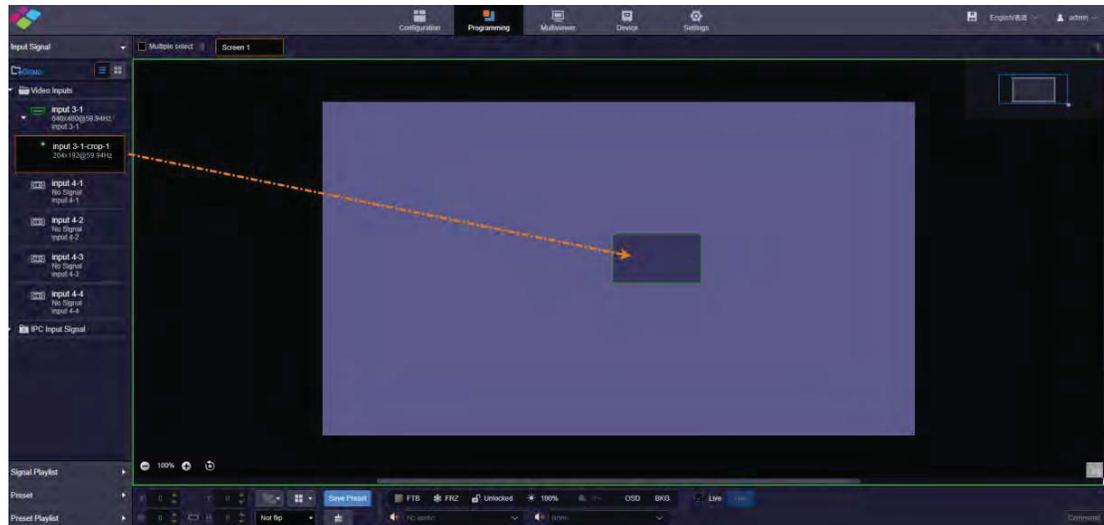
When there is a spacing between two screens, the values of **H Spacing** and **V Spacing** are set to the edge width plus the half spacing. The unit is pixel.

## 4 Basic Operations

### 4.1 Add Layers

- Step 1 Click **Programming** to enter the layer editing page.
- Step 2 On top of the **Programming** page, select the screen that you will operate.
- Step 3 Click an input in the **Input Signal** area on the left and drag it to the editing area to add a layer.

Figure 4-1 Add layers



#### Notes:

- If you have grouped the input sources, you need to expand the group and drag the desired input source to the layer.
- If you use an IPC source to add a layer, please complete the configuration described in [6.4.1.2 IP Input Card](#) and add an IPC source following the steps described in [6.5.2 IPC Management](#).
- If you use the H\_2xfiber input card to add a layer, please complete the configuration described in [6.4.1.3 H\\_2xFiber Input Card](#).
- If you use the H\_1xST 2110 input card to add a layer, please complete the configuration described in [6.4.1.4 H\\_1xST 2110 Input Card](#).
- If you use a signal source playlist to add a layer, please complete the configuration described in [4.2 Set Signal Playlists](#).
- If you use a network mosaic source to add a layer, please complete the configuration described in [4.3 Set Mosaic Network Inputs](#).

## Adjust Layers

Click the layer and you can perform the following operations.

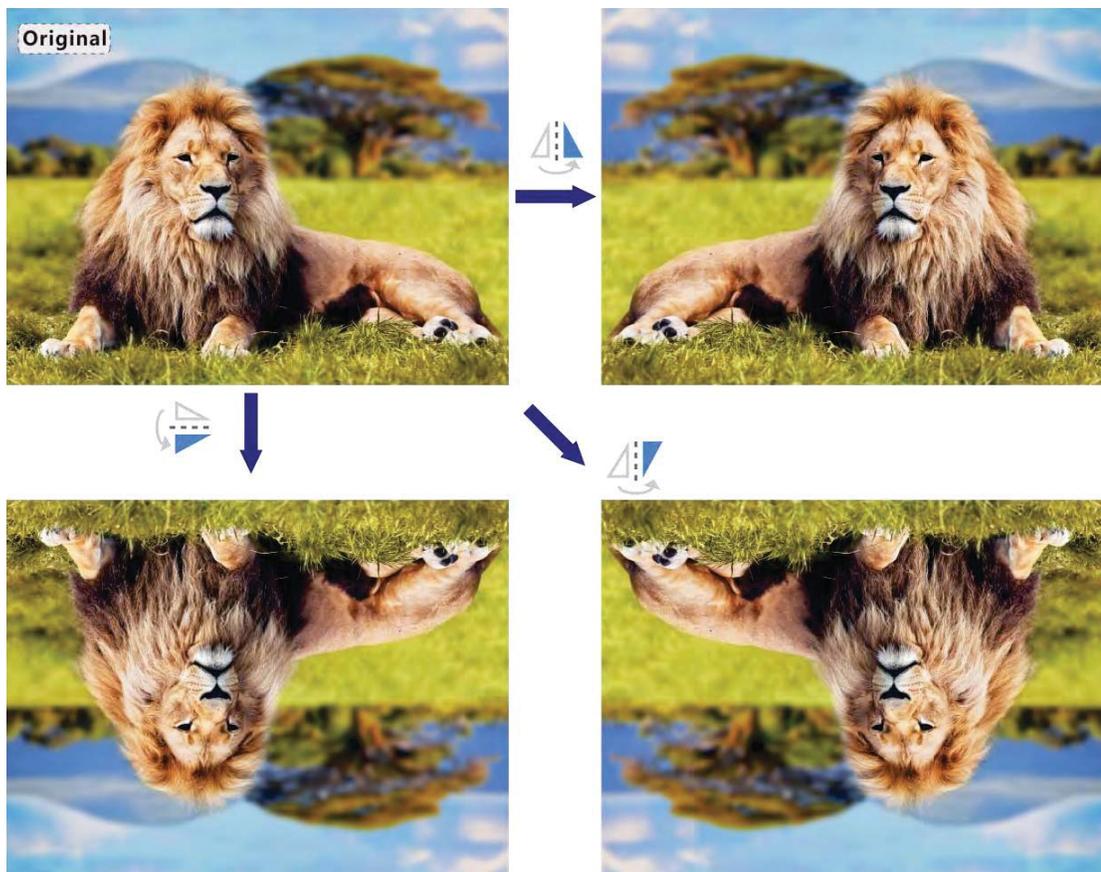
- Adjust the layer size.
  - Quick adjustment: Click the small square on the layer edge, and drag the square when the cursor turns to a double-sided arrow to quickly adjust the layer size.
  - Precise adjustment: Enter specific numbers in the **W** and **H** text boxes below the layer editing area to precisely adjust the layer size.
- Adjust the layer position.
  - Quick adjustment: Click and drag the layer to quickly move the layer.
  - Precise adjustment: Enter specific numbers in the **X** and **Y** text boxes below the layer editing area to precisely position the layer. The adjustment reference is the top left corner of the layer. If the **X** and **Y** values are both 0, the layer's top left corner locates at the top left corner of the screen.
- Capacity: On the device management page, click the desired input card to expand the input card properties pane. In the **Connector Status** area, select the connector capacity from the drop-down list next to **Capacity**.

The layer capacity is matched with the input connector capacity. If the specification of the connected input source is lower than the connector capacity and the current connector is used to add a layer, the layer capacity will follow the connector capacity.

- Lock or unlock the layer by clicking  or  at the top right corner of the layer.
- Freeze or unfreeze the layer image by clicking .

- Display or hide the layer playback on the Web page by clicking  / .
- When the IPC signal is used as the layer input source, click  at the top right corner of the layer to view the detailed decoding parameters and stream parameters.
- When there are multiple overlapping layers, you can adjust the layer priorities.
  - : Bring the selected layer to the front, and the layer image will be displayed completely.
  - : Send the selected layer to the back, and the layer will be partially covered by other overlapping layers.
  - : Bring the selected layer forward.
  - : Send the selected layer backward.
- Set whether to flip the layer image. Three options are provided as follows.
  - Not flip: Do not flip the layer image.
  - : Flip the layer image horizontally.
  - : Flip the layer image vertically.
  - : Flip the layer image horizontally and vertically.

Figure 4-2 Layer flipping



- Layer layout: Click  and select the desired standard layout in the popup menu or customize the layout.  
After the settings are done, the screen editing area will be divided according to the selected layer layout. Click and drag the desired signal source to the corresponding area to add a layer, and then the added

layer will automatically fill the target area. If you select **None**, the added layers will be arranged according to the connector arrangement.

- Click  to quickly clear all the added layers.

## Layer Menu

The layer menu shown at the top right corner varies with the layer input source. When you use a local input source to add a layer, the layer menu is shown as [Figure 4-3](#).

Figure 4-3 Layer menu-1



- Layer 1: The layer name
- : The icon will appear after you configure the reverse control for the input source. Click this icon to enter the desktop of your local computer to reversely control the input source PC.
- : Display or hide the layer image on the Web page.
- : Freeze or unfreeze the layer image.
- : Lock or unlock the layer.
- : Display the layer in full screen or restore the layer to its original size and position.
- : Delete the layer.

When you use an IPC source to add a layer, the layer menu is shown as [Figure 4-4](#).

Figure 4-4 Layer menu-2



Click  to view the details of the IPC source, including the decoding status, streaming media, decoding details and resource details of the IP input card.

Figure 4-5 Decoding status

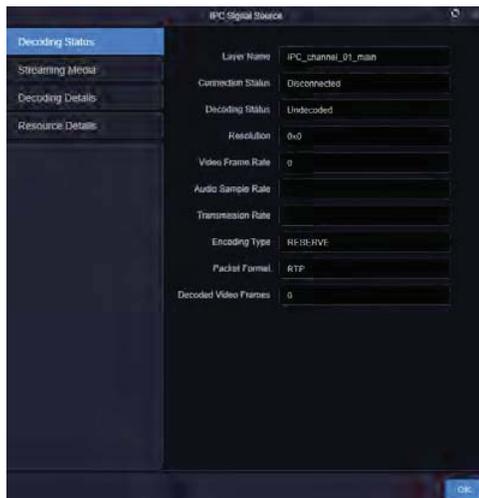


Figure 4-6 Streaming media



Figure 4-7 Decoding details

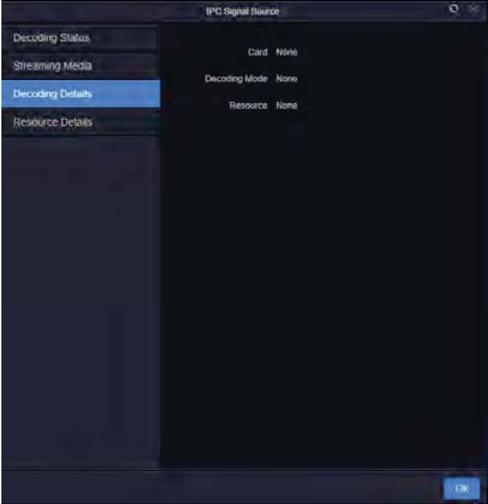
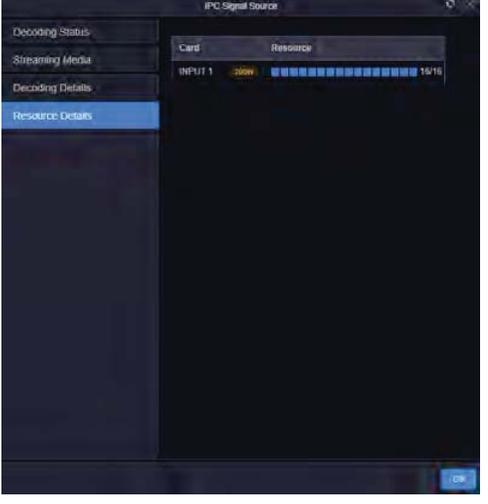


Figure 4-8 Resource details

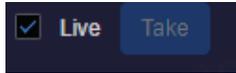


## Take to Screen

There are two taking to screen modes: **Live** and **Pre-Edit**.

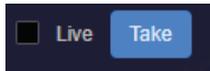
- Live (default): The layer editing process is displayed on the screen in real time.

Figure 4-9 Live mode



- Pre-Edit: Deselect **Live**, and the layer editing process will not be displayed on the screen in real time. Click **Pre-Edit** after the layer editing is completed, and the screen will display the layer.

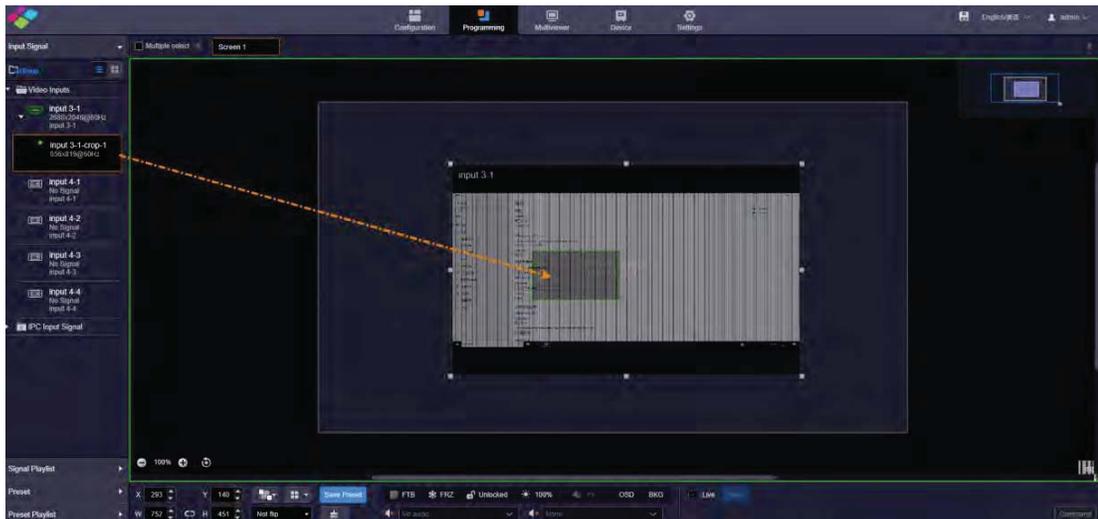
Figure 4-10 Pre-edit mode



## Switch Layer Input Sources

- Click an input in the **Input Signal** area on the left and drag it to an added layer to quickly switch the layer input source. The layer size and position remain the same.
- Select the desired layer and click **⋮** next to the desired input in the **Input Signal** area on the left. Click **Replace Input** in the popup menu to replace the layer source with a new one.

Figure 4-11 Switch layer input sources

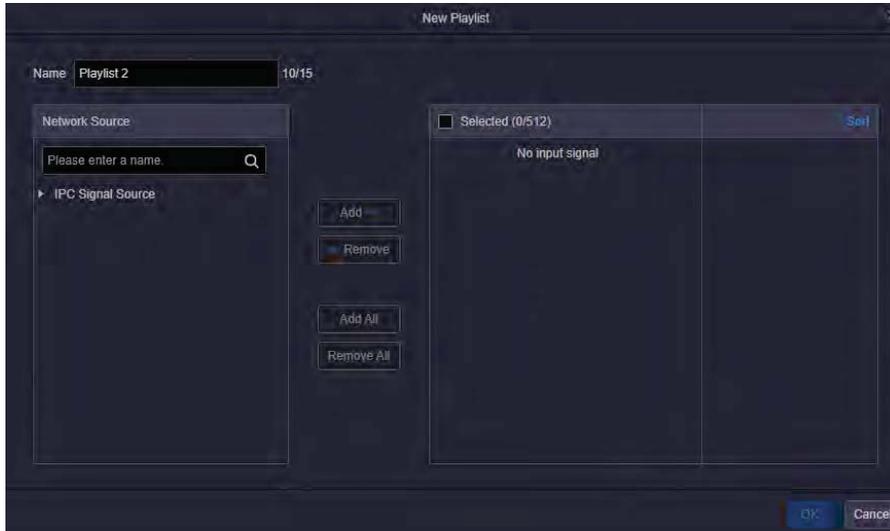


## 4.2 Set Signal Playlists

Step 1 Click **Signal Playlist** on the left to expand the signal playlist.

Step 2 Click **New Playlist** to open the signal playlist adding window.

Figure 4-12 Add signal playlists

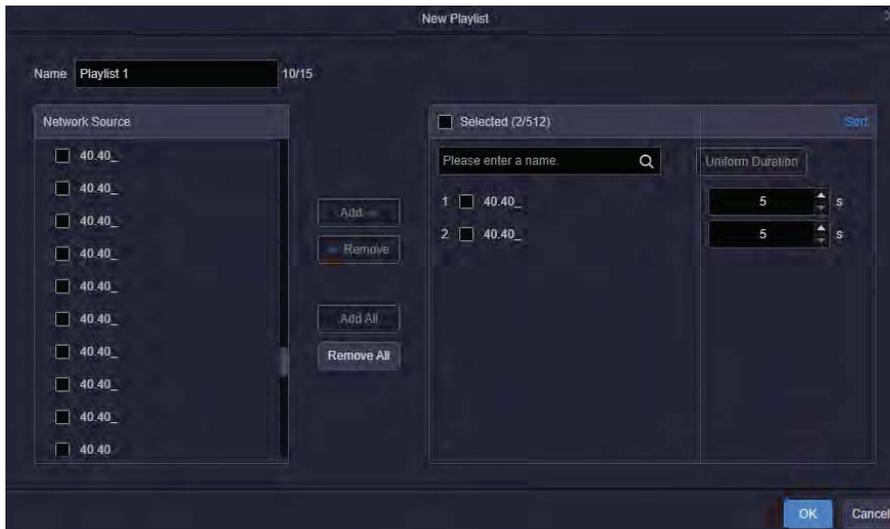


Step 3 Enter a name for the new signal playlist.

Step 4 Check the boxes next to the desired IPC signal sources in the **Network Source** area on the left.

Step 5 Click **Add** to add the selected sources to the **Selected** area.

Figure 4-13 Add inputs



Step 6 Set the playback duration that specifies the time length each signal lasts.

You can change the playback duration as follows.

1. Check the box next to the desired preset in the **Selected** area.
2. Enter the playback duration in the text box on the right.
3. Press **Enter** or click somewhere else on the Web page to complete the settings.

When you want to set the same playback duration for all the selected signals, check the boxes next to the desired signals and then click **Uniform Duration**. In the popup text box, enter the desired playback duration and then press **Enter** to complete the settings.

Step 7 [Optional] Adjust the signal playback sequence.

The sequence that you add the signals is the default signal playback sequence. You can adjust the sequence as follows.

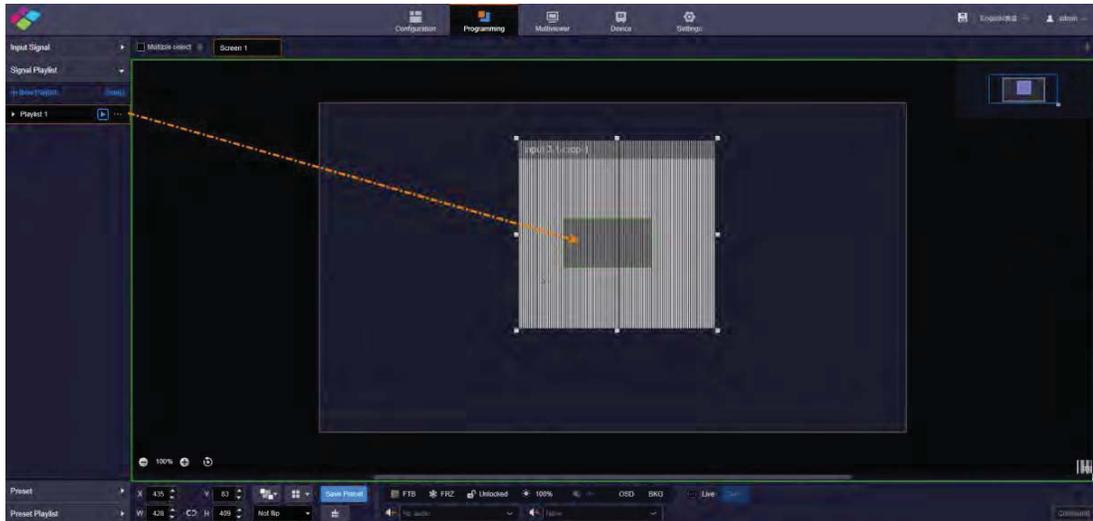
1. In the **Selected** area, click **Sort** at the top right corner.

2. Move up and down the signal to adjust the signal sequence in the signal playback list.
3. Click **Done** at the top right corner to complete the adjustment.

Step 8 Click **OK** to complete the settings.

Step 9 Click and drag the added signal playlist to the screen editing area to add a layer or replace the target layer source.

Figure 4-14 Use a signal playlist as a layer source



After the layer source is replaced with a signal playlist, the first signal in the playlist will be played by default.

Step 10 Click  next to the desired signal playlist to play it.

Click  next to the desired signal playlist to stop the signal playback.

## Other Operations

Click  next to the desired signal playlist and you can perform the following operations.

- Edit Group: Click **Edit Group** to open the signal playlist editing window, where you can edit the selected signal playlist.
- Dissolve Group: Click **Dissolve Group** to delete the selected signal playlist.

## 4.3 Set Mosaic Network Inputs

### 4.3.1 Add Mosaic Network Inputs

Mosaic multiple IPC signal sources, realizing display of custom mosaicked images.

#### Note:

Before setting a mosaic network input, please refer to the details described in [6.4.1.2 IP Input Card](#) to set the decoding mode to **Mosaic**.

Step 1 Click **Programming** to enter the layer editing page.

Step 2 In the **Input Signal** area on the left, click **Mosaic Network Input** to expand the corresponding list.

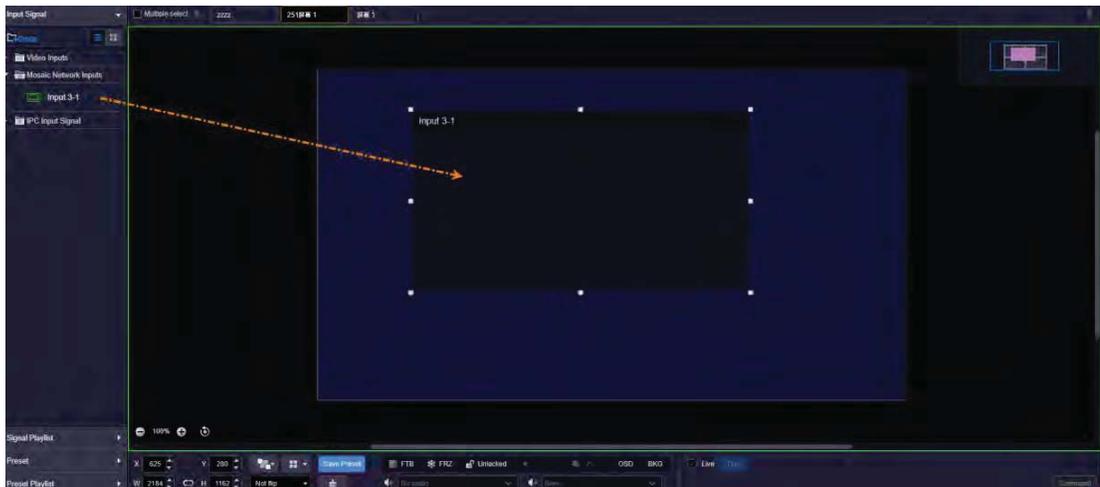
If the decoding mode of the IPC card is set to **Mosaic**, the mosaic source named "Input x-1" or "Input x-3" will be displayed. "x" represents the number of the slot where the IPC card is installed.

Figure 4-15 Mosaic network inputs



Step 3 Click and drag the desired mosaic input to the screen editing area to add a layer.

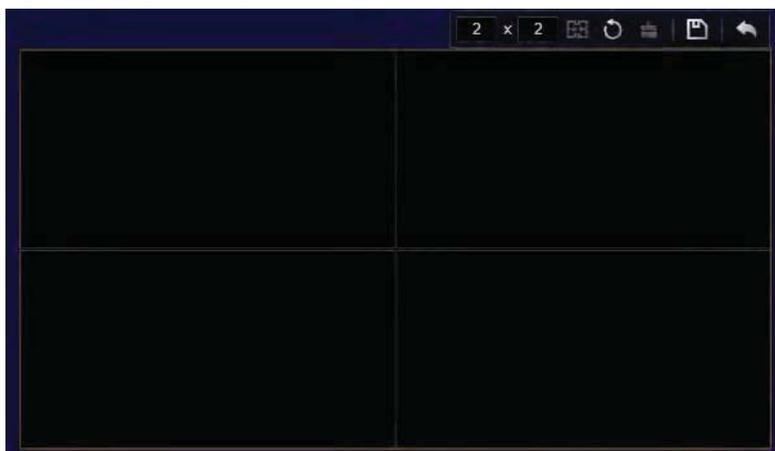
Figure 4-16 Add layers



The default layout of a mosaic input is 1×1.

Step 4 Hover the mouse over the added layer and click  in the layer menu to enter the layout settings page.

Figure 4-17 Layout settings

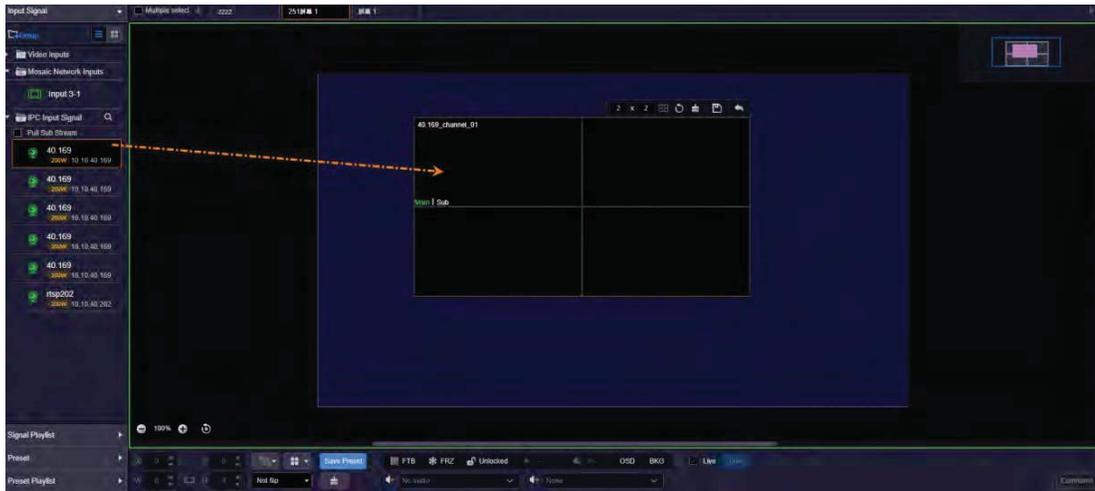


1. Enter the row and column values in the text boxes (Row×Column ≤ 32).
2. Select the contiguous cells and click  at the top right corner to merge them as needed. Select the merged cell and click  again to unmerge it.

Step 5 In the **Input Signal** area on the left, click **IPC Input Signal** to show all the added IPC and NVR sources.

Step 6 Click and drag the desired input to the target layout area.

Figure 4-18 Add IPC inputs



In the **IPC Input Signal** area, check the box next to **Pull Sub Stream** to set the IPC or NVR input as the sub stream. After the input is added, the sub stream will be displayed by default. Click **Main** or **Sub** at the bottom left corner of the added input to switch to the main stream or sub stream.

Step 7 After the input is added successfully, click  at the top right corner and enter a name for the added template in the popup window.

Step 8 Click **New** to save the template.

Step 9 Click  to return to the layer editing page.

-  : Reset the layout to 1×1.
-  : Delete all inputs in the current mosaic layout.

### 4.3.2 Switch Mosaic Templates

Step 1 In the **Input Signal** area on the left, click **Mosaic Network Input** to expand the corresponding list.

Step 2 Click  next to the desired mosaic input and select the desired template in the popup menu.

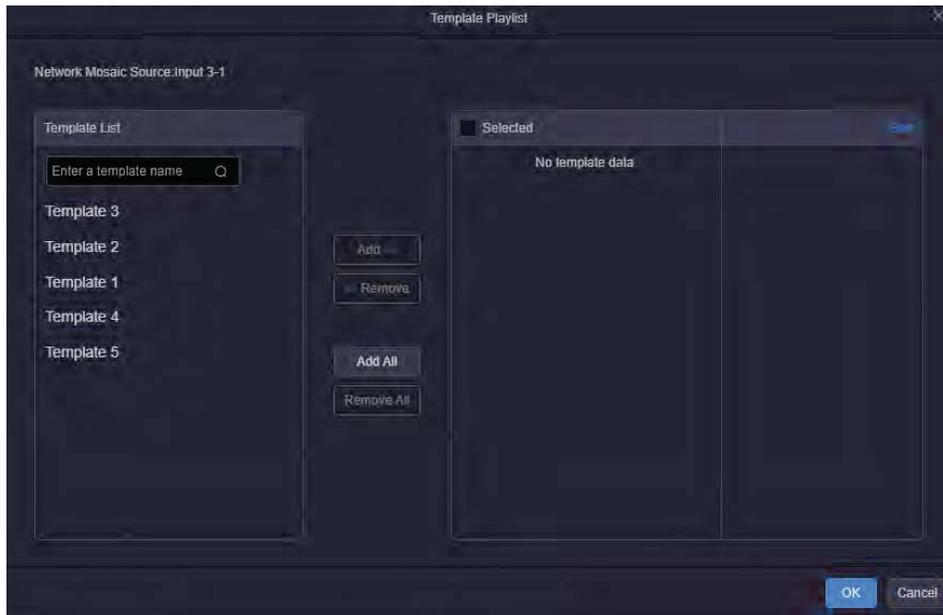
- Click  next to the desired template to rename it.
- Click  next to the desired template to delete it.
- Click  and move up or down the desired template to adjust the template display sequence.

### 4.3.3 Set Mosaic Template Playlists

Step 1 In the **Input Signal** area on the left, click **Mosaic Network Input** to expand the corresponding list.

Step 2 Click **⋮** next to the desired mosaic input and select **Template Playlist** in the popup menu.

Figure 4-19 Template playlist management



Step 3 Check the boxes next to the desired templates in the **Template List** area on the left.

Step 4 Click **Add** to add the selected templates to the **Selected** area.

Double click the desired template to quickly add it to the **Selected** area.

Step 5 Set the playback duration that specifies the time length each template lasts.

You can change the playback duration as follows.

1. Check the box next to the desired template in the **Selected** area.
2. Enter the playback duration in the text box on the right.
3. Press **Enter** or click somewhere else on the Web page to complete the settings.

When you want to set the same playback duration for all the selected templates, check the boxes next to the desired templates and then click **Uniform Duration**. In the popup text box, enter the desired playback duration and then press **Enter** to complete the settings.

Step 6 [Optional] Adjust the template playback sequence.

The sequence that you add the signals is the default template playback sequence. You can adjust the sequence as follows.

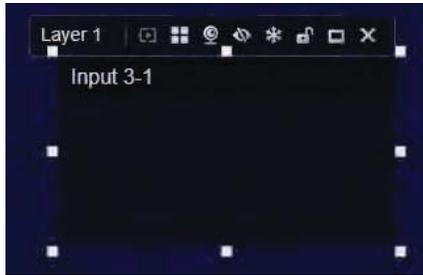
1. In the **Selected** area, click **Sort** at the top right corner.
2. Move up and down the template to adjust the signal sequence in the template playback list.
3. Click **Done** at the top right corner to complete the adjustment.

Step 7 Click **OK** to complete the settings.

Step 8 Click and drag the added mosaic network input to add a layer.

The layer menu will appear at the top right.

Figure 4-20 Mosaic network input layers



Step 9 Click  in the layer menu to play the template playlist.

## 4.4 Add BKG

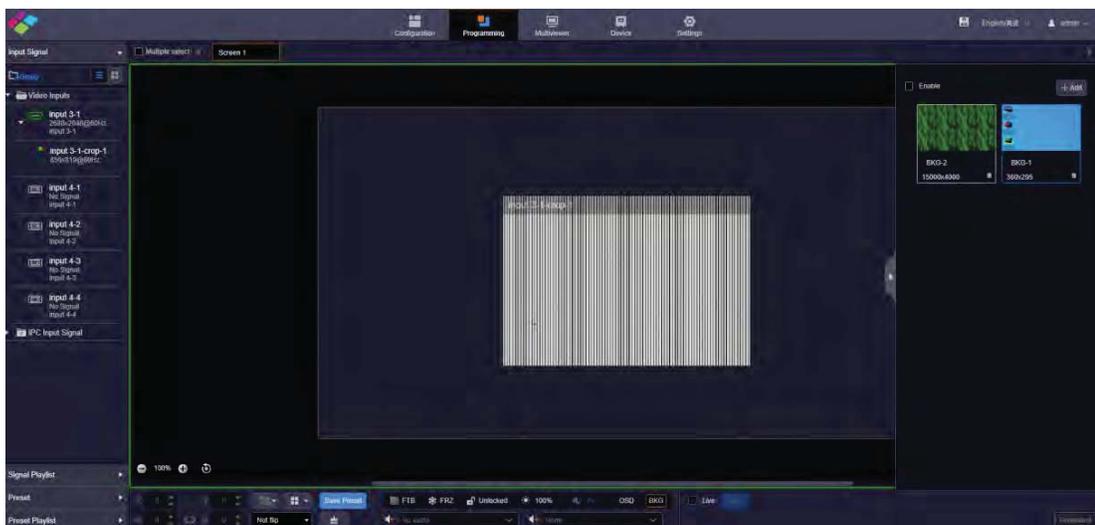
Make sure you have imported the BKG files before you add a BKG. The added BKG fills the whole screen automatically and locates at the bottom. The size and priority of the BKG cannot be adjusted.

BKG does not occupy layer resources. The maximum size of a BKG reaches 15K in width and 8K in height.

### Import BKG

Step 1 On the **Programming** page, click **BKG** below the layer editing area to expand the BKG settings pane.

Figure 4-21 Import BKG



Step 2 Click **Add** to open the window where you can select and add a BKG file.

Step 3 Select the desired file and click **Open** to add it to the BKG list.

### Add BKG

Step 1 On the BKG settings pane, select the desired BKG image.

Step 2 Check the box next to **Enable** to turn on the BKG function.

The system will use the selected image as background automatically.

---

#### Note:

Click another image in the BKG list to replace the current BKG.

---

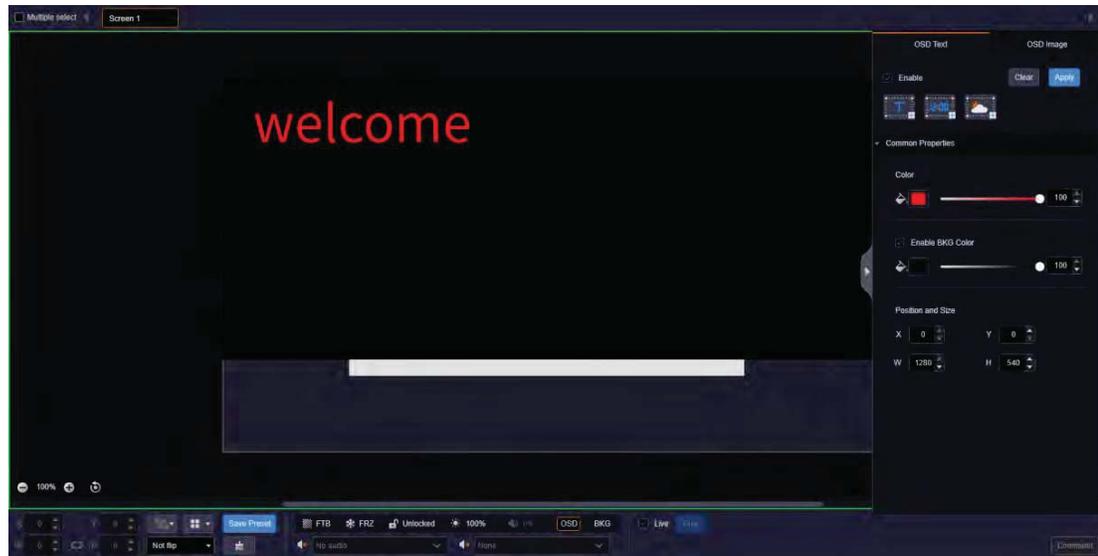
## 4.5 Add OSD

The PWD Series supports various OSD options, including static text OSD, dynamic text OSD, weather OSD, clock OSD and image OSD.

OSD is displayed at the top level and its priority cannot be adjusted.

- Step 1 On the **Programming** page, click **OSD** below the screen editing area to expand the OSD settings pane.
- Step 2 Click the **OSD Text** tab to show the OSD text settings pane.
- Step 3 Check the box next to **Enable** to turn on the OSD text settings.

Figure 4-22 OSD settings



### 4.5.1 Add Static Text OSD

- Step 1 Click  and the system will automatically create an OSD layer.
- Step 2 Click the OSD layer to expand the static text OSD settings pane.

Figure 4-23 Static text OSD settings



Step 3 Enter the text OSD content.

The static text OSD supports multi-line display. You can press **Enter** on the keyboard to have line breaks.

Step 4 Set the text properties in the **Text** area.

- **F** : Select the desired text font from the drop-down list.
- **100** : Set the font size. The value ranges from 8 to 512 px and it defaults to 100 px.
- **B** : Make the text bold or not.
- **I** : Italicize the text or not.
- **U** : Underline the text or not.
- **VA** : Set the spacing between characters. The value ranges from 0 to 1000 px and it defaults to 0 px.
- **≡** : Set the spacing between rows. This parameter is available when there are multiple rows. The value ranges from 0 to 1000 px and it defaults to 0 px.
- **≡** : Align the text content with the left margin of the OSD area.
- **≡** : Center the text content in the OSD area.
- **≡** : Align the text content with the right margin of the OSD area.
- **≡** : Align the text to the top of the display area.
- **≡** : Center the text vertically to the display area.
- **≡** : Align the text to the bottom of the display area.

- : Horizontally display the text.
- : Vertically display the text.

Step 5 Set the position and size of the OSD area.

- X: Set the horizontal distance from the top left corner of the OSD area to that of the OSD layer.
- Y: Set the vertical distance from the top left corner of the OSD area to that of the OSD layer.
- W: Set the OSD area width.
- H: Set the OSD area height.

Step 6 Set the text scrolling speed and direction.

A static text OSD is added by default. Check the box next to **Scrolling** to display the scrolling text.

1. Check the box next to **Scrolling** to enable the scrolling settings.
2. Set the scrolling speed. The value ranges from 0 (static) to 10 (fastest).
3. Set the scrolling direction.

- : The text scrolls from right to left in the OSD area.
- : The text scrolls from left to right in the OSD area.

Step 7 Set the OSD common properties.

- Color: Click the color block icon to open a window where you can select the desired color or customize your own color. Drag the slider or enter a value in the text box to adjust the opacity. The opacity ranges from 0% (totally transparent) to 100% (nontransparent).
- Set the OSD background color.
  - a. Check the box next to **Enable BKG Color** to turn on the background for OSD text.
  - b. Click the color block icon to open a window where you can select the desired color or customize your own color
  - c. Set the opacity for the OSD background.
- Position and Size: Set the position and size of the OSD layer, that is, the position and size of the OSD layer displayed on the screen.
  - X: Set the horizontal distance from the top left corner of the OSD layer to that of the screen.
  - Y: Set the vertical distance from the top left corner of the OSD layer to that of the screen.
  - W: Set the OSD layer width.
  - H: Set the OSD layer height.

Step 8 Click **Apply** at the top right corner to complete the settings and display the set OSD on the screen.

## 4.5.2 Set Time OSD

Before setting a time OSD, please ensure that the device is connected to the network to obtain the precise time information.

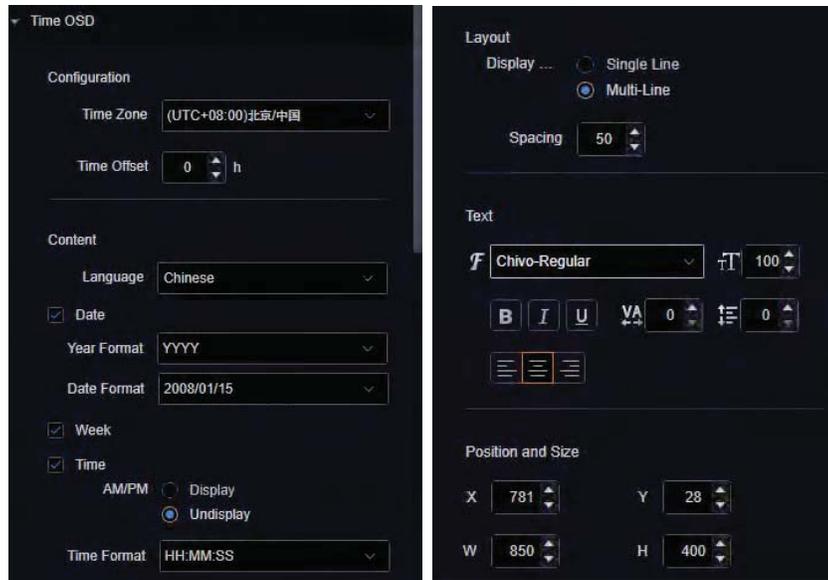
### Prerequisites

- You have set the DNS server by referring the details described in [6.5.9 Communication Settings](#).
- The device is connected to the network.

### Operating Procedure

- Step 1 Click  and the system will automatically create a time OSD layer.
- Step 2 Click the OSD layer to expand the time OSD settings pane.

Figure 4-24 Time OSD settings



Step 3 In the **Configuration** area, set the time zone for the screen or time offset to ensure a precise time.

- Time Zone: Select the time zone from the drop-down list.
- Time Offset: Set the time offset value. The value ranges from -2 to +2 (unit: hour).

Step 4 Set the content to be displayed in the time OSD.

- Language: Set the text language. The supported options include English and Chinese.
- Date: Set the date format.
  - Year Format: Set the year format. The supported options include YYYY (four-digit year) and YY (two-digit year).
  - Date Format: Set the date format.
- Week: Check or uncheck the box next to **Week** to display or hide the week.
- Time: Set the specified time and time format.
  - AM/PM: Set whether to display **AM** or **PM**.
    - Display: Display the time with **AM** or **PM** in 12-hour format.
    - Undisplay: Display the time without **AM** or **PM** in 24-hour format.
  - Time Format: Set the time format.

Step 5 Set the time OSD layout.

- Display Mode: Set the display mode of the time OSD.
  - Single-Line: Display the date, day of the week and time in single-line.
  - Multi-Line: Display each item in single-line.
- Spacing: Set the spacing between the date, day of the week and time in **Single Line** display mode or set the spacing between rows in **Multi-Line** display mode.

Step 6 Set the text properties in the **Text** area.

- **F**: Select the desired text font from the drop-down list.
- **T**: Set the font size. The value ranges from 8 to 512 px and it defaults to 100 px.
- **B**: Make the text bold or not.

- : Italicize the text or not.
- : Underline the text or not.
- : Set the spacing between characters. The value ranges from 0 to 1000 px and it defaults to 0 px.
- : Set the spacing between rows. This parameter is available when there are multiple rows. The value ranges from 0 to 1000 px and it defaults to 0 px.
- : Align the text content with the left margin of the OSD area.
- : Center the text content in the OSD area.
- : Align the text content with the right margin of the OSD area.
- Position and Size: Set the position and size of the OSD area.
  - X: Set the horizontal distance from the top left corner of the OSD area to that of the OSD layer.
  - Y: Set the vertical distance from the top left corner of the OSD area to that of the OSD layer.
  - W: Set the OSD area width.
  - H: Set the OSD area height.

Step 7 Set the OSD common properties.

- Color: Click the color block icon to open a window where you can select the desired color or customize your own color. Drag the slider or enter a value in the text box to adjust the opacity. The opacity ranges from 0% (totally transparent) to 100% (nontransparent).
- Set the OSD background color.
  - a. Check the box next to **Enable BKG Color** to turn on the background for OSD text.
  - b. Click the color block icon to open a window where you can select the desired color or customize your own color
  - c. Set the opacity for the OSD background.
- Position and Size: Set the position and size of the OSD layer, that is, the position and size of the OSD layer displayed on the screen.
  - X: Set the horizontal distance from the top left corner of the OSD layer to that of the screen.
  - Y: Set the vertical distance from the top left corner of the OSD layer to that of the screen.
  - W: Set the OSD layer width.
  - H: Set the OSD layer height.

Step 8 Click **Apply** at the top right corner to complete the settings and display the set OSD on the screen.

### 4.5.3 Set Weather OSD

Before setting a weather OSD, please ensure that the device is connected to the network to obtain the precise weather information.

#### Prerequisites

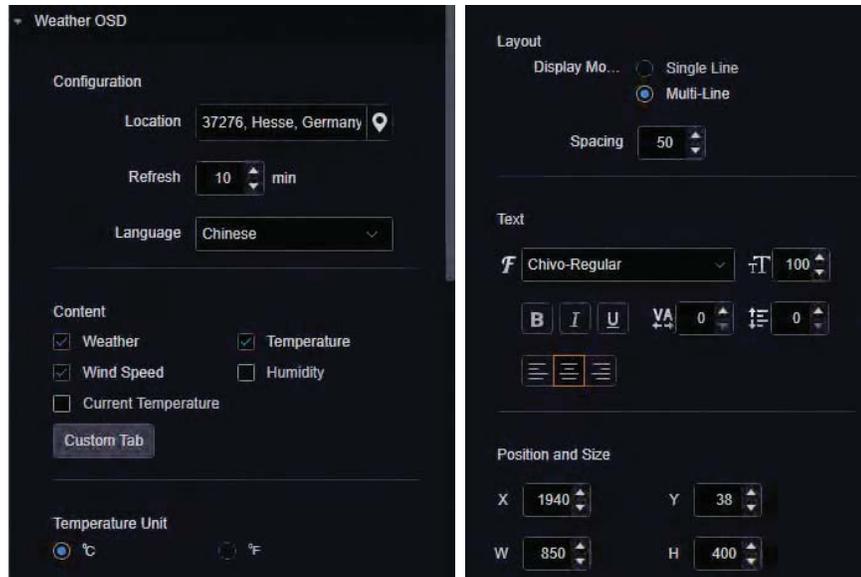
- You have set the DNS server by referring the details described in [6.5.9 Communication Settings](#).
- The device is connected to the network.

#### Operating Procedure

Step 1 Click  and the system will automatically create a weather OSD layer.

Step 2 Click the OSD layer to expand the weather OSD settings pane.

Figure 4-25 Weather OSD settings



Step 3 In the **Configuration** area, set the location for the current screen and refresh interval for the weather information.

- Location: Click  to open the map window, where you can select the desired location or enter the address. Click **OK** to complete the settings.
- Refresh: Set the automatic refresh interval for the weather information. The value ranges from 1 to 1440 minutes and it defaults to 10 minutes.
- Language: Set the text language. The supported options include English and Chinese.

Step 4 Set the content to be displayed in the weather OSD.

Check the box next to the desired content to display it in the weather OSD. You can also click **Custom Tab** to edit the default display content.

Step 5 Set the temperature unit. The supported options include **C** and **F**.

Step 6 Set the weather OSD layout.

- Display Mode: Set the display mode of the weather OSD.
  - Single Line: Display all items in single line.
  - Multi-Line: Display each item in single-line.
- Spacing: Set the spacing between each selected content in **Single Line** display mode or set the spacing between rows in **Multi-Line** display mode.

Step 7 Set the text properties in the **Text** area.

-  : Select the desired text font from the drop-down list.
-  : Set the font size. The value ranges from 8 to 512 px and it defaults to 100 px.
-  : Make the text bold or not.
-  : Italicize the text or not.
-  : Underline the text or not.
-  : Set the spacing between characters. The value ranges from 0 to 1000 px and it defaults to 0 px.

-  : Set the spacing between rows. This parameter is available when there are multiple rows. The value ranges from 0 to 1000 px and it defaults to 0 px.
-  : Align the text content with the left margin of the OSD area.
-  : Center the text content in the OSD area.
-  : Align the text content with the right margin of the OSD area.
- Position and Size: Set the position and size of the OSD area.
  - X: Set the horizontal distance from the top left corner of the OSD area to that of the OSD layer.
  - Y: Set the vertical distance from the top left corner of the OSD area to that of the OSD layer.
  - W: Set the OSD area width.
  - H: Set the OSD area height.

Step 8 Set the OSD common properties.

- Color: Click the color block icon to open a window where you can select the desired color or customize your own color. Drag the slider or enter a value in the text box to adjust the opacity. The opacity ranges from 0% (totally transparent) to 100% (nontransparent).
- Set the OSD background color.
  - a. Check the box next to **Enable BKG Color** to turn on the background for OSD text.
  - b. Click the color block icon to open a window where you can select the desired color or customize your own color
  - c. Set the opacity for the OSD background.
- Position and Size: Set the position and size of the OSD layer, that is, the position and size of the OSD layer displayed on the screen.
  - X: Set the horizontal distance from the top left corner of the OSD layer to that of the screen.
  - Y: Set the vertical distance from the top left corner of the OSD layer to that of the screen.
  - W: Set the OSD layer width.
  - H: Set the OSD layer height.

Step 9 Click **Apply** at the top right corner to complete the settings and display the set OSD on the screen.

#### 4.5.4 Set Image OSD

Step 1 Click the **OSD Image** tab to show the OSD image settings pane.

Step 2 Check the box next to **Enable** to turn on the OSD image settings.

Step 3 Click **Upload** to open a window where you can select the desired OSD images.

Step 4 Click **Open** to upload the selected images.

Step 5 Set the OSD image properties.

- X: Set the horizontal initial position of the OSD image.
- Y: Set the vertical initial position of the OSD image.
- Width: Set the width of the OSD image.
- Height: Set the height of the OSD image.
- Opacity: Set the opacity of the OSD image.

Step 6 Click **Apply** at the top right corner of the OSD settings pane to complete the OSD image settings and display the OSD image on the screen.

---

#### Notes:

- After an OSD image is applied, you can click **Upload** and select a new image to replace the current one.
- Click **Crop** to crop the added OSD image if necessary.

- On the Web page, you can click and drag the OSD to quickly adjust its position.

### 4.5.5 Delete OSD

Step 1 Select the **OSD Text** or **OSD Image** tab to expand the OSD text or image settings pane.

Step 2 Uncheck the box next to **Enable**.

In the layer editing area, click  at the top right corner of the desired text OSD to delete it.

Step 3 Click **Apply** to delete OSD.

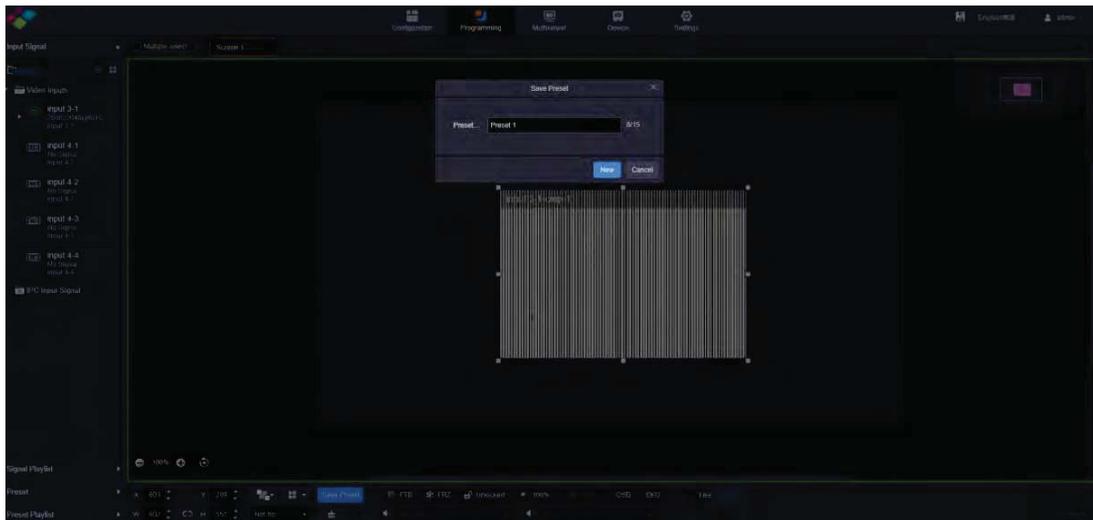
## 4.6 Set Presets

After the layer settings, you can save the current layer layout and settings as a preset for future use.

### Save Presets

Step 1 On the **Programming** page, click **Save Preset** below the layer editing area to open the preset saving window.

Figure 4-26 Save presets



Step 2 Enter a preset name that is easier for you to remember and identify the preset quickly.

Step 3 Click **New** to save the preset.

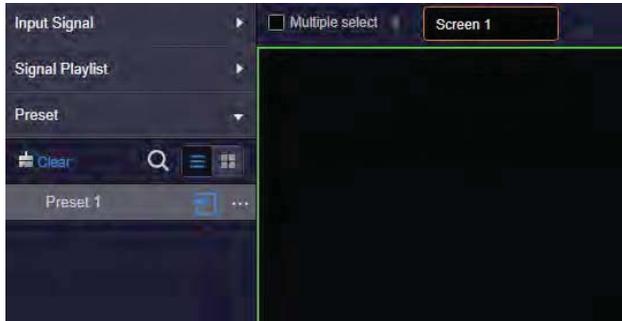
### Load Presets

The preset is screen-specific, so select a configured screen before you load a preset.

Step 1 On top of the **Programming** page, select the screen that you will operate.

Step 2 Click **Preset** on the left to expand the preset list.

Figure 4-27 Load presets



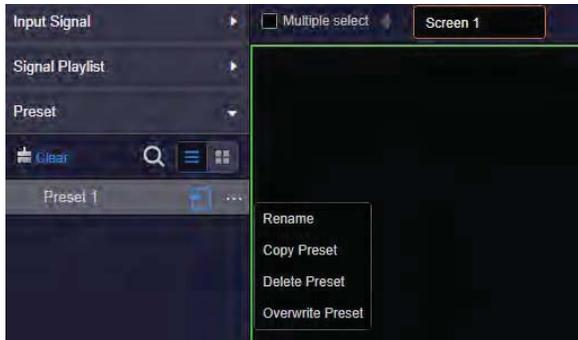
- Click  to search the presets by name.
- Click  to switch to the list view.
- Click  to switch to the thumbnail view that allows you to view the layer layout of the preset.
- Click  to clear all the presets.

Step 3 Click a preset and the  icon appears next to the preset name. Click this icon to load the current preset to the screen.

## Other Preset Operations

Click a preset and ... appears next to the preset name. Click this icon to open the preset operations menu.

Figure 4-28 Preset operations menu



- Rename: Rename the saved preset.
- Copy Preset: Copy the layer layout and content in the current preset to a new preset.
- Delete Preset: Delete the selected preset.
- Overwrite Preset: Overwrite the selected preset with a new preset.

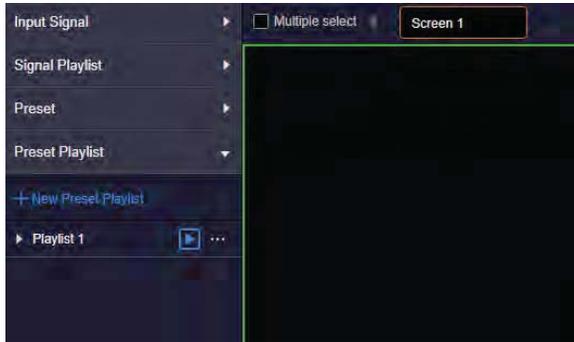
## 4.7 Set Preset Playlists

The preset playback function allows you to play the presets automatically based on the set playback sequence and single preset playback duration. After the settings, the system will play the presets automatically with no manual operations required.

### Add Preset Playbacks

Step 1 On the **Programming** page, click **Preset Playlist** on the left to enter the preset playlist settings page.

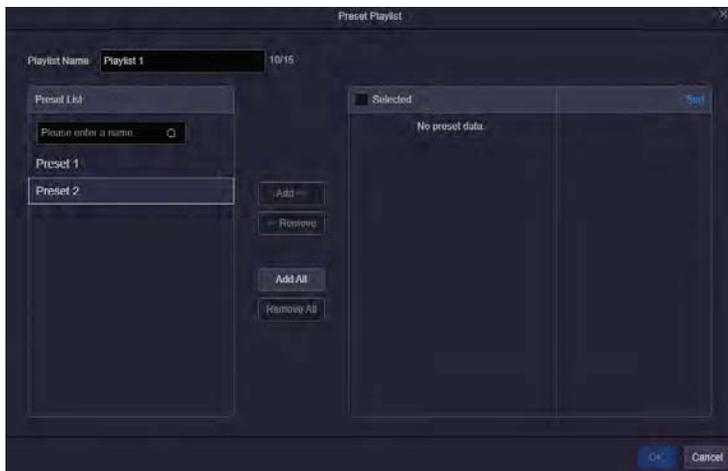
Figure 4-29 Add preset playbacks - 1



Step 2 On top of the page, select the screen that you will operate.

Step 3 Click **New Preset Playlist** to open the preset playlist adding window.

Figure 4-30 Add preset playlists



Step 4 Enter a name for the new playlist.

Step 5 Select the desired presets in the **Preset List** area on the left, and then click **Add** to add the selected presets to the **Selected** area.

- Remove: Select the desired presets in the **Selected** area and click **Remove** to remove them from the list and make them go back to the left area.
- Add All: Add all the presets in **Preset List** to **Selected**.
- Remove All: Remove all the presets in **Selected**.

Step 6 Set the playback duration that specifies the time length each preset lasts.

The default playback duration is 5s. You can change the playback duration as follows.

1. Check the box next to the desired preset in the **Selected** area.
2. Enter the playback duration in the text box on the right.
3. Press **Enter** or click somewhere else on the Web page to complete the settings.

When you want to set the same playback duration for all the selected presets, check the boxes next to the desired presets and then click **Uniform Duration**. In the popup text box, enter the desired playback duration and then press **Enter** to complete the settings.

Step 7 [Optional] Adjust the preset playback sequence.

The sequence that you add the presets is the default preset playback sequence. You can adjust the sequence as follows.

1. In the **Selected** area, click **Sort** at the top right corner.

2. Move up and down the preset to adjust the preset sequence in the preset playback list.
3. Click **Done** at the top right corner to complete the adjustment.

Step 8 Click **OK** to complete the settings.

## Play Presets

Step 1 On top of the **Programming** page, select the screen that you will operate.

Step 2 Click **Preset Playback** on the left to expand the preset playback list.

Step 3 Click the  icon to play the selected preset playlist. The screen is locked during the playback.

Figure 4-31 Play presets

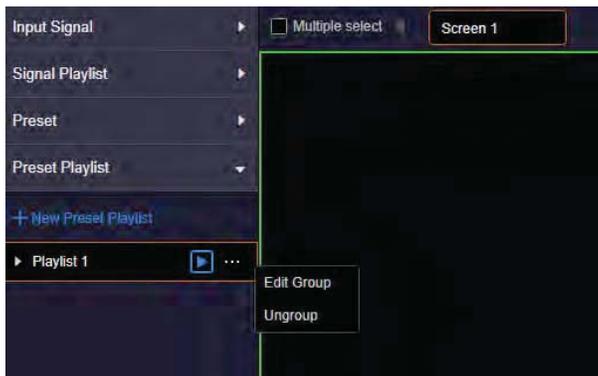


Click the  icon to pause the playback.

## Other Operations

Click a playlist and ... appears. Click this icon to open the playlist operation menu.

Figure 4-32 Playback operation menu



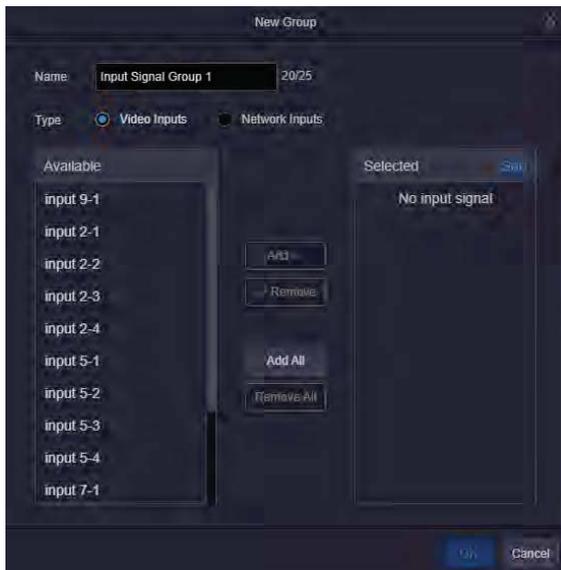
- Edit Group: Rearrange the preset list and readjust the playback duration.
- Ungroup: Ungroup the current playlist.

## 4.8 Group Input Sources

The PWD Series supports input source group management.

- Step 1 On the **Programming** page, click **Input Signal** on the left to view the input source list. The green connectors are accessed with signal sources.
- Step 2 Click **Group** to open the grouping window.

Figure 4-33 Group input sources



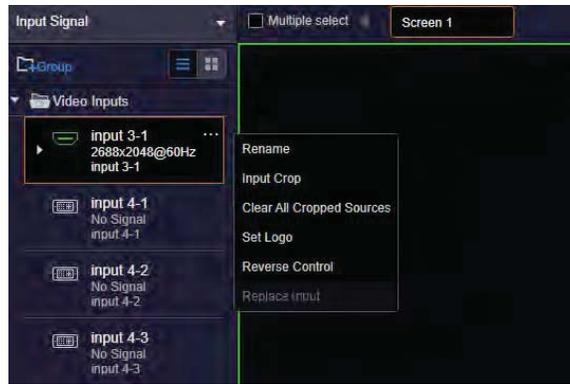
- Step 3 Enter a name for the group.
- Step 4 Select the desired input source type.
- Video Inputs: Group the local input sources.
  - Network Inputs: Group the input sources connected to the IP input card.
- Step 5 Select the desired inputs in the **Available** area on the left.
- Step 6 Click **Add** to add the selected inputs to the **Selected** area.
- Remove: Select the desired inputs in the **Selected** area and click **Remove** to remove them from the list and make them go back to the left area.
  - Add All: Add all the inputs in **Available** to **Selected**.
  - Remove All: Remove all the inputs in the **Selected** area.
- Step 7 Click **OK** to complete the grouping.

## 4.9 Crop Input Sources

The PWD Series supports the input source cropping function. The cropped input source can be used as a new input source.

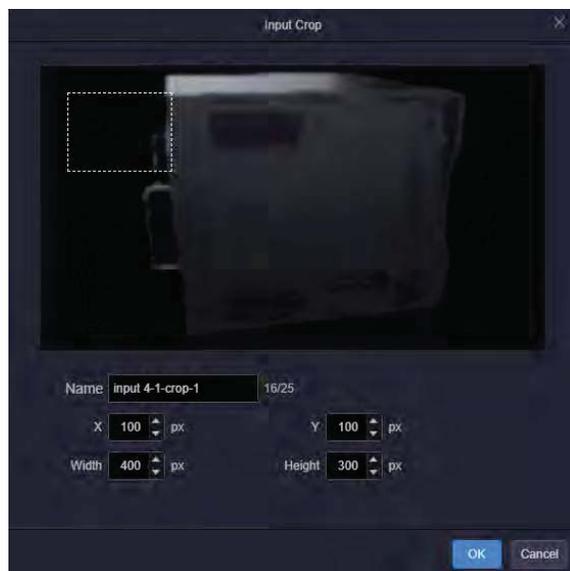
- Step 1 On the **Programming** page, click **Input Signal** on the left to view the input source list. The green connectors are accessed with signal sources.
- Step 2 Select an input source and ... appears next to the input source name.
- Step 3 Click ... to open the input source operations menu.

Figure 4-34 Input source operations menu



Step 4 Select **Input Crop** to open the input source cropping window.

Figure 4-35 Crop input source



Step 5 Name the cropped input source image.

Step 6 Enter the values in the **X** and **Y** text boxes to set the horizontal and vertical start positions respectively for the cropping. The cropping reference is the top left corner of the input source image.

Step 7 Enter the values in the **Width** and **Height** text boxes to set the width and height of the left area after cropping.

---

**Note:**

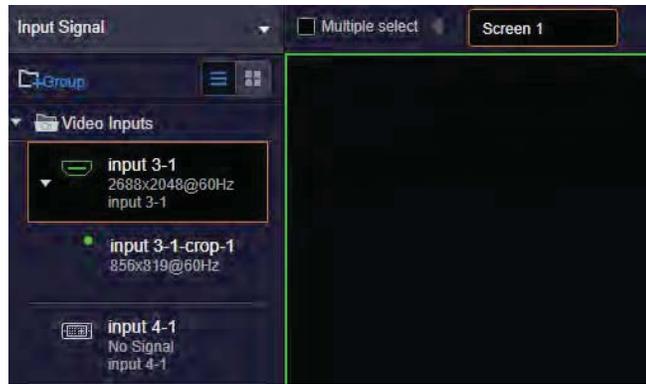
After the width and height values are set, click and drag the highlighted frame on the input source area to quickly adjust the start position for the cropping.

---

Step 8 Click **OK** to complete the cropping.

After the cropping, the new input source appears below the original input source in the **Input Signal** area. For the new input source, the operations such as renaming and cropping are also provided.

Figure 4-36 Cropped input source



**Note:**

In the input source operations menu, click **Clear All Cropped Sources** to delete all the cropped sources.

## 4.10 Set 3D Effect

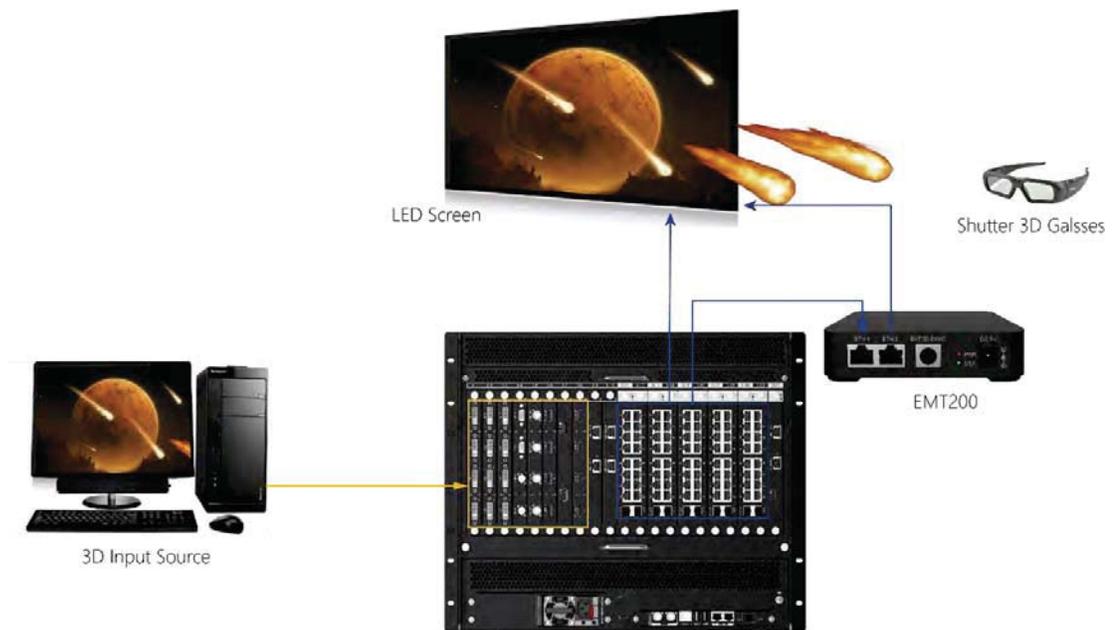
The PWD Series can work with the EMT200 3D emitter from purplewave and 3D glasses to provide you with 3D visual experience.

You can set the 3D parameters in NovalCT or on the Web.

**Notes:**

- Turning on 3D mode will halve the device output capacity.
- The 3D and low latency functions cannot be turned on at the same time.
- For pixel-to-pixel display in 3D mode, if the 3D source is in side-by-side format, the layer width must be set to half of the input source width; if the 3D source is in top-and-bottom format, the layer height must be set to half of the input source height.

Figure 4-37 Hardware connections

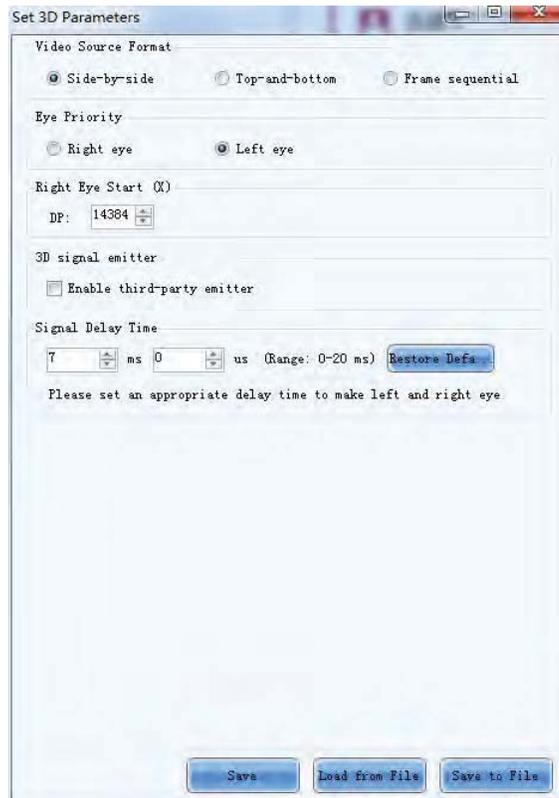


The EMT200 is connected in between the LED 4K sending card and the receiving card via Ethernet cables, or connected to any of the receiving cards.

Each screen supports only one EMT200.

- Step 1 Log in to NovaLCT.
- Step 2 Go to **Screen Configuration > Sending Card** to open the sending card window.
- Step 3 Check the box in front of **Enable** to turn on the 3D function.
- Step 4 Click **Set 3D Parameters** to open the 3D parameter settings window.

Figure 4-38 Set 3D parameters



- Step 5 Select the video source format. The options are **Side-by-Side**, **Top-and-Bottom** and **Frame Sequential**.
- Step 6 Set the eye priority according to the 3D glasses mode. The options are **Left eye** and **Right eye**.
- Step 7 Set the right eye start position.

---

**Notes:**

- For side-by-side 3D sources, **Right Eye Start** must be set to half of the input source width.
  - For top-and-bottom 3D sources, **Right Eye Start** must be set to half of the input source height.
- 

- Step 8 Select or unselect **Enable third-party emitter** according to your actual setup.
- Step 9 Adjust the signal delay time to make left and right eye images of the 3D glasses in sync with the images on the display.

### 3D Settings on Web

You can set the 3D effect on the Web page.

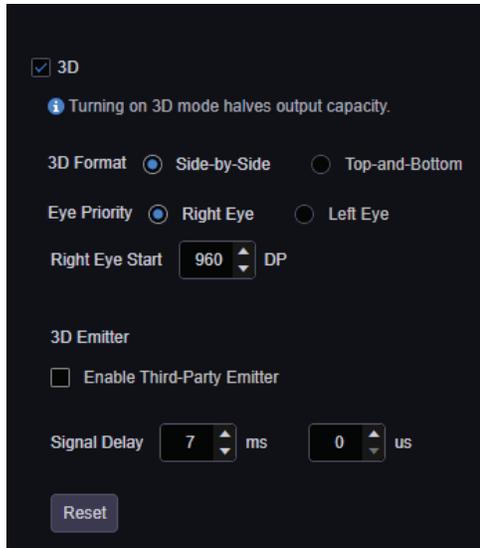
- Step 1 Click **Configuration** to enter the screen configuration page.
- Step 2 Select the desired screen on the top of the page.

Step 3 Click  on the right edge to expand the configuration settings pane.

Step 4 Click the **Basic Info** tab to show the basic settings.

Step 5 Check the box next to **3D** to turn on the 3D function.

Figure 4-39 3D settings



Step 6 Select the video source format based on the accessed 3D source. The options are **Side-by-Side** and **Top-and-Bottom**.

Step 7 Set the eye priority according to the 3D glasses mode. The options are **Right Eye** and **Left Eye**.

Step 8 Set the right eye start position.

---

**Notes:**

- For side-by-side 3D sources, **Right Eye Start** must be set to half of the input source width.
  - For top-and-bottom 3D sources, **Right Eye Start** must be set to half of the input source height.
- 

Step 9 Select or unselect **Enable Third-Party Emitter** according to your actual setup.

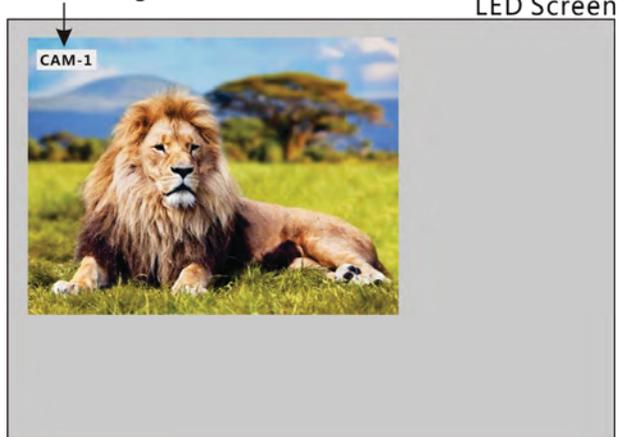
Step 10 Adjust the signal delay time to make left and right eye images of the 3D glasses in sync with the images on the display.

## 4.11 Set Channel Logos

The channel logo function allows you to set a logo for each input source, which is displayed on the top left of the layer. By using this function, you can quickly locate and identify the input source of the layer.

Figure 4-40 Channel logo

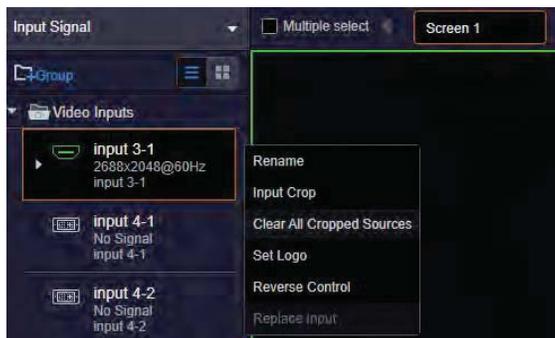
Channel Logo



Step 1 Select an input source and ... appears next to the input source name.

Step 2 Click ... to open the input source operations menu.

Figure 4-41 Input source operations menu



Step 3 Select **Set Logo** to open the channel logo settings window.

Figure 4-42 Set logo



Step 4 Enable the logo function.

The PWD Series supports text or image channel logo. To set a logo

- a. Enter the logo text in the **Content** text box.
  - b. Enter the values in the **X** and **Y** text boxes to set the position of the logo upon the input source.
  - c. Enter the values in the **Width** and **Height** text boxes to set the logo size.
  - d. Set the text font, size and color for the logo text.
  - e. Select **Enable BKG** and select a color for the logo background.
- Image logo  
Click **Browse** to import an image as the channel logo, and then set the **X** and **Y** values to set the logo position.  
The maximum width and height of the logo image can be up to 512 and 64 pixels respectively.

## 4.12 Set Reverse Control

When the signal source is a local signal source output by the computer, the PWD Series supports reverse control of the signal source.

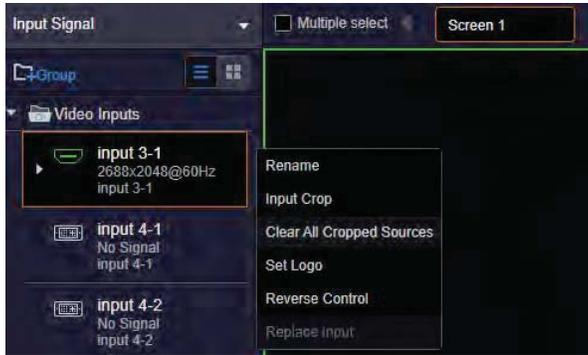
### Prerequisites

The signal source to be controlled reversely must be the local source provided by the computer running the Windows operating system.

### Operating Procedure

- Step 1 On the **Programming** page, select an input source and ... appears next to the input source name.
- Step 2 Click ... to open the input source operations menu.

Figure 4-43 Input source operations menu



Step 3 Click **Reverse Control** to open the reverse control settings window.

Figure 4-44 Set reverse control

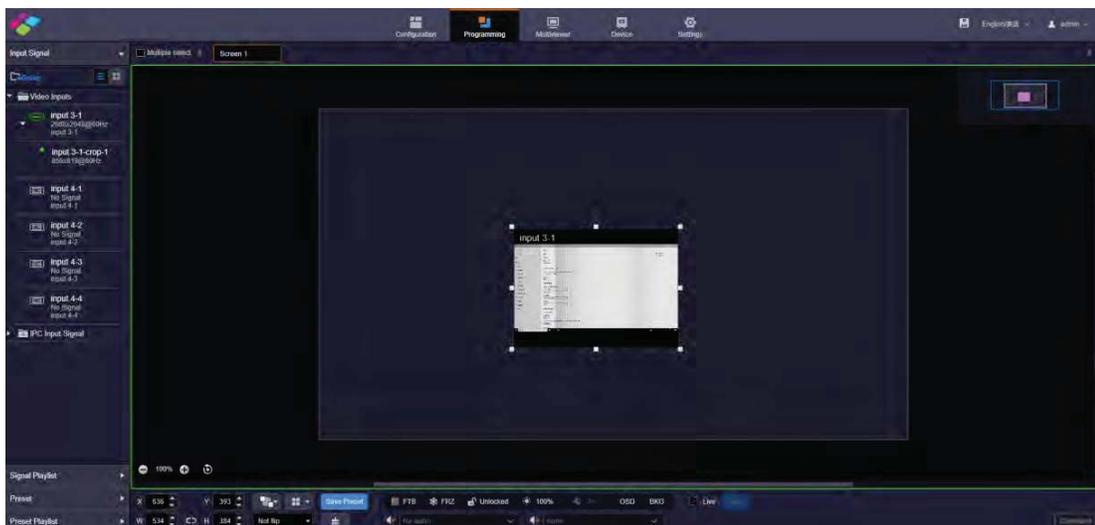


Step 4 Enter the IP address of the input source PC and use the default port number **18986**.

Step 5 Click **OK** to complete the settings.

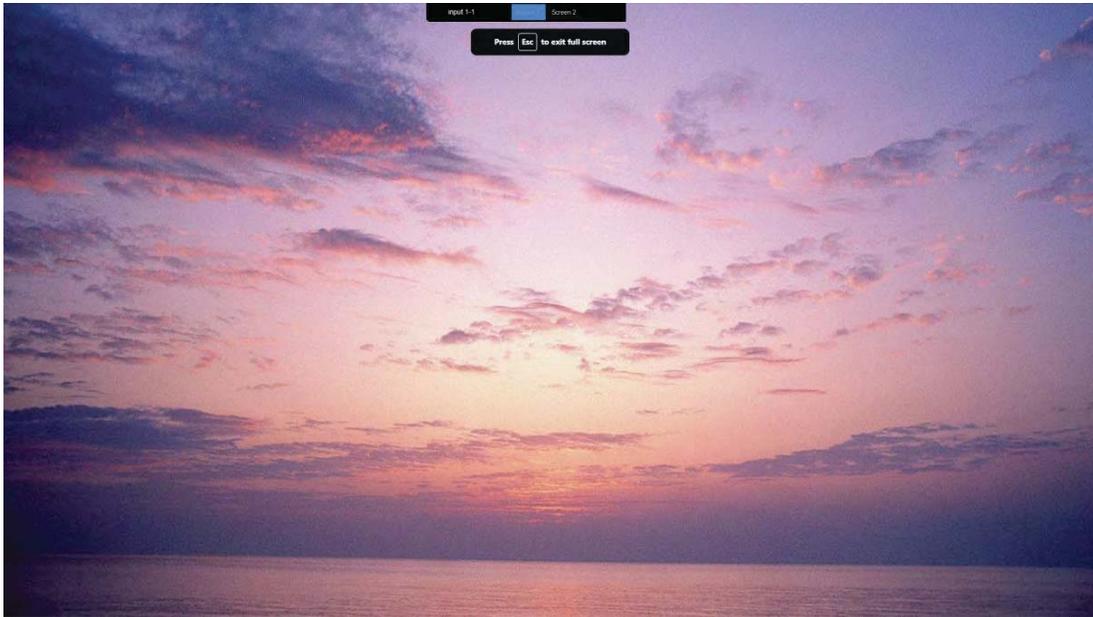
Step 6 Use the signal source configured for reverse control to add a layer.

Figure 4-45 Add layers



Step 7 In the layer menu, click  to enter the desktop of the input source PC and then you can reversely control the PC.

Figure 4-46 Reverse control desktop



After you enter the desktop of the input source PC, you can operate the files and programs on the PC. If the input source PC is configured with multiple output desktops, the system will display the desktop names. You can click the name to switch to the target desktop.

You can exit the reverse control desktop in the following ways.

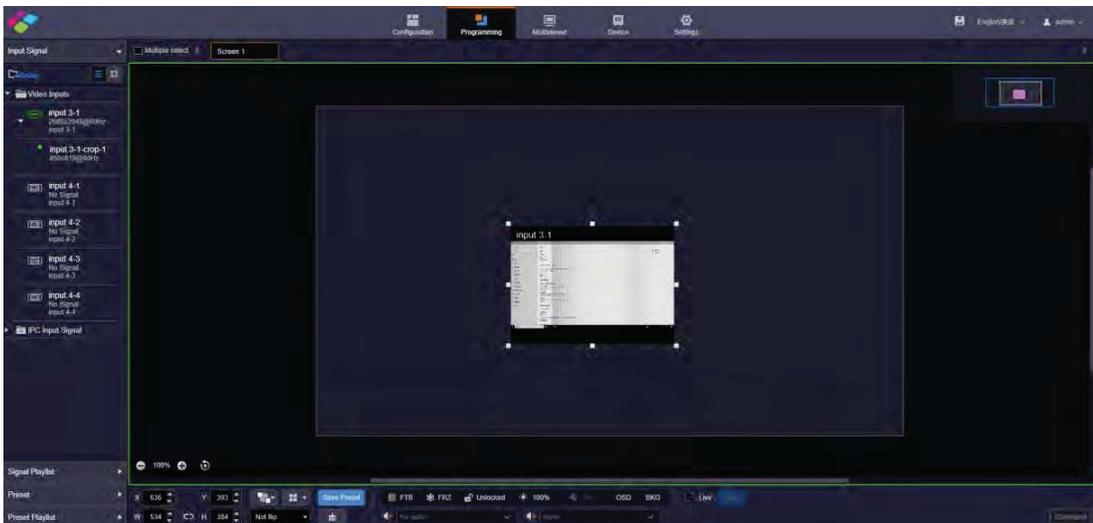
- Press **ESC**.
- Hover the mouse over the desktop name area at the top and  will appear. Click this icon to exit the reverse control desktop.
- Click the input source name displayed in the desktop name area.

## 4.13 Set Output Audio

When an PWD Series device is installed with an H\_2xAudio input+2xAudio output card, the audio output is supported.

Step 1 Click **Programming** to enter the programming page.

Figure 4-47 Set input and output audio



Step 2 Set the input audio.

Click the drop-down list next to  at the bottom right corner, and then select the input source audio. The options include the audio coming with an input connector on the audio card and the accompanied audio coming with an HDMI input connector.

Step 3 Set the output audio.

Click the drop-down list next to  at the bottom right corner, and then select the audio output connector. The audio can be output via an output connector on the audio card.

## 4.14 Control Multiple Screens

The PWD Series supports control of multiple screens at the same time and you can perform the following operations, including FTB, freezing, locking, brightness adjustment, preset group loading, preset playback.

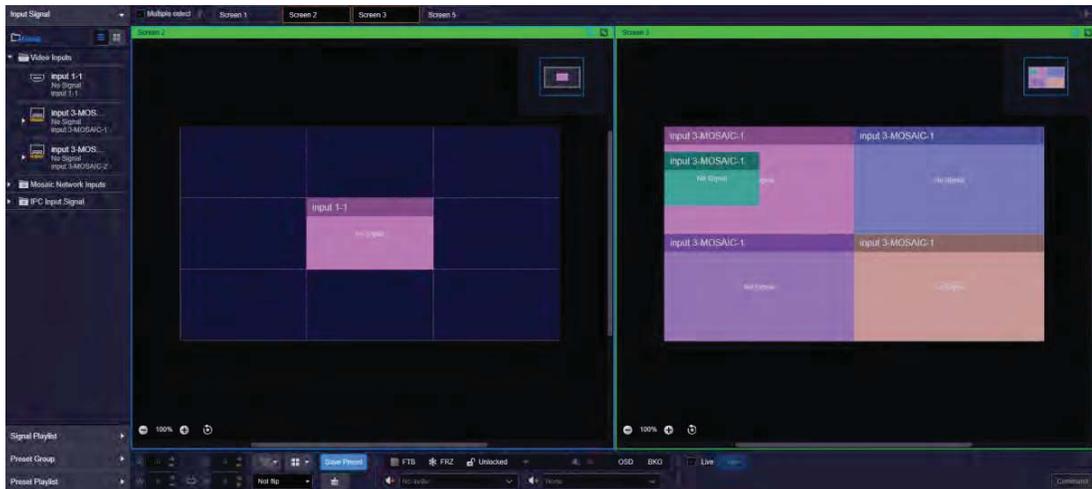
### 4.14.1 Add Preset Groups

Before adding a preset group, you need to add presets for each screen.

Step 1 In the screen list, check the box next to **Multiple select** to enter the multiple screen control page.

Step 2 Select the desired screens.

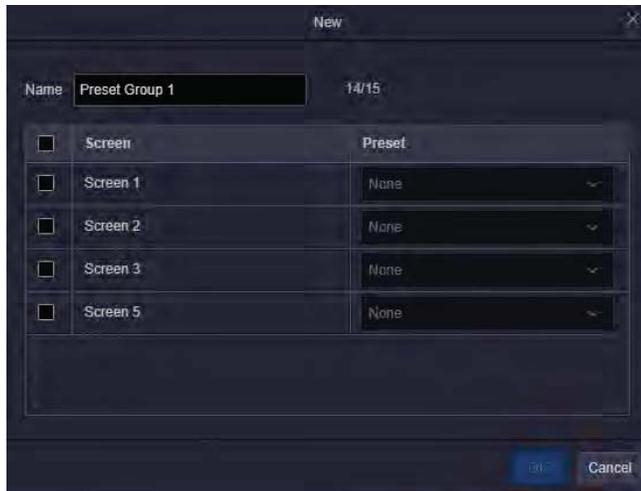
Figure 4-48 Control multiple screens



Step 3 Click **Preset Group** on the left to expand the preset group settings pane.

Step 4 Click **New** to open the preset group adding window.

Figure 4-49 Add preset groups



- Step 5 Enter a name for the added preset group.
- Step 6 Check the boxes next to the desired screens.
- Step 7 Select the added preset for each selected screen.
- Step 8 Click **OK** to complete the adding.

#### 4.14.2 Load Preset Groups

- Step 1 In the screen list, check the box next to **Multiple select** to enter the multiple screen control page.
- Step 2 Click **Preset Group** to expand the preset group settings pane.
- Step 3 Hover the mouse over the desired preset group and click  that appears to load the selected preset group.

#### 4.14.3 Other Preset Group Operations

Hover the mouse over the desired preset group and click  that appears, and then you can perform the following operations.

- View: View the screens and the corresponding presets in the preset group.
- Edit: Change the screen and the corresponding preset in the preset group.
- Delete: Delete the selected preset group.

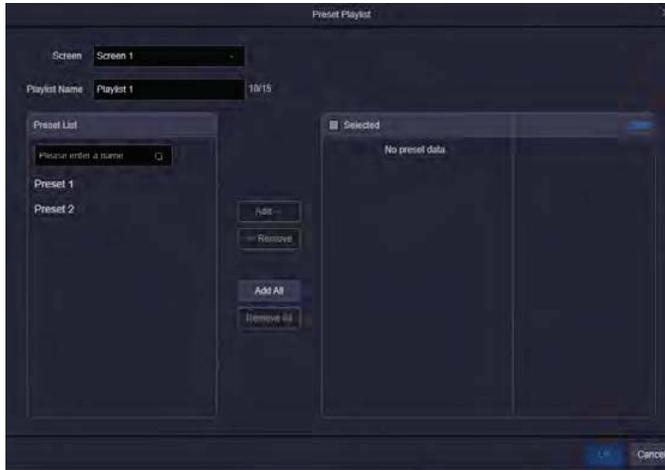
#### 4.14.4 Set Preset Playlists

When you control multiple screens, you can create a preset playlist for each screen and play the presets.

##### Add Preset Playlists

- Step 1 In the screen list, check the box next to **Multiple select** to enter the multiple screen control page.
- Step 2 Select the desired screens.
- Step 3 Click **Preset Playlist** on the left to enter the preset playlist settings page, and then click **New Preset Playlist** to open the preset playlist adding window.

Figure 4-50 Add preset playlists

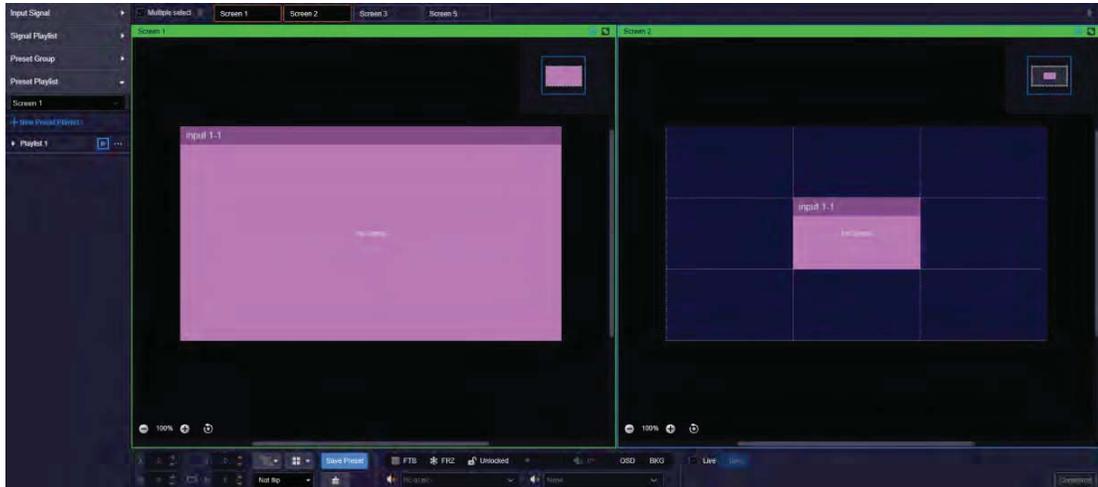


- Step 4 Select the desired screen from the drop-down list next to **Screen**.
- Step 5 Enter a name for the new playlist.
- Step 6 Select the desired presets in the **Preset List** area on the left, and then click **Add** to add the selected presets to the **Selected** area.
- Double click the desired preset to quickly add it to the **Selected** area.
- Step 7 Set the playback duration that specifies the time length each preset lasts.
- The default playback duration is 5s. You can change the playback duration as follows.
1. Check the box next to the desired preset in the **Selected** area.
  2. Enter the playback duration in the text box on the right.
  3. Press **Enter** or click somewhere else on the Web page to complete the settings.
- When you want to set the same playback duration for all the selected presets, check the boxes next to the desired presets and then click **Uniform Duration**. In the popup text box, enter the desired playback duration and then press **Enter** to complete the settings.
- Step 8 Click **OK** to complete the settings.

### Play Presets

- Step 1 In the screen list, check the box next to **Multiple select** to enter the multiple screen control page.
- Step 2 Select the desired screens.
- Step 3 Click **Preset Playlist** on the left to enter the preset playlist settings page.

Figure 4-51 Preset playback



Step 4 In the preset playlist, select the desired screen from the drop-down list.

Step 5 Click the  icon to play the selected preset playlist.

Step 6 Repeat [Step 4](#) and [Step 5](#) to play presets for other screens.

#### 4.14.5 Other Multi-Screen Control Operations

Step 1 In the screen list, check the box next to **Multiple select** to enter the multiple screen control page.

Step 2 Select the desired screens.

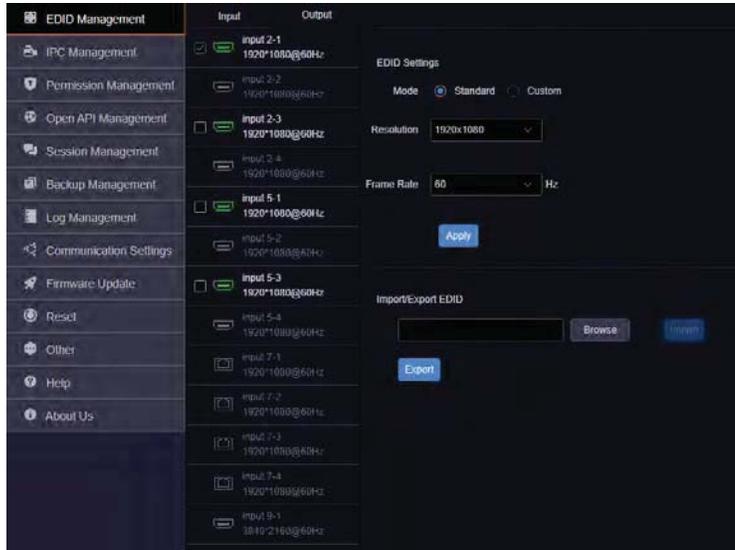
Below the layer editing area, you can perform the following operations.

- FTB: Make the output images displayed on the selected screens fade to black.
- FRZ: Freeze the output images displayed on the selected screens.
- Unlocked: Lock all the selected screens.
-  100% : Adjust the brightness of the output images displayed on the selected screens. If the selected screen does not support brightness adjustment, this parameter is unavailable.

#### 4.15 Set Input and Output EDID

Step 1 Go to **Settings > EDID Management** to enter the EDID settings page.

Figure 4-52 EDID management

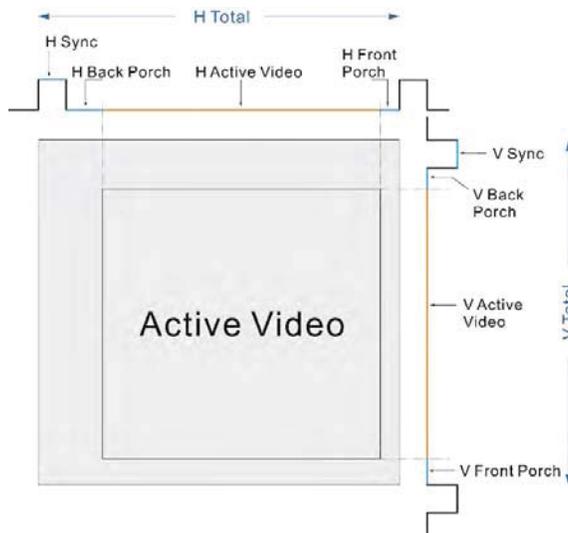


Step 2 Click the **Input** or **Output** tab to view the input or output connector resolution.

Step 3 Select the desired input or output connectors.

- **Standard Resolution**  
Select a standard resolution from the drop-down list.
- **Custom Resolution**  
Set the width, height and frame rate for the input or output connectors, and then click **Apply** to complete and apply the settings.
- **Advanced**  
Under custom mode, you can select **Advanced** to enable the advanced EDID settings function. It is recommended personnel who are familiar with the EDID settings adopt this method. The parameters for advanced EDID settings are shown as follows.

Figure 4-53 Parameters for advanced EDID settings



- **Import/Export EDID**  
Export the configured resolution parameters file for future use, or import an existing EDID configuration file.

---

**Note:**

The H\_16xRJ45+2xfiber sending card and H\_20xRJ45 sending card support custom resolution settings only.

---

## 4.16 Control Backend Devices

The PWD Series supports the control of other devices via the COM OUT port on the H\_Control card. **Prerequisites**

- The controlled device is connected to an PWD Series device via a serial cable.
- You have added the control commands as described in [6.5.9.4 Add Commands](#).

### Operating Procedure

Step 1 On the **Programming** page, click **Command** at the bottom right corner to show the command list.

Figure 4-54 Command list



Step 2 Select the desired control command and click **Execute** to execute the selected one.

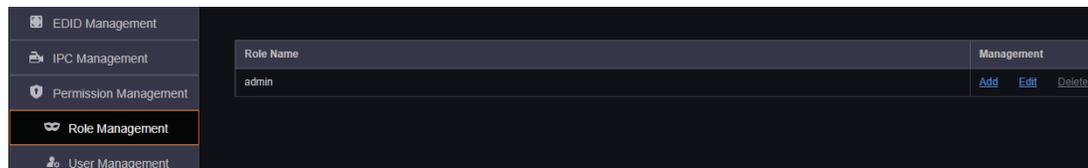
## 4.17 Manage Roles

You can add new roles as needed and grant them different operation permissions. When a user is associated with a role, the user obtains the permissions that the role has.

### Add Roles

Step 1 Go to **Settings > Permission Management > Role Management** to enter the role management page.

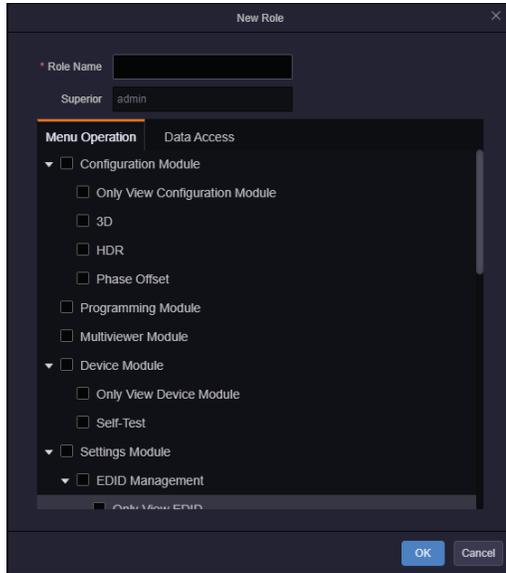
Figure 4-55 Role management



The user (admin) is created by default with all the operation permissions and data accesses.

Step 2 Click **Add** in the column of **Management** to add a new sub-role.

Figure 4-56 Add new roles



Step 3 Enter a name for the new role.

Step 4 Select the permissions below the **Menu Operation** tab.

Check the boxes in front of the desired modules, and then the role will obtain all the permissions below the selected modules.

Step 5 Below the **Data Access** tab, select the desired data accesses. The options include **Input, Output, Screen** and **Multiviewer**.

Step 6 Click **OK** to complete the adding.

On the role management page, click **Add** in the column of **Management** to create a new sub-role for the target role. The permissions granted to the sub-role are less than or equal to those of the superior role.

### Change Role Information

Step 1 On the role management page, select the desired role.

Step 2 Click **Edit** in the column of **Management** to open the role editing window where you can change the role name, menu operations and data accesses.

Step 3 Click **OK** to complete the editing.

## 4.18 Manage Users

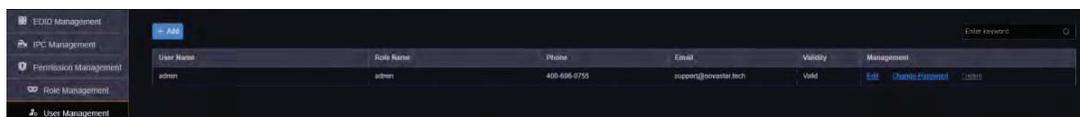
The PWD Series supports multi-user collaboration at the same time. You can add new users as needed and manage their permissions.

### Prerequisites

The role information is configured.

Step 1 Go to **Settings > Permission Management > User Management** to enter the user management page.

Figure 4-57 User management



Step 2 Click **Add** to open the new user adding window.

Figure 4-58 Add new users

The 'New User' dialog box is a dark-themed window with a close button (X) in the top right corner. It contains the following fields and controls:

- User Name:** A text input field with a red asterisk indicating it is required.
- Password:** A password input field with a red asterisk.
- Phone:** A text input field.
- Email:** A text input field.
- Role Name:** A dropdown menu with the text 'Please select' and a downward arrow. It has a red asterisk.
- Validity:** Two radio buttons labeled 'Valid' (selected) and 'Invalid'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

- Step 3 Enter a user name, password, phone number and email address.
- Step 4 Click the drop-down arrow next to **Role Name** to select the target role.
- Step 5 Select **Valid** to make the user account a valid one.
- Step 6 Click **OK** to complete the adding.

In the user list, click **Edit** in the column of **Management** to change the user password, phone number, email address and role. You can also set the user account to an invalid one and the invalid user cannot log in to the system.

Click **Delete** in the column of **Management** to delete the desired user. After the user is deleted, it cannot log in to the system.

## Change Password

- Step 1 On the user management page, select the desired user.
- Step 2 Click **Reset Password** in the column of **Management** to open the password changing window.

Figure 4-59 Change password

The 'Change Password' dialog box is a dark-themed window with a close button (X) in the top right corner. It contains the following fields and controls:

- User Name:** A label with the value 'admin'.
- Old Password:** A password input field with a red asterisk.
- New Password:** A password input field with a red asterisk.
- Confirm Password:** A password input field with a red asterisk.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

- Step 3 Enter your current password in the **Old Password** text box.
- Step 4 Enter your new password both in the **New Password** and **Confirm Password** text boxes.
- Step 5 Click **OK** to apply the change.

---

### Note:

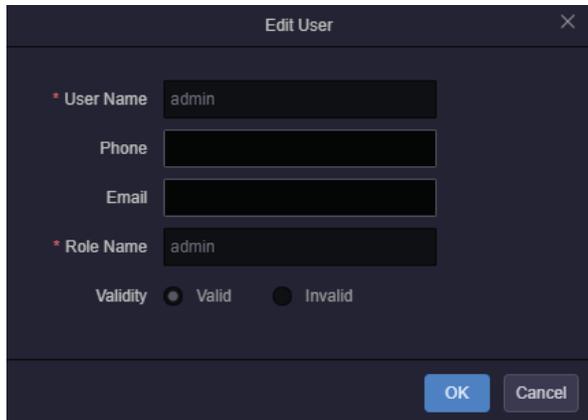
On the user management page, the user (admin) can reset the password for other users.

---

## Change User Permissions

- Step 1 On the user management page, select the desired user.
- Step 2 Click **Edit** in the column of **Management** to open the user editing window.

Figure 4-60 Edit users



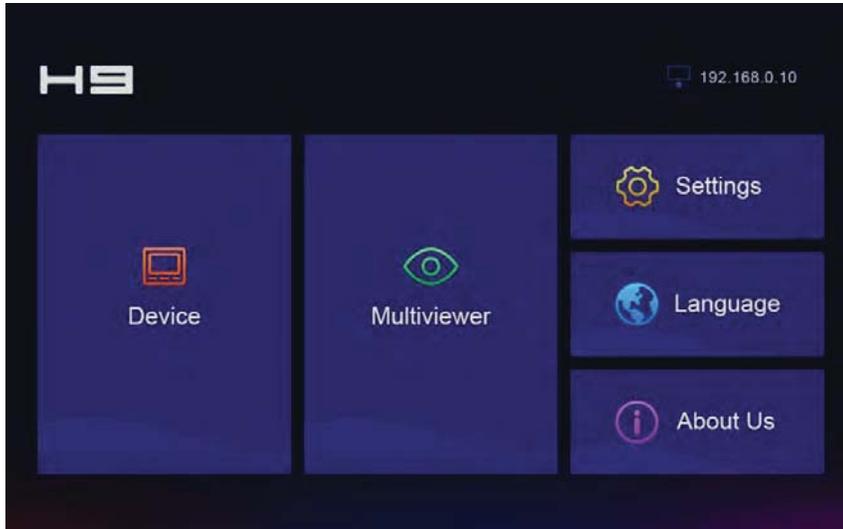
The screenshot shows a dark-themed 'Edit User' dialog box. It features a title bar with the text 'Edit User' and a close button (X). The main area contains four text input fields: 'User Name' (containing 'admin'), 'Phone', 'Email', and 'Role Name' (containing 'admin'). Below these fields are two radio buttons for 'Validity', with 'Valid' selected. At the bottom right, there are 'OK' and 'Cancel' buttons.

- Step 3 Enter a new phone number and email address.
- Step 4 In the **Role Name** text box, change the role for the current user.
- Step 5 Click **OK** to apply the change.

# 5 LCD Menu Introduction

After the device is successfully powered on, the home screen is displayed as follows.

Figure 5-1 Home screen



## 5.1 Device

Select **Device** to view the device-related information.

Figure 5-2 Device



You can view the device serial number (SN) and the connection statuses of all connectors.

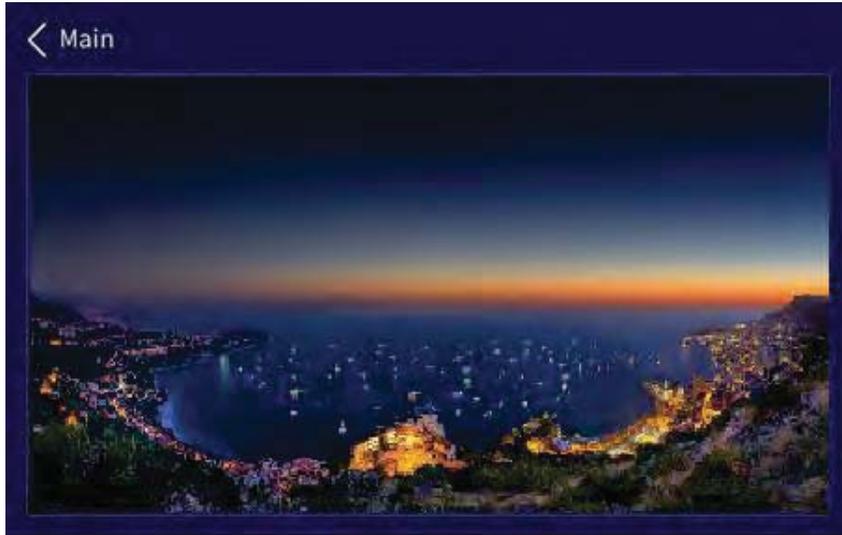
- Green connector: The connector is connected normally.
- White connector: The connector is not connected yet.
- Gray connector: The connector is unavailable.

Below the connector area, the device temperature, fan and power statuses are displayed.

## 5.2 Multiviewer

View the input and screen monitoring information.

Figure 5-3 Multiviewer



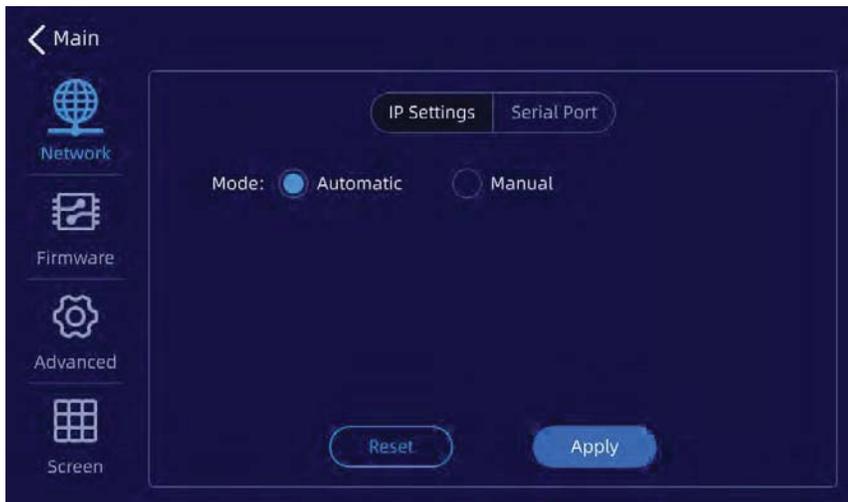
## 5.3 Settings

Set the device network mode, other advanced properties, and view the firmware version.

### 5.3.1 Communication Settings

Set the network parameters for the device.

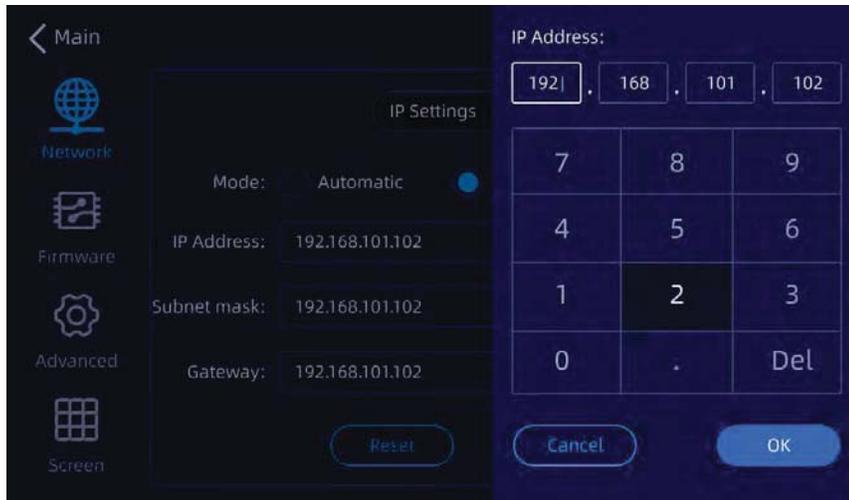
Figure 5-4 Communication



### IP Settings

Set to obtain an IP address automatically or manually. When a router or switch is used, it is recommended you select the **Automatic** option. The device IP address will be assigned by the router or switch. When the **Manual** option is selected, you must set the device IP address, subnet mask and gateway.

Figure 5-5 IP settings



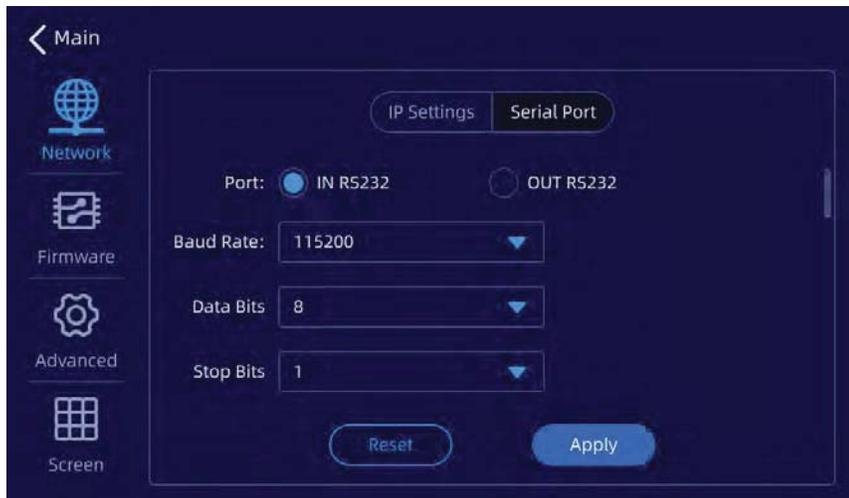
**Note:**

When you select to obtain the IP address manually, the IP addresses of both the device and control PC must be on the same network segment.

### Serial Port Settings

Set the baud rate, data bits, stop bits and other related information for the RS232 serial port.

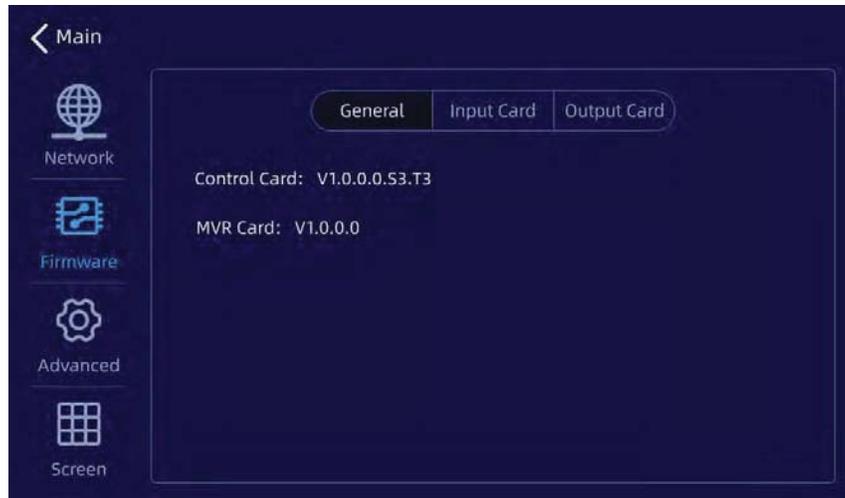
Figure 5-6 Serial port settings



### 5.3.2 Firmware Version

View the versions of all cards.

Figure 5-7 Firmware version

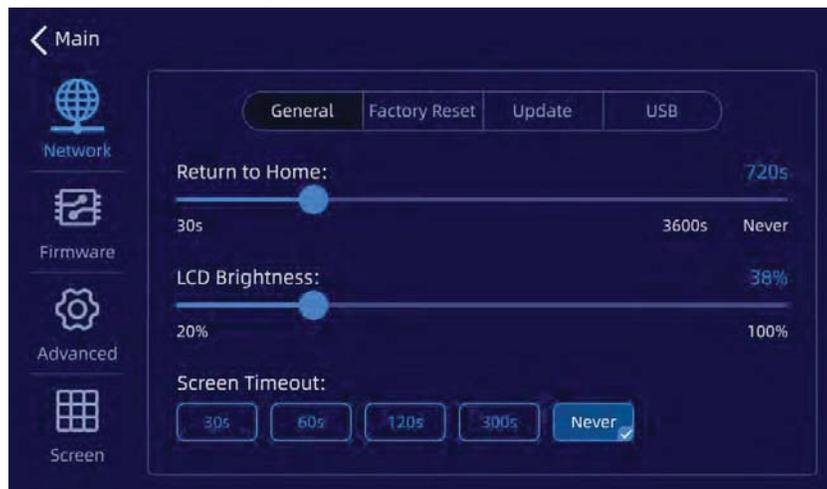


### 5.3.3 Advanced Settings

The advanced settings include the device general settings, factory reset, firmware update and USB import and export.

Select **Advanced** to enter the advanced setting screen.

Figure 5-8 Advanced settings



### General Settings

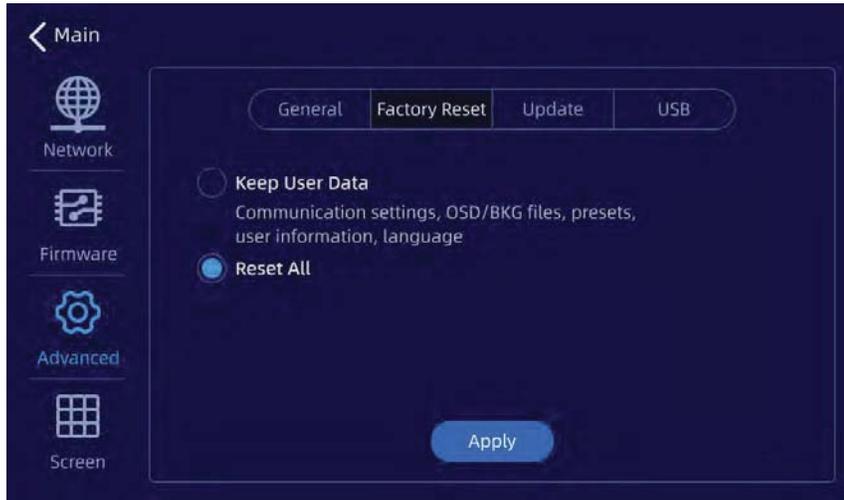
Select **General** and you can perform the following operations.

- **Return to Home:** Set the period time during which the system stays at the current screen before returning to the home screen automatically when no operation is performed. The default value is **60s** and the value range is **0s** to **3600s** and **Never**.  
Never: The system always stays at the current screen and will never return to the home screen.
- **LCD Brightness:** Set the device screen brightness.
- **Screen Timeout:** Set the period time after which the screen will automatically turn off when no operation is performed. The supported options include **30s**, **60s**, **120s**, **300s** and **Never**.  
Never: The screen always stay on and displays the corresponding content.

## Factory Reset

Clear the data stored in the device, and reset the device settings to factory defaults.

Figure 5-9 Factory reset



- **Keep User Data:** When you reset the device, the following information will still be kept in the system, including the communication settings, OSD and BKG files, presets, user information and UI language settings. Other parameters restore to default.
- **Reset All:** Reset all the parameters to factory defaults.

When you select **Reset All**, the language settings screen will be displayed on the device LCD screen and Web page after the device is restarted. Select the desired language and click **OK** to complete the language settings.

Figure 5-10 LCD screen

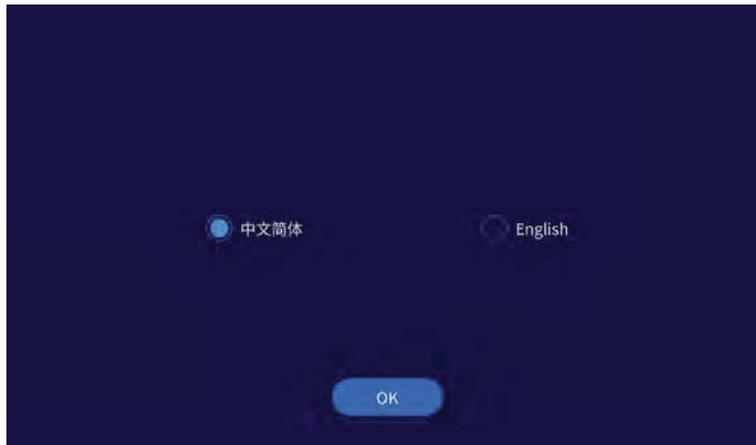


Figure 5-11 Web page



**Note:**

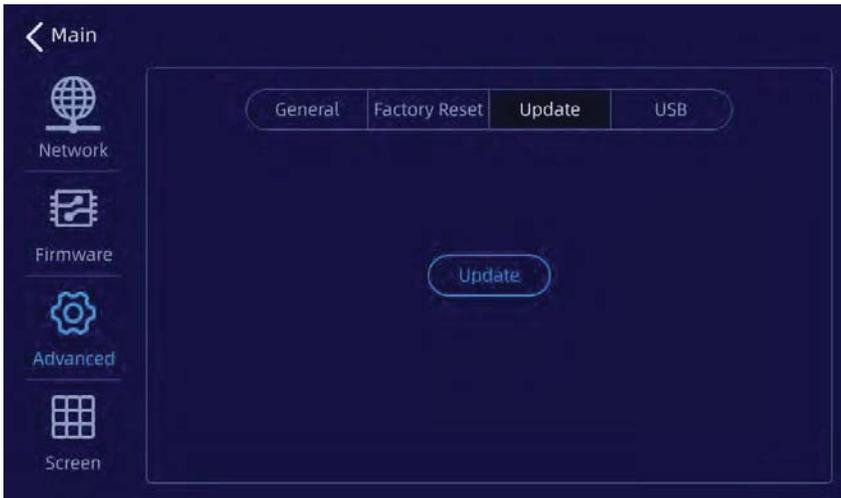
The LCD screen of the H2 will not display the language settings after the reset.

### Firmware Update

Update the firmware using a USB drive. Make sure the update file is stored in the root directory of the USB drive before you update the firmware, and then insert the USB drive into the USB port on the H\_Control card.

Step 1 Go to **Settings > Advanced > Update** to enter the firmware update screen.

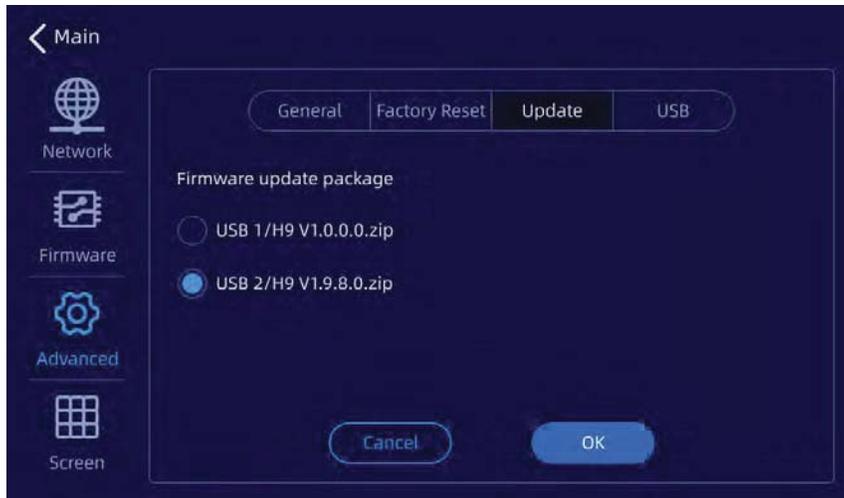
Figure 5-12 Firmware update



The system will automatically read the USB drive and detect the update file in the USB drive.

Step 2 Select the update file and click **OK** to start the update.

Figure 5-13 Select update file



Step 3 When the message **"Updated successfully"** appears, click **Close** to restart the system.

### USB Import and Export

The PWD Series supports importing and exporting the device data using a USB drive, which will greatly facilitate the new device configuration in the future.

Figure 5-14 Import and export device data using a USB drive



- Load from USB: Import the data from a USB drive.
- Backup to USB: Export the device data to a USB drive for backup.

### 5.3.4 Screen Control

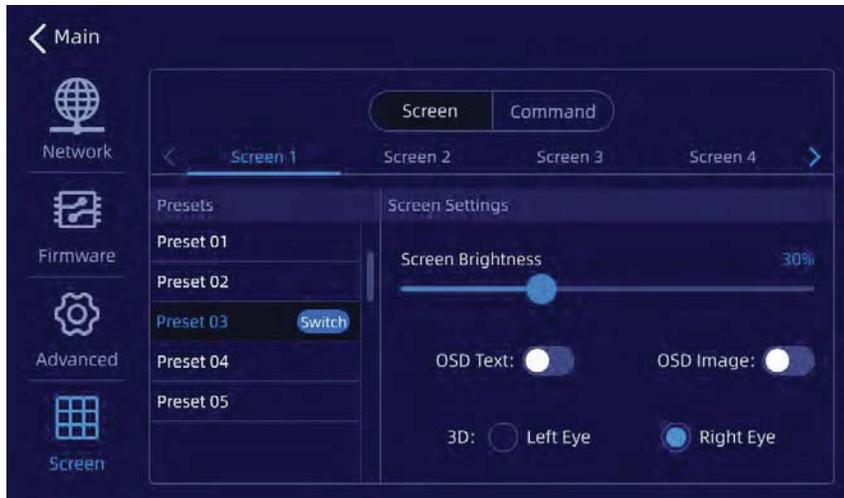
Control the screen via the front panel LCD.

#### Screen

The PWD Series device supports the control of the added screen via the front panel LCD, including loading presets, adjusting screen brightness, turning on/off OSD and switching 3D eye priority.

Step 1 Go to **Settings > Screen** to enter the screen control screen.

Figure 5-15 Screen control



Step 2 Select the **Screen** tab.

Step 3 Select the desired screen and you can perform the following operations.

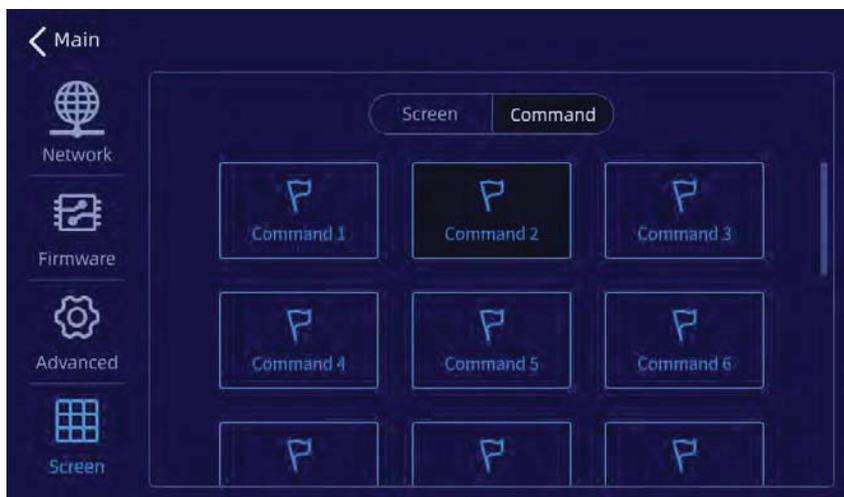
- Load a preset: Select the desired preset from the preset list on the left, and click **Switch** to load the selected one.
- Adjust screen brightness: When the loaded screen is an LED screen, the screen brightness adjustment is supported. You can drag the slider to adjust the brightness.
- Enable OSD text: When the OSD text is configured on the screen, you can turn on/off the toggle switch next to **OSD Text** to enable/disable the OSD text.
- Enable OSD image: When the OSD image is configured on the screen, you can turn on/off the toggle switch next to **OSD Image** to enable/disable the OSD image.
- 3D: When the 3D function is enabled, select **Left Eye** or **Right Eye** to switch the eye priority according to the mode of the 3D glasses.

## Command

The COM OUT port on the H\_control card supports the control of other devices. If you have configured the control command, you can send the command to the controlled device via the front panel LCD.

Step 1 Go to **Settings > Screen > Command** to enter the command control screen.

Figure 5-16 Command control



Step 2 Swipe up and down to select the desired command. Once selected, the command will be sent.

## 5.4 Language

Change the UI language. The PWD Series currently supports English and Simplified Chinese.

Figure 5-17 Changing language



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**Notes:**

- Switching the device front panel UI language will simultaneously switch the Web page UI language.
  - The H2 does not support UI language switching via the front panel menu. If you need to switch the language, set it on the Web page.
- 

## 5.5 About Us

View the device hardware version, company website and email address.

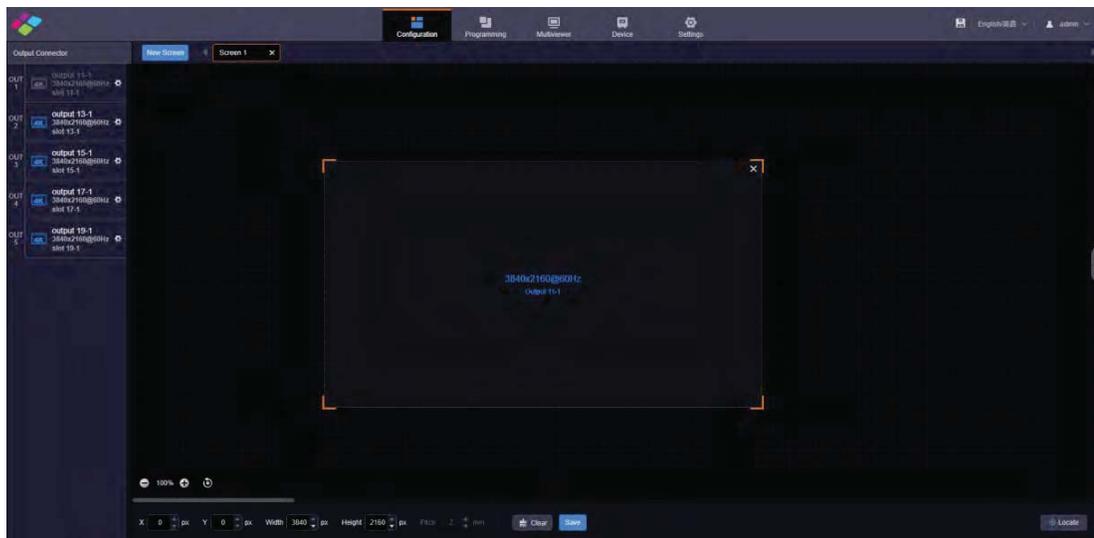
## 6 Web Introduction

- On the main user interface of the Web page, click  at the top right to save the configuration data to your local hard drive for future use.
- Click the drop-down arrow in the language area to change both the device front panel and Web UI language.
- Click the user name and select **Log Out** to end access to the system.

### 6.1 Screen Configuration

After you log in to the Web page, the screen configuration page is displayed by default. On this page, you can perform the operations such as changing the screen structure, renaming the screen, setting the test pattern as well as adjusting the output color.

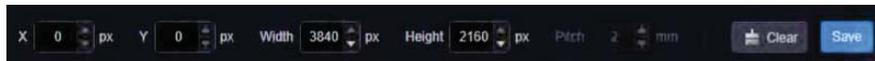
Figure 6-1 Screen configuration



#### Output Cropping

At the bottom of this page, you can set the cropping of each output area.

Figure 6-2 Output cropping



- X: Set the horizontal initial position for the cropping. The default value is 0 and the reference point for the cropping is the top left corner of the current output image.
- Y: Set the vertical initial position for the cropping. The default value is 0 and the reference point for the cropping is the top left corner of the current output image.
- Width: Set the width of the cropped area. The range is 64 to the width of the output image. The default value is the width of the current output image.
- Height: Set the height of the cropped area. The range is 64 to the height of the output image. The default value is the height of the current output image.
- Click **Clear** to clear the screen and screen configuration.
- Click **Save** to complete and save the screen configuration.

## Output Locating

On the screen configurations page, click **Locate** at the bottom right, and then the location information appears on the loaded screen. This function provides convenience for adjusting the screen structure and screen configurations.

When the LED 4K sending card is used, to use the output locating function, you must enable the mapping function in NovaLCT and use the receiving cards that support the mapping function.

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**Note:**

For related receiving card information, please visit purplewave official website or contact our technical support staff.

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## Screen Configuration Parameters

On the screen configuration page, click  at the right edge to expand the screen parameter settings pane.

Figure 6-3 Screen configuration parameters



The screenshot displays the 'Screen Configuration Parameters' interface. It features three tabs: 'Basic Info', 'Test Pattern', and 'Color'. The 'Basic Info' tab is active, showing the following settings:

- Name:** Screen 1 (with a character count of 8/15)
- Rows:** 2
- Columns:** 2
- LCD Bezel Compensation:** Unchecked
- H Spacing:** 0 (-200, 200)
- V Spacing:** 0 (-200, 200)
- 3D:** Checked
- 3D Format:** Side-by-Side (selected), Top-and-Bottom
- Eye Priority:** Right Eye (selected), Left Eye
- Right Eye Start:** 960 DP
- 3D Emitter:** Enable Third-Party Emitter (unchecked)
- Signal Delay:** 7 ms, 0 us

A 'Reset' button is located at the bottom of the configuration pane.

Table 6-1 Screen configuration parameters

Function	Parameter	Description
Basic Info	Name	Give a proper name to the screen for easy management. The screen name supports up to 15 Chinese characters, English letters, numbers, spaces, underscores and hyphens, and cannot be all spaces.
	Rows and columns	Set the row and column quantities to change the screen structure.
	3D	Set 3D-related parameters to provide users with the 3D visual experience. For detailed settings, please refer to <a href="#">3D Settings on Web</a> .
	Phase Offset	Set the time difference between the reference input clock and the feedback input. Before you enable the phase offset function, please enable the Genlock function first. <ol style="list-style-type: none"> <li>Go to <b>Settings &gt; Other</b> and check the box in front of <b>Enable Genlock</b> to enable the Genlock function.</li> <li>Click <b>Configuration</b> and then select the target screen</li> <li>Click  at the right side of the page to open the screen parameter settings pane.</li> <li>Click <b>Basic Info</b>.</li> <li>Check the box in front of <b>Enable Genlock Phase Offset</b> to enable the function.</li> <li>Drag the slider below <b>Phase Offset</b> and view the real-time recording image, and stop the dragging when you are satisfied with the output image to complete the phase offset settings.</li> </ol>
Test Pattern	Test pattern	Test patterns are used to check the connection between the output connectors and the LED screen and check whether the display is normal. <ul style="list-style-type: none"> <li>Select or deselect <b>Enable</b> to open or close the test pattern.</li> <li>Spacing: Set the width of gradient color or the space between test lines. This parameter is configurable when the test pattern is not a pure color.</li> <li>Speed: Set the moving speed of the test lines. This parameter is configurable when the test pattern has lines.</li> <li>Brightness: Set the brightness of the test patterns on the LED screen.</li> </ul>
Color	Mode	Four display modes are provided for different user needs. The options are <b>Standard</b> , <b>Document</b> , <b>Conference</b> and <b>Video</b> .
	Eye saver mode	Turn on or turn off the eye saver mode for the Web page.
	Contrast	Contrast is the ratio of the luminance of the brightest color to that of the darkest color. Generally, the higher the contrast, the more clearer and colorful the image is. On the contrary, the entire image becomes gloomy. Contrast affects the exposure level of the entire image. It makes the bright part brighter and the dark part darker. The value range is 0 to 100, and it defaults to <b>50</b> .
	Brightness	Brightness is the shading of lights in the image. When the brightness increases, viewers will be dazzled. When the brightness decreases, the image becomes dark. The value range is 0 to 100, and it defaults to <b>50</b> .
	Saturation	Adjust the colorfulness of the output image. The value range is 0 to 100, and it defaults to <b>50</b> .
	Hue	Set the relative degree of how bright or dark the output image is. The value range is -180 to +180, and it defaults to <b>0</b> .
	Color Temperature	Adjust the cool or warm degree of the output image. The lower the

Function	Parameter	Description
		temperature, the warmer (redder) the image is. The higher the temperature, the colder (bluer) the image is.
	Gamma	Gamma: Set the Gamma for the output image. The value range is 0.25 to 4.00, and it defaults to <b>1.00</b> .
	HDR	<p>HDR is the abbreviation for High-Dynamic Range. HDR function can greatly enhance the display image quality, allowing for a clearer and vivid image when the device is used together with purplewave A8s/A10s receiving cards.</p> <p>Select <b>HDR</b> to enable the HDR function.</p> <ul style="list-style-type: none"> <li>• Format: Select the format of the current HDR source. HDR10 and HLG are both supported. HDR10 is selected by default.</li> <li>• Peak Screen Brightness: Adjust the screen brightness under normal operation. The value ranges from 100 to 10000 and defaults to 1000.</li> <li>• Ambient Illuminance: Display the ambient illuminance. The value ranges from 0 to 200 and defaults to 30.</li> <li>• Low Grayscale Mode: Adjust the screen image grayscale. The value ranges from 0 to 50 and defaults to 15.</li> </ul>

## Output Connectors

Click  next to the output connector to expand the output connector settings pane where you can set the following parameters.

Figure 6-4 Output connector parameters

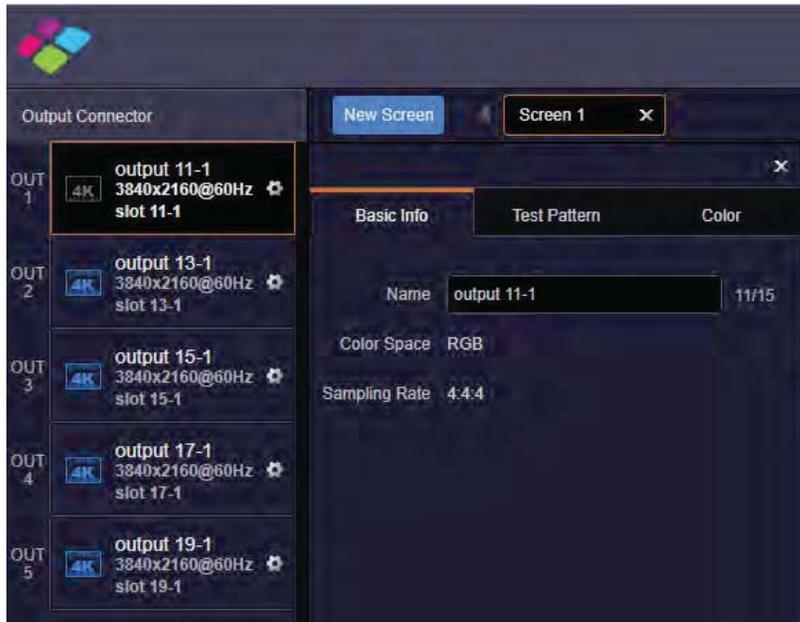


Table 6-2 Output connector parameters

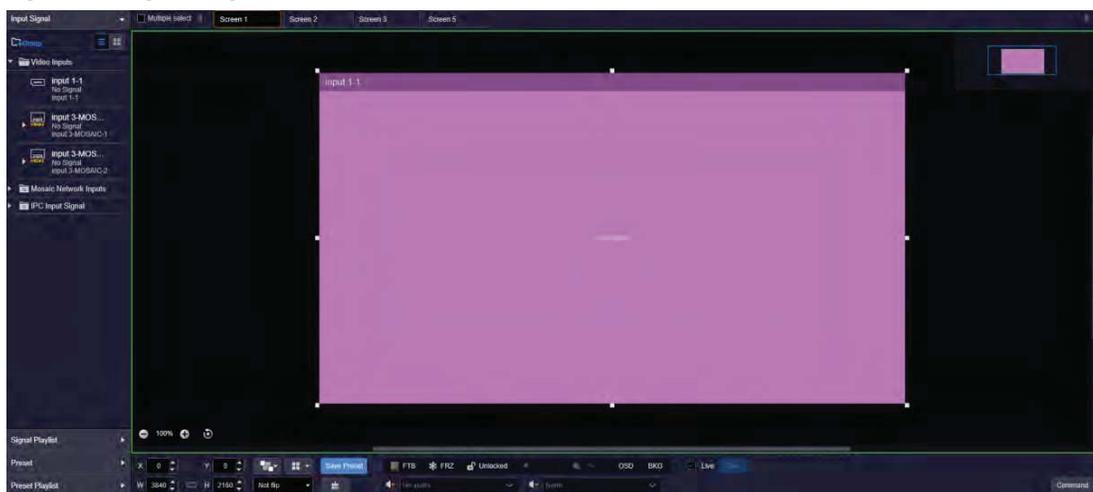
Function	Parameter	Description
Basic Info	Name	Give a proper name to the output connector for easy management. The connector name supports up to 15 Chinese characters, English letters, numbers, spaces, underscores and hyphens, and cannot be all spaces.
	Color Space/ Sampling Rate	Display the color space and sampling rate of the output connector, which can be set on the <b>Device</b> page.

Function	Parameter	Description
Test Pattern	Test pattern	<p>Test patterns are used to check the connection between the output connectors and the LED screen and check whether the display is normal.</p> <ul style="list-style-type: none"> <li>• Select or deselect <b>Enable</b> to open or close the test pattern.</li> <li>• Spacing: Set the width of gradient color or the space between test lines. This parameter is configurable when the test pattern is not a pure color.</li> <li>• Speed: Set the moving speed of the test lines. This parameter is configurable when the test pattern has lines.</li> <li>• Brightness: Set the brightness of the test patterns on the LED screen.</li> </ul>
Color	Contrast	<p>Contrast is the ratio of the luminance of the brightest color to that of the darkest color. Generally, the higher the contrast, the more clearer and colorful the image is. On the contrary, the entire image becomes gloomy. Contrast affects the exposure level of the entire image. It makes the bright part brighter and the dark part darker.</p> <p>The value range is 0 to 100, and it defaults to <b>50</b>.</p>
	Brightness	<p>Brightness is the shading of lights in the image. When the brightness increases, viewers will be dazzled. When the brightness decreases, the image becomes dark.</p> <p>The value range is 0 to 100, and it defaults to <b>50</b>.</p>
	Saturation	<p>Adjust the colorfulness of the output image. The value range is 0 to 100, and it defaults to <b>50</b>.</p>
	Hue	<p>Set the relative degree of how bright or dark the output image is. The value range is <math>-180</math> to <math>+180</math>, and it defaults to <b>0</b>.</p>
	Color Temperature	<p>Adjust the cool or warm degree of the output image. The lower the temperature, the warmer (redder) the image is. The higher the temperature, the colder (bluer) the image is.</p>
	Gamma	<p>Gamma: Set the Gamma for the output image. The value range is 0.25 to 4.00, and it defaults to <b>1.00</b>.</p>

## 6.2 Programming

Click the **Programming** tab on the top to enter the programming page where you can perform the operations such as adding layers and BKG, cropping the input source, setting the preset and preset playback.

Figure 6-5 Programming



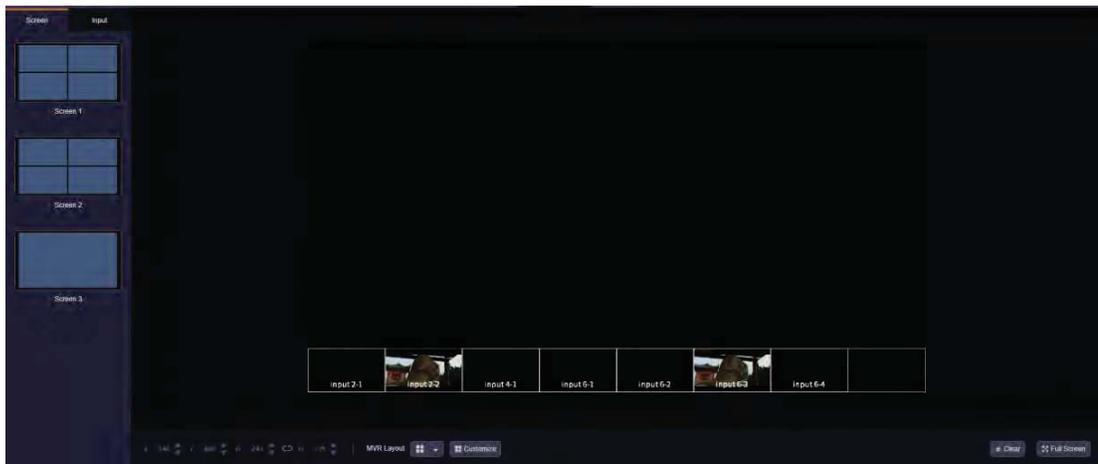
## Button and Icon Descriptions

- : Zoom out the layer editing area.
- : Zoom in the layer editing area.
- : Display all the layers in the editing area in a perfect way, so that all the layers can be viewed completely.
- FTB: If the icon is highlighted, the output image will fade to black; otherwise, the output image will be displayed normally.
- FRZ: If the icon is highlighted, the current frame of the output image is frozen and the layer image cannot be edited; otherwise, the output image is not frozen.
- : Lock the editing area, and layer editing is prohibited.
- : Unlock the editing area.
- : Adjust the output image brightness. If an LED screen is selected, this parameter is available.
- Live: Turn on this function to display the layer editing process on the LED screen in real time. Turn off this function to not display the editing process on the LED screen, and click the **Pre-Edit** button if you want to display the output image on the LED screen.
- Pre-Edit: When the **Live** function is turned off, click this button to display the output image on the LED screen.

## 6.3 Multiviewer

Click the **Multiviewer** tab on the top to enter the monitoring page. Select the **Screen** or **Input** tab on the left, and then click and drag the desired screens or input sources to the monitoring editing area on the right. After the editing, you can go to Multiviewer on the LCD screen on the device front panel to view the monitoring information.

Figure 6-6 Multiviewer editing



- Screen: Display all the output images of the screens.
- Input: Display all the input source images. Select **View inputs with signals** and the system only displays the input sources that are accessed with signals.
- MVR Layout: 4 layouts are provided for quick arrangement.
- Customize: Add new custom layouts.
- Clear: Clear all the MVR windows.
- Full Screen: Make the selected MVR window display in full screen.

### 6.3.1 Set MVR Properties

On the Multiviewer page, select an MVR window and click  at the top right of the window to expand the MVR property settings pane.

Figure 6-7 MVR property settings



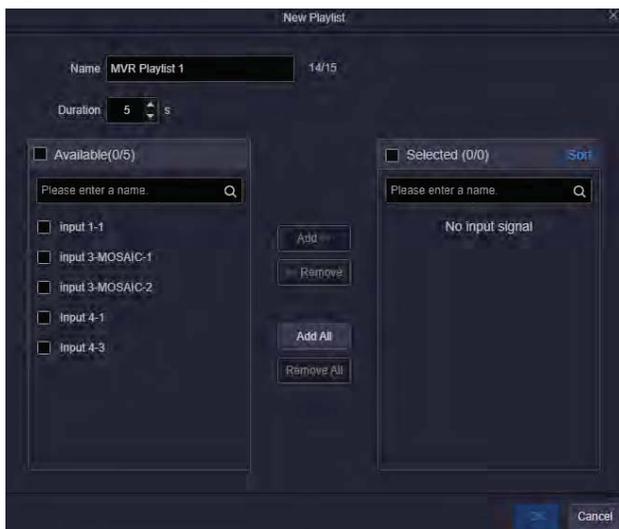
- Display Name: Enable or disable the display of the MVR window name. When enabled, the name color can be set.
- Border: Set the color of the MVR window border by adjusting the R, G and B values individually. Set the width of the MVR window border.

After the settings, click **Apply** to save and apply the settings.

### 6.3.2 Set Monitoring Playlists

- Step 1 On the **Multiviewer** page, click the **Input** tab on the left to expand the input source list.
- Step 2 Click **Monitoring Playlist** to expand the monitoring playlist settings pane.
- Step 3 Click **New Playlist** to open the playlist adding window.

Figure 6-8 Monitoring Playlists



- Step 4 Enter a name for the new playlist.
- Step 5 Enter the playback duration that specifies the time length each input

- Step 6 Select the desired inputs in the **Available** area on the left.
- Step 7 Click **Add** to add the selected inputs to the **Selected** area.
- Step 8 In the **Selected** area, click **Sort** at the top right corner, and then move up and down the input to adjust the input sequence in the input playback list.
- Step 9 Click **Done** at the top right corner to complete the adjustment.
- Step 10 Click **OK** to complete the settings.

### 6.3.3 Monitoring Playlist Operations

- Step 1 On the **Multiviewer** page, click the **Input** tab on the left to expand the input source list.
- Step 2 Click **Monitoring Playlist** to expand the monitoring playlist settings pane.
- Step 3 Click the following icons next to the desired playlist to perform the related operations.

-  : Play the input monitoring playlist.
-  : Stop the playback.
-  : More operations
  - Edit Group: Edit the current playlist settings.
  - Ungroup: Ungroup the current playlist.

## 6.4 Device

Click the **Device** tab on the top to enter the device page where you can view the input or output card statuses and device running status. If the device fails, check the health status of each module by clicking **Self-Test** on this page. If the fan fails, click the drop-down arrow in the fan status area to check which fan fails exactly.

Figure 6-9 Device



- The connector in green is connected.
- The connector in white is not connected, or the connected device fails.
- The connector in gray is unavailable.
- Self-Test: Diagnose the device and send the test result to NovaStar's technical support staffs for confirming and fixing the problems as soon as possible.

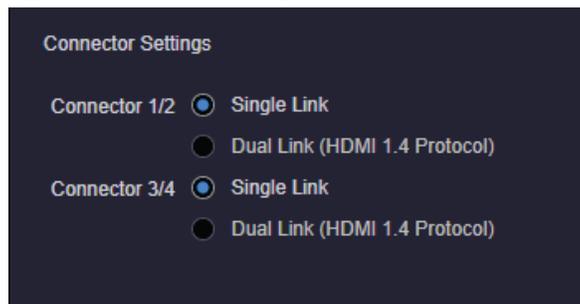
## 6.4.1 Input Card Configurations

### 6.4.1.1 Common Input Cards

Click an input card to view the input card type, connector type, card version, card SN and connector status and so on.

- Running status: Display the input card status.
  - Normal: The input card is normal and can be used.
  - Abnormal: The input card is abnormal and cannot be used.
- Basic Information: View the basic information of the input card, including the card type, connector type, SN and version.
- Connector Status: View the input resolution of each connector, the color space and sampling rate of the input source, the input connector type and input source bit depth, which are read by the system automatically and cannot be changed.
  - Connector status shows you the input signal status, color space and sampling rate, input connector type, input source bit depth which are all read automatically and cannot be changed.
  - Limited to Full: Convert an RGB limited input source to an RGB full range source for more precise video processing.  
  
Disable: Turn off the limited to full converting function.  
  
Enable: Turn on the limited to full converting function. It is recommended you turn on the function when the accessed input source has a limited color range.
- Capacity: Set the input connector capacity. The different connector capacity is matched with the different layer specification.  
  
When you use a connector with the capacity of DL to add a layer, the added layer specification is DL.
  - H\_1xHDMI2.0+1xDP1.2 input card: The input connector capacity can be set to SL, DL and 4K.
  - H\_1xHDMI2.1+1xDP1.4 input card: The input connector capacity can be set to SL, DL 4K and 8K.
- Connector Settings: Select the single link or dual link mode for the input connector.

Figure 6-10 Connector settings



When you set the input connector 1/2 to dual link mode, connector 1 is unavailable and connector 2 is used as a dual link connector. The input connector 3/4 follows the same rule.

When the input card is an H\_1xHDMI2.0+1xDP1.2 input card or H\_1xHDMI2.1+1xDP1.4 input card that supports only one input each time, you can select the desired connector here.

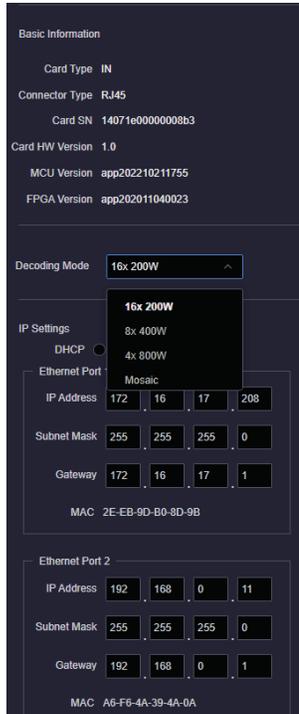
- When the input card is an H\_2xRJ45 IP input card, you need to set the working mode for two Ethernet ports. The working mode is independent by default, and you need to set the IP address, subnet mask and other information for each Ethernet port independently.

### 6.4.1.2 IP Input Card

- When the H\_2x RJ45 IP input card is used, you need to configure the working mode of the two Ethernet ports. The default working mode is **Independent**, and you need to set the IP settings of each Ethernet port.

- The H\_2xRJ45 IP input card supports three kinds of decoding modes, including **16x 200W**, **8x 400W**, **4x 800W** and **Mosaic**. The decoding capability of the IP input card cannot be lower than the specification of the connected IP camera.
  - 16x 200W: Single card decoding capability: up to 16x 1080p or other lower-resolutions, and up to 16x layers
  - 8x 400W: Single card decoding capability: up to 8x 4K×1K or other lower-resolutions, and up to 8x layers
  - 4x 800W: Single card decoding capability: up to 4x 4K×2K or other lower-resolutions, and up to 4x layers
  - Mosaic: Single card decoding capability: up to 1x 64-channel D1 source mosaic for image partition display

Figure 6-11 H\_2xRJ45 IP input card configuration

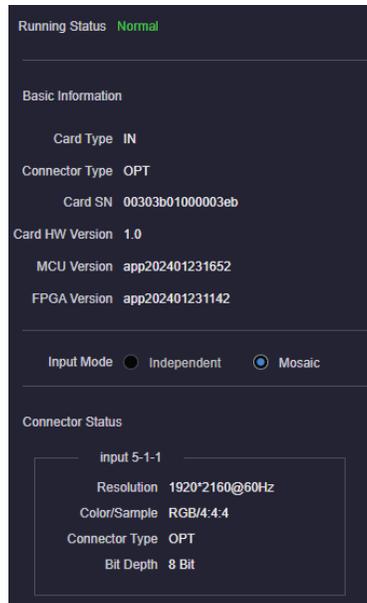


### 6.4.1.3 H\_2xFiber Input Card

OPT 1 and OPT 2 are used for primary inputs. OPT 3 serves as the backup of OPT 1, while OPT 4 serves as the backup of OPT 2.

Click an H\_2xfiber input card to view the basic information of the card, input mode and input source information.

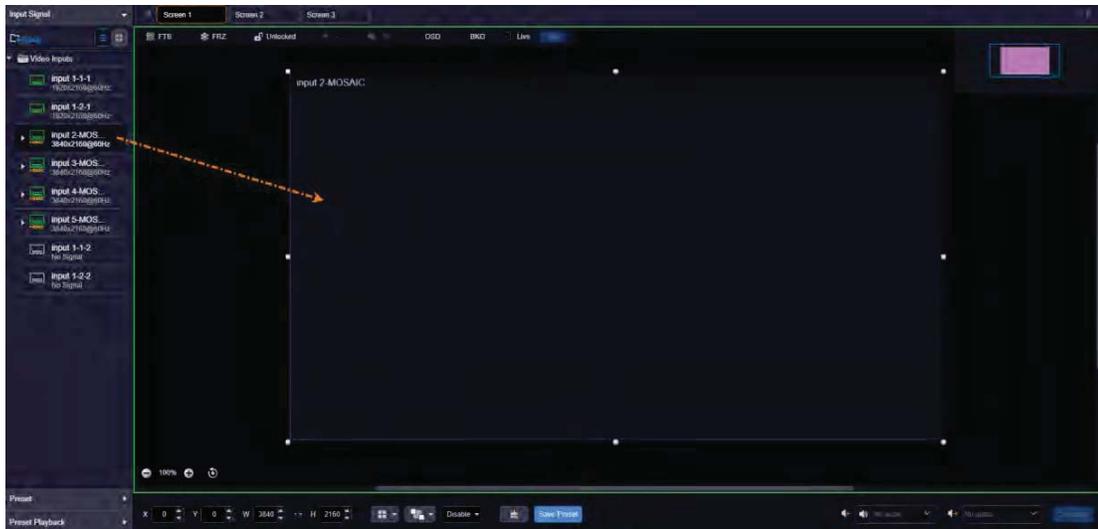
Figure 6-12 H\_2xfiber input card parameters



- Running status: Display the current input card status.
  - Normal: The input card is normal and can be used.
  - Abnormal: The input card is abnormal and cannot be used.
- Basic Information: View the basic information of the input card, including the card type, connector type, SN and version.
- Input Mode: Set the input mode of the OPT port. The supported options include **Independent** and **Mosaic**.
  - Independent: The input source connected to each OPT port can be used as an independent source. You can use the desired source to add a layer.
  - Mosaic: The input sources connected to each H\_2xfiber input card are used for one mosaic source, and the input source connected to each port cannot be used independently.
- Connector Status: View the input source name, the input resolution of each connector, the color space and sampling rate of the input source, the input connector type and input source bit depth.
- Set the input source mosaic.
  - a. On the **Device** page, click an H\_2xfiber input card and set the input mode to **Mosaic**.
  - b. Click the **Programming** tab on the top to enter the programming page.

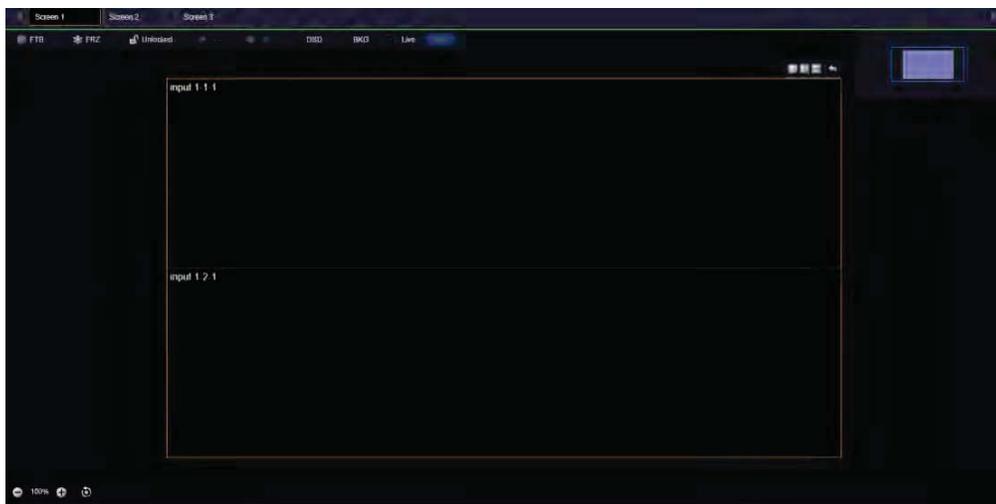
In the **Video Inputs** area on the left, the input source name will change to "input x-MOSAIC", whereas "x" indicates the card slot number.
  - c. Click a mosaic source in the **Video Inputs** area on the left and drag it to the editing area to add a layer.

Figure 6-13 Add mosaic source layers



- d. Select a layer and click  in the layer menu to enter the layer layout settings page.

Figure 6-14 Edit mosaic layout

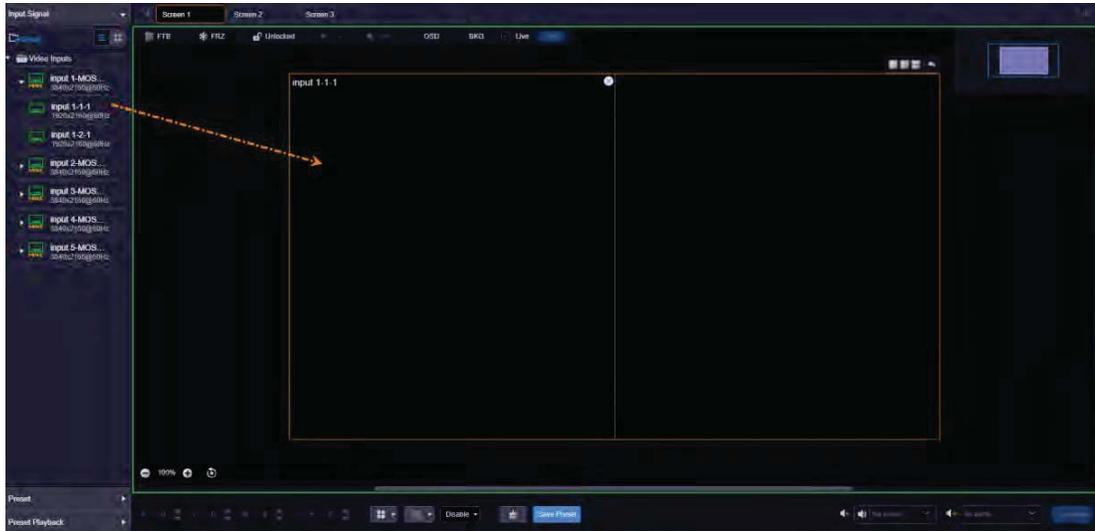


The SL source supports eight mosaic layout options, including , , , , , , ,  and .

The DL source supports three mosaic layout options, including ,  and .

- e. In the **Video Inputs** area on the left, click a mosaic source to expand its sub inputs. Click and drag the inputs to the mosaic layout.

Figure 6-15 Add inputs



If you want to change the input, click and drag a new input to the corresponding layout area and the original one will be overwritten, or click  at the top right corner of the desired layout area to delete the added input and drag a new one.

- f. After all the inputs are added, click  at the top right corner to complete the mosaic layout settings, and the mosaic layer image will be displayed.

#### 6.4.1.4 H\_1xST 2110 Input Card

When an H\_1xST 2110 input card is installed, you need to set the stream information for the input source, IP information of the primary and backup OPT ports as well as PTP.

Click an H\_1xST 2110 input card to view the card information on the right pane.

#### Basic Information

- Card: View the basic information of the current card, including the card type, connector type, serial number and version numbers.
- Source: View the detailed information of the connected input source.
- Connector Status: View the input resolution of each connector, the color space and sampling rate of the input source, the input connector type and input source bit depth.

#### Stream

Set the destination IP, port number, source IP and other source parameters when OPT port pulls stream.

- Step 1 Set the stream pulling parameters.

Click the **Stream** tab and perform the following operations as needed to configure the stream pulling parameters. Click **Apply** to complete and apply the configuration.

- Load the SDP file to configure the parameters.  
Click **Load** and select the SDP file in the popup window. Click **OK** to load the file.
- Configure the parameters manually.

Configure the parameters described in the following table as needed.

Type	Parameter Name	Description
Primary OPT IP	Destination IP	Configure the parameters according to the connected video source.
	Port	
	Source IP	

Type	Parameter Name	Description
Backup OPT IP	Destination IP	
	Port	
	Source IP	
Advanced Source Information	Resolution	The advanced parameters of the connected video source If the filled-in information does not match with the connected video source, you need to update the relevant parameters.
	Frame Rate	
	Color/Sample	
	Bit Depth	
	Interlaced/Progressive	

Step 2 Configure the IP information of the current input card.

In the **Primary OPT IP Settings** and **Backup OPT IP Settings** areas, set the IP information of the primary and backup OPT ports respectively. Enable **DHCP** and the IP information can be automatically obtained, or configure the IP information manually. Click **Apply** to complete and apply the configuration.

Step 3 Set PTP synchronization.

Check the box next to **PTP Synchronization** to enable this function. Enter the PTP domain value of the input source and switch to ensure video synchronization between the primary and backup ports.

In the **PTP Status** area, you can view the master clock ID, synchronization status, master and slave time difference.

### 6.4.1.5 H\_1xNDI Input Card

On the **Device** page, click an H\_1xNDI input card to view the card information on the right pane.

Figure 6-16 NDI card parameters



### Basic Parameters

- **Running Status:** Display the input card status.
  - Normal: The input card is normal and can be used.
  - Abnormal: The input card is abnormal and cannot be used.
- **Basic Information:** View the basic information of the input card, including the card type, connector type, SN and version.

## Connector Settings

- NDI Channel: Name the input card slot where the NDI card is installed.
- Decoding: The supported decoding specification include **1x 4K×2K@60Hz**, **2x 4K×2K@30Hz** and **4x 2K×1K@60Hz**.
  - 1x 4K×2K@60Hz: Single card decoding capability: 1x 4K×2K@60Hz or other lower-resolutions, and 1x layer
  - 2x 4K×2K@30Hz: Single card decoding capability: 2x 4K×2K@30Hz or other lower-resolutions, and 2x layers
  - 4x 2K×1K@60Hz: Single card decoding capability: 4x 2K×1K@60Hz or other lower-resolutions, and 4x layers

## IP Settings

Set the IP information of the NDI connector, including the IP address, subnet mask and gateway.

DHCP: Set the configuration method of the IP address. The supported options include **Enable** and **Disable**.

- Enable: Enable DHCP and the IP address, subnet mask and gateway of the NDI connector can be obtained automatically.
- Disable: Manually configure the IP information, including the IP address, subnet mask and gateway.

## 6.4.2 Output Card

### Video output card

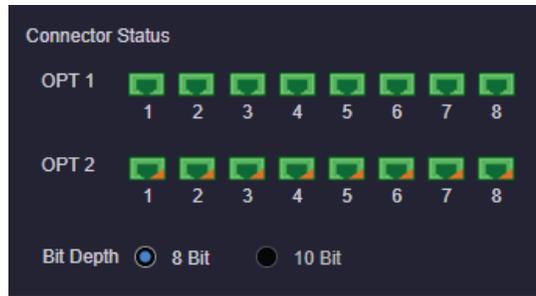
- Running status: Display the current output card status.
  - Normal: The card is connected normally and can be used for output.
  - Abnormal: The card fails and cannot be used for output.
- Basic Information: View the basic information of the output card, including the card type, connector type, serial number and version numbers.
- Connector Status: View the output resolution and connector type and set the output color space, sampling rate and bit depth.
- Connector Settings: For the DVI and HDMI output cards, you can configure the single-link or dual-link output.
  - Single link: All four connectors are used for output.
  - Dual link: Connectors 2 and 4 are used for main output. Connector 1 copies the output on connector 2, while connector 3 copies the output on connector 4.

### H\_16xRJ45+2xfiber sending card and H\_20xRJ45 sending card

- Running status: Display the current output card status.
  - Normal: The card is connected normally and can be used for output.
  - Abnormal: The card fails and cannot be used for output.
- Basic Information: View the basic information of the output card, including the card type, connector type, serial number and version numbers.
- Connector Status: Set the output bit depth. The supported options are 8-bit and 10-bit.

If the backend device is connected to the OPT port on the H\_16xRJ45+2xfiber sending card, the Ethernet port status of the backend device can be displayed on this page.

Figure 6-17 Ethernet port status



- Status descriptions:

- : The Ethernet port on the backend device is connected.
- : The Ethernet port on the backend device serves as the backup port. When  at the bottom right flashes, the backup function is enabled.
- : The Ethernet port on the backend device is not connected.

- Dynamic Sub-Pixels

The sub-pixel refers to an individual light-emitting chip of a single color. In dynamic sub-pixels technology, each pixel may contain only one or two sub-pixels, and complete RGB pixels are composed of sub-pixels in adjacent pixels.

The H\_16xRJ45+2xfiber sending card supports the dynamic sub-pixels technology. Select the dynamic sub-pixels technology used by the current screen from the drop-down list. In this way, the dynamic sub-pixel technologies used by this sending card and the LED screen can be matched.

- None: The dynamic sub-pixels technology is not used.
- Delta1: Each basic pixel unit includes three sub-pixels.
- RRGB: Each basic pixel unit includes four sub-pixels (R, G, G, and B).
- Delta3: Each basic pixel unit includes six sub-pixels.
- Delta4: Each basic pixel unit includes eight sub-pixels.
- R/L/U/D: Share the adjacent sub-pixels in right/left/top/bottom directions.

---

**Notes:**

- Before enabling the dynamic sub-pixels function, please update the H\_16xRJ45+2xfiber sending card to V1.9.9.0 or later. To activate this function, please check the box next to **Enable Dynamic Sub-Pixels** on the firmware update page before updating.
  - To successfully load a screen, the dynamic sub-pixels technologies of the used H\_16xRJ45+2xfiber sending cards must be the same.
  - After the screen is configured, the dynamic sub-pixels technology cannot be changed.
- 

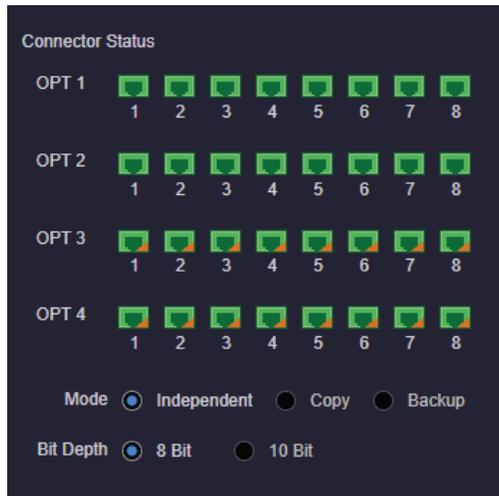
## H\_4xfiber sending card

- Running status: Display the current output card status.
  - Normal: The card is connected normally and can be used for output.
  - Abnormal: The card fails and cannot be used for output.
- Basic Information: View the basic information of the output card, including the card type, connector type, serial number and version number.
- Connector Status: View the status of the Ethernet port on the backend device connected to the OPT port on the H\_4xfiber sending card, and set the connector mode and the output bit depth.

Ethernet port status:

Status descriptions

- : The Ethernet port on the backend device is connected.



- : The Ethernet port on the backend device serves as the backup port. When  at the bottom right flashes, the backup function is enabled.
- : The Ethernet port on the backend device is not connected.

The supported connector modes include **Independent**, **Copy** and **Backup**. The supported bit depth options include 8-bit and 10-bit.

- Independent: Four OPT ports are all used for output and have the same loading capacity. The loading capacity of one port is equal to that of 8 Ethernet ports.
- Copy: OPT 1 and OPT 2 are used for main output. OPT 3 copies the output on OPT 1, while OPT 4 copies the output on OPT 2.
- Backup: OPT 1 and OPT 2 are used for main output. OPT 3 serves as the backup of OPT 1, while OPT 4 serves as the backup of OPT 2.

### 6.4.3 MRV Card

The MVR card is the preview card.

- Running Status: Display the MVR card status.
  - Normal: The card is connected normally and can be used for output.
  - Abnormal: The card fails and cannot be used for output.
- Basic Information: View the basic information of the MVR card, including the card type, connector type, serial number and version number.
- Network Settings: When Ethernet ports are used for output, you need to set the IP addresses of two Ethernet ports and the URLs for the screen and input monitoring.
  - Mode: Set the working mode of the Ethernet port. The working mode is independent by default, and you need to set the IP address, subnet mask and other information for each Ethernet port independently.
  - IP address: Set the IP address for each Ethernet port.
  - Subnet Mask: Set the subnet mask.
  - Gateway: Set the gateway.
  - URL: Set the URL paths and ports for the input and screen monitoring.

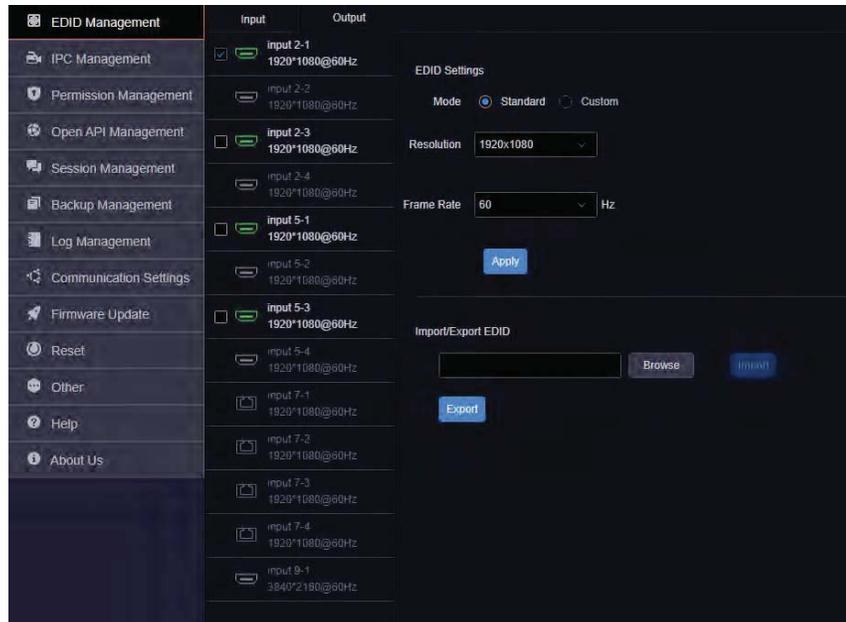
### 6.4.4 Control Card

View the basic information of the control card and AUX card, including the running statuses, serial numbers and hardware version numbers.

## 6.5 Settings

Click the **Settings** tab on the top to enter the settings page.

Figure 6-18 Settings

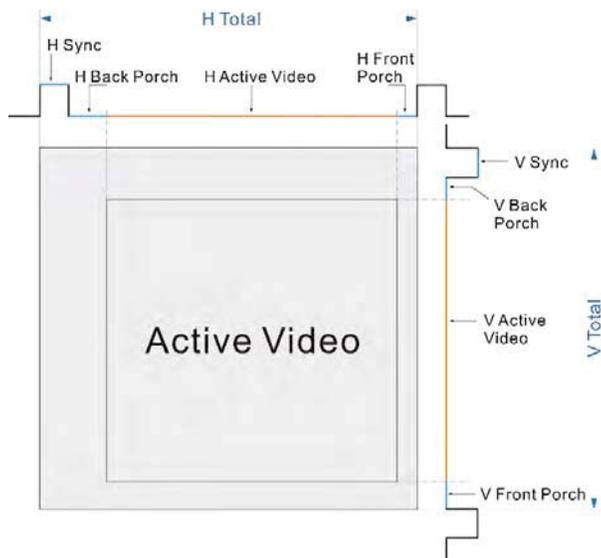


## 6.5.1 EDID Management

Set the input and output resolution. You can set the input or output connector resolution through the following four ways.

- Standard resolution  
Select an input or output resolution from the drop-down list next to **Standard Resolution**.
- Custom resolution  
Set the width, height and frame rate for the input or output connectors.
- Advanced Settings  
Under custom mode, you can select **Advanced** to enable the advanced EDID settings function. The parameters for advanced settings are shown as follows.

Figure 6-19 EDID management



- Import EDID

Click **Browse** to open the window where you can select the desired EDID configuration file, and import it for quick configuration.

**Notes:**

- The system supports simultaneous EDID settings for multiple input and output connectors of the same type and version.
- The H\_16xRJ45+2xfiber sending card, H\_20xRJ45 sending card and H\_4xfiber sending card support custom resolution settings only.
- The VGA, CVBS and SDI connectors do not support resolution and frame rate settings.

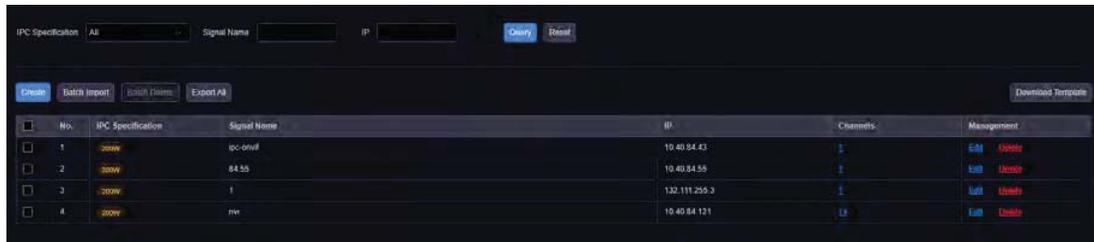
## 6.5.2 IPC Management

### 6.5.2.1 Add IPC Signal

When an IP input is accessed, you need to manage and configure the IPC signal source.

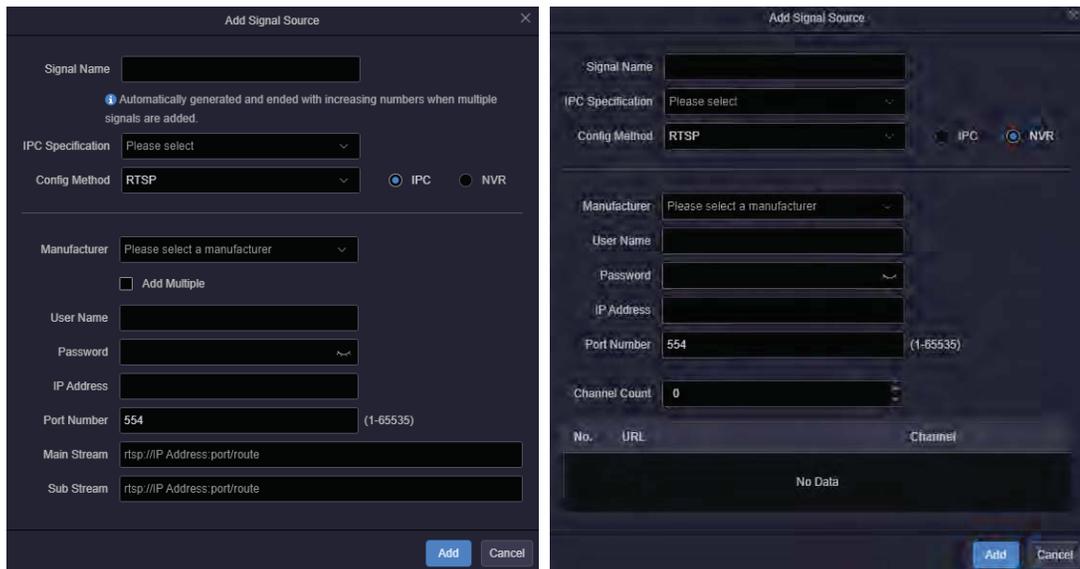
Step 1 On the **Settings** page, click **IPC Management** on the left to enter the IPC management page.

Figure 6-20 IPC management



Step 2 Click **Create** to open the **Add Signal Source** window.

Figure 6-21 Add IPC / NVR signal sources



Step 3 Enter a name for the added signal.

Step 4 Click the drop-down list next to **IPC Specification** to select the specification of the added signal. The supported options include **200W**, **400W** and **800W**.

When you select the IPC specification, it must match the resolution of the IP camera. If the selected specification is lower than the resolution of the connected IP camera, the camera image cannot be decoded.

Step 5 Click the drop-down list next to **Config Method** to select the input source protocol for the IPC card.

GB28181, RTSP and ONVIF protocols are supported currently.

When you select different protocols, you need to check the parameters of the added camera and then fill in the configuration parameters.

- Config Method - RTSP

Real Time Streaming Protocol (RTSP) is a protocol that provides a framework for real-time media data transfer at the application level. The protocol focuses on connecting and controlling the multi-data delivery sessions on lines of time synchronization for continuous media like video and audio.

When you set the config method to RTSP, you must obtain the URL of the RTSP service and the matched user name and password in advance, and then fill the necessary parameters accordingly on the Web page.

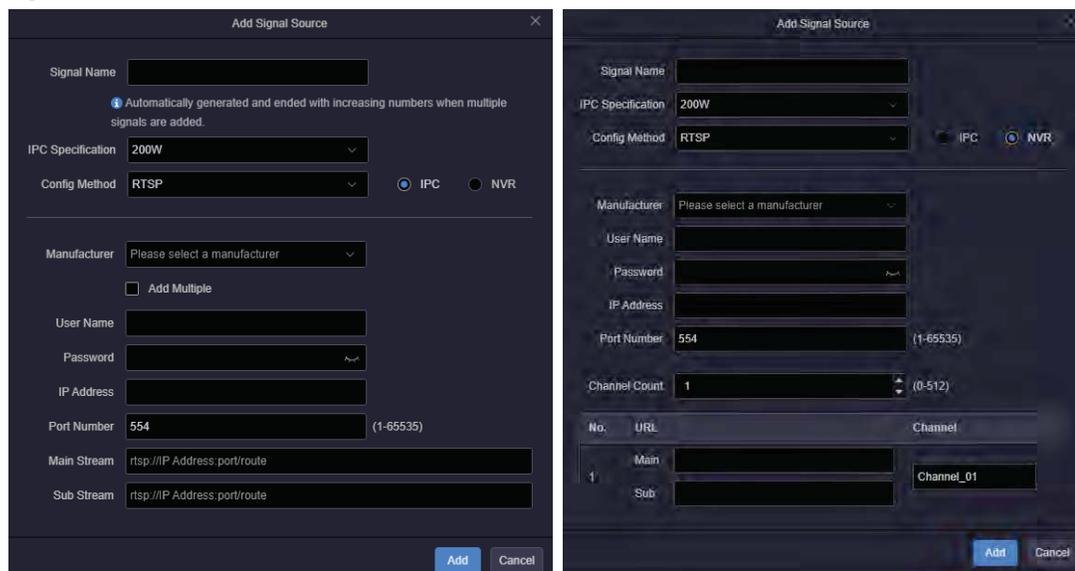
---

**Note:**

When you select Dahua, Hikvision, Uniview, Jovision or Xiongmai, the URL address is obtained automatically by the system. You only need to enter the IP address, user name and password.

---

Figure 6-22 RTSP



- Config Method - ONVIF

Open Network Video Interface Forum (ONVIF) is a global and open industry forum with the goal of facilitating the development and use of a global open standard for the interface of physical IP-based security products. ONVIF creates a standard for how IP products within video surveillance and other physical security areas can communicate with each other.

When you set the config method to ONVIF, you can select to add the camera information manually or by auto scanning.

- Manual

When you set the adding method to **Manual**, you must enter the camera IP address and the user name and password for logging in camera.

When you check the box next to **Add Multiple**, you must enter the start and end IP addresses of the camera.

Figure 6-23 Add manually

The screenshot shows the 'Add Signal Source' dialog box. It has a title bar with a close button. The form contains the following fields and options:

- Signal Name: Text input field.
- IPC Specification: Dropdown menu with '200W' selected.
- Config Method: Dropdown menu with 'ONVIF' selected.
- Adding Method: Dropdown menu with 'Manual' selected.
- User Name: Text input field.
- Password: Text input field with a visibility toggle.
- Add Multiple: Check box.
- IP: Text input field.
- Buttons: 'Add' and 'Cancel' at the bottom right.

- Auto scan

When you set the adding method to **Auto scan**, the system will scan and list all the cameras on the current network segment.

Figure 6-24 Auto scan

The screenshot shows the 'Add Signal Source' dialog box with 'Auto scan' selected. It includes a list of cameras and a configuration section:

- Signal Name: Text input field.
- IPC Specification: Dropdown menu with 'Please select'.
- Config Method: Dropdown menu with 'ONVIF'.
- Adding Method: Dropdown menu with 'Auto scan'.
- Select All: Check box.
- Cameras: A list area (currently empty) with a refresh icon.
- Activate: Section containing 'User Name' and 'Password' text input fields.
- Buttons: 'Add' and 'Cancel' at the bottom right.

Check the box in front of the desired camera, and enter the user name and password for logging in camera.

When adding multiple cameras, you must set the same user name and password for the selected cameras in advance.

- Config Method - GB28181

GB28181 is a standard that is widely used in security-related industries, such as police, traffic police and other government projects.

When you set the config method to GB28181, you must obtain the related information of the accessed monitoring system and the IP settings of the device in advance, and then fill the related parameters accordingly on the Web page.

Figure 6-25 GB28181

Step 6 Click **Add** to complete adding the cameras.

After the video sources are added successfully, the cameras and their IP address will be listed.

Figure 6-26 IPC signal source list

No.	IPC Specification	Signal Name	IP	Channels	Management
1	200W	ipc-0001	10.40.64.43	1	<a href="#">Edit</a> <a href="#">Delete</a>
2	200W	84.55	10.40.64.55	1	<a href="#">Edit</a> <a href="#">Delete</a>
3	200W	T	132.111.255.3	1	<a href="#">Edit</a> <a href="#">Delete</a>
4	200W	nr	10.40.64.121	1	<a href="#">Edit</a> <a href="#">Delete</a>

### 6.5.2.2 Import Multiple IPC Sources

The PWD Series supports batch importing and exporting of IPC sources.

- Step 1 Click **Download Template** at the top right corner to download the template for importing IPC sources to your local computer.
- Step 2 Fill in the relevant information according to the requirements in the template.
- Step 3 Click **Batch Import** to import the IPC sources in the template to the system.

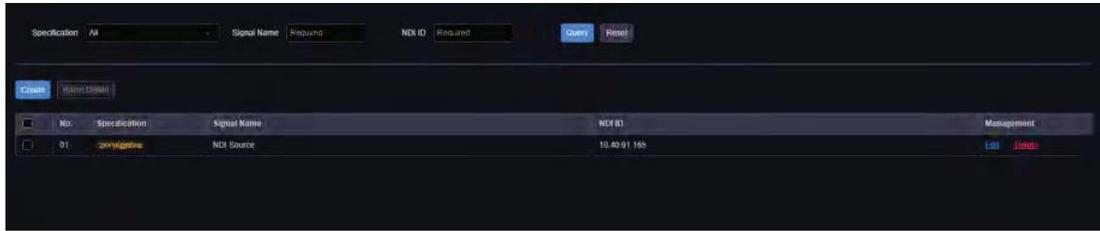
**Note:**

You can also export all the added IPC sources to your local computer for future use.

### 6.5.3 NDI Management

On the **Settings** page, click **NDI Management** to enter the corresponding page.

Figure 6-27 NDI management

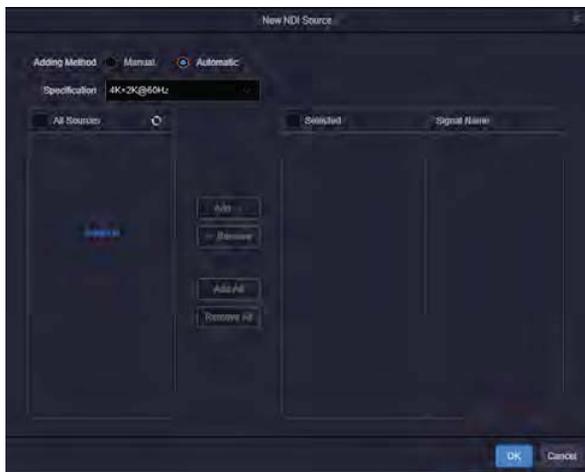


### 6.5.3.1 Add NDI Sources

Before adding an NDI source, you need to connect the NDI connector to the local area network where the NDI source is located using an Ethernet cable, and set the decoding specification of the NDI card on the **Device** page.

Click **Create** to open the NDI source adding window.

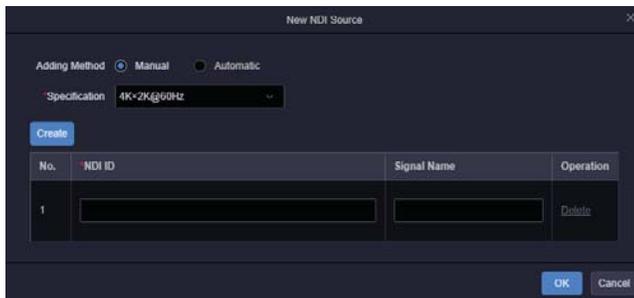
Figure 6-28 New NDI sources



### Add Manually

Step 1 Select **Manual** next to **Adding Method** to open the corresponding window.

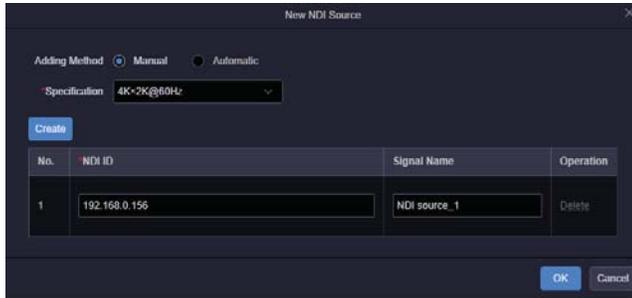
Figure 6-29 Manually add NDI sources



Step 2 Select the decoding specification.

Step 3 Click **Create** to add a new NDI source.

Figure 6-30 New NDI sources



Step 4 Fill in the NDI source information.

- NDI ID: Enter the ID or IP address of the device providing the NDI source.
- Signal Name: Enter a name for the added NDI source.

Step 5 Click **Create** to add more NDI sources and enter the source information.

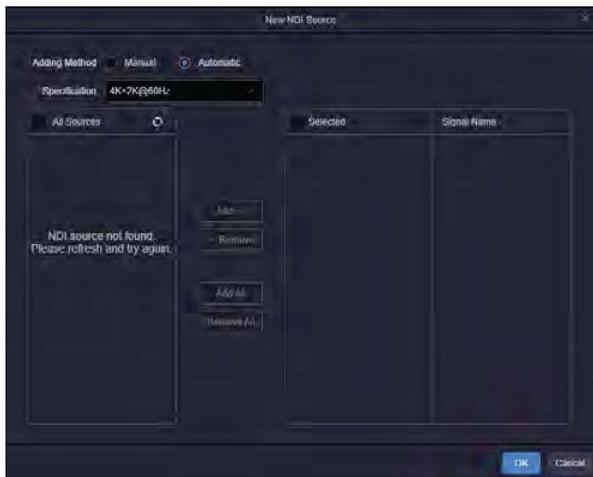
Step 6 Click **OK** to complete the adding.

### Add Automatically

Step 1 Select **Automatic** next to **Adding Method** to open the corresponding window.

Step 2 Select the decoding specification and the system will automatically search for the NDI sources in the current environment.

Figure 6-31 Automatically add NDI sources

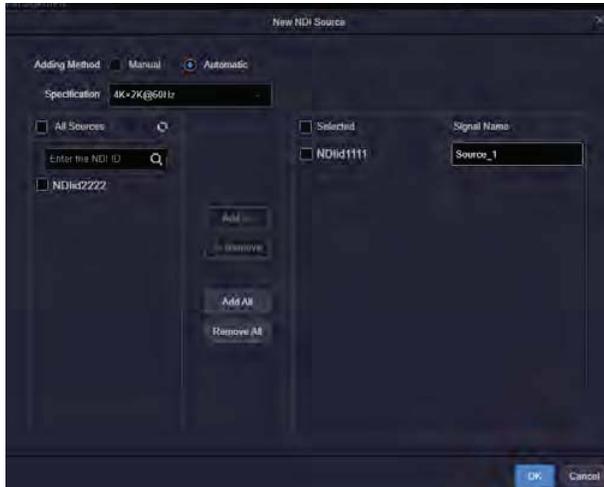


Step 3 In the **All Sources** area, check the box next to the desired NDI source.

Step 4 Click **Add** to add the selected source to the **Selected** area.

Step 5 In the **Signal Name** area, enter a name for the added NDI source.

Figure 6-32 Name NDI sources



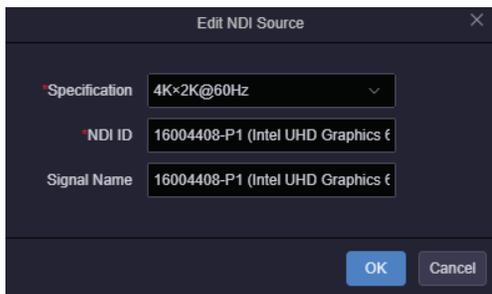
Step 6 Click **OK** to complete the adding.

### 6.5.3.2 Edit NDI Sources

After the NDI source is added successfully, you can edit the source.

Step 1 On the NDI management page, select the desired NDI source and click **Edit** in the column of **Management** to open the NDI source editing window.

Figure 6-33 Edit NDI sources



Step 2 Edit the decoding specification, ID and name of the NDI source respectively.

Step 3 Click **OK** to complete the editing.

### 6.5.3.3 Delete NDI Sources

If the NDI source is not in use, you can delete it on the NDI management page.

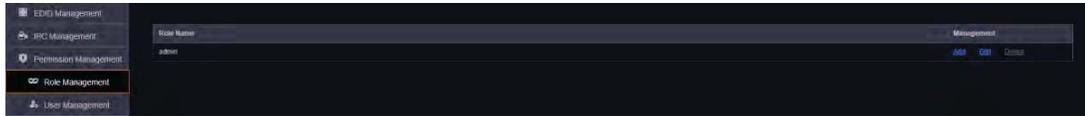
- Delete single source: Check the box next to the desired source and click **Delete** in the column of **Management** to delete the selected source.
- Batch delete: Check the boxes next to the desired sources and click **Batch Delete** to delete all the selected sources.

## 6.5.4 Permission Management

### 6.5.4.1 Role Management

The administrator is able to create permission collections and grant permissions to each user in the system through the role management function. This function also facilitates the fine control of user permissions. For adding new roles, please refer to [4.17 Manage Roles](#).

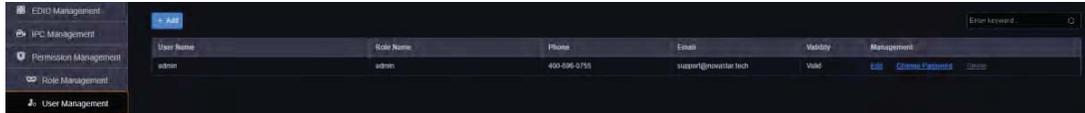
Figure 6-34 Role management



### 6.5.4.2 User Management

The PWD Series supports multi-user collaboration at the same time. Only one user (admin) is created in the system by default. For adding new users, please refer to 4.18 Manage Users.

Figure 6-35 User management

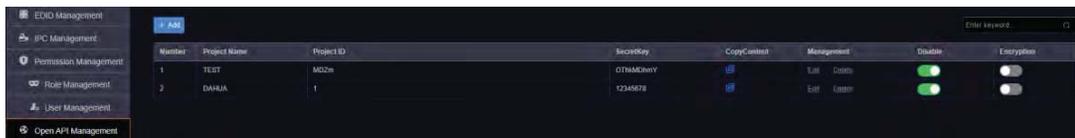


## 6.5.5 Open API Management

The PWD Series provides the open API connector. The third-party developers can control video wall splicers through this connector.

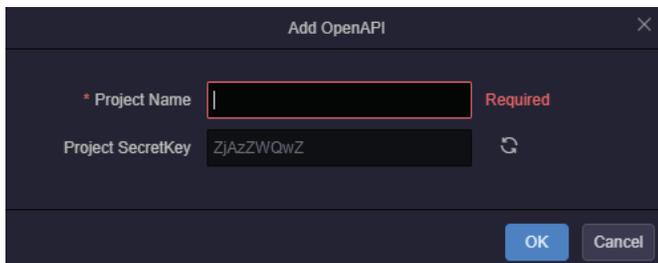
Step 1 Click **Open API Management** on the left to enter the open API management page.

Figure 6-36 Open API management



Step 2 Click **Add** to add a new open API project.

Figure 6-37 Add open API-1

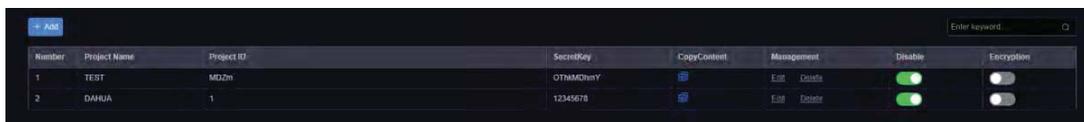


Step 3 Enter the name of the third-party control in the **Project Name** text box.

The system automatically generates a secret key and display it in the **Project Secret Key** text box. Click  to generate a new key.

Step 4 Click **OK** to complete the adding.

Figure 6-38 Add open API-2



After the API is added, the system automatically creates the project ID and the open API is enabled by default. When you need to transmit encrypted control commands, set the button in the column of **Encryption** to



Click  in the column of **Copy Content** to copy the project name, project ID and secret key information and send them to third-party developers.

When you no longer use the open API and need to delete the created open API project, set the button in the column of **Disable** to , and then click **Delete** in the column of **Management**.

## 6.5.6 Session Management

Click **Session Management** on the left to enter the session management page. You can view the relevant information of the current users in the system.

Figure 6-39 Session management

No.	Account	IP	Login Time	Last Time	Management
1	admin	10.241.18.105	2023-12-22 09:57:11	2023-12-22 09:57:14	End
2	admin	10.40.90.56	2023-12-22 11:44:49	2023-12-22 11:44:55	End
3	admin	10.241.18.167	2023-12-21 19:07:55	2023-12-22 11:18:06	End

If the user has the permission to end the session for other users, click **End** to force other users to log out.

## 6.5.7 Backup Management

Click **Backup Management** on the left to enter the backup management page. You can save and export the configured device parameters as a configuration file for future use.

Figure 6-40 Backup management

Import Configuration File

---

Export Configuration File

Enable device backup

Input Backup

Backup List(0/4) Mutual Backup

### 6.5.7.1 Import/Export Configuration Files

- Import Configuration File: Import the saved configuration file for quick screen configuration, color, EDID, layer, BKG, OSD, preset and preset playback settings.
- Export Configuration File: Click **Export** to export the device configuration parameters for future use.

## 6.5.7.2 Device Backup

When both the primary and backup sources fail, the device backup will take effect.

The PWD Series devices support both the backup between the devices and the backup between the sending cards on the same device. You must set the backup in NovaLCT by referring *NovaLCT User Manual*. After configuring the backup in NovaLCT, on the **Backup Management** page of each device, check the box in front of **Enable device backup** to turn on the backup function.

If you connect the PWD Series device via NovaLCT, the controlled sending card varies depending on the communication port. The correspondence between the communication port and sending card is shown in the following table.

Table 6-3 Correspondence between port numbers and sending cards

Port Number	Sending Card	Description
5201	H_16xRJ45+2xfiber sending card	The mode of the communication port used to connect NovaLCT to the PWD Series device: IP: port number • IP: The IP address of the controlled PWD Series device • Port number: The port number varies depending on the sending card.
5202	H_20xRJ45 sending card	
5203	H_4xfiber sending card	

## Card Backup

The backup between cards refers to the backup relationship between two sending cards of the same type on the same device.

Step 1 Run the NovaLCT software. On the menu bar, go to **User > Advanced Synchronous System User Login**.

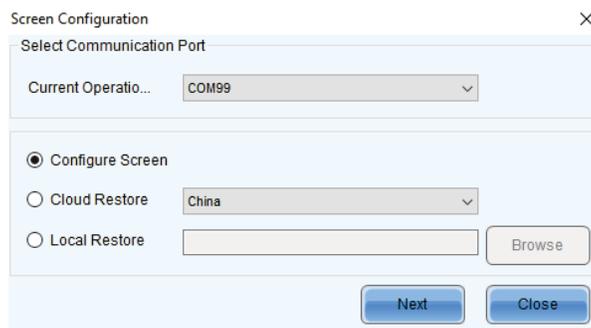
Figure 6-41 Log into NovaLCT



Step 2 Click **Screen Configuration** to open the window.

Step 3 Select a communication port and click **Next** to open the **Screen Configuration** window.

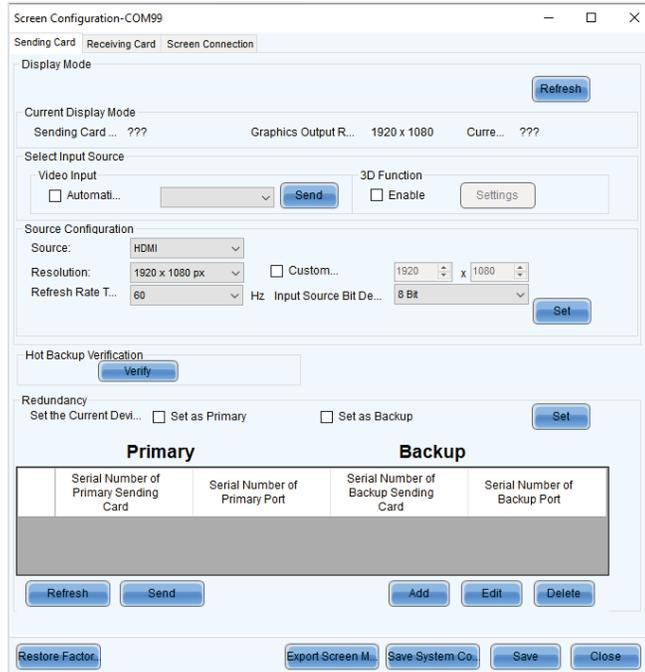
Figure 6-42 Select communication port



For communication port selection, please refer to [Table 6-3](#).

Step 4 Click the **Sending Card** tab and set the backup relationship between two sending cards in the **Redundancy** area.

Figure 6-43 Backup settings



There are two methods to set the backup relationship between two sending cards.

- Configure the backup relationship between connectors.
  - a. In the **Redundancy** area, click **Add** to open the **Redundancy Settings** window.



- b. Enter the serial numbers of the primary sending card, primary port, backup sending card and backup port respectively.
 

If you set the backup relationship between the Ethernet ports on the same sending card, enter the same serial numbers of both the primary and backup sending cards. If you set the backup relationship between the Ethernet ports on different sending cards, enter the serial numbers of both the primary and backup sending cards according to the device cascading relationship.
  - c. Click **Add** to complete the backup relationship settings.
  - d. Repeat the above mentioned operations to set the backup relationship of other connectors. Click **Close** to complete the settings.
  - e. Click **Send** to send the configuration to the PWD Series device.
  - f. Click **Save** to save the configuration to the PWD Series device.
- Configure the backup relationship between two sending cards.
    - a. In the **Redundancy** area, click **Set** to open the **Redundancy settings** window.

Figure 6-44 Set backup relationship between sending cards



- b. Click Set as Primary.
- c. In the sending card list, select the desired sending card used as the primary one.
- d. Click **Set** to complete the primary card settings.
- e. Click Set as Backup.
- f. In the sending card list, select the desired sending card used as the backup one.
- g. Click **Set** to complete the backup card settings.

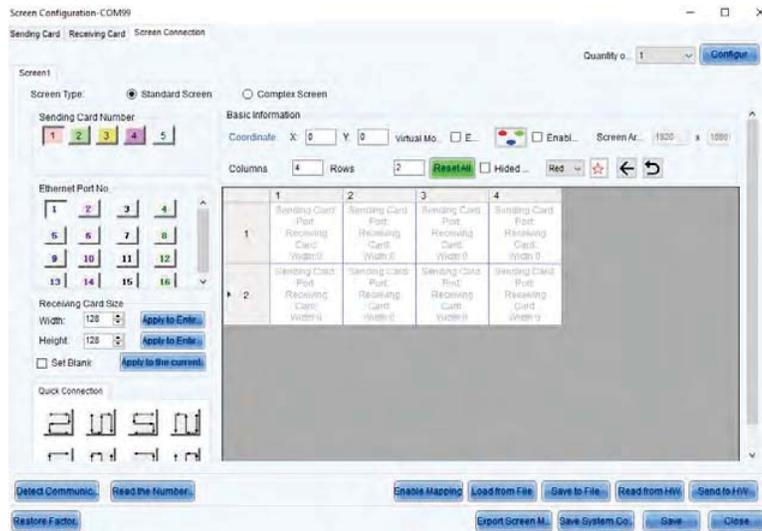
After you set both the primary and backup sending cards, the status icons of **Primary** and **Backup** will be displayed next to the corresponding cards.



- h. After you complete the settings, click **Save** to send the configuration to the PWD Series device.

Step 5 After you complete the backup settings, click the **Screen Configuration** tab to open the corresponding window.

Figure 6-45 Screen configuration



Step 6 Select the desired screen quantity from the drop-down list next to **Quantity of Screens**, and then click **Configure** to complete the configuration.

You can also increase or decrease the screen quantity here.

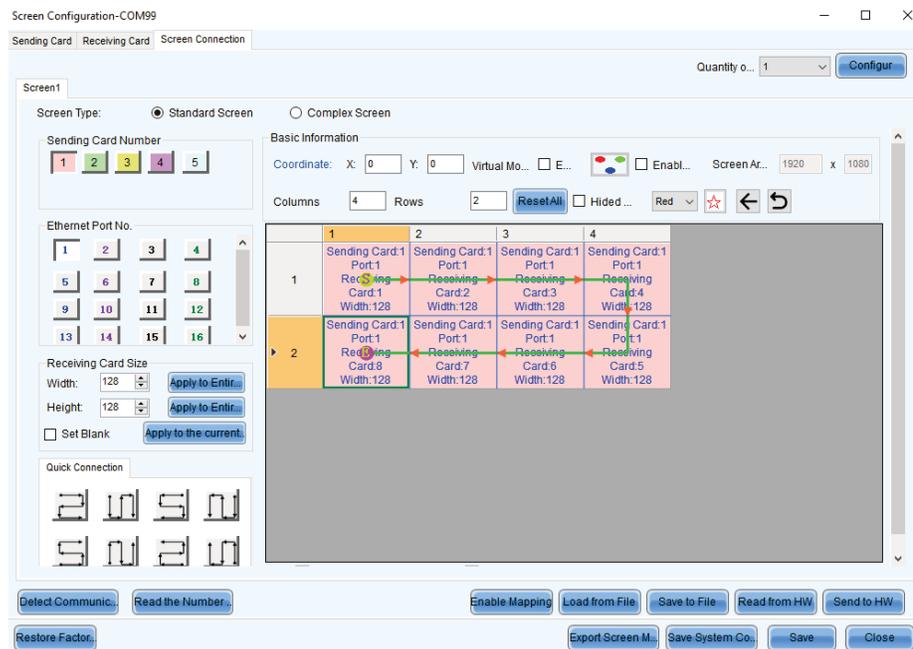
Screen quantity descriptions:

- When you set the backup relationship between Ethernet ports, only one screen loaded by the primary Ethernet ports needs to be configured.
- When you set the backup relationship between sending cards, you need to configure the screen for each sending card, and the screen configuration parameters of the primary and backup cards must be the same. The screen configuration parameters include the screen size, cabinet size and connection topology of the Ethernet ports matched with the primary and backup sending cards.

Step 7 Configure the loaded screen.

1. Set the cabinet width and height in the **Receiving Card Size** area according to the actual cabinet specification.
2. Set the values of **Columns** and **Rows** of the receiving card.
3. Select the desired sending card number and Ethernet port number respectively.
4. Set the connection topology of the receiving card.

Figure 6-46 Connection topology



5. Repeat the above mentioned two steps to complete the connection topology of other ports.

When you set the backup relationship between two sending cards, you need to configure another screen whose connection topology is the same as that of the primary sending card.

6. After you complete the configuration, click **Send to HW** to send the configuration to the PWD Series device.

7. Click **Save** to save the configuration to the hardware.

## Device Backup

Set the backup relationship between two devices.

Step 1 Run the NovaLCT software. On the menu bar, go to **User > Advanced Synchronous System User Login**.

Figure 6-47 Log into NovaLCT



Step 2 Click **Screen Configuration** to open the window.

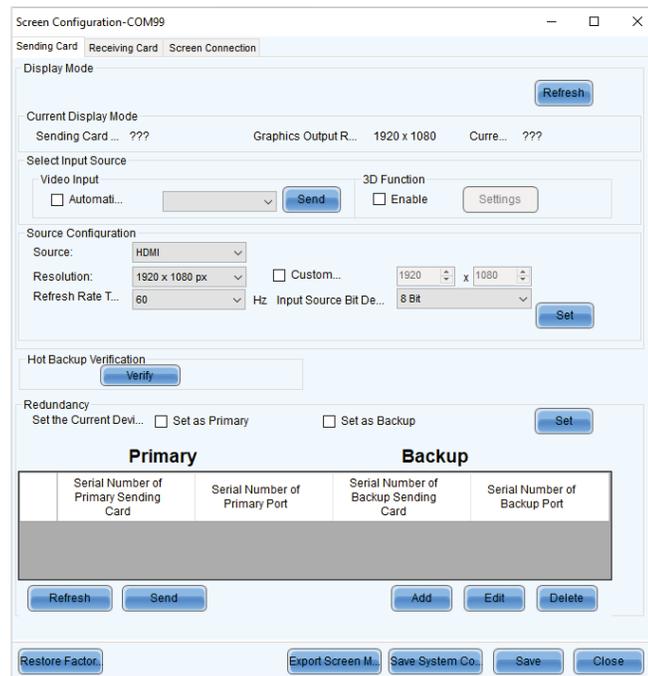
Step 3 Select a communication port and click **Next** to open the **Screen Configuration** window.

Figure 6-48 Select communication port



Step 4 Click the **Sending Card** tab and set the backup relationship between two devices.

Figure 6-49 Backup settings



Step 5 If the current device serves as the primary one, check the box next to **Set as Primary**.

Step 6 Repeat [Step 3](#) to select the communication port of the backup device, and then the backup device will be connected.

Step 7 In the **Redundancy** area, check the box next to **Set as Backup**.

Step 8 On the **Screen Configuration** page, configure the screen loaded by the primary and backup devices respectively.

The screen parameters of the primary device must be the same as that of the backup device.

**Note:**

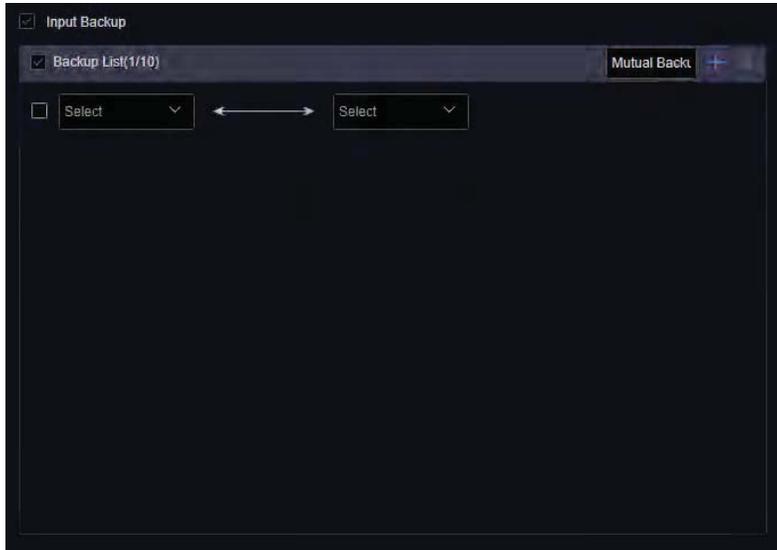
The settings for the backup device and the backup sending card must be same as that of the primary device and primary sending card.

### 6.5.7.3 Input Backup

The PWD Series devices support the input source backup function. If the input signal in use is abnormal or lost, the backup one will take over the job seamlessly to ensure the display not go black. The backup relationship cannot be set for NDI or IPC sources.

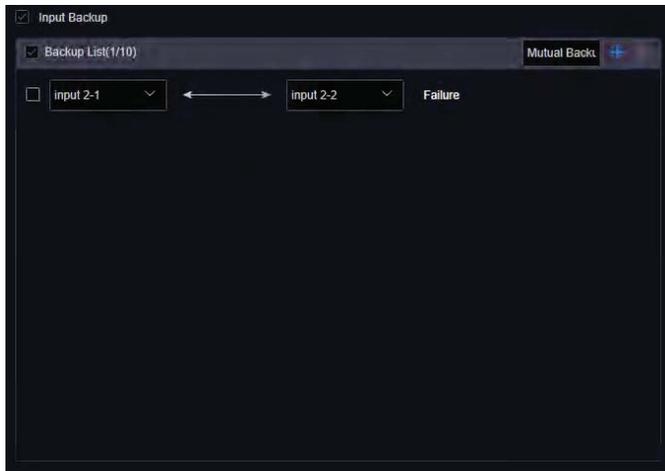
- Step 1 Click **Backup Management** on the left to enter the backup management page.
- Step 2 Check the box next to **Input Backup** to enable the input source backup function.
- Step 3 Select the desired backup relation. The options include **Mutual Backup** and **Primary and Backup**.
- Mutual Backup: When one input source fails, the other one takes the job seamlessly; when the failed one resumes, it continues to work normally and the other does not work.
  - Primary and Backup: When the primary input source fails, the backup one takes the job seamlessly; when the primary one resumes, it continues to work normally and the backup one does not work.
- Step 4 Click  at the top right of the input backup list to add a new backup pair.

Figure 6-50 Add backup pairs-1



- Step 5 Select two input sources respectively from the two drop-down lists to complete the adding of one backup pair.

Figure 6-51 Add backup pairs-2



The system will automatically detect the status of the backup one and display the status next to the backup pair.

- Step 6 Repeat [Step 3](#) and [Step 4](#) to add more backup pairs.