DigiBird Technology Co., Ltd.

VWC3-H Video Wall Controller

User Manual V1.2

DIGIBIRD
www.digibirdtech.com

Table of contents

About

This manual is applicable to VWC3-H video wall controller. Thank you for purchasing our products. Please read this manual carefully before use.
All pictures in this manual are for reference only. Please refer to the actual product.
The descriptions in this manual may not correspond exactly to the product or its accessories you purchased. We reserve the right to modify any information in this manual at any time. The updated contents will be added to the new version of this manual without prior notice.

Icon Conventions

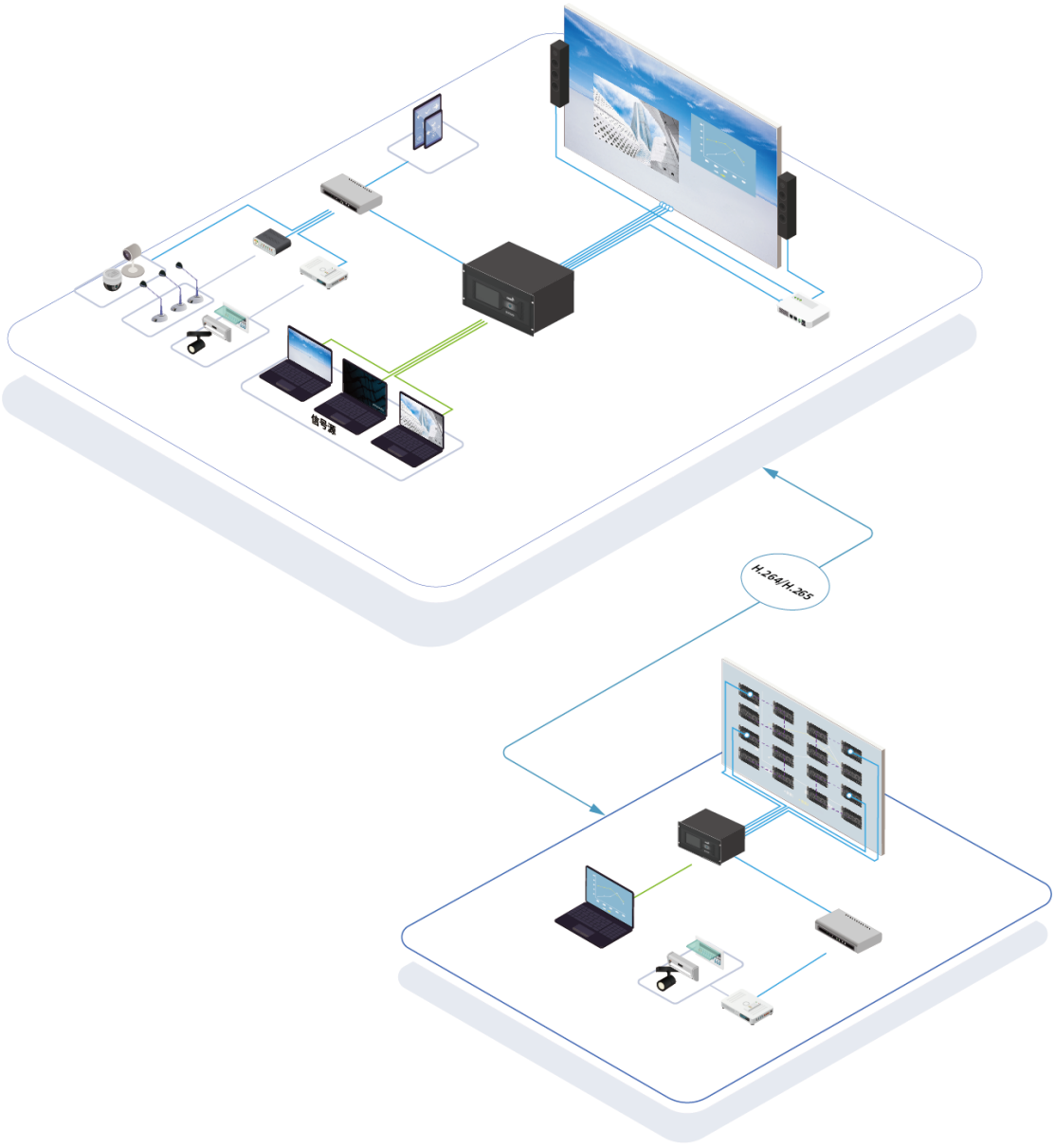
	illustrate	Necessary notes, add on and explanations help you understand the contents described in the manual more clearly.
	Notice	The matters that must be paid attention to and followed during operation.
	warn	Potentially dangerous situations, warning you to use the equipment safely.

Text symbol conventions

【 】	Square brackets (Chinese)	Identifies an area or window of the operating interface. For example, [Control Panel] indicates the control panel window of the computer.
[ ]	Square brackets (English)	Operation interface buttons, such as " Center ", mean to center the selected content.
< >	Angle brackets	Keyboard keys, such as <CTRL+1>, means that the "CTRL" key and the "1" key are pressed at the same time.
→	arrow	The order to execute steps, such as selecting A → B, means selecting A first and then selecting B.

1. Overview

VWC3-H is 3rd generation of video wall controller which is designed and manufactured by DigiBird. Followed by previous generation, VWC3 maintains hardware-based processing and applies DigiBird self-developed FPGA piling structure. With integration of video wall controller, matrix switcher and LED sending controller, VWC3 delivers unapparelled performance in various verticals such as control room, command center, operating center and broadcasting.

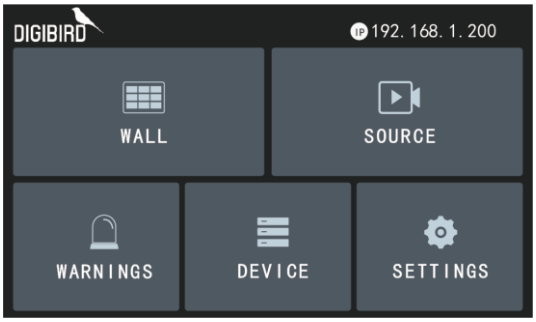


1.1. Hardware Introduction

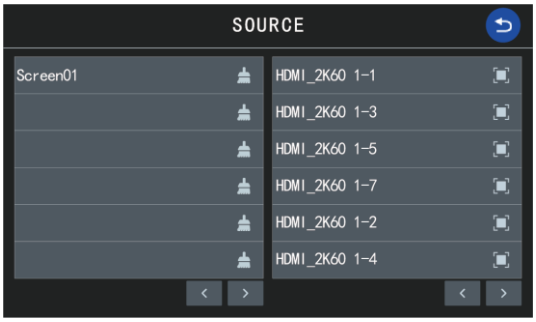
The device supports front touch panel operation, including create new windows on video wall, scenes recall, alarm information, device information, and language switching. This manual takes 2U device as an example.

1. Create New Windows

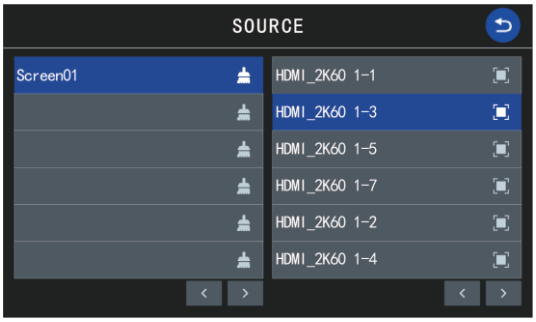
1. Initial



2. Click the screen



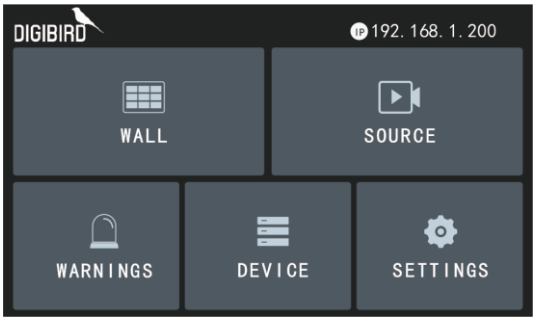
3. Click "Source". The left side is the video wall list and the right side is the source list.



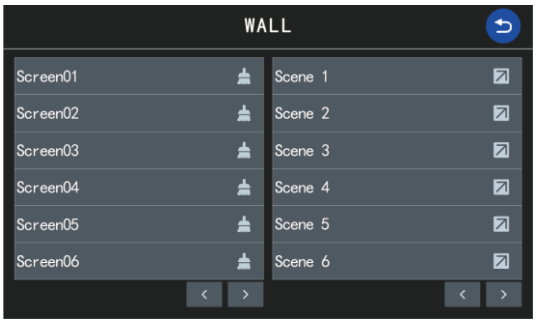
4. Click to select the video wall and signal source, then click , signal source on screen, click , clear all windows on the video wall.

2. Recall Scenes

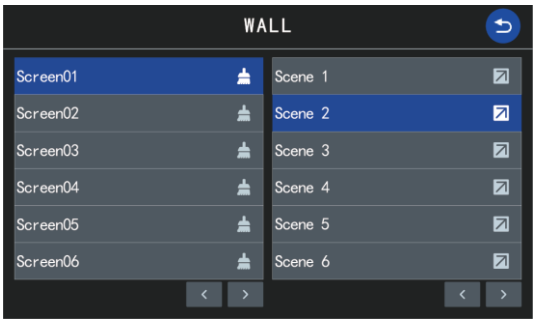
1. Initial



2. Click the screen



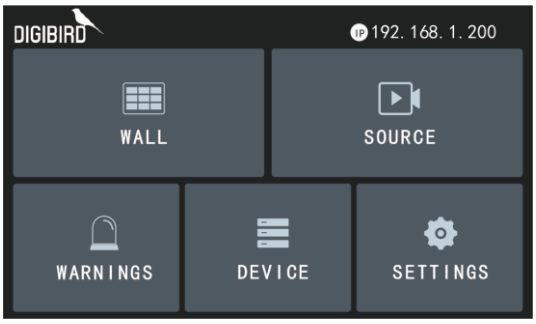
3. Click "Wall". The video wall list is on the left and the scene list is on the right.



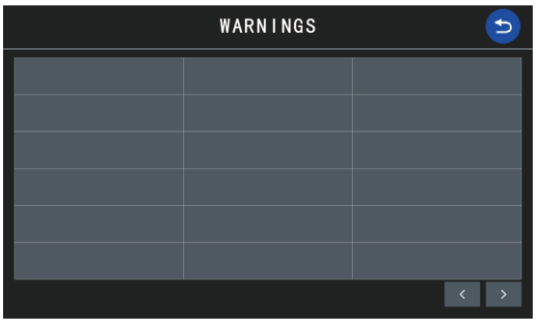
4. Click to select the video wall and scene, then click , call the video wall scene, click , clear all windows on the video wall.

3. Warning information

1. Initial



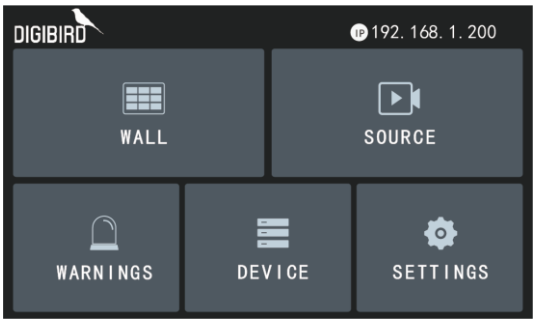
2. Click the screen



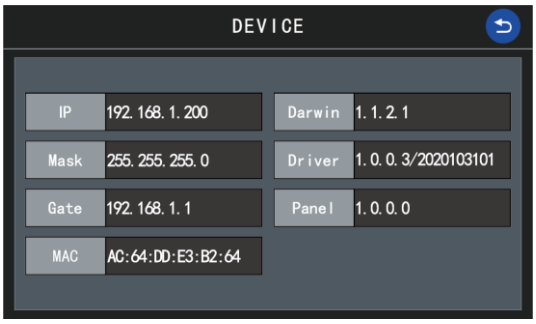
3. Click "Warnings" to view the alarm information.

4. Device Information

1. Initial



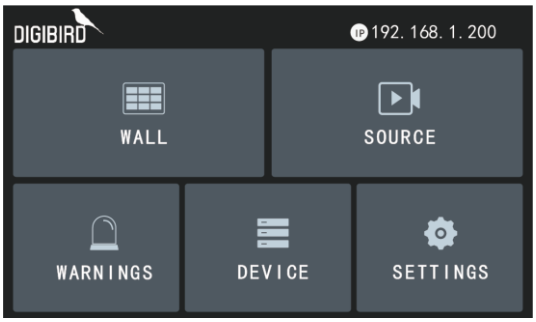
2. Click the screen



3. Click "Device" to view device information.

5. Switch language

1. Initial



2. Click the screen

3. Click "Settings" to switch the language.

1.2. Software Introduction

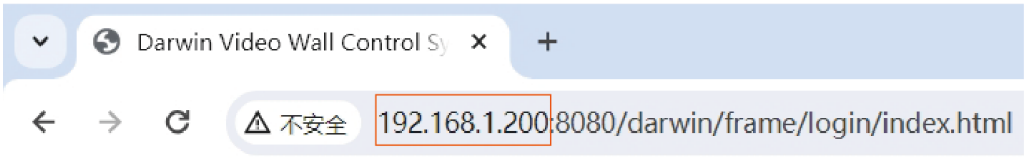
VWC3-H can be managed through web-client by entering IP address of device in a browser.
The following browsers are supported:

type	Version
Google Chrome browser	Recommended version number V 67.0.3396.99
360 browser	8.1 and above, fast mode
QQ Browser	9.5.1 and above, fast mode
Cheetah Browser	6.0 and above, extreme speed mode
UC Browser	5.7.16400.16 and above, extreme speed mode
Sogou Browser	7.0 and above, extreme speed mode

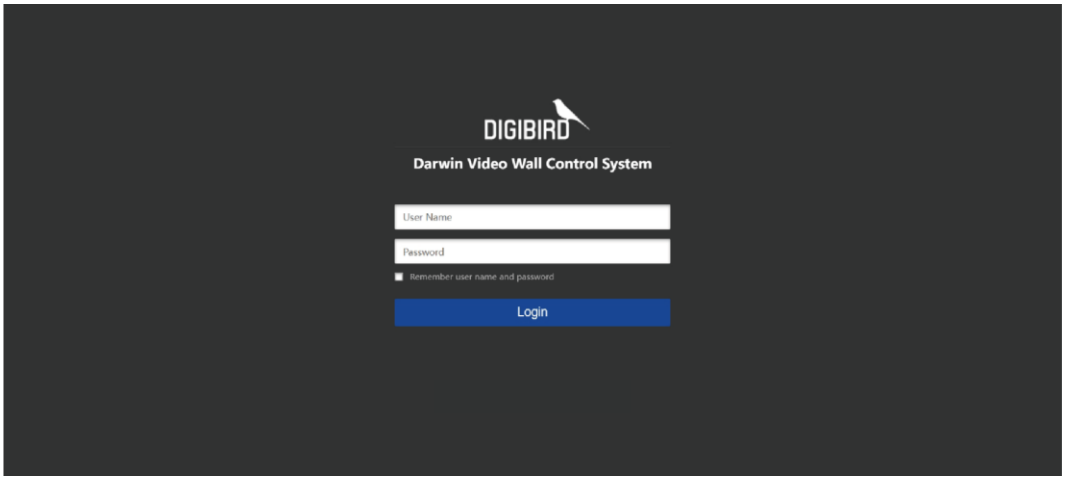
1.2.1. Software Login

If you want to log in web-client to control the device, the IP addresses of the control computer and the controller must be in the same network segment. The specific steps are as follows:

1. Enter the IP address of the controller, for example: 192.168.1.200, and press the <Enter> key on the keyboard.



2. Enter the login interface, enter the username and password, and click the "Login" button. The default administrator user name is "admin" and the password is "123". You can modify the password after logging in. For details, see - **6.2.3 User Management** .



The default IP address of the device is: 192.168.1.200. The device IP address can be modified through software. For details, please refer—**6.8.1 IP configuration** .

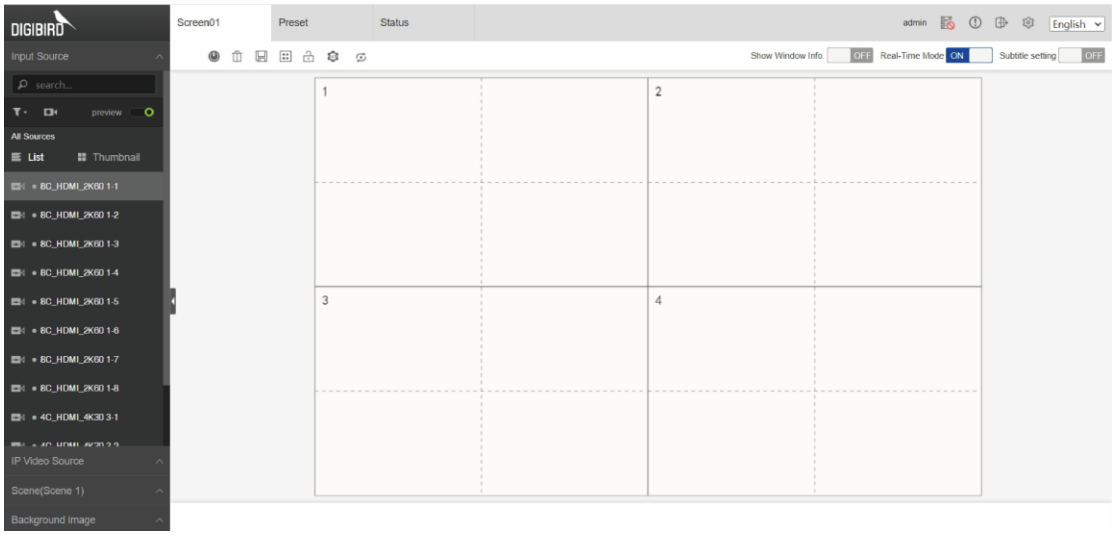
1.2.2. Interface Introduction

The control software consists of two parts: [front-end operation interface] and [backstage management interface].

1. Front-end operation interface

After successful login, you will enter the front-end operation interface, where you can perform operations such as video wall layout, scenes recall, device status check, scrolling text setting, background image setting, etc.

By default, there is video wall configured initially. You need to enter the [Backstage Management Interface] and configure a new video wall. For details, please refer - **2.1 Create Video Wall .**



Function bar description:

2. Backstage management interface

Click  icon on the upper right corner of the front page to enter the [Backstage management interface].

In this interface, you can manage video wall settings, controller settings, IP camera sources and systems settings

2. Video Wall Management

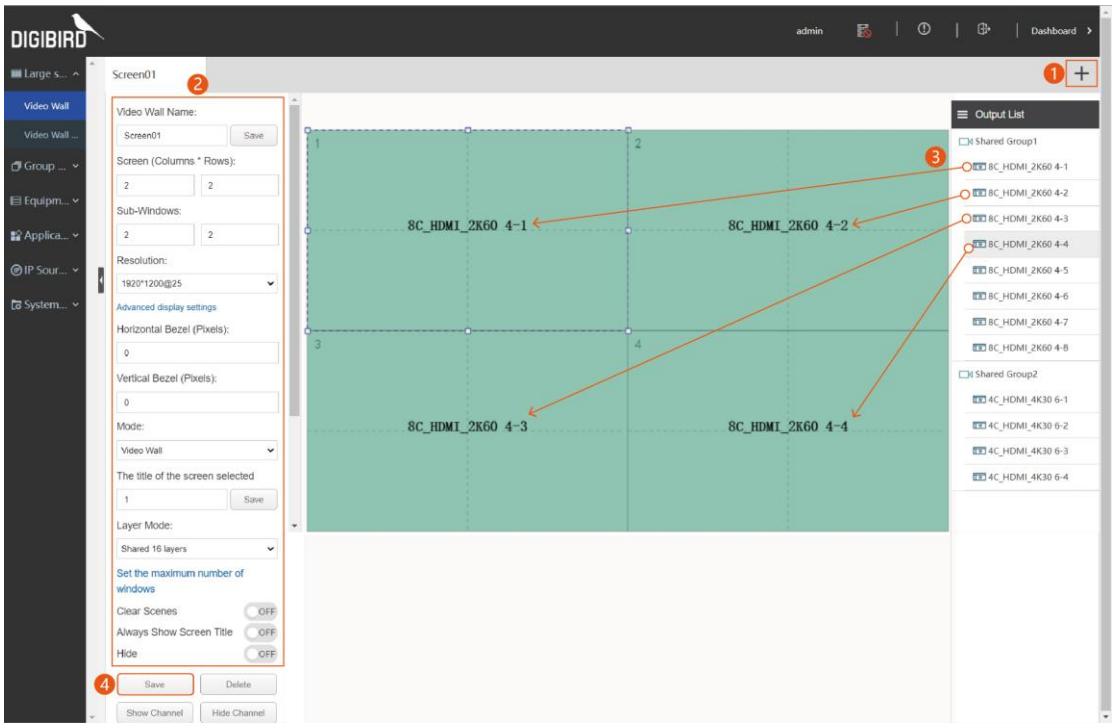
2.1. Create Video Wall

Operator can create LCD/DLP wall, or LED wall based on demand.

2.1.1. New video wall

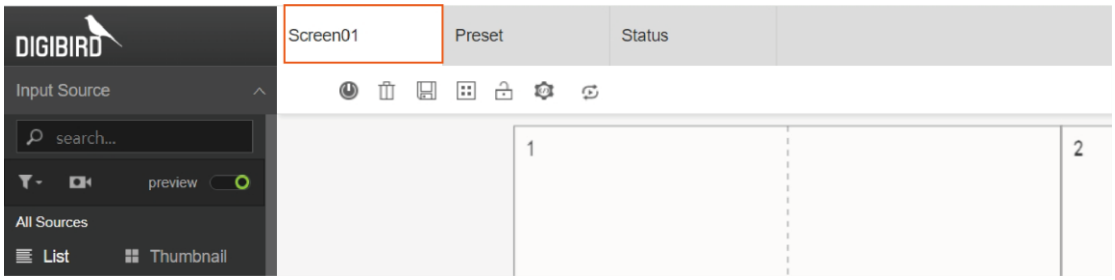
Enter the backstage [Large Screen Management] - [Video wall] interface to configure video wall.

1. Click the + button, add a video wall group.
2. By default, a set of 2x 2 video wall is created. The screen parameters need to be configured accordingly.
3. Drag the output channel in the [Output List] to the video wall to assign the output channel.
4. Click the Save button to complete the configuration.



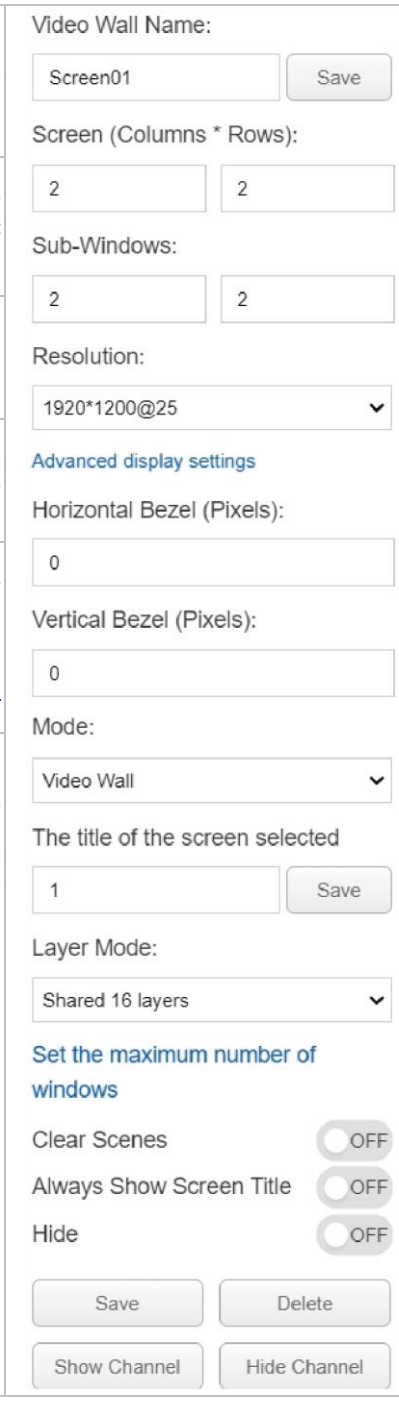
The screen can be connected to any output port, as long as the correct mapping relationship between "output port number " and "screen " is established in the software.

Multiple groups of video wall can be created on the same interface. There is no limit on the number of video walls created, but the type of screen resolutions cannot exceed 4. After the settings are completed, return to the front interface and you can see the multiple groups of screens created. Click the name of the video wall in the function bar to switch to the corresponding video wall control page.



2.1.2. Parameter Description

The relevant parameter items when creating a video wall are described as follows:

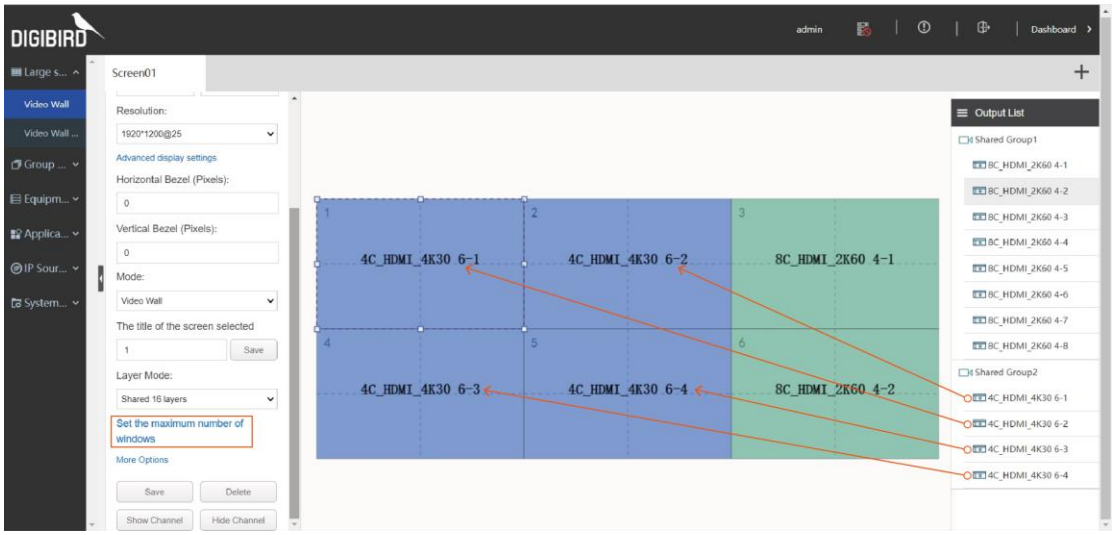
Video wall name The video wall name can be customized. Click the "Save" button to modify the video wall name.		**Number of physical screens** Enter the horizontal and vertical number of screens according to physical video wall.
Logical sub-screen The virtual sub-screen of a single display is used to create windows. The default setting is 2x 2.		**Resolution** Configure output resolution. Support customized resolutions, for more information, please refer— **6.7 Custom Resolution** .
Horizontal/vertical Bezel Set up screen bezel to achieve bezel compensation function.		**Mode:** Support "LCD wall" "LED Wall " mode, for configuration details, please refer -- **2.1. 5 Video wall mode** .
The title of the selected screen Set the display name of the screen on the virtual screen in the software for easy identification.		**Layer Mode** The default is "Shared 16 Layers".
Set the maximum number of windows You can customize the maximum number of windows in a shared group. The total number of windows in each shared group cannot exceed 1 6. For detailed description, please refer —**2.1.3 Shared Group** .		**more options** • Clear scene: When this function enabled, the previously saved scene will be cleared when saving; • Always display screen title: When this function is enabled, the screen title will be displayed on the top layer and will not be covered by the window; • Hide: When the function is enabled, this video wall will not be displayed on the front-end interface.
Save settings: Click to save video wall parameter configuration; **Delete video wall:** Click to delete this video wall; **Show/Close Channel:** Click to show/close the channel number on the output display screen, making it easier for users to locate the display screen.		

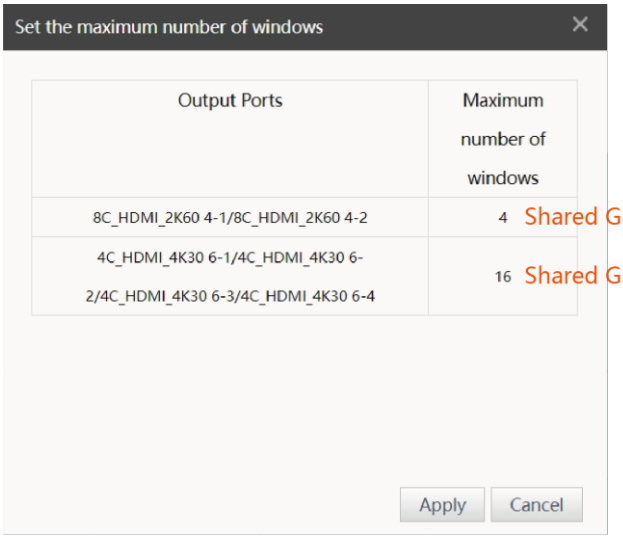
2.1.3. Shared Group

For output cards (excluded LED sending cards) in the chassis, the software manages the output ports of the cards in the form of "sharing groups". A single sharing group contains all the ports of output card. All ports in the sharing group support a total of up to 16 windows. When configuring the video wall, the maximum number of windows in the sharing group can be set according to demand.

Example: There are 2x output cards in the chassis, and two shared group are used to configure a 3x 2 video wall.

The video wall uses 4 window resources of "Shared Group 1" and 16 window resources of "Shared Group 2 ". At this time, if you want to configure another video wall, only 12 window resources of Shared Group 1 are available.





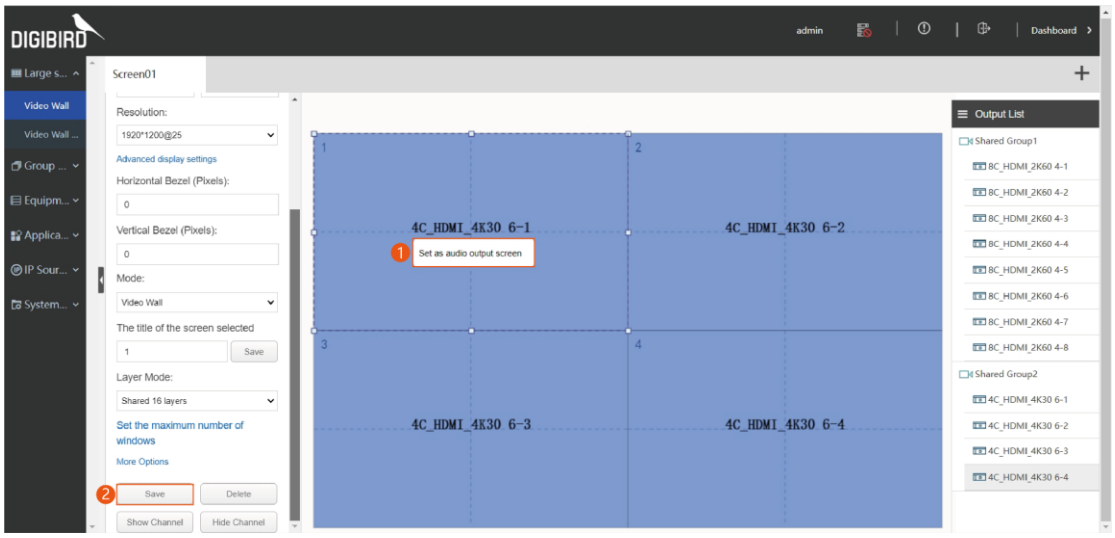
To maximize the window numbers, when allocating output ports, the ports in the same sharing group must be within the 2x 2 screen range, as shown in the figure above for the allocation of sharing group 2.

2.1.4. Audio output screen

Users can specify the audio output screen, and the signal displayed on this screen will output the audio.

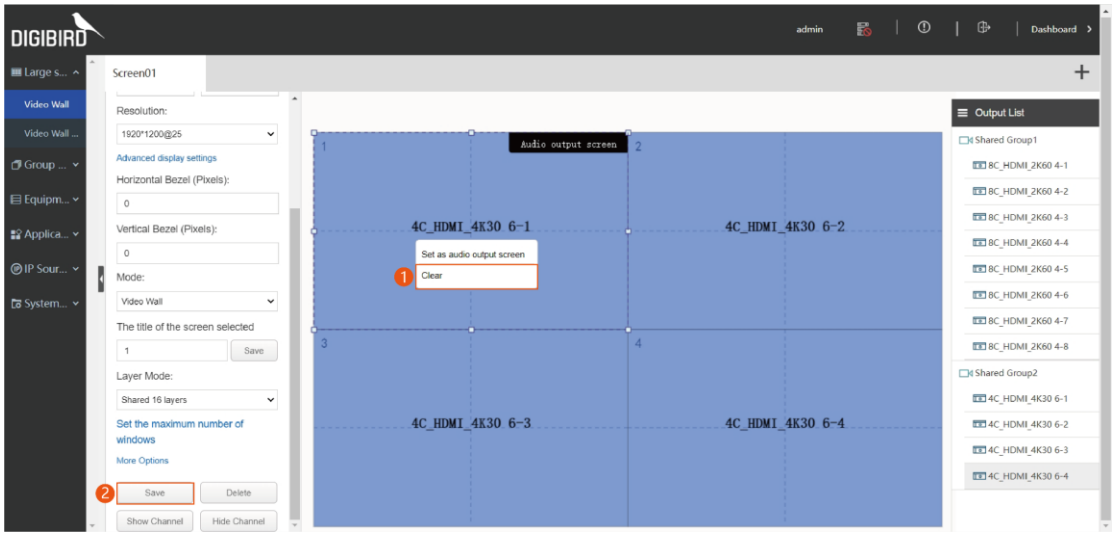
In the backstage [Large Wall Management] - [Video wall] interface, select a group of video wall, right-click a screen, then click "Set as Audio Output Screen" button, and "Save" the changes.

After the settings are completed, enter the front-end control interface. You can select a signal to open a window on the "Audio Output Screen" and set whether to output audio. For details, please refer - **2.3.5 Audio Control** .



The 8-channel output card and LED sending card do not support this function yet.

If you no longer need this function, right-click the audio output screen, click the "Clear" button, and click the "Save" button.

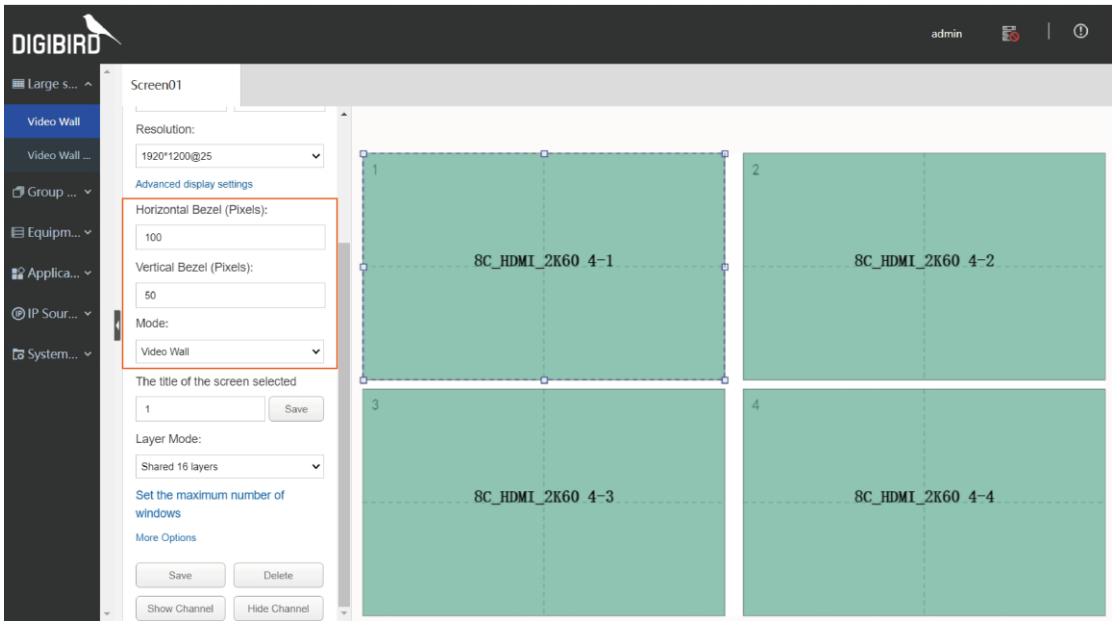


2.1.5. Video Wall Mode

There are 2x modes of video wall, LCD Video wall and LED Video Wall.

2.1.5.1. LCD Video Wall

In the backstage [Large wall Management] - [Video Wall] interface, select the screen mode of "Video Wall" and set screen bezel. Video wall will do bezel compensation to present unified image to avoid picture deformation or discontinuity.



- **Horizontal bezel:** the number of pixels between the left and right screens in two adjacent screens;

- **Vertical bezel:** The number of pixels between the upper and lower screens of two adjacent screens.

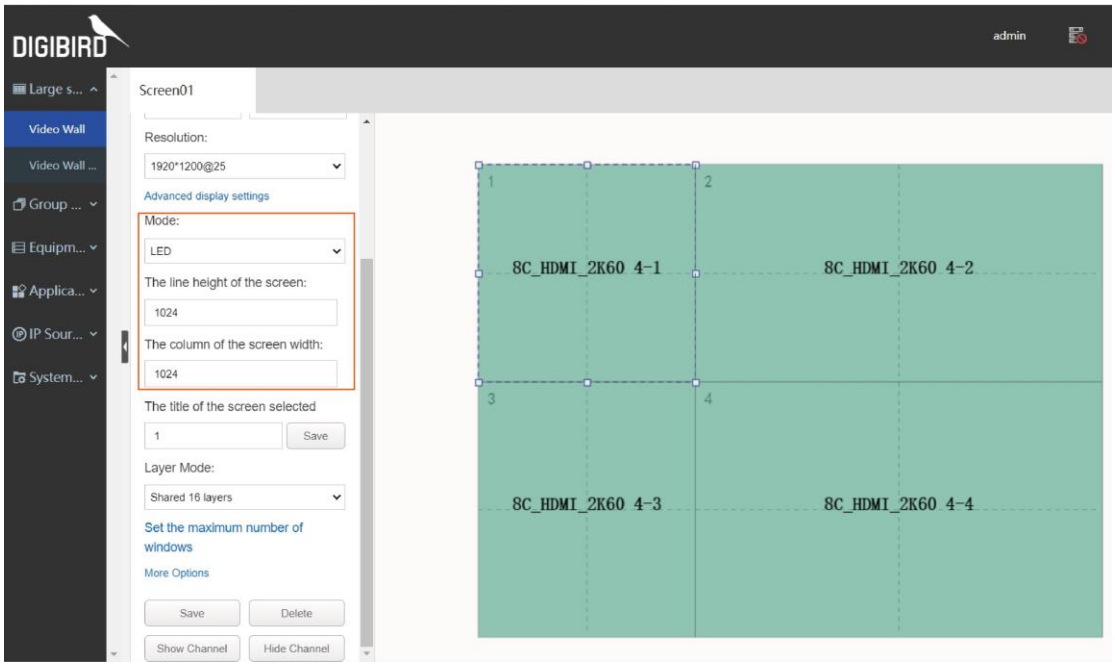
"Pixels" refers to the number of pixels, and the calculation is, horizontal (vertical) bezels = Physical bezel length x horizonal resolution or vertical resolution/Physical length or width of the screen (e.g. 4.5 x 1080/64.5=75).

2.1.5.2. LED

As the size of the LED screen is not fixed, select the "LED " mode to set the size of the LED module powered by each output channel.

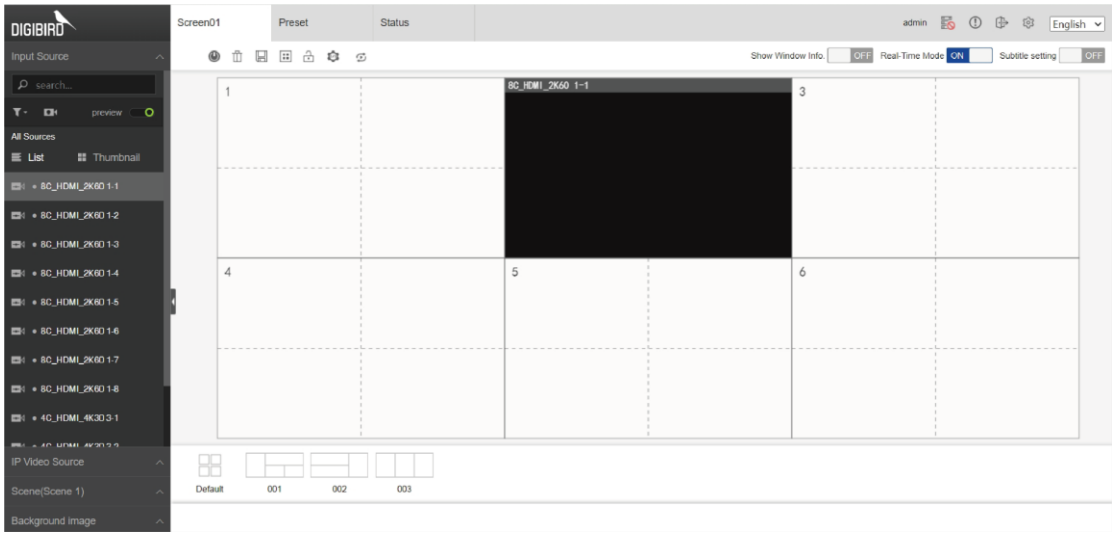
- **Height of the row:** Set the height of the screen in pixels. All screens in the row will be same height. If any screens on the same row changes its height, the height of all screens on this row will be changed accordingly.

- **Width of the column:** Set the width of the screen in pixels. All screens in the column will be same width. If any screens in the same column changes its width, the width of all screens in this column will be changed accordingly.



2.2. Interface Overview

After the video wall is created, you can manage video wall display at the front end. The interface description is as follows:



Items	Description
All sources	The list contains all the signal sources connected to input cards. Each signal has a status indicator. Green light indicates signal is connected, and gray light indicate no signal is connected or the input signal is abnormal.
IP video Source	The list contains the IP camera sources.
Scenes	The list contains the scenes of the current video wall.
Background	The list contains all uploaded background images.
Workspace	Virtual video wall, manage video wall display.
Video wall layout list	Will show under the virtual video wall after being configured at backstage. For details on the layout configuration, please refer —— 2.4 Video wall Layout .
Window location and size	Display the coordinates, width and height of the selected window.
Clear	Click to clear all windows on the video wall. If there are locked windows, need to unlock them before clearing them.

Save the scene	Click to save the large-screen scene and call it up with one click.
View all	The workspace supports zooming. After zooming, click this button to restore the default size.
Locking	Click to lock the workspace. After locking, video wall layout cannot be changed to prevent mis operation. Click again to unlock.
Combined control	Click to view combined control device operation record, for details, please refer - **4.1 Equipment Joint Control** .
Carousel	Click to enable carousel. For details, refer —— **2.5 Scenes and Carousel** .
Window information show/hide	**ON status:** The workspace displays the maximum number of windows, available windows, and used windows for each sharing group. The window ID (represents the window Z-order. Larger number stands for topper layer), Window position (the coordinates of the upper left corner of the window), and window size (in pixels) will be displayed. **OFF state:** Do not display window information.
Live mode on/off	**ON status:** Any operations on the virtual video wall will sync to physical video wall displays in real time. **OFF state:** supports pre-edit of layout, refer **2.3.4 Pre -Editing** .
Scrolling text	**ON status:** enable scrolling text setting, for details, please refer — **2.6 Scrolling Text** . **OFF state:** Disable scrolling text.

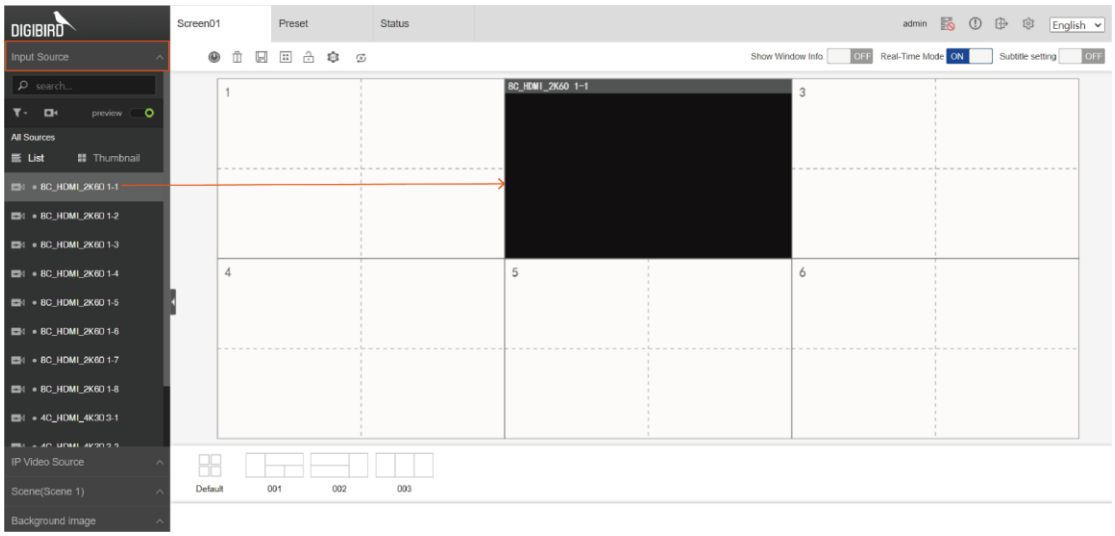
2.3. Window Configuration

Creating new windows on the video wall to achieve flexible layout.

2.3.1. Create Windows

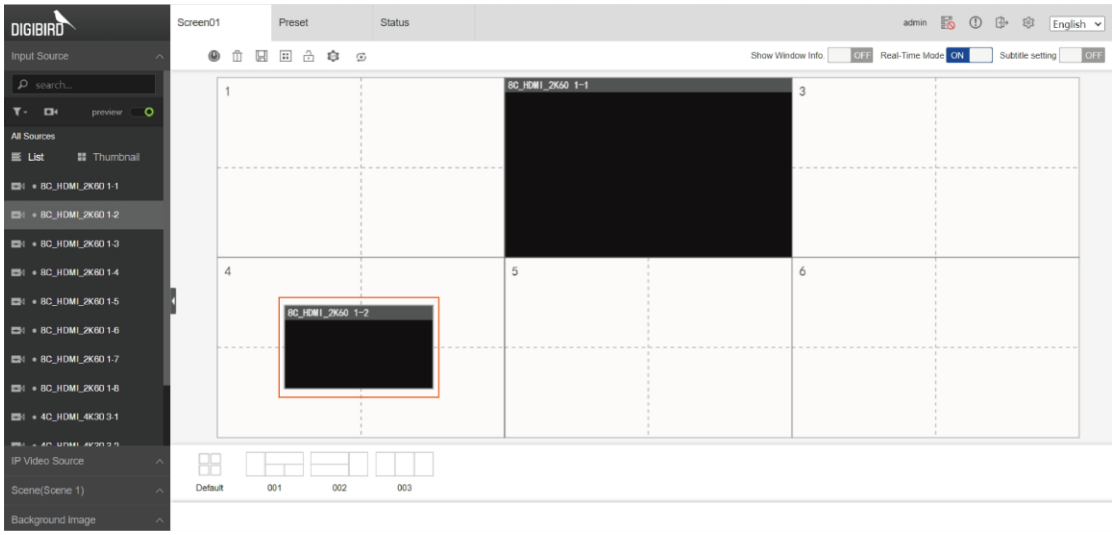
1. Single screen window

Click mouse to select a signal from [Input Source] and drag it to the virtual video wall to create a single-screen window on the video wall.



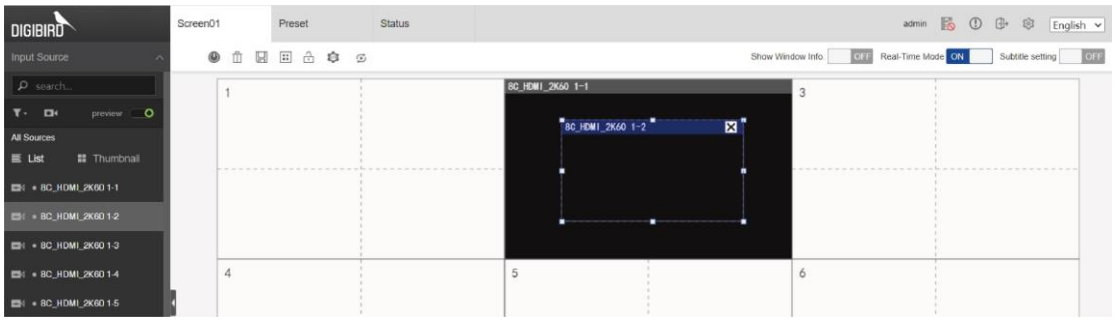
2. Arbitrary window creating

Select a source from [Input Source], click and drag the mouse to form a rectangle at any position on the video wall to create a window of any size and position.



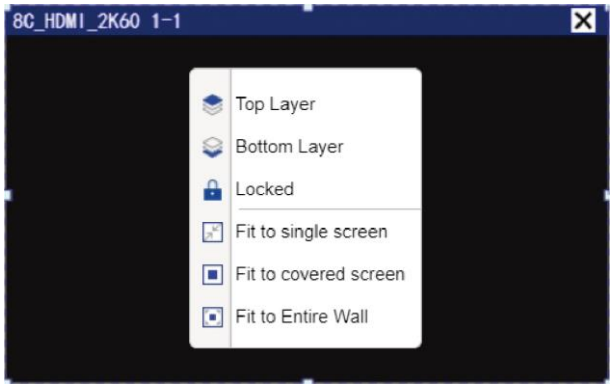
3. Overlay window creating

When you need to overlay a window on an existing window, press <Ctrl> key and click & drag the mouse to create an overlay window at that location.



2.3.2. Window Z-order Settings

Select an existing window, right click to call out operating menu.

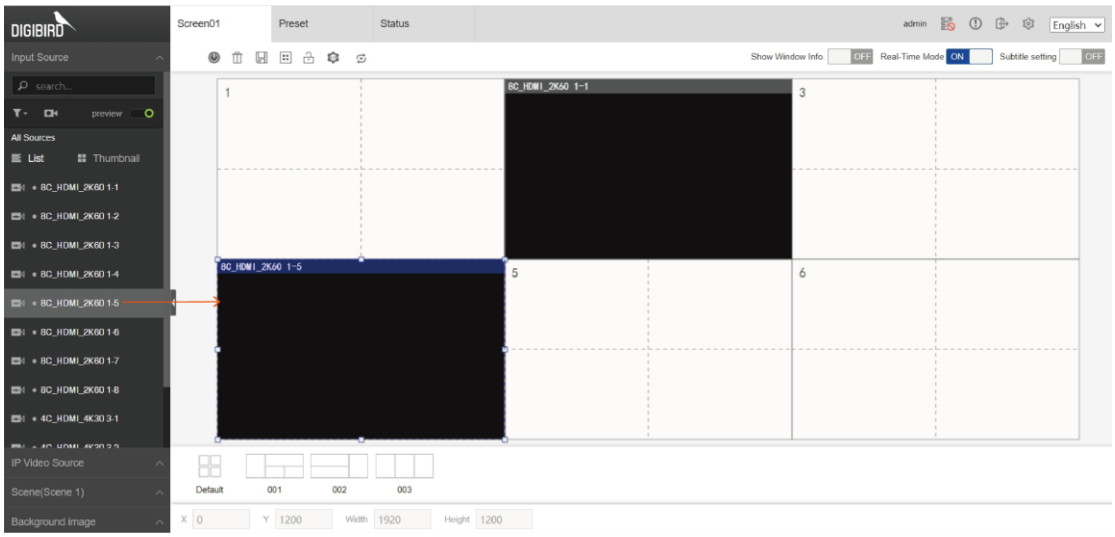


No.	Items	Description
1	Top Layer	The window will set to top
2	Bottom Layer	The window will set to bottom.
3	Locked	Lock the selected window. The locked window does not support roaming, scaling, signal switching and closing. Click the "Unlock" button in the right-click menu to unlock it.
4	Fit to single screen	Zoom the selected window to fit for single screen size (or double-click the window bar) .
5	Fit to covered screen	Scale the selected window to occupy the entire sub-screen, single screen, or video wall.

6	Fit to entire wall	Enlarge the selected window to fit for entire screen.
7	close the window	Select the window and click the upper right corner button or press the <Delete> key on the keyboard to close the window.

2.3.3. Signal switching

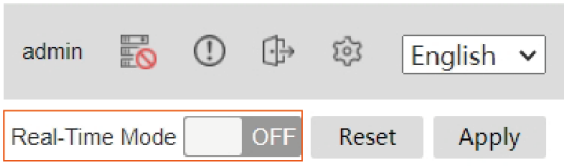
Select a window, drag a signal from the input source list and drop to this window to switch the source.



2.3.4. Pre- Editing

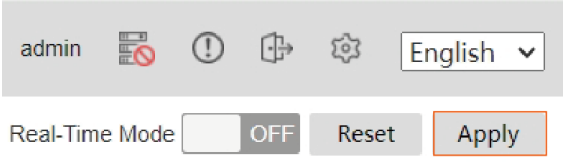
Pre-editing means that the video wall layout operation is performed without interfering the video wall display. After the layout is completed, it is directly applied. The video wall switches to the new window layout and the intermediate process status will not be displayed.

1. **Disable real-time mode:** Turn off " real-time mode ".



2. **Pre-edit the layout:** Create windows, switch signals, and conduct other operations to complete the layout.

3. **Apply:** After the pre-editing is completed, click the "Apply" button.



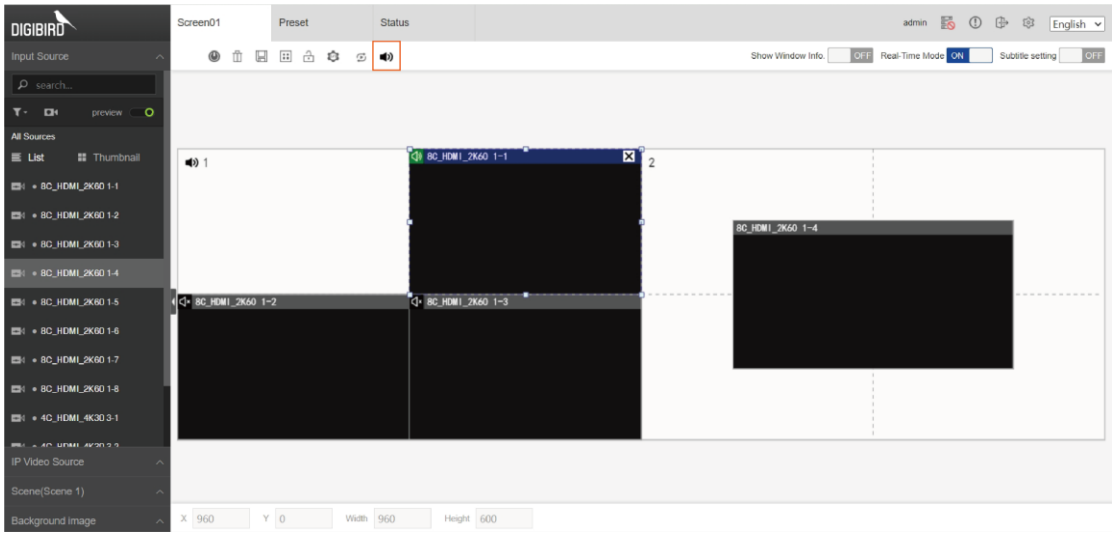
You can click the icon to save the pre- layout mode as a scene.

2.3.5. Audio Control

For the screen set as "audio output screen", enable and disable audio output can be managed in front-end interface.

On the "Audio Output Screen", select a source and create a window, click  button to turn on the audio output, and click  the button to turn off the audio output.

Notice: only the window on the "Audio Output Screen" can support audio control, and windows on other screens do not support it. In addition, only one signal source window can output audio at the same time.

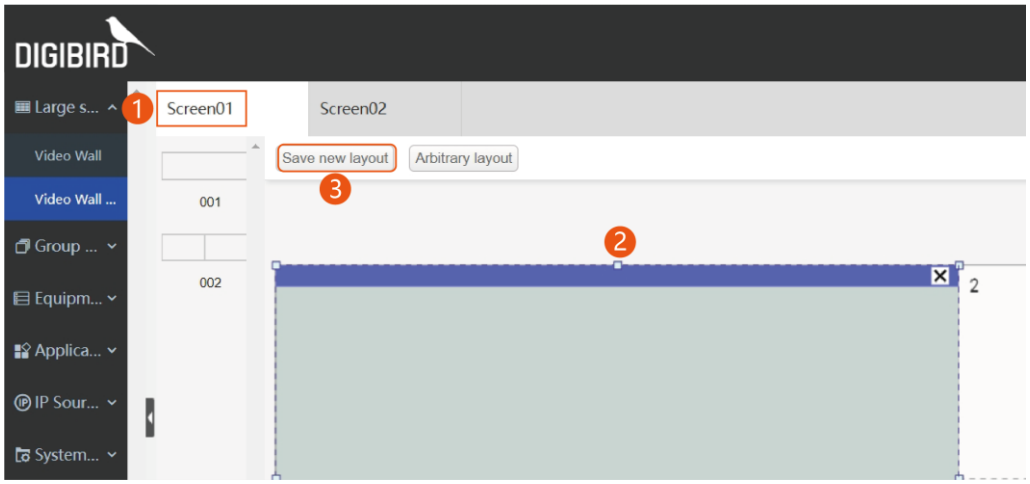


2.4. Video wall layout

In some cases, video wall layout is fixed. User can create pre-layout for quick switching, to skip steps of window resizing and roaming.

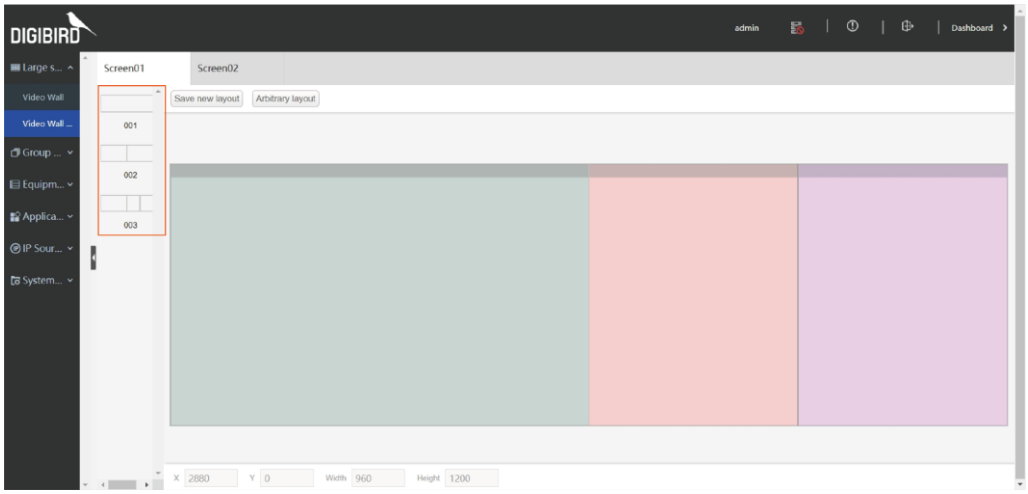
2.4.1. Create

1. In the backstage [Large Screen Management] - [Video wall Layout] interface, select a group of video walls. Click and drag the mouse on the virtual video wall to create rectangular frames of different positions and sizes, and click the "Save New Layout" button.

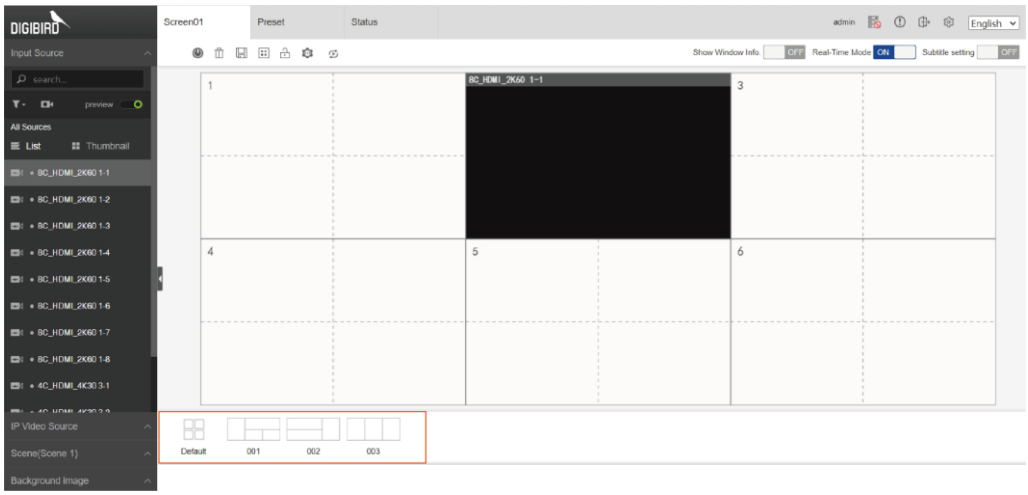


2. Enter the layout name in the pop-up window and click the OK button.

3. After successfully saving, it will be displayed in the layout list on the left. You can create multiple large-screen layouts with the same operation.

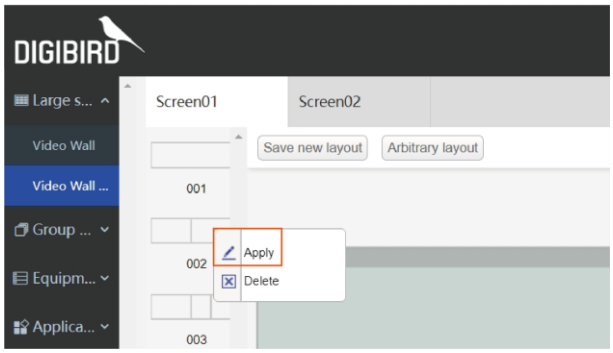


4. Return to the front-end interface, and the area below this video wall lists the video wall layouts that have been created.

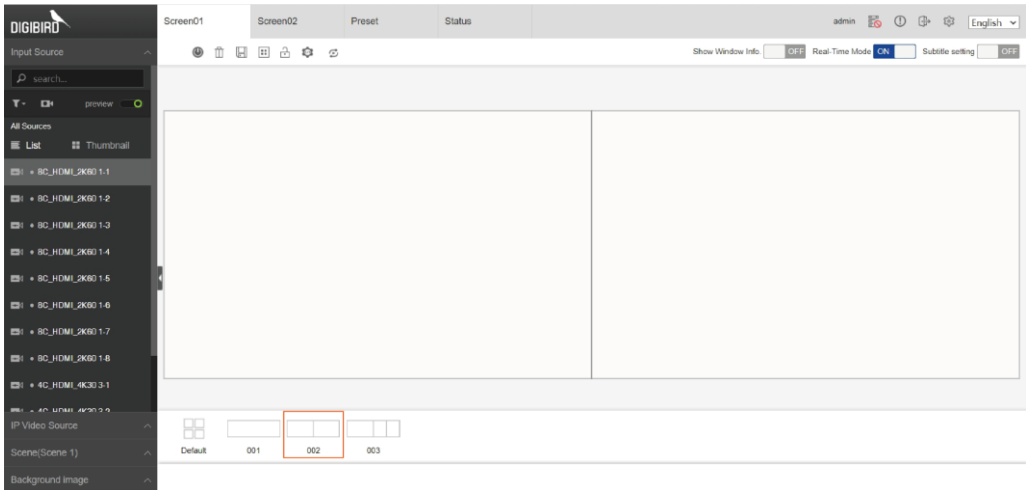


2.4.2. Apply

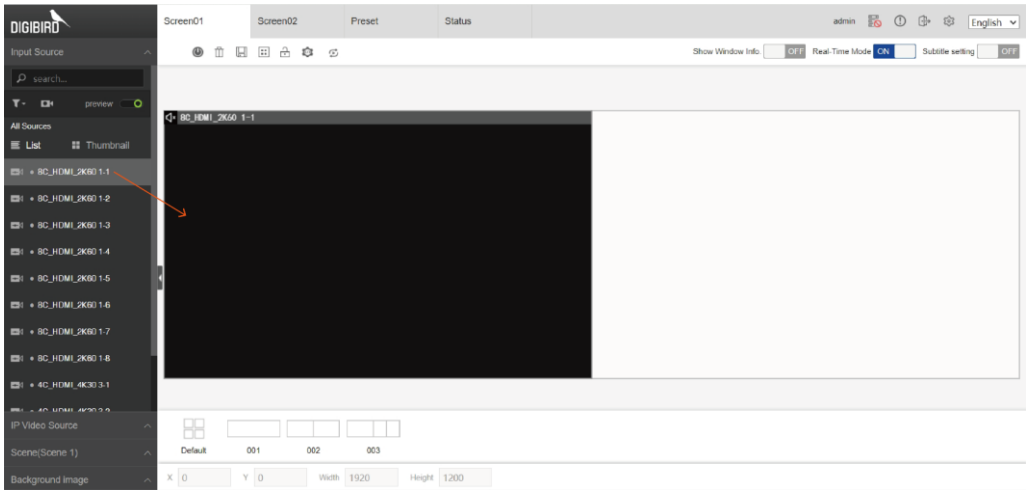
1. **Backstage interface:** Click the "Apply" button in the right-click menu to apply it directly. After application, the existing windows on the video wall will be cleared. Click the "Delete" button to delete the layout style.



2. **Front-end interface:** In the large-screen layout list, click a layout style to apply it to the video wall.



3. **Configure signal source:** Select the signal source, drag it to the window, and release the mouse to configure the signal source for the window.

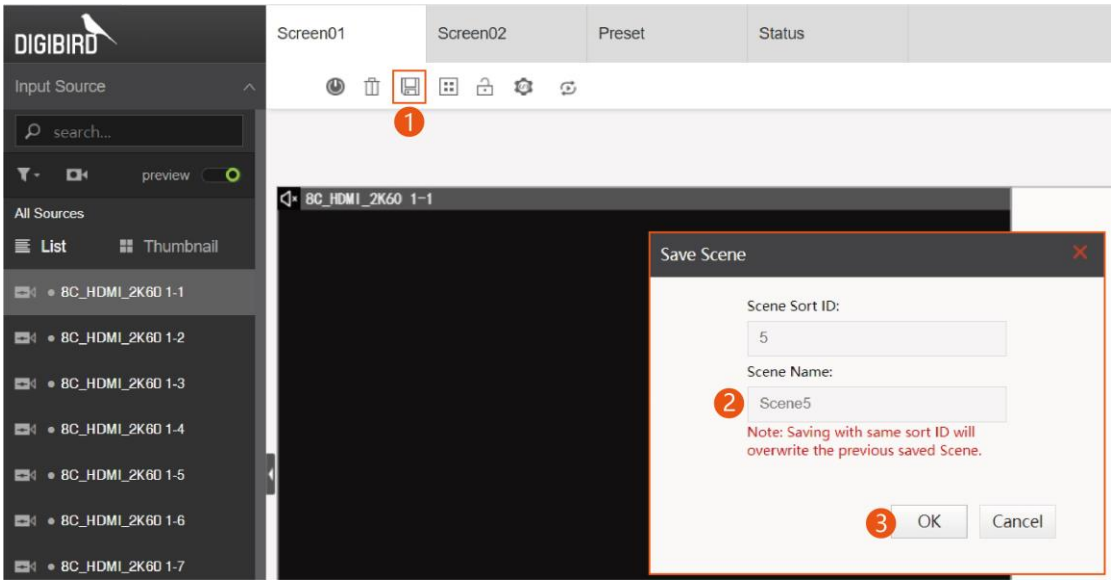


2.5. Scenes and Carousel

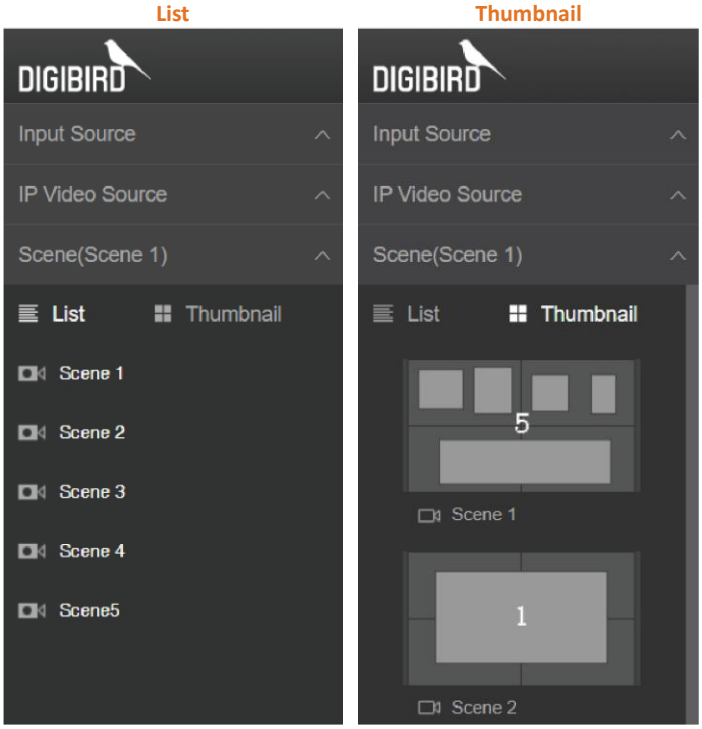
Video wall layout can be saved as scenes and to be recalled by single click.

2.5.1. Scene Saving

After completing video wall layout, click "Save Scene" button, enter the scene number and scene name, and click the "OK" button to save the screen layout as a scene.



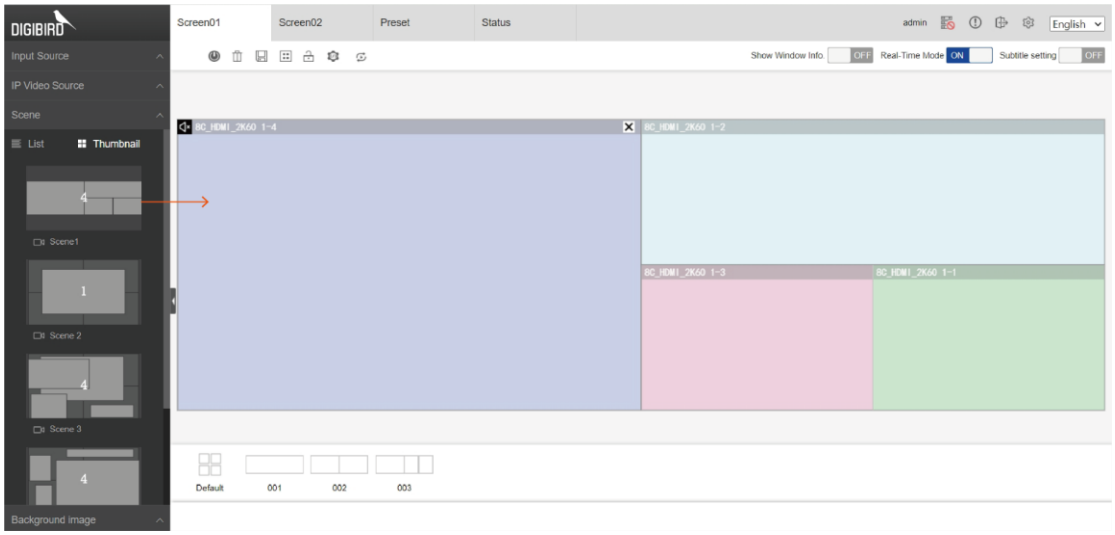
Saved scenes will be displayed in the [Scene] list, and can be viewed in a list or thumbnail view. In the thumbnail view, the number represents the number of windows in the scene.



2.5.2. Scene call

2.5.2.1. General method

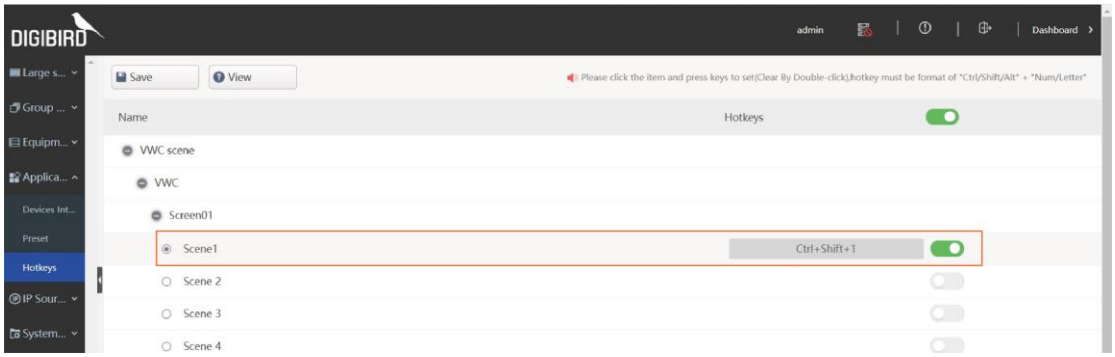
In the [Scene] list, select a scene, drag the scene and drop to the video wall or double-click the scene name to call it.



2.5.2.2. Shortcut call

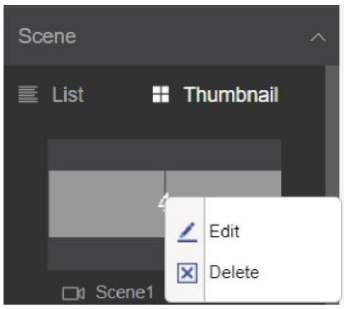
In the backstage, [Application Management] - [Shortcut Keys] interface, enter the "Video wall Scene" setting to set shortcut key.

Select one scene, enter the shortcut key on the keyboard, and enable shortcut key  , click the "Save" button to save. The shortcut key format is < Ctrl/Shift/Alt+ number/letter >.



2.5.3. Scene Management

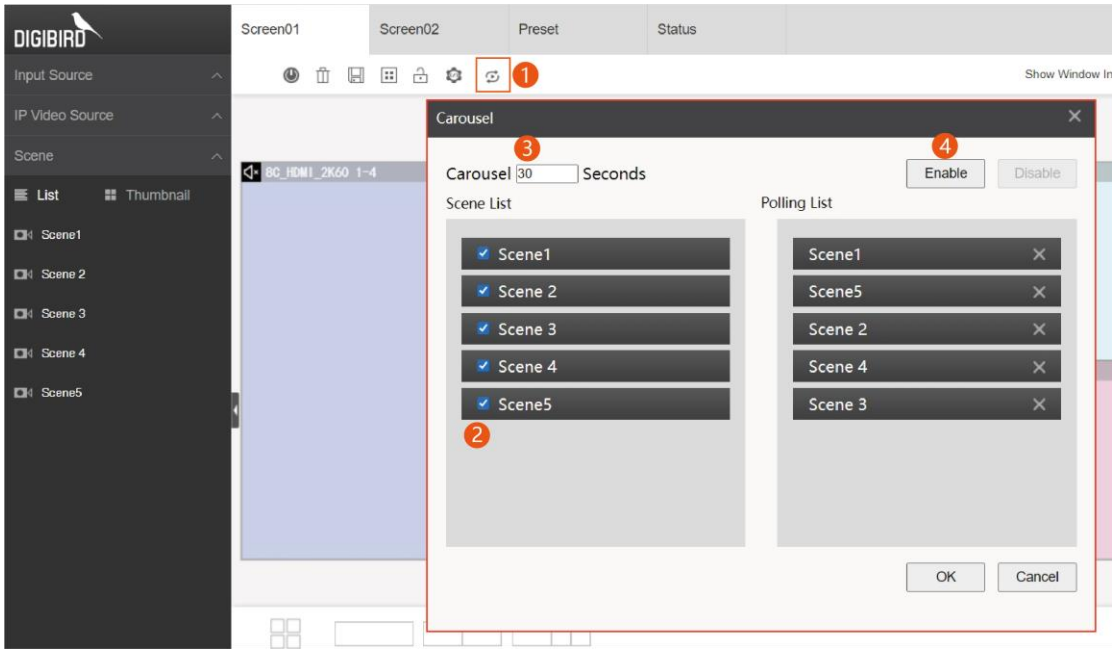
In the scene list, right-click a scene to "Edit" (i.e. rename) or "Delete" the scene.



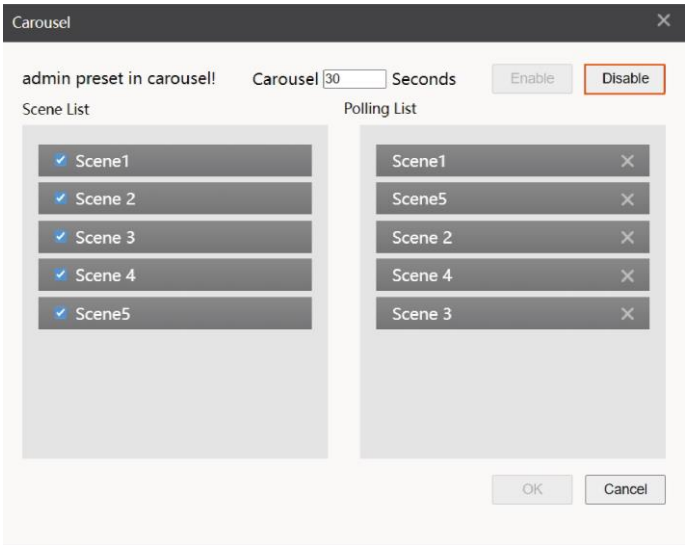
2.5.4. Scene Carousel

The system supports multiple scenes to be played in turn at fixed time intervals.

In the front-end interface, click the "Carousel" button, check the scenes in the "Scene List" on the left, enter the interval, and click the "Enable" button. The system will play in turn according to the order.



Click the "Disable" button to stop carousel.

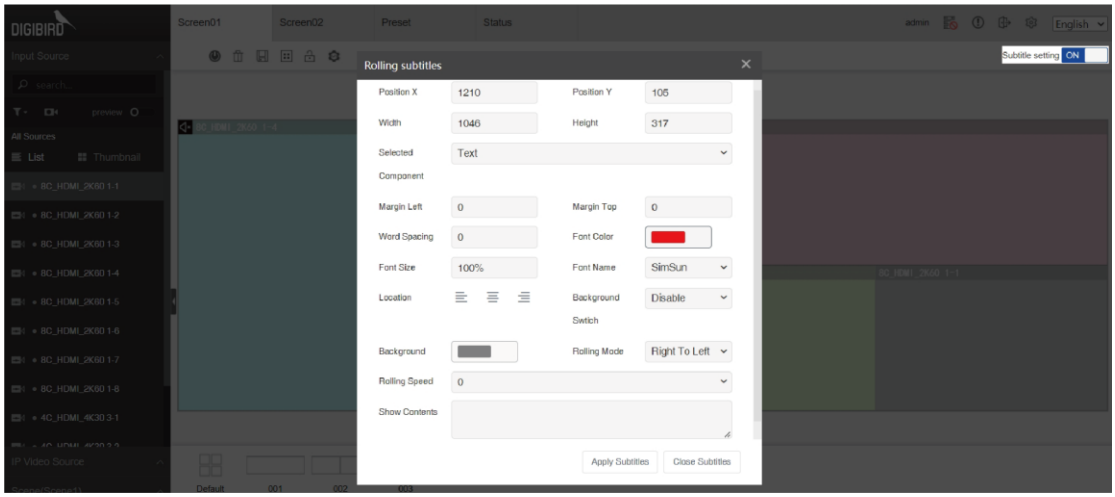


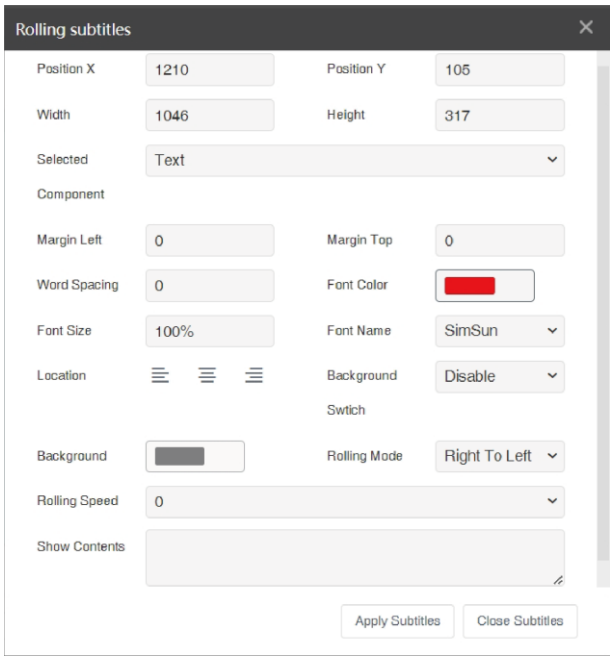
2.6. Scrolling Text

Supports adding scrolling text on the video wall to display welcome words, slogans and other information.

The scrolling text on the video wall does not interfere with others and are independent of each other. If you want to set scrolling text for a group of video wall, you need to select target video wall group and set up.

Enable "Subtitle Settings" function, left click the mouse to draw a rectangular frame, release the mouse to enter into setting page (the rectangular frame is the display area of the scrolling text, referred to as the " subtitle window ").





The parameters are described as follows:

Options	**illustrate**
Position X/Y	Take the upper left corner of the video wall as the coordinate origin. You can manually enter the coordinate value to accurately set the subtitle window position. The coordinate value cannot be negative
Window width/height	Set the width and height of the subtitle window.
Selected Components	Currently only the Text Component is supported.
Left/top margin	Set the margin between the subtitle text and the window border.
Font settings	Set the text spacing, font color, font size, and font name. The font size is a percentage of the window size, with a minimum of 10%; the supported font types include Songti, Kaiti, and Heiti.
Location	Quickly adjust the position of the subtitle content in the subtitle window, including left, center, and right.
Background	Background color switch: Set whether to enable the subtitle window background; Background Color: Enable Background to set the background color.
Rolling Mode	Supports two modes: Still and Right→Left.
Rolling speed	Supports 10 levels, from 0 to 9.
Display content	Enter the text content for the subtitle.

After the parameter configuration is completed, click the "Apply Subtitles" button to enable settings.

If you need to change the parameters, click the subtitle to open the configuration window. Click the "Close Subtitle" button to cancel the settings. If you no longer need to change the parameters, you can close the "Subtitle Settings" function.

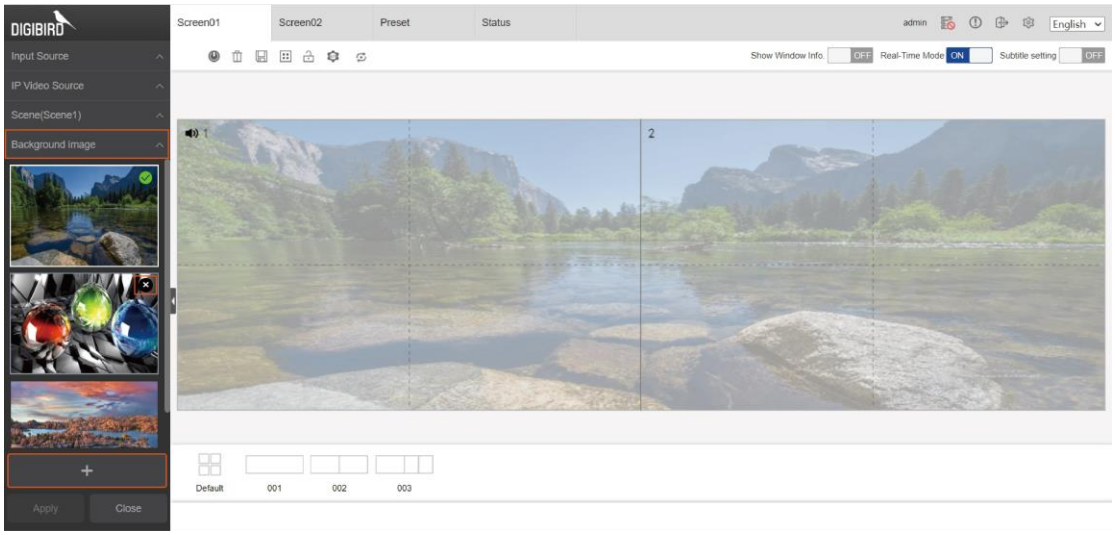
2.7. Background images

Support uploading local pictures to the device as the background image of the video wall.

The background image settings of each group video wall do not interfere with others. If you want to set background image, you need to select a group of video wall and enter the setting page.

1. Upload pictures

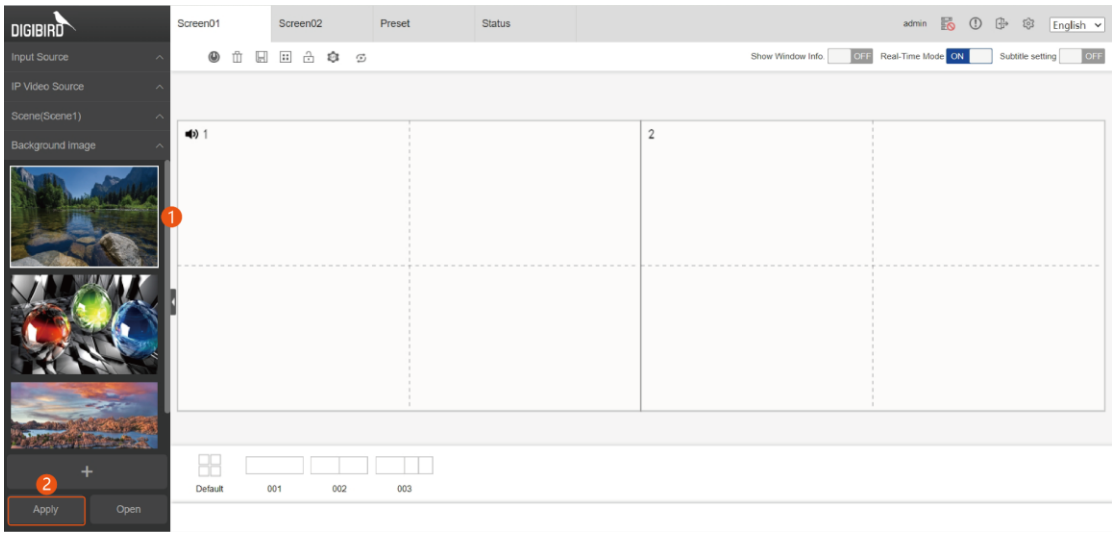
In the [Background Map] list on the left side of the front-end video wall operation interface, click  to upload picture. Click the  button to delete a picture.



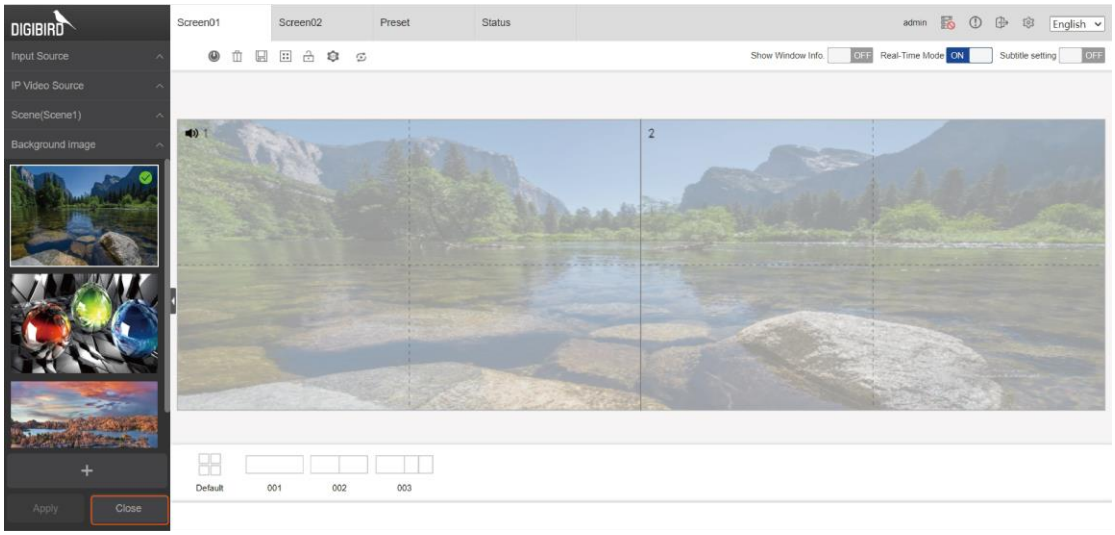
The maximum resolution of added pictures is: 8192x 4096, and the picture formats are: JPG, BMP.
A maximum of 8 images can be loaded, and the size of a single base map should not exceed 128 M.

2. Apply

In the [Background] list, click to select the background image and click the [Apply] button, the selected background image will display on the current video wall, and click the [Enable] button to apply the last used background image to the video wall.



For the background image been displaying, there is  icon on the image. Click the “Close” to close selected background map.



3. Input Source Management

The system supports management of input sources and IP sources, including input port grouping, IP source addition, modification and group management.

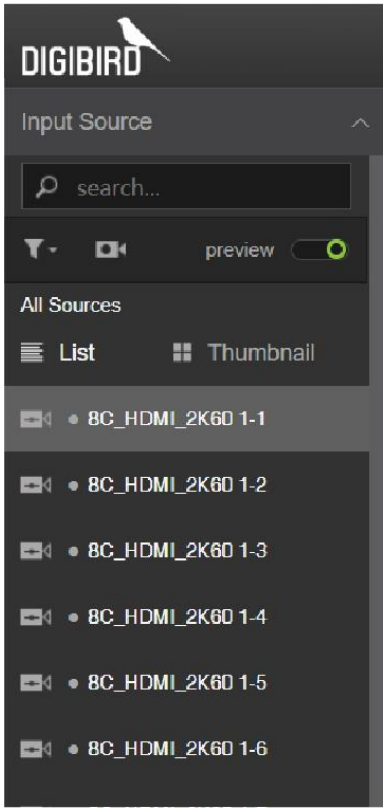
3.1. Input Source Management

Users can call, search and filter input sources in the [Input Source] list, and group input ports in the [Port Grouping] interface on the software backstage.

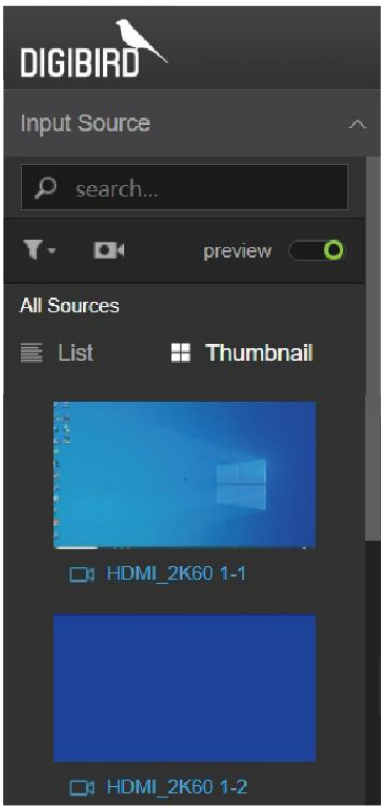
3.1.1. Input source list

On the left side of the front-end interface, you can view all input sources.

List



Thumbnail

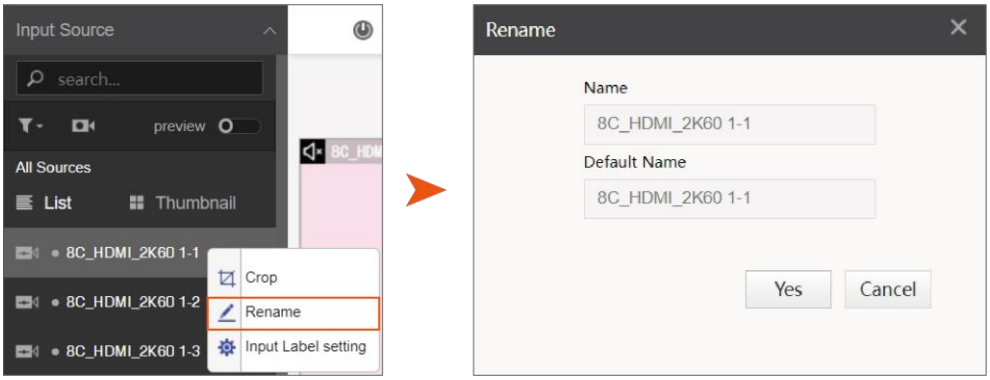


No.	Items	Description
1	search bar	Enter the source keyword to search and quickly locate the desired source.
2	Group Filter	You can select the input port grouping in the drop-down menu to find out desired source. For grouping settings, please refer 3.1.5 Input port grouping.
3	Channel Filtering	Click this button and input source list will only display the ports that connected with input devices.
4	Preview switch	If the device has preview capability, this switch can enable/disable of the preview function.

3.1.2. Rename

To change the input source name to help user identify from others. The specific steps are as follows:

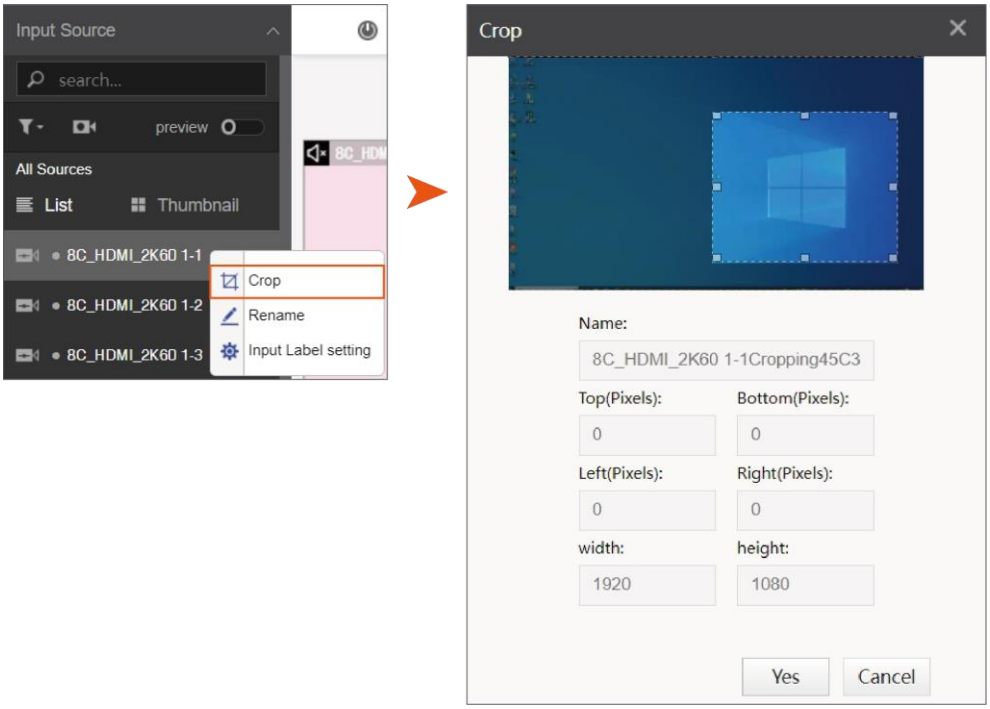
Click the "Rename" button in the right-click menu, enter the new name in the pop-up window, and click the "OK" button.



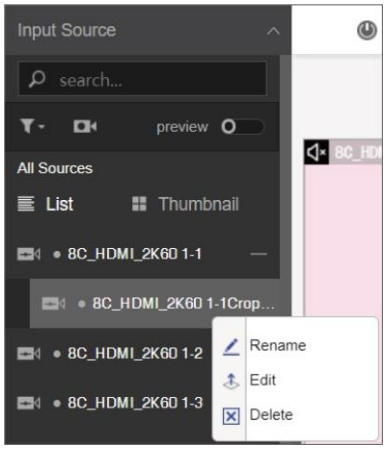
3.1.3. Source Cropping

By cropping the source, the black edges of the source can be cropped to emphasize details of the source.

Select an input source, right click to call out menu, click the "Crop" button to enter into [Crop] window. You can drag the mouse to crop (visual cropping is supported when the device has preview functions), or you can fill in values in the "top /bottom /left /right margin" and "width/height" for precise cropping, and finally click the "OK" button.



Return [Input Source] list, you can see the newly added cropped source.

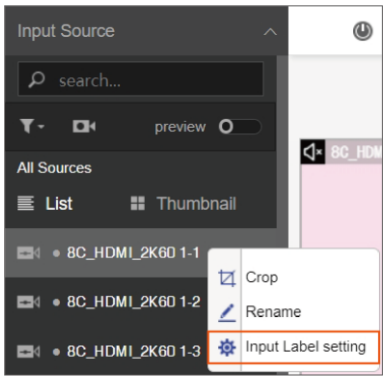


The minimum resolution of the cropped source is: 32x 32.

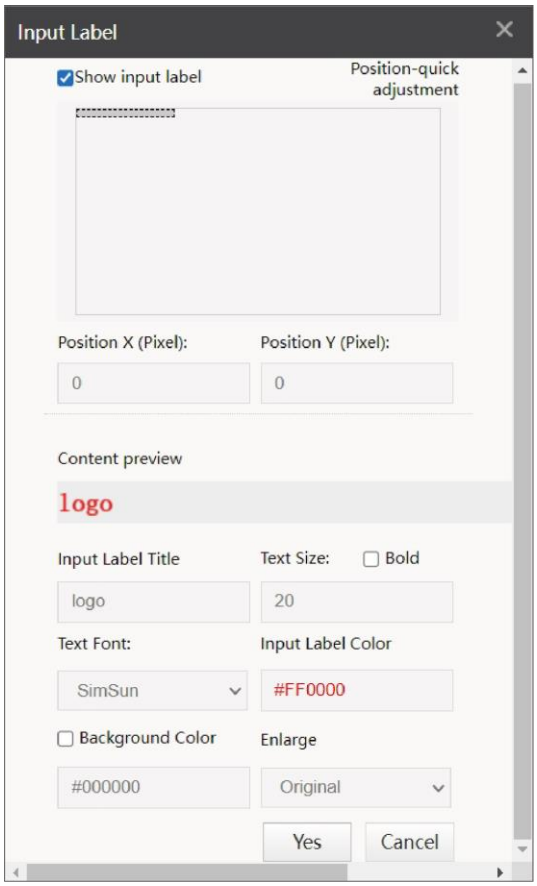
3.1.4. Input Label

To identify input sources on the video wall, you can put input label on the input source.

1. In the right-click menu of the input source, click the "Input Label Setting" button to call out the [Input Label] window;



2. Set parameters in the window and click the [OK] button to complete the settings.

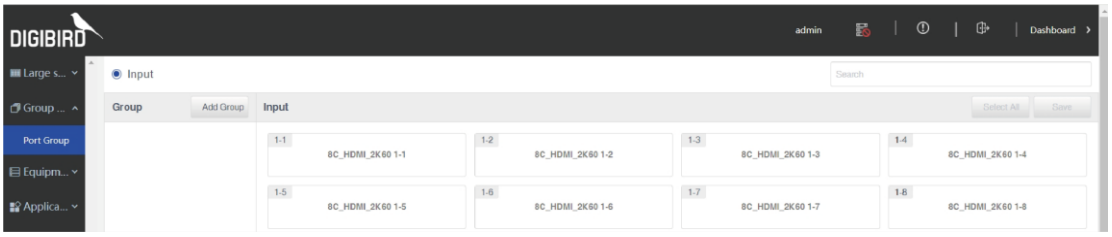


The parameters are described as follows:

Options	**illustrate**
Show input label	Check this option to display input label.
Logo position X/Y	Coordinates of up-left corner of input label
Label Title	Enter the label content.
Text size	Set the font size, the maximum is 120, and you can choose whether to make it bold.
Font Name	Select the font type, including Songti, Heiti, and Kaiti.
Label color	Set the label content color.
Background color	You can set whether to add a background and the background color.
Enlarge	You can choose not to enlarge, enlarge 2 times, or enlarge 4x times.

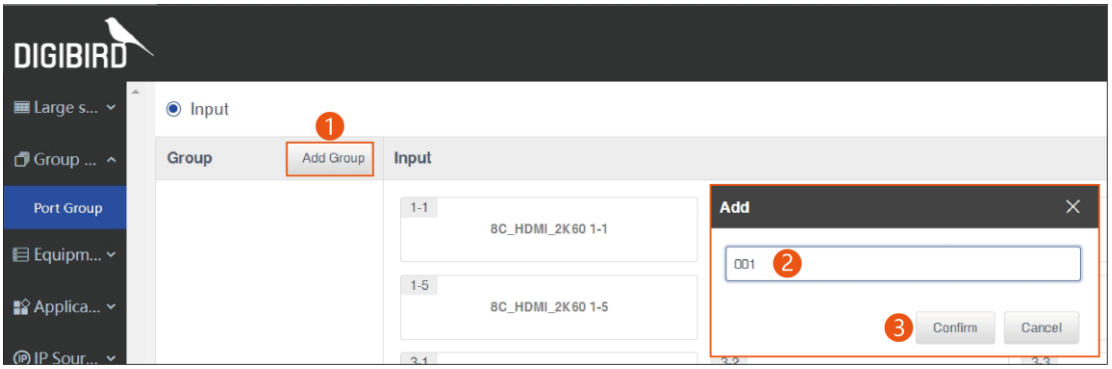
3.1.5. Input port grouping

Enter the backstage [Group Management] - [Port Group] interface to manage input port grouping.



1. Add Group

Click the "Add Group", enter the group name in the pop-up window, and click the "OK" button.

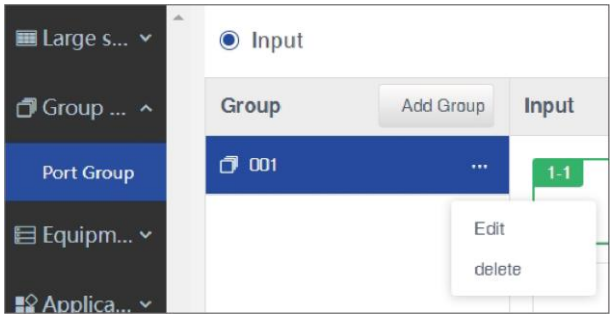


2. Adding Ports

Select a group in the [Group] list, click the port to be added (the selected port is highlighted in green, click again to cancel), and click [Save].

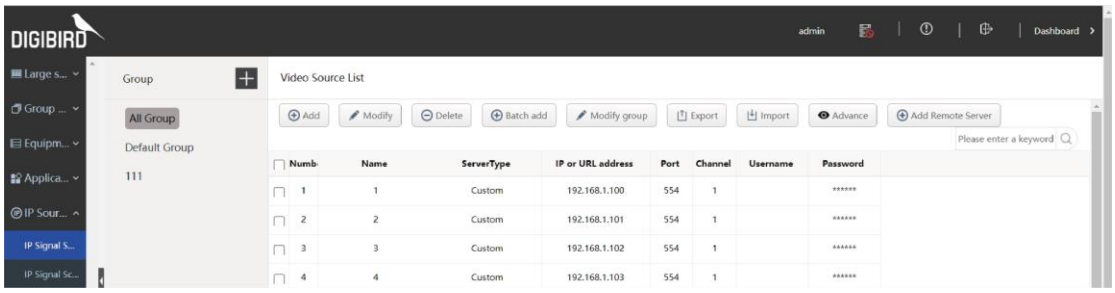
3. Group Editing

Hover your mouse here ••• , click the "Edit" button in the pop-up menu to change the group name, and click the "Delete" button to delete this group.



3.2. IP Source Management

Users can call, search and filter IP sources in the [IP Source] list, and manage IP sources in the [IP Source Management] interface on the software backstage.



3.2.1. Add Group

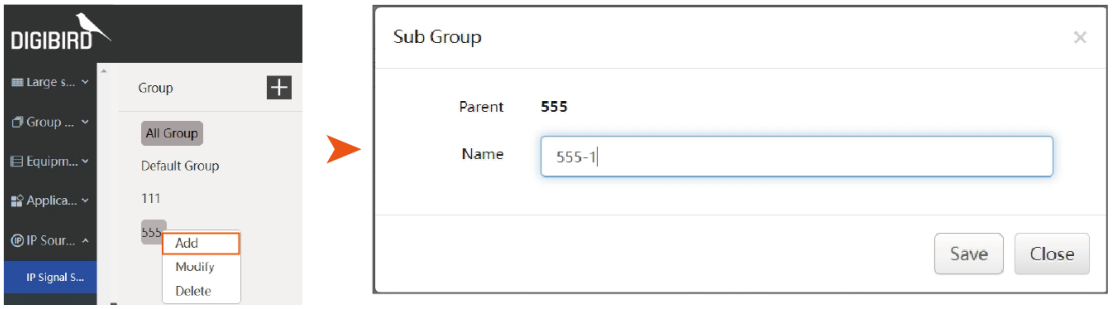
The system supports adding two levels of grouping.

1. Add a first level group

Click the "Add" button in the [Input Source Group] list, enter the group name in the pop-up window, and click the "Save" button to add the parent group.

2. Add Subgroup

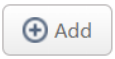
Click the "Add" button in the right-click menu of the first-level group, enter the sub-group name in the pop-up window, and click the "Save" button to add the sub-group.

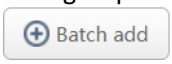


3. Group Management

Sub-groups can be added to the first-level group, and the name can be modified and deleted; the sub-groups can be modified and deleted; "All Groups" includes all IP sources, and "Default Group" cannot be edited.

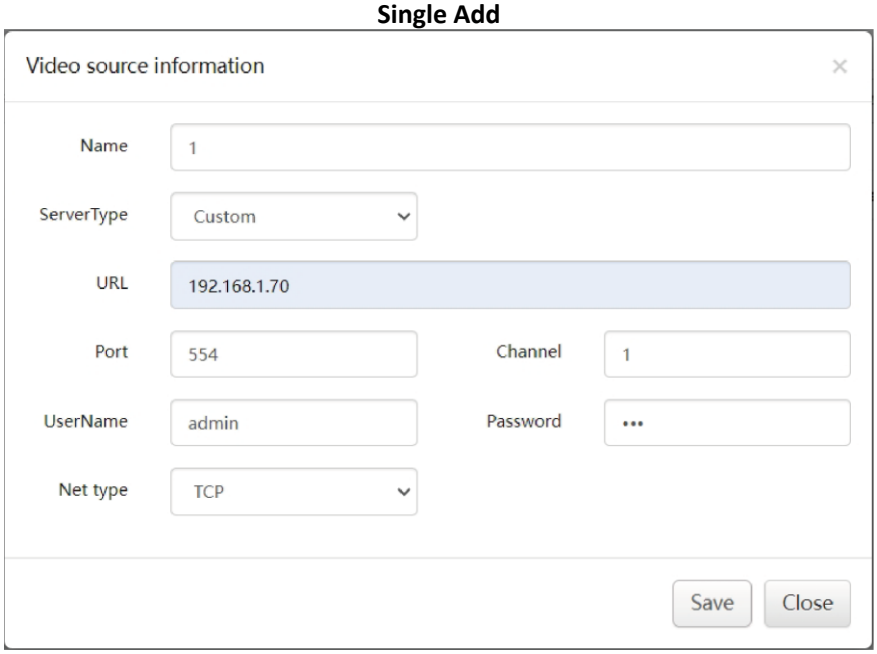
3.2.2. Add IP source

Select the group in the [Input Source Group] list, click the "Add" 

button or the "Batch Add" 

button, enter required parameters in the pop-up window, and click the "Save" button.

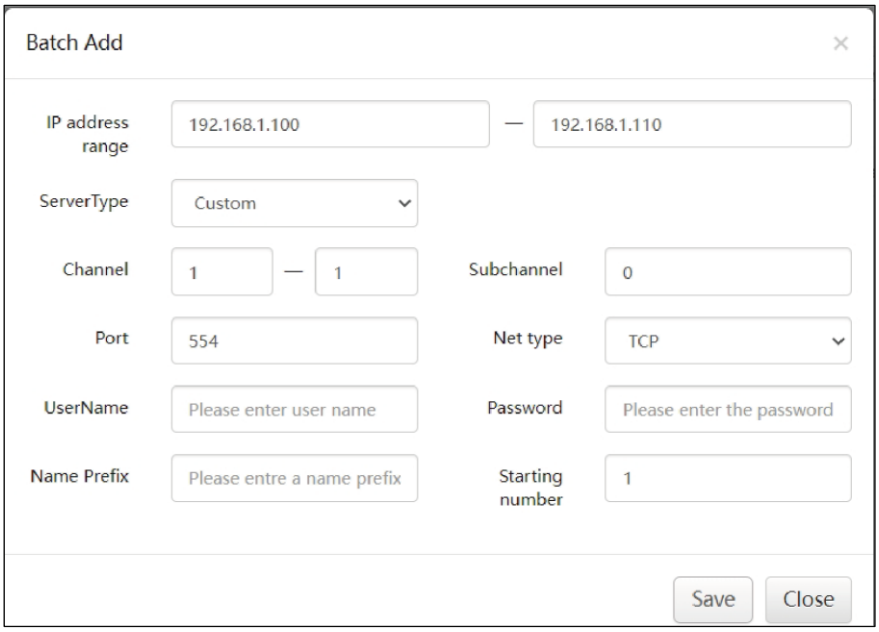
Single Add



The parameters are described as follows:

parameter	illustrate
Name	Customize the IP source name.
Server Type	Supports Hikvision, Dahua and our own streaming media protocols, and you can also choose custom protocols.
URL / IP	Enter the source IP address.
Port	Set the communication port.
Channel Number	Set the channel number.
Username Password	Add user management information.
Network connection method	You can choose TCP or UDP.

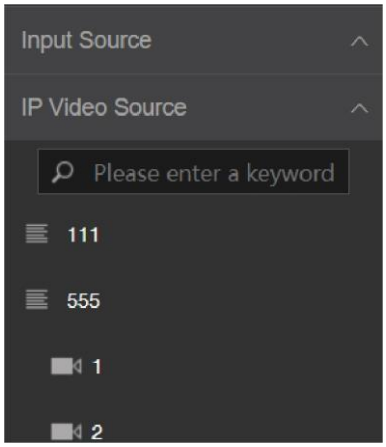
Batch Add



The parameters are described as follows:

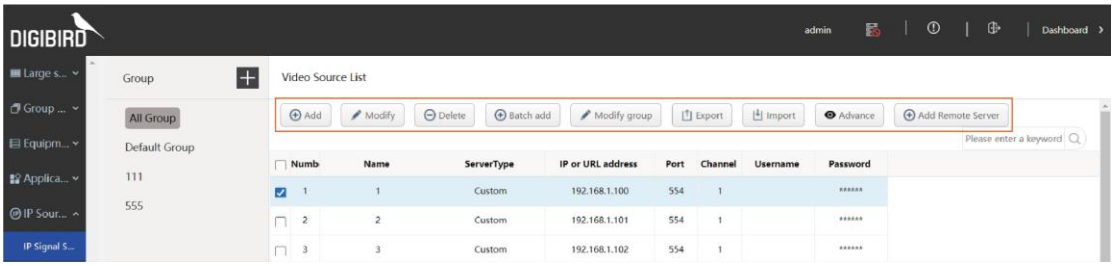
parameter	illustrate
IP address range	Enter the source IP address range.
Server Type	Supports Hikvision, Dahua and our own streaming media protocols, and you can also choose custom protocols.
Channel Number	Set the channel range.
Subchannel number	Set the subchannel number.
Port	Customize the communication port.
Network connection method	You can choose TCP or UDP.
Username Password	Add user management information.
Starting number	When adding in batches, the IP source name is numbered, and the numbers are incremented in sequence. If a prefix is set, the name is "prefix + Number", for example: D1, D2, D3 ...
Display Name Prefix	This can be set when adding in batches to identify IP sources.

After configuration, you can view the added IP sources and their groups.



3.2.3. Others

Check the IP source and click the corresponding function button to achieve the following functions:



Button	Function Description
Modify	Check the IP source and click the "Modify" button. You can modify the parameters in the pop-up window.
Delete	Check one or multiple IP sources and click the "Delete" button to delete the source.
Modify group	Check one or multiple IP sources and click the "Modify Group" button to move the source to another group.
Export	Check one or multiple IP sources and click the "Export" button to save the IP source configuration information in Excel format to the local PC.
Import	Select the source group, click the "Import" button, and select the file containing IP source information on the local PC. Multiple IP sources can be added at one time.
Advance Hide senior field	Click the "Show Advanced Fields" or "Hide Advanced Fields" button to display or hide the advanced field information of the IP source.

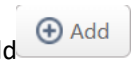
4. Application Management

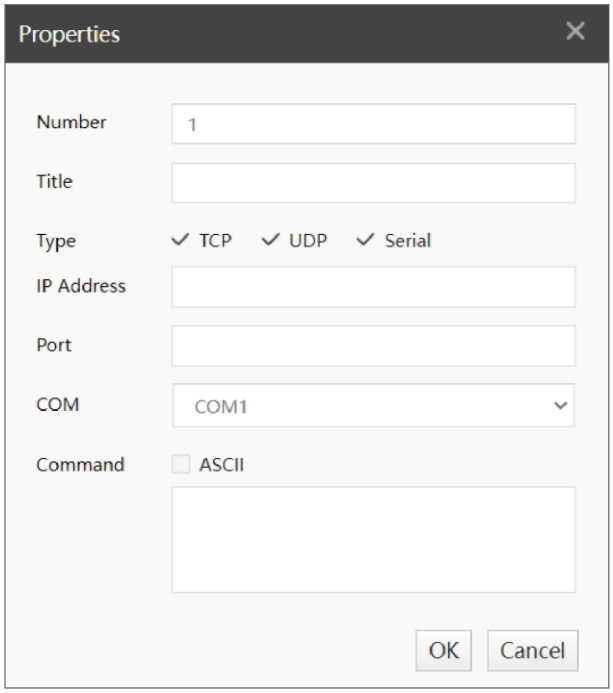
4.1. Equipment joint control

This device supports device joint control and can send control commands to third-party devices.

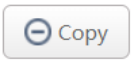
4.1.1. Add Command

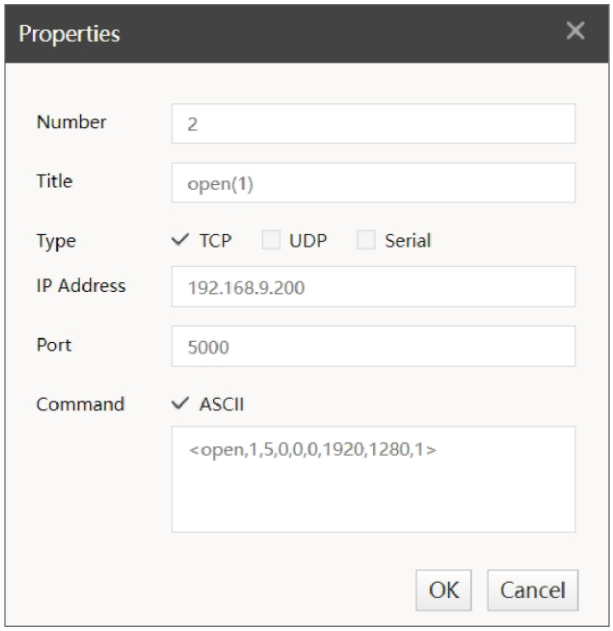
Enter the backstage [Application Management] - [Device Integration] page to add, delete, edit or copy device link control commands.

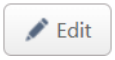
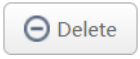
Click Add  button, you can set the device IP address, control commands, etc. in the pop-up window.

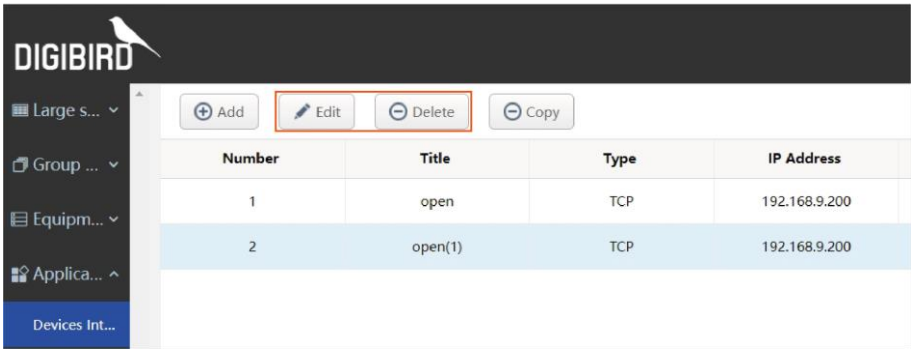


Item	Description
Number	Equipment joint control command number
Title	Device joint control command name
Type	Support 3 communication types: TCP, UDP, serial port, support multiple simultaneously.
IP address	Select TCP /UDP as the communication type and enter the device IP address.
Port number	Select TCP /UDP as the communication type and set the communication port number. Only numbers between 0 and 65535 are supported.
COM	Select serial port as the communication type, and also select COM port
Order	Support ASCII or non -ASCII command settings

Select the control command and click "Copy"  button to enter the properties window. The "Number" item in the window will automatically increase by 1, and the "Title" item will add the character '(1)' after the original name. The rest of the content is the same as the copied command. You can modify the command as needed.



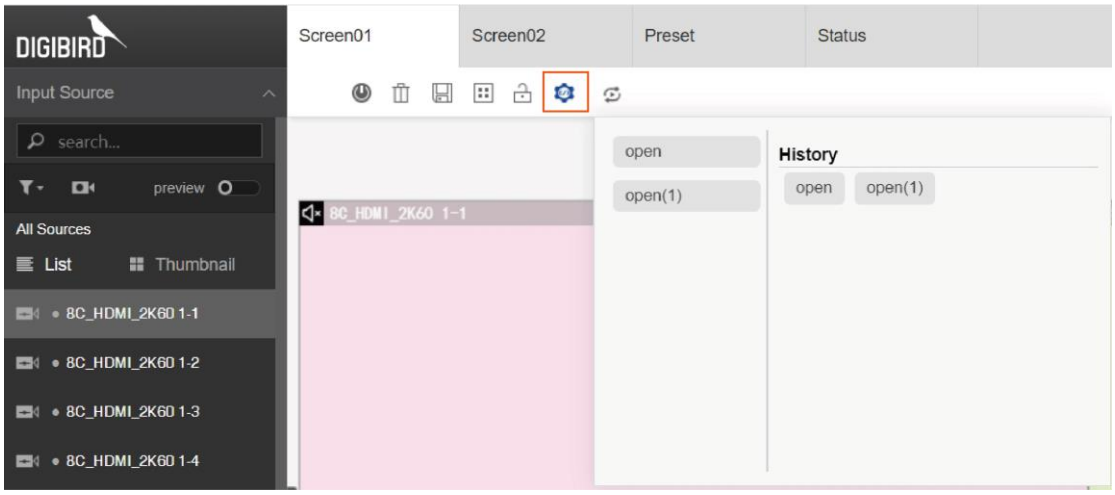
Select the control command and click "Edit"  button to modify commands; click "Delete"  button to delete this instruction.



4.1.2. Calling Commands

Click "Device Integration"  button on the front page, a list of added devices will appear. Click the command name to call and send control command.

When the command is executed, the command name will be displayed in the [History] in reverse order of the calling sequence. Only one record of each command call will be displayed, and the later one will overwrite the previous one.



After calling the command, you need to click button again to update the history record.

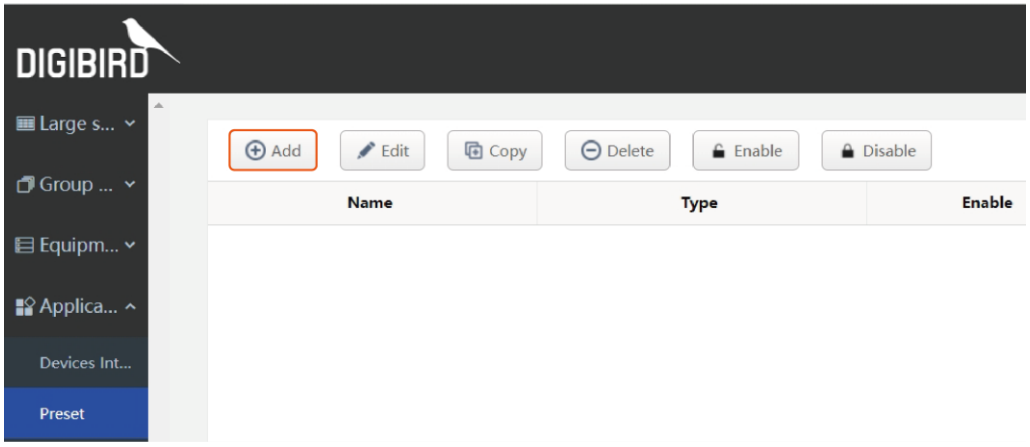
4.2. Preset Plan

The device supports combining multiple actions and saving them as a preset, including video wall scenes, device power on/ off, and 3rd party device control. It also supports setting the preset call method, including manual, scheduled, and laser pen trigger.

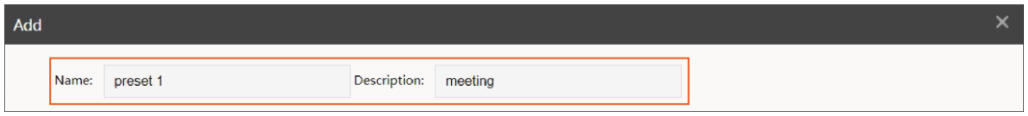
Users can set device actions and their execution order as needed, and call them with one click when needed to improve work efficiency.

4.2.1. New Preset

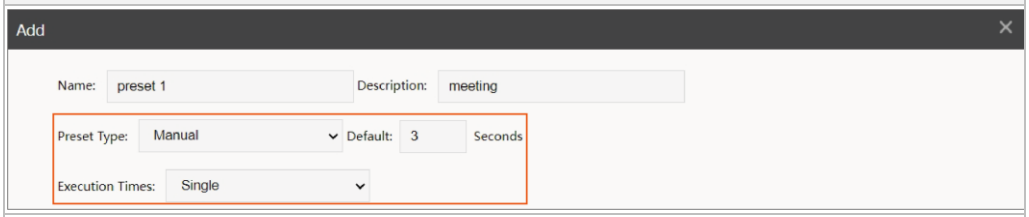
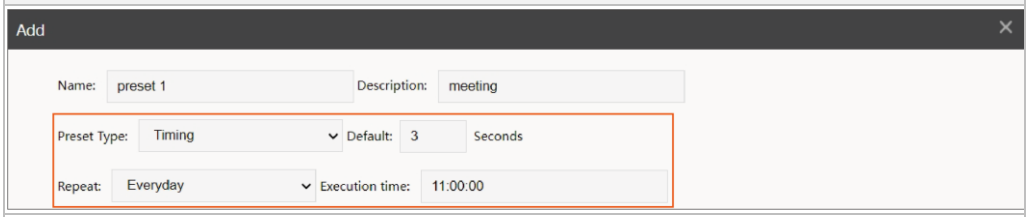
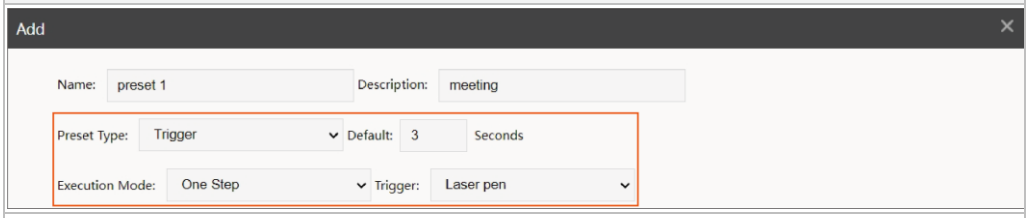
1. In the backstage [Application Management] - [Preset] interface, click the [Preset Definition] button.



2. In the pop-up window, enter the preset name and its supplementary description;



3. Select the plan type and configure related parameters;

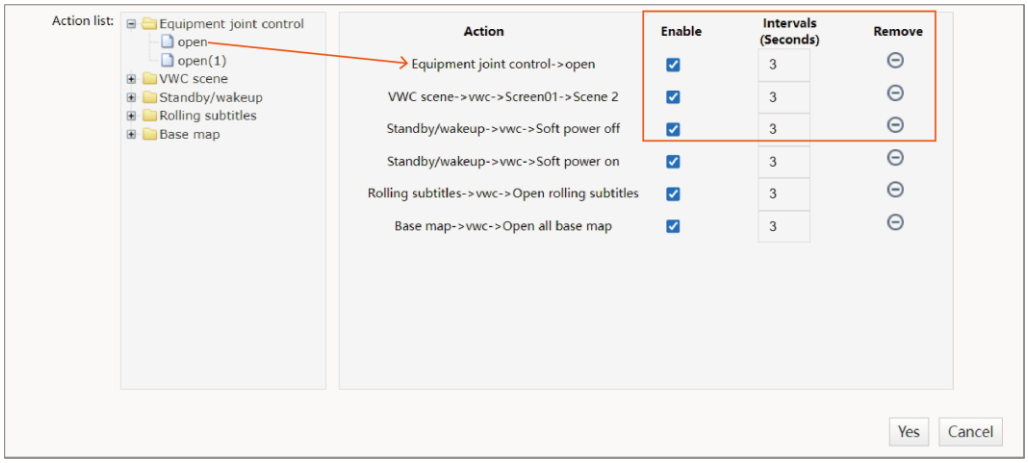
Plan Type: Manual

If "Manual" type is selected, the user needs to manually click on the front-end [Preset] operation interface to call it. For details, refer **- 4.2.2 Recall Preset**. **Execution times:** The number of times the plan is executed. You can select "Single" or "Circle". **Action default delay:** The action call delay in the plan is 3s by default.
Plan type: Scheduled

Select the "Timing" type, and the software will automatically call the plan at the set time. **Repeat Type:** The frequency of preset execution. You can select "Once" or "Daily". **Execution time:** Set the execution time of the preset.
Plan Type: Trigger

Select the "Trigger" type and use the laser pointer to control the plan call. **Execution mode: The number of actions to be executed** each time the laser pointer is pressed. You can choose "One Step" or "All". **Trigger:** Select "Laser Pointer" trigger.

4. Select and add an action in the [Action List] on the left; set whether to enable and call delay in the list on the right. Press the mouse and drag up and down to adjust the order of actions. After the settings are completed, click the [OK] button to complete the plan definition.

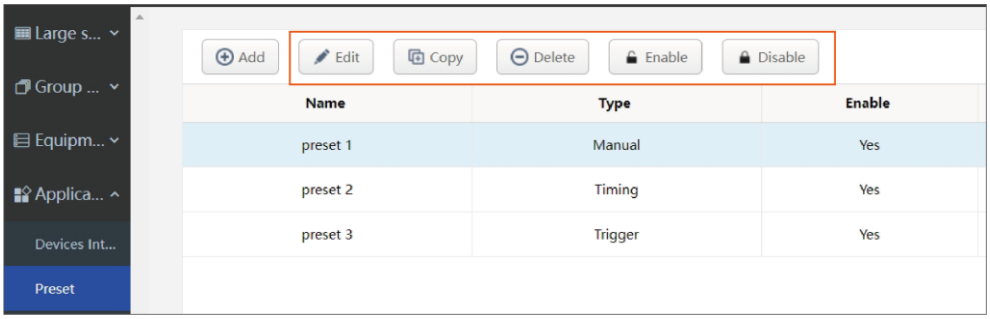
   Enable or not: If checked, this action is enabled, otherwise it is not enabled;

   Call delay (seconds): The call delay time of each action, can be adjusted separately;

   Remove: Click  button to delete this action from the preset.



5. Select a preset in the list, and you can edit, copy, delete, enable, or disable it. An enabled preset is visible and can be called in [Preset] operation interface, while a disabled plan is invisible and cannot be called.

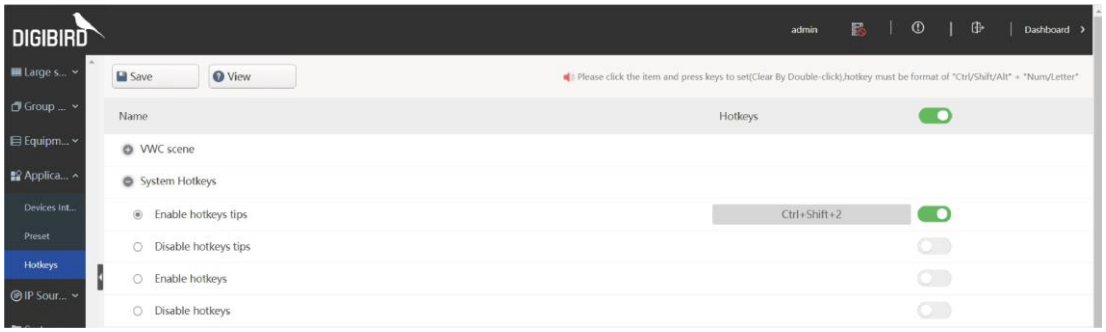


4.2.2. Recall Preset

In the front-end [Preset] interface, you can view all presets in the "enabled" state, and you can call presets of type "manual" by clicking the "Call" button.

4.3. Shortcut key

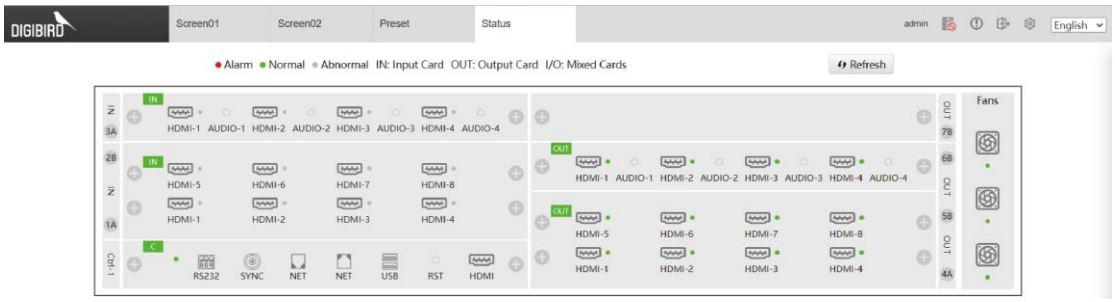
In the backstage [Application Management] - [Shortcut Keys] interface, enter the [System Hot Keys] setting, and you can set shortcut keys.



5. Device Management

5.1. Device status

In the front end [Device Status] interface, the software simulates the actual operating status of the video wall controller in graphics.



Instructions for the operating status of each module:

1. **Chassis**

   The software automatically detects the size of the connected chassis and displays it in a graphic .

2. **Input/Output Cards**

   1) If a card is inserted, the detected card will be displayed at the corresponding slot;

   2) When the card is running normally, the indicator in the upper left corner is displayed in green; when the card is running abnormally, it is displayed in red; when there is no card or the card is not configured and unavailable, it is displayed in gray;

   3) IN: input card OUT: output card I/O: mixed card.

3. **Card indicator light**

   1) Input card: If there is connected input source, the indicator light of the corresponding port will be green, and if there is no input, the indicator light will be gray;

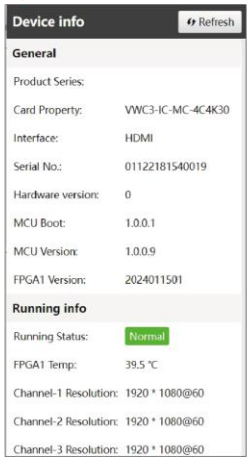
   2) Output card: If an output card is inserted but not configured to the video wall, the indicator light is gray. After it is configured, the indicator light is green.

4. **Module Information**

   Click a card or PSU to open its status information window, which displays real-time operation status of each module.

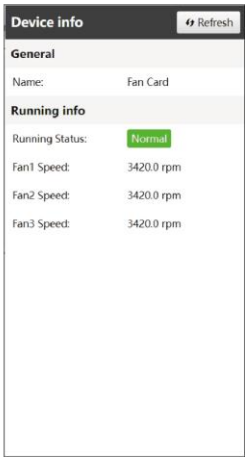
Control Card

Input Card



Output Card

Fan Card



Classification	Items	Description
General	Product Series	The series name of the current video wall controller.
	Card Properties	The property information of the current card.
	Interface	The interface type of the current card.
	Hardware version	The hardware version of the current card.
	MCU Boot	MCU Boot of the current card.
	MCU version	M CU version of the current card.
	FPGA1 version	F PGA version of the current card.
Running info	Running status	Normal: the module is operating normally, Unconfigured: the card is not configured correctly.
	FPGA1 Temp	The operating temperature of the card chip.
	Channel resolution	Displays the actual input resolution of the current channel .
	Fan speed	The actual speed of each fan in the corresponding slot during operation.
/	Refresh	Click this button to refresh module information.

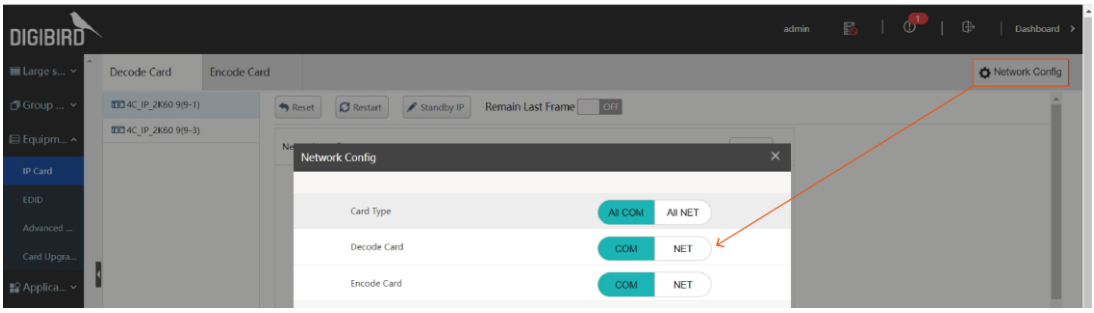
5.2. IP Card Configuration

In the backstage [Equipment Management] - [IP Card] interface, you can configure the parameters of the decoding card.

5.2.1. Network mode settings

The decoding card network mode has two options: transparent transmission and NET. When the control card and the decoding card are in the same network segment, select the NET mode, and when they are in different network segments, select the transparent transmission mode. The IP card firmware upgrade operation is only supported in the NET mode.

Click the "Network Mode Settings" button and select the network mode in the pop-up window.

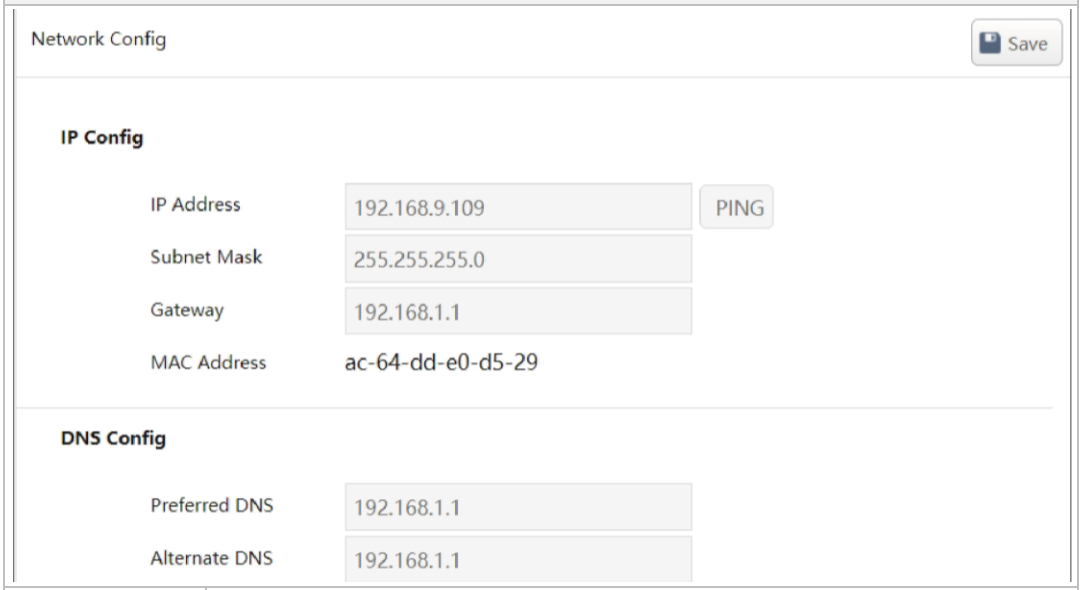


5.2.2. Decoding Card

5.2.2.1. Parameter configuration

Switch to the [Decoding Card] tab to set the network parameters of the decoding card . After the settings are completed, click the [Save] button.

Network Settings



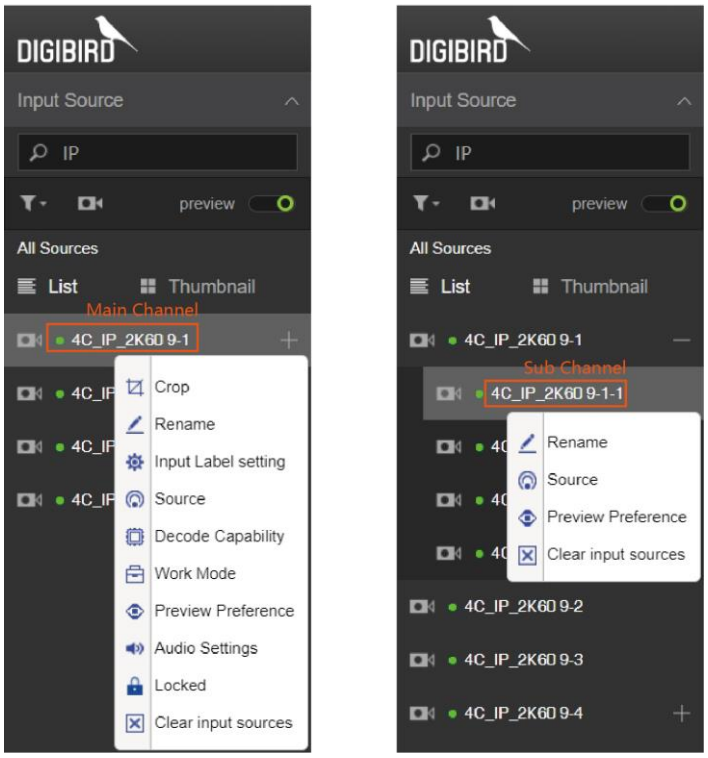
IP Settings	Set the decoding card IP address, gateway and other related network information.
DNS settings	Supports customized primary and backup DNS.

5.2.2.2. Decoding channel management

In the [Input Source] list, find the IP decoding channel, and through its right-click menu, complete operations such as main decoding channel cropping, renaming, input label setting, signal source information viewing, working mode setting, preview preference setting, audio setting, etc.

The IP decoding channel supports single-input and multi-input working modes. For detailed operations, please refer - **Working Mode Settings** .

The IP decoding main channel can be expanded to display its sub-channel list in multi-input mode. In the right-click menu of a sub-channel, you can rename the sub-channel, view signal source information, set preview preferences, and clear video source.



1. **Cropping Source**

   Select one IP source, click the "Crop " button in the right-click menu, set up cropping information in the pop out window. For detailed operations on cropping, please refer to ——[3.1.3 Source Cropping].

2. **Rename**

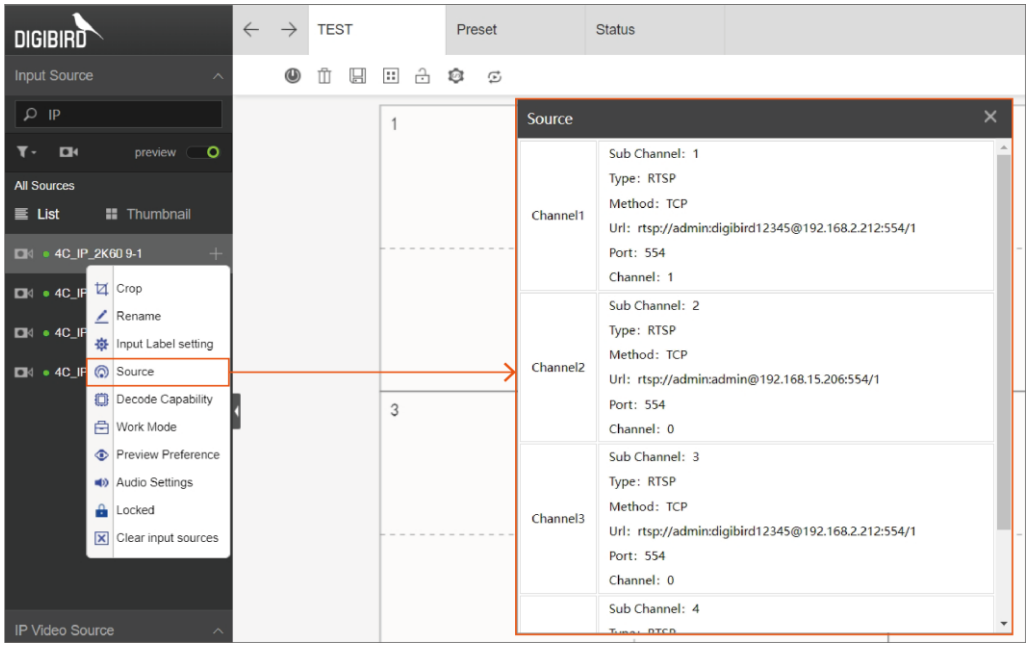
   You can rename the main channel or sub-channel of IP decoding. Click the "Rename" button in the right-click menu of the channel, enter the new channel name in the pop-up window, and click the "OK" button.

3. **Set Input label**

   Click the "Input Label Setting" to pop up the logo setting window. The operation of setting the logo of the IP decoding channel is the same to input label setting. For details, refer to - [3.1.4 Input Label].

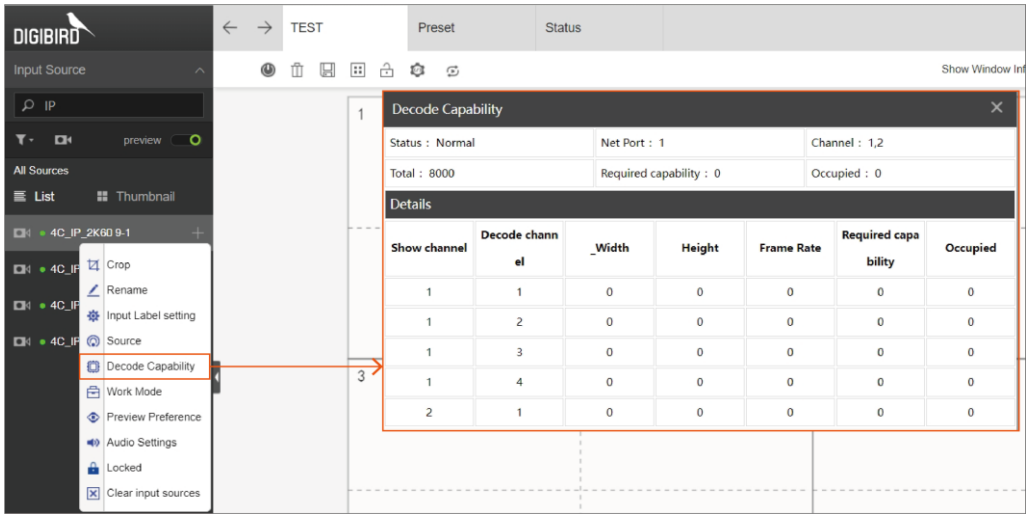
4. **Input source information**

   Select one IP source, right click to call out setting menu and click “Source”, which displays the information of main channel or sub-channel.
   Under multi-channel working mode, the main channel information contains the signal source information of all its sub-channels.



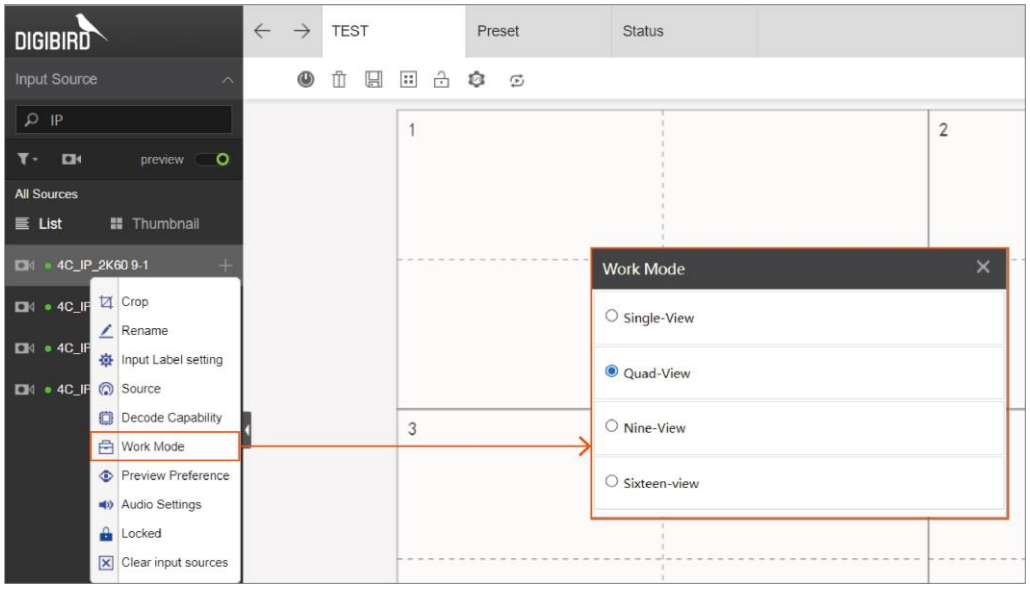
5. Decoding capability

Click the "Decoding Capability" button to view the decoding capability of the interface to which the decoding channel belongs and the channel decoding details.



6. Working mode settings

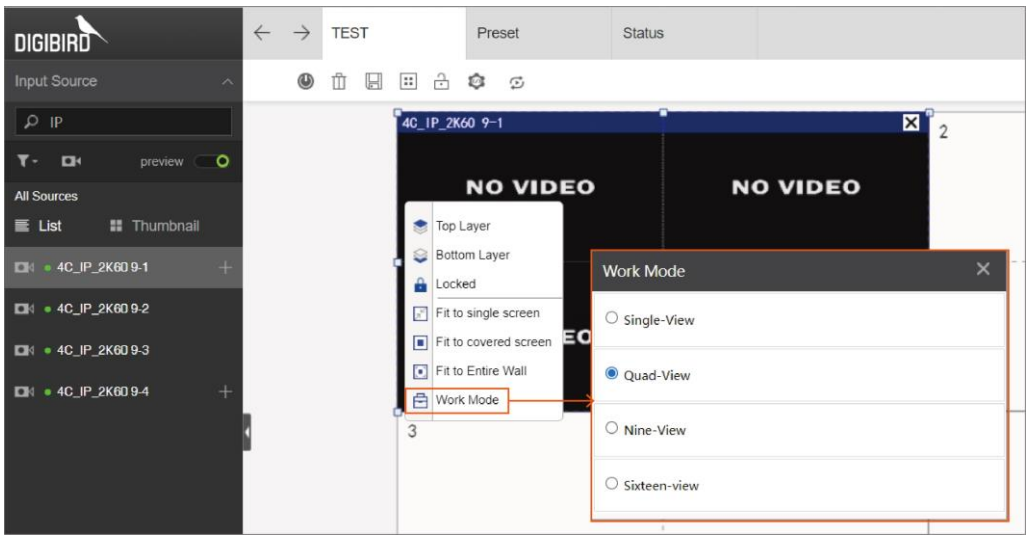
Click the "Working Mode Settings" button to pop up the working mode settings window, which can be set to single/four/nine/sixteen view.



In the multi-channel input working mode, the icon will appear at the right side of the IP decoding main channel. Click it to expand the sub-channel list and set sub-channel related parameters through the right-click menu of the sub-channel.

In addition, you can also set the working mode in the right-click menu of the window created by the IP decoding channel, as follows:

Move the mouse to an IP decoding channel window, click the "Working Mode Settings" button in its right-click menu, and select the working mode in the pop-up window.

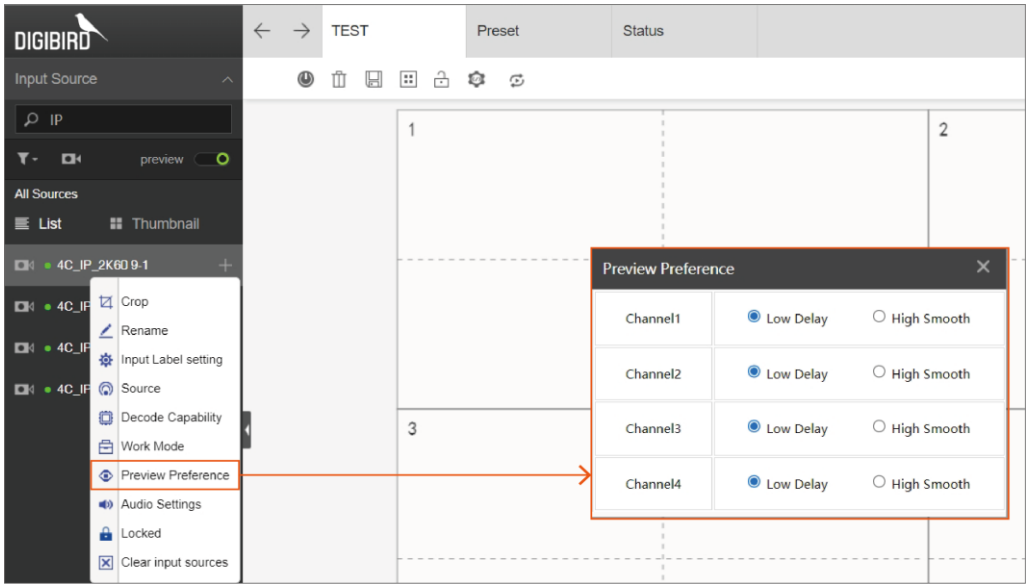


7. Preview Preferences

Click the "Preview Preferences" to set the preview preferences of each channel. It supports two modes: "Low Latency" and "High Smoothness". Select according to your needs.

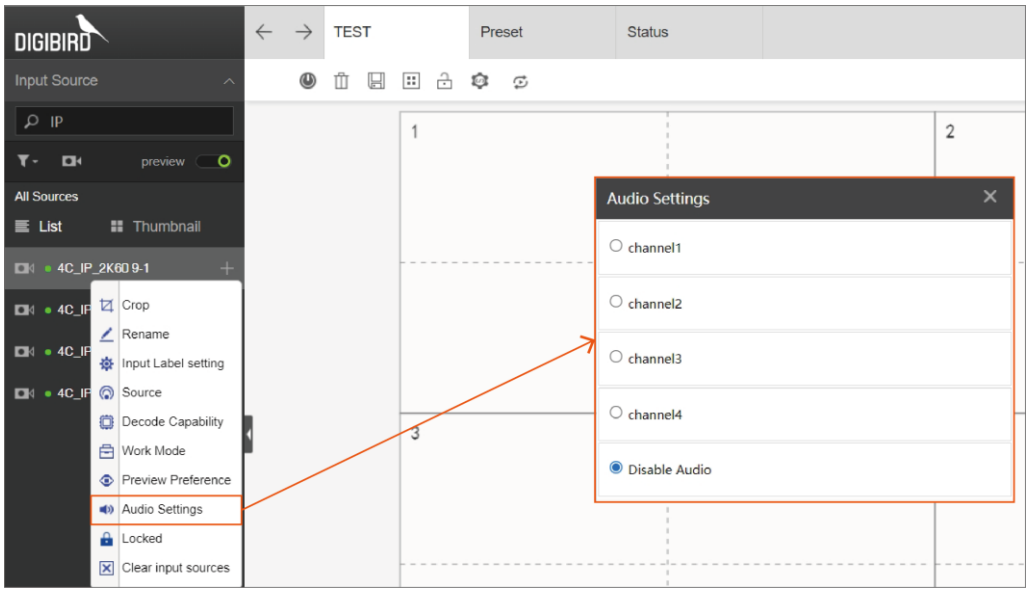
Low latency: The decoding process has low latency, but when the network conditions are poor, there will be a small amount of packet loss or error packets, resulting in mosaic occasionally.

High Smoothness: There are cached packages during the decoding process, the image quality is stable, but the delay is relatively large.



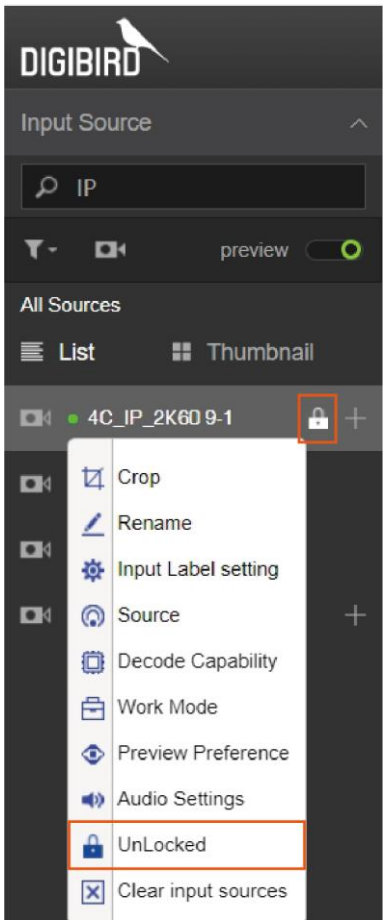
8. Audio Settings

Click the "Audio Settings" button to pop up the audio settings window. You can select the channel for output audio or disable audio.



9. Lock

Click the "Lock" button to lock the IP decoding channel. When creating the window through the IP source intelligent routing method, the locked decoding channel will not be occupied.

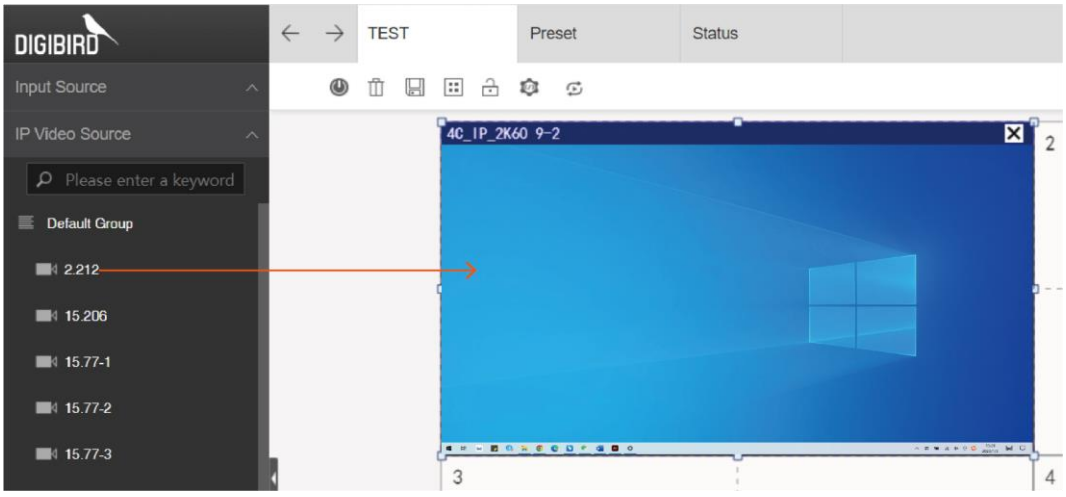


10. Clear Video Source

Click the "Clear Input Source" button to clear all video sources under the channel.

5.2.2.3. Create windows with IP source

In [IP video source] list, you can select the IP signal source to directly create the window. The software automatically allocates a decoding channel for the IP signal source and will not occupy the locked decoding channel. The windowing operation is the same as that of the common signal source, please refer to -- **2.3.1 Create Windows** .



1. When the IP signal source is selected to create window, it can only be automatically routed to the unlocked IP decoding channel;
2. The IP source with multiple windows only occupies one decoding channel, and repeated windowing will not occupy other decoding channels.

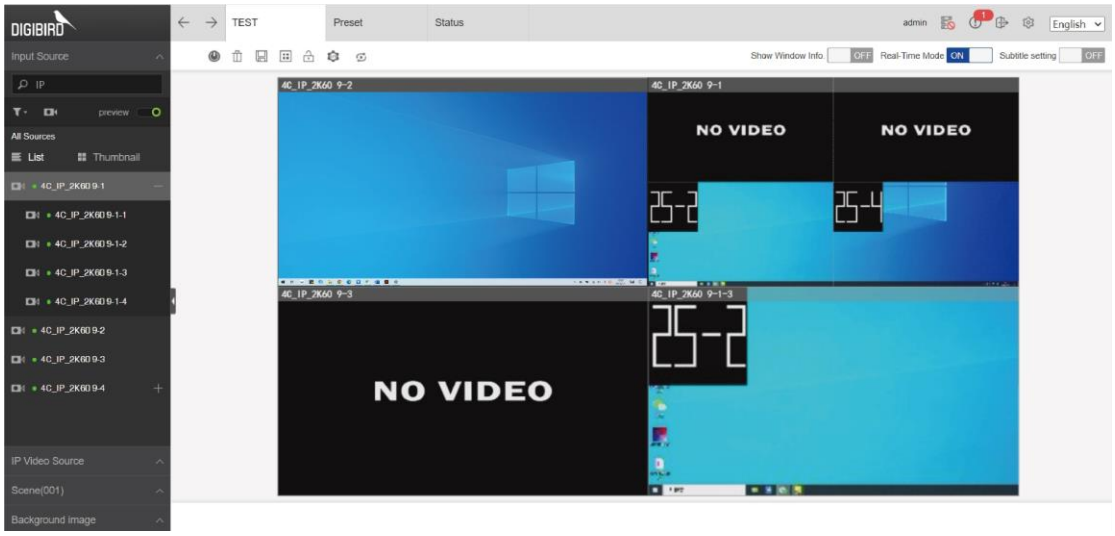
5.2.2.4. Create windows with IP decoding channel

In [Input Signal Source] list, you can choose to open a window through the IP decoding channel to display the IP source on the screen. The way to create window is the same as the IP signal source windowing, but there are some differences in the display effect:

1) When opening windows for IP decoding channels, you can use the main channel windowing or the sub-channel windowing.

2) When the main channel is used to create a window in multi-screen mode, it is displayed as a multiview window.

3) If the channel is not configured with an IP source, the channel window will display a blank screen or a "NO VIDEO" screen. Otherwise, the channel window will display the decoding screen of the IP signal source.



There are two ways to configure IP source for IP decoding channel:

1) From the [IP Signal Source] list and drag it directly to the main channel or sub-channel window area to switch this IP signal source to the selected IP decoding channel window for decoding and display.

2) in the background [IP Source Management] - [IP Video Source Scene], and configure the IP signal source for the IP decoding channel by calling the scene.

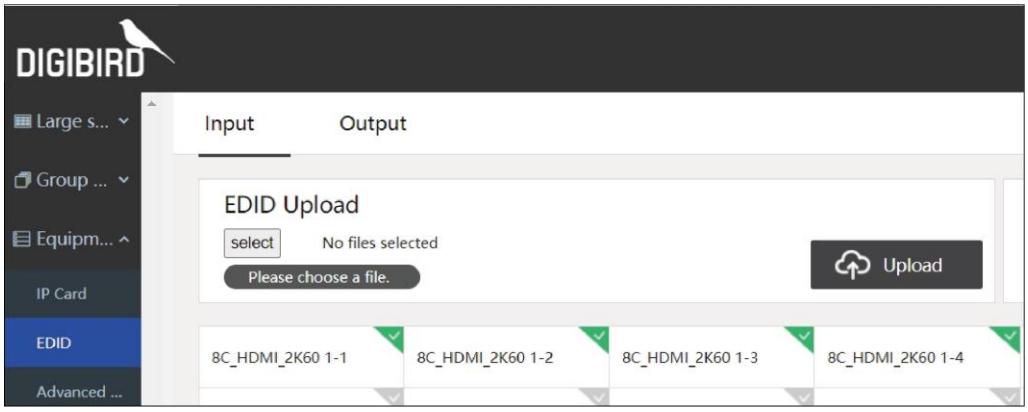
5.3. EDID Management

The software supports EDID management, including uploading and downloading of EDID.

5.3.1. Upload

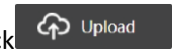
Uploading a local EDID file to the input interface can modify the input interface EDID.

1. In the backend [Equipment Management] - [EDID Management] interface, switch to the [Input] page and check one or more input interfaces;



2. In the [EDID Upload] area, click 

the button and select the local EDID file.

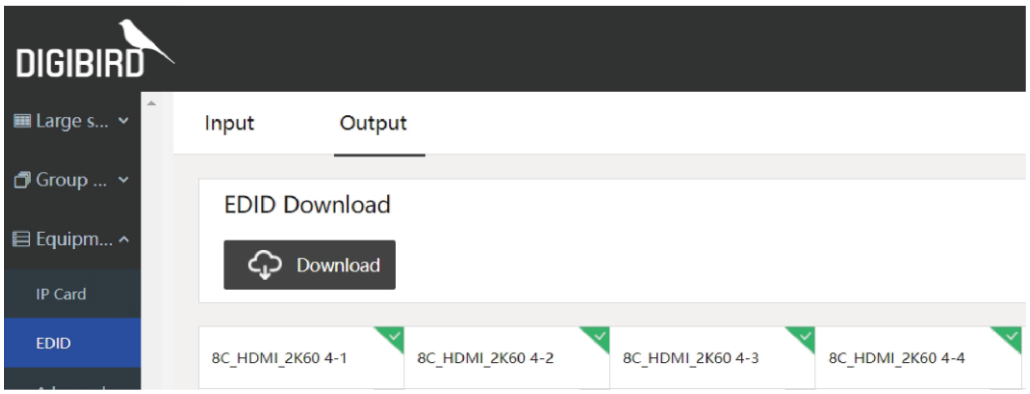
3. Click 

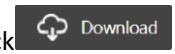
button to upload the EDID file to the selected input interface.

5.3.2. download

You can download the EDID file to the local PC for storage, including the EDID of the input interface and the EDID of the device connected to the output interface. Here we take the EDID download of the device connected to the output interface as an example.

1. In the background [Equipment Management] - [EDID Management] interface, switch to the [Output] page and check 1 interface.



2. Click 

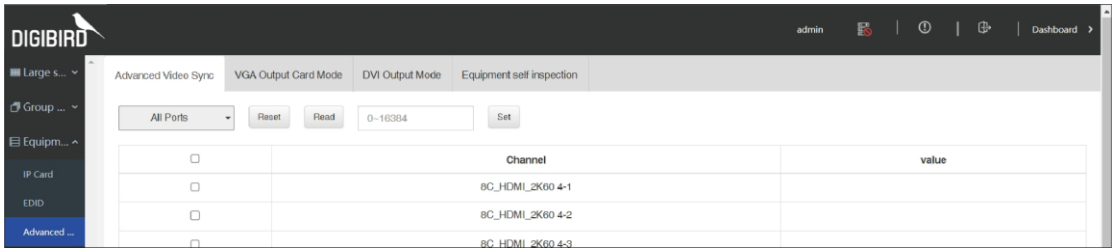
button to download the EDID file to the local PC.

5.4. Advanced options

If the basic configuration of the device still cannot meet user needs, you need to perform relevant optimization or advanced configuration in the background [Equipment Management] - [Advanced Options] interface.

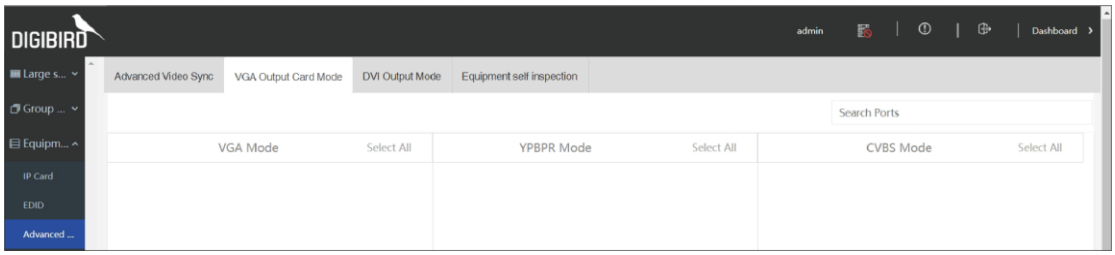
5.4.1. Advanced Sync

For LCD video wall, due to the refresh characteristics of the LCD screen, there will be a problem of horizontal moving image tearing. To address this problem, this device provides an advanced screen synchronization function that can set, read or reset the advanced synchronization parameters of each output port. **This function is an advanced function. If you need to use it, please consult sales or technical personnel.**



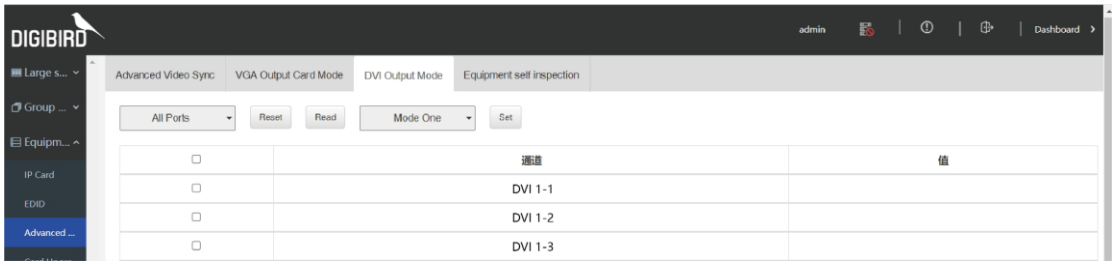
5.4.2. VGA output card mode

Supports three output modes of VGA output card: VGA mode, YPbPr mode, and CVBS mode.



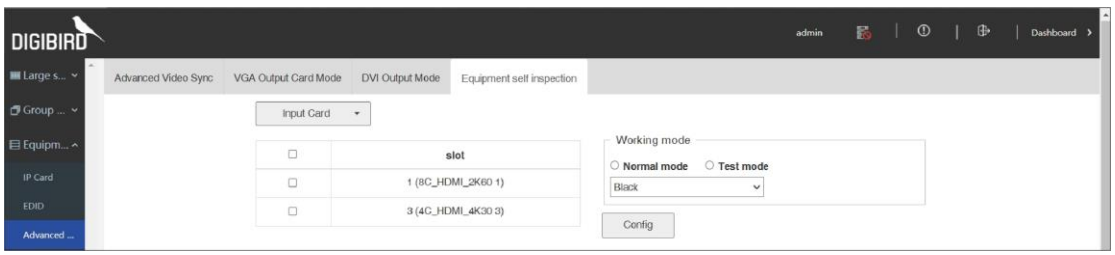
5.4.3. DVI Output Mode

This device is used with certain DVI receiving devices, different DVI interface output parameters need to be adjusted to better adapt to the receiving device. Here you can set, read or reset the output mode of each DVI output interface of the splicer. **This function is an advanced function. If you need to use it, please consult sales or technical personnel.**



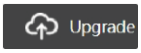
5.4.4. Equipment Self-inspection

Supports device self-inspection function, can test input card and output card, can choose "normal mode" or "test mode" as working mode, test mode supports 24 images. This function is an advanced function, please **consult sales or technical personnel if you need to use it.**

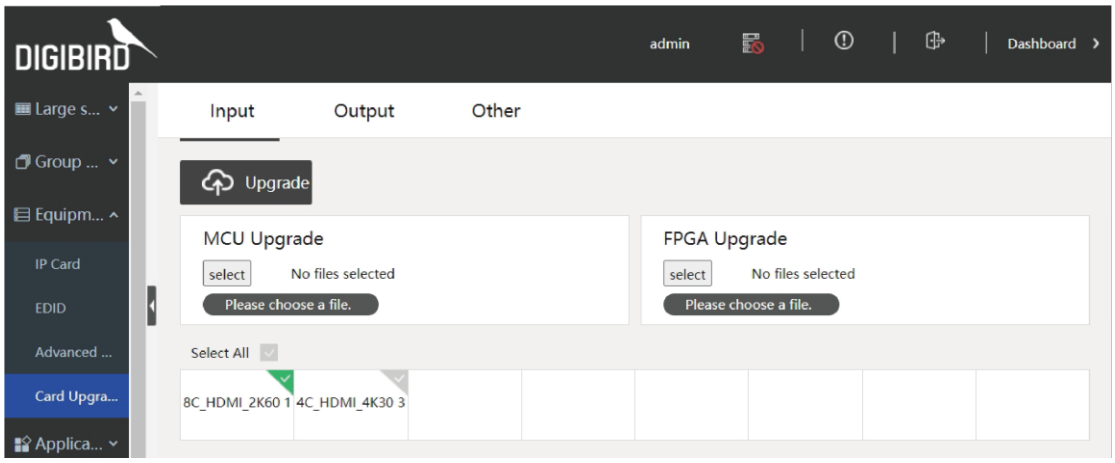


5.5. Card Upgrade

Supports firmware upgrades for input cards, output cards, etc. **If you need to upgrade, please contact sales or technical personnel.**

Enter the software backend [Equipment Management] - [Card Upgrade] interface. MCU and FPGA can be upgraded separately. Click the [Select File] button, select the corresponding upgrade file from the local PC, then check the card to be upgraded and click 

button to upgrade the selected card.

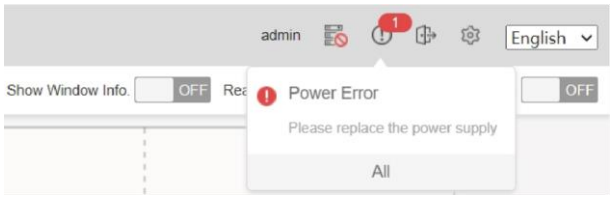


6. System Management

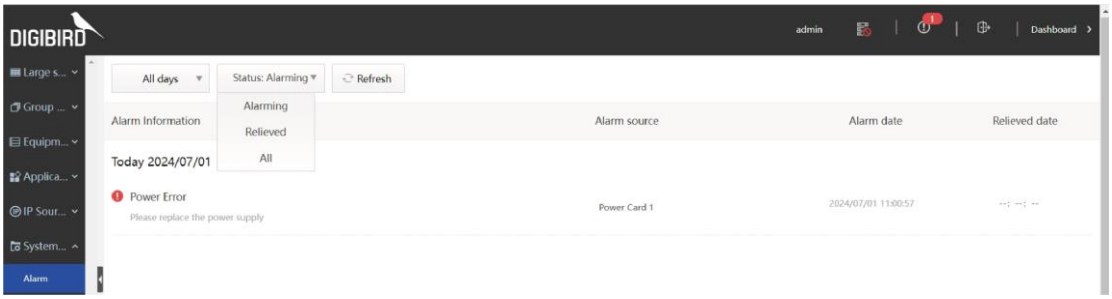
6.1. Alarm Management

If any module or link is abnormal during the operation of the equipment, an alarm message will be displayed on the software interface to prompt the user, facilitating troubleshooting.

In the function bar of the software front desk, you can Click the "All" button to jump to the background [System Management] - [Alarm Management] interface.



Alarm information can be filtered and viewed by date and alarm status .

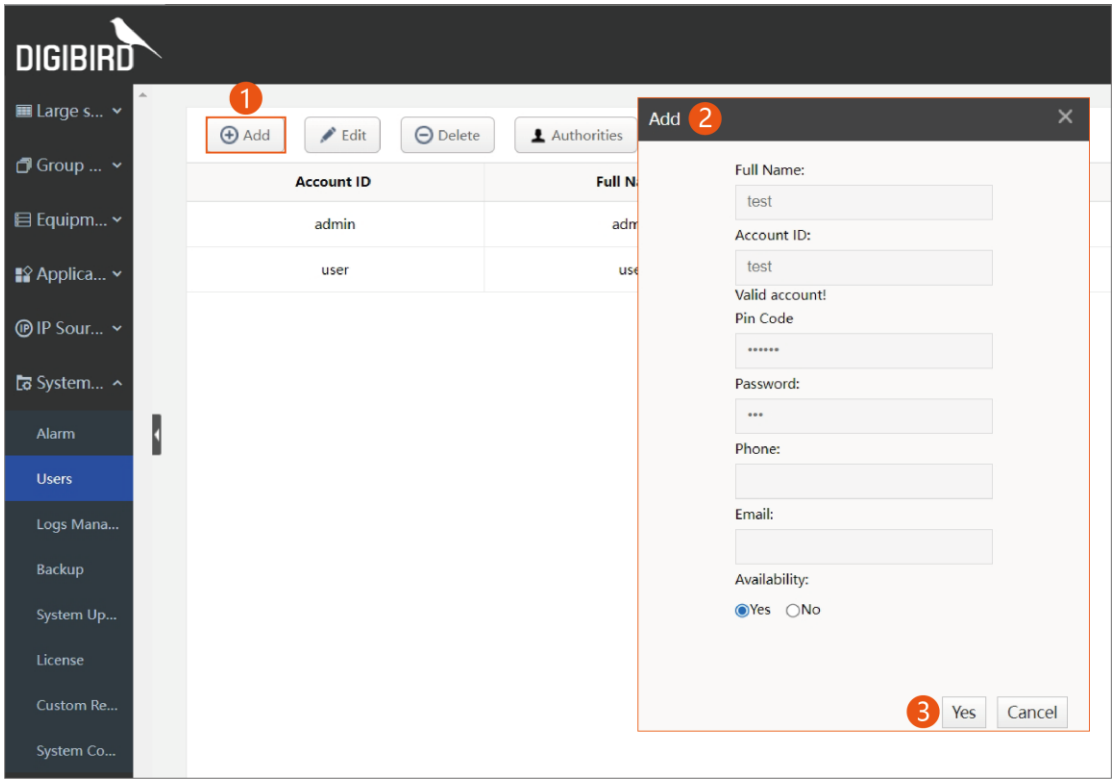


6.2. User Management

The system supports adding multiple users and assigning different permissions to users, thus enabling multi-person collaborative operations with different permissions.

6.2.1. New users

In the backstage [System Management] - [User Management] interface, click Add button, enter the user information in the [Add User] window, and click the [Yes] button.

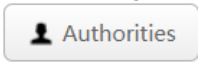


User information is as follows:

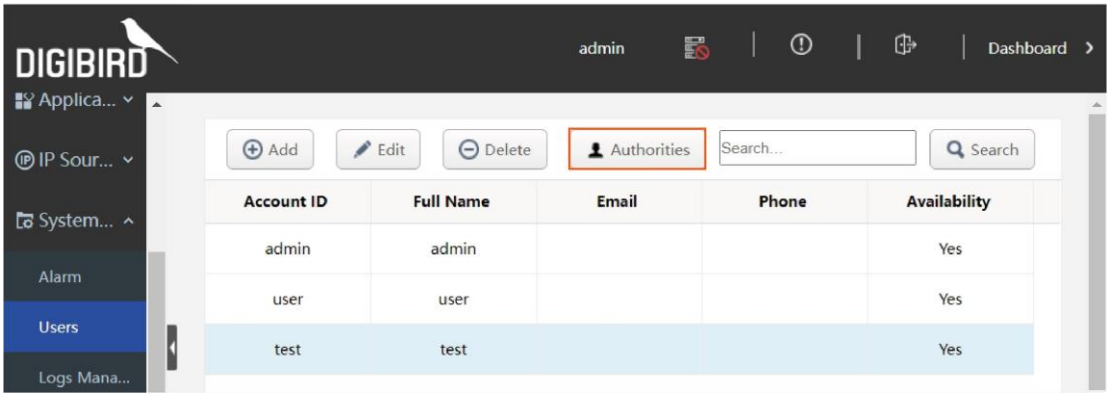
No.	Item	Description
1	Display name	The username displayed after logging into the system.
2	Account name	The username used when logging into the system.
3	Pin code	Used when logging in via mobile terminal.
4	User password	Enter the login password for this user.
5	Telephone number	Enter the phone number for this user.
6	E-mail	Enter the email address of this user.
7	Valid identification	If you check "Yes", this user can log in and operate the software, otherwise not.

6.2.2. Permission settings

Different operating permissions can be set for different users according to actual needs to achieve decentralized collaboration.

In the background [System Management] - [User Management] interface, select a user and click 

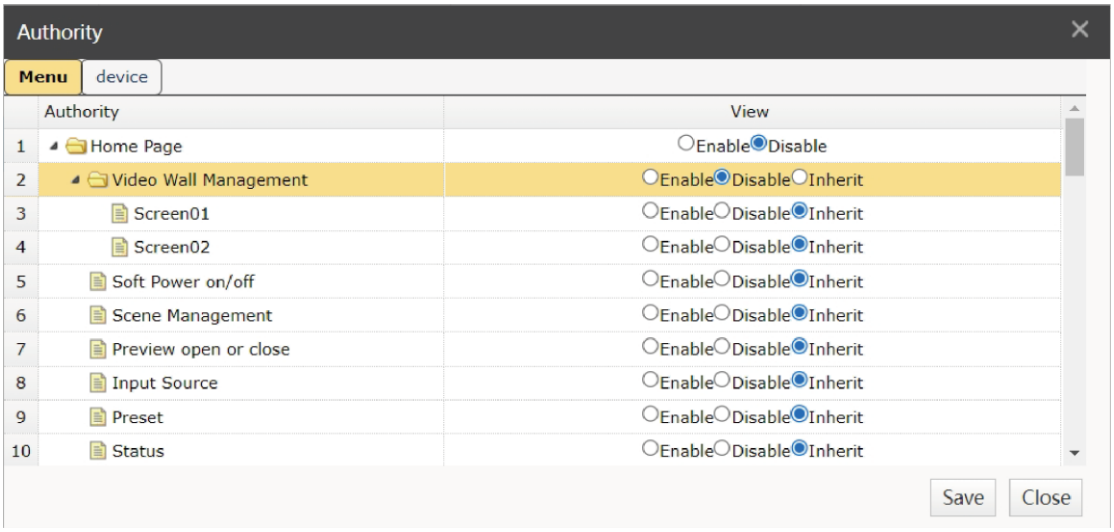
button to open the [Permission] setting dialog box.



1. Authority Menu

On the [Menu] page, the authorities for each function in the software interface are listed. For example, if you want to prohibit users from controlling the front-end video wall, you can set the first-level permission setting "Home Page" to "Enable", set "Video Wall Management" to " Disable", and leave the others unchanged, then click the "Save" button.

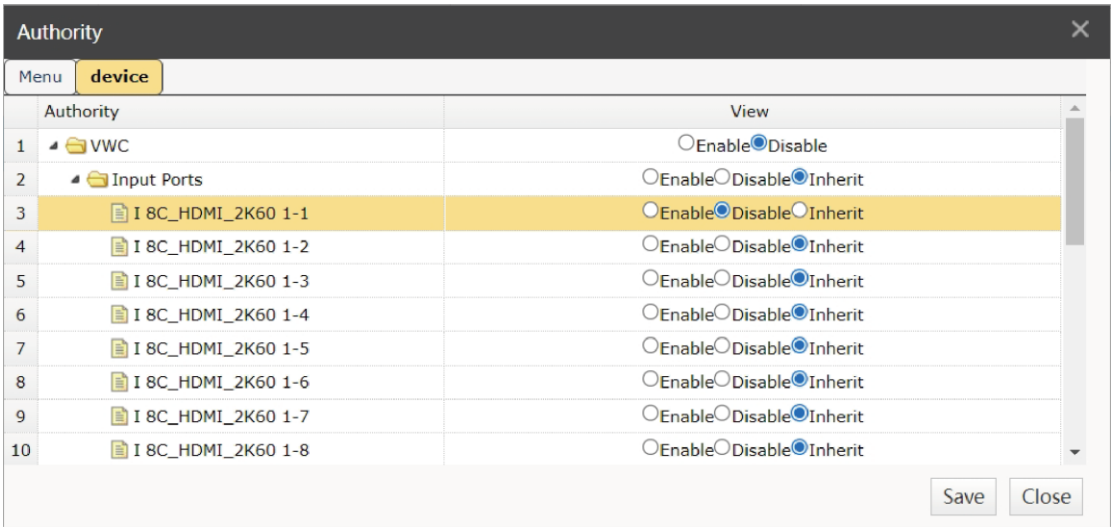
After the settings are completed, when this user logs into the software, there is no video wall option in the function bar of the front-end interface and the video wall cannot be controlled.



2. Device operation authorities

On the [Device] page, you can set the operation permissions for the input source or output display. For example: prohibit users from operating the input signal source "I 8C_ HDMI_2K60 1-1", you can set “VWC” to “Enable” and set 8C_ HDMI_2K60 1-1" to "Disable", keep other settings unchanged, and click the "Save" button.

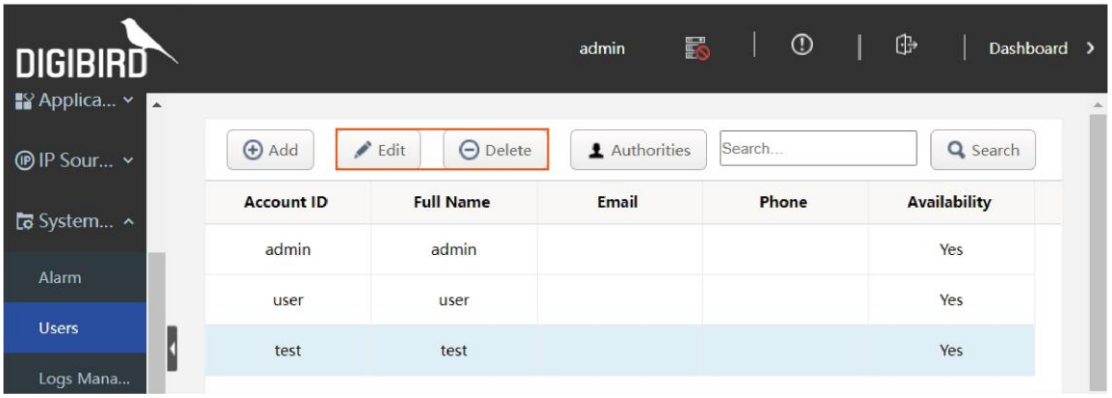
After the setting is completed, this user logs into the software and cannot call the signal source "I 8C_ HDMI_2K60 1-1 ".



Inherit: Indicates the same status as the parent level.

6.2.3. User Management

In the background [System Management] - [User Management] interface, select the user and click the [Edit] button to modify the user information, click the [Delete] button to delete the user.

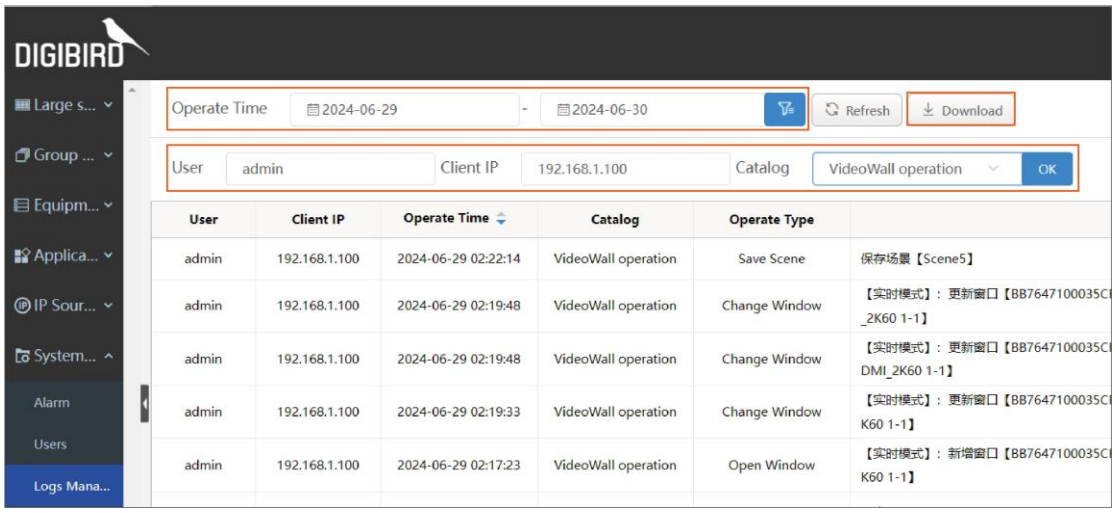


6.3. Log Management

The software will record all operation information of all users, and provide operation log viewing and export functions to facilitate problem troubleshooting and management.

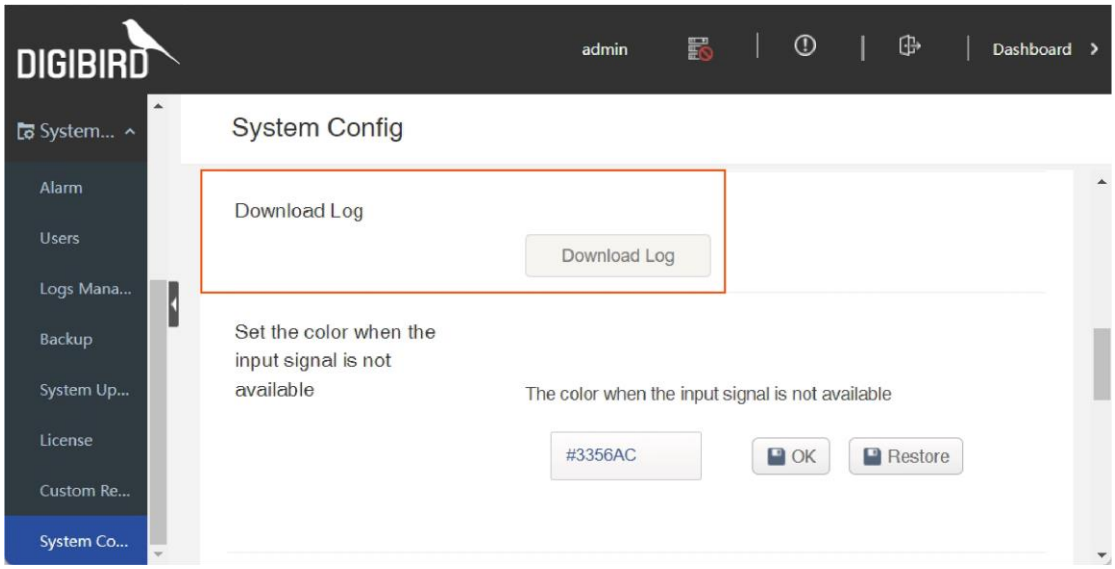
In the software backstage [System Management] - [Log Management] interface, you can view all operation logs. You can filter log information by operation time, operation user, client IP and log type.

Click the "Download" button to export the filtered operation logs in Excel format and store them in the local PC.



The software also supports one-click downloading of all log information to the local computer for archiving, which can be retrieved and viewed on demand.

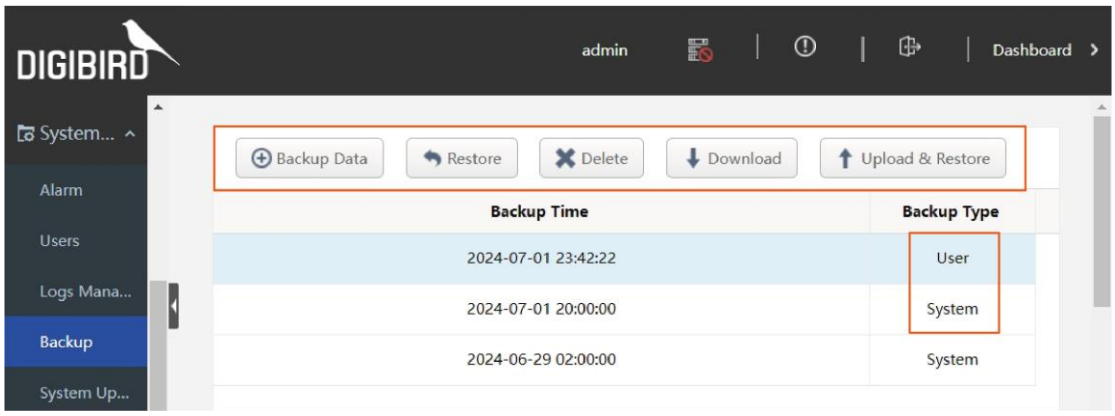
In the backstage [System Management] - [System Configuration] interface, find the [Download Log] area and click the [Download Log] button to download all log information in a zipped package to the local PC.



6.4. Backup Management

The software supports automatic and manual backup of system data. When encountering system failing, it can be restored with one click without reconfiguration.

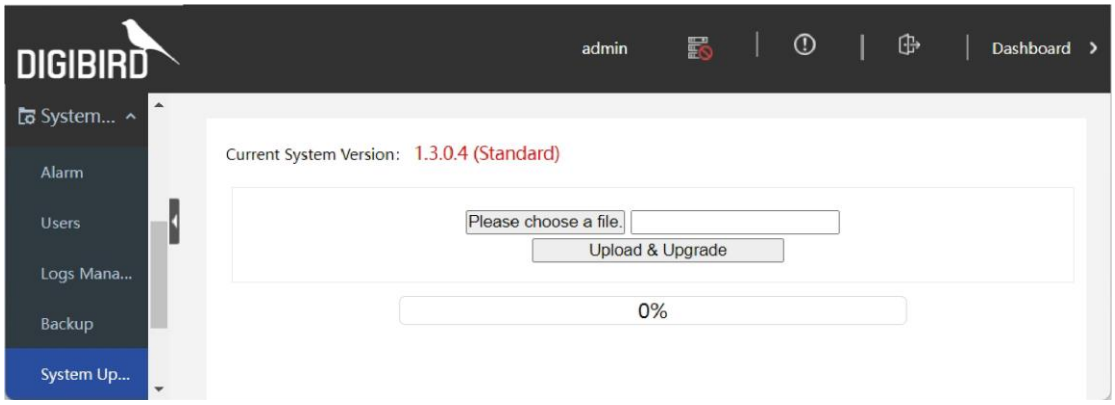
- **Manual backup:** In the background [System Management] - [Backup Management] interface, click the [Backup Data] button to manually back up the system data. The backup data is stored in the control card, and the "Backup Type" is "User Backup".
- **Automatic backup:** The system automatically backs up at 12:00 and 18:00 every day. The automatic backup data storage period is 7 days. The eighth day overwrites the first day's data, and so on. The "Backup Type" is "System Backup".
- **Download backup:** Click to select the backup data, and click the "Download" button to store the backup data in a compressed format on the local PC.
- **Restore data:** Click to select the backup data, and click the "Restore Data" button to restore this backup.
- **Upload and restore:** Click the "Upload and restore" button to select backup data from the local PC to upload and restore.
- **Delete backup:** Click to select the backup data of type "User backup", and click the "Delete backup" button to delete the backup. "System backup" does not support manual deletion.



6.5. System Upgrade

To upgrade the entire system**, please contact the sales or technical personnel if you need to upgrade.**

Enter the backstage [System Management] - [System Upgrade] interface, click the "Please select file ... " button, select the upgrade program in the.tar.gz format on the local PC, then click the "Upload Upgrade" button and wait for the upgrade to complete.

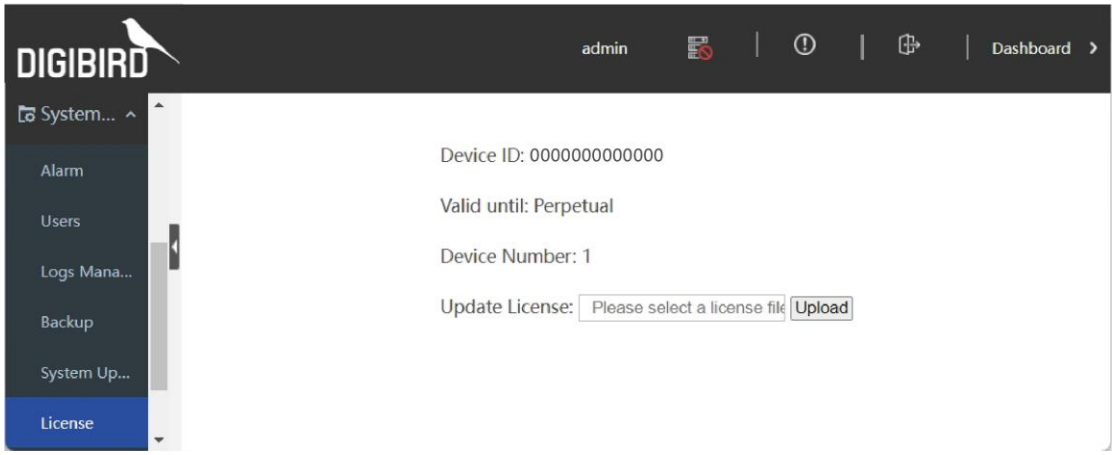


Please make sure keep the device connected to the power supply during the upgrade and do not disconnect the power supply, otherwise it may cause damage to the device.

6.6. License Management

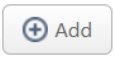
The demo device will be configured with a license. When the device license expires, please contact the sales or technical personnel of our company to update the license file.

Enter the background [System Management] - [License Management] interface to upload the license file.

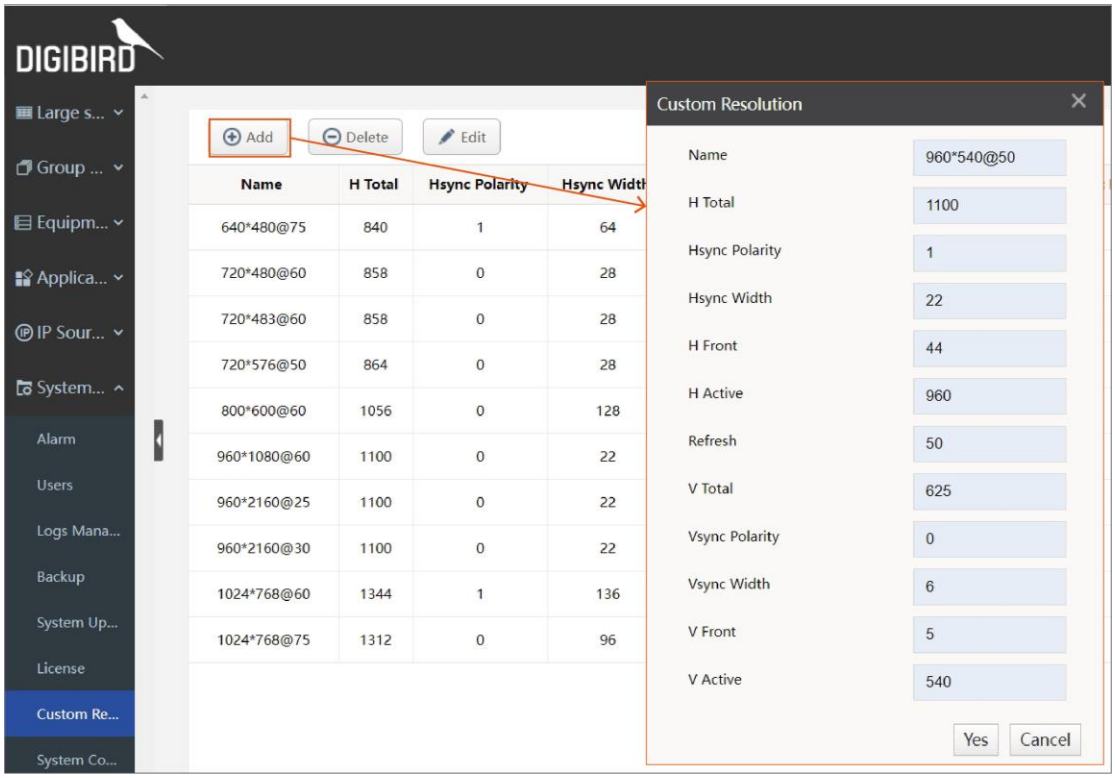


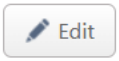
6.7. Custom resolution

When setting up a video wall, you need to set the output resolution. If there is no suitable resolution in the built-in list of the software, you can add it in the backstage [System Management] - [Custom Resolution] interface.

Click Add 

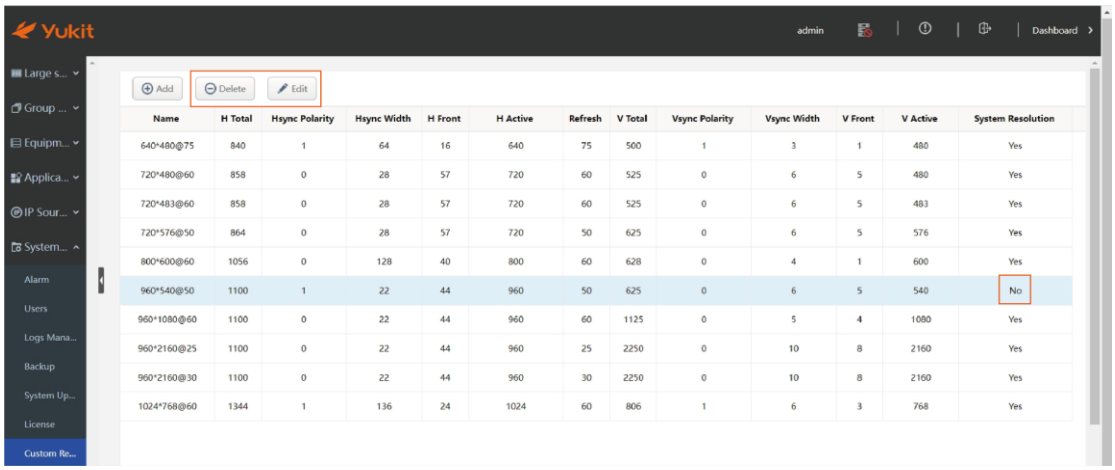
button, enter the relevant parameters in the pop-up window, and click the "Yes" button.



Select the custom resolution you added and click the "Edit" 

button to modify the parameters; click "Delete" 

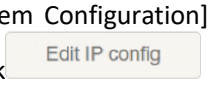
button to delete the custom added resolution.



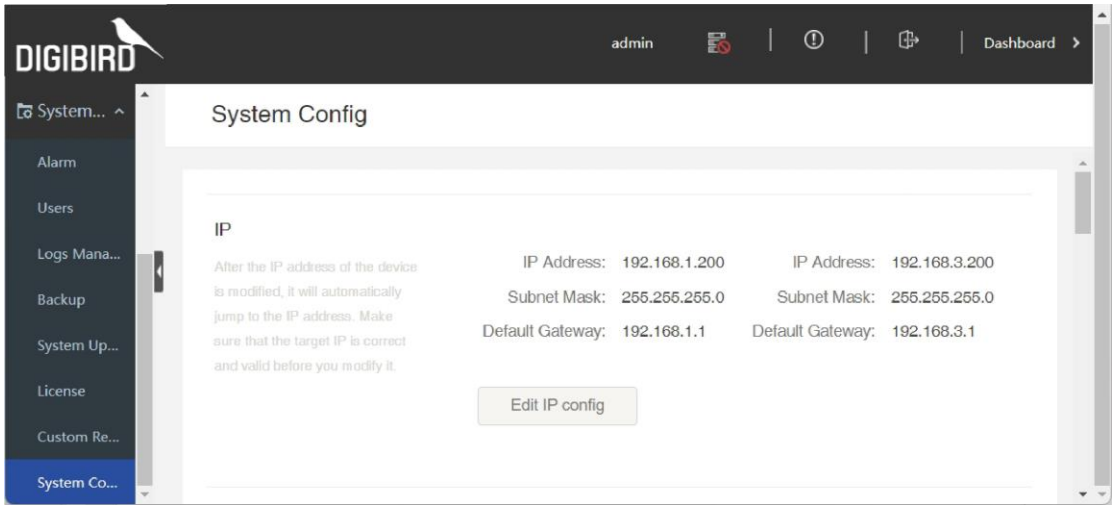
Only custom-added resolutions can be edited and modified, while system built-in resolutions are not supported.

6.8. System Configuration

6.8.1. IP Configuration

IP Configuration area of the [System Management] - [System Configuration] interface in the backend, you can view the device IP address information. Click 

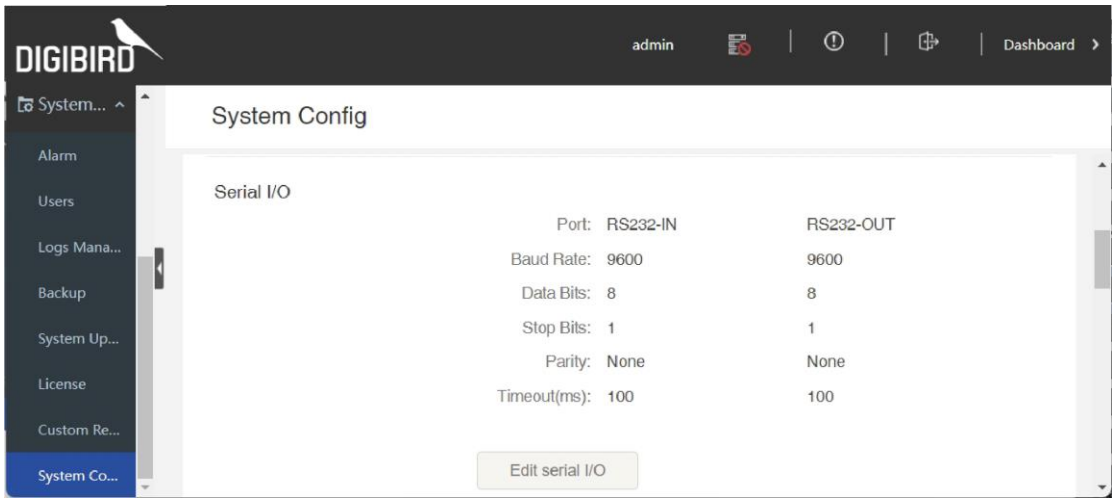
button to modify the device IP address (the device IP address must be in the same LAN as the control computer).



6.8.2. Serial port configuration

If you need to control 3rd party devices through the serial port, or control this device through 3rd party devices, you need to set the serial port configuration parameters.

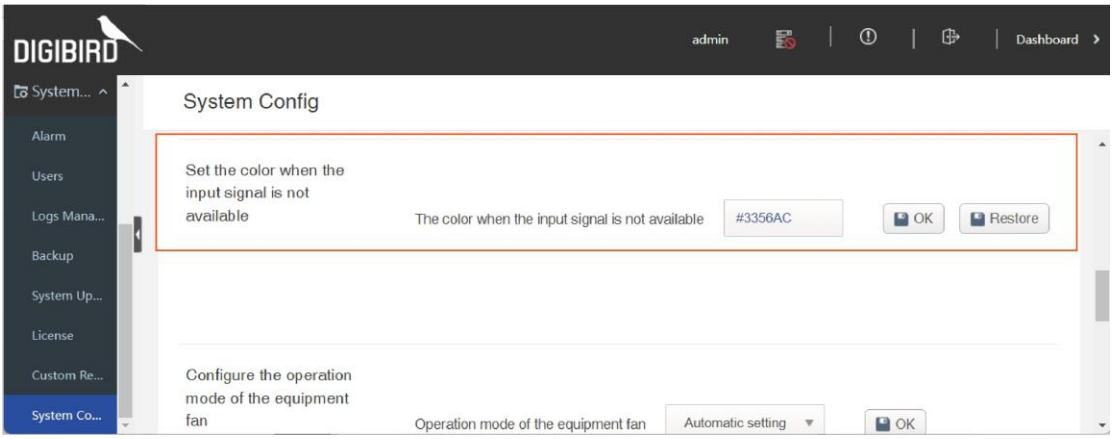
In the [Serial Port Configuration] area of the [System Management] - [System Configuration] interface, you can view the current serial port configuration information. Click Edit serial I/O button to modify the serial port parameters.



6.8.3. Color setting when no input

When there is no available input, you can set a virtual solid-color background image in the software to output it to the video wall, replacing the default blue background image.

In the [System Management] - [System Configuration] interface, in the [Set the color when the input signal is not available] area, select the image color in the color palette and click the [OK] button to complete the setting. Click the [Restore Defaults] button to clear the preset color and restore to the default value.



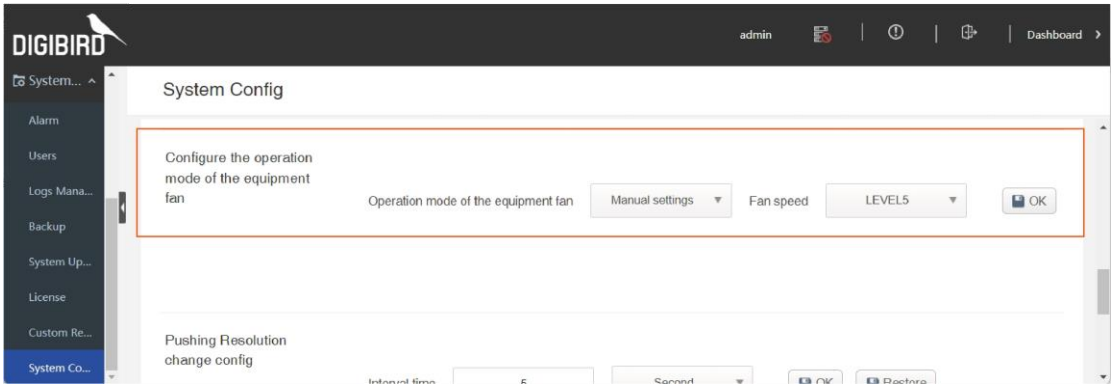
6.8.4. Fan operation mode setting

Supports setting the speed mode of the fan, including "automatic" mode and "manual" mode.

Model	Description
Automatic	The fan speed is automatically adjusted according to the operating status of the device.
Manual	Set a fixed fan speed. Regardless of the device operating conditions, the fan will run at the set speed.

In the backstage [System Management] - [System Configuration] interface, in the [Configure the operation mode of fan] area, select the operation mode.

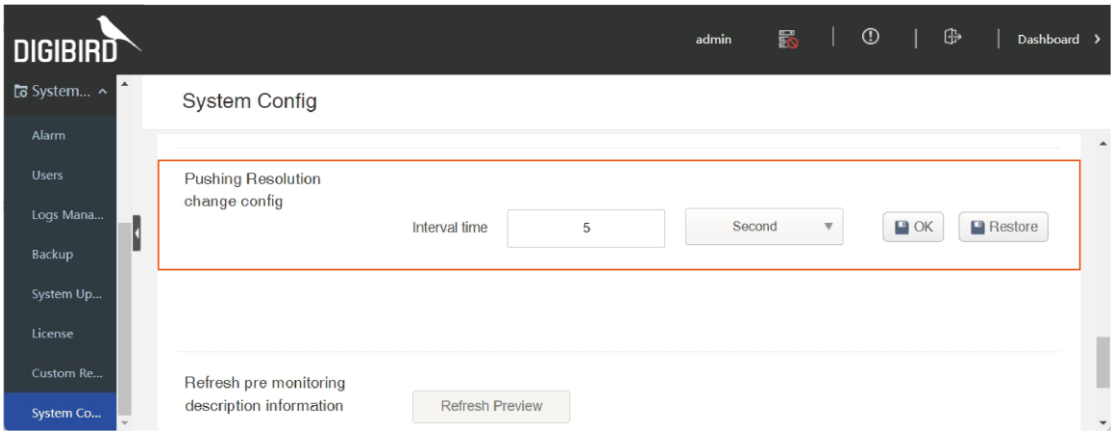
Automatic " for "Operation Mode" and click the "OK" button; if you select " **Manual** ", you need to select the fan speed level, 8 speed levels are supported, and then click the "OK" button.



6.8.5. Resolution detection frequency

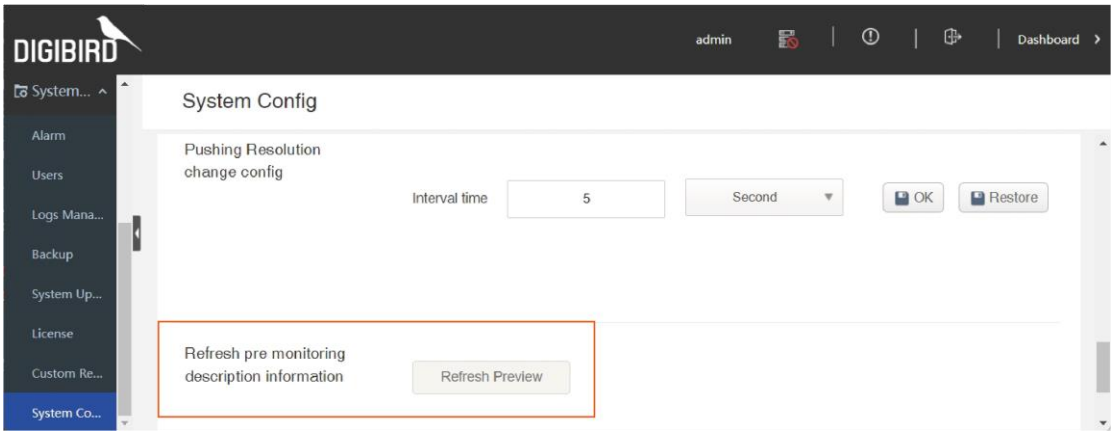
Support setting the time interval for automatic refresh of the system interface.

Enter into “System Config”, enter the refresh time interval and click the [OK] button to complete the setting. Click the [Restore Defaults] button to restore the system resolution automatic refresh time to the default time (5 seconds).



6.8.6. Refresh preview

Enter into “System Config” page, click the [Refresh Preview] button and confirm it twice to refresh the preview description information.



DigiBird Technology Co., Ltd.

---

www.digibirdtech.com
sales@digibirdtech.com