

# 4K ViewPro

Video Processor




## User Manual

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# 1 General

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## Overview

- About This Manual
- Version History
- Symbols and Pictures

## 1.1 About This Manual

This user manual describes how to operate the 4K ViewPro video processor, as well as how to use the matched Web control page. It contains a complete description of the hardware and control terminal. This manual is designed to be a useful reference for your daily use of our product.

### Note




Always check for the latest version of all documents at [www.pixelhue.com](http://www.pixelhue.com).

## 1.2 Version History


Version	Date	Changes
V1.3.0	2023-12-01	<ul style="list-style-type: none"> <li>Optimize the interaction of the test pattern border function.</li> <li>Optimize the interaction of the SCALE button.</li> </ul>
V1.2.0	2023-09-13	<ul style="list-style-type: none"> <li>Update the device rear panel picture and descriptions.</li> <li>Add one more PIP layer.</li> <li>Support the AOI function.</li> <li>Support more test patterns.</li> <li>Support the output connector rotation.</li> <li>Support the BKG capture function.</li> <li>Support the interlaced output.</li> <li>Optimize the input and output connector settings.</li> </ul>
V1.1.0	2023-02-17	<ul style="list-style-type: none"> <li>Update the LED bar descriptions.</li> <li>Add the safety descriptions.</li> <li>Add the requirement for the USB drive you use.</li> <li>Update some descriptions.</li> </ul>
V1.0.0	2020-08-16	First release

## 1.3 Symbols and Pictures

### Symbol Overview

	<b>Danger</b>	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
	<b>Warning</b>	Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.
	<b>Caution</b>	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance

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		degradation, or unexpected results.
	<b>Note</b>	Provides additional information to emphasize or supplement important points of the main text.

## Picture Overview

Images and pictures given in this manual are used for illustration purposes only. The actual product may vary due to product enhancement. The content of the images can be slightly different from reality, such as device types, installed modules, form and position of software windows on the screen.



# 2 Safety

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## Overview

- General Considerations
- Device Carrying
- Device Mounting
- Cable Requirements
- Electrical Safety
- Unpacking and Inspection
- Device Labels
- Notes and Cautions

## 2.1 General Considerations

To ensure that you can use this product correctly and safely, please be sure to observe the following precautions:

- Before performing any operation, make sure that you have read all the operating instructions provided by the device, especially the instructions that may endanger the personal safety and device safety, such as dangers, warnings and cautions, to minimize the probability of accidents.
- All the operations must conform to local safety codes. When the safety and precautionary measures described in this manual conflict with local safety codes, please follow the local codes.
- The personnel responsible for installing and maintaining the device must be professionals who have been trained and have mastered the correct operation methods and all safety precautions. Only trained and qualified personnel can perform device installation and maintenance.
- This device must be used in an environment that meets the design specifications; otherwise, it may cause device failure. The resulting device function abnormalities or component damage, personal safety accidents, property losses and other situations are not included within the scope of the device warranty.

### 2.1.1 General Safety

- When operating the device, you must strictly abide by the local laws and regulations. The safety precautions described in this manual are only a supplement to the local safety laws and regulations.
- The "Danger", "Warning" and "Caution" items described in this manual are only supplementary instructions for all safety precautions.
- To ensure personal and device safety, please strictly follow all the safety precautions on the device labels and described in this manual when installing the device.

### 2.1.2 Environmental Requirements

- Ensure adequate air flow in the equipment room.
- Take necessary measures to prevent dust, water and static electricity.
- Avoid long-term direct sunlight.
- Keep the device away from heat and ignition sources.
- Do not place the device in an explosive atmosphere.
- Do not place the device in a corrosive environment.
- Do not place the device in a strong electromagnetic environment.

The following table outlines the physical environment where the device can be safely stored and operated.

Environmental Requirements	Operating Environment	Storage Environment
Temperature	0°C to 45°C	-20°C to +70°C
Humidity	0% RH to 80% RH, non-condensing	0% RH to 95% RH, non-condensing
Air Cleanliness	ISO 14644-1 ISO 9	N/A

### 2.1.3 Device Safety

- Before operating, fix the device on the floor or other stable objects, such as a wall or mounting bracket.
- During transportation and use of the device and its packaging, the device must be fixed stably to avoid falling.
- Do not step on, hit and violently operate the device and its packaging to prevent damage to the device or packaging box.
- Do not block the ventilation openings during operation.
- Tighten the board or card screws with a tool.
- After the installation, remove the empty packing materials from the device area.
- Save the packing box and materials for possible storage and transportation in the future.
- Always wear anti-static wrist bands and insulating gloves when touching the static-sensitive components.
- Avoid dropping any object into the chassis.
- Keep the device away from conductors that are easy to induce lightning to avoid lightning strikes to the device.
- Do not make the circuit faces of the boards or cards contact each other.
- Do not touch the circuit, components, connectors or wiring slots of the boards or cards with bare hands.
- Do not repair the device without authorization. Only trained professionals can maintain the device. You can contact Pixelhue at any time if needed.
- Always use the spare parts recommended by Pixelhue.
- Regularly clean the dust on the heat dissipation holes to prevent the dust from blocking the holes and thus affect the heat dissipation of the device.

### 2.1.4 Personal Safety

- Place the device in a stable location to prevent personal injury caused by falling.
- Avoid bare wires and maintain or replace them in time when they are damaged.
- Do not operate the device and connect cables outdoors under thunderstorms.
- Do not wear watches, rings, or other metal jewelry when installing spare parts or maintaining the device.

## 2.2 Device Carrying

- Do not relocate a powered device, and do not take any objects that may cause danger to the relocation.
- Always pay attention to the wheels at the bottom of the flight case during transportation to avoid them being jammed by stones or deformed due to external forces.
- Always hold the handles of the flight case firmly when pushing a flight case with wheels. Do not stack other devices on the flight case.
- The relocated device should be repacked in the original factory packaging.
- When handling or placing the boards or cards, bare board components or modules, always package them individually.
- When carrying the device with your bare hands, always wear protective gloves to avoid injury.
- When carrying the device, handle it gently and always hold the handles of the device or drag the bottom edge of the device. Do not hold the handles of a device component.
- When the device weight exceeds the carrying limit of a single person, carry it with multiple people or use a carrying tool.
- When using a forklift or handcart for transportation, place the device stably to ensure the device will not tip over.

The following table lists the maximum weights that adults can carry at a time specified by some organizations for your reference.

Organization	Weight
CEN (European Committee for Standardization)	25 kg/55.13 lb
ISO (International Organization for Standardization)	25 kg/55.13 lb
NIOSH (National Institute for Occupational Safety and Health)	23 kg/50.72 lb
HSE (Health and Safety Executive)	25 kg/55.13 lb
General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China	Male: 15 kg/33.08 lb Female: 10 kg/22.05 lb

## 2.3 Device Mounting

When the device is installed on a desktop or into a rack, the desktop or rack must bear at least 4 times the device weight.

### 2.3.1 Mounting on a Desktop

- Ensure the stability and grounding of the desktop or working table.
- Ensure that the device is placed horizontally and do not turn it over or hang it on the wall.
- Do not place other objects on the device.

- Do not put water cups, beverages and other containers with liquid close to or on the device to avoid liquid leakage and thus cause safety hazards.
- If any object or liquid accidentally enters the device, stop using the device and disconnect the power cord and all cables connected to the device immediately, and then contact the after-sales personnel.
- When handling a flight case with wheels, please lock and fix the wheels to prevent the device from sliding.
- When stacking, ensure all the devices are stacked stably to avoid device damage and personal injury caused by falling.

### 2.3.2 Mounting into a Rack

- The rack must be fixed properly to avoid tilting and falling, and thus cause personal injury and device damage.
- When a device is mounted into a rack, all mounting holes must be fixed with screws.
- Ensure the rack is well ventilated. It is recommended to reserve at least 1U space between the stacking devices, and the heat dissipation vents must not be obstructed and keep at least 10 cm distance from other objects.

### 2.3.3 Grounding

- Connect the grounding wire first when installing a device, and disconnect the grounding wire at last when removing the device.
- The connecting surface of the grounding wire and the device must have good conductivity. Spray painting is strictly prohibited, and there must be sufficient fastening force between the connecting parts.
- Do not operate the device when the grounding conductor is not installed.
- There must be no joints in the middle of the grounding wire, and it is strictly prohibited to install a switch or fuse on the grounding wire.
- For devices using a three-pin socket, ensure that the ground terminal in the three-pin socket is well grounded.

## 2.4 Cable Requirements

### 2.4.1 Power Cords





**Warning:**

Do not install or remove the power cord when the device is powered on. When the power cord core contacts the conductor, an electric arc or spark will be generated which may result in fire or eye injury.

- 
- Protect the power cord properly to prevent it from being punctured to avoid personal injury or fire caused by a short circuit.
  - To ensure the safety of the device and personnel, be sure to use the matched power cord.

- User-supplied cables must comply with local cable regulations and device cable requirements.
- Before installing or removing the power cord, turn off the device power first.
- Check the electrical plug regularly and wipe off the dirt or dust accumulated on the plug.
- Before connecting the power cord, read the labels or markings on the power cord to make sure it is a matched one.

The device is intended to operate from an AC power source with a voltage range of AC 100–240V~, 50/60Hz. Various standard plugs are shown in the figure below.

US NEMA5/15	Europe CEE 7	China GB 2099	UK BS 1363
			

E Earth N Neutral L Live

## 2.4.2 Signal Cables

- Before using a DVI signal cable, check whether the pins on the cable connector are vertical and even. If not, please replace the cable.
- Before connecting the signal cable to the device, check whether there is any object in the device connector. If yes, remove the object first.
- If the signal cable has not been used for a long time, discharge static electricity before using it.
- Under normal working conditions of the device, it is recommended that non-technical professionals do not perform hot-swapping to avoid device damage.

## 2.4.3 Miscellaneous

- Signal cables must be bound separately from strong current cables or high voltage cables.
- When the temperature is too low, severe shock and vibration may cause brittle cracking of the plastic sheath of the cable. All cables should be laid and installed when the temperature is above zero.
- If the storage temperature of the cable is below zero, the cable must be moved to room temperature and stored for more than 24 hours before laying and installation.
- When carrying cables, especially in a low-temperature environment, always handle the cable with care. Violent handling, such as pushing down the cables directly from a high place, is prohibited.

## 2.5 Electrical Safety

### 2.5.1 Battery

- The battery is not intended to be replaced.
- Always follow the relevant instructions to dispose of batteries.
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery can result in an explosion.
- Leaving a battery in an extremely high temperature surrounding environment can result in an explosion or the leakage of flammable liquid or gas.
- A battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.

### 2.5.2 Electromagnetic Interference

- Keep the device away from transformers, high-voltage power lines and high-current devices.
- Keep the device away from high-power broadcast transmitters.
- If there is a mobile communication transmitter around the device, its interference degree should meet the requirements of relevant standards. If needed, take necessary measures to prevent interference, such as shielding and isolation.
- When using hand-held wireless communication devices, such as interphones, keep at least 30 cm away from the device.

### 2.5.3 Anti-Static

- Always wear anti-static wrist bands and insulating gloves when touching the static-sensitive components.
- Always hold the board by the edges to avoid touching the circuits or components, and do not touch the chip with your hands.
- The disassembled board must be packaged with anti-static packaging material before storage or transportation.

## 2.6 Unpacking and Inspection

### 2.6.1 Unpacking




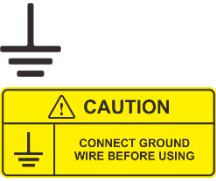


- After receiving the device, check whether the packing box is damaged. If there is any damage, do not open the box and contact the carrier in time to confirm the damage to the device and matters related to compensation.
- After unpacking, save the packing box and materials for possible storage and transportation in the future.

### 2.6.2 Inspection

- When the packing box is in perfect condition, unpack the box. Check the appearance of the device for damage. If there is damage, please contact the salesperson.

- Check the box contents according to the packing list described in the certificate of approval. If any item is missing, please contact the salesperson in time.

## 2.7 Device Labels

Labels	Description
	Shock hazard
	Multiple power inputs The device is powered by multiple power supplies. Disconnect all power cords when the device is powered off.
	Warranty void if removed Do not open the chassis. If this label is damaged, the device will not be covered by the warranty.
	Grounding The two ends of the grounding wire are connected to the device and the grounding point respectively, which means that the device must be grounded through the grounding point to ensure the normal operation of the device and the personal safety of the operators.
	Sensitive electronic device Keep the device away from areas with strong electromagnetic radiation to avoid electromagnetic interference and thus affect the image output quality.
	Device carrying The device needs to be carried by multiple people.

## 2.8 Notes and Cautions

### 2.8.1 Installation Notes

When the product needs to be installed on the rack, 8 screws at least M6\*16 should be used to fix it. The rack for installation shall bear at least four times the total weight of the mounted equipment.

- Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.
- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.



- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

## 2.8.2 FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## 2.8.3 Others

- This is Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.
- This product can only be placed horizontally. Do not mount vertically or upside-down.
- Please read the specifications thoroughly and use the product in accordance with the requirements. If you have any questions about the specifications, please contact us immediately. If you use the product improperly, not following the requirements, or for illegal purposes, you shall be solely responsible for any consequences arising therefrom.
- If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact PIXELHUE to confirm or address the problem. Otherwise, the customer shall be responsible for the legal risks caused or PIXELHUE has the right to claim compensation.

# 3 Overview

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## About This Chapter

This chapter is designed to describe the hardware appearance, features and specifications of the 4K ViewPro.

## Overview

- Introduction
- Features
- Appearance

## 3.1 Introduction

The 4K ViewPro is the real 4K video processor around the globe, which supports 4K×2K@60Hz video input and output.

Designed with a hardware-based FPGA system architecture and high-performance Scaler core, the 4K ViewPro allows input and output scaling and offers you a perfect experience of image processing.

With powerful capabilities like receiving of a variety of video signals and ultra HD 4K×2K@60Hz image processing and output, the 4K ViewPro can be widely used for high-end rental, stage control, fine-pitch LED displays and video conversion applications.

## 3.2 Features

- True 4K60p 4:4:4 10-bit video processing
- Superb motion adaptive de-interlacing (MADi) processing
- High-performance new generation SuperView scaler
- Picture in Picture (2 PIPs)
- Still BKG and LOGO management
- Adjustable layer mask, flipping, cropping
- Up to 16 presets
- Strobe function
- EDID management for all input connectors except SDI
- Support for VESA/CVT and user timings
- Input backup for higher reliability
- Web GUI control
- AOI function
- Input sync with Genlock. Genlock accepts bi-level or tri-level signals
- Flexible output connector rotation (multiples of 90°) for diversified visuals
- Rich test patterns for quick check of display defects
- Interlaced output supported

## 3.3 Appearance



### Note:


All product pictures shown in this document are for illustration purposes only. Actual product may vary.

### 3.3.1 Front Panel



\* The product pictures shown in this guide are for illustration purpose only. Actual product may vary.

No.	Button	Description
1	Power button	<ul style="list-style-type: none"> <li>Press the button to turn on the device.</li> <li>Hold down the button and select <b>Yes</b> to turn off the device.</li> </ul>
2	LED bar	Display the device running status. <ul style="list-style-type: none"> <li>Always on: The device is running normally.</li> <li>Flashing: The device is malfunctioning.</li> </ul>
3	Input source buttons	Display the signal statuses of input sources and switch the input sources. Status LEDs: <ul style="list-style-type: none"> <li>Green: Input source is accessed and in use.</li> <li>Yellow: Input source is accessed but not in use.</li> <li>Off: No input source is accessed or input source is abnormal.</li> <li>Red and flashing: Input source is not accessed but in use.</li> </ul> Press the input source button to switch the input source of main layer. Hold it down for 4s to switch the input source of PIP.
4	TFT screen	Display the current device status, menus and submenus.
5	Knob	<ul style="list-style-type: none"> <li>On the home screen, press the knob to enter the operation menu screen.</li> <li>On the operation menu screen, rotate the knob to select a menu item, and press the knob to confirm the selection or enter the submenu.</li> <li>When a menu item with parameters is selected, you can rotate the knob to adjust the parameters. Please note that after adjustment, you need to press the knob again to confirm the adjustment.</li> </ul>
6	ESC	Exit the current menu or cancel the operation.
7	Function	<ul style="list-style-type: none"> <li>SCALE: Enter the full screen scaling menu.</li> </ul>

	buttons	<p>Press the button to enter the scaling menu, and press it again to exit the menu.</p> <ul style="list-style-type: none"> <li>PIP: Enable/Disable the PIP 1. The 4K ViewPro supports two PIP layers. Press the PIP button to open or close the PIP 1 only.</li> </ul> <p>Status LEDs:</p> <ul style="list-style-type: none"> <li>On: PIP 1 is enabled.</li> <li>Off: PIP 1 is disabled.</li> </ul> <ul style="list-style-type: none"> <li>FN: Custom function button</li> <li>TEST: Enter the test pattern menu.</li> <li>FRZ: Freeze the display.</li> <li>BLACK: Make the display blackout.</li> </ul>
8	USB	<p>For updating the device, importing and exporting the preset, BKG, LOGO files</p> <p> <b>Note:</b> The file system of the USB drive you use must be FAT32.</p>

### 3.3.2 Rear Panel



\* The product pictures shown in this guide are for illustration purpose only. Actual product may vary.

Input		
Connector	Qty	Description
DUAL DVI	2	<ul style="list-style-type: none"> <li>VESA standard compliant</li> <li>Input resolution up to 4K×2K@30Hz and backward compatible</li> <li>HDCP 1.4 compliant</li> </ul>
12G-SDI	2	<ul style="list-style-type: none"> <li>Input resolution up to 4K×2K@60Hz and backward compatible</li> <li>12G-SDI loop output</li> </ul>
DP 1.2	1	<ul style="list-style-type: none"> <li>Input resolution up to 4K×2K@60Hz and backward compatible</li> <li>HDCP 1.3 compliant</li> </ul>
HDMI 2.0	1	<ul style="list-style-type: none"> <li>Input resolution up to 4K×2K@60Hz and backward compatible</li> <li>HDCP 2.2 compliant</li> </ul>
Output		
Connector	Qty	Description

DUAL DVI	1	Output resolution up to 4K×2K@30Hz and backward compatible
12G-SDI	1	Output resolution up to 4K×2K@60Hz and backward compatible
HDMI 2.0	1	<ul style="list-style-type: none"> <li>• Input resolution up to 4K×2K@60Hz and backward compatible</li> <li>• HDCP 2.2 and EDID 1.3 compliant</li> </ul>
DP 1.2	1	Input resolution up to 4K×2K@60Hz and backward compatible
<b>Control</b>		
<b>Connector</b>	<b>Qty</b>	<b>Description</b>
ETHERNET	1	For updating the device or connecting to the control PC for device control
USB (Type-B)	1	For the device update
Genlock IN-LOOP	1	For connecting a synchronization signal to synchronize the linked devices
<b>Power</b>		
<b>Connector</b>	<b>Qty</b>	<b>Description</b>
Power connector	1	100–240V~, 50/60Hz, 2.1A
Power switch	1	<ul style="list-style-type: none"> <li>• Press <b>ON</b> to power on the device.</li> <li>• Press <b>OFF</b> to power off the device.</li> </ul>

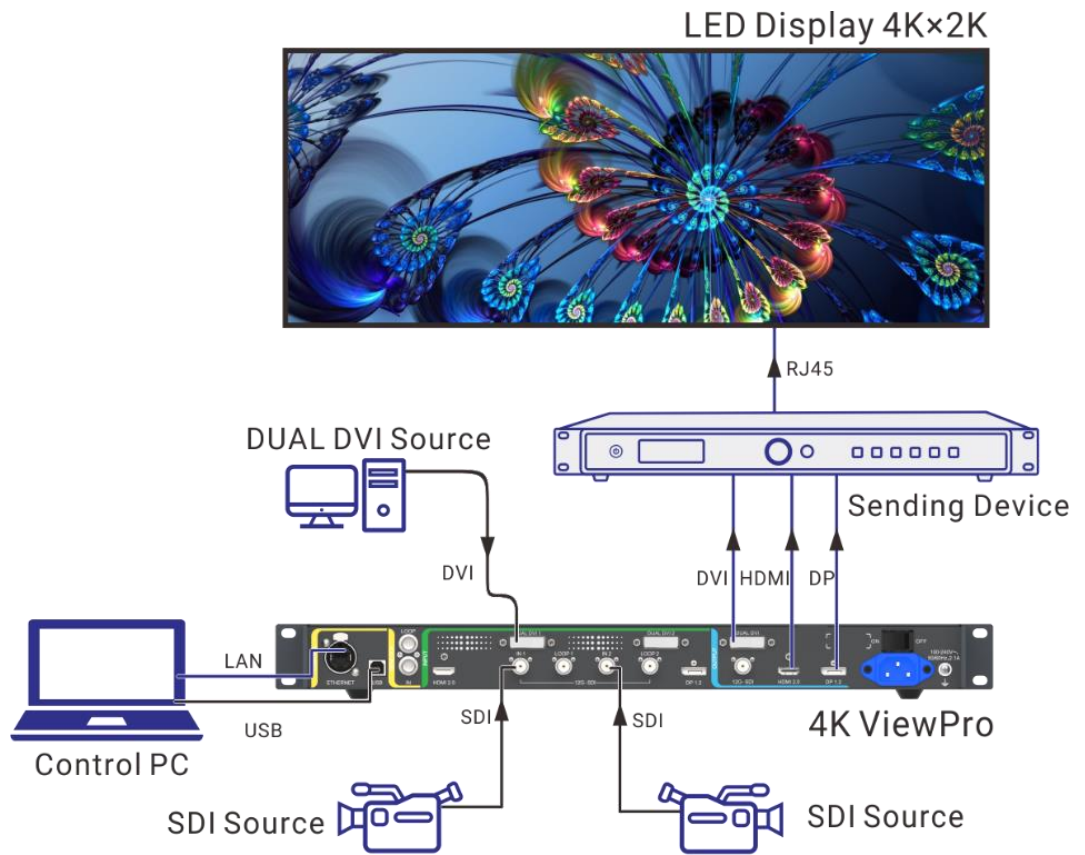
# 4 Applications

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## About This Chapter

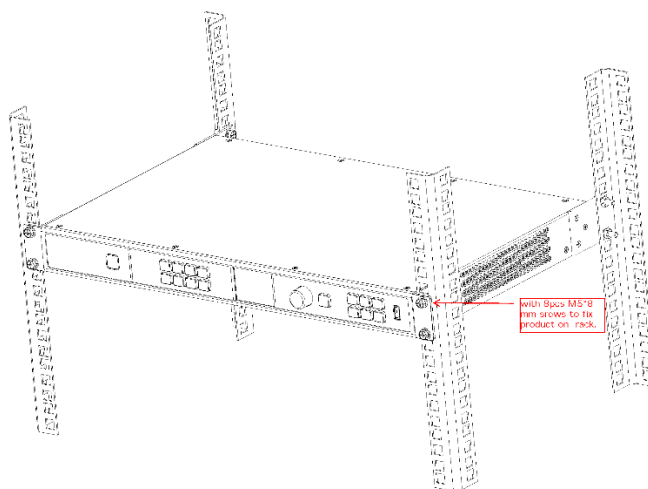
This chapter describes the connections of a typical application scenario of the 4K ViewPro and the installation instructions.

# 4.1 Applications



## Installation Instructions

When the product needs to be installed on the rack, 8 screws at least M5\*8 should be used to fix it. The rack for installation shall bear at least 20 kg weight.





# 5 Menu Operations

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## About This Chapter

This chapter is designed to describe the front panel menus and menu operations of the 4K ViewPro.

## Overview

- Operation Instructions
- Home Screen
- Input Settings
- Output Settings
- Layer Settings
- Preset Settings
- Display Control
- General Settings
- Communication Settings
- Language

## 5.1 Operation Instructions

### Knob

- On the home screen, press the knob to enter the main menu screen.
- On the main menu screen, rotate the knob to select a menu item, and press the knob to confirm the selection or enter the submenu.
- When a menu item with parameters is selected, rotate the knob to adjust the parameters. Please note that after adjustment, please press the knob again to confirm the adjustment.

### ESC

Press the button to exit the current menu or cancel the operation.

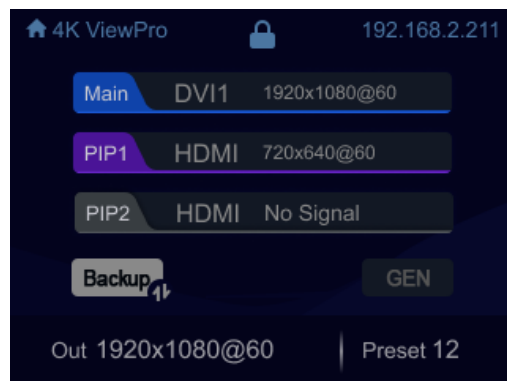
### Lock/Unlock

Hold down the knob and **ESC** button for 3s or longer to lock or unlock the buttons.






## 5.2 Home Screen

When the device starts up successfully, the front panel screen displays the home screen.

Figure 5-1 Home screen



Icon	Description
4K ViewPro	Device name
	Front panel lock status
192.168.2.211	Device IP address
Main	Main layer status, input source and input resolution of main layer

	<ul style="list-style-type: none"> <li>Highlighted: Main layer is enabled.</li> <li>Gray: Main layer is not enabled</li> </ul>
PIP 1 and PIP 2	PIP status, input source and input resolution of the PIP layer <ul style="list-style-type: none"> <li>Highlighted: PIP is enabled.</li> <li>Gray: PIP is not enabled</li> </ul>
Backup	Status of input source hot backup <ul style="list-style-type: none"> <li>: Input source hot backup is not enabled.</li> <li>: Input source hot backup is enabled.</li> </ul>
Web	Device control status If the device is controlled via Web control page, a web icon is displayed here.
GEN	Synchronization status <ul style="list-style-type: none"> <li>: Genlock is not enabled.</li> <li>: Genlock is enabled.</li> <li>: Genlock is abnormal.</li> </ul>
Out	Current output resolution
Preset 12	Current preset

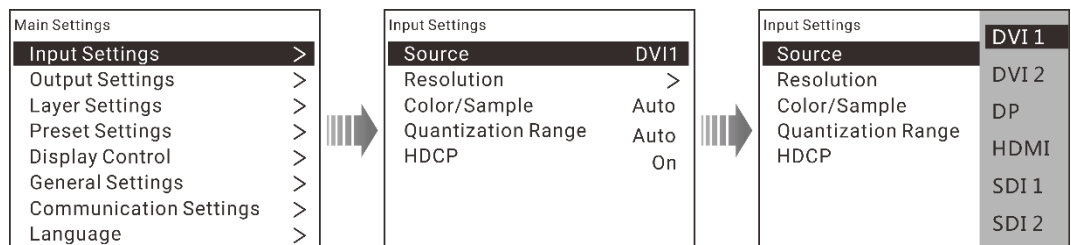
### 5.3 Input Settings

Press the knob to enter the main menu screen. Rotate the knob to select **Input Settings** and press the knob to enter the input settings screen.

#### 5.3.1 Input Source

On the **Input Settings** screen, **Source** is selected by default. Press the knob to show the available input source list. Rotate the knob to select an input source and press the knob to confirm the selection.

Figure 5-2 Input source



#### 5.3.2 Input Resolution

The 4K ViewPro supports input resolution settings. Standard resolution and custom resolution are both supported.

On the **Input Settings** screen, rotate the knob to select **Resolution** and press the knob to enter the input resolution settings screen.

**Note:**

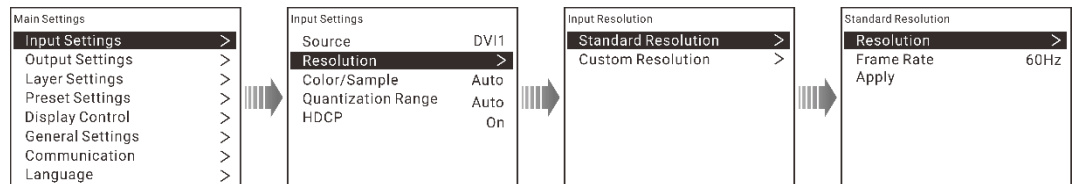
When the input source is SDI, setting the input resolution is not supported.

### Standard Resolution

**Standard Resolution** is selected by default. Rotate the knob to select the desired resolution and frame rate.

After you have set the resolution and frame rate, rotate the knob to select **Apply** and press the knob to make the settings take effect.

Figure 5-3 Standard resolution settings



**Note:**

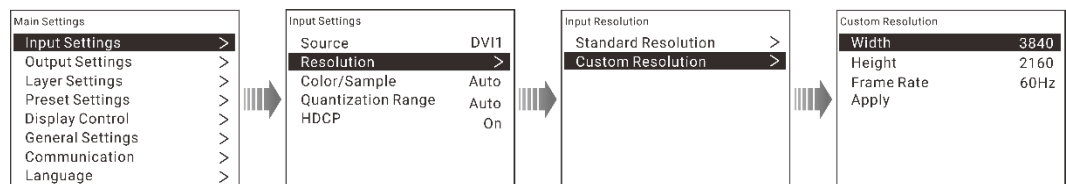
For different sources, the supported standard resolutions may vary.

### Custom Resolution

Rotate the knob to select **Custom Resolution** and press the knob to enter the custom resolution settings screen. Rotate the knob to select the desired width, height and frame rate.

After you have set the width, height and frame rate, rotate the knob to select **Apply** and press the knob to make the settings take effect.

Figure 5-4 Custom resolution settings



### 5.3.3 Color/Sample

This device supports detecting and overriding the color space and sampling rate of the input source. Overriding function are supported for input connectors such as DP, HDMI, and DVI.

Color space and sampling rate refer to the representation of colors and the method of sampling the color information in video signals.

---

The supported options include:

- Auto
- RGB 4:4:4
- YCbCr 4:4:4
- YCbCr 4:2:2
- YCbCr 4:2:0

---

 **Note:**

- When there is no input source accessed, **No Signal** is displayed.
- The SDI connector does not support the overriding function. The actual value read from the source is displayed (YCbCr 4:2:2).

---

### 5.3.4 Quantization Range

This device supports detecting and overriding the quantization range of the input source.

The supported options include:

- Auto
- Full
- Limited

---

 **Note:**

When there is no input source accessed, **No Signal** is displayed.

---

### 5.3.5 HDCP

You can set whether to encrypt the input source.

The supported options include:

- Off
- On

---

 **Note:**

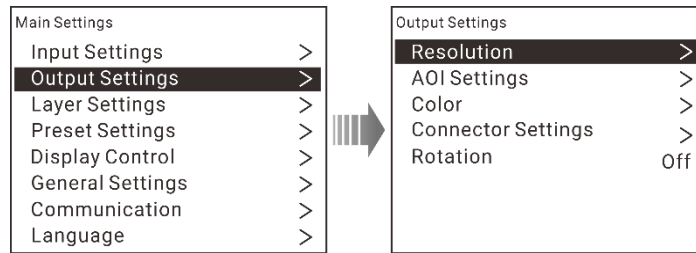
The SDI connector does not support the HDCP function.

---

## 5.4 Output Settings

On the **Main Settings** screen, rotate the knob to select **Output Settings** and press the knob to enter the output settings screen.

Figure 5-5 Output settings



### 5.4.1 Output Resolution

The 4K ViewPro supports output resolution settings. Standard resolution and custom resolution are both supported.

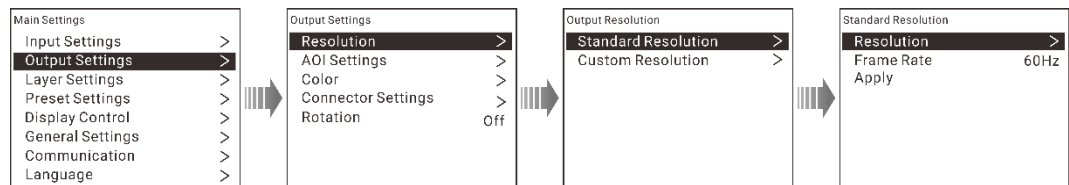
On the **Output Settings** screen, rotate the knob to select **Resolution** and press the knob to enter the output resolution settings screen.

#### Standard Resolution

**Standard Resolution** is selected by default. Rotate the knob to select the desired resolution and frame rate.

After you have set the resolution and frame rate, rotate the knob to select **Apply** and press the knob to make the settings take effect.

Figure 5-6 Standard resolution settings

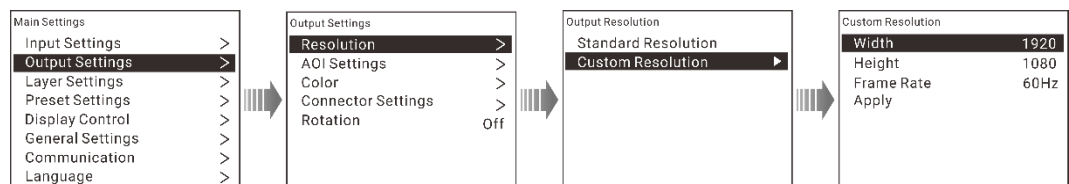


#### Custom Resolution

Rotate the knob to select **Custom Resolution** and press the knob to enter the custom resolution settings screen. Rotate the knob to select the desired width, height and frame rate.

After you have set the width, height and frame rate, rotate the knob to select **Apply** and press the knob to make the settings take effect.

Figure 5-7 Custom resolution settings



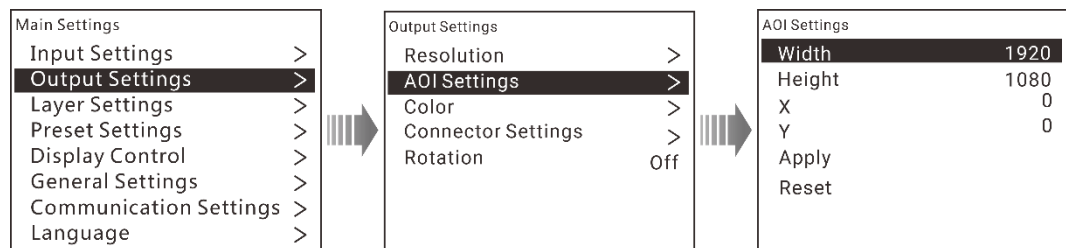
### 5.4.2 AOI Settings

AOI is an acronym for Area of Interest. AOI settings enable you to view a specific output area you are interested in.

On the **Output Settings** screen, rotate the knob to select **AOI Settings** and press the knob to enter the **AOI Settings** screen.

Adjust the width, height, x and y values to precisely size and position the box that indicates the AOI area. Select **Apply** and press the knob to make the settings take effect. Select **Reset** and press the knob to abandon the changes.

Figure 5-8 AOI settings



### 5.4.3 Output Color

Output color allows you use adjust the output image quality by adjusting the output color parameters such as brightness, contrast, saturation, hue and gamma.

On the **Output Settings** screen, rotate the knob to select **Color** and press the knob to enter the **Output Color** screen.

When a parameter is selected, the parameter value color turns blue and becomes editable after you press the knob. Rotate the knob to adjust the parameter value and rotate the knob to confirm the change. For detailed parameter settings, please refer to [Table 5-1](#).

Figure 5-9 Output color settings

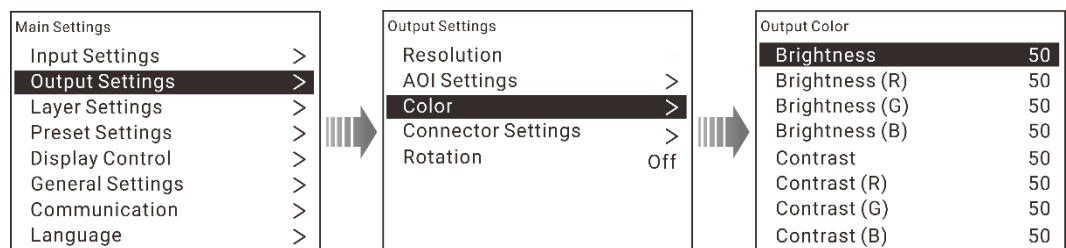


Table 5-1 Output color parameter settings

Name	Value Range	Default Value	Description
Brightness	0 to 100	50	Adjust the overall output image brightness. The larger the value, the brighter the output image. R/G/B: Adjust the brightness levels of the red, green, and blue channels separately.

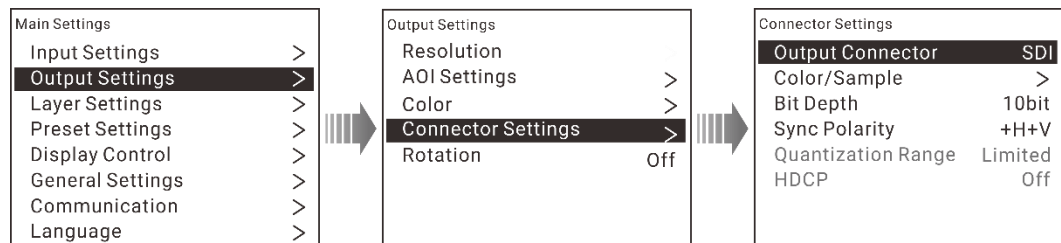
Contrast	0 to 100	50	Adjust the overall difference between the darkest and brightest areas of the output image. The larger the value, the bigger this difference. R/G/B: Adjust the contrast levels of the red, green, and blue channels separately.
Saturation	0 to 100	50	Adjust the purity or vividness grade of the image color. The larger the value, the purer the color.
Hue	-180 to +180	0	Adjust the gradation or variety of the image color. The larger the value, the more intense the color.
Gamma	0.25 to 4.00	1.00	Adjust the degree of distortion of the image color. The larger the value, the more distorted the color.
Reset			Reset the settings to defaults.

## 5.4.4 Connector Settings

Set the output connector, color space/sampling rate, bit depth, sync polarity, quantization range and HDCP functions.

On the **Output Settings** screen, rotate the knob to select **Connector Settings** and press the knob to enter the **Connector Settings** screen.

Figure 5-10 Output connector settings



Rotate the knob to select the desired parameter and press the knob to confirm the selection.

- **Output Connector**  
Select the target output connector.
- **Color/Sample**  
Select the color space and sampling rate of the selected output connector.
- **Bit Depth**  
8 bit, 10 bit and 12 bit are supported.
- **Sync Polarity**  
Select the sync polarity of the selected output connector. +H+V, +H-V, -H+V, -H-V are supported.
- **Quantization Range**



Select the quantization range of the selected output connector. Limited and full are supported.

- HDCP

Set whether to encrypt the output content and select the HDCP version.

#### Note:

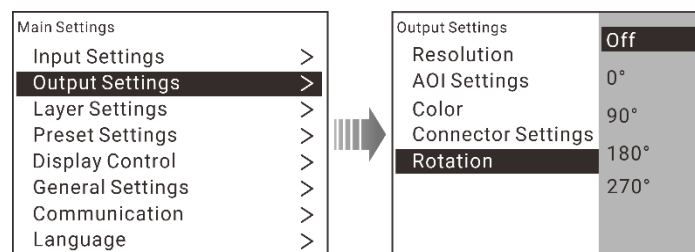
The SDI and DVI output connectors do not support the quantization range and HDCP settings.

## 5.4.5 Rotation

When the rotation function is enabled, the output image will be rotated according to the selected angle to cater for your diversified display requirements.

The rotation options include **Off**, **0°**, **90°**, **180°** and **270°**.

Figure 5-11 Output rotation

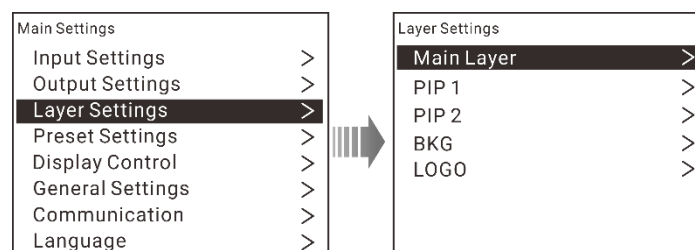


## 5.5 Layer Settings

The 4K ViewPro supports abundant layer settings, including the main layer, PIP, BKG and LOGO.

On the **Main Settings** screen, rotate the knob to select **Layer Settings** and press the knob to enter the **Layer Settings** screen.

Figure 5-12 Layer settings



### 5.5.1 Main Layer

On the **Layer Settings** screen, select **Main Layer** and press the knob to enter the main layer settings screen.

## Status

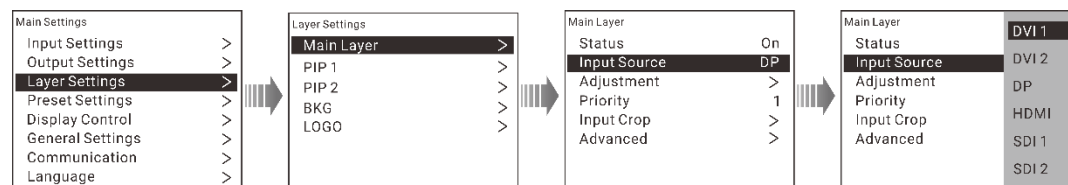
Turn on or turn off the main layer function.

- On: Open the main layer.
- Off: Close the main layer.

## Input Source

Rotate the knob to select the input source for the main layer.

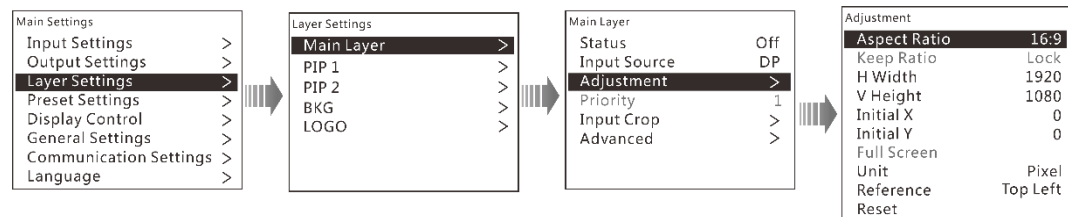
Figure 5-13 Select input source for main layer



## Adjustment

On the **Main Layer** screen, rotate the knob to select **Adjustment** and press the knob to enter the main layer adjustment screen.

Figure 5-14 Main layer adjustment



- Aspect Ratio: Set the proportional relationship between the layer width and height.
- Keep Ratio: Lock or unlock the aspect ratio.
  - Lock: The aspect ratio is a fixed ratio. Set the vertical height and horizontal width based on the selected aspect ratio.  
For example, the aspect ratio is set to 2:1 and you lock the ratio, then you can set the vertical height and you cannot set the horizontal width which will be automatically adjusted based on the set ratio.
  - Unlock: Customize the aspect ratio and the vertical height and horizontal width can be adjusted freely.
- H Width: Adjust the layer width.
- V Height: Adjust the layer height.
- Initial X: Adjust the horizontal initial coordinate of the layer.
- Initial Y: Adjust the vertical initial coordinate of the layer.
- Full Screen: Display the layer in full screen.

- Unit: Select the adjustment unit. Pixel and percentage are supported.
- Reference: Select the adjustment reference point.
  - Top Left: Set the screen top left as the reference point.
  - Center: Set the screen center as the reference point.
- Reset: Reset the settings to defaults.

 **Note:**

- When you select to customize an aspect ratio, the **Keep Ratio** item is available.
- When you select to customize an aspect ratio and select **Unlock** for the **Keep Ration** item, the **Full Screen** item is available.

### Priority

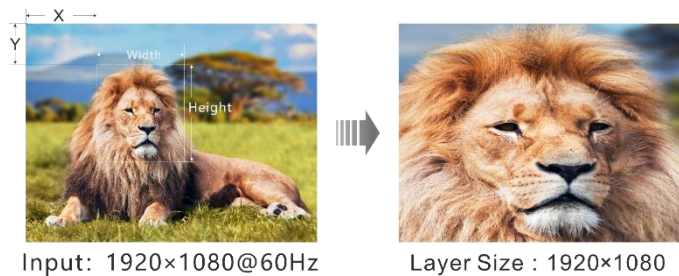
Set the layer display order.

On the **Main Layer** screen, rotate the knob to select **Priority** and press the knob to show the priority screen. The options include **1, 2** and **3**.

### Input Crop

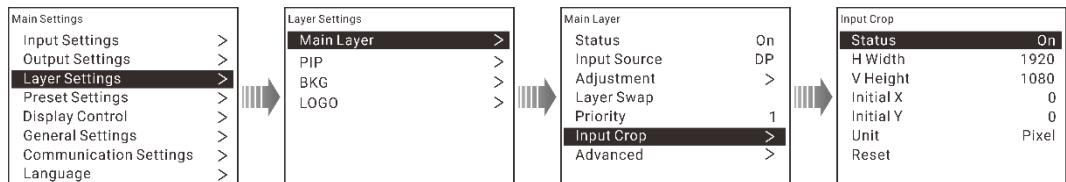
Crop the input source image and display it in full screen.

Figure 5-15 Input crop



Step 1 On the **Main Layer** screen, rotate the knob to select **Input Crop** and press the knob to enter the input crop screen.

Figure 5-16 Input crop



Step 2 On the crop screen, **Status** is selected by default. Rotate the knob to select **On** to turn on the input crop function.

Step 3 Rotate the knob to set the crop-related parameters.

- H Width: Set the horizontal width of the cropped source.

- V Height: Set the vertical height of the cropped source.
- Initial X: Set the horizontal initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left.
- Initial Y: Set the vertical initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left.
- Unit: Set the adjustment unit. Pixel and percentage are supported.
- Reset: Reset the settings to defaults.

## Advanced

Set the layer mask, opacity, flipping and color.

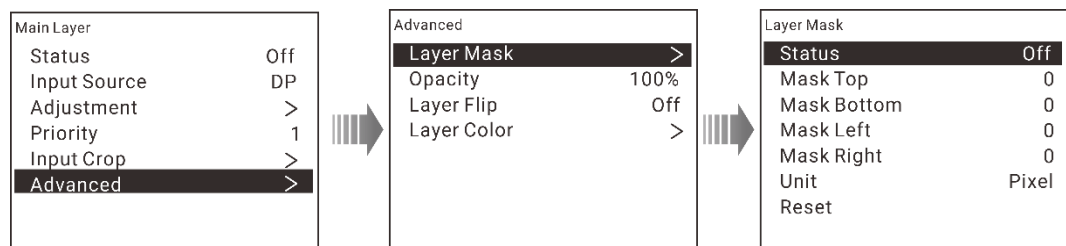
- Layer Mask  
Mask certain part of the layer image.

Figure 5-17 Mask



- On the **Advanced** screen, select **Layer Mask** and press the knob to enter the layer mask settings screen.

Figure 5-18 Layer mask



- Turn on the layer mask function by setting **Status** to **On**.
- Set the mask-related parameters.
  - Mask Top: Set the area to be masked on the top.
  - Mask Bottom: Set the area to be masked on the bottom.
  - Mask Left: Set the area to be masked on the left.
  - Mask Right: Set the area to be masked on the right.
  - Unit: Set the unit. Pixel and percentage are supported.
  - Reset: Reset the settings to defaults.

- Opacity

Set the opacity of the layer. The range is 0% (transparent)–100% (nontransparent). The default value is **100%**.

- Layer Flip

Set the layer image flipping mode. The options are Off, H, V and H+V.

- Off: No flipping
- H: The layer is flipped horizontally.
- V: The layer is flipped vertically.
- H+V: The layer is flipped both horizontally and vertically.

- Layer Color

On the **Advanced** screen, rotate the knob to select **Layer Color** and press the knob to enter the layer color settings screen.

Adjust the color-related parameters, including brightness, contrast, saturation, hue, gamma, monochrome and invert colors.

Table 5-2 Layer color

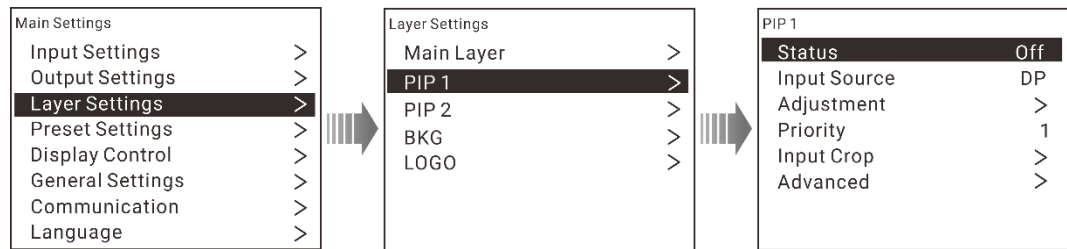
Name	Value Range	Default Value	Description
Brightness	0 to 100	50	Adjust the layer brightness. The larger the value, the brighter the layer. R/G/B: Adjust the brightness levels of the red, green, and blue channels separately.
Contrast	0 to 100	50	Adjust the difference between the darkest and brightest areas of the layer. The larger the value, the bigger this difference. R/G/B: Adjust the contrast levels of the red, green, and blue channels separately.
Saturation	0 to 100	50	Adjust the purity or vividness grade of the layer. The larger the value, the purer the color.
Hue	-180 to +180	0	Adjust the gradation or variety of the layer. The larger the value, the more intense the color.
Gamma	0.25 to 4	1	Adjust the degree of distortion of the layer image color. The larger the value, the more distorted the color.
Monochrome	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Off	<ul style="list-style-type: none"> <li>• On: Turn on the monochrome function for the layer.</li> <li>• Off: Turn off the function.</li> </ul>
Invert Colors	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Off	<ul style="list-style-type: none"> <li>• On: Turn on the invert colors function for the layer.</li> <li>• Off: Turn off the function.</li> </ul>

Reset	Reset the settings to defaults.
-------	---------------------------------

### 5.5.2 PIP 1/PIP 2

On the **Layer Settings** screen, rotate the knob to select **PIP 1** or **PIP 2** and press the knob to enter the PIP settings screen.

Figure 5-19 PIP layer settings



**Note:**

The PIP 1 and PIP 2 layers have the same settings and parameters. Here, we will use PIP 1 as an example to explain.

#### Status

On the PIP screen, select **Status** to turn on or turn off the PIP 1 layer.

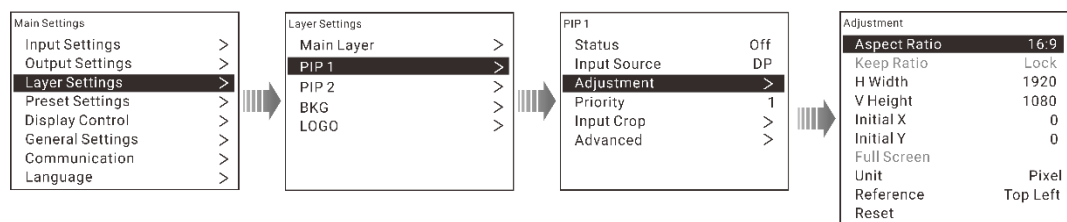
#### Input Source

Rotate the knob to select the input source for the PIP 1 layer.

#### Adjustment

On the **PIP 1** screen, rotate the knob to select **Adjustment** and press the knob to enter the PIP adjustment screen.

Figure 5-20 PIP 1 layer adjustment



- Aspect Ratio: Set the proportional relationship between the layer width and height.
- Keep Ratio: Lock or unlock the aspect ratio.
  - Lock: The aspect ratio is a fixed ratio. Set the vertical height and horizontal width based on the selected ratio.

For example, the aspect ratio is set to 2:1 and you lock the ratio, then you can set the vertical height and you cannot set the horizontal width which will be automatically adjusted based on the set ratio.

- - Unlock: Customize the aspect ratio and the vertical height and horizontal width can be adjusted freely.
- H Width: Adjust the layer width.
- V Height: Adjust the layer height.
- Initial X: Adjust the horizontal initial coordinate of the layer.
- Initial Y: Adjust the vertical initial coordinate of the layer.
- Full Screen: Set the layer to display in full screen.
- Unit: Set the adjustment unit. Pixel and percentage are supported.
- Reference: Set the adjustment reference.
  - Top Left: Set the screen top left as the reference point.
  - Center: Set the screen center as the reference point.
- Reset: Reset the settings to defaults.

#### Note:

- When you select to customize an aspect ratio, the **Keep Ratio** item is available.
- When you select to customize an aspect ratio and select **Unlock** for the **Keep Ratio** item, the **Full Screen** item is available.

## Priority

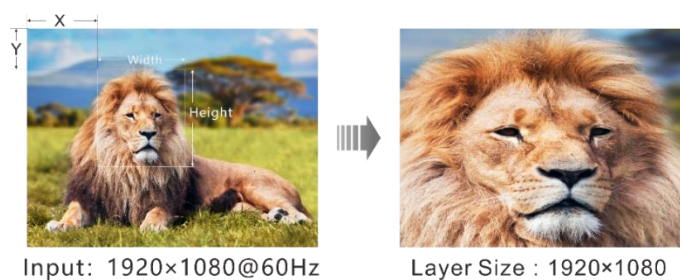
Set the layer display order.

On the **PIP 1** screen, rotate the knob to select **Priority** and press the knob to show the priority screen. The options include **1**, **2** and **3**.

## Input Crop

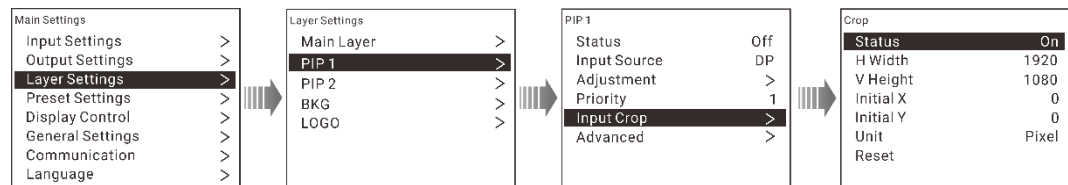
Crop the input source image and make it fill the layer.

Figure 5-21 Input crop



- Step 1 On the **PIP 1** screen, rotate the knob to select **Input Crop** and press the knob to enter the input crop screen.

Figure 5-22 Input crop



**Step 2** On the **Crop** screen, **Status** is selected by default. Rotate the knob to select **On** to turn on the input crop function.

**Step 3** Rotate the knob to set the crop-related parameters.

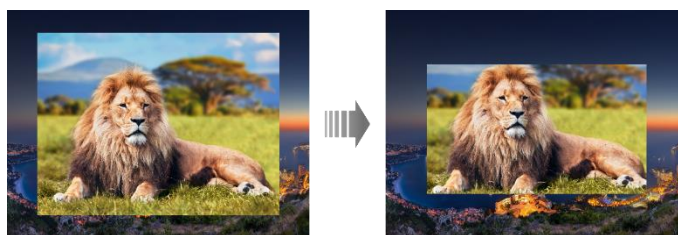
- **H Width:** Set the horizontal width of the cropped source.
- **V Height:** Set the vertical height of the cropped source.
- **Initial X:** Set the horizontal initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left corner.
- **Initial Y:** Set the vertical initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left corner.
- **Unit:** Set the adjustment unit. Pixel and percentage are supported.
- **Reset:** Reset the settings to defaults.

## Advanced

Set the layer layout mask, opacity, flipping and color.

- **Layer Mask**  
Mask certain part of the layer.

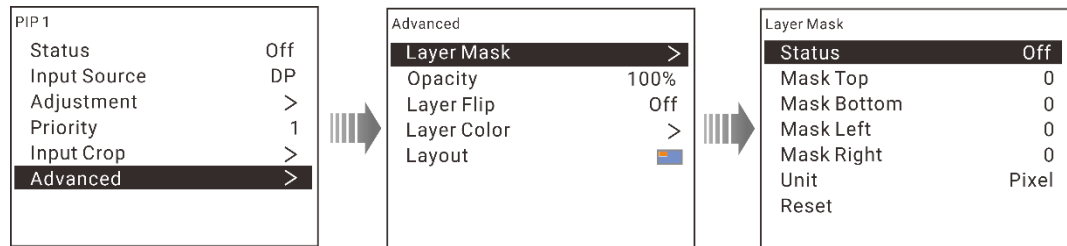
Figure 5-23 Mask



1. On the **PIP** screen, go to **Advanced > Layer Mask** and press the knob to enter the layer mask settings screen.



Figure 5-24 PIP mask



2. Turn on the layer mask function by setting **Status** to **On**.
3. Set the mask-related parameters.
  - Mask Top: Set the area to be masked on the top.
  - Mask Bottom: Set the area to be masked on the bottom.
  - Mask Left: Set the area to be masked on the left.
  - Mask Right: Set the area to be masked on the right.
  - Unit: Set the unit. Pixel and percentage are supported.
  - Reset: Reset the settings to defaults.

- Opacity

Set the opacity of the layer. The range is 0% (transparent)–100% (nontransparent). The default value is 100%.

- Layer Flip

Set the image flipping mode. The options are Off, H, V and H+V.

- Off: No flipping
- H: The layer is flipped horizontally.
- V: The layer is flipped vertically.
- H+V: The layer is flipped both horizontally and vertically.

- Layer Color

Rotate the knob to select **Layer Color** and press the knob to enter the layer color settings screen.

Figure 5-25 Layer color

Name	Value Range	Default Value	Description
Brightness	0 to 100	50	Adjust the layer brightness. The larger the value, the brighter the layer. R/G/B: Adjust the brightness levels of the red, green, and blue channels separately.
Contrast	0 to 100	50	Adjust the difference between the darkest and brightest areas of the layer. The larger the value, the bigger this difference. R/G/B: Adjust the contrast levels of the red, green, and blue channels separately.

Saturation	0 to 100	50	Adjust the purity or vividness grade of the layer. The larger the value, the purer the color.
Hue	-180 to +180	0	Adjust the gradation or variety of the layer. The larger the value, the more intense the color.
Gamma	0.25 to 4	1	Adjust the degree of distortion of the layer image color. The larger the value, the more distorted the color.
Monochrome	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Off	<ul style="list-style-type: none"> <li>• On: Turn on the monochrome function for the layer.</li> <li>• Off: Turn off the function.</li> </ul>
Invert Colors	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Off	<ul style="list-style-type: none"> <li>• On: Turn on the invert colors function for the layer.</li> <li>• Off: Turn off the function.</li> </ul>
Reset			Reset the settings to defaults.

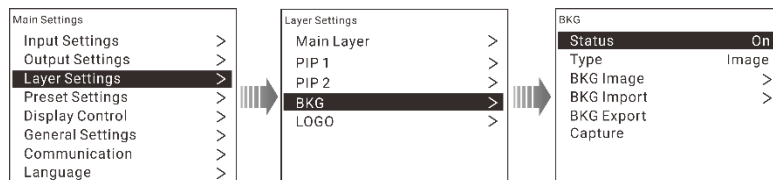
- Layout

Select the layout arrangement of PIP layer and main layer. In all 9 layout options are supported.

### 5.5.3 BKG

On the **Layer Settings** screen, rotate the knob to select **BKG** and press the knob to enter the BKG settings screen.

Figure 5-26 BKG settings



Step 1 Turn on the BKG function by setting **Status** to **On**.

Step 2 Set the BKG type. The options are **Pure Color** or **Image**.

- Pure Color: Set the individual R, G and B values to set a pure color BKG.
- Image: Select a local image as the BKG image.

Step 3 (Optional) Select **BKG Import** to import BKG images from USB drive.

Step 4 (Optional) Select **BKG Export** to export BKG images to a USB drive.

You can also capture the output image as a BKG.

Step 1 On the **BKG** screen, rotate the knob to select **Capture**. A message prompts to inform you to select the target save location for the captured image.

Step 2 Select the target location.

The BKG location list provides the following status: **Blank**, **Saved** and **In use**.

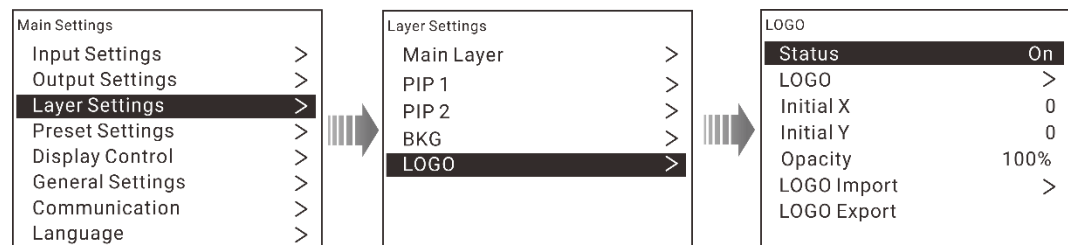
 **Note:**

- The 4K ViewPro supports up to 14 BKG images. The BKG image size must be no greater than 4096×2160.
- BKG import and export functions are available when a USB drive is connected to the 4K ViewPro.

## 5.5.4 LOGO

On the **Layer Settings** screen, rotate the knob to select **LOGO** and press the knob to enter the LOGO settings screen.

Figure 5-27 LOGO settings



- Step 1 Turn on the LOGO function.
- Step 2 Select the desired LOGO image.
- Step 3 Select **Initial X** to set the horizontal initial coordinate of LOGO image.
- Step 4 Select **Initial Y** to set the vertical initial coordinate of LOGO image.
- Step 5 Select **Opacity** to set the opacity of LOGO image. The range is 0% (transparent)–100% (nontransparent).
- Step 6 (Optional) Select **LOGO Import** to import BKG images from USB drive.
- Step 7 (Optional) Select **LOGO Export** to export BKG images to USB drive.

 **Note:**

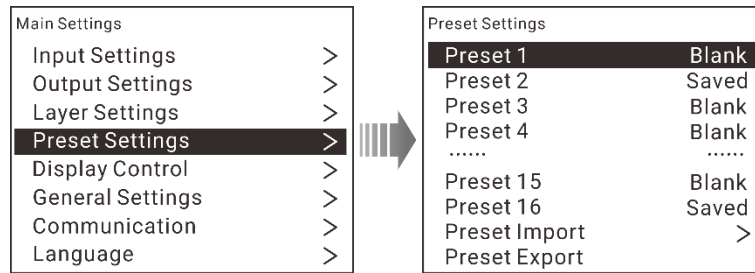
- The 4K ViewPro supports up to 16 LOGO images.
- LOGO import and export functions are available when a USB drive is connected to the 4K ViewPro.

## 5.6 Preset Settings

The 4K ViewPro supports up to 16 user presets. You can save, load and clear the configured presets.

On the **Main Settings** screen, rotate the knob to select **Preset Settings** and press the knob to enter the preset settings screen.

Figure 5-28 Preset settings

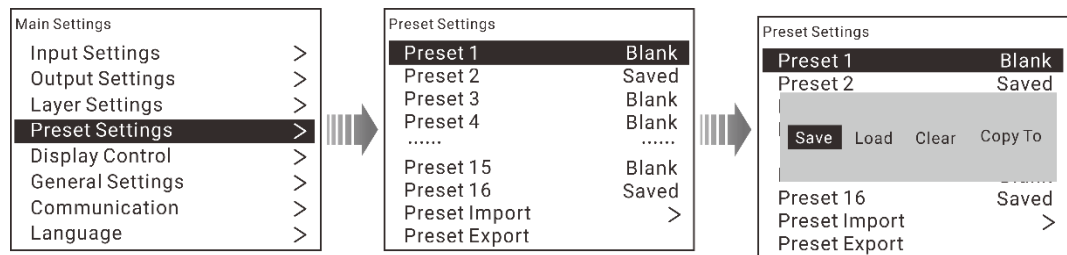


### 5.6.1 Save Presets

After you have completed the layer settings, you can save all the settings as a preset.

- Step 1 On the **Preset Settings** screen, select a blank preset and press the knob to open the preset operations window.
- Step 2 In the pop-up window, rotate the knob to select **Save** and press the knob to save the settings to the selected preset.

Figure 5-29 Save presets



### 5.6.2 Load Presets

- Step 1 Rotate the knob to select a saved preset and press the knob to open the preset operations window.
- Step 2 Rotate the knob to select **Load** to load the selected preset.

### 5.6.3 Clear Presets

Clear all the contents in the selected preset.

- Step 1 Rotate the knob to select a saved preset and press the knob to open the preset operations window.
- Step 2 Rotate the knob to select **Clear** to delete the content in the selected preset.

### 5.6.4 Copy Presets

The 4K ViewPro supports preset copying function. You can copy a saved preset data to another preset.

- Step 1 Rotate the knob to select a saved preset and press the knob to open the preset operations window.
- Step 2 Rotate the knob to select **Copy to** to copy the selected preset data to another preset.

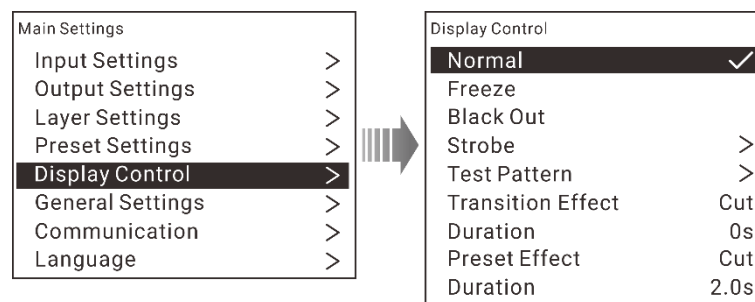
## 5.6.5 Import and Export Presets

The 4K ViewPro allows for importing preset files from a USB drive or exporting preset files to a USB drive.

## 5.7 Display Control

On the **Main Settings** screen, rotate the knob to select **Display Control** and press the knob to enter the display control setting screen.

Figure 5-30 Display control



### Note:

- The display modes (**Normal**, **Freeze** and **Black Out**) are mutually excluded between each other. When you select one, the other one is deselected.
- When **Freeze** or **Black Out** is selected, the test pattern function is unavailable.

- **Normal**  
Display the output image normally.
- **Freeze**  
Freeze the current frame of the output image.
- **Black Out**  
Make the output go black.
- **Strobe**
  - Status: Turn on or turn off the strobe function.
  - Rate (Frames): Adjust the strobe rate interval (in frames) to set the duration that the source is frozen until the next grab.
- **Transition Effect**  
Set the transition effect when switching the input sources. Up to 2 transition effects are supported.
- **Duration**  
Set the duration of the transition effect. The range is 0.5s–2s and defaults to 0s.

- Preset Effect

Set the transition effect when switching the presets. Up to 2 transition effects are supported.

- Duration

Set the duration of the preset effect. The range is 0.5s–2s and defaults to 2.0s.

 **Note:**

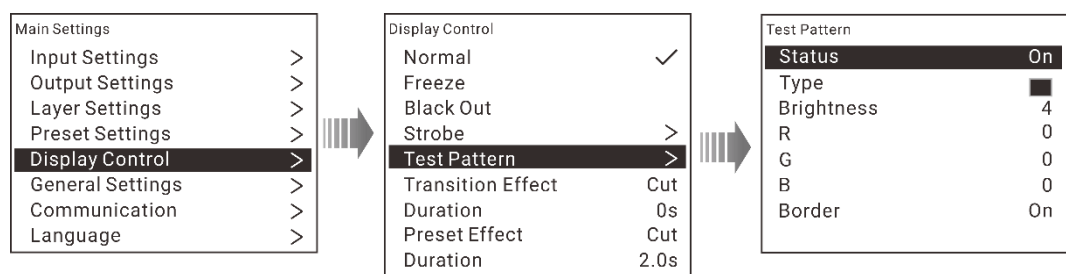
The input source transition effect and duration settings, as well as the preset transition effect and duration settings, can only be configured when the main layer is enabled exclusively. In other words, these settings are only accessible when there is only the main layer enabled.

## Test Pattern

Test patterns are used to assess and calibrate the display performance. Test patterns are designed to provide specific visual elements and characteristics that help technicians or users evaluate various aspects of the display quality.

On the **Display Control** screen, rotate the knob to select **Test Pattern** and press the knob to enter the test pattern settings screen.

Figure 5-31 Test pattern



- Status

Turn on or turn off the test pattern function.

- Type

Abundant test patterns are provided for you, such as pure colors, lines and gradients.

- Brightness

Set the brightness of the selected test pattern. The value range is 1–4.

- R/G/B

Individually adjust the red, green and blue channel values to specify a color.

- Background

Set the background color of the selected test pattern. The color options include **Red, Blue, Green, White, Black** and **50% Gray**.

- Line Width

Set the line thickness of the selected test pattern. The value range is 1–16.

- Spacing

Set the spacing of the selected test pattern.

- Speed

Set the moving speed of the selected test pattern. The value range is 0–4.

- Border

Enable or disable the borders of the test pattern.

 **Note:**

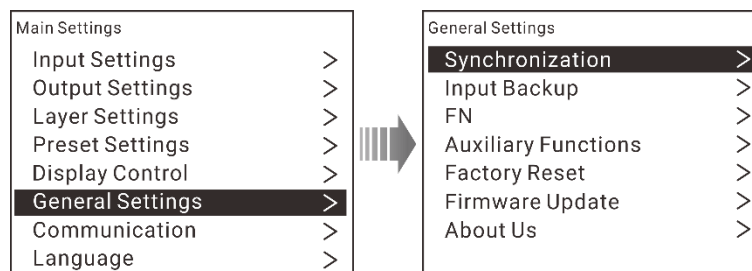
- No matter whether the test pattern function is enabled or not, the border function can be enabled.
- For different test patterns you select, the menu options and value ranges may vary. If more information is required or you are still unclear about anything, please contact our technical support staff and they are ready to help you.

## 5.8 General Settings

On the **Main Settings** screen, rotate the knob to select **General Settings** and press the knob to enter the general settings screen.

You can configure the synchronization, input source hot backup, FN button function, auxiliary functions, factory reset, as well as update firmware version and view device or company related information.

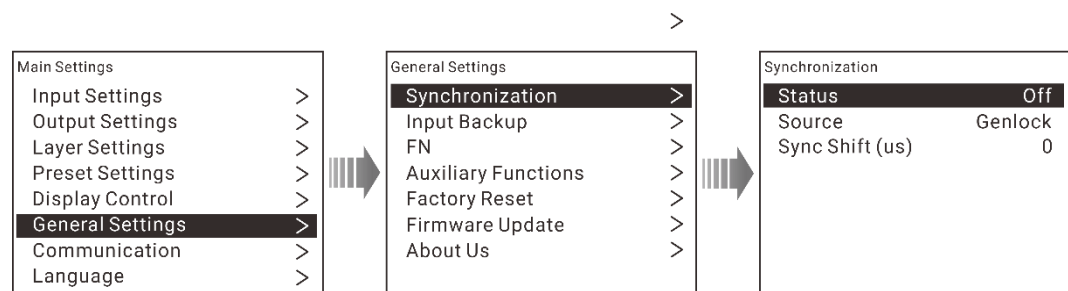
Figure 5-32 General settings



### 5.8.1 Synchronization

- Status: Turn on or turn off the synchronization function.
- Source: Select the desired source as the sync source. Genlock signal is selected by default.
- Sync Shift: Adjust the synchronization timing between the video signals to ensure a seamless viewing experience. The unit is us.

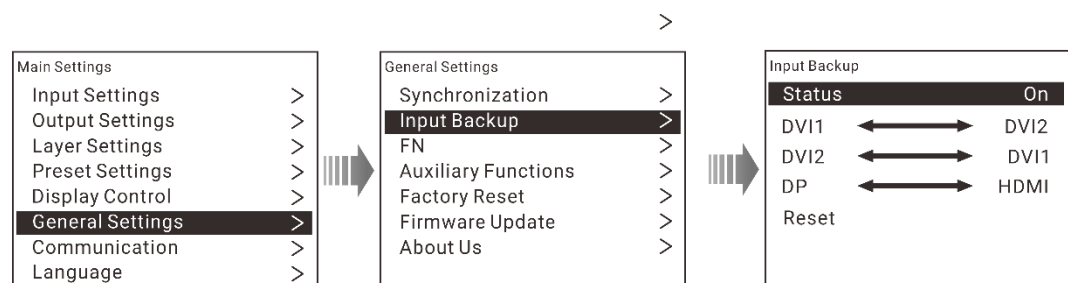
Figure 5-33 Synchronization



## 5.8.2 Input Backup

If you turn on the input backup function, when the input source is abnormal or the connector fails, the LED screen can still work normally.

Figure 5-34 Input backup



- For each backup pair, the left one is the primary input source, and the right one is the backup input source.
- When the input backup function is turned on, if the primary input source has no signal but the backup input source has signal, the backup one will be used. Even if the primary input source has signal again, the backup one will still be used.

If the backup input source has no signal but the primary input source has signal, the primary input source will be used.

- If you switch the input source yourself, the input backup function will not be enabled. Even if the input source you switched to has no signal, the backup one will not be used.
- If the primary input source has no signal because of switching preset, the input backup function will not be enabled.

## 5.8.3 FN

The **FN** button on the device front panel can be customized to a **Synchronization, Main Layer, PIP 2, Preset Settings, Input Backup** shortcut button. You can press the **FN** button to enter the corresponding menu screen.



## 5.8.4 Auxiliary Functions

### 5.8.4.1 Return to Home

Set the period of time during which the system stays at the current page before automatically returning to the homepage when there is no operation performed.

- Range: 30s–3600s
- Default value: 60s

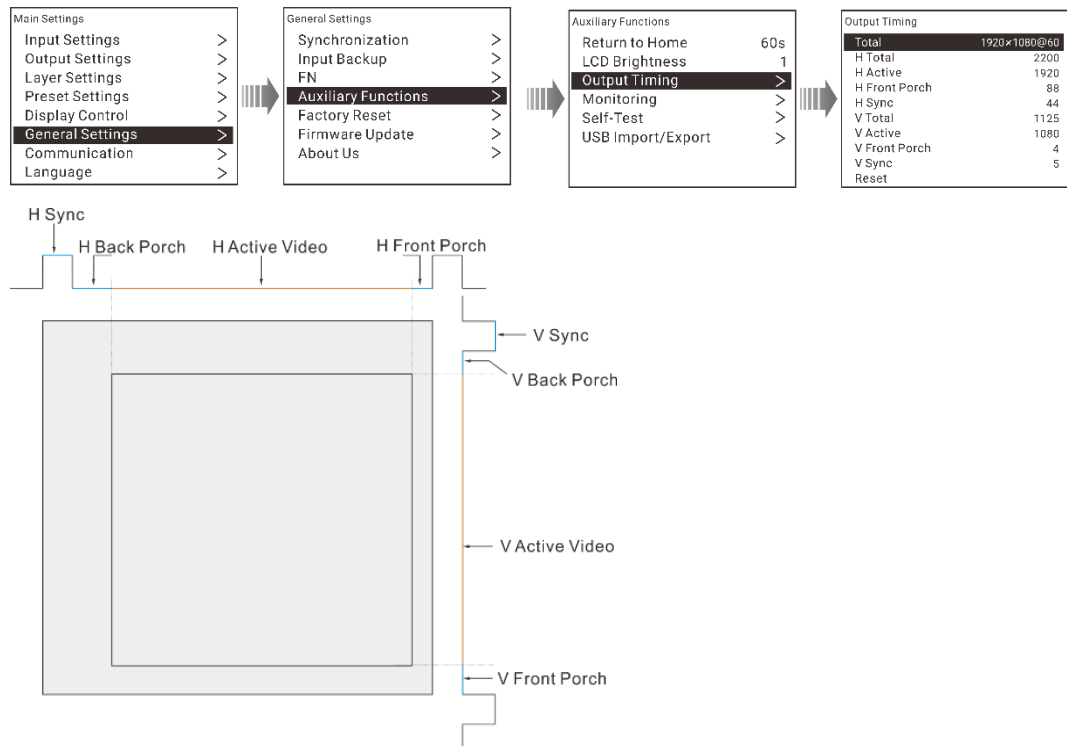
### 5.8.4.2 LCD Brightness

Adjust the LCD brightness. The range is 1–6 and the default setting is 1.

### 5.8.4.3 Output Timing

Setting output timing parameters is crucial for achieving proper synchronization and timing between the display source and the display device. These timing settings help ensure that the video signal is correctly transmitted and displayed on the screen.

Figure 5-35 Output timing



Parameter	Description
Total	Current output resolution that can be set in <b>Output Settings</b>
H Total	Total pixel count per line
H Active	The horizontal size in pixels of the active area
H Front Porch	The offset between the end of the active area and the beginning of

	H sync
H Sync	H sync width in pixels
V Total	Total line count per frame
V Active	The vertical size of the output active area
V Front Porch	The offset in lines between the end of the output active area and the beginning of V sync
V Sync	V sync width in lines

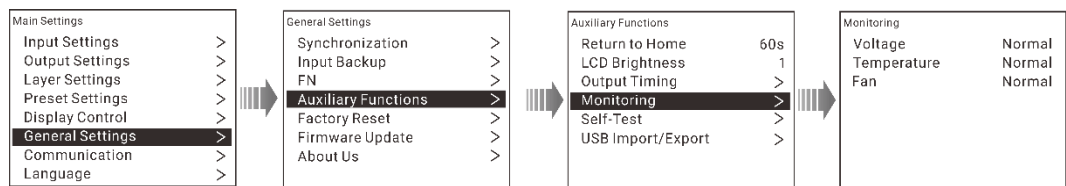
After you have completed the timing settings, rotate the knob to select **Apply** and press the knob to make the settings take effect; rotate the knob to select **Reset** to reset all the settings to defaults.

### 5.8.4.4 Monitoring

Monitor the working statuses of the power supply, temperature and fan.

The flashing LED bar on the front panel indicates something is not going well. Please contact our technical support staff in time for troubleshooting.

Figure 5-36 Monitoring

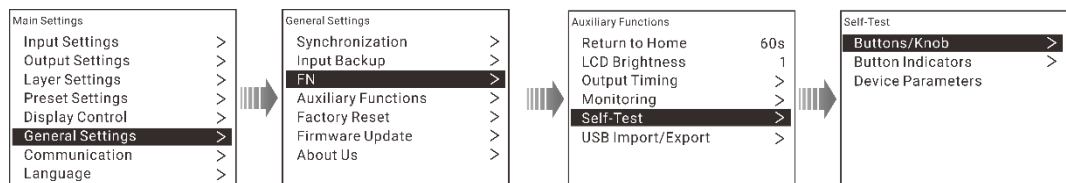


### 5.8.4.5 Self-Test

Self-test is designed to verify that the device components are operating correctly and to provide feedback on its overall health and performance. If anything is wrong, please send your feedback to our technical support to solve the problem as soon as possible.

You can test the buttons, knob, button indicators and parameters of the 4K ViewPro.

Figure 5-37 Self-test



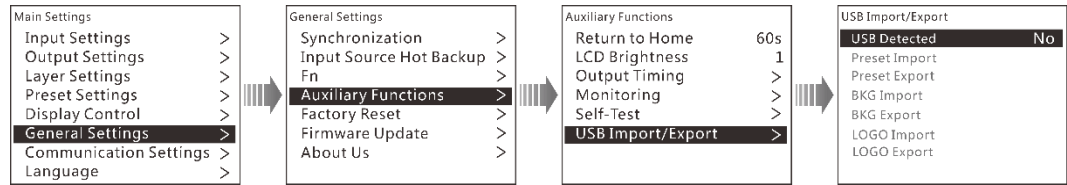
 **Note:**

Running self-test will temporarily disrupt the output. After the self-test is completed, the output will resume.

### 5.8.4.6 USB Import/Export

You can import and export preset files, BKG and LOGO images using a USB drive.

Figure 5-38 USB importing/exporting



#### USB Detected

The device will automatically detect whether there is a USB drive inserted.

- Yes: A USB drive is inserted into the device and is successfully detected by the device.
- No: No USB drive is inserted into the device.

#### Preset/BKG/LOGO Import

You can import preset files, BKG and LOGO images via USB drive. Single file or multiple files importing are both supported.

#### Preset/BKG/LOGO Export

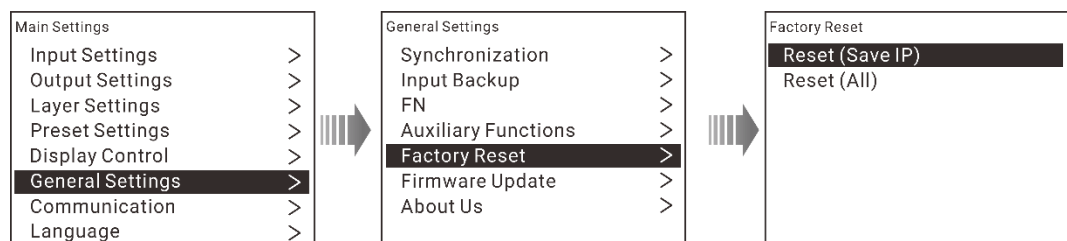
You can export preset files, BKG and LOGO images via USB drive. Single file or multiple files exporting are both supported.

### 5.8.5 Factory Reset

Restore the device settings to factory defaults.

- Reset (Save IP): Reset the settings to factory defaults, except for the IP address.
- Reset (All): Reset all the settings to factory defaults.

Figure 5-39 Factory reset



### 5.8.6 Firmware Update

The 4K ViewPro supports firmware update using a USB drive.

Step 1 Store the 4K ViewPro update file to the root directory of the USB drive.

- Step 2 Insert the USB drive to the USB port of the device.
- Step 3 Go to **General Settings > Firmware Update**, and the device will automatically search for the update file and perform the update.

 **Note:**

The file system of the USB drive must be FAT32.

## 5.8.7 About Us

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

Official website: [www.pixelhue.com](http://www.pixelhue.com)

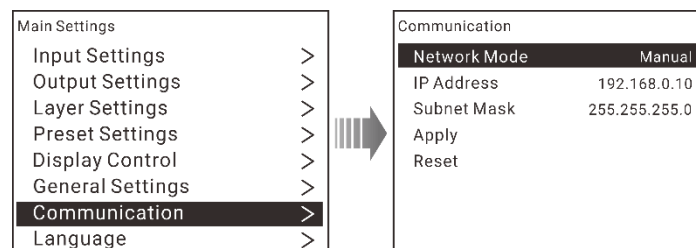
Email: [info@pixelhue.com](mailto:info@pixelhue.com)

## 5.9 Communication Settings

On the **Main Settings** screen, rotate the knob to select **Communication** and press the knob to enter the communication settings screen.

- Network Mode: The options re **Manual** and **Auto**.  
You can set to obtain the IP address manually or automatically. When you select **Auto**, please note that the device IP address must not conflict with IP addresses of other devices.
- IP Address: Set the device IP address.
- Subnet Mask: Set the subnet mask.
- Apply: Make the settings take effect.
- Reset: Reset the settings to factory settings.

Figure 5-40 Communication settings



## 5.10 Language

The 4K ViewPro supports **English** and **Simplified Chinese**.

# 6 Web Operations

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## About This Chapter

This chapter is designed to describe the web control menus and menu operations of the 4K ViewPro.

## Overview

- Introduction
- Connections
- User Interface
- Input Settings
- Output Settings
- Layer Settings
- Preset Settings
- Display Control
- General Settings
- Communication Settings
- About Us

## 6.1 Introduction

The 4K ViewPro supports Web control through a PC or mobile terminal. You can set the device-related parameters simply by using a browser. The settings are the same as menu operations.

Recommended browsers:

- Chrome 50 or later
- Safari 10 or later
- Firefox 45 or later
- Internet Explorer 10.0 or later



### Note:

When a PC or mobile terminal is used to control the device, the front panel buttons are locked and a lock icon appears on the front panel screen.

---

## 6.2 Connections

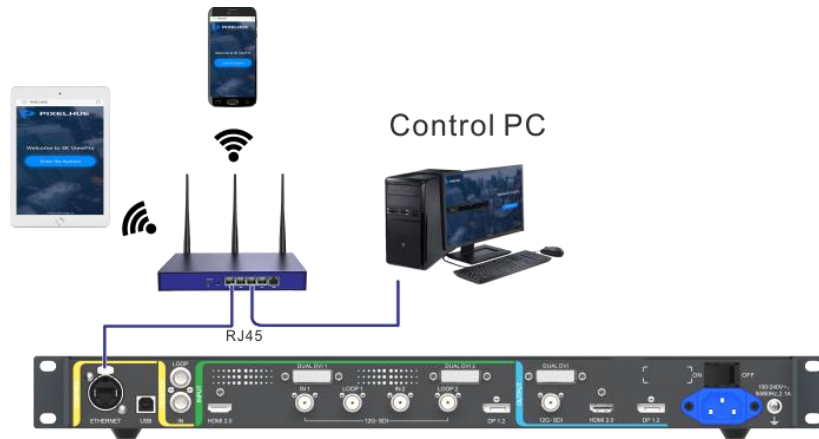
The hardware connections the Web control requires can be established via two ways.

- Ethernet cable

Connect the Ethernet port of the control PC with that of the device with an RJ45 cable.



- Router
  - a) Connect the Ethernet port of the device with a LAN port of the router, and connect the Ethernet port of the control PC with a LAN port of the router.
  - b) Connect the mobile terminal to the router through WiFi network.



Open one of the recommended browser and type "http:// the device IP address", and then press the **Enter** key to automatically jump to the device Web control page.

### 6.3 User Interface

The main user interface of Web page is shown in the below figure which is divided into 6 areas. The detailed descriptions of each area are shown in the below table.

Figure 6-1 Web user interface

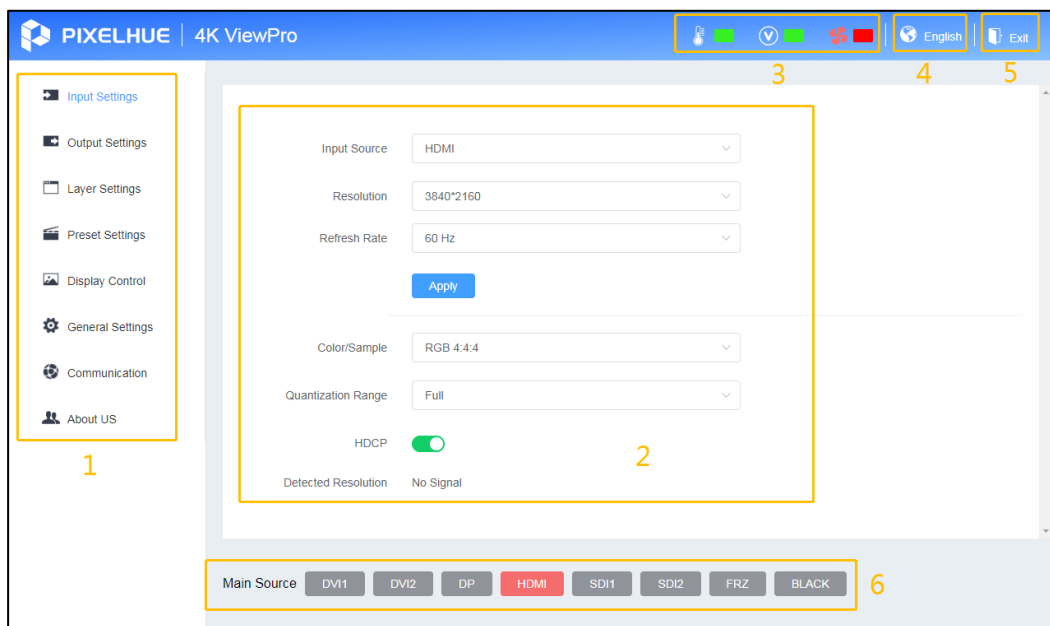









Table 6-1 Web descriptions

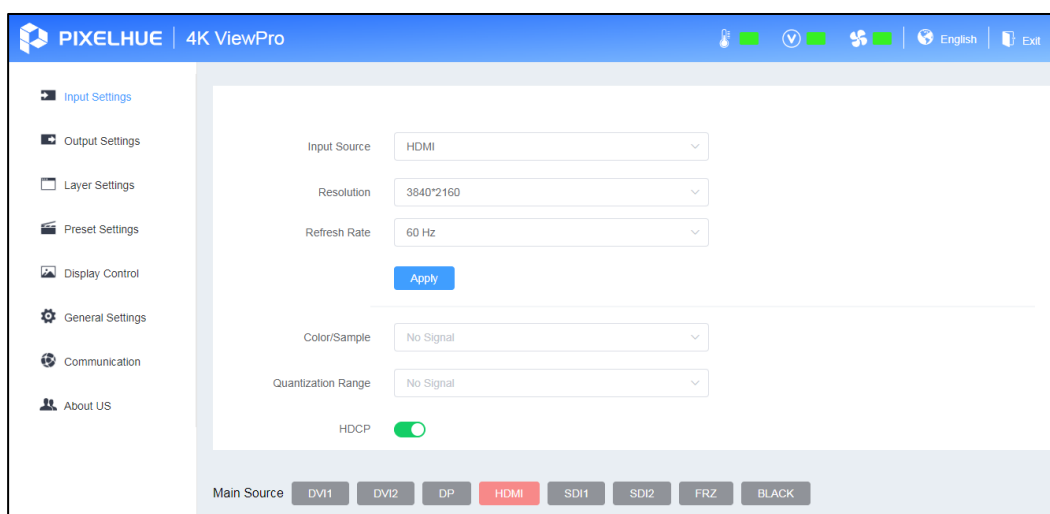
No.	Name	Description
1	Main menu	Select a menu item. The selected menu turns blue.
2	Parameters	Set or view the device parameters.

		<p><b>Note:</b></p> <p>The parameter values and settings on the Web control page are consistent with those on the front panel screen menu. If you have any questions regarding the parameter values and settings mentioned in this chapter, please refer to Chapter 5 for more details.</p>
3	Monitoring	<ul style="list-style-type: none"> <li>Hover the mouse over  to view the device temperature status. If the temperature is abnormal, the icon changes to .</li> <li>Hover the mouse over  to view the device power status. If the voltage is abnormal, the icon changes to .</li> <li>Hover the mouse over  to view the device fan status. If the speed is abnormal, the icon changes to .</li> </ul>
4	Language	Click  to change the UI language.
5	Exit	Exit the Web control and unlock front panel buttons.
6	Input source for main layer	<ul style="list-style-type: none"> <li>Click an input source button to select an input source.</li> <li>Click <b>FRZ</b> to freeze the current frame.</li> <li>Click <b>BLACK</b> to make the output image blackout.</li> </ul>

## 6.4 Input Settings

In the main menu area, click **Input Settings** to enter the input settings page.

Figure 6-2 Input settings



- Input Source



Click the drop-down button next to **Input Source** and select an input source from the drop-down list.

- Resolution

Select the desired resolution for the input source.

- Frame Rate

Select the desired frame rate for the input source.

Click **Apply** to make the settings take effect.

- Color/Sample: Select the desired color space and sampling rate for the input source. The options include **Auto**, **RGB 4:4:4**, **YCbCr 4:4:4**, **YCbCr 4:2:2** and **YCbCr 4:2:0**.

If no signal is accessed, **No Signal** is displayed.

- Quantization Range: Select the desired quantization range for the input source. The options include **Auto**, **Full** and **Limited**.

If no signal is accessed, **No Signal** is displayed.

- HDCP: Set whether to encrypt the input source. The options include **Off** and **On**.

- Detected Resolution: The native resolution of the input source is displayed.

If no signal is accessed, **No Signal** is displayed.



**Note:**

The SDI connector does not the color/sample and HDCP settings.

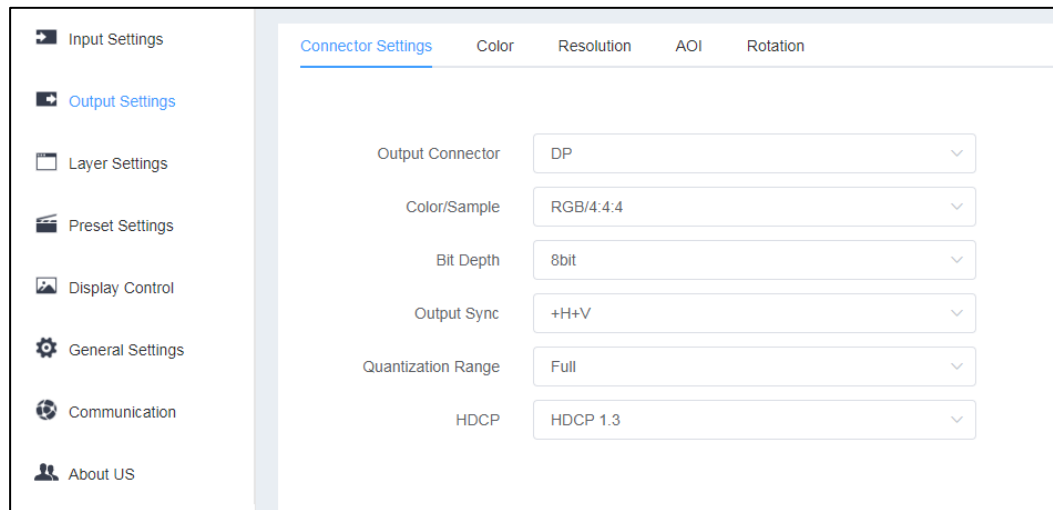
---

## 6.5 Output Settings

### 6.5.1 Connector Settings

In the main menu area, click **Output Settings** to enter the output settings page.

Figure 6-3 Output settings

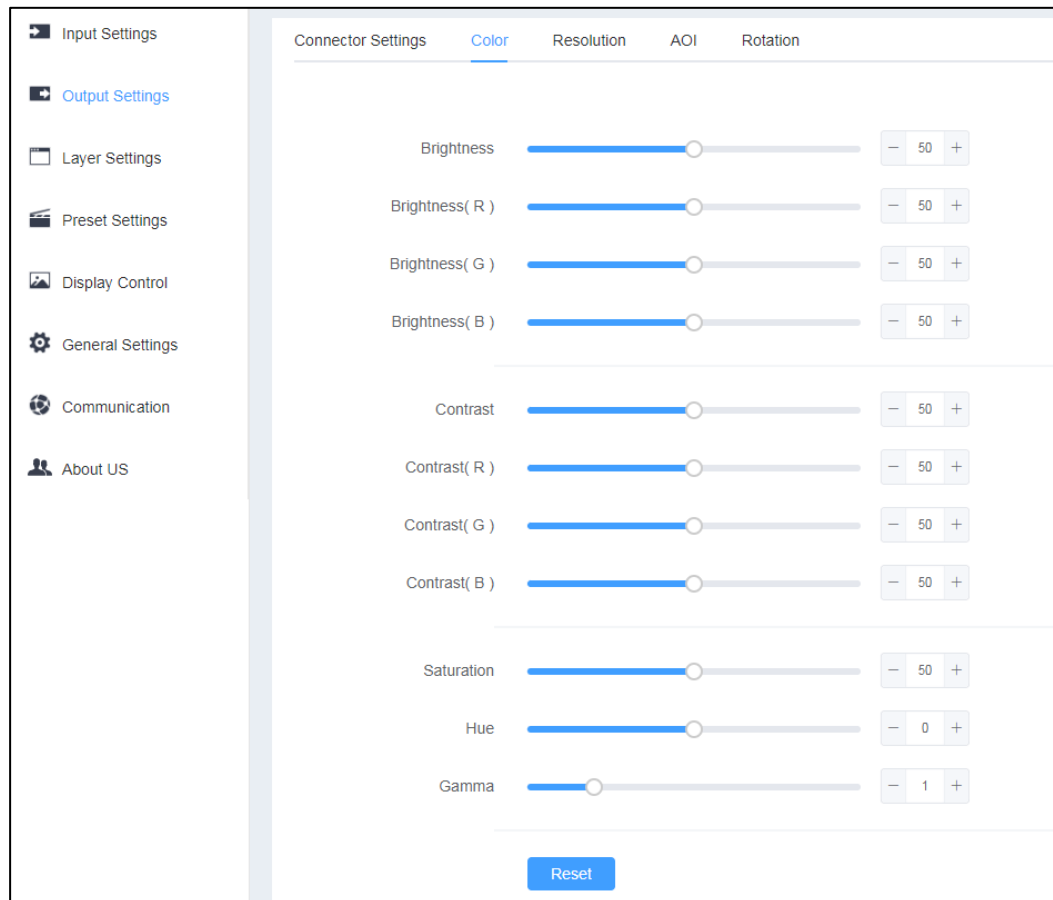


- **Output Connector**  
Click the drop-down button next to **Output Connector** and select the target output connector from the drop-down list.
- **Color /Sample**  
Click the drop-down button next to **Color/Sample** and select a color space and sampling rate from the drop-down list.
- **Bit Depth**  
Click the drop-down button next to **Bit Depth** and select a bit depth of the output content.
- **Output Sync**  
Click the drop-down button next to **Output Sync** to select an output sync polarity.
- **Quantization Range**  
Click the drop-down button next to **Quantization Range** to select between **Full** and **Limited** range.
- **HDCP**  
Click the drop-down button next to **HDCP** to turn off the HDCP function, and select the desired HDCP version.

## 6.5.2 Output Color

Click **Color** to enter the output color tab page.

Figure 6-4 Color



The output color settings include **Brightness**, **Contrast**, **Saturation**, **Hue** and **Gamma**. For detailed parameter settings, see [Table 6-2](#).

Table 6-2 Output color settings

Name	Value Range	Default Value	Description
Brightness	0 to 100	50	Adjust the overall output image brightness. The larger the value, the brighter the output image. R/G/B: Adjust the brightness levels of the red, green, and blue channels separately.
Contrast	0 to 100	50	Adjust the overall difference between the darkest and brightest areas of the output image. The larger the value, the bigger this difference. R/G/B: Adjust the contrast levels of the red, green, and blue channels separately.
Saturation	0 to 100	50	Adjust the purity or vividness grade of the image color. The larger the value, the purer the color.
Hue	-180 to	0	Adjust the gradation or variety of the image color.

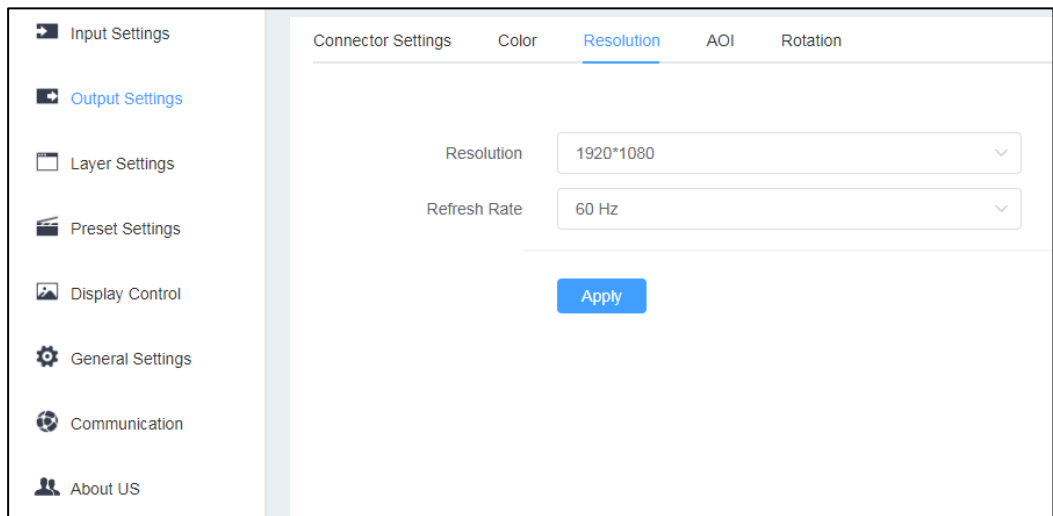
	+180		The larger the value, the more intense the color.
Gamma	0.25 to 4.00	1.00	Adjust the degree of distortion of the image color. The larger the value, the more distorted the color.

Click **Reset** to reset all the settings to defaults.

### 6.5.3 Output Resolution

Click **Resolution** to enter the output resolution tab page.

Figure 6-5 Output resolution



- **Resolution**

Click the drop-down button next to **Resolution** and select a resolution from the drop-down list.

If you select **Custom** for **Resolution**, set the width and height of resolution manually.

- **Frame Rate**

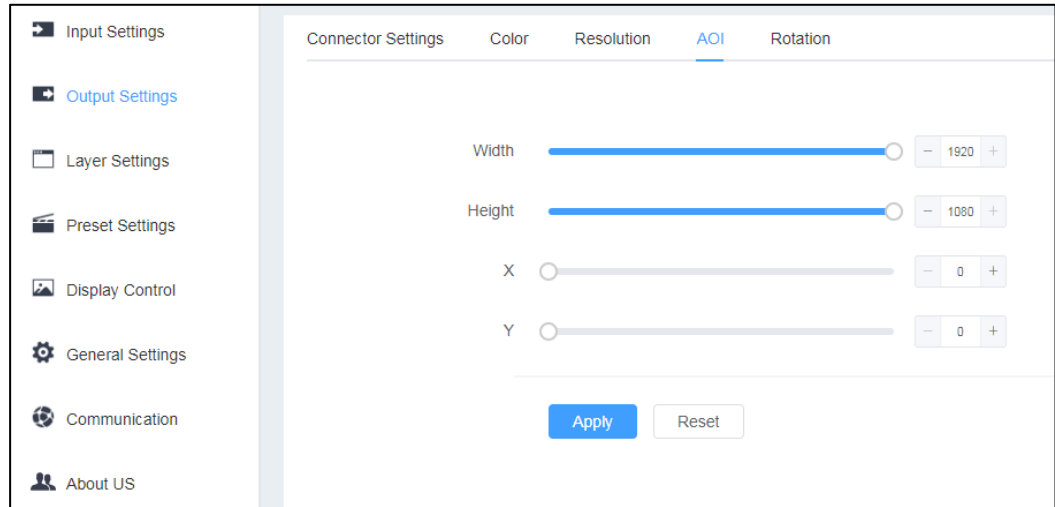
Click the drop-down button next to **Frame Rate** and select the refresh rate of the video from the drop-down list.

Click **Apply** after the output resolution settings are completed.

### 6.5.4 AOI

Click **AOI** to enter the AOI tab page.

Figure 6-6 AOI settings



- **Width**  
Set the width of the box that indicates the AOI area.
- **Height**  
Set the height of the box that indicates the AOI area.
- **X**  
Set the X position of the box that indicates the AOI area.
- **Y**  
Set the Y position of the box that indicates the AOI area.

Click **Apply** to make the settings take effect, or click **Reset** to abandon the changes.

---

 **Note:**

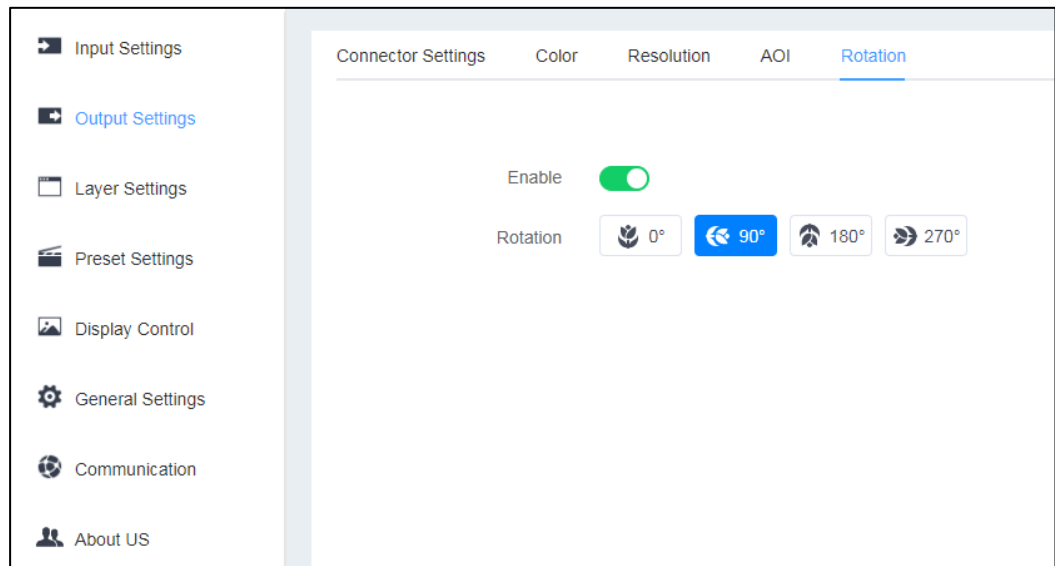
You can move the slider, enter a value in the text box, or click + or – to enter the parameter value.

---

## 6.5.5 Rotation

Rotate the output image with a specific angle to cater for your diversified display requirements.

Figure 6-7 Output rotation



- **Enable**  
Enable the output rotation function.
- **Rotation**  
Select the desired rotation angle. The options include **0°**, **90°**, **180°** and **270°**.

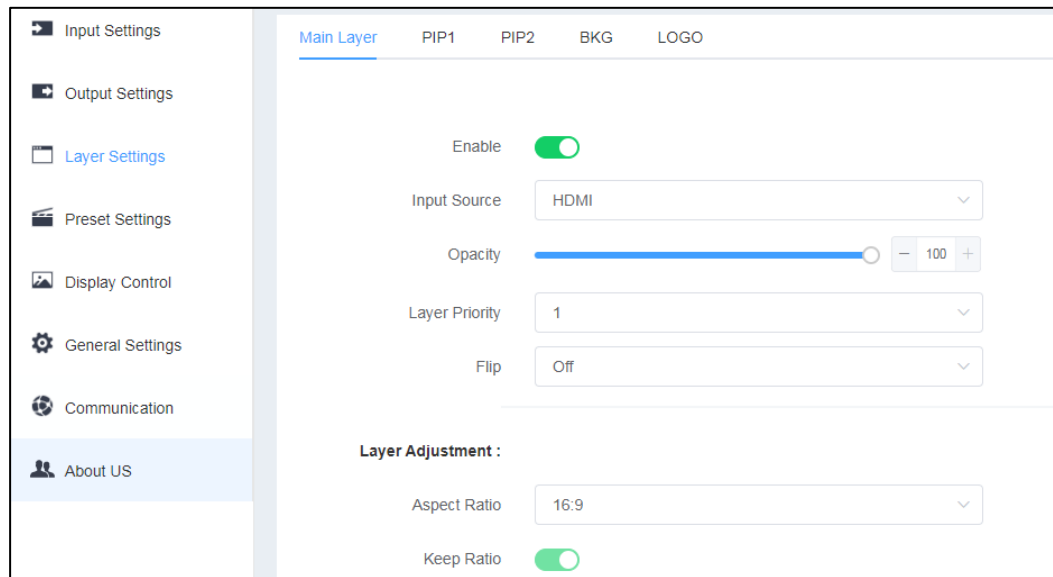
## 6.6 Layer Settings

In the main menu area, click **Layer Settings** to enter the layer settings page where you can configure the main layer, PIP layers, BKG and LOGO.

### 6.6.1 Main Layer

The **Main Layer** tab page is displayed by default.

Figure 6-8 Main layer



- **Enable**  
Open or close the main layer.
- **Input Source**  
Click the drop-down button and select an input source for the main layer from the drop-down list.
- **Opacity**  
Set the opacity of the main layer. The range is 0% (transparent)–100% (nontransparent).
- **Layer Priority**  
Set the display order of the main layer.
- **Flip**  
Turn on or turn off the layer flipping function.
  - Off: No flipping
  - H: The layer is flipped horizontally.
  - V: The layer is flipped vertically.
  - H+V: The layer is flipped both horizontally and vertically.

## Layer Adjustment

**Layer Adjustment :**

Aspect Ratio

Keep Ratio

Unit  Pixel  Percentage

H Width

V Height

Initial X

Initial Y

Full Screen

Reference

- Aspect Ratio
  - Set the proportional relationship between the layer width and height.
- Keep Ratio: Lock or unlock the aspect ratio.
  - Lock: The aspect ratio is a fixed ratio. You can set the vertical height and horizontal width based on the selected ratio.  
For example, the aspect ratio is set to 2:1 and you set to lock the ratio, then you can set the vertical height and you cannot set the horizontal width which will be automatically adjusted based on the set ratio.
  - Unlock: You can custom the aspect ratio and the vertical height and horizontal width can be adjusted freely.
- Unit
  - Set the adjustment unit. Pixel and percentage are supported.
- H Width
  - Adjust the layer width.
- V Height
  - Adjust the layer height.
- Initial X
  - Adjust the horizontal initial coordinate of the layer.
- Initial Y
  - Adjust the vertical initial coordinate of the layer.



- Full Screen
 

Make the layer display in full screen.

  - H: The layer fills the screen horizontally, but the vertical size remains unchanged.
  - V: The layer fills the screen vertically, but the horizontal size remains unchanged.
  - H+V: The layer fills the whole screen.
- Reference
 

Set the layer adjustment reference.

  - Top Left: Set the top left corner as the reference point.
  - Center: Set the center point as the reference point.

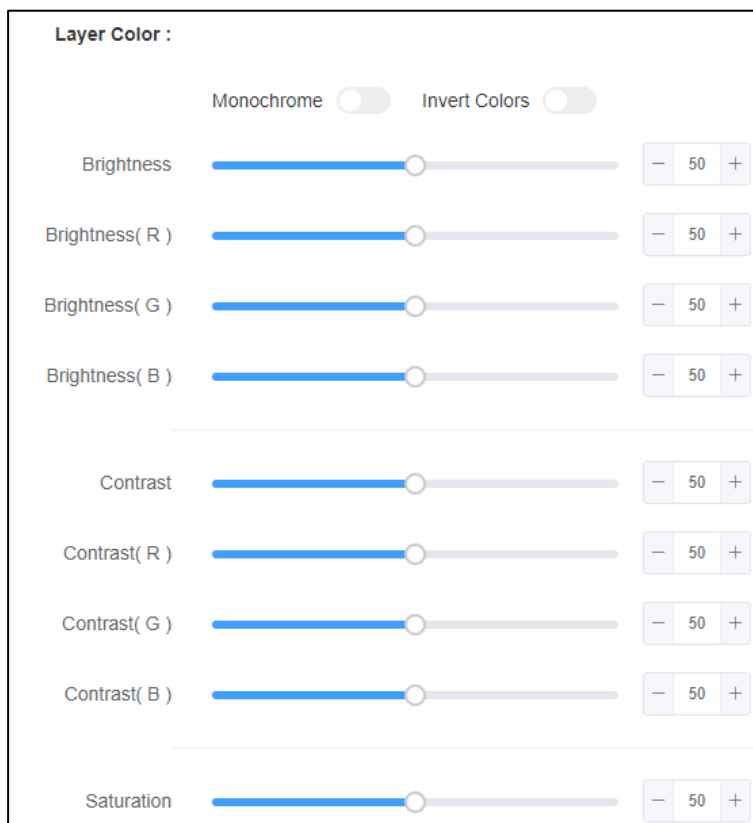
 **Note:**

- When you select to customize an aspect ratio, the **Keep Ratio** item is available.
- When you select to customize an aspect ratio and select **Unlock** for the **Keep Ratio** item, the **Full Screen** item is available.

## Layer Color

Scroll down the page to go to the layer color adjustment area.

Figure 6-9 Layer color



The layer color parameters are described in the following table.

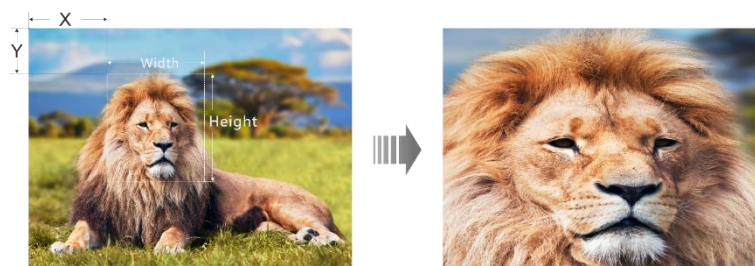
Table 6-3 Main layer color

Name	Value Range	Default Value	Description
Brightness	0 to 100	50	Adjust the layer brightness. The larger the value, the brighter the layer. R/G/B: Adjust the brightness levels of the red, green, and blue channels separately.
Contrast	0 to 100	50	Adjust the difference between the darkest and brightest areas of the layer. The larger the value, the bigger this difference. R/G/B: Adjust the contrast levels of the red, green, and blue channels separately.
Saturation	0 to 100	50	Adjust the purity or vividness grade of the layer. The larger the value, the purer the color.
Hue	-180 to +180	0	Adjust the gradation or variety of the layer. The larger the value, the more intense the color.
Gamma	0.25 to 4	1	Adjust the degree of distortion of the layer image color. The larger the value, the more distorted the color.
Monochrome	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Off	<ul style="list-style-type: none"> <li>• On: Turn on the monochrome function for the layer.</li> <li>• Off: Turn off the function.</li> </ul>
Invert Colors	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>	Off	<ul style="list-style-type: none"> <li>• On: Turn on the invert colors function for the layer.</li> <li>• Off: Turn off the function.</li> </ul>
Reset			Reset the settings to defaults.

## Crop

Crop the layer input image and make the cropped image fill the layer.

Figure 6-10 Layer crop



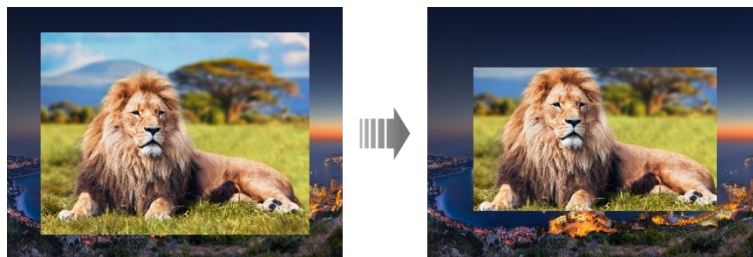
- Step 1 In the **Crop** area of the main layer tab page, toggle on the **Enable** switch enable the crop function.
- Step 2 Select the adjustment unit. Pixel and percentage are supported.
- Step 3 Set the H width, V height, initial X and initial Y of the cropped part.
- **H Width**: Set the horizontal width of the cropped source.
  - **V Height**: Set the vertical height of the cropped source.
  - **Initial X**: Set the horizontal initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left corner.
  - **Initial Y**: Set the vertical initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left corner.

Click **Reset** to reset the settings to defaults.

## Mask

Mask certain part of the layer.

Figure 6-11 Mask



- Step 1 In the **Mask** area of the main layer tab page, toggle on the **Enable** switch enable the mask function.
- Step 2 Select the adjustment unit. Pixel and percentage are supported.
- **Pixel**: Adjust the remaining area by pixels.
  - **Percentage**: Adjust the percentage ratio of the width and height of the remaining area.
- Step 3 Set the mask-related parameters.
- **Top**: Set the area to be masked on the top.
  - **Bottom**: Set the area to be masked on the bottom.
  - **Left**: Set the area to be masked on the left.
  - **Right**: Set the area to be masked on the right.

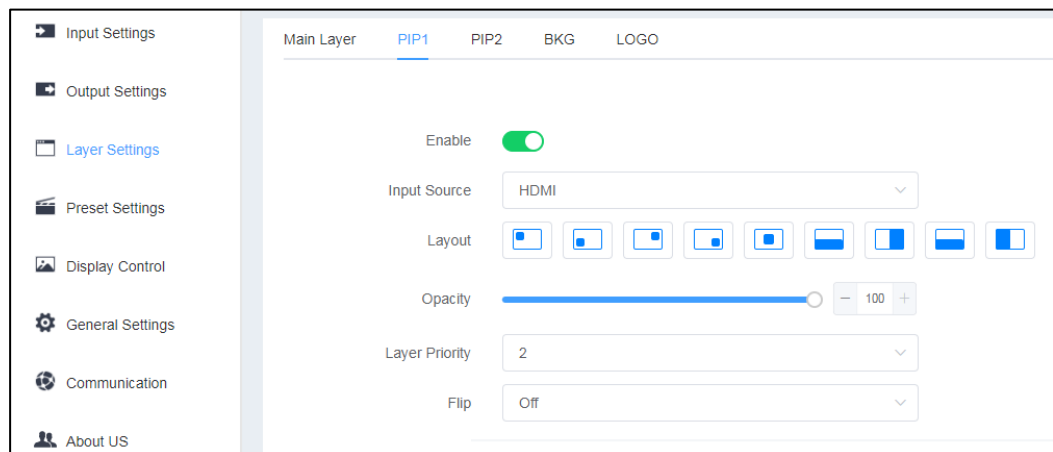
Click **Reset** to reset the settings to defaults.

## 6.6.2 PIP 1/PIP 2

Click **PIP 1** or **PIP 2** to enter the PIP tab page.

Here we take PIP 1 as an example to illustrate the functions as PIP 1 and PIP 2 have the same functions.

Figure 6-12 PIP



- **Enable**  
Enable or disable the PIP function.
- **Input Source**  
Select the input source for the PIP layer. The supported input sources include **DVI 1, DVI 2, DP, HDMI, SDI 1** and **SDI 2**.
- **Layout**  
Select the desired PIP layout from the listed 9 layout options.
- **Opacity**  
Set the opacity of the layer. The greater the value, the opaque the layer will be. The range is 0% (transparent)–100% (nontransparent).
- **Layer Priority**  
Set the display order of the PIP layer.
- **Flip**  
Turn on or turn off the PIP flipping function.
  - Off: No flipping
  - H: The PIP layer is flipped horizontally.
  - V: The PIP layer is flipped vertically.
  - H+V: The PIP layer is flipped both horizontally and vertically.

## PIP Adjustment

**PIP Adjustment :**

Aspect Ratio: 16:9

Keep Ratio:

Unit:  Pixel  Percentage

H Width: 960

V Height: 540

Initial X: 0

Initial Y: 0

Full Screen:

Reference: Top Left

- **Aspect Ratio**  
Set the proportional relationship between the PIP layer width and height.
- **Keep Ratio:** Lock or unlock the aspect ratio.
  - **Lock:** The aspect ratio is a fixed ratio. You can set the vertical height and horizontal width based on the selected ratio.  
For example, the aspect ratio is set to 2:1 and you set to lock the ratio, then you can set the vertical height and you cannot set the horizontal width which will be automatically adjusted based on the set ratio.
  - **Unlock:** You can custom the aspect ratio and the vertical height and horizontal width can be adjusted freely.
- **Unit:**  
Set the adjustment unit. Pixel and percentage are supported.
- **H Width**  
Adjust the layer width.
- **V Height**  
Adjust the layer height.
- **Initial X**  
Adjust the horizontal initial coordinate of the layer.
- **Initial Y**  
Adjust the vertical initial coordinate of the layer.
- **Full Screen**

Set the layer to display in full screen.

- **H**: The layer fills the screen horizontally, but the vertical size remains unchanged.
- **V**: The layer fills the screen vertically, but the horizontal size remains unchanged.
- **H/V**: The layer fills the whole screen.

- Reference

Set the adjustment reference.

- Top Left: Set the top left corner as the reference point.
- Center: Set the center point as the reference point.

- Reset

Click **Reset** to reset the settings to defaults.



**Note:**

- When you select to customize an aspect ratio, the **Keep Ratio** item is available.
- When you select to customize an aspect ratio and select **Unlock** for the **Keep Ration** item, the **Full Screen** item is available.

## Color

For the PIP layer color parameters, please see the following table descriptions.

Table 6-4 PIP layer color

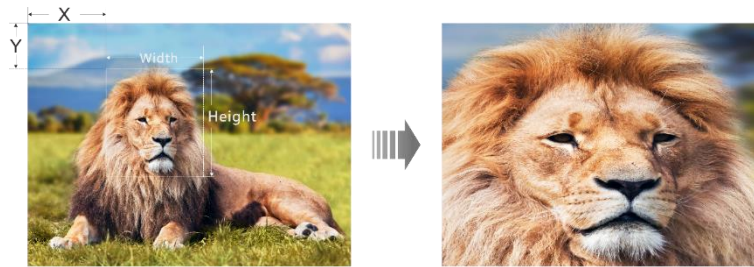
Name	Value Range	Default Value	Description
Brightness	0 to 100	50	Adjust the layer brightness. The larger the value, the brighter the layer. R/G/B: Adjust the brightness levels of the red, green, and blue channels separately.
Contrast	0 to 100	50	Adjust the difference between the darkest and brightest areas of the layer. The larger the value, the bigger this difference. R/G/B: Adjust the contrast levels of the red, green, and blue channels separately.
Saturation	0 to 100	50	Adjust the purity or vividness grade of the layer. The larger the value, the purer the color.
Hue	-180 to +180	0	Adjust the gradation or variety of the layer. The larger the value, the more intense the color.
Gamma	0.25 to 4	1	Adjust the degree of distortion of the layer image color. The larger the value, the more distorted the

			color.
Reset			Reset the settings to defaults.

## Crop

Crop the input source image and make it fill the layer.

Figure 6-13 Crop



Step 1 In the **Crop** area of the PIP tab page, toggle on the **Enable** switch to enable the crop function.

Step 2 Select the adjustment unit. Pixel and percentage are supported.

Step 3 Set the H width, V height, initial X and initial Y of the cropped layer.

- H Width: Set the horizontal width of the cropped source.
- V Height: Set the vertical height of the cropped source.
- Initial X: Set the horizontal initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left corner.
- Initial Y: Set the vertical initial coordinate of the cropped part upon the original input source. The cropping reference point is the top left corner.

Click **Reset** to reset the settings to defaults.

## Mask

Mask certain part of the layer.

Figure 6-14 Mask



Step 1 In the **Crop** area of the PIP tab page, toggle on the **Enable** switch to enable the mask function.

Step 2 Select the adjustment unit. Pixel and percentage are supported.

- **Pixel:** Adjust the remaining area by pixels.
- **Percentage:** Adjust the percentage ratio of the width and height of the remaining area.

Step 3 Set the mask-related parameters.

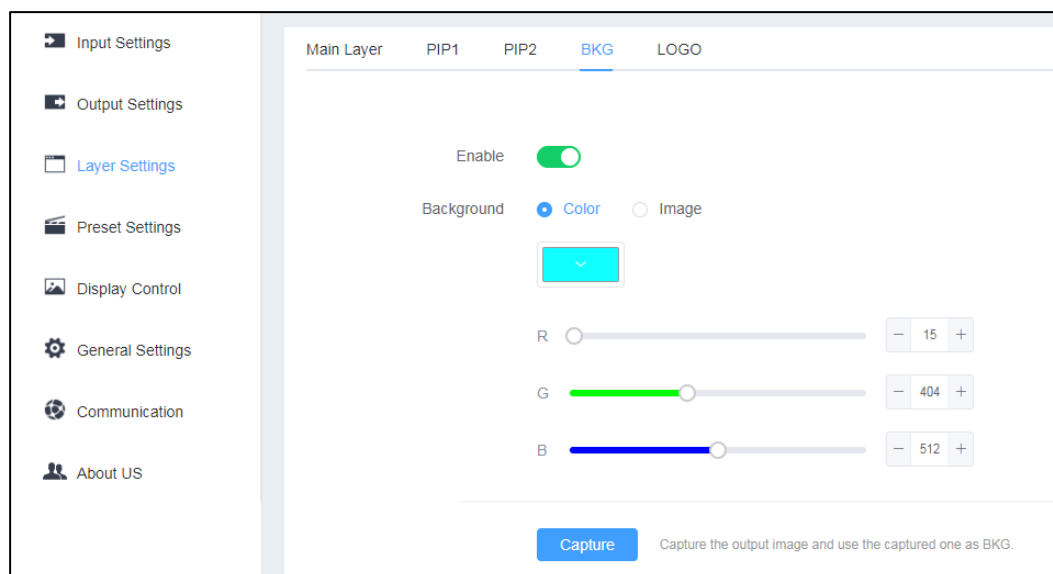
- **Top:** Set the area to be masked on the top.
- **Bottom:** Set the area to be masked on the bottom.
- **Left:** Set the area to be masked on the left.
- **Right:** Set the area to be masked on the right.

Click **Reset** to reset the settings to defaults.

### 6.6.3 BKG

Click **BKG** to enter the BKG tab page.

Figure 6-15 BKG





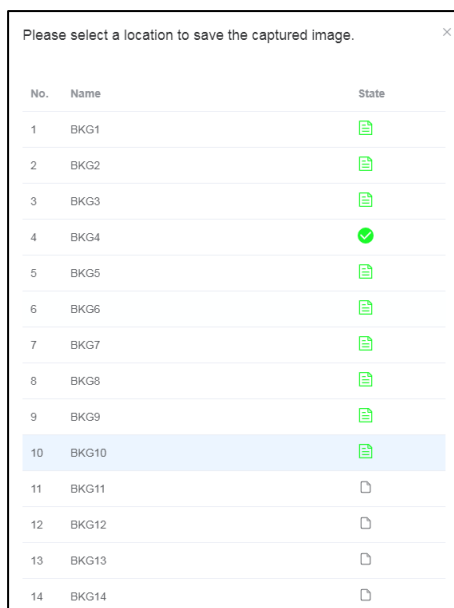
Step 1 Enable the BKG function.

Step 2 Set a pure color BKG or select a BKG image.

- Color:
  - Click the color block to specify a color.
  - Set the individual R, G and B values to specify a color.
- Image: Select an imported BKG image.

You can also capture the output image and use the captured image as a BKG. Just click **Capture** and then select a BKG save location.

Figure 6-16 BKG save location



No.	Name	State
1	BKG1	
2	BKG2	
3	BKG3	
4	BKG4	
5	BKG5	
6	BKG6	
7	BKG7	
8	BKG8	
9	BKG9	
10	BKG10	
11	BKG11	
12	BKG12	
13	BKG13	
14	BKG14	

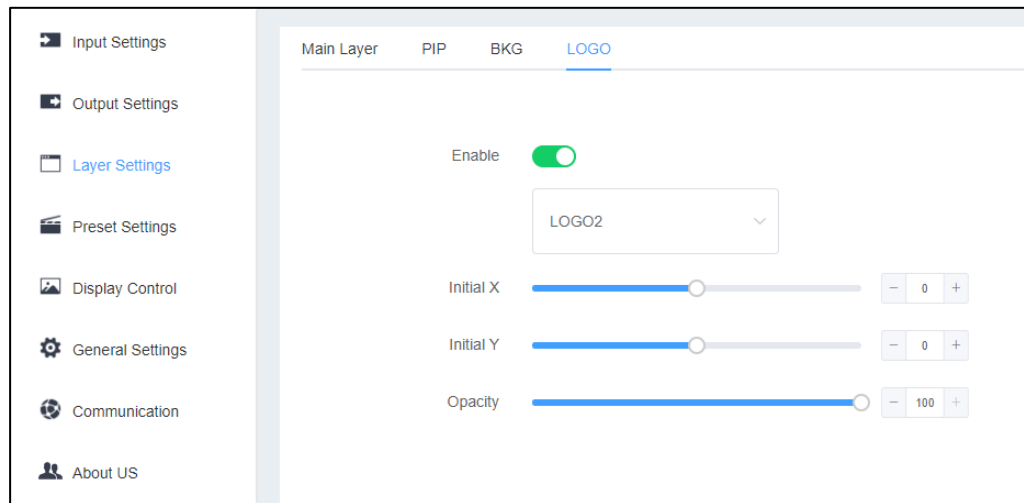
- : The BKG has data.
- : The BKG is being use.
- : The BKG is empty.

## 6.6.4 LOGO

Click **LOGO** to enter the LOGO tab page.

Please import LOGO files into the 4K ViewPro using a USB drive before enabling the LOGO function.

Figure 6-17 LOGO































































- Step 1 Enable the LOGO function.
- Step 2 Select an imported LOGO image.
- Step 3 Set the horizontal initial coordinate of the LOGO image.
- Step 4 Set the vertical initial coordinate of the LOGO image.
- Step 5 Set the opacity of the LOGO.

The greater the value, the opaquer the layer will be. The range is 0% (transparent)–100% (nontransparent).




## 6.7 Preset Settings

Click **Preset Settings** to enter the preset settings page.




Figure 6-18 Preset

Name	Enable	Operation
Preset 1 <a href="#">↗</a>		  
Preset 2 <a href="#">↗</a>		  
Preset 3 <a href="#">↗</a>		  
Preset 4 <a href="#">↗</a>		  
Preset 5 <a href="#">↗</a>		  
Preset 6 <a href="#">↗</a>		  
Preset 7 <a href="#">↗</a>		  
Preset 8 <a href="#">↗</a>		  
Preset 9 <a href="#">↗</a>		  
Preset 10 <a href="#">↗</a>		  
Preset 11 <a href="#">↗</a>		  
Preset 12 <a href="#">↗</a>		  
Preset 13 <a href="#">↗</a>		  
Preset 14 <a href="#">↗</a>		  
Preset 15 <a href="#">↗</a>		  

Preset descriptions:

- : The preset has data.
- : The preset is empty.
- : The preset is loaded.

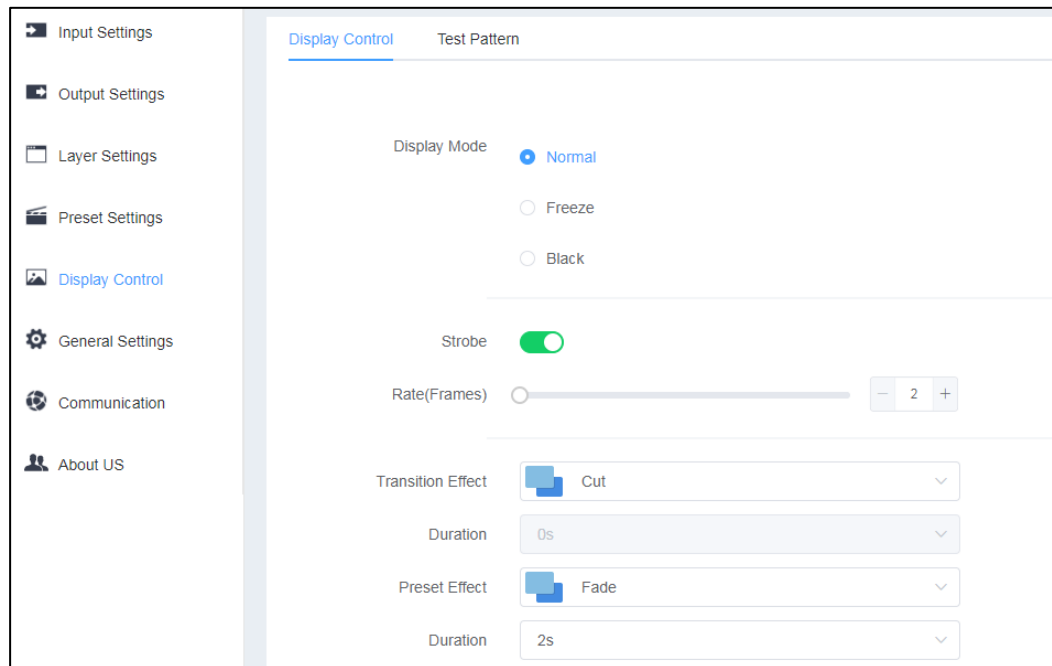
Preset operations:

- Click  to clear the preset.
- Click  to save the preset.
- Click  to load the preset.

## 6.8 Display Control

Click **Display Control** to enter the display control page.

Figure 6-19 Display control



 **Note:**

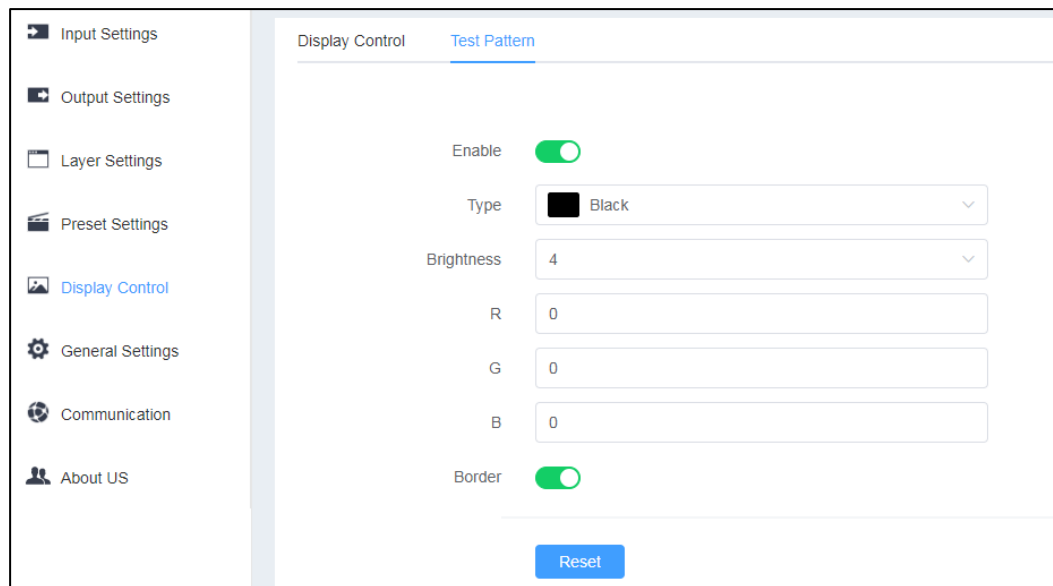
The display modes (**Normal**, **Freeze** and **Black**) are mutual excluded between each other. When you select one, the other one is deselected.

## Display Control

- **Normal:** Display the output image normally.
- **Freeze:** Freeze the current frame of the output image.
- **Black:** Make the output go black.
- **Strobe:** Toggle on or off the strobe function.
- **Rate (Frames):** Adjust the strobe rate interval (in frames) to set the duration that the source is frozen until the next grab.
- **Transition Effect:** Select the transition effect during the input source switching process. Currently **Cut** and **Fade** effects are supported.
- **Duration:** Select the duration for the selected transition effect. The range is 0.5s–2s and defaults to 0.5s.
- **Preset Effect:** Set the transition effect during the preset switching process. Currently **Cut** and **Fade** effects are supported.
- **Duration:** Set the duration for the preset transition effect. The range is 0.5s–2s and defaults to 0.5s.

## Test Pattern

Figure 6-20 Test pattern



- **Enable**  
Turn on or turn off the test pattern function.
- **Type**  
Abundant test patterns are provided for you, such as pure colors, lines and gradients.
- **Brightness**  
Set the brightness of the selected test pattern. The value range is 1–4.
- **R/G/B**  
Individually adjust the red, green and blue channel values to specify a color.
- **Background**  
Set the background color of the selected test pattern. The color options include **Red, Blue, Green, White, Black** and **50% Gray**.
- **Line Width**  
Set the line thickness of the selected test pattern. The value range is 1–16.
- **Spacing**  
Set the spacing of the selected test pattern.
- **Speed**  
Set the moving speed of the selected test pattern. The value range is 0–4.
- **Border**  
Enable or disable the borders of the test pattern.

**Note:**

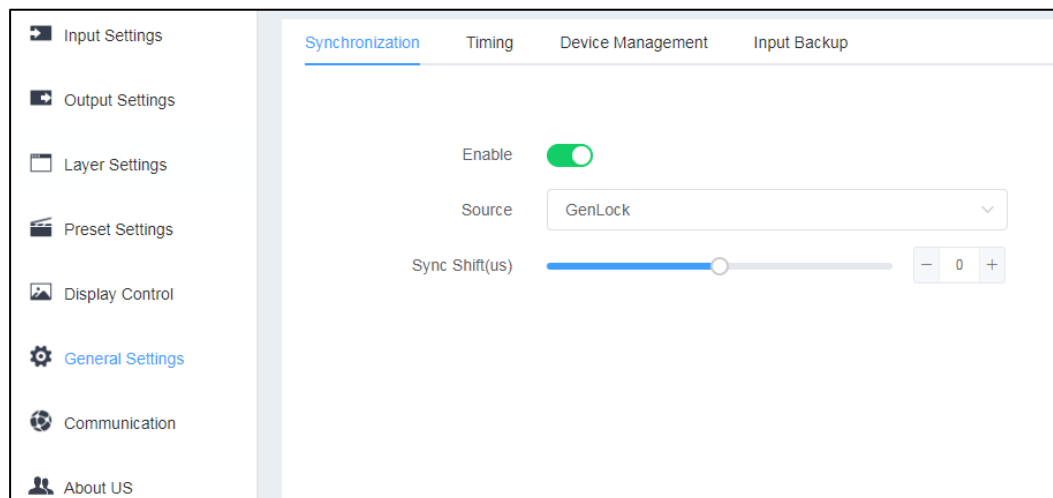
- No matter whether the test pattern function is enabled or not, the border function can be enabled.
- For different test patterns you select, the menu options and value ranges may vary. If more information is required or you are still unclear about anything, please contact our technical support staff and they are ready to help you.

## 6.9 General Settings

### 6.9.1 Synchronization

Click **General Settings** to enter the general settings page.

Figure 6-21 General settings



- **Enable**  
Enable or disable the synchronization function.
- **Source**  
Select **Genlock** or an input source as the sync source.
- **Sync Shift (us)**  
Adjust the shift value to ensure a synchronized output.

### 6.9.2 Timing

Setting output timing parameters is crucial for achieving proper synchronization and timing between the display source and the display device. These timing settings help ensure that the video signal is correctly transmitted and displayed on the screen.

For timing parameters, please see the table below.

Table 6-5 Timing

Parameter	Description
Output Resolution	Current output resolution
H Total	Total pixel count per line
H Active	The horizontal size in pixels of the active area
H Front Porch	The offset between the end of the active area and the beginning of H sync
H Sync	H sync width in pixels
V Total	Total line count per frame
V Active	The vertical size of the output active area
V Front Porch	The offset in lines between the end of the output active area and the beginning of V sync
V Sync	V sync width in lines

- Click **Apply** to make the settings take effect.
- Click **Reset** to reset all the settings to defaults.

Figure 6-22 Timing

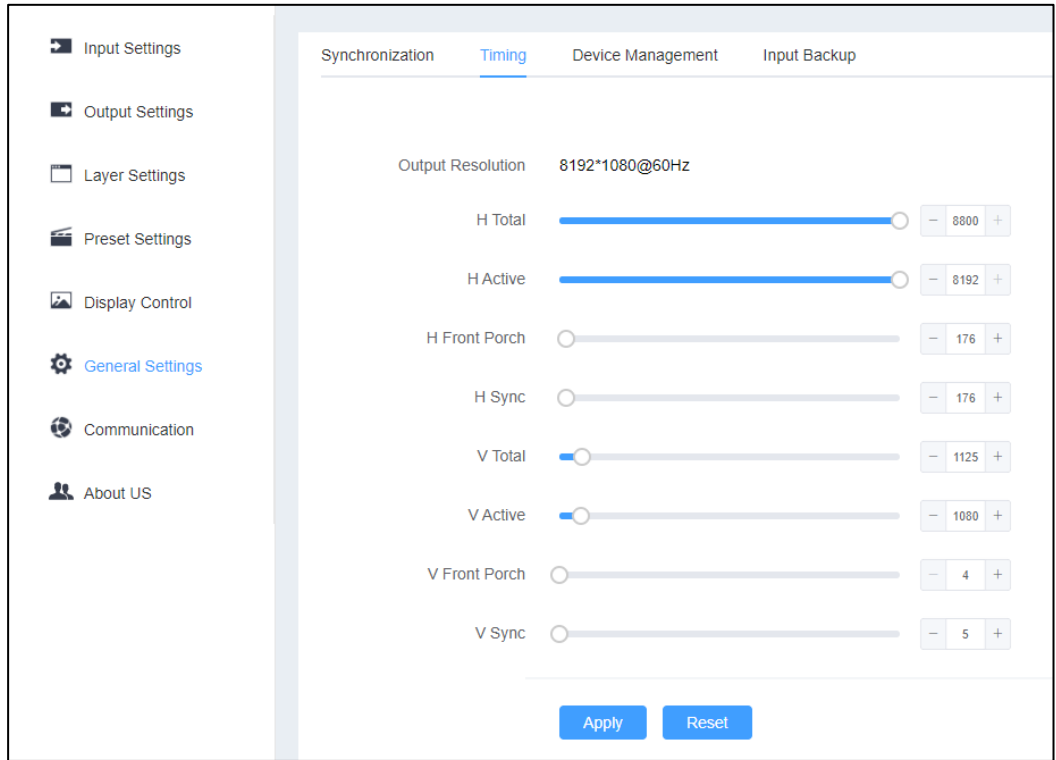
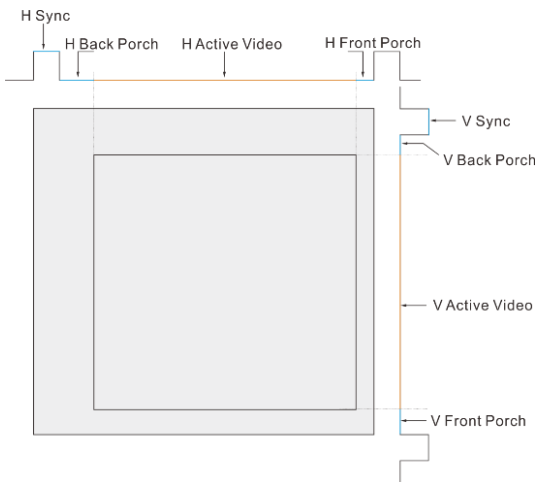


Figure 6-23 Timing

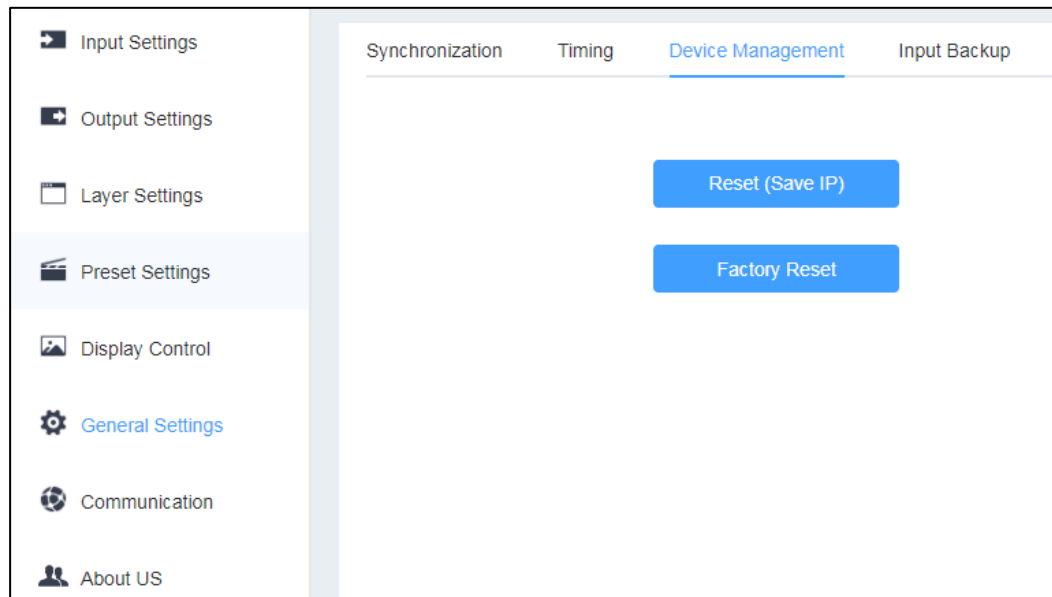


### 6.9.3 Device Management

Click **Device Management** to enter the factory reset page. If fault occurs on the device and you need to quickly recover the device, you can select to reset the device to factory settings.



Figure 6-24 Device management



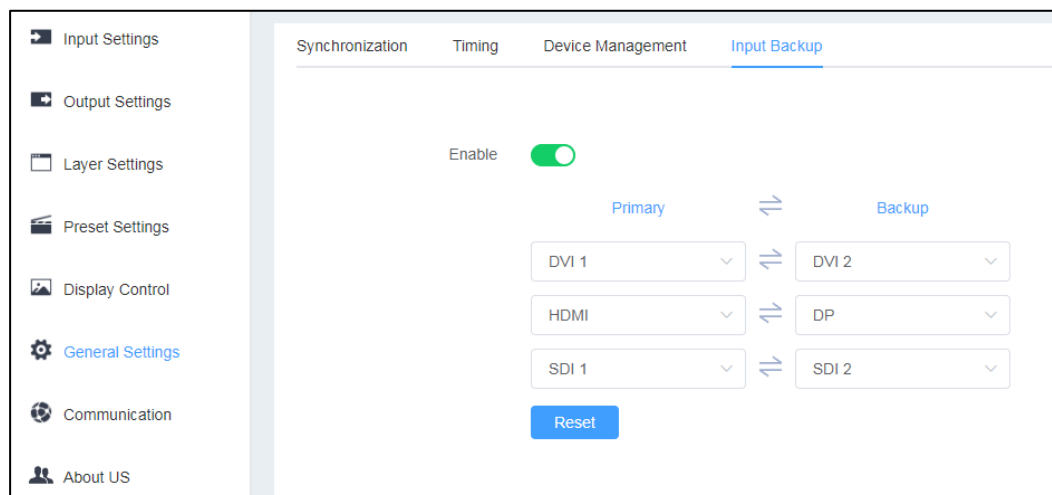
- **Reset (Save IP)**  
Reset the settings to factory defaults, except for IP address.
- **Factory Reset**  
Reset all the settings to factory defaults.

## 6.9.4 Input Backup

Click **Input Backup** to enter the input source hot backup page where you can set some backup pairs.

If you turn on the input backup function, when the input source is abnormal or the connector fails, the LED screen can still work normally.

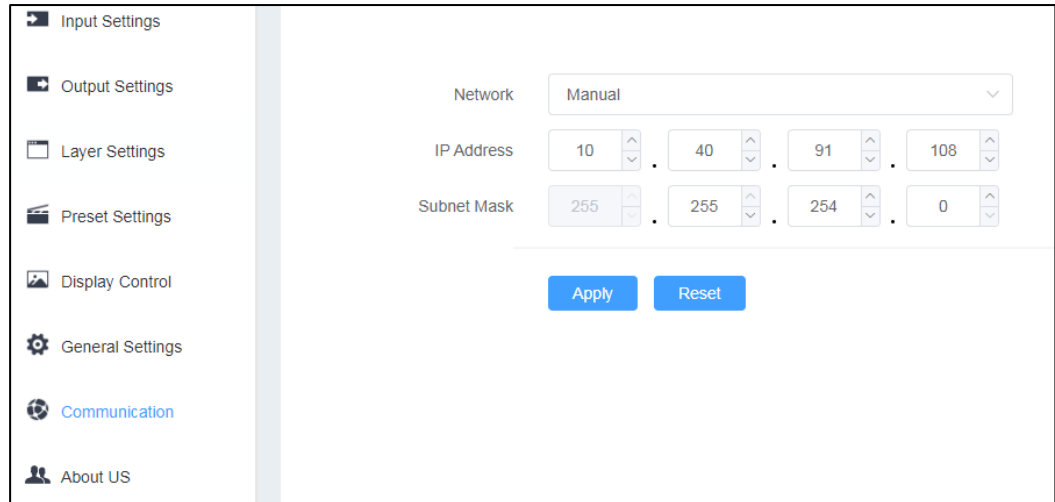
Figure 6-25 Input source hot backup



## 6.10 Communication Settings

Click **Communication** to enter the communication settings page.

Figure 6-26 Communication settings



The screenshot displays the 'Communication' settings page. On the left, a sidebar lists various settings categories, with 'Communication' selected. The main area shows the 'Network' mode set to 'Manual'. The IP Address is set to 10.40.91.108, and the Subnet Mask is 255.255.254.0. Below these fields are 'Apply' and 'Reset' buttons.

You can set to obtain the IP address manually or automatically.

- **Manual:** You need to enter the device IP address and subnet mask.
- **Auto:** The device will obtain the IP address and subnet mask automatically.

After you have completed all the settings, click **Apply** to make the settings take effect, or click **Reset** to reset the settings to default settings.

## 6.11 About Us

Click **About Us** to view the company website, email address and device hardware version.

# 7 Specifications

Input		
Connector	Qty	Resolution
DUAL DVI	2	1024×768p@48/50/59.94/60/75/85Hz 1152×864p@75Hz 1280×720p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1280×960p@50/59.94/60/85Hz 1280×1024p@48/50/59.94/60/75/85Hz 1366×768p@50/59.94/60Hz 1440×900p@60/75/85Hz 1600×1200p@48/50/59.94/60Hz 1680×1050p@60Hz 1920×1080p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1920×1200p@50/59.94/60Hz 2048×1080p@30/48/50/59.94/60Hz 2048×1152p@30/60Hz 2560×1080p@50/59.94/60Hz 2560×1600p@50/59.94/60Hz 3840×1080p@30/50/59.94/60Hz 3840×2160p@23.98/24/25/29.97/30Hz
12G-SDI	2	12G-SDI loop output 1280×720p@23.98/24/25/29.97/30/50/59.94/60Hz 1920×1080p@23.98/24/25/29.97/30/50/59.94/60Hz 3840×2160p@23.98/24/25/29.97/30/50/59.94/60Hz 4096×2160p@23.98/24/25/29.97/30/50/59.94/60Hz
DP 1.2	1	1024×768p@48/50/59.94/60/75/85Hz

HDMI 2.0	1	1152×864p@75Hz 1280×720p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1280×960p@50/59.94/60/85Hz 1280×1024p@48/50/59.94/60/75/85Hz 1440×900p@60/75/85Hz 1600×1200p@48/50/59.94/60Hz 1680×1050p@60Hz 1920×1080p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1920×1200p@50/59.94/60Hz 2048×1080p@30/48/50/59.94/60Hz 2048×1152p@30/60Hz 2560×1080p@50/59.94/60Hz 2560×1600p@50/59.94/60/120Hz 3840×1080p@30/50/59.94/60/120Hz 3840×2160p@23.98/24/25/29.97/30/60Hz
<b>Output</b>		
<b>Connector</b>	<b>Qty</b>	<b>Resolution</b>
DUAL DVI	1	1024×768p@48/50/59.94/60/75/85Hz 1152×864p@75Hz 1280×720p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1280×1024p@48/50/59.94/60/75/85Hz 1440×900p@60/75/85Hz 1600×1200p@48/50/59.94/60Hz 1680×1050p@60Hz 1920×1080p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1920×1200p@50/59.94/60Hz 2048×1080p@30/48/50/59.94/60Hz 2048×1152p@30/60Hz 2560×1080p@50/59.94/60Hz 2560×1600p@50/59.94/60Hz 3840×1080p@30/50/59.94/60Hz 3840×2160p@23.98/24/25/29.97/30Hz 4096×2160p@30Hz
HDMI 2.0	1	HDCP 2.2 and EDID1.3

		1024×768p@48/50/59.94/60/75/85Hz 1152×864p@75Hz 1280×720p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1280×1024p@48/50/59.94/60/75/85Hz 1440×900p@60/75/85Hz 1600×1200p@48/50/59.94/60Hz 1680×1050p@60Hz 1920×1080p@23.98/24/25/29.97/30/48/50/59.94/60Hz 1920×1200p@50/59.94/60Hz 2048×1080p@30/48/50/59.94/60Hz 2048×1152p@30/60Hz 2560×1080p@50/59.94/60Hz 2560×1600p@50/59.94/60/120Hz 3840×1080p@30/50/59.94/60/120Hz 3840×2160p@23.98/24/25/29.97/30/60Hz 4096×2160p@30/60Hz 7680×1080@30/60Hz 8192×1080@30/60Hz
12G-SDI	1	1280×720p@23.98/24/25/29.97/30/50/59.94/60Hz 1920×1080p@23.98/24/25/29.97/30/50/59.94/60Hz 3840×2160p@23.98/24/25/29.97/30/50/59.94/60Hz 4096×2160p@23.98/24/25/29.97/30/50/59.94/60Hz
<b>Overall Specifications</b>		
Power requirements	100–240V~, 50/60Hz	
Operating temperature	0°C to 50°C	
Storage temperature	–10°C to +60°C	
Dimensions	482.6 mm × 50.5 mm × 295.5 mm	
Power consumption	55 W	
Net weight	4.7 kg	