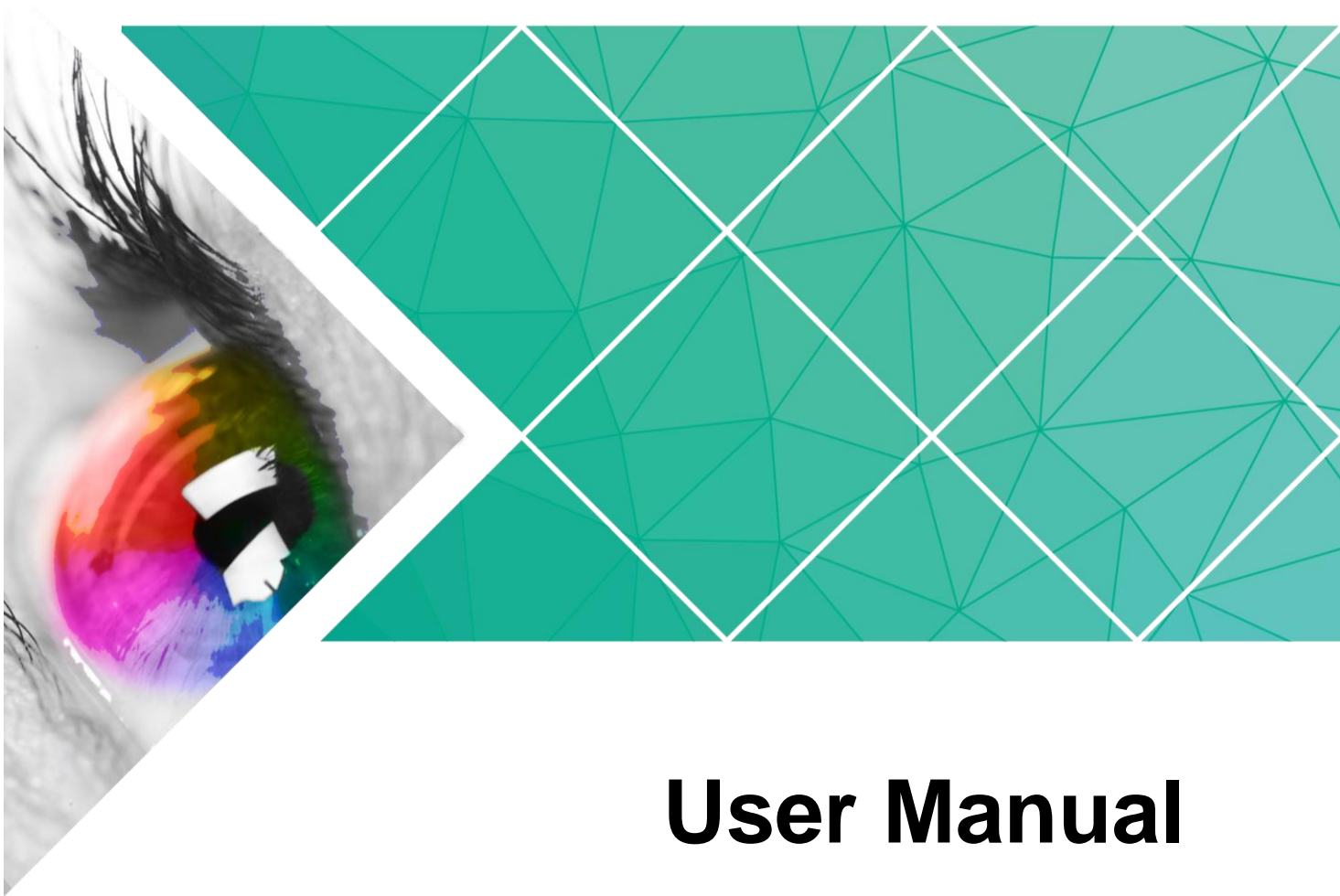


# V-Can

## Video Control Software



# User Manual

Document Version: V3.4.0

Document Number: NS160100606

**Copyright © 2019 Xi'an NovaStar Tech Co., Ltd. All Rights Reserved.**

No part of this document may be copied, reproduced, extracted or transmitted in any form or by any means without the prior written consent of Xi'an NovaStar Tech Co., Ltd.

#### **Trademark**



is a trademark of Xi'an NovaStar Tech Co., Ltd.

#### **Statement**

You are welcome to use the product of Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via contact information given in document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

# Contents

<b>1 Overview.....</b>	<b>1</b>
<b>2 Installation.....</b>	<b>2</b>
2.1 Obtaining .....	2
2.2 Installation.....	2
2.3 Running .....	2
2.4 User Interface .....	3
<b>3 Functions.....</b>	<b>6</b>
3.1 Choreographer .....	7
3.1.1 Input.....	8
3.1.1.1 Input .....	8
3.1.1.2 Color.....	11
3.1.1.3 Hot Backup.....	12
3.1.2 Output Settings.....	12
3.1.2.1 Output.....	12
3.1.2.2 Color .....	13
3.1.3 System Mode.....	14
3.1.4 Output Connector Mosaic.....	15
3.1.5 Image Mosaic .....	16
3.1.6 Adding Layers.....	18
3.1.7 Setting Layer Properties.....	20
3.1.8 Effects.....	23
3.1.8.1 Transition Effects.....	23
3.1.8.2 Take Effects.....	24
3.1.9 Duration .....	24
3.1.10 Sync Mode.....	25
3.1.11 AUX.....	26
3.1.12 HDR.....	26
3.1.13 Setting Presets .....	27
3.1.14 Preset Playing .....	30
3.1.15 Output Mapping.....	31
3.2 OSD.....	32
3.2.1 OSD Settings.....	32
3.2.2 OSD/BKG Settings .....	34

---

3.3 System.....	41
3.3.1 Connecting Device .....	42
3.3.2 Synchronization .....	42
3.3.3 Firmware Update .....	43
3.3.4 Self-Test.....	44
3.3.5 Factory Reset .....	45
3.3.6 Network Settings .....	45
3.3.7 Language.....	45

# 1 Overview

---

V-Can is a smart control platform for video processors (such as J6, N9) and all-in-one controllers (such as VX5s, VX6s), allowing users to easily control and manage video processing devices and all-in-one controllers on Windows PC and Mac. When connected with different devices, V-Can offers different user interfaces and functions.

Features:

- Easy operation interface
- Completely visualized operation platform, easy to use and operate
- Applicable systems: Windows and Mac
- Capable of connecting multiple video processors and all-in-one controllers

---

# 2 Installation

---

## 2.1 Obtaining

Log into NovaStar official website <http://www.novastar.tech> to download the appropriate software according to your device and PC system version.

## 2.2 Installation

### Requirements of Software Operating Environment

- Processor: CPU: 32/64 bits, 1 GHz or greater
- RAM: 2 GB or greater
- GPU: DirectX 9 128M and above
- HD space: 16 GB or greater
- Monitor: Resolution greater than or equal to 1280×720 pixels
- OS: Windows 7 or later, MAC OS 10.10 or later

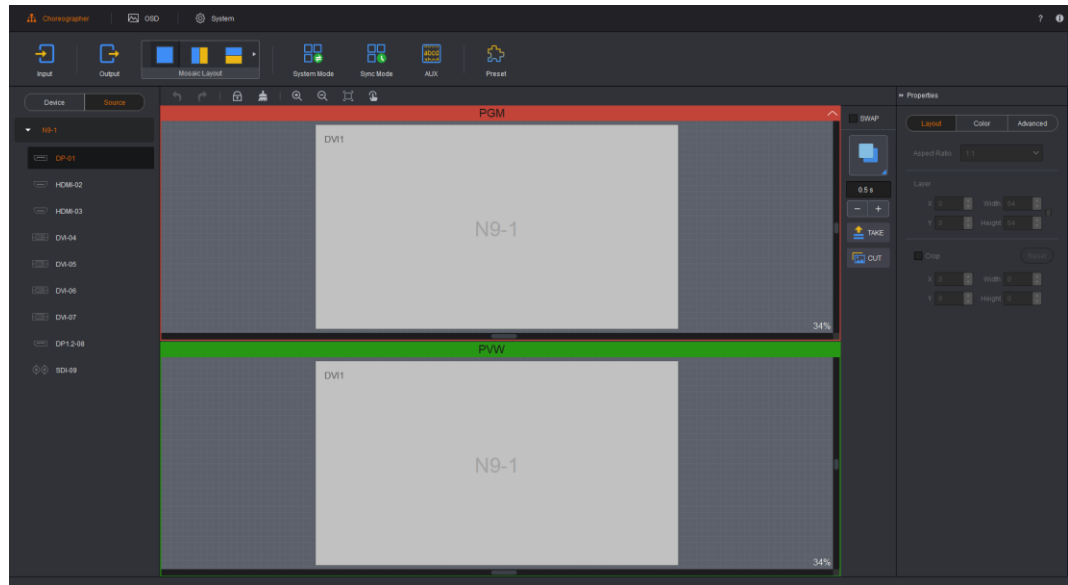
### Software Installation

Just like the installation of other common software, follow the setup wizard to install V-Can.

## 2.3 Running

After successful installation, double click  on the desktop to run V-Can. The main user interface for V-Can is shown in [Figure 2-1](#).

Figure 2-1 Main user interface for V-Can



## 2.4 User Interface

The user interface for V-Can can be divided into 10 sections, as shown in [Figure 2-2](#). Each section is described in [Table 2-1](#). When connected with different devices, V-Can offers different user interfaces. This document takes the N9 to illustrate.

Figure 2-2 User interface sections for V-Can

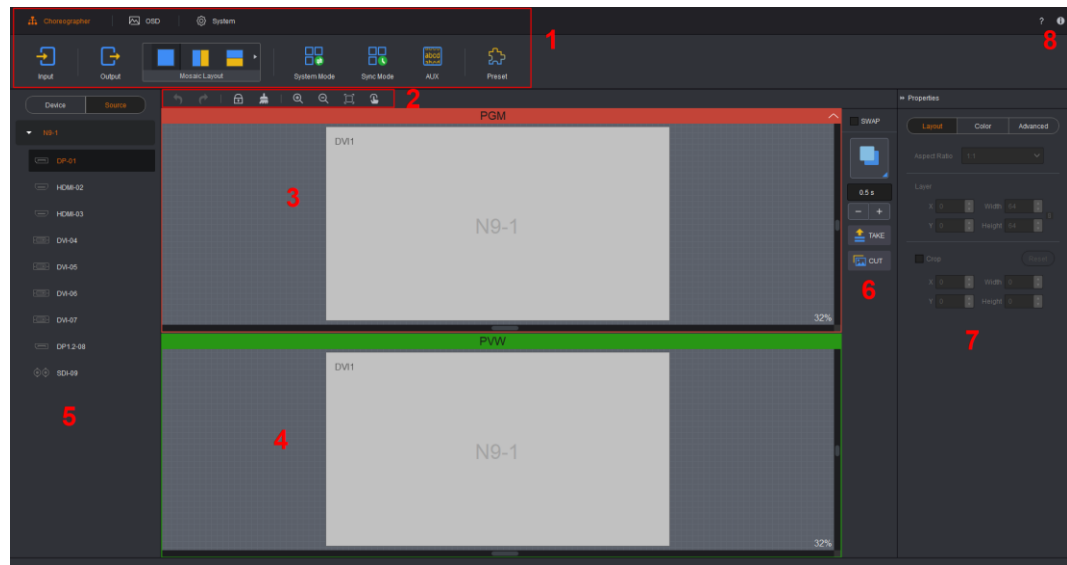


Table 2-1 Section descriptions

No.	Name	Description
1	Menu bar	Display three major function modules of V-Can: System, Settings and OSD, and basic functions under each function module.
2	Shortcut buttons	Quick operation buttons for video editing: <ul style="list-style-type: none"> <li>•  Undo: Cancel the result of a previous action.</li> <li>•  Redo: Restore the result of a previous action that was canceled.</li> <li>•  Lock the existing layers/Unlocks all the layers.</li> <li>•  Clear all the layers in video editing area.</li> <li>•  Zoom in/Zoom out/Auto fits the video editing area.</li> <li>•  Restore all the layers to default size, that is, half width of input resolution*half height of input resolution, and arrange the layers in Z-order. The 1<sup>st</sup> layer starts from the top left corner (starting point), and every subsequent layer gets a 50-pixel offset both horizontally and vertically from its previous layer.</li> <li>•  Freeze/Unfreeze the PGM.</li> <li>•  Make/Unmake the PGM blackout.</li> </ul>
3	PGM	PGM display area Note: When the video splicers or all-in-one devices are connected, there will be no PGM and PVW.
4	PVW	<ul style="list-style-type: none"> <li>• Display screen mosaic layout.</li> <li>• Add/edit/delete a layer.</li> </ul>



No.	Name	Description
		<ul style="list-style-type: none"> <li>Set the position and size of OSD/BKG/LOGO.</li> </ul>
5	Device/Signal source	<ul style="list-style-type: none"> <li>Device: Display the connected devices, and allow you to delete the current device.</li> <li>Source: Display the accessed signal sources and input connector types, and allow you to change the signal source names.</li> </ul>
6	Switching	<ul style="list-style-type: none"> <li>SWAP: When <b>SWAP</b> is selected, click <b>TAKE</b>, <b>CUT</b> or drag the T-bar to swap the contents displayed on PVW and PGM. When <b>SWAP</b> is not selected, click <b>TAKE</b>, <b>CUT</b> or drag the T-bar to copy the contents displayed on PVW to PGM.</li> <li>TAKE: Send the layers in PVW to PGM with transition effects.</li> <li>CUT: Send the layers in PVW to PGM directly with no transition effects.</li> </ul>
7	Properties	<ul style="list-style-type: none"> <li>Layout: Set the aspect ratio, size, position, mask and cropping of the layer.</li> <li>Color: Set the quality of output image.</li> <li>Advanced: Set the layer border and layer cloning.</li> </ul>
8	Help and About	<ul style="list-style-type: none"> <li>Help: Provide V-Can User Manual.</li> <li>About: Display the version, copyright and other information of V-Can.</li> </ul>

# 3 Functions

When connected with different devices, V-Can offers different user interfaces and functions. For detailed descriptions, please refer to [Table 3-1](#).

Table 3-1 V-Can functions and the supported devices

V-Can Function	Supported Devices
Image mosaic	VX5s, VX6s, K6s, V1060, K16, NovaPro UHD Jr and 4K-Prime
Firmware update	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, VS2, VS3, V1060, 4K-Prime and VE7
Self-test	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, VS2, VS3, V1060 and 4K-Prime
Factory reset	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, VS2, VS3, V1060, 4K-Prime
Network settings	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, VS2, VS3, V1060, 4K-Prime
Language	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, VS2, VS3, V1060, 4K-Prime
System mode	N6-V1.x.x, J6-V1.x.x, N6-V2.x.x, J6-V2.x.x, N9, VX5s, VX6s, K6s
Sync mode	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, V1060, 4K-Prime
Input resolution	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, VS2, VS3, V1060, 4K-Prime
Input color	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, VS2, VS3, V1060

V-Can Function	Supported Devices
Output resolution	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, VS2, VS3
Output color	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, 4K-Prime
Connector mosaic	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, VS2, VS3
Image mosaic	K16, NovaPro UHD Jr, 4K-Prime
Transition effect	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, 4K-Prime
Take effect	N6-V1.x.x, J6-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x,
AUX	N9
HDR	K16, NovaPro UHD Jr, 4K-Prime
Layer layout	VS2, VS3
Layer color	N6-V1.x.x, J6-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr
Layer border	N6-V1.x.x, J6-V1.x.x, N9, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x
Layer copy	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x
Preset	N9
Preset renaming	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, N9, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, V1060, 4K-Prime
Preset copying	N6-V1.x.x, J6-V1.x.x, VX5s, VX6s, K6s, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, V1060, 4K-Prime
Preset playing	K6s, NovaPro UHD Jr, 4K-Prime
OSD	N6-V1.x.x, J6-V1.x.x, VS7-V1.x.x, VS2, VS3
BKG	N6-V1.x.x, J6-V1.x.x, V1060
Screen freeze and blackout	N9, N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, 4K-Prime
One-click restore	N6-V2.x.x, J6-V2.x.x, VS7-V2.x.x, K16, NovaPro UHD Jr, V1060, 4K-Prime

## 3.1 Choreographer

V-Can allows you to set the input resolution and color, output resolution and color, mosaic layout, transition effect and duration, preset playing, system mode, sync mode, AUX and HDR.

## 3.1.1 Input

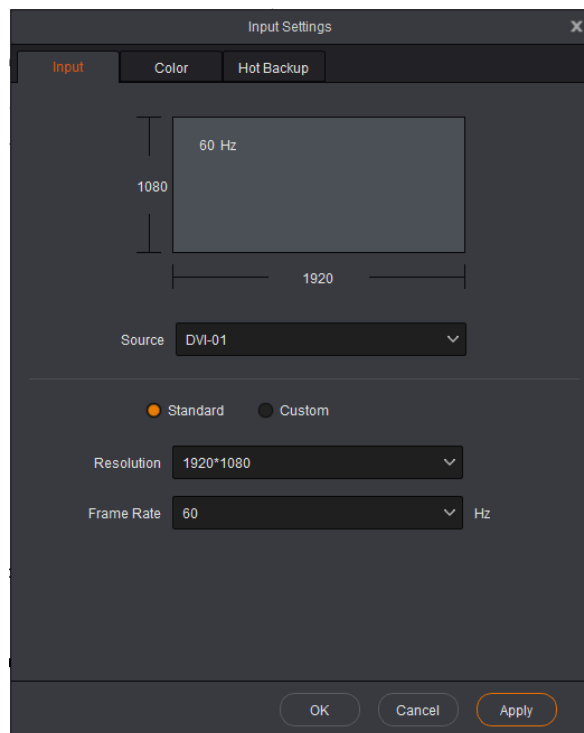
### 3.1.1.1 Input

V-Can allows you to set the resolution and frame rate of the input source. Only DVI, HDMI and DP connectors support input resolution and frame rate settings.

#### Operating Procedure

- Step 1 Choose **Choreographer > Input > Input**. The input settings window appears, as shown in [Figure 3-2](#).

Figure 3-1 Input resolution



- Step 2 Click the drop-down arrow next to **Source**. In the drop-down box that appears, choose different input sources.
- When **Standard** is selected, you can select a standard resolution and frame rate from the drop-down list directly.
  - When **Custom** is selected, you can drag the slider or enter a number to set the width or height.
- Step 3 Click **Apply** or **OK** to complete the settings.

#### Advanced Settings

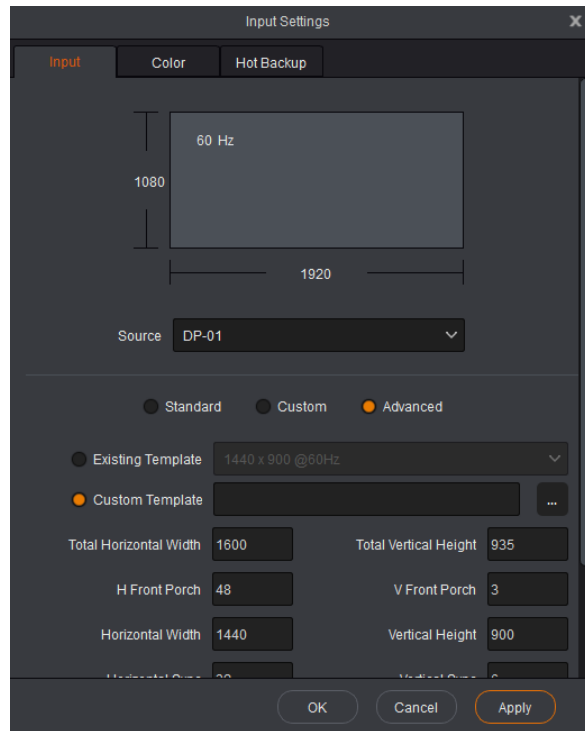
In advanced settings, you can select and modify an existing template or import a custom template.

- Step 1 Choose **Choreographer > Input > Input**. The input settings window appears, as shown in [Figure 3-1](#).

Step 2 Select **Custom**.

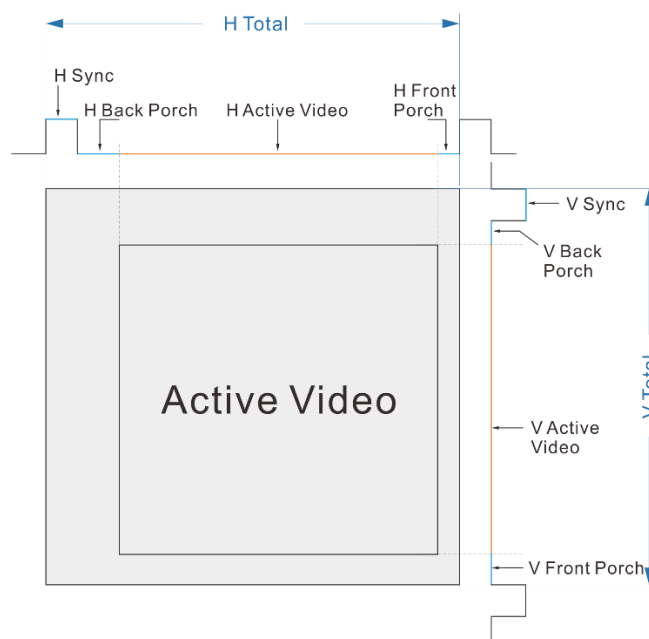
Step 3 Type "**edid**" on the keyboard. The advanced settings appear, as shown in [Figure 3-2](#).

Figure 3-2 Input settings



Step 4 Click the drop-down arrow next to **Source**. In the drop-down box that appears, choose different input sources.

Step 5 Select **Advanced** to perform the advanced settings. The timing parameters of each video frame is shown as below.



- Step 6 When **Existing Template** is selected, you can select and modify an existing template. When **Custom Template** is selected, you can import a custom template.

If you need to modify the template parameters, you can contact NovaStar for technical support.

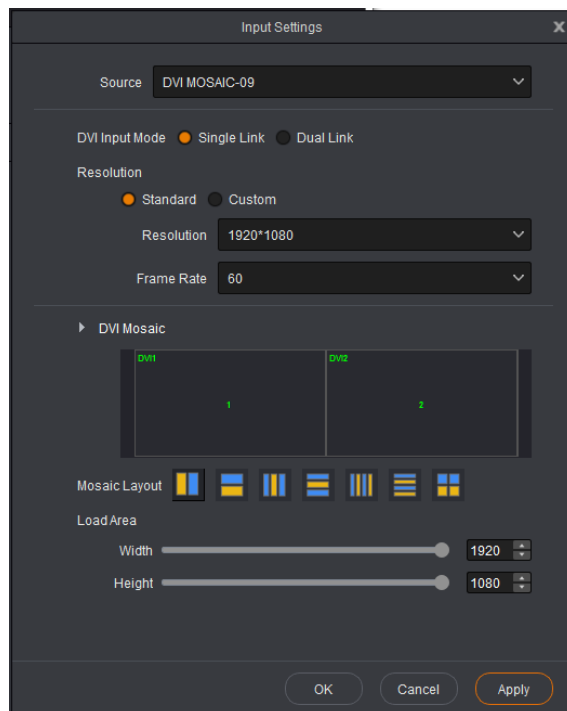
## Input Mosaic

The NovaPro UHD Jr and 4K-Prime support the DVI mosaic function. A maximum of four 4 DVI inputs can be used to form one input source.

The procedure is described as below.

- Step 1 Choose **Choreographer** > **Input** to enter the input settings screen.
- Step 2 Click the drop-down arrow next to **Source** and choose **DVI MOSAIC** from the drop-down box that appears as shown in [Figure 3-3](#).

Figure 3-3 Input settings



- Step 3 Set **DVI Input Mode**.

DVI input mode includes single link mode and dual link mode. The first supports DVI mosaic of at most 4 DVI connectors and the latter supports DVI mosaic of at most 2 DVI connectors.

- Step 4 (Optional) Set the DVI input resolution.

- Step 5 Select a layout from **Mosaic Layout**.

- Step 6 (Optional) Set the **Width** and **Height** of each input source after cropping in **Load Area**.

---

Note:

The starting point of input source cropping is the top left corner.

---

### 3.1.1.2 Color

V-Can allows you to set the brightness, contrast, hue, saturation and Gamma of the input source accessed to each device.

---

Note:

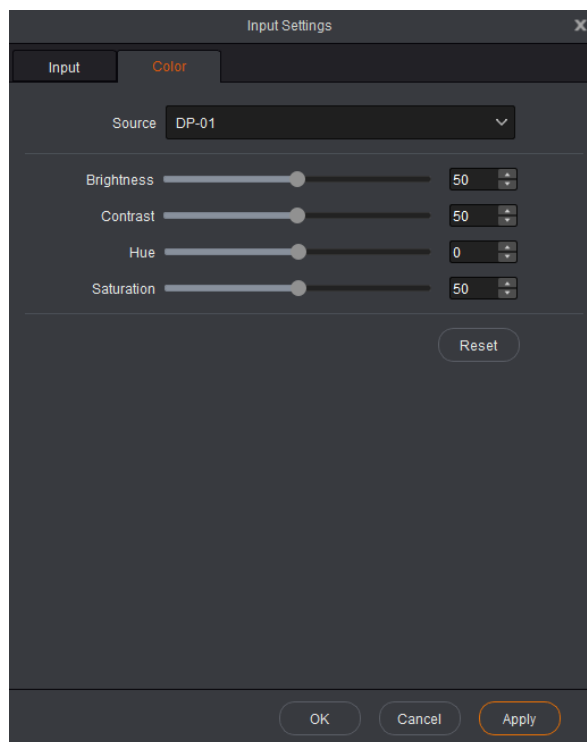
When the connected device is the NovaPro UHD Jr or 4K-Prime, input color settings are not supported.

---

## Operating Procedure

- Step 1 Choose **Choreographer** > **Input** > **Color**. The input color settings window appears, as shown in [Figure 3-4](#).

Figure 3-4 Input color



- Step 2 Click the drop-down arrow next to **Source**. In the drop-down box that appears, choose different input sources.
- Step 3 You can drag the slider or enter a number to set each parameter.
- Step 4 Click **Apply** or **OK** to complete the settings.
- Click **Reset** to reset all the parameters to their default values.

### 3.1.1.3 Hot Backup

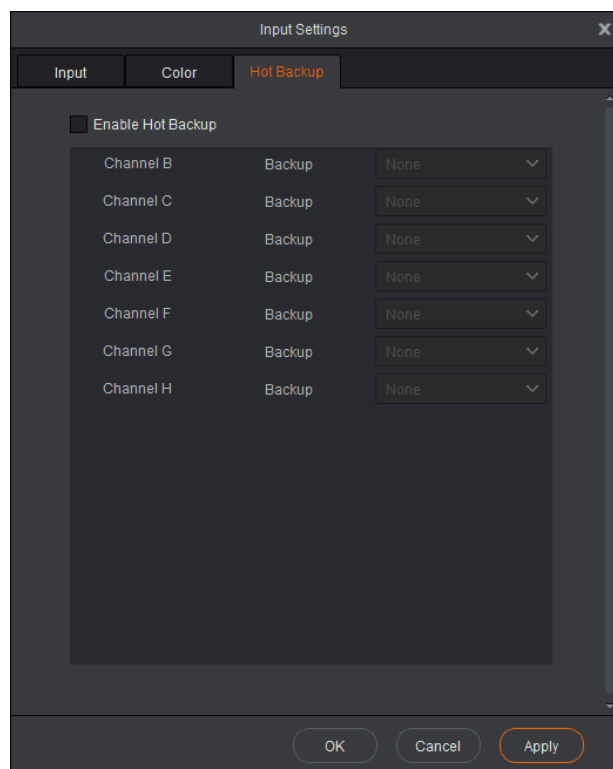
V-Can allows you set input backup channels in case of input connector failures. When fault occurs on input connector, the backup channel can be a timely alternative to avoid black screen and other display abnormalities.

When the connected device is the N6, J6 or VS7 V1.x.x, this function is not supported.

## Operating Procedure

Step 1 Choose **Choreographer > Input > Hot Backup**. The hot backup settings window appears, as shown in [Figure 3-5](#).

Figure 3-5 Hot backup



Step 2 Select **Enable Hot Backup**.

Step 3 Click the drop-down arrows to choose the backup channels.

Step 4 Click **Apply** or **OK** to complete the settings.

## 3.1.2 Output Settings

When the connected device is all-in-one controller, this function is not supported.

### 3.1.2.1 Output

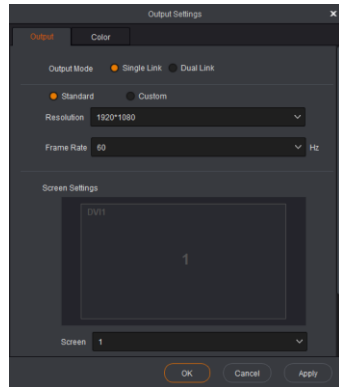
V-Can allows you to set the output resolution and screen.



## Operating Procedure

- Step 1 Choose **Choreographer > Output > Output**. The output settings window appears, as shown in [Figure 3-6](#).

Figure 3-6 Output settings



- Step 2 Set the output mode.

The DVI output connector of video processor supports single link and dual link output modes.

- **Single link:** All output connectors of the video processor are used for output. Each output connector supports up to 1920×1200@60Hz output resolution.
- **Dual link:** Half output connectors of the video processor are used for output, and the other half are unavailable. Each connector for output supports up to 3840×1080@60Hz output resolution.

- Step 3 Set the output resolution.

- When **Standard** is selected, you can select a standard resolution and frame rate from the drop-down list directly.
- When **Custom** is selected, you can drag the slider or enter a number to set the width or height.

- Step 4 Set the screen width and height according to the actual size of the screen.

1. Click the drop-down arrow next to **Screen**. In the drop-down box that appears, choose the screen you want to set.
2. Set the screen width and height.

- Step 5 Click **Apply** or **OK** to complete the settings.

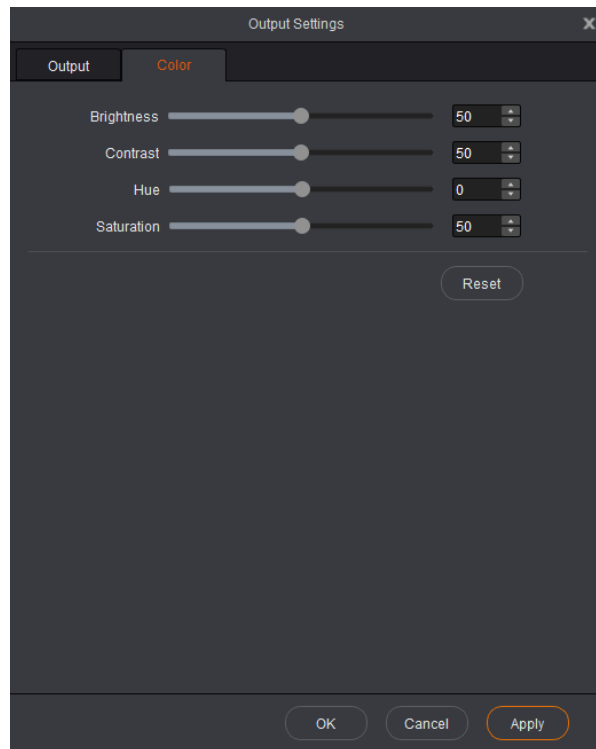
### 3.1.2.2 Color

V-Can allows you to set the brightness, contrast, hue and saturation of the output image.

## Operating Procedure

- Step 1 Choose **Choreographer > Output > Color**. The output color settings window appears, as shown in [Figure 3-7](#).

Figure 3-7 Output color



Step 2 You can drag the slider or enter a number to set each parameter.

Step 3 Click **Apply** or **OK** to complete the settings.

Click **Reset** to reset all the parameters to their default values.

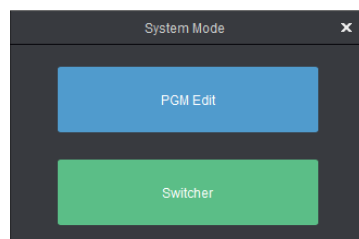
### 3.1.3 System Mode

When connected with different devices, V-Can offers different system mode user interfaces.

- When the connected device is the J6 or N6, V-Can supports **Splicer** and **Switcher** modes.
- When the connected device is the VX5s or VX6s, V-Can supports **Direct** and **Switcher** modes.
- When the connected device is the N9, V-Can supports **PGM Edit** and **Switcher** modes.

Click **System Mode** to enter the system mode setting page.

Figure 3-8 System mode



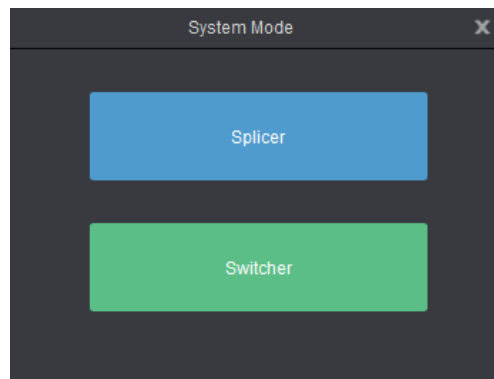
- **PGM Edit:** In PGM edit mode, you can directly edit layers displayed on PGM.

- **Splicer/Direct:** In splicer or direct mode, your settings on the layer will be synchronously displayed on the LED screen.
- **Switcher:** In switcher mode, you can add and edit layer information only in PVW area. After the layer information is edited, click **Take** at the top right to send the edited layer to the LED screen.

## Operating Procedure

Step 1 Choose **Choreographer > System Mode**. The system mode window appears, as shown in [Figure 3-9](#).

Figure 3-9 System mode



Step 2 Click a mode to change the system mode for video processors.

- Click **PGM Edit** to switch to PGM edit mode, and you can directly edit layers displayed on PGM.
- Click **Splicer** to switch to splicer mode.

---

### Note:

The N6 and J6 support **Splicer** and **Switcher** modes. Click **Splicer** to switch to splicer mode. In this mode, no PVW is available and the edited layers will be sent to LED screen directly.

The VX5s or VX6s supports **Direct** and **Switcher** modes.

---

## 3.1.4 Output Connector Mosaic

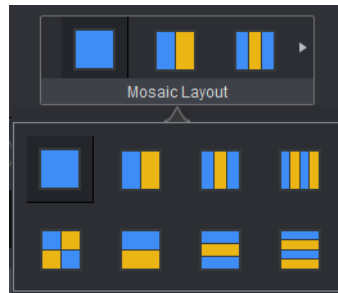
V-Can supports output connector mosaic for seamless switchers.

You can configure the mosaic layout according to the size of the LED screen connected to the current device or the loading capacity of current device. V-Can supports two modes: **Splicer** and **Switcher**. For the descriptions of these two modes, see [3.1.3](#).

When the connected device is video processor, mosaic layout can be set. Different video processors support different mosaic layouts. Here take the J6 as an example.

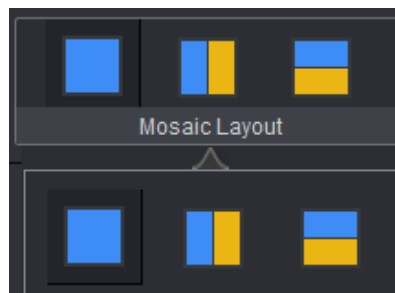
- In splicer mode, V-Can supports the following mosaic layouts: 1×1, 1×2, 1×3, 1×4, 2×1, 3×1, 4×1 and 2×2.



Figure 3-10 Mosaic layouts in splicer mode



- In switcher mode, V-Can supports the following 3 mosaic layouts: 1×1, 1×2, and 2×1.

Figure 3-11 Mosaic layouts in switcher mode

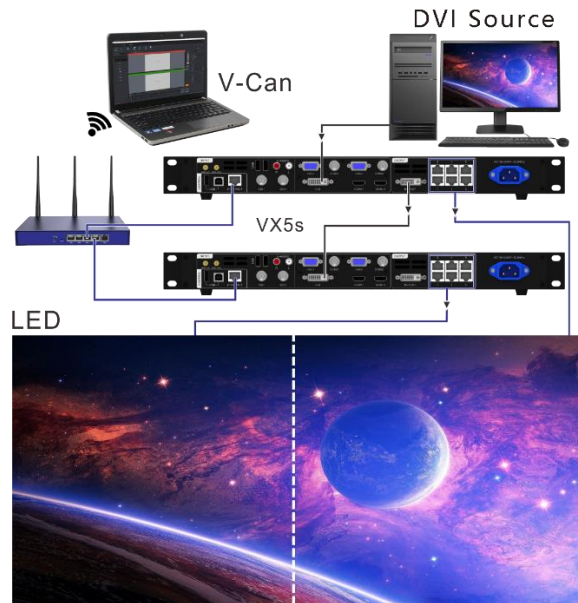


Click  in the **Mosaic Layout** area to choose a layout, or click  below **Mosaic Layout** to expand the mosaic layouts and choose a layout. The layout of the video editing area is based on the mosaic layout you selected.

### 3.1.5 Image Mosaic

Two or more same all-in-one controllers can be used for image mosaic to realize larger loading capacity. Currently the VX5s all-in-one controller supports the image mosaic function.

Here take two VX5s units to illustrate the device connections.



V-Can operation procedure:

- Step 1 V-Can will connect all the online devices automatically after the device connections.
- Step 2 Click **Device** in the left to enter the device list.
- Step 3 Click and drag one of the device names to another device name to form a mosaic group as shown in [Figure 3-12](#).

Then the system will assign a name for the current mosaic group, such as **Mosaic Group 1** and **Mosaic Group 2** as shown in [Figure 3-12](#).




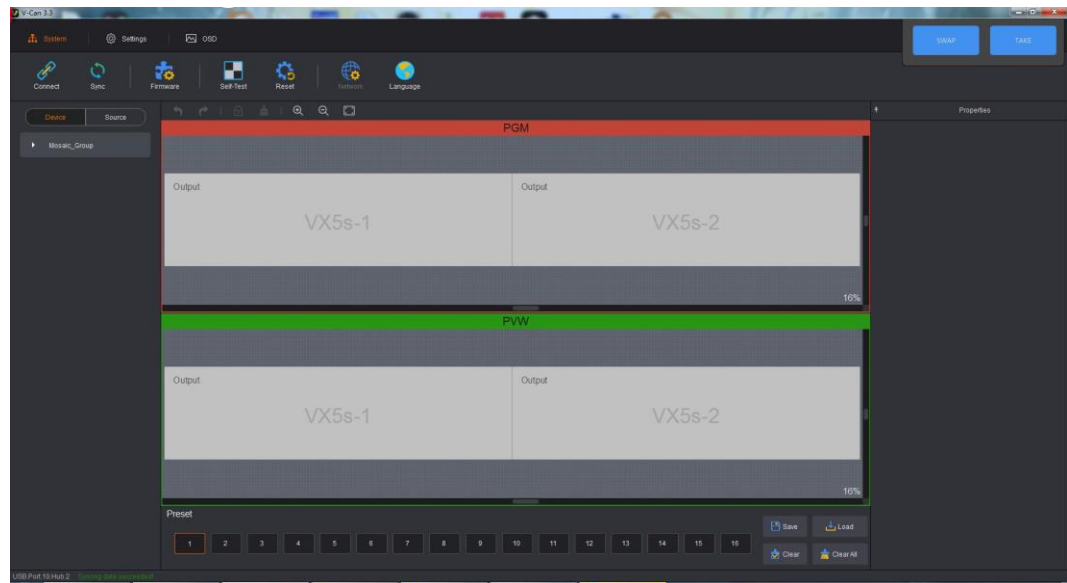
- Click  next to the mosaic group name to change its name.
- Click  to ungroup the current mosaic group.
- Click  next to the device name to remove the device from the current mosaic group.

Figure 3-12 Image mosaic



In PVW area, click and drag the **Output** area to set the mosaic mode based on the loaded screen.

- Step 4 Click **Source** to enter the signal source list of the mosaic device. Signal source indicator statues are described as below.
- Green: The signal is accessed to the same connectors on each device.
  - White: No signal is accessed or no signal source is accessed to one or more connectors on mosaic device.
- Step 5 Click and drag a signal source to the PVW area and then release it to add an 800×600 layer.
- The added layer crosses over several devices.

When the same signal source is accessed to the LOOP connector or video splitter, each device will display the image area loaded by itself and all the image areas together form a complete image.

When different signal sources are accessed to the devices, each device will display its own image.

- If the added layer does not cross over several devices, the image will be output only by the device that loads the screen.

Note:

- If the added layer does not cross over the devices, the layer will only occupy the current device resources.
- If the added layer crosses over several devices, the layer will occupy the resources of these devices.
- After the layers have been added, the mosaic layout cannot be set. If you need to choose a different mosaic layout, please delete all the layers first.

### 3.1.6 Adding Layers

- Step 1 Select the signal source to be displayed.

- Step 2 In video editing area, press and hold down the left mouse button, move the mouse to the video editing area and then release the left mouse button. A custom-sized layer appears.

On a signal source, press and hold down the left mouse button, drag the source to the video editing area, and then release the left mouse button. A layer appears.

---

**Note:**

For online devices, the resolution of the newly-added layer is the half of the input source resolution. For example, if the input source resolution is 1920×1080, the resolution of the new layer is 960×540 by default.

If the input source resolution is smaller than 800×600, the resolution of the new layer is 800×600 by default.

For offline devices, the resolution of the new layer is 800×600 by default.

---







- **Layer**

Hover the mouse over the edge of a layer. When the mouse pointer changes into a double arrow, press and hold down the left mouse button, move the mouse to adjust the size of the layer.

Move the mouse within a layer, press and hold down the left mouse button, drag the layer to move it to any position.

When you hover the mouse over the layer, four buttons appear at the top right of the layer. The functions of the buttons are shown in [Table 3-2](#).

Table 3-2 Layer buttons

Icon	Description
	Click this icon to make the layer fill the entire video editing area loaded by the device.
	Click this icon to make the layer fill the video editing area where the layer is positioned.
	Click this icon to make the layer closed.
	Click this icon to make the layer unlocked.
	Click this icon to make the layer locked.
	Click this button to make the layer display in pixel-to-pixel mode.

- After a layer is locked, right click the layer and select **Unlock** to unlock it.
- Following operations can be done by right clicking a layer.

Select **Switch Source** to switch the input source of the selected layer.

Select **Bring to Front** to send the selected layer to the top.

Select **Send to Back** to send the selected layer to the bottom.

Select **Bring Forward** or **Send Backward** to move the selected layer one level up or down.

Select **Lock** or **Unlock** to lock or unlock the selected layer.

Select **Close Current Layer** to close the selected layer.

Select **Close All Layers** to close all the layers.

## 3.1.7 Setting Layer Properties

BKG does not support property settings and OSD only supports position adjustment.

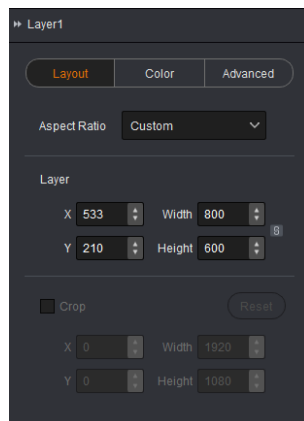
### Layout

In **Layout** settings page, you can set the aspect ratio, position and size of a layer, as well as crop the input source of the selected layer.

Step 1 Click to select the layer you want to set.

Step 2 Select **Layout** to enter the layout settings page, as shown in [Figure 3-13](#).

Figure 3-13 Layout




Step 3 You can set the aspect ratio, size, position, mask and input source cropping of the layer according to your actual needs.

- **Aspect Ratio:** The ratio of layer width to height. You can set either a fixed or custom aspect ratio.

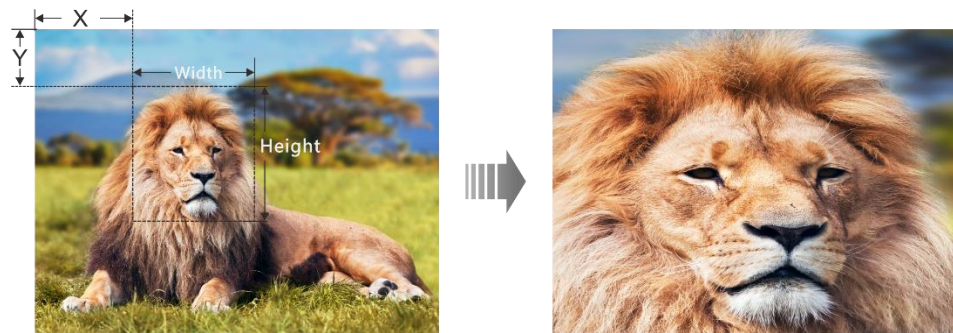
When you set a fixed aspect ratio value, the lock icon beside the width and height sliders is highlighted which indicates the ratio of layer width to height is locked. You can adjust the width or height value to change the layer size with the aspect ratio unchanged.

- **Layer:** You can adjust the layer position and size.
  - X: Adjust the layers' horizontal initial position on the screen.
  - Y: Adjust the layers' vertical initial position on the screen.
  - Width: Adjust the layers' width.
  - Height: Adjust the layer's height.

Click  to lock the layer aspect ratio. At this time, only one parameter (width or height) can be adjusted, and the other parameter (height or width) will be calculated and adjusted automatically according to the aspect ratio you set.

- **Crop:** You can crop the input source of the layer and then make the left part fill the whole screen.





- X: Set the horizontal initial position of the input source cropping.
- Y: Set the vertical initial position of the input source cropping.
- Width: Set the image width after cropping.
- Height: Set the image height after cropping.

Click **Reset** to reset all the parameters to their default values.

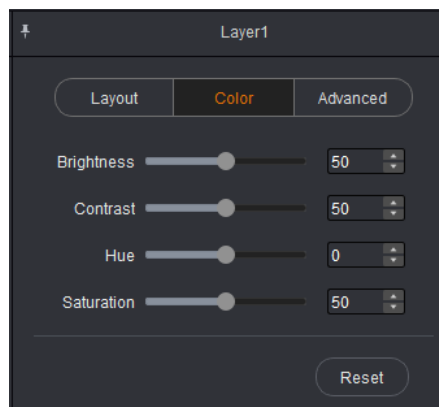
## Color

In **Color** settings page, you can set the brightness, contrast, hue, saturation and opacity of the selected layer.

Step 1 Click to select the layer you want to set.

Step 2 Select **Color** to enter the color settings page, as shown in [Figure 3-14](#).

Figure 3-14 Color



Step 3 You can drag the slider or enter a number to set the brightness, contrast, hue, saturation and opacity.

---

Note:

When the connected device is J6, the individual RGB brightness can be set.

---

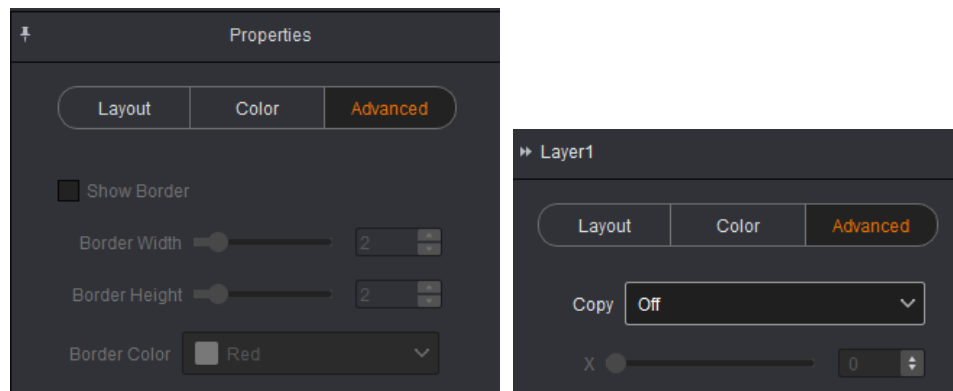
## Advanced

When connected with different devices, V-Can offers different advanced user interfaces.

Step 1 Click to select the layer you want to set.

Step 2 Select **Advanced** to enter the advanced settings page, as shown in Figure 3-15.

Figure 3-15 Advanced



When the connected device is the J6, N6 or VS7 V1.x.x, you can set the border width, height and color.

1. Select **Show Border** to show the layer border.
2. Set the border width, height and color.
  - **Border Width:** Set the width of the vertical border lines. The value range is 0–16.
  - **Border Height:** Set the width of the horizontal border lines. The value range is 0–16.

When the connected device is the N9, you can set the layer copying and mirroring. The setting procedure is as below.

1. Click to select the layer in the PVW area.
  - Click the drop-down arrow next to **Copy** and choose **Clone** in the drop-down box that appears. V-Can will create a copy for the selected layer. The two layers are the same size, but in a symmetric position with the respect to the screen center.
  - Click the drop-down arrow next to **Copy** and choose **Mirror** in the drop-down box that appears. V-Can will create a copy for the selected layer. The two layers are the same size, but in a symmetric position with the respect to the screen center. The new layer displays the mirrored image.
  - Click the drop-down arrow next to **Copy** and choose **Off** in the drop-down box that appears to disable the layer copying function.
2. Drag the slider next to **X** to adjust the horizontal coordinate of the cloned or mirrored layer.

---

Note:

- When the original layer moves, the original layer and the cloned/mirrored layer will move together vertically.
  - When the size of the original layer is adjusted, the size of the cloned/mirrored layer will keep the same with that of the original layer.
  - The original layer and the cloned/mirrored layer cannot be placed on the screen loaded by the same connector.
-

- The input source and color of the cloned/mirrored layer are the same as that of the original layer.
- When the mosaic layout is 1×2, 1×3 or 1×4, layer cloning and mirroring functions are supported.

## 3.1.8 Effects

V-Can supports multiple transition effects which make the display more flexible and vivid. When connected with different devices, the effect quantity will be different.

### 3.1.8.1 Transition Effects

The transition effects are available only when the connected device is J6 and the system mode should be in splicer mode.



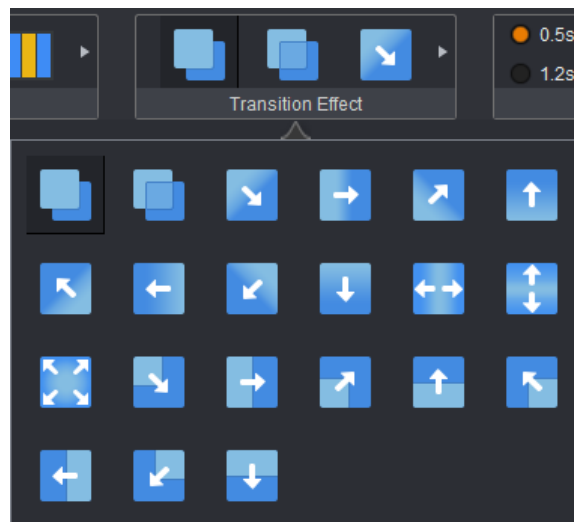
Click  in the **Transition Effect** area to choose a transition effect, or click  below **Transition Effect** to expand all the effects and choose an effect. When you right click a layer, choose **Switch Source** and select a source, the input source will be switched from one source to another and you can see the transition effect.

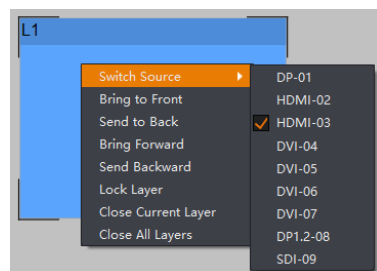
Figure 3-16 Transition effects



## Switching Layer Input Source

Step 1 Right click the desired layer and select **Switch source**

Figure 3-17 Switching layer input source



Step 2 Select the desired input source for the layer.

### 3.1.8.2 Take Effects

In switcher mode, only the Take effects are available. A Take effect refers to the display effect shown on PGM after you click **Take** to switch the layer from PVW to PGM.



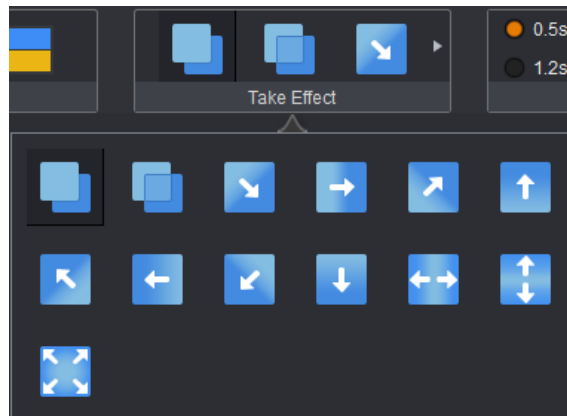
Click  in the **Take Effect** area to choose an effect, or click  below **Take Effect** to expand all the effects and choose an effect. Click **Take**, and you can see the effect on PGM.

Figure 3-18 Take effects



### 3.1.9 Duration

Duration is the length of the time a transition effect or Take effect continues.

The duration range is 0.5s–2.0s.

You can set the effect duration by one of the following methods.



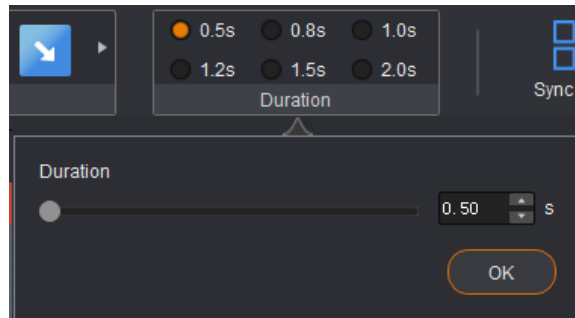
- Select a commonly used time value in the **Duration** area.
- Click  below **Duration** and drag the slider, then click **OK**.
- Click  below **Duration** and enter a value, then click **OK**.

Figure 3-19 Duration



Note:

If the connected device is VX5s or VX6s, the duration includes six levels. When the duration is set to 1, the effect duration is the shortest. When the duration is set to 6, the effect duration is the longest. Rather than adjust the duration freely, you can only choose an existing duration.

### 3.1.10 Sync Mode

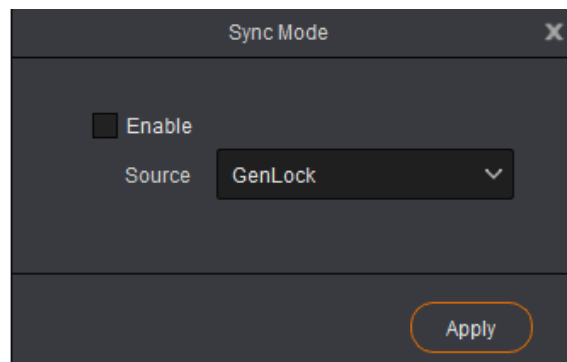
When multiple devices are cascaded, the sync mode must be enabled. Synchronization between signal sources makes sure the display of the mosaic screen is intact and consistent.

When devices such as cameras are connected, enabling sync mode can remove scan lines.

#### Operating Procedure

Step 1 Choose **Choreographer > Sync Mode**. The sync mode window appears, as shown in [Figure 3-20](#).

Figure 3-20 Sync mode



Step 2 Select the check box of **Enable**.

Step 3 Click the drop-down arrow next to **Source** and choose a signal source from the drop-down box that appears.

- **Genlock**: Use an external signal source as the sync source.
- Other connector names: Use an internal input source as the sync source.

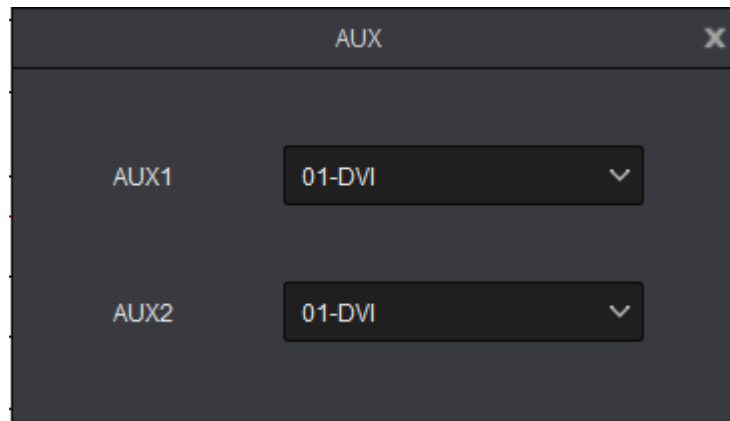
Step 4 Click **Apply**.

### 3.1.11 AUX

When the connected device supports auxiliary output function, you can set the input source of the aux output via V-Can. Currently the N9 supports AUX settings.

- Step 1 Choose **Choreographer** > **AUX**. The aux settings window appears, as shown in [Figure 3-21](#).

Figure 3-21 AUX settings



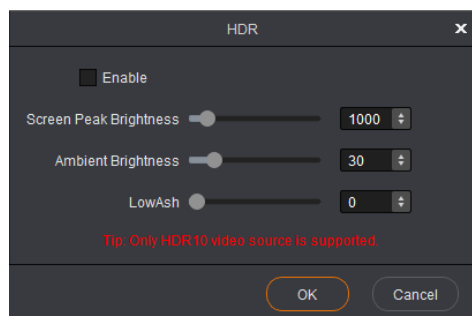
- Step 2 Click the drop-down arrow next to **AUX1** or **AUX2** and choose a signal source from the drop-down box that appears.

### 3.1.12 HDR

HDR stands for High Dynamic Range. When worked with the A8s receiving card, enabling the HDR function can greatly enhance the display quality and make the image more clear and vivid. Currently the NovaPro UHD Jr and 4K-Prime support HDR function and only supports HDR10 input source.

- Step 1 Choose **Choreographer** > **HDR** to enter the HDR settings screen as shown in [Figure 3-22](#).

Figure 3-22 HDR settings



- Step 2 Select **Enable** to enter the HDR function.
- Step 3 Set **Screen Peak Brightness** and **Ambient Brightness** to adjust the display effect.
- **Screen Peak Brightness:** Set the screen brightness under normal operation. The value range is 100–10000 and the default value is 1000.

- **Ambient Brightness:** Set the brightness of the surrounding environment where the screen locates. This brightness value can be obtained by measuring. The value range is 0–200 and the default value is 30.
- **Low Grayscale Mode:** Set the grayscale value of the image displayed on the screen. The value range is 0–50 and the default value is 15.

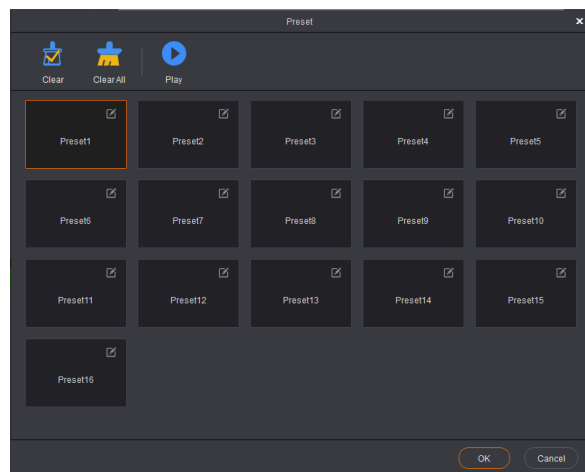
### 3.1.13 Setting Presets

#### Saving Presets

- When the connected device is the N6, J6, VS7 V1.x.x, VS2 or VS3, the preset will be saved automatically.

Step 1 Choose **Choreographer > Preset** to enter the preset setting page.

Figure 3-23 Selecting presets



Step 2 Select and click a preset and click **OK**.

Step 3 Add a layer in the layer editing area and change the layer properties. Then the system will automatically save the edited layer information to the selected preset.

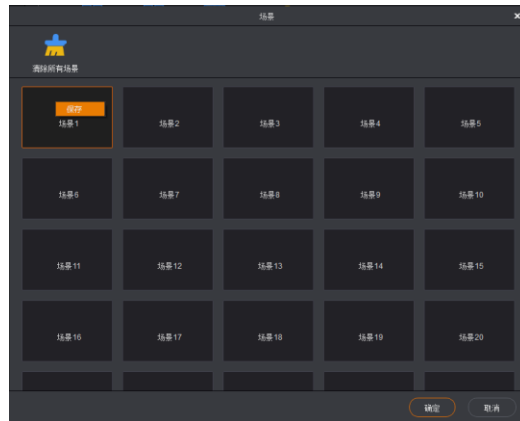
- When the connected device is not the N6, J6, VS7 V1.x.x, VS2 or VS3, the preset should be saved manually.

Step 1 Add a layer in the layer editing area and change the layer properties.

Step 2 Choose **Choreographer > Preset** to enter the preset setting page.

Step 3 Right click the preset and select **Save** to save the edited layer information to the selected preset.

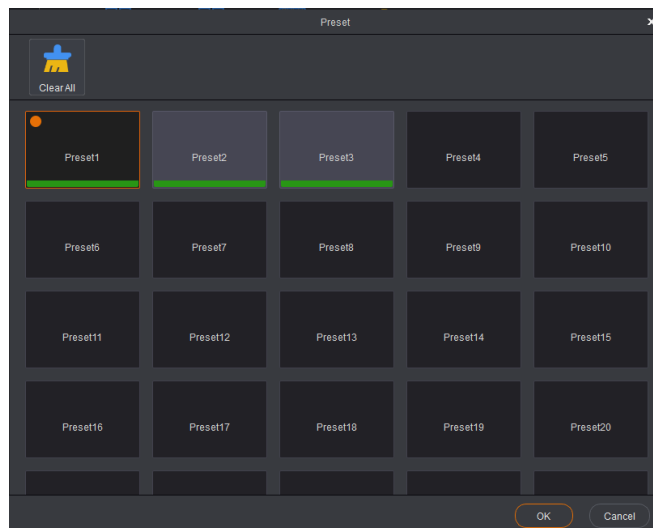
Figure 3-24 Saving presets



## Loading Presets

Step 1 Choose **Choreographer > Preset** to enter the preset setting page.

Figure 3-25 Presets



### Note:

- Green ones are the saved presets, and others are empty presets which cannot be loaded.
- Right click the saved preset and select **Clear** to clear the data in the preset.

Step 2 Click a saved preset to load the preset to PVW or screen.

## Renaming Presets

Step 1 Choose **Choreographer > Preset** to enter the preset setting page.


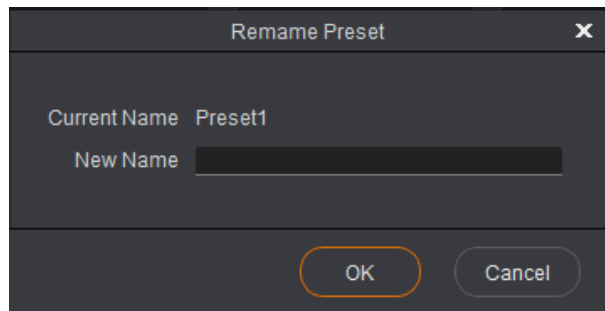
Step 2 Double click the  icon at the top right, and you can rename the preset in the dialog box appears.



Figure 3-26 Renaming presets



Note:

Empty presets cannot be renamed.

The N9 does not support preset renaming.

Step 3 Click **OK** to save the settings.

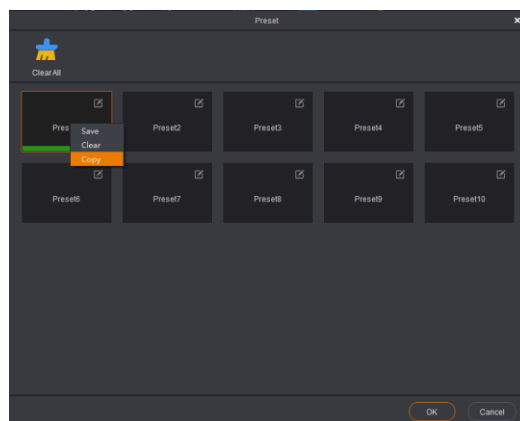
## Copying Presets

When the connected device is the NovaPro UHD Jr or 4K-Prime, this function is available.

Step 1 Choose **Choreographer > Preset** to enter the preset setting page.

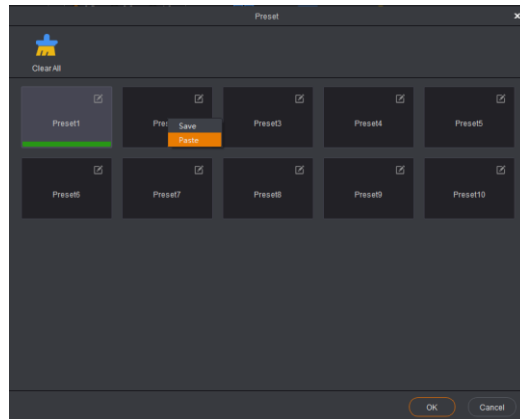
Step 2 Right click the desired preset and select **Copy**.

Figure 3-27 Copying presets



Step 3 Right click the target preset and select **Paste** to copy the preset.

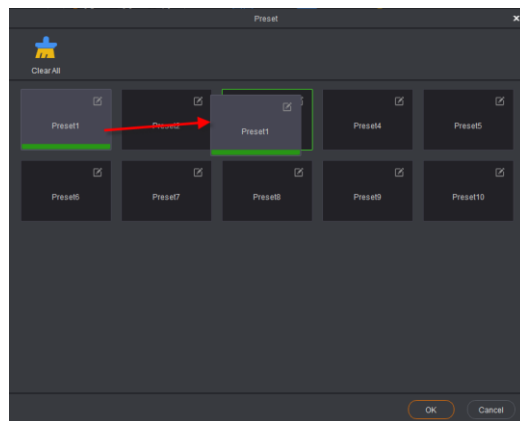
Figure 3-28 Pasting presets



Note:

Quick copy method:

Click and drag a saved preset to the target preset, then release the mouse to quickly copy the preset.



### 3.1.14 Preset Playing

When the connected device is the J6, N6 or VS7 V1.x.x, V-Can supports the preset playing function. After each preset is configured, V-Can will send and save the preset information to the video processor. After the start times to play the presets are set, the layers in each preset will start to play according to the time you set.

The preset playing function of the J6 or N6 is available when the system mode is set to Splicer mode.

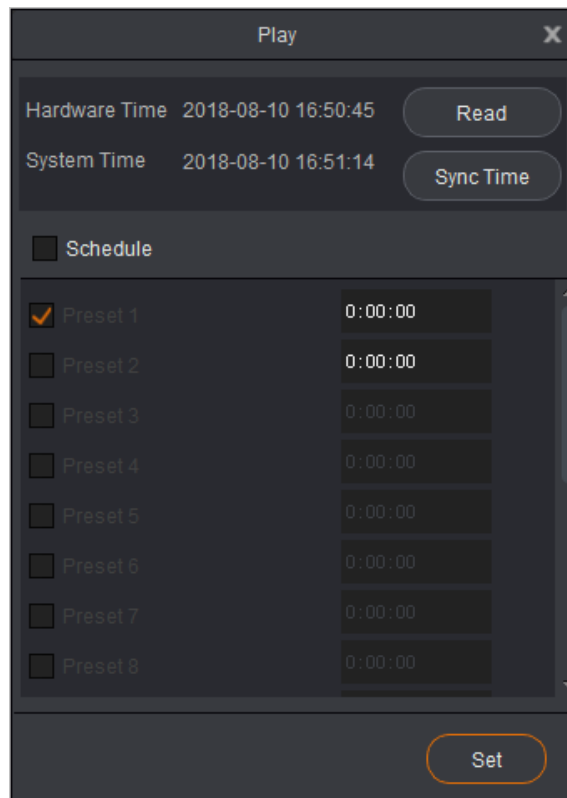
#### Before You Begin

Complete the settings of presets.

#### Operating Procedure

- Step 1 Choose **Choreographer** > **Preset** > **Play**. The preset playing window appears, as shown in [Figure 3-29](#).

Figure 3-29 Preset playing



Step 2 Click **Read** to read the system time.

Step 3 If **Hardware Time** and **System Time** are not synchronized, click **Sync Time** to synchronize the hardware time with the system time.

Step 4 Select the check box next to **Schedule**.

Step 5 Select the check boxes of presets and set the start times to play the presets.

---

Note:

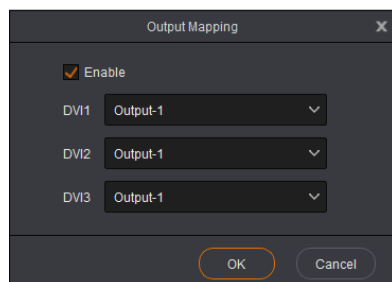
- Repeated start times are not allowed.
  - To see the effect of automatic playing, you need to set start times of two presets at least.
- 

Step 6 Click **Set** to complete the preset playing settings.

### 3.1.15 Output Mapping

When the connected device is the VS2 or VS3, this function is available. You can set the corresponding relationships between the output connectors and screen.

Figure 3-30 Output mapping



## 3.2 OSD

OSD allows you to set the OSD image, OSD text, BKG and LOGO. The sub-menu items are different when different devices are connected.

### 3.2.1 OSD Settings

V-Can allows you to add an image on the LED screen as the background or foreground and add text as an on-screen prompt.

When the connected device is the J6, N6, VS7 V1.x.x, VS2 or VS3, please follow the below procedure to add OSDs.

#### Inserting Images

An image can be used as OSD and displayed on the LED screen as the background or foreground. The format of the image used as OSD only can be bmp, jpg and jpeg. Only one image OSD can be inserted in each mosaic screen.

You can choose either image or text as OSD.

Step 1 Select **OSD > Image**. The image selection window appears.

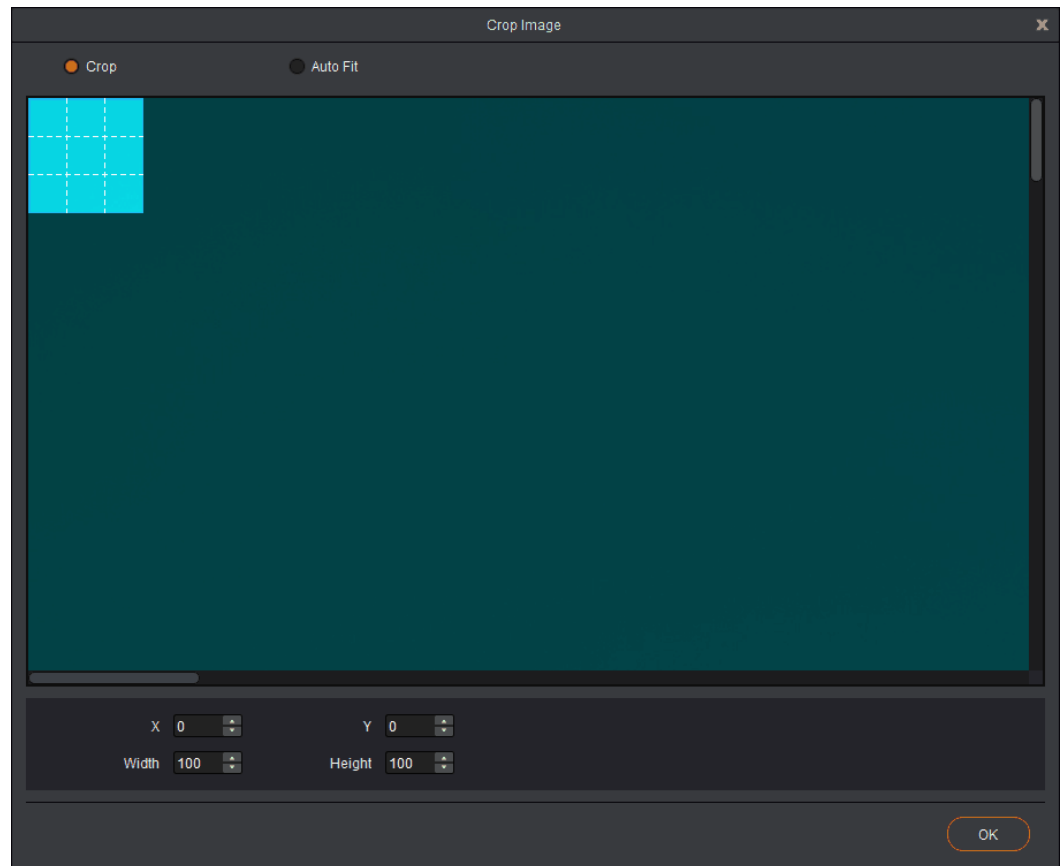
Step 2 Choose the image which will be displayed.

Step 3 Click **Open**. V-Can will send information about the selected image to the device or the control system.

If the image size is greater than the screen resolution, the below window appears. The dashed area is the cropped area.

3. Hover the mouse over the edge of the dashed area. When the mouse pointer changes into a double arrow, press and hold down the left mouse button, move the mouse to adjust the size of the cropped area. You can also directly enter the values for **Width** and **Height** to adjust the size of the cropped area.
4. Click and drag the dashed area to adjust the position of the cropped area. You can also directly enter the values for **X** and **Y** to adjust the position of the cropped area.
5. Click **OK** to complete the image cropping settings.

Figure 3-31 Cropping OSD image



If the image size is smaller than the screen resolution, the image is inserted directly.

Step 4 Right click the inserted image, and you can do the following operations.

- **Bring to Front:** Move the inserted image to the top.
- **Send to Back:** Move the inserted image to the bottom. If the size of the inserted image is smaller than the layer, the inserted image will not be seen.
- **Remove OSD:** Delete the inserted image.
- **Crop:** Set the initial position and size of the cropped area.
- **Enable Crop:** Select it to display the content according to the settings in **Crop**. Unselect it to display the original OSD image.

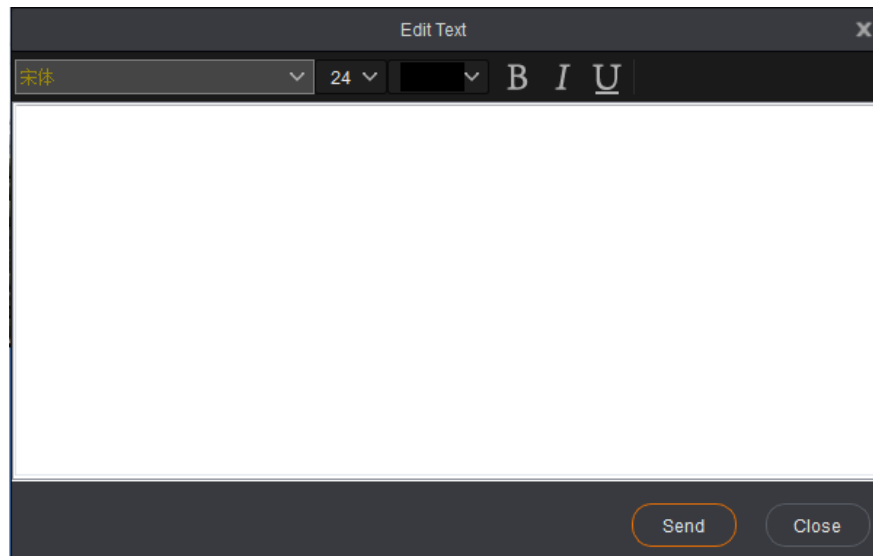
## Inserting Texts

Text can be used as OSD and displayed on the LED screen as the background or foreground. Only one text OSD can be inserted in each mosaic screen. The inserted text will be displayed in the form of an image.

You can choose either image or text as OSD.

Step 1 Choose **OSD > Text**. The text editing window appears, as shown in [Figure 3-32](#).

Figure 3-32 Inserting text



- Step 2 Set the information of the text to be displayed, such as font type, size and color, bold, italic, and underline.
- Step 3 In the blank text field, enter the text to be displayed.
- Step 4 Click **Send** to send the text to the connected device or the control system.
- Step 5 Right click the inserted text, and you can do the following operations.
- **Bring to Front:** Move the inserted text image to the top.
  - **Send to Back:** Move the inserted text image to the bottom. If the size of the inserted text image is smaller than the layer, the inserted image will not be seen.
  - **Remove OSD:** Delete the inserted text image.

## Enabling/Disabling OSD

You can enable or disable the OSD function. When disabled, the OSD function will be automatically enabled after image or text is inserted.

- When the OSD function is enabled, click **Disable OSD** to disable the function.
- When the OSD function is disabled, click **Enable OSD** to enable the function.

## 3.2.2 OSD/BKG Settings

When the connected device is not the J6, N6 or VS7 V1.x.x and the device supports OSD function, please follow the below procedure to add OSDs.

### Adding OSDs


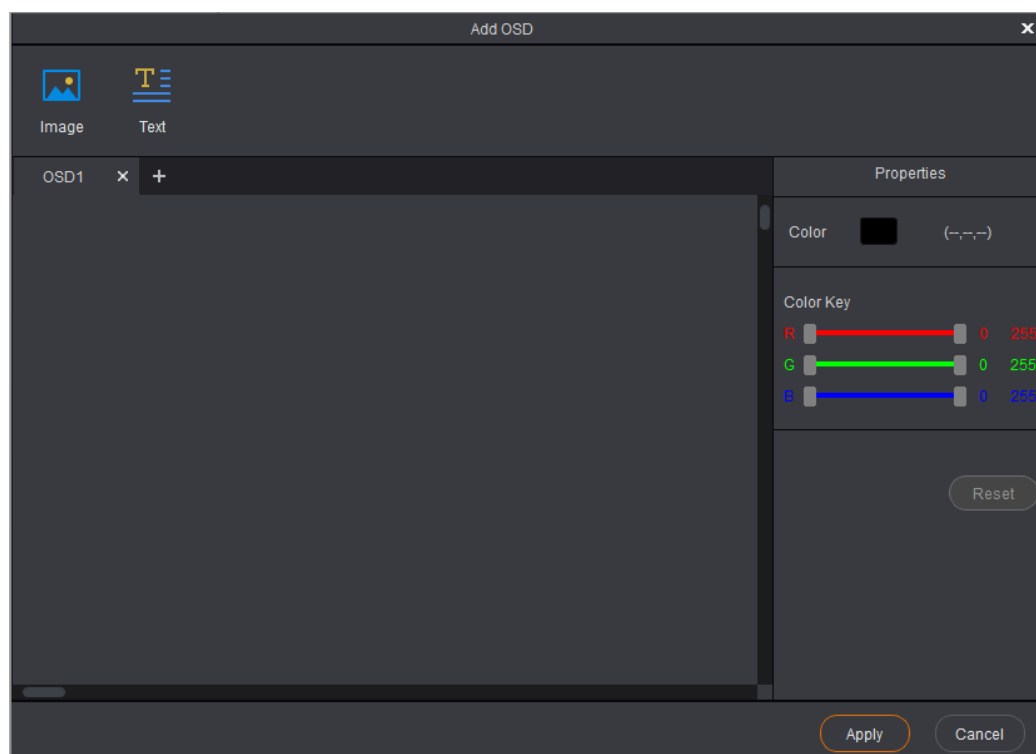
- Step 1 Choose **OSD > OSD** to enter the OSD settings page.
- Step 2 Click  in the OSD area to enter the OSD adding window, as shown in [Figure 3-33](#).

Figure 3-33 Adding OSD images



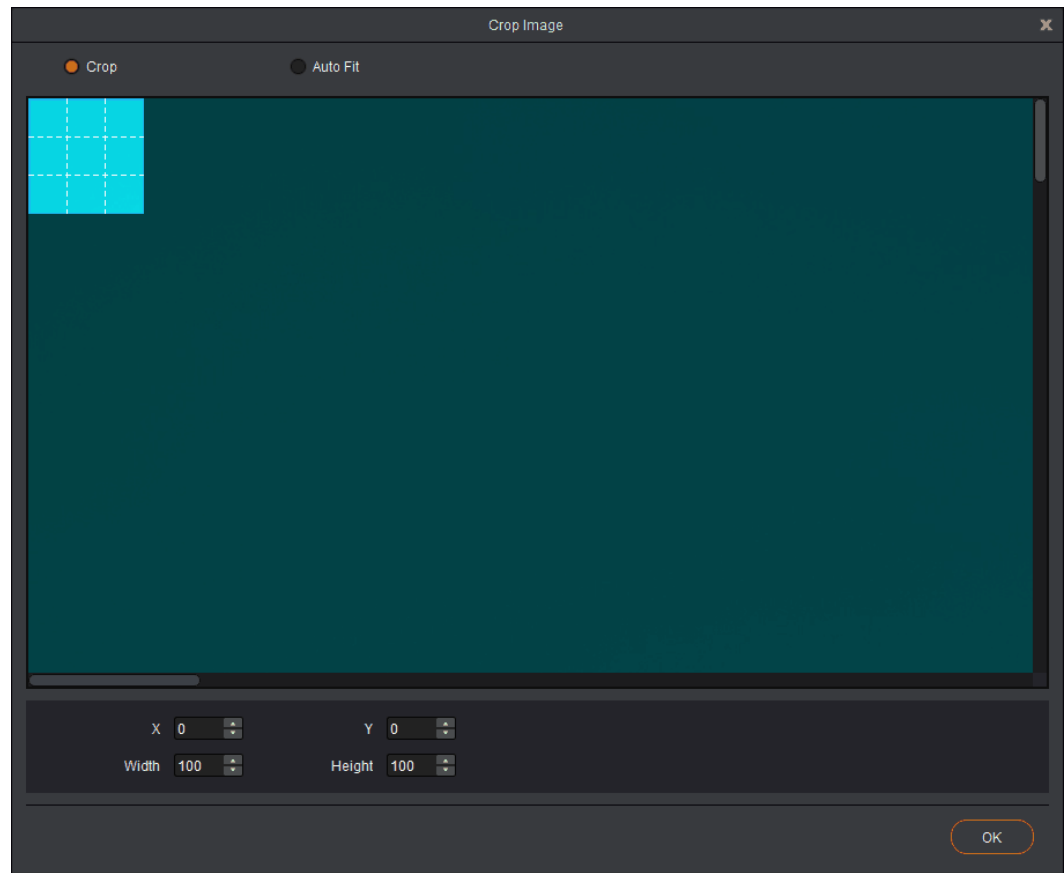
Step 3 Click **Image** to select the desired OSD image in the window appears.

Step 4 After an image is selected, click **Open** to complete the adding.

The maximum resolution supported by an OSD image is 1920×1080.

- If the image size is greater than the screen resolution, the below window appears. The dashed area is the cropped area.
  1. Hover the mouse over the edge of the dashed area. When the mouse pointer changes into a double arrow, press and hold down the left mouse button, move the mouse to adjust the size of the cropped area. You can also directly enter the values for **Width** and **Height** to adjust the size of the cropped area.
  2. Click and drag the dashed area to adjust the position of the cropped area. You can also directly enter the values for **X** and **Y** to adjust the position of the cropped area.
  3. Click **OK** to complete the image cropping settings.

Figure 3-34 Cropping OSD images



Note:

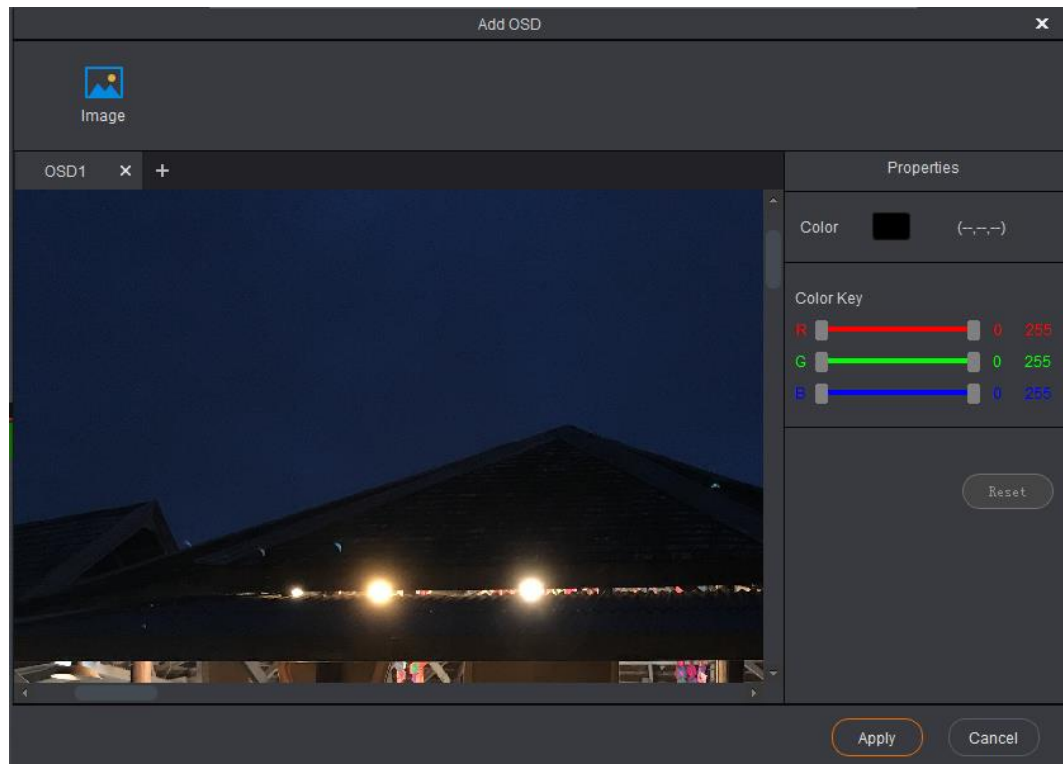
You can select **Auto Fit** to fit the image to the whole screen.

- If the image size is smaller than the screen resolution, the image is added directly.

After the image is added successfully, it is as shown in [Figure 3-35](#).



Figure 3-35 Adding OSD images



## Adding BKGs

- Add a background image.

Step 1 Choose **OSD > BKG** to enter the BKG setting page.


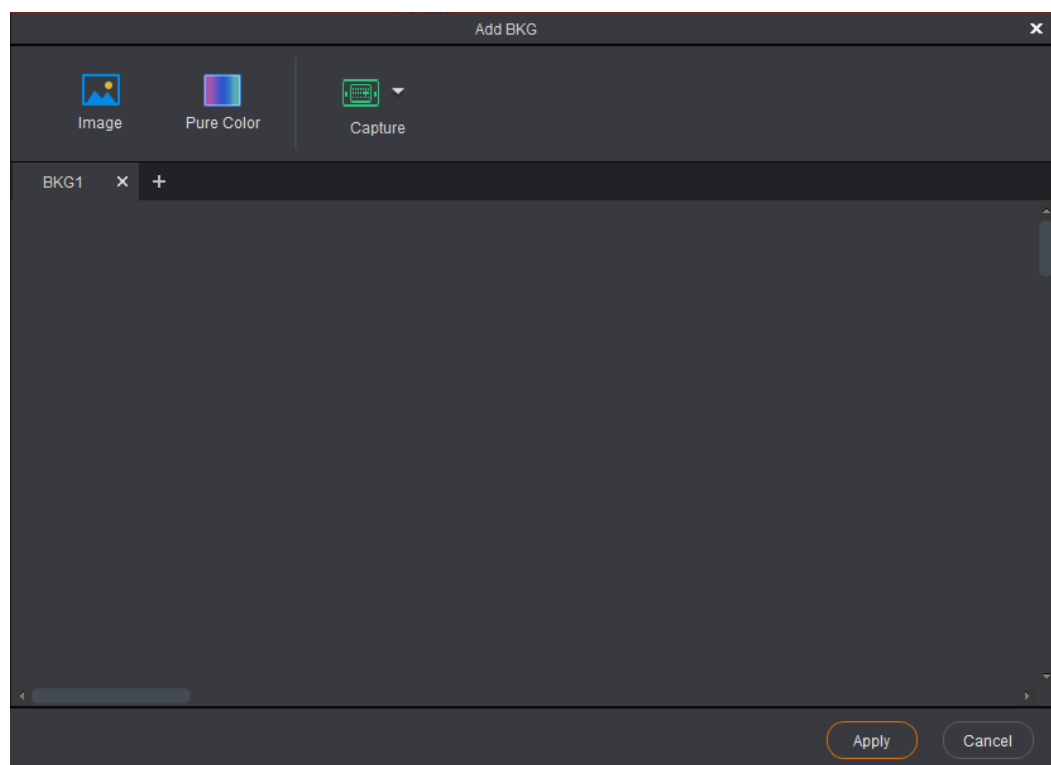
Step 2 Click  in the BKG area to enter the BKG adding window, as shown in [Figure 3-36](#).

Figure 3-36 Adding BKG images

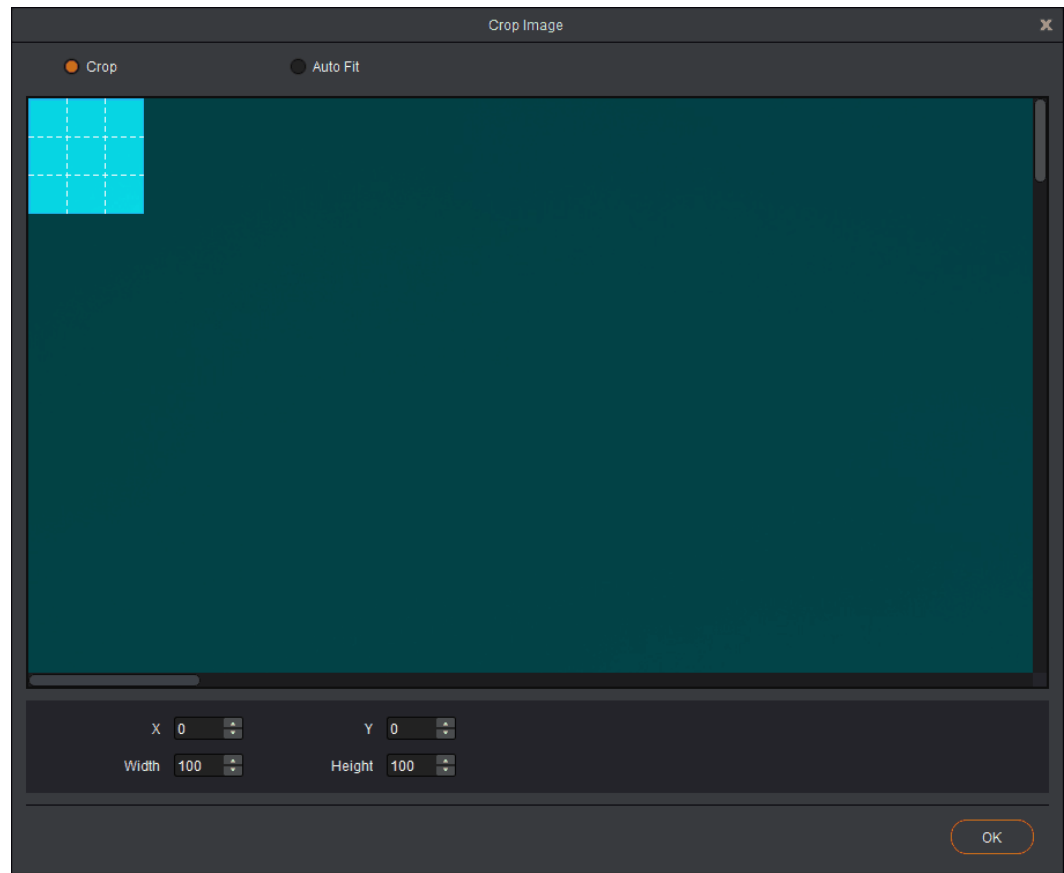


Step 3 Click **Image** to select the desired BKG image in the window appears.

Step 4 After an image is selected, click **Open** to complete the adding.

- If the image size is greater than the screen resolution, the below window appears, as shown in [Figure 3-37](#). The dashed area is the cropped area.
  1. Hover the mouse over the edge of the dashed area. When the mouse pointer changes into a double arrow, press and hold down the left mouse button, move the mouse to adjust the size of the cropped area. You can also directly enter the values for **Width** and **Height** to adjust the size of the cropped area.
  2. Click and drag the dashed area to adjust the position of the cropped area. You can also directly enter the values for **X** and **Y** to adjust the position of the cropped area.
  3. Click **OK** to complete the image cropping settings.

Figure 3-37 Cropping BKG images



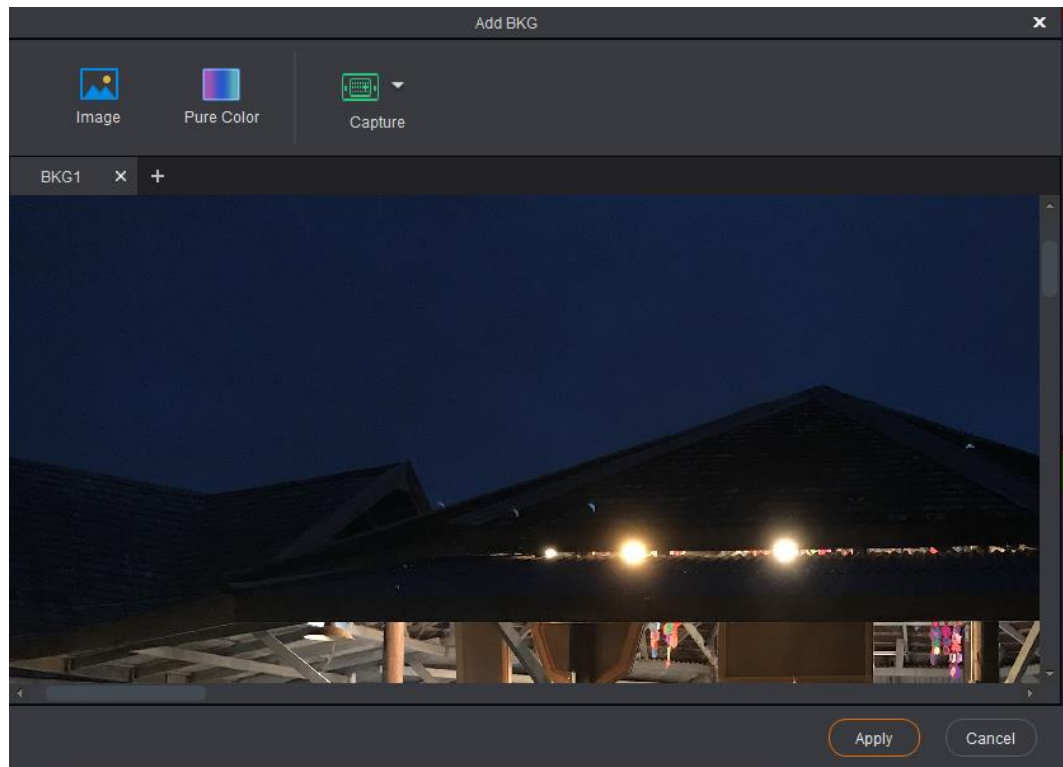
Note:

You can select **Auto Fit** to fit the image to the whole screen.

- If the image size is smaller than the screen resolution, the image is added directly.


After the image is added successfully, it is as shown in [Figure 3-38](#).

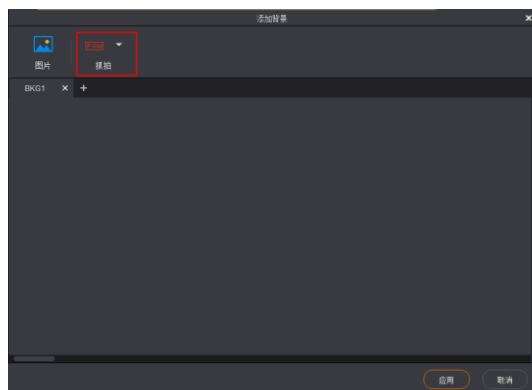
Figure 3-38 Adding BKG images



## Adding Captured BKGs

You can capture the current frame of the input source and save the captured image as a BKG image.

- Step 1 Click **OSD** to enter the OSD setting page.
- Step 2 Click the  icon in BKG area to enter the BKG setting page.
- Step 3 Click **Capture** to select the desired input source from the drop-down list, and the system will capture the input source image automatically.



Right click the BKG area to select **Read Back**, **Read Back All** or **Delete** to perform corresponding operation to the captured BKG image.

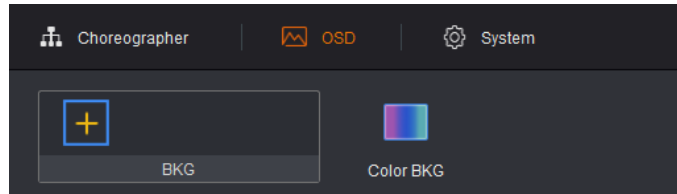
- Read Back: Read back the current captured BKG image to V-Can.
- Read Back All: Read back all the captured BKG images to V-Can.

- **Delete:** Delete the current captured BKG image.

## Adding Pure Color BKGs

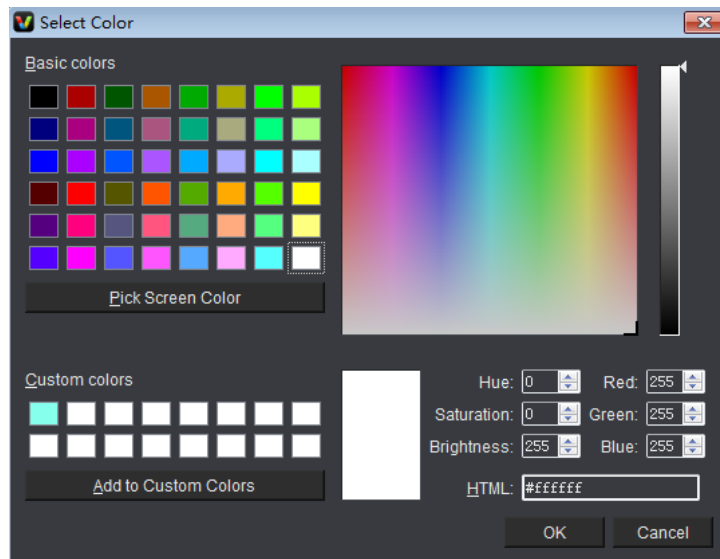
Step 1 Click **OSD** to enter the OSD setting page.

Figure 3-39 OSD menu



Step 2 Click **Pure Color** and the **Select Color** window appears, as shown in Figure 3-40.

Figure 3-40 Selecting color



Step 3 Select the desired color.

Step 4 Click **OK** to complete adding the pure color BKG.

## 3.3 System

On the main user interface, click **System** to enter the system operation page.

The following operations can be done to manage the devices.

- **Connect:** Connect V-Can to the video processor or all-in-one controller.
- **Sync:** Keep V-Can in sync with the configuration information of the video processor or all-in-one controller.
- **Firmware:** View the versions of the related firmware of the connected devices and to update firmware.
- **Self-Test:** Check whether the display connected to the current device is normal.

- **Reset:** Reset the configuration information of the connected device to factory settings.
- **Network:** Set the IP address and subnet mask of the controlled device.
- **Language:** Choose the UI language for V-Can.

### 3.3.1 Connecting Device

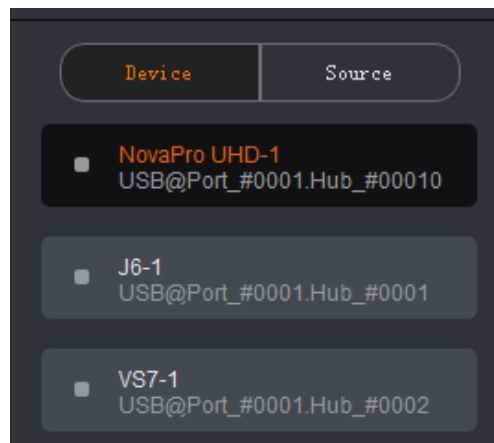
#### Before You Begin

Connect the video processor or all-in-one controller to PC with Ethernet cable or USB cable.

#### Operating Procedure

- Step 1 Choose **System** > **Connect**. The system will search for and connect the devices automatically.
- Step 2 Click **Device** to view the names of the connected devices, as shown in [Figure 3-41](#).

Figure 3-41 Device list



- Step 3 Click **Source** to view the connection and working status of the signal sources of the connected device.

### 3.3.2 Synchronization

V-Can is capable of reading the configuration data of the current device and displaying the configuration data on the interface for V-Can.

#### Before You Begin

Connect V-Can to the current device.

#### Operating Procedure

Choose **System** > **Sync** to synchronize the configuration information of the current device with V-Can and then display the information in V-Can.

### 3.3.3 Firmware Update

This function allows you to view the versions of the related firmware of the connected devices and to update firmware.

#### Before You Begin

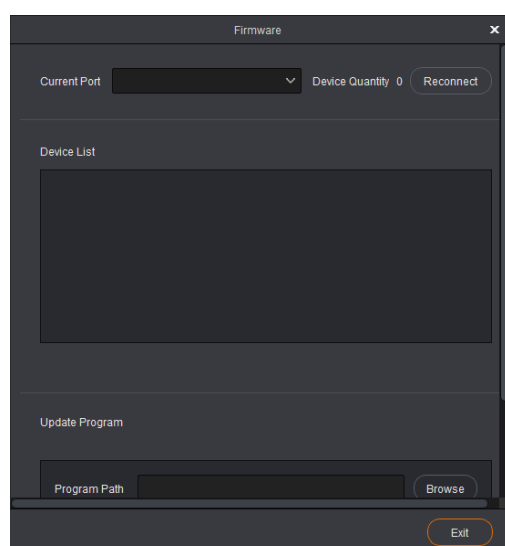
- Connect V-Can to the current device.
- Get the software version supported by the current device.

#### Operating Procedure

- View firmware version information.  
Choose **System > Firmware**. You can view the MCU version, FPGA version and gallery version in the dialog box that appears.
- Update firmware.

Step 1 Choose **System > Firmware**. The **Firmware** dialog box appears.

Figure 3-42 Firmware update



Step 2 Select the desired communication port from **Current Port**.

When multiple control devices are connected to V-Can, click **Current Communication Port** to select the desired port from the drop-down list.

When the update devices are cascaded, V-Can will read the quantity of connected automatically and show the quantity in **Device Quantity**.

**Device List** shows the versions, MCU versions, FPGA versions, gallery versions and font versions of the all connected devices.

Step 3 Click **Browse** to select the version that has been downloaded to your local PC from the window appears.

Step 4 Click **Update** to update the firmware of the connected device.

Note:

Click **Advanced** and type **admin** to enter the advanced mode where you can update the device MCU, FPGA\_A, FPGA\_B, gallery and font.

### 3.3.4 Self-Test

Use the built-in test patterns to check whether the display of the video wall connected to the current device is normal.

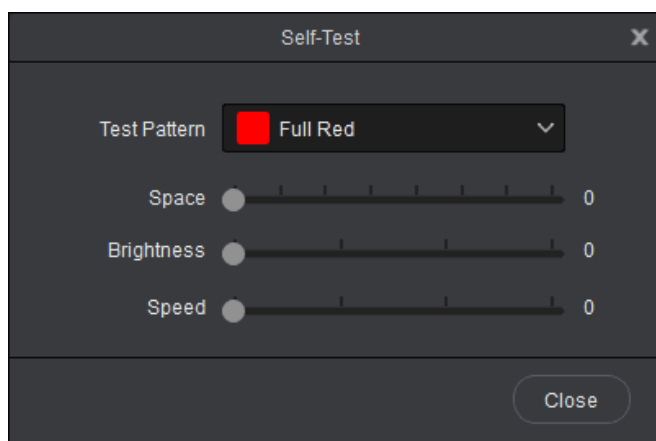
#### Before You Begin

- Connect V-Can to the current device.
- Connect the current device to a video display device.

#### Operating Procedure

Step 1 Choose **System** > **Self-Test** to enter the self-test configuration page, as shown in Figure 3-43.

Figure 3-43 Self-test



Step 2 Click the drop-down arrow next to **Test Pattern**. In the drop-down box that appears, choose different test patterns.

Step 3 You can also set the space between lines, brightness and moving speed of the test pattern.

Step 4 Check whether the test patterns are displayed normally on the LED screen connected to the device.

- Yes => The LED screen is normal.
- No => The LED screen is abnormal. Please calibrate the LED screen and check again.

Step 5 Choose **Normal** or click **Close** to exit self-test.



### 3.3.5 Factory Reset

If you want to clear device configuration information or user preset information, this function allows you to clear the configuration information of current device with one click.

#### Before You Begin

Connect V-Can to the current device.

#### Operating Procedure

Step 1 Choose **System** > **Reset**.

Step 2 Please carefully read the prompt message that appears. Clicking **Yes** will clear all the configuration information of the current device.

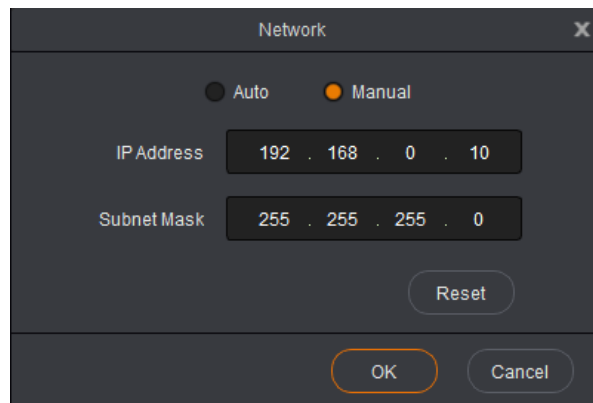
### 3.3.6 Network Settings

V-Can can be connected to hardware device through RJ45 Ethernet cable. The IP address and subnet mask can be set in V-Can.

#### Operating Procedure

Step 1 Choose **System** > **Network**. The network settings window appears, as shown in [Figure 3-44](#).

Figure 3-44 Network settings



Step 2 Select **Auto** or **Manual** mode.

- Auto => The device will automatically acquire an IP address and subnet mask.
- Manual => Go to [Step 3](#).

Step 3 Enter the IP address and subnet mask.

Step 4 Click **OK** to complete the network settings.

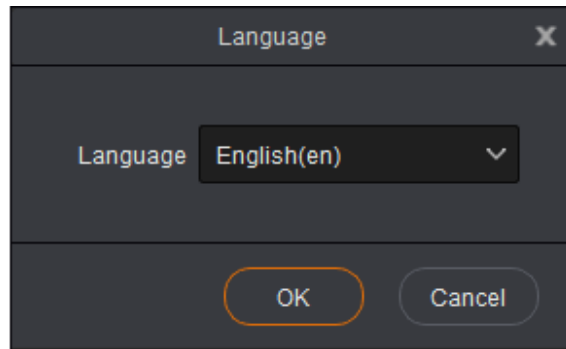
### 3.3.7 Language

V-Can allows users to change the UI language based on their preferences.

## Operating Procedure

Step 1 Choose **System** > **Language**. The language setting window appears, as shown in [Figure 3-45](#).

Figure 3-45 Language setting



Step 2 Select English or Chinese as the UI language.

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