VX10 Video Controller

User Manual

History Revision

No.	Version	Date	Author	Description
1	0.01	2023.07.10		Initial release

Contents

1. System Overview

1.1 Device Connection

- LAN port

Connect your PC to VX10 via the LAN port, using a network cable. Then, enter the VX10’s IP address (shown on the front panel of the device) into the address bar of a supported browser for login.

- Switch

Connect your PC to a switch using network cable and then connect the switch to VX10 via the LAN port. Then, enter the VX10’s IP address into the address bar of a supported browser for login.

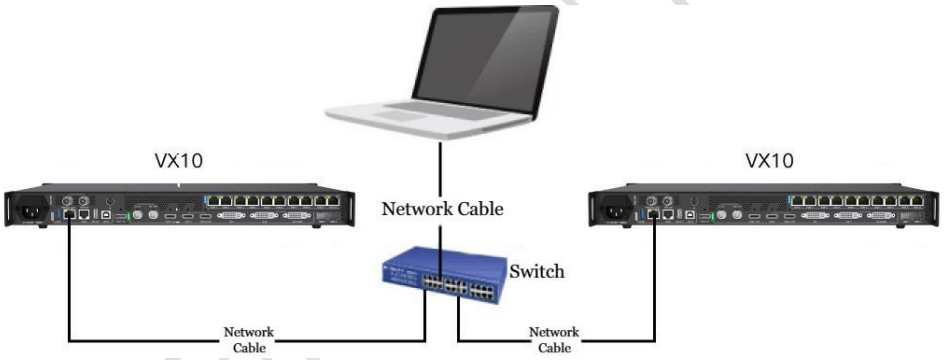

Figure 1.1-1 Connection via a switch

- Router

Connect VX10 to a router via the LAN port, using a network cable. Then, connect your PC to the router’s Wi-Fi and make sure the router and VX10 share the same gateway. Next, enter the VX10’s IP address into the address bar of a supported browser for login.

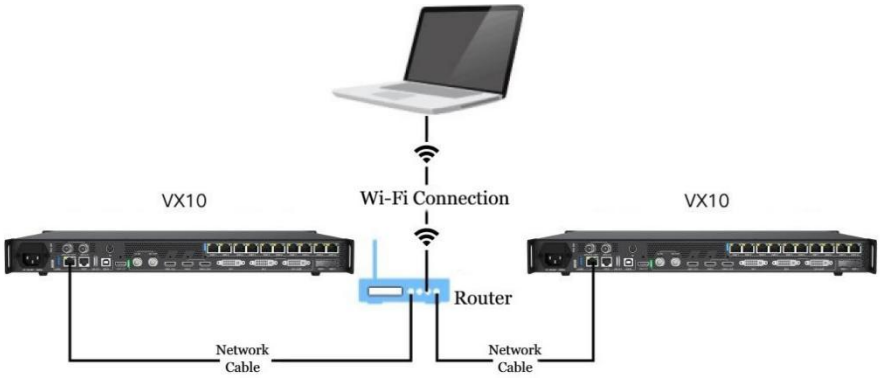

Figure 1.1-2 Connection via Wi-Fi

➢ USB

VX10 dose not support access through USB connection.

1.2 Operating Environment

VX10 supports Web control, without the need to install client software.

- Supported browser: Google Chrome, Firefox, Microsoft Edge, Safari, etc.
- Non-supported browser: Internet Explorer.

1.3 Software Access

Connect your PC to VX10 and access the software as described in previous sections. Then, enter the default username (123456) and password (123456) to log in.

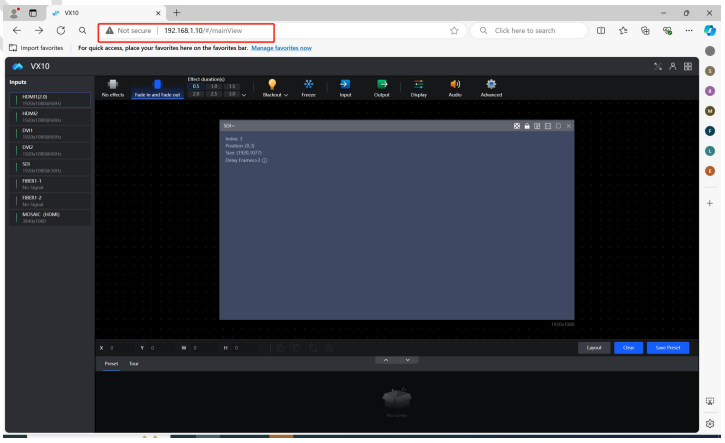

Figure 1.3-1 Access Web control platform of VX10

2. Quick Start

2.1 Setting LED Display Parameters

Launch *LEDVISION* software to set the receivers' parameters and mapping according to the actual condition on site. Make sure that the LED screen can display normally.

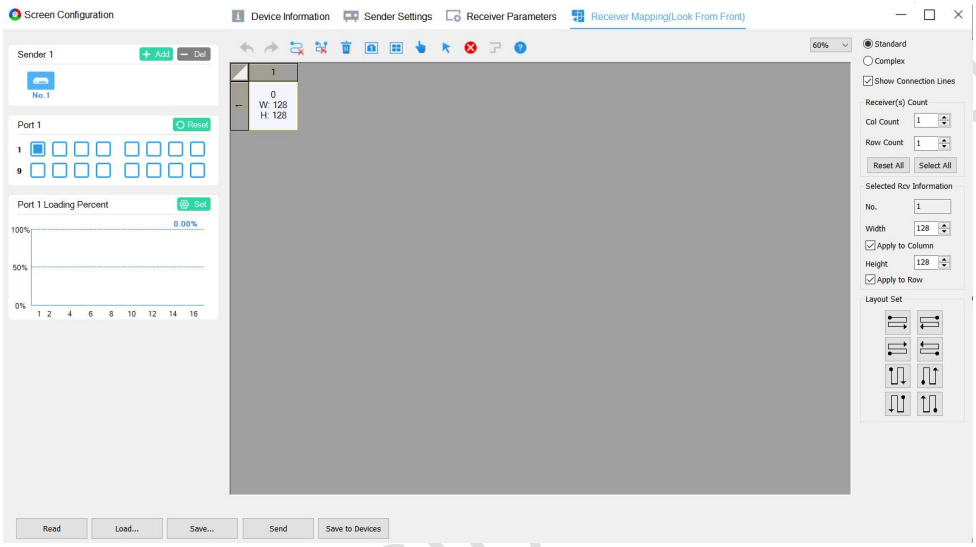

Figure 2.1-1 Setting receivers' mapping

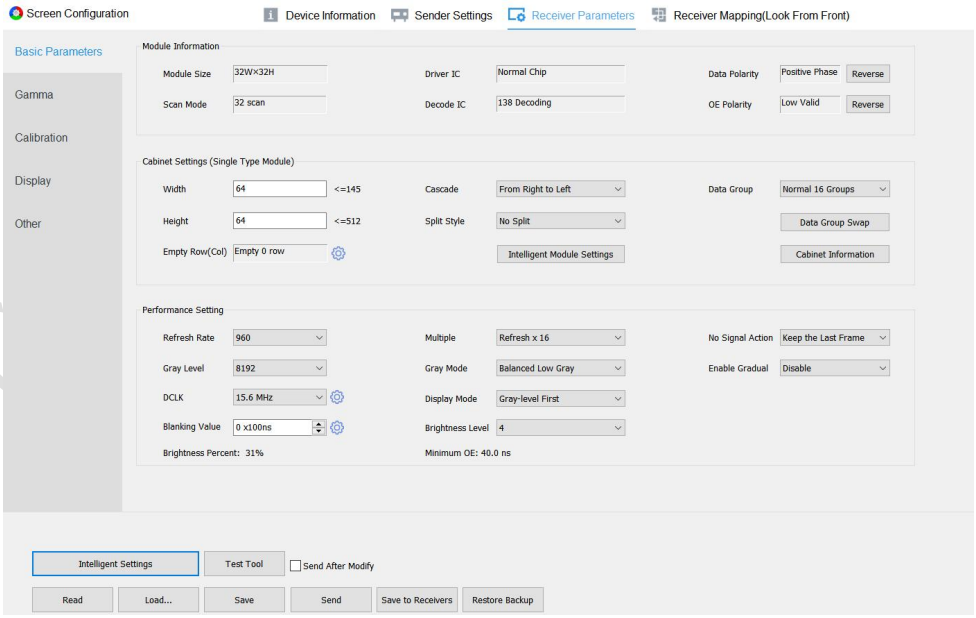

Figure 2.1-2 Setting receivers' parameters

2.2 Adding Signal Window

Drag an input signal to the canvas from the **Inputs** on the left side, and a signal window will then appear on the canvas. The position and size of a signal window are adjustable by modifying its parameters (**X**, **Y**, **W**, and **H**) below the canvas.

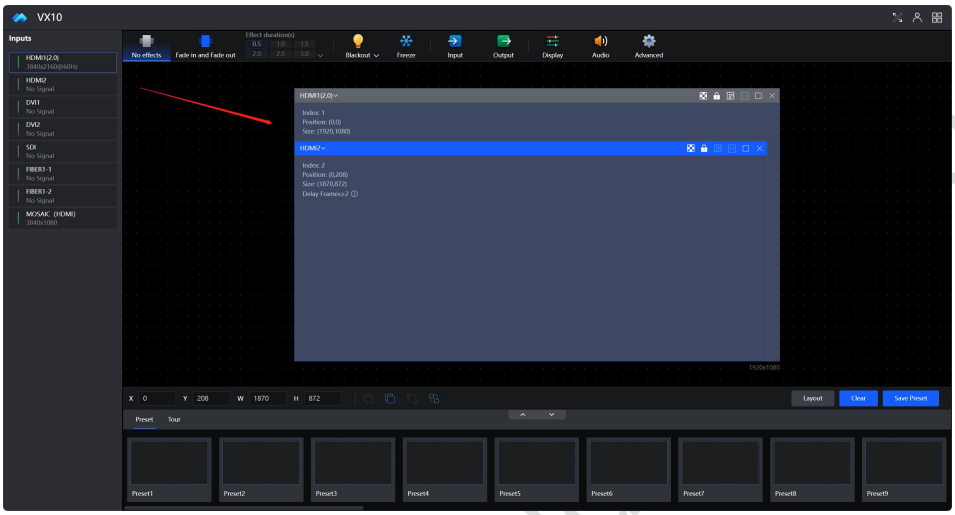

Figure 2.2-1 Add signal window

3 Detailed Instructions

3.1 Title Bar

From left to right, the title bar of the system contains 5 elements, including 2 decorative elements displaying the system LOGO and the model & name of the device, and 3functional buttons respectively for full-screen operation, account settings, and system settings.

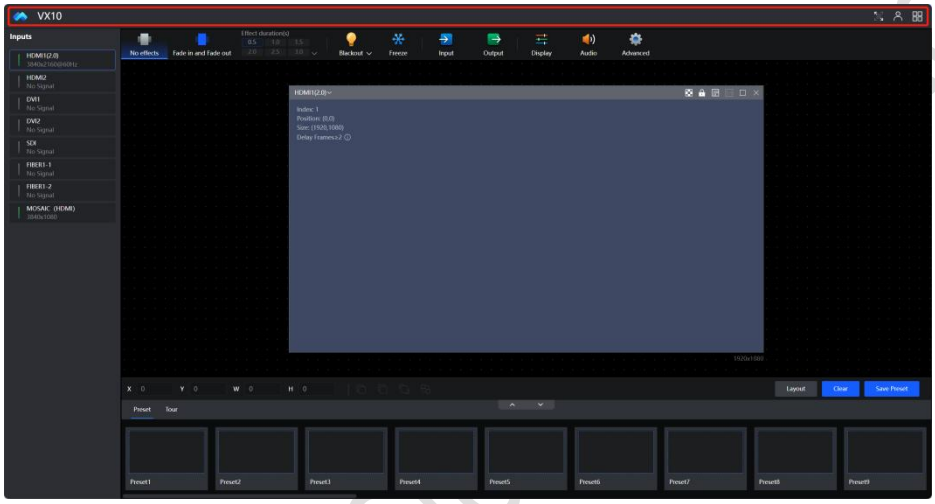

Figure 3.1-1 Title bar

3.1.1 Full-Screen Operation

Click the icon  to enable full-screen operation of the platform. Click the icon again to exit the full-screen mode.

3.1.2 Account Settings

You can manage your account information in **Account Settings**. You must login with an account to access the Web control platform. If you want to modify your username and/or password, you should authenticate your user identity first.

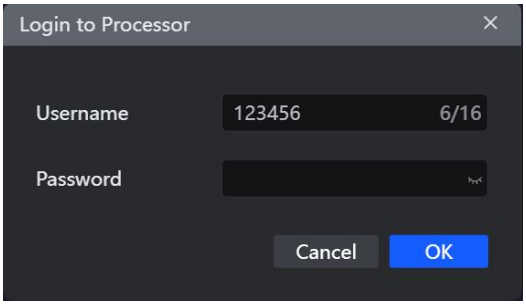

Figure 3.1.2-1 User account authentication

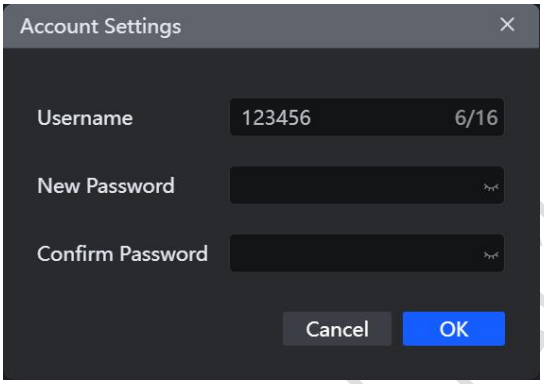

Figure 3.1.2-2 User account and/or password modification

3.1.2 Language

You can switch the software language between English and Chinese. If you select **Auto**, the software will apply your PC's system language (English/Chinese).

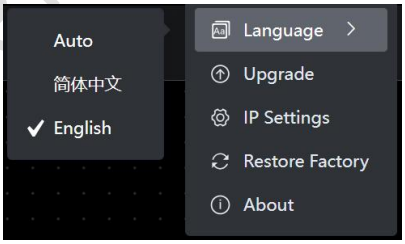

Figure 3.1.3-1 Language setting

3.1.4 Upgrade

You can upgrade the firmware of VX10 or that of the Web control platform in **Upgrade**:

- Step 1: Click the icon "  " on the title bar then click **Upgrade**.
- Step 2: In the pop-up window, click **Browse** then select the upgrade file

(*.fw*) to upload. The software will automatically analyse and show you firmwares that are ready for upgrade.

- Step 3: Select the firmwares you want to upgrade then click **Upgrade**. You can view the upgrade progress from the green progress bars in real time.

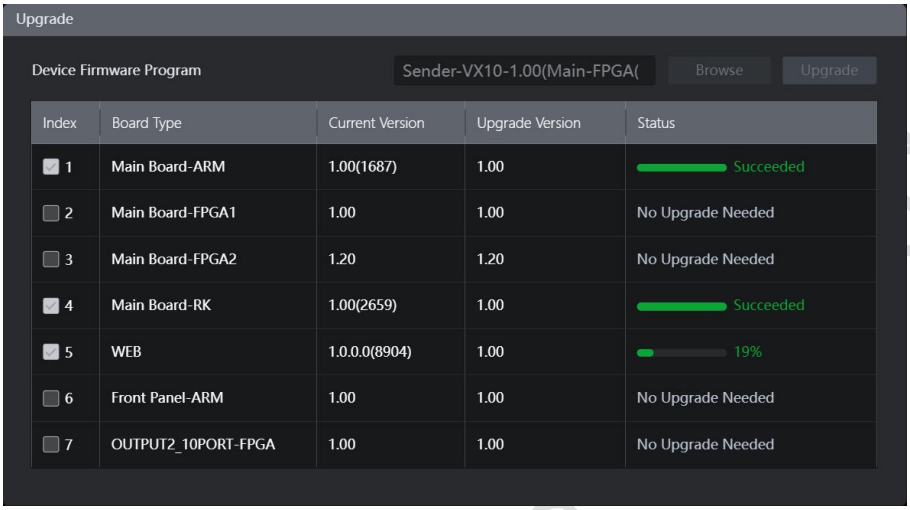

Figure 3.1.4-1 Firmware upgrade

3.1.5 IP Settings

In **IP settings**, you can view the IP address of the current device and modify if needed. The default IP address is 192.168.1.10. Changes to the IP address will be synced to the display of IP on the front panel of the device.

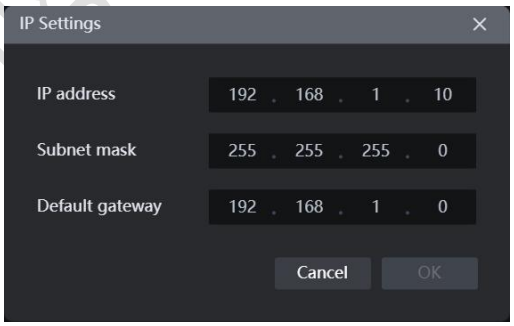

Figure 3.1.5-1 IP settings

3.1.6 Help

You can view the user manual (ZH/EN) of the Web control platform by clicking **Help**.

3.1.7 About

This pop-up window shows information about the software, including the software’s version, company name (customizable), and a clickable link to the company’s website.

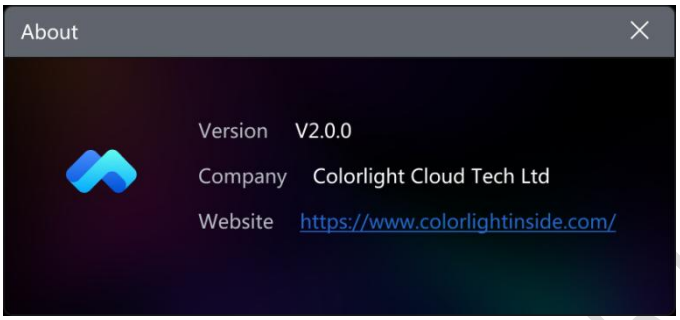

Figure 3.1.7-1 About

3.2 Input Signal

3.2.1 Input Signal List

The **Inputs** lists all connected input signals. You can view the signal’s online/offline status and EDID information. Click a signal to select it, and double-click a signal to access the window for input settings. You can enable **Cropping** for a selected signal, and a cropped signal will have an icon on the right side of its name indicating the cropping state.

3.3 Canvas View

The interface of canvas view is divided into signal window area and preset management area.

3.3.1 Signal Window

- Add signal window

Drag an input signal to the canvas from **Inputs** on the left side, and a signal window will then appear on the canvas.

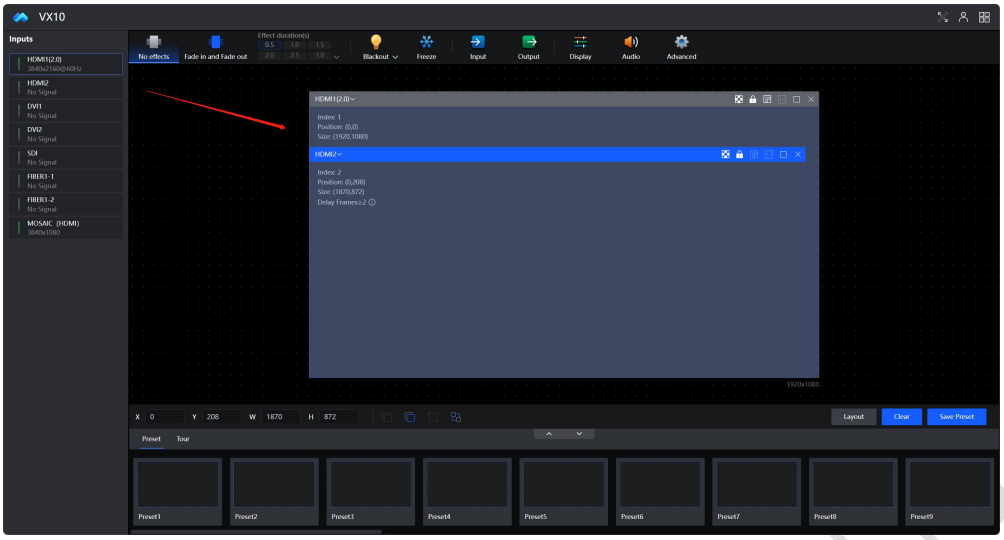

Figure 3.3.1-1 Add signal source window

➢ Replace signal window

You can replace an existing signal window on the canvas with a new one. Drag a new signal from the **Inputs** and hold the cursor above the existing window you want to replace for 0.5s. When the pop-up bubble message "Replace inputs" appears, drop the signal to finish the replacing.

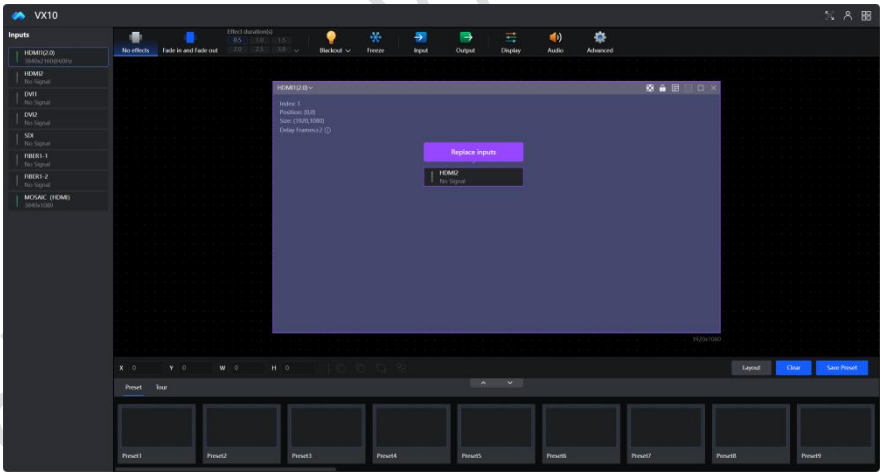

Figure 3.3.1-2 Replace an existing signal window

The signal name currently applied in a window is displayed at the top left corner of the window, along with a drop-down menu of all input signals. To replace the window, you can also click the signal name and select a new signal from the drop-down menu.

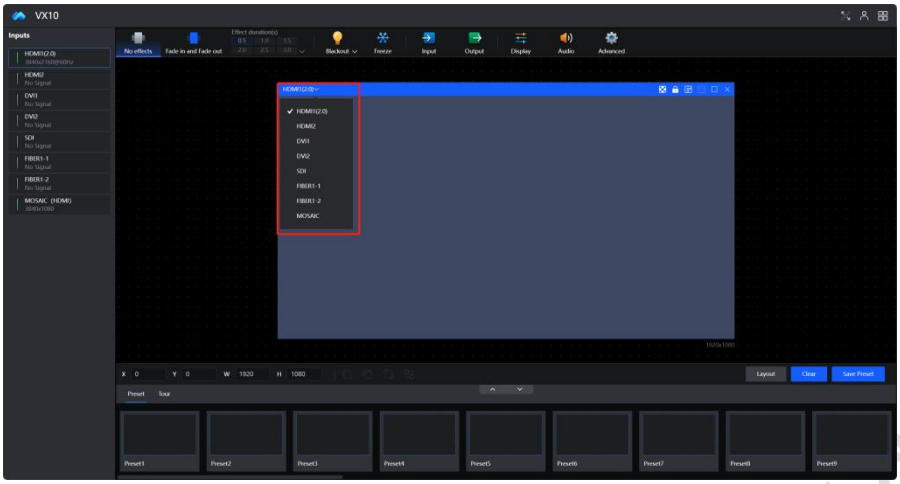

Figure 3.3.1-3 Replace signal window through drop-down menu

At the upper right of the signal window, there are 6 functional icons, including **Lock**, **Keep aspect ratio**, **1:1**, **Full screen/Exit full screen**, and **Close**.

Table 3.3.1-1 Window menu description

Function	Description
Lock	Click the icon "🔒" to lock the window. You cannot zoom in/out window, resize window, or move the window. You can click the icon "🔓" to unlock the window.
Keep aspect ratio	Click the icon "⊡" to resize the window displayed on LED screen according to the aspect ratio of the video source. If **Cropping** is enabled, the window size will scale according to the aspect ratio of the cropped signal. This function is unavailable when the signal source is offline.
1:1	Click the icon "1:1" to display the window exactly the same as the video signal source in terms of aspect ratio. If Cropping is enabled, the window size will be determined by the cropped signal. This function is unavailable when the signal source is offline, or when the signal resolution exceeds the canvas size.
Full screen/Exit full screen	Click the icon "⛶" to display the window in full screen. The icon will change to "⧉". Click the icon "⧉" to exit

	full-screen display.
Close	Click the icon “ ” to delete the current window.

3.3.2 Position and Size of Signal Window

On the canvas, you can drag and move signal windows to change their positions. To resize a window, left-click and drag the edge or corner of the window in the desired direction. Also, you can modify the parameters (**X**, **Y**, **W**, and **H**) at the bottom of the canvas for precise adjustment.

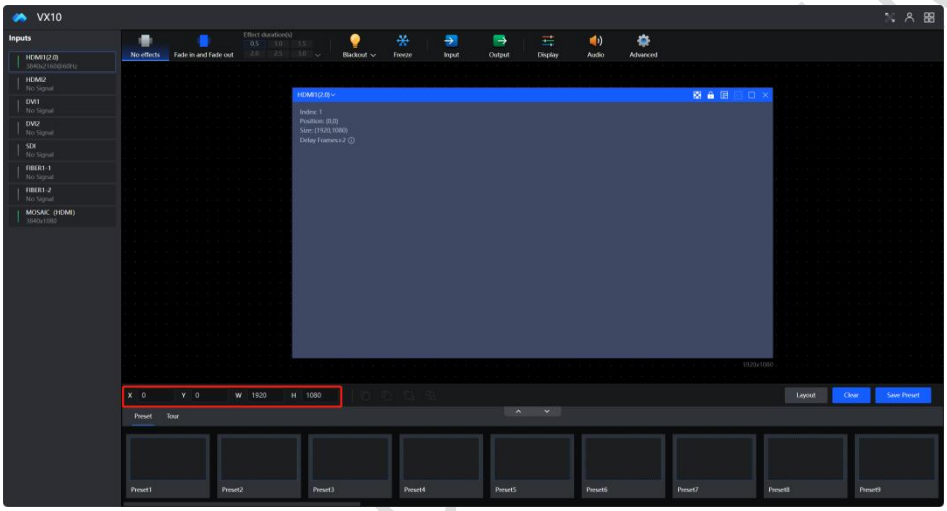

Figure 3.3.2-1 Adjusting position and size of a signal window

The tool bar at the bottom of the canvas is as shown below:

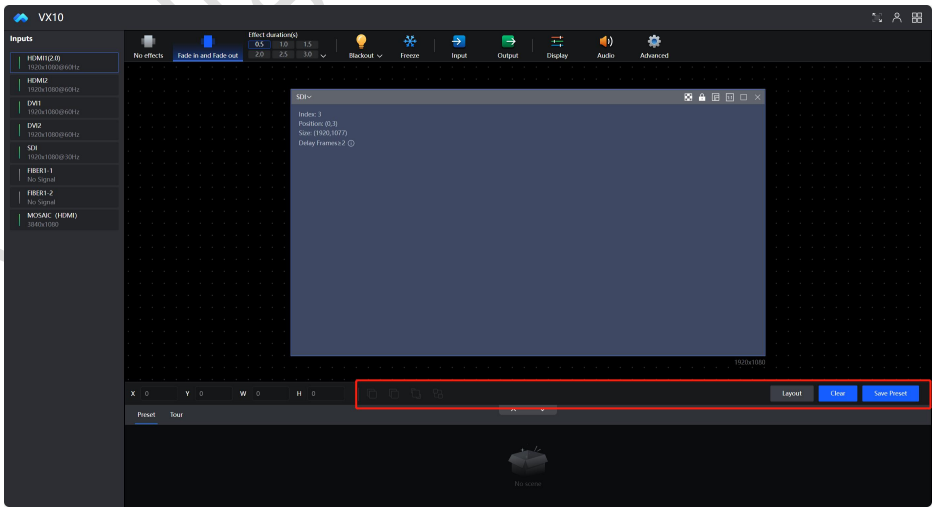

Figure 3.3.2-2 Window tool bar

Table 3.3.2-1 Bottom tool bar description

Function	Description
Up	Click the icon to move the selected window up a layer and the window's index will increase by 1 correspondingly.
Down	Click the icon to move the selected window down a layer and the window's index will decrease by 1 correspondingly.
Top	Click the icon to move the selected window to the top most layer and the window's index will increase to the highest among all existing windows.
Bottom	Click the icon to move the selected window to the bottom most layer and the window's index will be set to 1.
Layout	Click **Layout** to bring up options of layout. The windows will be arranged according to your selection.
Clear	Click **Clear** to remove all windows on the canvas.

3.3.3 Preset Management

In preset management area, you can save presets, apply the saved presets, and add presets to the list for loop playback.

The view of this area is adjustable. You can adjust the height of the area to completely hide the area, or show one/two/three rows of presets by clicking the upward/downward arrow in the top center of the area. When there is only one row of presets shown, a horizontal slider will be shown for viewing available presets. When there are three rows, there will be a vertical slider.

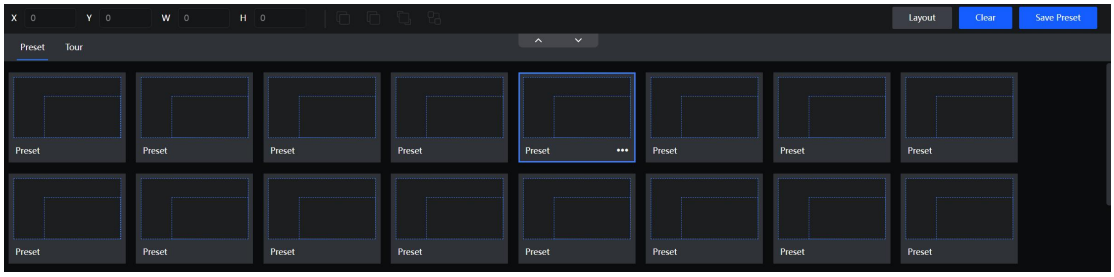

Figure 3.3.3-1 Preset management area

➢ Preset

To save a scene as a preset, click **Save Preset**, then set the name of preset in the pop-up window. You can also select to save the color and brightness parameters of the current processor if necessary. Next, click **OK** to finishing adding the preset to the preset list.

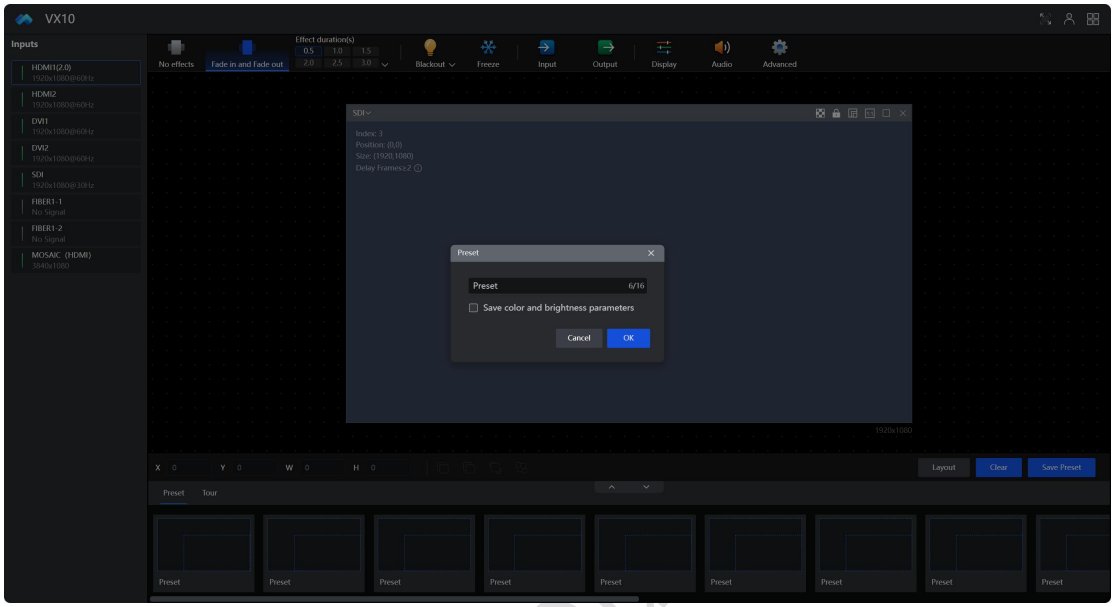

Figure 3.3.3-2 Save presets

Hover the cursor over any of the presets in the list till the icon becomes a finger. Then, click the three-dot icon  to bring up the menu for scene editing.

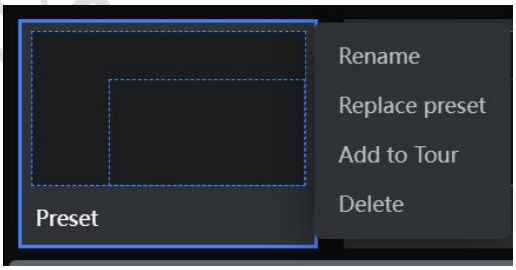

Figure 3.3.3-3 Preset management

Below is a table introducing the scene editing menu:

*Table 3.4-1 **Preset** tab description*

Function	Description
Rename	Rename the selected preset.

Replace preset	Replace the parameters of the selected preset with the current parameters settings on the canvas.
Add to Tour	Add the selected preset into the list for loop playback.
Delete	Remove the selected preset.
Sequencing	When there are multiple presets in the tab, you can drag the presets to change their sequence.
Clear all presets	Delete all saved presets.

➢ Tour

Presets that have been added for loop playback will be shown in the **Tour** tab. You can drag presets in the list to adjust the playback sequence, edit presets, and start looping the presets.

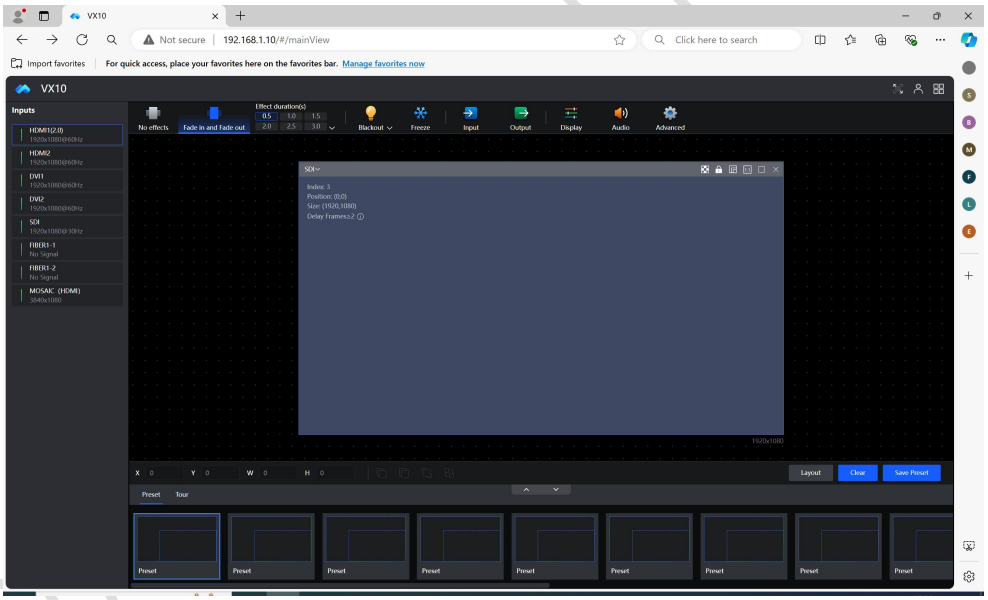

Figure 3.3.3-4 Tour list for looping presets

Hover the cursor over any of the presets in the list till the icon becomes a finger. Then, click the three-dot icon ••• to bring up the menu for editing..

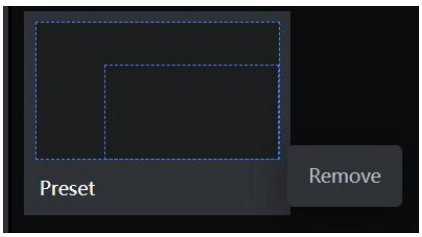

Figure 3.3.3-5 Tour tab editing menu

The description is as follows:

*Table 3.4-2 **Tour** tab description*

Function	Description
Remove	Remove the selected preset from the list for loop playback.
Clear tour presets	You can right-click on the blank space of the **Tour** tab and then click the pop-up option **Clear tour presets** to delete all presets from the list for loop playback.
Sequencing	When there are multiple presets in the tab, you can drag the presets to change their sequence.

3.4 Tool Bar

Several options are available at top of the homepage, including **Fade in and Fade out**, **Blackout**, **Freeze**, **Input**, **Output**, **Display**, **Audio**, and **Advanced**.

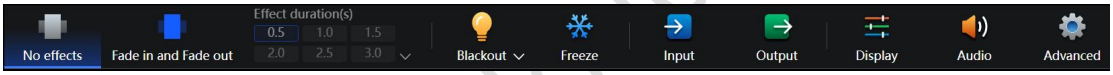

Figure 3.4-1 Tool bar

3.4.1 Fade In and Fade Out

By default, no effect is added to the display. When **Fade In and Fade out** is enabled, the effect will be added for signal switching. For the effect duration, you can select from the available options : 0.5s, 1.0s, 1.5s, 2.0s, 2.5s, and 3.0s, or click the downward arrow then drag the slider for a desired duration (0.1s~3.0s).

Figure 3.4-2 Fade in and fade out effect

3.4.2 Blackout

By default, **Blackout** is not enabled. You can click on the icon for **Blackout** to make the screen display black. Correspondingly, the icon will turn on. You can click the icon again to exit **Blackout**. When both **Blackout** and **Freeze** are enabled, **Blackout** takes precedence.

Figure 3.4-3 Blackout

Click the downward arrow next to the **Blackout** icon to bring up options for the duration of **Blackout** effect. You can select from the given options : 0.5s, 1.0s, 1.5s, 2.0s, 2.5s, and 3.0s, or drag the slider below for a desired duration (0.1s~3.0s). If you set a duration for **Blackout** effect, the screen will perform the effect for the set duration the next time when you enable the function.

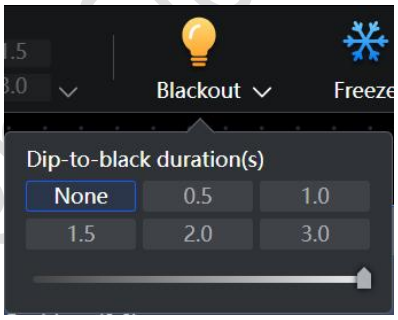

Figure 3.4-4 Blackout effect

3.4.3 Freeze

By default, **Freeze** is not enabled. You can click on the icon for **Freeze** to pause the image display and hold the final frame on screen indefinitely. You can click the icon again to exit **Freeze**.

Figure 3.4-5

3.4.4 Input Settings

➢ **Signal**

Click **Input** on the tool bar to bring up the **Input Settings** right-side panel. In the panel, you can click the downward arrow next to **Signal** and then select a desired input source from the drop-down menu. You can also select input source from the **Inputs** list in the left-side panel.

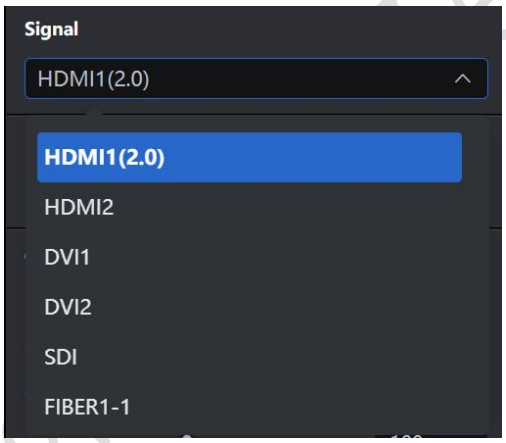

Figure 3.4.4-1 Input signal selection

➢ **Regular interface settings**

Perform basic settings to external interfaces except for MOSAIC, including color adjustment, cropping, EDID, and other settings.

- **Color Adjustment**

Color Adjustment allows for setting the brightness and color of the input signal individually.

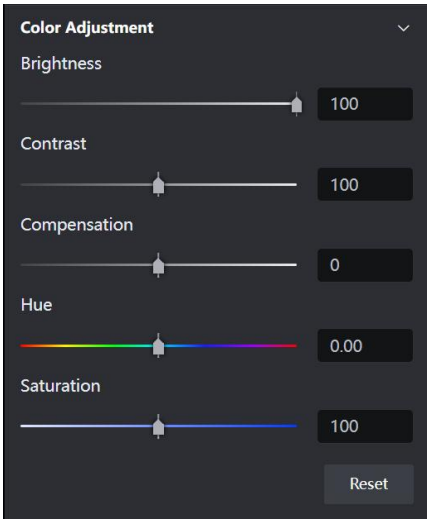

Figure 3.4.4-2 Color adjustment

- **Cropping**

When you enable **Cropping** for an input signal. A scissor icon "✂" will appear on the corresponding signal in the Inputs list, and you can edit the thumbnail of the signal or directly define the parameters of signal position and size below (**X**, **Y**, **W**, and **H**).

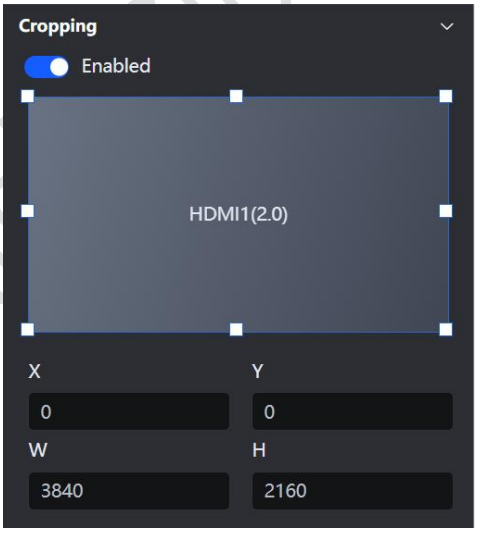

Figure 3.4.4-3 Cropping

- **EDID**

The EDID tab includes drop-down menus for EDID settings and color depth settings, and pixel clock settings. **EDID** is not available for an SDI signal.

The drop-down menu of EDID lists several commonly used EDID settings

and provides access to custom EDID settings.

The drop-down menu of color depth provides options of 8 bit and 10 bit color depth.

The system will automatically calculate the corresponding pixel clock according to the set EDID and color depth. You will be prompted if the pixel clock obtained exceeds the one supported by the device.

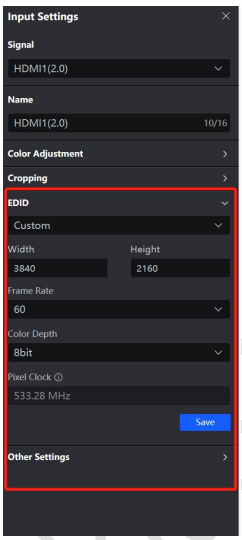

Figure 3.4.4-4 EDID settings

- **Other Settings**

You can enable **Limited Range To Full Range** in **Other Settings** if necessary. This option is not available for DVI and SDI signal.

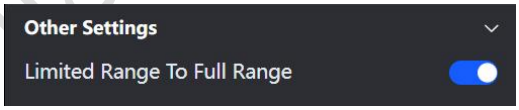

Figure 3.4.4-5 Other settings

➢ **MOSAIC**

When you select **MOSAIC** as the input signal, the options for MOSAIC settings will appear in the right-side panel. MOSAIC signal is a virtual signal spliced by 2 signals of the same type. You can view the signals for splicing (**Splicing Mode**: **1×2** or **2×1**) on a preview area.

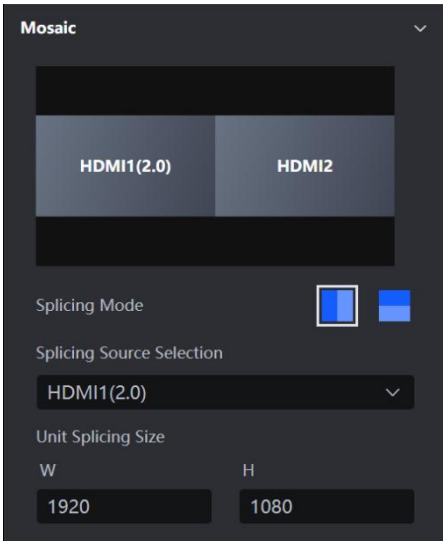

Figure 3.4.4-6-10 MOSAIC settings

3.4.5 Output Settings

Available options in this panel include: **Bypass Mode**, **HDMI1.3 Output Mode**, and **FIBER2 Output Mode**.

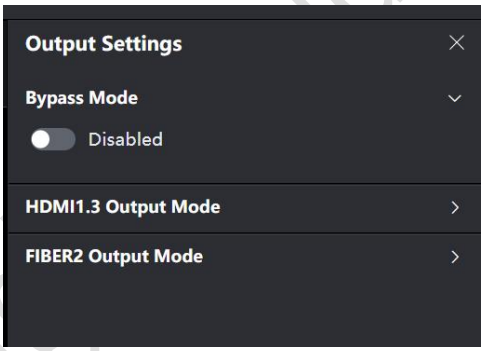

Figure 3.4.5-1 Output settings

- **Bypass Mode**

By default, **Bypass Mode** is disabled. You can switch on the toggle button under **Bypass Mode** to enable this mode. Once you enable **Bypass Mode**, the device will serve as an independent processor, offering pixel-to-pixel output. The primary layer only supports one input signal. **Bypass Mode** supports low latency.

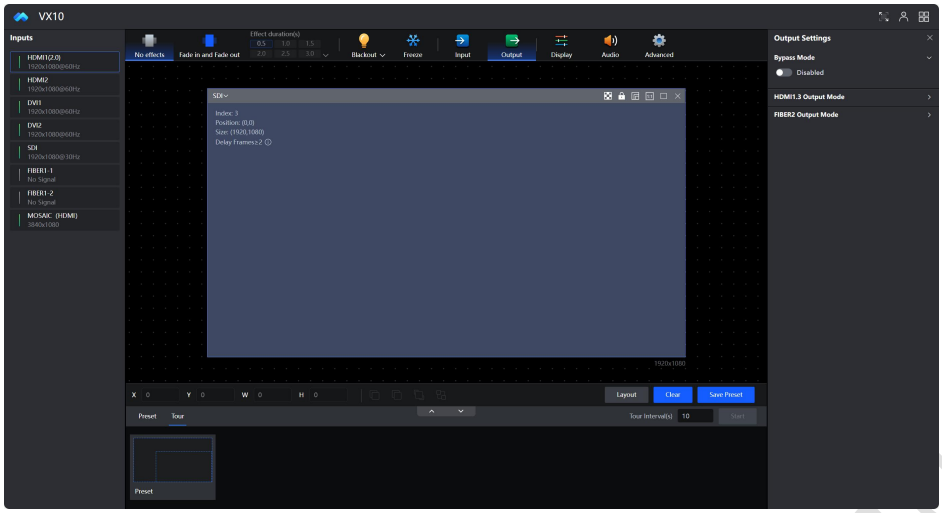

Figure 3.4.5-2 Bypass mode

➢ HDMI1.3 Output Mode

In **HDMI1.3 Output Mode**, you can enable **Monitoring** and **Video Output**. By default, **Monitoring** is enabled, which allows for displaying the monitoring image at resolution of 1920*1080@60Hz. When **Video Output** is selected, you can select the desired resolution and frame rate as needed.

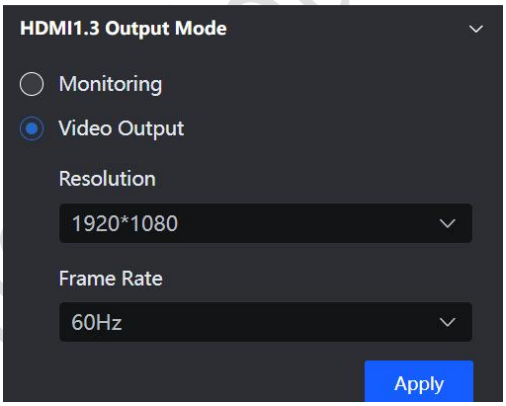

Figure 3.4.5-3 HDMI output mode

➢ FIBER2 Output Mode

Backup Mode is enabled by default if **1-10 Ports** is selected, supporting backup of data transmitted via 10 × Ethernet ports. You can also select **Replication Mode** for copying data transmission.

VX10 supports looping out up to 1×4K@60Hz or 2×2K@60Hz input signals. You can select input signals under **Video Loop Out** as needed.

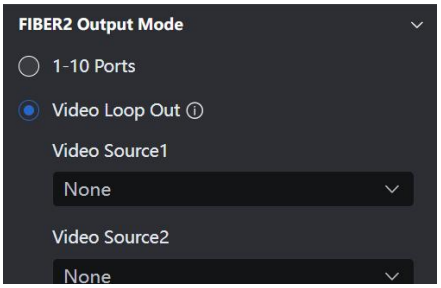

Figure 3.5-14 FIBER2 output mode

3.4.6 Display

Click **Display** on the tool bar to bring up the right-side panel for display settings. You can adjust parameters of the screen display. Adjustable items include: **Brightness**, **Contrast**, **Compensation**, colors (**Red**, **Green**, and **Blue**), **Hue**, **Saturation**, and **Color Temperature**.

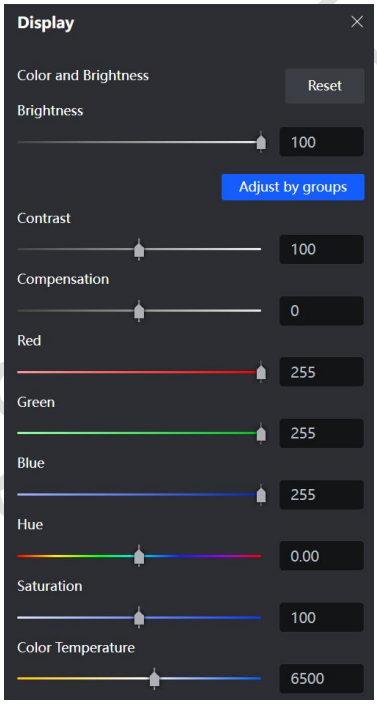

Figure 3.4.6-1 Display settings

You can drag the slider, or click the buttons for fine tune under each item for adjustment. If you want to restore the parameters to their default settings, click the **Reset** button next to **Color and Brightness**. You can also adjust parameters for several particular ports by enabling **Adjust by groups** and then selecting the desired ports to form a group for adjustment.

3.4.7 Audio

Click **Audio** on the tool bar to bring up the right-side panel for audio settings. You can select audio source for VX10. Available options include: **Auto**, **HDMI1(2.0)**, and **HDMI2**.

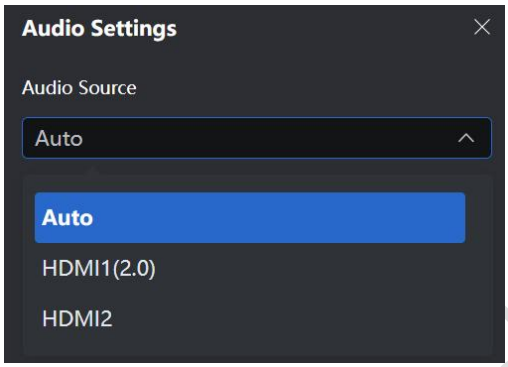

Figure 3.4.7-1 Audio settings

3.4.8 Advanced

Click **Advanced** on the tool bar to bring up the right-side panel for advanced settings. Available items include: **HDR**, **Precise Color Management**, **3D**, **Test Pattern**, and **Hot Backup**.

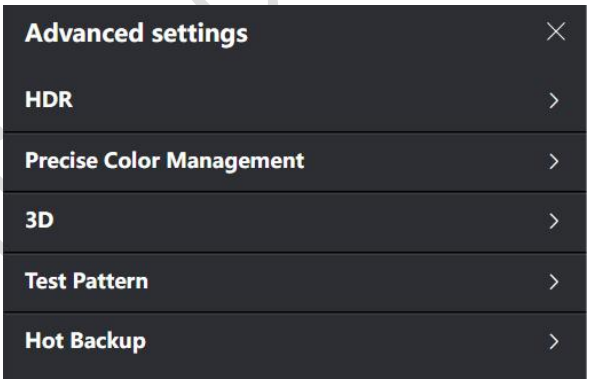

Figure 3.4.8-1 Advanced settings

- **HDR**

You can enable/disable **HDR** as needed. Compared with normal image, HDR offers more dynamic range and details of the image. Before enabling **HDR**, you should first enable **Precise Color Management**.

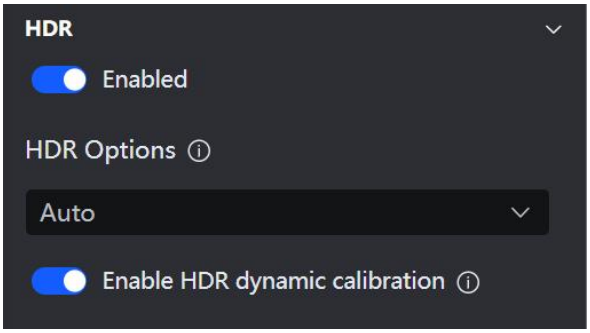

Figure 3.4.8-2 HDR

Available options for HDR settings include: **Auto**, **Forced to HDR10 (Rec.2020)**, **Forced to HLG (Rec.2020)**, **Forced to HLG (DIC-P3)**, and **HLG (Rec.709)**, and **Auto** is selected by default. After enabling **HDR dynamic calibration**, the tab of "**Before Calibration**" will appear in **Precise Color Management** window.

- **Precise Color Management**

In **Precise Color Management**, you can adjust the screen color and brightness, and set the output color space.

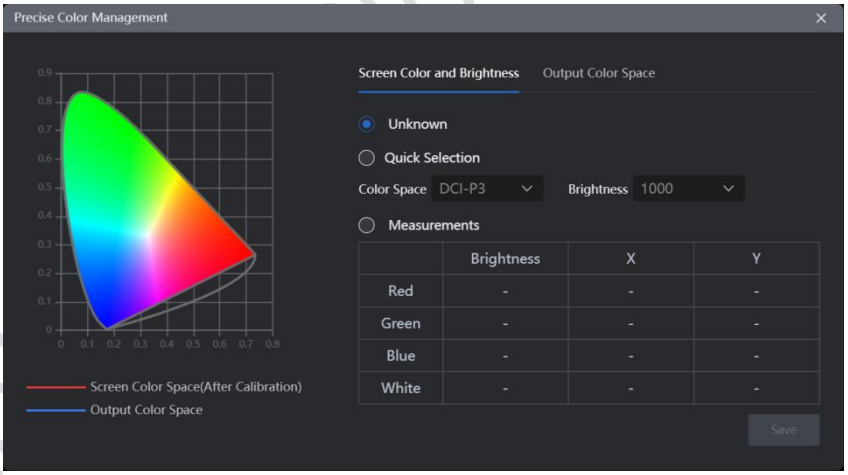

Figure 3.4.8-3 Precise color management

- **3D**

In **3D** settings, the display order of the left-eye signal is determined by the sequence in which the input signals were added to the canvas, and this order cannot be changed. In contrast, you can select any signal received by the current device as the right-eye signal. Note that the options for

selecting right-eye signal position are only available when there is only one signal for the left eye and the two eyes share one signal or when there is no signal for the right eye. Besides, you can adjust the 3D parameters in the lower half of the panel.

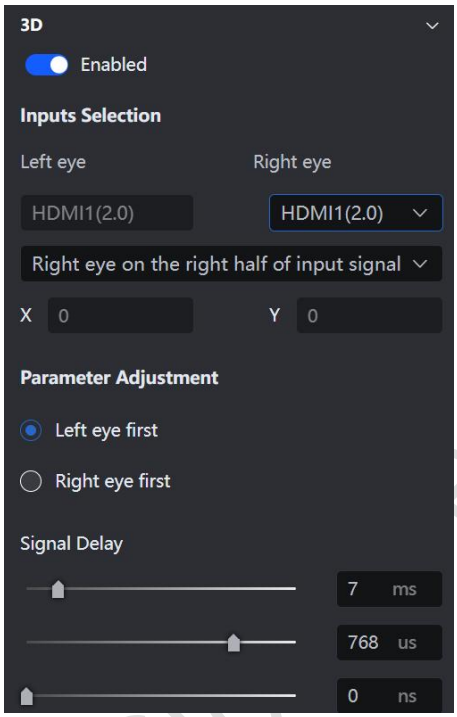

Figure 3.4.8-4 3D settings

➢ Test Pattern

Click **Enabled** to enable **Test Pattern**. Then, you can select the desired pattern to display it on the LED display and test the display effect.

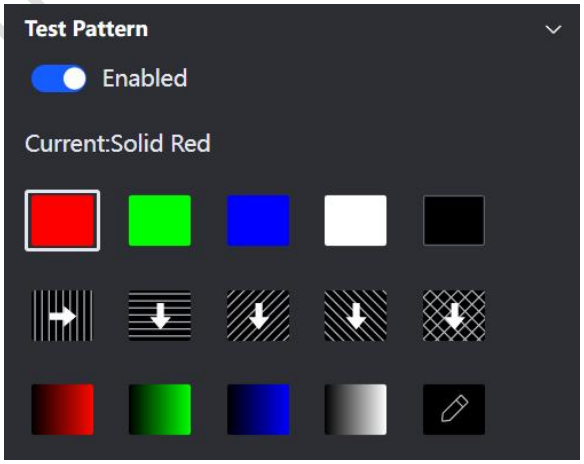

Figure 3.4.8-5 Test patterns

➢ Hot Backup

When **Hot Backup** is enabled, you can select the signals for backup as needed. 2 signals of the same type can serve as backup for each other. For VX10, 3 types of signal support hot backup, including: HDMI, DVI, and MOSAIC.

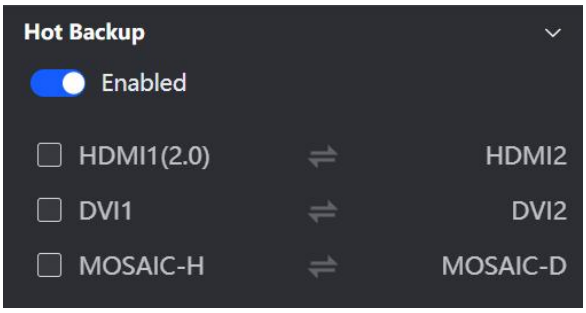

Figure 3.5-23 Hot backup

Statement

This guide is for reference only and does not constitute any form of commitment. Please refer to the actual products (including but not limited to color, size, screen display, etc.)

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