PIXELHUE

Flex-View Event Presentation Switching Solution

Flex-View Seamless Switchers
Event Management Software Triton
Event Controller U3

User Manual

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The latest edition of user manuals can be downloaded from the official website of PIXELHUE.

Contents

1 General

Overview

- About This Manual
- Version History
- Symbols and Pictures

1.1 About This Manual

This user manual describes how to operate the flex-view seamless switchers and event controller, as well as how to use the matched event management software Triton. This manual is designed to be a reference for your daily use of our products. It contains a complete description of the hardware and control software, as well as includes all the necessary instructions on how to update firmware, install and replace cards and power supplies.

Note

Always check for the latest version of all documents at www.pixelhue.com.

1.2 Version History

Version	Date	Changes
V2.5.0	2024-05-08	• Updated all modular card names. • Added the descriptions for the Stream Deck control over the F series devices in Appendix D.
V2.4.0	2023-12-08	• Added the descriptions for the EDID import and export functions. • Added the descriptions for directly loading presets to PGM. • Added the descriptions for formula support for value text boxes. • Optimized the factory reset settings. • Optimized the preset interface. • Optimized the layer interface and operation experience. • Optimized the functions of the TIME buttons in the transition area of the event controller.
V2.3.0	2023-3-30	• Added the descriptions for F_12G SDI output card. • Added the descriptions for the cut and fill, layer resource usage monitoring and log exporting functions. • Added the descriptions for the input quantization range parameter. • Updated the user interface pictures in Chapter 7 and Chapter 8. • Optimized the descriptions for the functions of the TOP and BOTTOM buttons on the event controller. • Corrected the F8 dimensions.
V2.2.0	2022-11-9	• Added the descriptions for F_12G SDI input card. • Added the descriptions for the HDR format conversion, sync signal status display, user key, screen frame rate switching, independent RGB adjustment of brightness and contrast, device backup and input source backup,

		MVR window aspect ratio adjustment functions.
		• Updated the rear panel pictures of the F series devices.
		• Updated the descriptions and user interface pictures in Chapter 7.
		• Deleted the input, output and screen Gamma adjustment descriptions.
		• Deleted the descriptions for F_4K HDMI2.0/DP1.2 Input Card.
		• Deleted the descriptions for F_4K HDMI2.0/OPT Output Card.
		• Added the Appendix B Input Source Features.
V2.1.2	2022-5-16	• Updated the virtual event controller and peripheral management descriptions in Chapter 8.
		• Added the KVM control descriptions in Chapter 8.
V2.1.1	2022-4-25	• Added the Notes and Cautions section to Chapter 2.
		• Updated the battery safety descriptions.
		• Updated some descriptions and data of the input and output cards.
V2.1.0	2022-3-10	• Added the descriptions for F_4xHDMI1.4 input card.
		• Added the descriptions for F_4x3G SDI output card.
		• Updated the user interface of the event management software Triton in Chapter 7.
		• Optimized the resource algorithms for the 4K/DL layers and the cropped layers.
		• Added support for connector capacity switching for the 4K connectors.
		• Added support for UMD display on the connected monitors.
		• Added new layer border effects.
		• Added support for the output mapping function.
		• Added support for the HDCP function on the inputs and outputs.
		• Added support for the layer copying and mirroring functions.
		• Added support for the output connector copying function.
		• Added support for controlling multiple F series devices simultaneously on a single U3 event controller or a control PC.
		• Updated the color code descriptions for the preset buttons on the U3 event controller.
V2.0.0	2021-9-30	• Updated the terms and definitions in Chapter 3.
		• Added the descriptions for F_2xHDMI 2.0+4xFiber output card II.
		• Updated the descriptions for F_4xDP1.1 input card.
		• Updated the user interface and descriptions of the event management software Triton in Chapter 7.

		• Added the descriptions for flight case installation.
V1.1.0	2021-3-22	Updated the power modules for the F series devices.
V1.0.0	2021-1-6	First release

1.3 Symbols and Pictures

Symbol Overview

⚡	**Danger**	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
⚠	**Warning**	Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.
❗	**Caution**	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
📄	**Note**	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

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.

a) 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 (Tma) specified by the manufacturer.

b) 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.

c)Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) 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.

e)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 Terms and Definitions

PVW	PVW is an abbreviation for Preview. The PVW area displays the pre-editing content before it is sent to PGM.
PGM	PGM is an abbreviation for Program. The PGM area displays the real-time output image.
Take	Take is an action of sending the PVW content to PGM with a transition effect.
Cut	Cut is an action of sending the PVW content to PGM directly, without any transition effect.
T-Bar	T-bar is a lever that manually controls the progress of sending PVW to PGM.
LOGO	LOGO is a special layer with the highest priority and is displayed in front of all other layers. LOGO consumes no processing resources and displays an unscaled image on the screen.
BKG	BKG is an abbreviation for background. BKG is a special layer that has the lowest priority and is displayed beneath all other layers. BKG consumes no processing resources and fills the whole screen.
MVR	MVR is an abbreviation for Multiviewer. An MVR connector is used to connect a confidence monitor for displaying the specific input or output content, such as the presenter's laptop.
AUX	AUX is an abbreviation for auxiliary. An AUX connector is used to output the input source, PVW or PGM, to a specified monitor, such as a teleprompter.
AOI	AOI is an acronym for Area of Interesting. AOI allows users to view a specific output area they are interested in.
Aspect Ratio	Aspect ratio is the ratio of a layer/image width to its height. It is commonly expressed as two numbers separated by a colon, as in 16:9.
Contrast	Contrast defines the difference between the darkest and brightest areas of an image displayed on the screen. The larger this value is, the bigger this difference will be.
Gamma	Gamma defines the degree of distortion of the image color. The larger this value is, the more distorted the color will be.
Hue	Hue defines the gradation or variety of the image color. The larger

this value is, the more intense the color will be.

Saturation	Saturation defines the purity or vividness of the image color. The larger this value is, the purer the color will be.
Color Space	Color space is a mathematical model that maps the colors that can be reproduced by a device to a standard color model, usually the RGB model.
Bit Depth	Bit depth refers to the color information stored in an image. The higher the bit depth of an image, the more colors it can store.
Frame Rate	Frame rate (expressed in frames per second, or FPS) is the frequency (rate) at which consecutive images called frames to appear on a display. Frame rate may also be called the frame frequency, and be expressed in hertz.
EDID	EDID is an acronym for Extended Display Identification Data. It is a data structure provided by the displays to describe its capabilities to a video source. The EDID includes the data such as brand, product type, display size, supported features, timing information, color characteristics, and more.
Luma Key	Luma key refers to a process to composite a foreground clip over a background clip based on the luma levels in a video or image. This is most often useful for still images, such as a picture of a logo over a black background.
Chroma Key	Chroma key refers to a process that a specific color is removed from an image, allowing that portion of the image to be replaced. This color can be any solid color, most commonly blue or green.
HDCP	HDCP stands for High-Bandwidth Digital Content Protection, a copy protection scheme to eliminate the possibility of intercepting digital data midstream between the source and the display. HDCP 1.4 is designed for full HD content, while HDCP 2.2 relates to ultra HD 4K media.

4 Overview

About This Chapter

This chapter is designed to introduce you to PIXELHUE flex-view event presentation switching solution.

Overview

- Solution Overview
- Control Overview
- Initial Inspection

4.1 Solution Overview

The flex-view event presentation switching solution includes two parts basically: Flex-view seamless switcher and event controller/Triton (PC). The solution is specifically designed for easy management of multi-display for large-scale shows or visual management systems.

Figure 4-1 Flex-view event presentation switching solution

Flex-View Seamless Switcher

The flex-view seamless switchers (hereinafter referred to as F series) feature powerful image processing capabilities and 4K UHD inputs and outputs. All kinds of layer operations (such as adding, scaling, positioning and sorting) and layer effects (such as border and transparency) are all supported at your ease. The F series also allow for monitoring of the input sources and outputs, safeguarding your on-site operations.

The F series work exceptionally well with PIXELHUE's matching video processing software, Triton. Triton provides an offline mode and pre-editing functionality that can directly import on-site and migrate between different devices. This software is easy to master, and a sophisticated yet user-friendly interface guides you from beginning to the end of any kind of event with as little complex operation as possible.

Thanks to its powerful video processing capabilities, stable and reliable operation, the F series can be widely used in various scenarios, such as high-end rental applications, stage control systems, media centers, big conference sites, exhibition sites, concert control centers and more, providing an excellent solution for various display requirements.

Event Controller

The U3 is a live event controller developed by PIXELHUE. With built-in high-performance event management software Triton, the event controller is capable of receiving, processing, and monitoring multiple inputs and outputs. Designed with dual touchscreens, easy-to-use buttons and controls, the U3 event controller makes your control over the F series devices a breeze.

The U3 can work with one or multiple F series devices to provide an ideal video operating tool for a wide range of events such as large press conferences, various interactive live shows, music tours, immersive art exhibitions and more.

4.2 Control Overview

Three ways are provided for you to control the F series devices.

Front Panel

The F8 and F4 front panels both provide a 7-inch capacitive touchscreen that allows for menu operations by fingertips. A front-panel USB port is provided for you to update the firmware. For more information about the F8 and F4 front panels, please refer to 5 Hardware Introduction.

The F4 Lite front panel comes with a power switch, a USB port and a dimmable display that works with the knob and back button. Through the front panel menus, you can perform basic system functions, such as factory reset, configuring network and basic monitoring. A front-panel USB port is reserved for any future use. For more information about the F4 Lite front panel, please refer to 5 Hardware Introduction.

Triton

The event management software Triton allows you to manage and control the F series devices uniformly. The software consists of several menus and tabs that allow you to configure the devices, inputs, outputs, screens and layers, as well as manage the presets and Multiviewer.

Event Controller

The U3 event controller is specifically designed to support the F series devices. It runs from the same software as Triton.

4.3 Initial Inspection

General

Before shipment, the devices were inspected and found to be free of mechanical and electrical defects. As soon as the devices are unpacked, inspect for any damage that may have occurred in transit, and make sure there are no broken parts and the unit is free of dents. Save all packing material until the inspection is completed. If any damage is found, please contact PIXELHUE or your local distributor immediately.

After unpacking, please always place the device on a stable, flat and insulated support for handling or using.

Unpacking

After the unpacking, it is recommended you check carefully to see whether all accessories are included according to the provided packing list.

5 Hardware Introduction

About This Chapter

This chapter is designed to introduce you to the hardware configuration of the F series devices in detail.
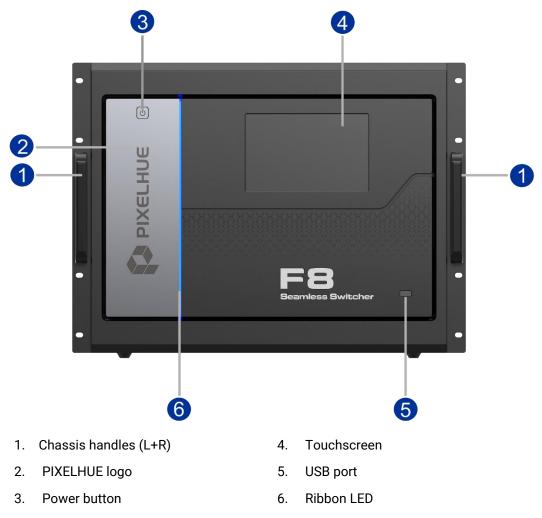
Overview

- F8
- F4
- F4 Lite
- Input Cards
- Output Cards
- MVR Cards
- AUX Cards

5.1 F8

5.1.1 Front Panel

The F8 front panel adopts a simplified and graceful design, offering a 7-inch capacitive touchscreen for simple user operations at your fingertips. Additionally, a cool ribbon LED bar is provided for indicating device startup status and a USB port is provided for firmware update.

Figure 5-1 F8 front panel

1.	Chassis handles (L+R)	4.	Touchscreen
2.	PIXELHUE logo	5.	USB port
3.	Power button	6.	Ribbon LED

Chassis Handles

Two handles are provided for easy installation and transportation.

Power Button

To power on the device, simply press the power button on the device front panel.

To power off the device, click the power button and then select **OK** in the confirmation window to shut down the device.

Touchscreen

A 7-inch capacitive touchscreen is provided to show the menus, submenus and messages, and allows you to perform any necessary operations.

After startup, the screen displays the home screen. For detailed information on this menu, refer to 6.1 F8.

USB Port

A type-A USB port is provided for firmware update and importing/exporting files using a USB drive.
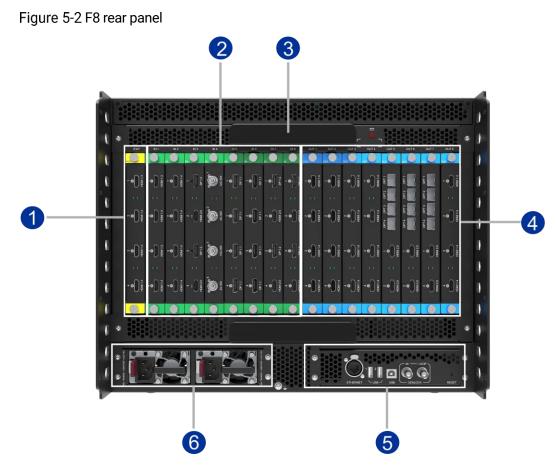
Note

It is recommended you use the mainstream USB drive on the market for a better user experience, such as the Kingston USB drive.

Ribbon LED

A fashionable ribbon LED is designed on the front panel to indicate the device startup status. After the device startups normally, the ribbon LED is lit.

5.1.2 Rear Panel

The F8 rear panel provides 17 card slots for installing a variety of input, output and other cards. You can easily customize your own system with different cards to match your project or show applications. The F8 adopts dual redundant power supplies to ensure system reliability.

Figure 5-2 F8 rear panel

*The rear panel picture shown is for illustration purposes only. The actual product may vary due to different configurations.

1.	Expansion card	4.	Output cards
2.	Input cards	5.	Control card
3.	LED work light	6.	Power connectors

⚜ **Caution**

All the cards can only be installed into the designated slots, as illustrated in the above figure. Installing a card into an incorrect slot will cause device failure.

📄 **Note**

An LED work light is located on the top of all the cards. For details, please refer to LED Work Light.

Input Cards

The F8 provides up to 8 input card slots that can accommodate 8 input cards. The input cards offer the following connectors.

- 4K connector (12G-SDI, DP 1.2, HDMI 2.0): Up to 4K2K@60Hz 4:4:4 8-bit

- DL connector (DP 1.1, dual-link DVI): Up to 4K1K@60Hz 4:4:4 8-bit

- SL connector (HDMI 1.3, single-link DVI, 3G-SDI): Up to 2K1K@60Hz 4:4:4 8-bit

Output Cards

The F8 provides up to 8 output card slots that can accommodate 8 output cards. The output cards offer the following connectors.

- 4K connector (HDMI 2.0): Up to 4K2K@60Hz 4:4:4 8-bit

- DL connector (HDMI 1.4, dual-link DVI): Up to 4K1K@60Hz 4:4:4 8-bit

- SL connector (HDMI 1.3, single-link DVI, 3G-SDI): Up to 2K1K@60Hz 4:4:4 8-bit

- OPT port: 10G

📄 **Note**

The last output card is used for Multiviewer by default and can also be used as the main output card. Two dedicated outputs (connectors 1 and 2) on this card can be configured as Multiviewer connectors with a fixed resolution of 1920×1080p@60Hz.

Expansion Card

An expansion slot is provided for you to customize different cards according to your requirements. For example, when auxiliary displays such as teleprompters are required, an AUX card can help meet your needs.

LED Work Light

At some event venues, the lights may be very dim. For users' convenience, an LED work light is designed to provide adequate light for rear panel operations. The LED comes with a switch (red) next to it.

Figure 5-3 Rear panel LED work lights

Power Connectors

The F8 is equipped with dual redundant power supplies. The load is shared equally by both power supplies during normal operation. If one fails or is disconnected, the other one carries the whole load. Connect both power connectors to the electrical outlets through the provided power cords.

Power specification: 100−127V~, 200−240V~, 50/60Hz, 10A

On each power module, there is a dual-color LED on its front face, providing the power supply status information as follows:

- Green: The power supply works normally.

- Flashing green: The AC power is applied to the power supply unit and the standby voltage is available.

- Orange: The power supply fails or is disconnected.

- Flashing orange: Warning occurs on the power supply unit, such as high temperature, over current, fan failure and so on; therefore, replacing the unit may be necessary.

- Off: No AC is power is connected to the power supply unit.

Control Card

The control card provides an Ethernet port, two type-A USB ports, a type-B USB port, a Genlock connector with loop-through, a control UI connector and a pinhole reset hole (button).

Figure 5-4 Control card

Ethernet Port

An Ethernet port is provided for connection with the control PC or for the input view.

USB Ports (Type-A)

Two type-A USB ports are provided for firmware update and importing/exporting files by using a USB drive.

USB Port (Type-B)

A type-B USB port is reserved.

Genlock Connector

The Genlock connector is a standard 75 Ohm BNC connector for receiving the synchronization signal.

The Genlock input supports bi-level and tri-level. The connector loops through the Genlock signal to another downstream device.
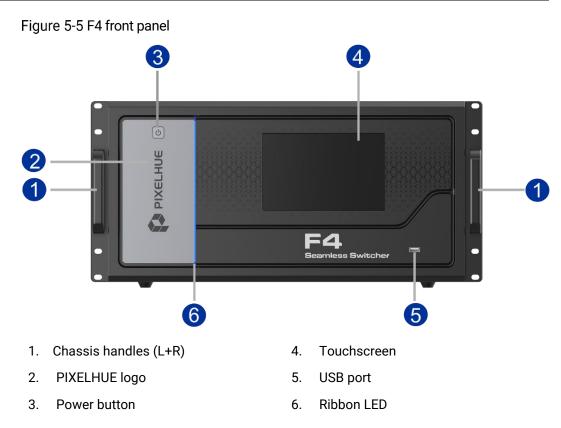
Reset

A pinhole button is provided to reset the device. Hold down the button to reset the device.

5.2 F4

5.2.1 Front Panel

The F4 front panel adopts a simplified and graceful design, offering a 7-inch capacitive touchscreen for simple user operations at your fingertips. Additionally, a cool ribbon LED bar is provided for displaying device startup status and a USB port is provided for firmware update.

Figure 5-5 F4 front panel

1.	Chassis handles (L+R)	4.	Touchscreen
2.	PIXELHUE logo	5.	USB port
3.	Power button	6.	Ribbon LED

The descriptions for the chassis handles, power button, touchscreen, USB port and ribbon LED are all the same as that of the F8.

5.2.2 Rear Panel

The F4 rear panel provides 15 card slots for installing a variety of input, output and other cards. You can easily customize your own system with different cards to match your project or show applications. The F4 adopts a dual power supply design to ensure operation reliability.

The descriptions for the cards, LED work lights, power connectors are all the same as that of the F8.
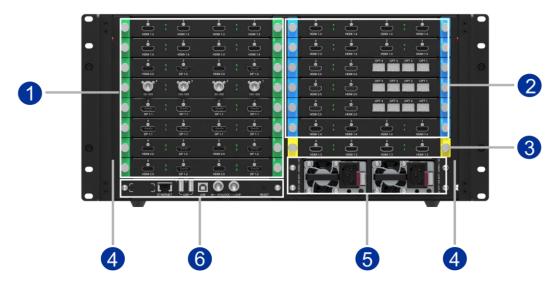
Figure 5-6 F4 rear panel

*The rear panel picture shown is for illustration purposes only. The actual product may vary due to different configurations.

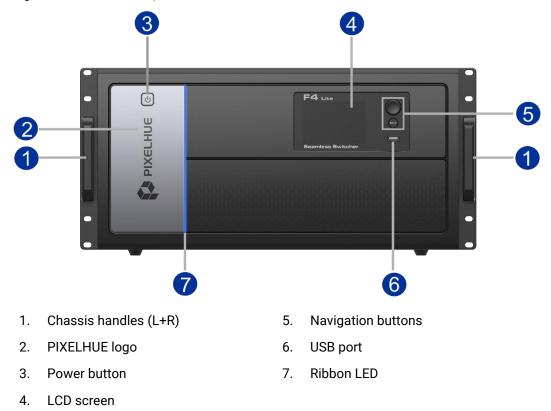| 1.	Input cards	4.	LED work lights
2.	Output cards	5.	Power connectors
3.	Expansion card	6.	Control card

⚠ **Caution**

All the cards can only be installed into the designated slots, as illustrated in the above figure. Installing a card into an incorrect slot will cause device failure.

5.3 F4 Lite

5.3.1 Front Panel

The F4 Lite front panel adopts a simplified and graceful design, offering an LCD screen with navigation buttons for simple user operations. Additionally, a cool ribbon LED bar is provided for displaying device startup status and a USB port is reserved for future use.

Figure 5-7 F4 Lite front panel

1.	Chassis handles (L+R)	5.	Navigation buttons
2.	PIXELHUE logo	6.	USB port
3.	Power button	7.	Ribbon LED
4.	LCD screen		

Chassis Handles

Two handles are provided for easy installation and transportation.

Power Button

To power on the device, simply press the power button on the device front panel.

To power off the device, click the power button and then shut down the device in the confirmation window.

LCD Screen

A 3.5-inch LCD screen is provided to display the menus, submenus and messages.

After a successful startup, the screen displays the home page. For detailed information on this menu, refer to 6.3 F4 Lite.

Navigation Buttons

The navigation buttons include the following two controls:

- Knob

  Rotate the knob to scroll through the menu items on the LCD screen, or adjust a parameter value.

  Press the knob to confirm the selection or settings.

- BACK button

  Press the button to exit a menu without making changes or cancel an operation.
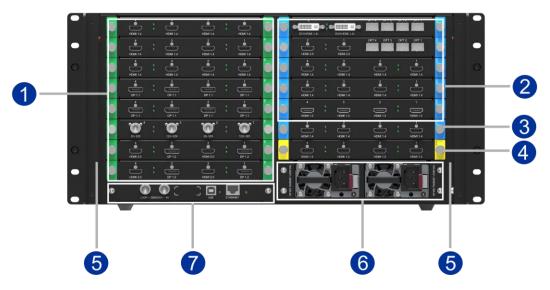
USB Port

A type-A USB port is reserved.

Ribbon LED

A fashionable ribbon LED is designed on the front panel to indicate the device startup status. After the device startups normally, the ribbon LED is lit.

5.3.2 Rear Panel

The F4 Lite rear panel provides 15 card slots for installing a variety of input, output and other cards. You can easily customize your own system with different cards to match your project or show applications. The F4 Lite adopts a dual power supply design to ensure operation reliability.

Figure 5-8 F4 Lite rear panel

*The rear panel picture shown is for illustration purposes only. The actual product may vary due to different configurations.

1.	Input cards	5.	LED work lights
2.	Output cards	6.	Power connectors
3.	MVR card	7.	Control card
4.	Expansion card		

⬦ **Caution**

All the cards can only be installed into the designated slots, as illustrated in the above figure. Installing a card into an incorrect slot will cause device failure.

▤ **Note**

Two LED work lights are located on the inner sides of the chassis lateral plates. For details, please refer to LED Work Lights.

Input Cards

The F4 Lite provides up to 8 input card slots that can accommodate 8 input cards. The input cards offer the following connectors.

- 4K connector (12G-SDI, DP 1.2, HDMI 2.0): Up to 4K2K@60Hz 4:4:4 8-bit
- DL connector (DP 1.1, dual-link DVI): Up to 4K1K@60Hz 4:4:4 8-bit
- SL connector (HDMI 1.3, single-link DVI, 3G-SDI): Up to 2K1K@60Hz 4:4:4 8-bit

Output Cards

The F4 Lite provides up to 5 output card slots that can accommodate 6 output cards. The output cards offer the following connectors.

- 4K connector (HDMI 2.0): Up to 4K2K@60Hz 4:4:4 8-bit
- DL connector (HDMI 1.4, dual-link DVI): Up to 4K1K@60Hz 4:4:4 8-bit

- SL connector (HDMI 1.3, single-link DVI, 3G-SDI): Up to 2K1K@60Hz 4:4:4 8-bit
- OPT port: 10G

MVR Card

The MVR card mainly provides the monitoring function. Two dedicated outputs (connectors 1 and 3) on this card can be configured as Multiviewer connectors with a fixed resolution of 1920×1080p@60Hz. Connector 2 is for input view and connector 4 is unavailable currently.

Expansion Card

An expansion card slot is provided for you to customize different cards according to your requirements. For example, when auxiliary displays such as teleprompters are required, an AUX card can help realize your needs.

LED Work Lights

At some event venues, the lights may be very dim. For users' convenience, two LED work lights are designed to provide adequate light for rear panel operations. The lights come with two switches (red) on both sides of the rear panel, as shown below.

Figure 5-9 LED work light on one side of rear panel

Power Connectors

The F4 Lite is equipped with dual redundant power supplies. The load is shared equally by both power supplies during normal operation. If one fails or is disconnected, the other one carries the whole load. Connect both power connectors to the electrical outlets through the provided power cords.

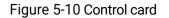Power specification: 100−240V~, 50/60Hz, 10A−5A

On each power module, there is a dual-color LED on its front face, providing the power supply status information as follows:

- Green: The power supply works normally.

- Flashing green: The AC power is applied to the power supply unit and the standby voltage is available.

- Orange: The power supply fails or is disconnected.

- Flashing orange: Warning occurs on the power supply unit, such as high temperature, over current, fan failure and so on; therefore, replacing the unit may be necessary.

- Off: No AC is power is connected to the power supply unit.

Control Card

The control card provides a Genlock connector with loop-through, a USB port and an Ethernet port with status LEDs.

Figure 5-10 Control card

Genlock Connector

The Genlock connector is a standard 75 Ohm BNC connector for receiving the synchronization signal.

The Genlock input supports bi-level and tri-level. The connector loops through the Genlock signal to another downstream device.

USB Port

A type-B USB port is reserved.

Ethernet Port

The Ethernet port (RJ45) is used to connect with the control PC. Two LEDs are both lit when the port is connected. The green LED on the left side indicates the port connection status, and the amber LED on the right side indicates the data transmission status.

- Green LED:
  - On: The port is connected.
  - Off: The port is not connected.

- Amber LED:
  - Flashing: Active, data transmitting on the port
  - Off: Not active, no data transmitting on the port

5.4 Input Cards

5.4.1 F_4xDVI Input Card

General

The F_4xDVI input card provides four DVI connectors that support DVI video inputs. The loading capacity of a single card reaches 4x 2048×1080@60Hz.

Figure 5-11 F_4xDVI input card

1	DVI	DVI 1 connector is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	DVI/DUAL DVI	DVI 2 connector is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	DVI	DVI 3 connector is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	DVI/DUAL DVI	DVI 4 connector is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- Processes up to 4 signals.
- 2x DVI-D dual link connectors or 4x DVI-D single link connectors
- Supports single link or dual link DVI video signal.
- In dual link mode, connectors 2 and 4 are active.
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

Specifications

- DVI-D standard
- SL mode: Input resolution up to 2048×1080@60Hz 4:4:4 8-bit
- DL mode: Input resolution up to 3840×1080@60Hz 4:4:4 8-bit
- HDCP 1.4 compliant
- 10-bit sources supported in SL mode
- EDID management for VESA, and CVT compliant user timings
- Interlaced inputs and deinterlacing processing supported
- Common resolutions:

1920×1080p@30/48/50/59.94/60Hz

5.4.2 F_4xHDMI1.3 Input Card

General

The F_4xHDMI1.3 input card provides four HDMI 1.3 connectors that support HDMI video inputs. The loading capacity of a single card reaches 4x 2048×1080@60Hz.

Figure 5-12 F_4xHDMI1.3 input card

1	HDMI 1.3	HDMI 1 connector is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	HDMI 1.3	HDMI 2 connector is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	HDMI 1.3	HDMI 3 connector is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	HDMI 1.3	HDMI 4 connector is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- Processes up to 4 signals.
- 4x HDMI 1.3 connectors
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

Specifications

- HDMI 1.3 standard
- Input resolution up to 2048×1080@60Hz 4:4:4 8-bit
- HDCP 1.4 compliant
- 10-bit sources supported
- 10-bit source info override supported
- EDID management for VESA, and CVT compliant user timings
- Interlaced inputs and deinterlacing processing supported
- Common resolutions:

  1920×1080p@30/48/50/59.94/60Hz

5.4.3 F_4xHDMI1.4 Input Card

General

The F_4xHDMI1.4 input card provides four HDMI 1.4 connectors that support HDMI video inputs. The loading capacity of a single card reaches 4x 3840×1080@60Hz.

Figure 5-13 F_4xHDMI1.4 input card

1	HDMI 1.4	HDMI 1 connector is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	HDMI 1.4	HDMI 2 connector is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	HDMI 1.4	HDMI 3 connector is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	HDMI 1.4	HDMI 4 connector is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- Processes up to 4 signals.
- Capacity switching between SL and DL on each connector
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

Specifications

- HDMI 1.4 standard
- SL: Input resolution up to 2048×1080@60Hz 4:4:4 8-bit
- DL: Input resolution up to 3840×1080@60Hz 4:4:4 8-bit
- HDCP 1.4 compliant
- 10-bit sources supported
- 10-bit source info override supported
- EDID management for VESA, and CVT compliant user timings
- Interlaced inputs and deinterlacing processing supported
- Common resolutions:
  - 1920×1080p@30/48/50/59.94/60Hz
  - 3840×1080p@30/50/59.94/60Hz

5.4.4 F_4x3G SDI Input Card

General

The F_4x3G SDI input card provides four BNC connectors supporting 3G-SDI inputs.

Figure 5-14 F_4x3G SDI input card

1	3G-SDI	3G-SDI 1 connector is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	3G-SDI	3G-SDI 2 connector is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	3G-SDI	3G-SDI 3 connector is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	3G-SDI	3G-SDI 4 connector is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- Processes up to 4 signals.
- 4x 3G-SDI connectors
- Backward compatible with SD-SDI and HD-SDI
- Supports the deinterlacing processing.
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

Specifications

- SMPTE 425-1, 2048-2, 296M, 292M, 259M
- Common resolutions:
  - 720×576i@50Hz (PAL)
  - 720×480i@59.94Hz (NTSC)
  - 1920×1080i@50/59.94/60Hz
  - 1920×1080p@50/59.94/60Hz

5.4.5 F_12G SDI Input Card

General

The F_12G SDI input card provides four BNC connectors supporting 2x 12G-SDI, or 4x 3G-SDI, or 1x 12G-SDI + 2x 3G-SDI inputs.

Figure 5-15 F_12G SDI input card

1	12G-SDI	12G-SDI 1 connector is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	3G-SDI	3G-SDI 2 connector is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	12G-SDI	12G-SDI 3 connector is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	3G-SDI	3G-SDI 4 connector is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- Processes up to 4 signals.
- 2x 12G-SDI connectors, 4x 3G-SDI connectors or 1x 12G-SDI + 2x 3G-SDI connectors
- Backward compatible with 6G-SDI, 3G-SDI, HD-SDI and SD-SDI
- Supports the deinterlacing processing.
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

Specifications

- SMPTE 425-1, 2048-2, 296M, 292M, 259M
- Common resolutions (12G-SDI):
  - 720×480i@59.94Hz
  - 720×576i@50Hz
  - 1920×1080i@50/59.94/60Hz
  - 3840×2160p@23.98/24/25/29.97/30/50/59.94/60Hz
- Common resolutions (3G-SDI):
  - 720×576i(PAL)@50Hz
  - 720×480i(PAL)@59.94Hz
  - 1920×1080i@50/59.94/60Hz

5.4.6 F_4xDP1.1 Input Card

General

The F_4xDP1.1 input card provides four DP 1.1 connectors that support DisplayPort video inputs. The loading capacity of a single card reaches 4x 3840×1080@60Hz.

Figure 5-16 F_4xDP1.1 input card

1	DP 1.1	DP 1 connector is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	DP 1.1	DP 2 connector is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	DP 1.1	DP 3 connector is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	DP 1.1	DP 4 connector is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- Processes up to 4 signals.
- Capacity switching between SL and DL on each connector
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

Specifications

- DP 1.1 standard
- SL: Input resolution up to 2048×1080@60Hz 4:4:4 8-bit
- DL: Input resolution up to 3840×1080@60Hz 4:4:4 8-bit
- HDCP 1.3 compliant
- 10-bit sources supported
- 10-bit source info override supported
- EDID management for VESA, and CVT compliant user timings
- Interlaced inputs and deinterlacing processing supported
- Common resolutions:
  - 1920×1080p@30/48/50/59.94/60Hz
  - 3840×1080p@30/50/59.94/60Hz

5.4.7 F_2xHDMI2.0+2xDP1.2 Input Card

General

The F_2xHDMI2.0+2xDP1.2 input card provides two HDMI 2.0 connectors supporting HDMI video inputs and two DP 1.2 connectors supporting DisplayPort video inputs. The loading capacity of a single card reaches 2x 4096×2160@60Hz.

Figure 5-17 F_2xHDMI2.0+2xDP1.2 input card

1	DP 1.2	Connector 1 is provided with an LED (bottom one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
2	HDMI 2.0	Connector 2 is provided with an LED (top one between connectors 1 and 2). When the LED is on, a valid signal is accessed to the connector.
3	DP 1.2	Connector 3 is provided with an LED (bottom one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.
4	HDMI 2.0	Connector 4 is provided with an LED (top one between connectors 3 and 4). When the LED is on, a valid signal is accessed to the connector.

Features

- 2x DP 1.2 connectors and 2x HDMI 2.0 connectors
- Each connector has an LED indicating a valid signal is accessed when the LED turns on.

⚠ **Cautions**

- Connectors 1 and 2 form a group. Connectors 3 and 4 form a group.
- ONLY TWO CONNECTORS that come from different groups can be used simultaneously.

Specifications

- DP 1.2
  - Capacity switching between SL, DL and 4K
  - Input resolution up to 4096×2160@60Hz/8192×1080@60Hz 4:4:4 10-bit
  - HDCP 1.3 compliant
- HDMI 2.0
  - Capacity switching between SL, DL and 4K
  - Input resolution up to 4096×2160@60Hz 4:4:4 8-bit
  - HDCP 2.2 and HDCP 1.4 compliant
- 10-bit sources supported
- 10-bit source info override supported
- EDID management for VESA, and CVT compliant user timings
- Interlaced inputs and deinterlacing processing supported
- Common resolutions:
  - 1920×1080p@30/48/50/59.94/60Hz
  - 3840×1080p@30/50/59.94/60Hz

    –   3840×2160p@30/50/59.94/60Hz

5.5 Output Cards

5.5.1 F_4xDVI Output Card

General

The F_4xDVI output card provides four single link DVI-D connectors. The loading capacity of a single card reaches 4x 2048×1080@60Hz.

Figure 5-18 F_4xDVI output card

Features

- Outputs up to 4 signals.
- 4x DVI-D single link connectors

Specifications

- DVI-D standard
- Up to 2048×1080@60Hz 4:4:4 8-bit
- For custom resolutions, the maximum width and height of each connector can both be up to 2048 pixels.
- HDCP 1.4 compliant
- Support for VESA/CVT and user timings
- Connector copying supported

  Connectors 2 and 4 are active. Connectors 1 and 3 copy the outputs on connectors 2 and 4, respectively.
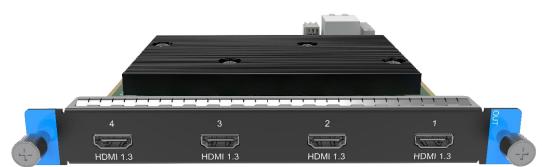
- Common resolutions: 1920×1080p@30/48/50/59.94/60Hz

5.5.2 F_4xHDMI1.3 Output Card

General

The F_4xHDMI1.3 output card provides four HDMI 1.3 connectors. The loading capacity of a single card reaches 4x 2048×1080@60Hz.

Figure 5-19 F_4xHDMI1.3 output card

Features

- Outputs up to 4 signals.
- 4x HDMI 1.3 connectors

Specifications

- HDMI 1.3 standard
- Up to 2048×1080@60Hz 4:4:4 8-bit
- Custom resolutions: The maximum width and height of each connector can both be up to 2048 pixels.
- HDCP 1.4 compliant
- Support for VESA/CVT and user timings
- Connector copying supported

  Connectors 2 and 4 are active. Connectors 1 and 3 copy the outputs on connectors 2 and 4, respectively.
- Common resolutions: 1920×1080p@30/48/50/59.94/60Hz

5.5.3 F_4xDVI1.4 Output Card

General

The F_4xDVI1.4 output card provides four DVI connectors supporting single link and dual link modes. The four connectors are single link connectors by default. The loading capacity of a single card reaches 4x 2048×1080@60Hz.
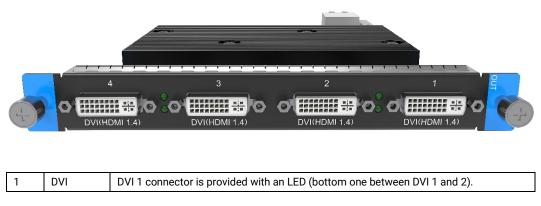
Figure 5-20 F_4xDVI1.4 output card

1	DVI	DVI 1 connector is provided with an LED (bottom one between DVI 1 and 2).

		When the LED is on, the connector is transmitting data.
2	DVI	DVI 2 connector is provided with an LED (top one between DVI 1 and 2).
		When the LED is on, the connector is transmitting data.
3	DVI	DVI 3 connector is provided with an LED (bottom one between DVI 3 and 4).
		When the LED is on, the connector is transmitting data.
4	DVI	DVI 4 connector is provided with an LED (top one between DVI 3 and 4).
		When the LED is on, the connector is transmitting data.

Features

- Outputs up to 4 signals.
- 2x DVI dual link connectors or 4x DVI single link connectors
- Supports single link or dual link DVI output.
- Each connector has an LED indicating the data transmission status when the LED turns on.

Specifications

- SL:
  - HDMI 1.3 protocol
  - Four connectors are all active.
  - Input resolution up to 2048×1080@60Hz 4:4:4 8-bit
  - Custom resolutions: The maximum width and height can both be up to 2048 pixels.
- DL:
  - HDMI 1.4 protocol
  - Connectors 2 and 4 are active. Connectors 1 and 3 copy the outputs on connectors 2 and 4, respectively.
  - Input resolution up to 3840×1080@60Hz 4:4:4 8-bit
  - Custom resolutions: The maximum width and height can both be up to 4096 pixels.
- HDCP 1.4 compliant
- Support for VESA/CVT and user timings
- Common resolutions:
  - 1920×1080p@30/48/50/59.94/60Hz
  - 2048×1080p@30/48/50/59.94/60Hz
  - 3840×1080p@30/50/59.94/60Hz

5.5.4 F_4xHDMI1.4 Output Card

General

The F_4xHDMI1.4 output card provides four HDMI 1.4 connectors supporting single link and dual link modes. The four connectors are single link connectors by default. The loading capacity of a single card reaches 4x 2048×1080@60Hz.

Figure 5-21 F_4xHDMI1.4 output card

1	HDMI 1.4	HDMI 1 connector is provided with an LED (bottom one between HDMI 1 and 2). When the LED is on, the connector is transmitting data.
2	HDMI 1.4	HDMI 2 connector is provided with an LED (top one between HDMI 1 and 2). When the LED is on, the connector is transmitting data.
3	HDMI 1.4	HDMI 3 connector is provided with an LED (bottom one between HDMI 3 and 4). When the LED is on, the connector is transmitting data.
4	HDMI 1.4	HDMI 4 connector is provided with an LED (top one between HDMI 3 and 4). When the LED is on, the connector is transmitting data.

Features

- Outputs up to 4 signals.
- 2x HDMI dual link connectors or 4x HDMI single link connectors
- Supports single link or dual link HDMI output.
- Each connector has an LED indicating the data transition status when the LED turns on.

Specifications
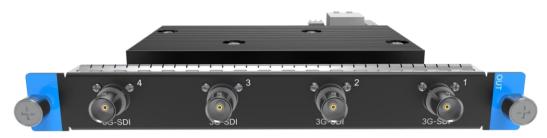
- SL:
  - Four connectors are all active.
  - Up to 2048×1080@60Hz 4:4:4 8-bit
  - Custom resolutions: The maximum width and height can both be up to 2048 pixels.
- DL:
  - Connectors 2 and 4 are active. Connectors 1 and 3 copy the outputs on connectors 2 and 4, respectively.
  - Up to 3840×1080@60Hz 4:4:4 8-bit
  - Custom resolutions: The maximum width and height can both be up to 4096 pixels.
- HDCP 1.4 compliant
- Support for VESA/CVT and user timings
- Common resolutions:
  - 1920×1080p@30/48/50/59.94/60Hz
  - 2048×1080p@30/48/50/59.94/60Hz
  - 3840×1080p@30/50/59.94/60Hz

5.5.5 F_4x3G SDI Output Card

General

The F_4x3G SDI output card provides four BNC output connectors.

Figure 5-22 F_4x3G SDI output card

Features

- Outputs up to 4 signals
- 4x Single link connectors

Specifications

- 3G-SDI standard
- Backward compatible with HD-SDI and SD-SDI
- ST-424 (3G), ST-292 (HD) and SMPTE259 SD
- Connector copying supported

  Connectors 2 and 4 are active, while connector 1 and 3 copy the outputs on connector 2 and 4, respectively.
- Level A and B supported at 1920×1080@50/59.94/60Hz
- Support for interlaced signals
- Support for output timing settings
- Common resolutions:
    - 720×480i (NTSC)@59.94Hz
    - 720×576i (PAL)@50Hz
    - 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
    - 1920×1080i@50/59.94/60Hz

5.5.6 F_12G SDI Output Card

General

The F_12G SDI output card provides four BNC output connectors.

Figure 5-23 F_12G SDI output card

Features

- Outputs up to 4 signals
- 1x 4K connectors or 4x Single link connectors

Specifications

- 12G-SDI:
  - Downward compatible with 6G-SDI, 3G-SDI, HD-SDI and SD-SDI
  - Connectors 1 is available, while connector 2 copies the output on connector 1
  - Connectors 3 and 4 are unavailable
  - Support for ST-2082(12G), ST-2081 (6G), ST-424 (3G), ST-292 (HD) and ST-259 (SD)
  - Max. resolution: 4096×2160@60Hz
- 3G-SDI:
  - Downward compatible with HD-SDI and SD-SDI
  - Four connectors are available and work as 3G-SDI connectors
  - Support for ST-424 (3G), ST-292 (HD) and ST-259 (SD)
  - Max. resolution: 1920×1080@60Hz
- Level A and Level B adjustment NOT supported
- Support for interlaced signal output
- Support for output timing settings
- Common resolutions (12G-SDI):
  - 720×480i (NTSC)@59.94Hz
  - 720×576i (PAL)@50Hz
  - 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
  - 1920×1080i@50/59.94/60Hz
  - 2048×1080p@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
- Common resolutions (3G-SDI):
  - 720×576i (PAL)@50Hz
  - 720×480i (NTSC)@59.94Hz
  - 1280×720p@23.98/24/25/29.97/30/50/59.94/60Hz

– 1920×1080i@50/59.94/60Hz
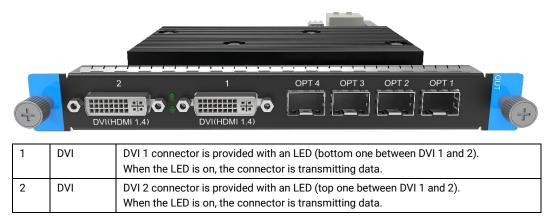
– 1920×1080p@23.98/24/25/29.97/30/50/59.94/60Hz

5.5.7 F_2xDVI1.4+4xFiber Output Card

General

The F_2xDVI1.4+4xFiber output card provides two DVI connectors supporting DVI video signal and four OPT ports supporting optical signal. The loading capacity of a single card reaches 2x 3840×1080@60Hz.

Figure 5-24 F_2xDVI1.4+4xFiber output card

1	DVI	DVI 1 connector is provided with an LED (bottom one between DVI 1 and 2). When the LED is on, the connector is transmitting data.
2	DVI	DVI 2 connector is provided with an LED (top one between DVI 1 and 2). When the LED is on, the connector is transmitting data.

Features

• 2x DVI connectors and 4x OPT ports

• Each DVI connector has an LED indicating the data transition status when the LED turns on.

Specifications

• DVI

– HDMI 1.4 protocol

– Up to 3840×1080@60Hz 4:4:4 8-bit

– Custom resolutions: The maximum width and height can both be up to 4096 pixels.

– RGB4:4:4 / YCbCr4:4:4 / YCbCr4:2:2 output

– Connector copying supported

    Connector 2 copies the output on connector 1.

– Support for VESA/CVT and user timings

• OPT port

– 10G optical fiber ports

– OPT 1 copies the output on DVI-1. OPT 2 copies the output on DVI-2. OPT 3 copies the output on OPT 1. OPT 4 copies the output on OPT 2.

• HDCP 1.4 compliant

• Common resolutions:

- 1920×1080p@30/48/50/59.94/60Hz
- 2048×1080p@30/48/50/59.94/60Hz
- 3840×1080p@30/50/59.94/60Hz

5.5.8 F_2xHDMI 2.0+4xFiber Output Card II

General

The F_2xHDMI 2.0+4xFiber output card II provides two HDMI 2.0 connectors supporting dual link and 4K modes, as well as four OPT ports supporting optical signal. The loading capacity of a single card reaches 4096×2160@60Hz.

Figure 5-25 F_2xHDMI 2.0+4xFiber output card II

1	HDMI 2.0	HDMI 1 connector is provided with an LED (bottom one between HDMI 1 and 2). When the LED is on, the connector is transmitting data.
2	HDMI 2.0	HDMI 2 connector is provided with an LED (top one between HDMI 1 and 2). When the LED is on, the connector is transmitting data.

Features

- 2x HDMI 2.0 connectors and 4x OPT ports
- HDMI 2.0 connectors support 4K and DL capacity output.
- Two HDMI 2.0 connectors output the same content under 4K capacity.
- Each HDMI connector has an LED indicating the data transition status when the LED turns on.

Specifications

- HDMI 2.0

   Up to 4096×2160@60Hz 4:4:4 8-bit

   4K and DL output supported

   RGB4:4:4 / YCbCr4:4:4 / YCbCr4:2:2 output

   – 4K:

   Custom resolutions: The maximum width can be up to 8192 pixels and the maximum height can be up to 7680 pixels.

   Backward compatible with HDMI 1.4 and HDMI 1.3

   HDMI 2 copies the output on HDMI 1.

   – DL:

   Custom resolutions: The maximum width can both be up to 4096 pixels.

   Two HDMI connectors can both be used. (mosaic or independent)

- OPT
  - 10G optical fiber ports
  - 4K:

    OPT 1 copies data on HDMI 1.

    OPT 2 copies data on HDMI 1.

    OPT 3 copies the output on OPT 1.

    OPT 4 copies the output on OPT 2.
  - DL:

    OPT 1 copies data on HDMI 1.

    OPT 2 copies data on HDMI 2.

    OPT 3 copies the output on OPT 1.

    OPT 4 copies the output on OPT 2.
- HDCP 2.2 and HDCP 1.4 compliant on HDMI 2.0
- Support for VESA/CVT and user timings
- Common resolutions:
  - 1920×1080p@30/48/50/59.94/60Hz
  - 2048×1080p@30/48/50/59.94/60Hz
  - 3840×1080p@30/50/59.94/60Hz
  - 3840×2160p@30/50/59.94/60Hz

5.6 MVR Cards

The following output cards can be used as MVR cards.

- F_4xDVI Output Card
- F_4xDVI1.4 Output Card
- F_4xHDMI1.3 Output Card
- F_4xHDMI1.4 Output Card

Features

- Connector capacity switching is NOT supported on the MVR card.
- The last output card installed on the device serves as the MVR card.
- All MVR cards can be switched to main output cards.
- Each device supports one MVR card only.
  - Connectors 1 and 2 on the F8 and F4 are used for the MVR function.
  - Connectors 1 and 3 on the F4 Lite are used for the MVR function.
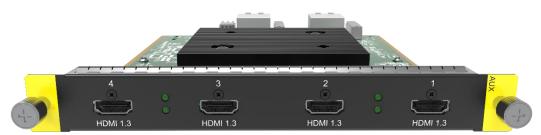
5.7 AUX Cards

5.7.1 F_4xAUX_HDMI1.3 Output Card

General

The F_4xAUX_HDMI1.3 output card provides four HDMI 1.3 connectors. The loading capacity of a single card 4x 2048×1080@60Hz.

Figure 5-26 F_4xAUX_HDMI1.3 output card

Features

- Outputs up to 4 signals.
- 4x HDMI 1.3 connectors
- Each connector has an LED indicating the data transition status when the LED turns on.

Specifications

- HDMI 1.3 standard
- Up to 2048×1080@60Hz 4:4:4 8-bit
- Custom resolutions: The maximum width and height of each connector can both be up to 2048 pixels.
- HDCP 1.4 compliant
- Support for VESA/CVT and user timings
- RGB4:4:4/YCbCr4:4:4/YCbCr4:2:2 output
- Common resolutions:

  1920×1080p@30/48/50/59.94/60Hz

5.7.2 F_4xAUX_DVI1.3 Output Card

General

The F_4xAUX_DVI1.3 output card provides four single link DVI connectors. The loading capacity of a single card reaches 4x 2048×1080@60Hz.

Figure 5-27 F_4xAUX_DVI1.3 output card

1	DVI	DVI 1 connector is provided with an LED (bottom one between DVI 1 and 2). When the LED is on, the connector is transmitting data.
2	DVI	DVI 2 connector is provided with an LED (top one between DVI 1 and 2). When the LED is on, the connector is transmitting data.
3	DVI	DVI 3 connector is provided with an LED (bottom one between DVI 3 and 4). When the LED is on, the connector is transmitting data.
4	DVI	DVI 4 connector is provided with an LED (top one between DVI 3 and 4). When the LED is on, the connector is transmitting data.

Features

- Outputs up to 4 signals.
- 4x single link connectors
- Each connector has an LED indicating the data transition status when the LED turns on.

Specifications

- Up to 2048×1080@60Hz 4:4:4 8-bit
- Custom resolutions: The maximum width and height of each connector can both be up to 2048 pixels.
- HDCP 1.4 compliant
- HDMI 1.3 protocol
- Support for VESA/CVT and user timings
- RGB4:4:4/YCbCr4:4:4/YCbCr4:2:2 output
- Common resolutions:

    1920×1080p@30/48/50/59.94/60Hz

6 Menu Operations

About This Chapter

This chapter introduces you to the front panel menus of the F series devices, including how the menus are accessed and the available functions and parameters.

Overview

- F8
  - Home Screen
  - Main Menu
- F4
- F4 Lite
  - Home Screen
  - Use Menu System
  - Main Menu

6.1 F8

6.1.1 Home Screen

Connect all the necessary cables and power cords properly, and then locate the power button on the front panel and turn on the power. The system will start initializing with a progress bar indicating the initializing progress.

Figure 6-1 Initializing system

After the initialization is completed, the home screen appears, as shown below.

The F8 front panel provides a 7-inch capacitive touchscreen that allows for all menu operations by fingertips.

Figure 6-2 Home screen

Area	Description	
1	Displays the company logo, device model, device name, IP address, lock icon and power button icon.	
2	Displays all the first-level menus.	
	Device	View the device, input and output card statuses.
	MVR	Display the monitoring information.
	Settings	Set the network parameters, view the firmware version and perform other advanced settings.
	Language	Change the UI language.
	About	View the device and company information.
3	Displays the company name.	
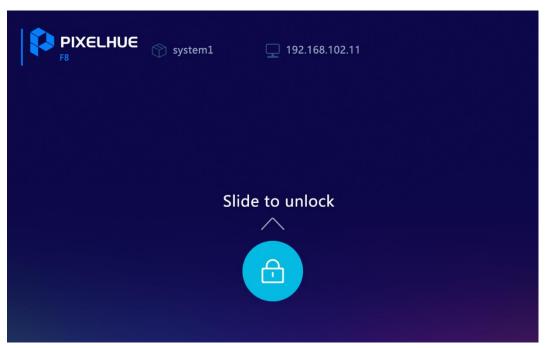
Locking and Unlocking

To avoid accidental touches, you can lock the touchscreen by tapping the lock icon on the top right of the screen. After locked, all touch operations will have no effect.

- Touch operations are ignored.
- All communications function normally.

When you need to unlock the device screen, slide to unlock it. After unlocked, the home screen is displayed and an unlock icon appears at the top right.

Figure 6-3 Unlocking the device

6.1.2 Main Menu

The following sections will describe each menu item in detail.

6.1.2.1 Device

Tap **Device** to enter the device status screen.

Figure 6-4 Device

Card Status

View the quantities of the available, used and unused inputs and outputs. Tap **Info** next to **Card Status** to view the input and output card connection status.

Figure 6-5 Card status

Color code is as follows:

- Green: The connector is connected.
- White: The connector is not connected but available.
- Gray: The connector is unavailable.

Device Status

View the statuses for device master/slave, synchronization, control card, fan board, backplane and MVR. The abnormal items are highlighted in red. In addition, the current device voltage and temperature are displayed.

6.1.2.2 Multiviewer

Tap **MVR** to enter the Multiviewer screen to view the monitoring information.

The F8 supports 2 MVR channels. Tap **<** or **>** at the bottom to view the monitoring information on MVR screen 1 or MVR screen 2.

Figure 6-6 Multiviewer

6.1.2.3 Settings

Tap **Settings** to enter the device settings screen that allows you to perform the device communication and other advanced settings, as well as view the device firmware version.

6.1.2.3.1 Network Settings

Tap **Network** to enter the network settings screen to set the device IP-related parameters.

Figure 6-7 Network settings

- MAC Address: View the device MAC address, a unique identifier for an Ethernet or network adapter over a network.

- IP Settings: The options are **Manual** and **DHCP**.

  – Manual: Set the IP address, subnet mask and gateway manually.

  – DHCP: The device receives an IP address automatically from a DHCP server. The DHCP server dynamically assigns an IP address and other network configuration parameters to the device to communicate with other IP networks.

- IP Address: Set the device IP address using the number panel that appears. This item is available when **Manual** is selected for the **IP Settings** item.

  1. Tap the text box next to **IP Address** to show the number panel on the right.

  2. Enter the desired IP address using the number panel.

  3. Tap **OK** to complete the settings.

- Subnet Mask: Set the device subnet mask using the number panel that appears. This item is available when **Manual** is selected for the **IP Settings** item.

  1. Tap the text box next to **Subnet Mask** to show the number panel on the right.

  2. Enter the desired subnet mask using the number panel.

  3. Tap **OK** to complete the settings.

- Gateway: Set the device gateway using the number panel that appears. This item is available when **Manual** is selected for the **IP Settings** item.

  1. Tap the text box next to **Gateway** to show the number panel on the right.

  2. Enter the desired gateway using the number panel.

  3. Tap **OK** to complete the settings.

After the settings, tap **Apply** to make the settings take effect.

Notes

- The IP address of the device must be on the same network segment as the IP address of the control PC or the U3 event controller.

- The IP address of the device must not conflict with the IP address of the control PC. For example, if the IP address of the control PC is 192.168.0.10, the device IP address must be 192.168.0.X and X cannot be 10.

- Under DHCP mode, the IP address may be 0.0.0.0 due to the inexistence of the server or bad network connection. It is recommended you switch to manual mode or check your network connection again.

6.1.2.3.2 Firmware Version

Tap **Firmware** to enter the firmware version screen to view the control card, backplane, as well as input and output card versions.

Figure 6-8 Firmware version

6.1.2.3.3 Advanced Settings

Tap **Advanced** to enter the advanced settings screen to perform return to home screen settings, factory reset settings and firmware update, as well as import and export project files.

Figure 6-9 Advanced settings

Basic Settings

Set the period during which the system stays at the current screen before returning to the home screen automatically when no operation is performed.

- Return to Home: Select **Off** or **On** from the list next to **Return to Home** to disable or enable the function.

  - Off: The system does not return to the home screen but stays at the current screen when no operation is performed.

  - On: The system returns to the home screen after a certain period when there is no operation performed. The time can be set.

- Return After: Set the period after which the system returns to the home screen. The time ranges from 5s to 90s and defaults to **90s**. This item is available when the return to home function is turned on.

Factory Reset

Reset the device parameter settings to factory defaults. Two reset options are provided.

- Keep User Data: Reset the parameter settings to factory defaults, except for user-defined EDID and gallery files, language settings.

- Reset All: Reset all the device parameters to default values.

When you select either of the options, a prompt is displayed asking you whether you want to continue the action. Answer **No** (default) or **Yes**, and then proceed with the reset.

Firmware Update

Update the firmware using a USB drive. Make sure the update file is stored in the root directory of the USB drive before you update the firmware, and then insert the USB drive into the USB port on the F8 front panel.

Step 1   Tap **Firmware Update** to enter the firmware update screen.

Step 2   Tap **Update**. The system will automatically read the update files in the inserted USB drive.

If you have inserted a USB drive into the device, you can tap **Update** to start the update process; otherwise, an **Insert USB** button appears to remind you to insert a USB drive first.

Figure 6-10 Firmware update

Step 3 Select the target update file and tap **OK**.

Step 4 Select the desired components to be updated and tap **OK**.

After the update, a message saying "**Update succeeded**." will appear if the update is successfully performed. A message saying "**Update failed.**" will appear if the update fails and you can contact our technical support staff for help.

Project File

Import and export the project file using a USB drive. Make sure the project file is stored in the root directory of the USB drive before you import the project file, and then insert the USB drive into the USB port on the F8 front panel. You can save the current configuration as an independent project file for easy use in the future.

Step 1 Tap **Project File** to enter the project file screen.

Step 2 Tap **Project** to show the project operation screen.

If you have inserted a USB drive into the device, the **Project** button is displayed; otherwise, an **Insert USB** button appears to remind you to insert a USB drive first.

Step 3 Tap **Import Project** or **Export Project** to import a project file from the inserted USB drive or export a project file to the USB drive.

Figure 6-11 Project file

Step 4 Select the USB drive and tap **OK** to start importing or exporting.

If the project file does not exist, a message will appear to remind you there are no available project files. Please check the presence of both the USB drive and project file, and then try again.

6.1.2.4 Language

Currently, English and Simplified Chinese are supported.
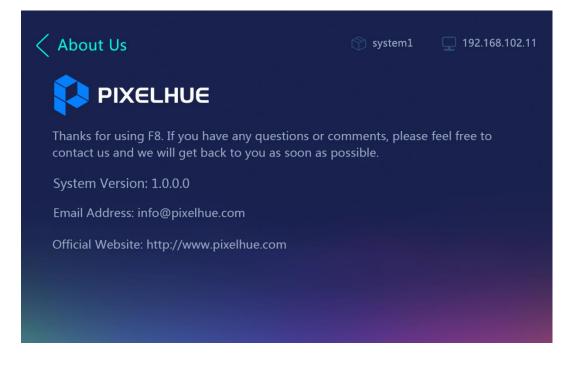
Figure 6-12 Language

6.1.2.5 About Us

View the system version, company email and website.

Figure 6-13 About us

6.2 F4
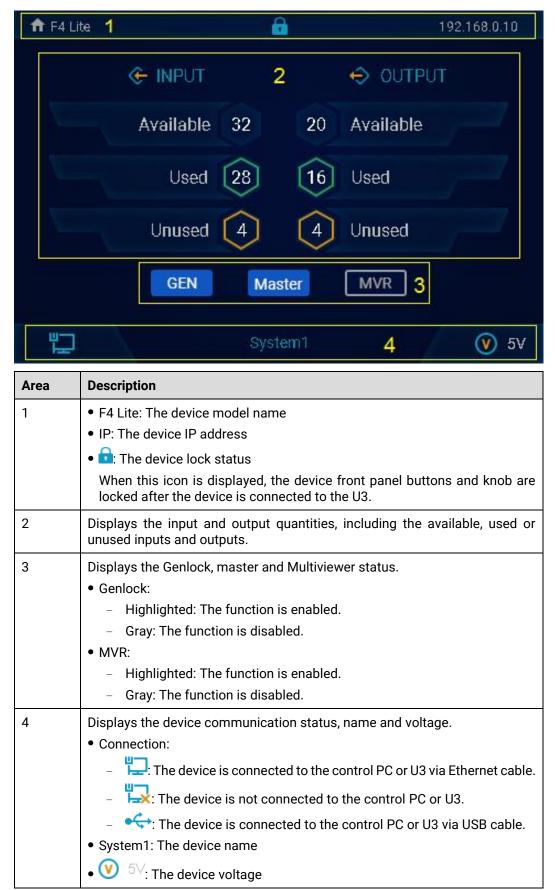
The F4 home screen and all the menu descriptions are exactly the same as that of the F8. The only difference is the card slot quantity.

6.3 F4 Lite

6.3.1 Home Screen

Connect all the necessary cables and power cords properly, and then locate the power button on the front panel and turn on the power. After the initialization is completed, the home screen appears, as shown below.

Figure 6-14 Home screen

Area	Description
1	• F4 Lite: The device model name • IP: The device IP address • 🔒: The device lock status When this icon is displayed, the device front panel buttons and knob are locked after the device is connected to the U3.
2	Displays the input and output quantities, including the available, used or unused inputs and outputs.
3	Displays the Genlock, master and Multiviewer status. • Genlock: – Highlighted: The function is enabled. – Gray: The function is disabled. • MVR: – Highlighted: The function is enabled. – Gray: The function is disabled.
4	Displays the device communication status, name and voltage. • Connection: – 🖥️: The device is connected to the control PC or U3 via Ethernet cable. – 🖥️✗: The device is not connected to the control PC or U3. – ⟚: The device is connected to the control PC or U3 via USB cable. • System1: The device name • Ⓥ 5V: The device voltage

Locking and Unlocking

Press the knob and **BACK** button simultaneously for 3s to lock the device front panel. After locked, the lock icon will be displayed.

In lock mode, press the knob and **BACK** button simultaneously for 3s to unlock the device front panel. The unlock icon appears on the screen and the status menu will be displayed soon after the message disappears.

Figure 6-15 Lock and unlock the device

When the device front panel is locked, button presses will have no effect.

When locked:

- All button presses, including the power button and knob operations, are ignored.
- All communications function normally.

6.3.2 Use Menu System

Press the knob to enter the main menu screen.

General

- The top line displays the current menu name on the left, and the device IP address on the right.
- The subsequent lines include two parts:
  - For a function, the left part displays the function name and the right part displays the current parameter or value.
  - The parameter with a small solid triangle indicates there are more options.
  - The value with a pen icon indicates the value is editable.
  - For a menu item, the left part displays the menu that you can access and the right part displays an arrow indicating a submenu is available.
  - The menu item with a highlighted bar indicates the menu that you are operating. The bar moves as you rotate the knob.

Selecting Menu

- To select a menu item:

  Rotate the knob to select the desired menu item, and then press the knob to confirm the selection.
  - Rotate the knob clockwise to scroll down.

   – Rotate the knob counter-clockwise to scroll up.

- To change a parameter value:

  Rotate the knob again to change the parameter value and press the knob to apply the value.

     – Rotate the knob clockwise to increase a value.

     – Rotate the knob counter-clockwise to decrease a value.

📄 **Note**

   You must press the knob to confirm the selection or accept the settings.

Exiting Menu

Press the **BACK** button to exit a menu without making changes, or cancel an operation.

Go back up the menu system, press the **BACK** button again. Each press takes you back up the menu by one level.

📄 **Note**
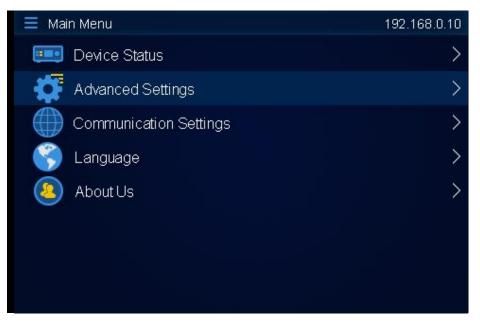
   If you press the **BACK** button when setting a value, the new value will not be saved.

6.3.3 Main Menu

By using the front panel menus, you can perform the device status monitoring, factory reset, and network settings.

The following sections will describe each menu item in detail.

Figure 6-16 Main menu

6.3.3.1 Device Status

Rotate the knob to select **Device Status** and press the knob to enter its submenu. You can view the statuses of the control card, fan, backplane, input and output cards.

- The options include **Normal**, **Abnormal** and **Disconnected**.
- For input and output cards,
  - **Normal** is displayed when everything works well.
  - If anything is abnormal, the specific abnormal item is displayed.
  - If the card is not connected, **Disconnected** is displayed.
- For fans, you can view which fans are abnormal by entering the submenu.

Figure 6-17 Device status

Figure 6-18 Fan status

> 📄 **Note**
>
> If any item is abnormal or disconnected, please try to restart the device or replug the item. If it works well after the restart or replug, OK; otherwise, please contact our technical support staff for help.

6.3.3.2 Advanced Settings

Rotate the knob to select **Advanced Settings** and press the knob to enter its submenu.

The advanced settings screen allows you to view the firmware versions, reset the device to factory settings, and set the return to home time.

Figure 6-19 Advanced settings

Firmware Version

View the versions of the control card, backplane, fans, input and output cards.

Figure 6-20 Firmware version
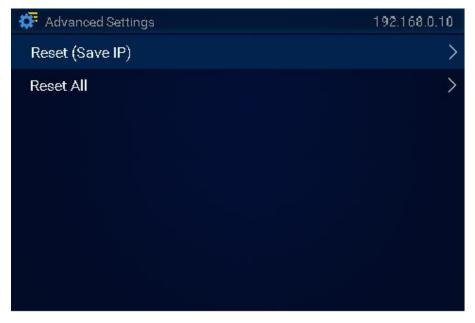
Factory Reset

Rotate the knob to select **Factory Reset** and press the knob to enter its submenu. Two reset options are provided for you to reset the device to factory settings.

- Reset (Save IP): Reset the device settings to factory defaults, but keep the IP address.
- Reset All: Reset all the device settings to factory defaults.

Figure 6-21 Factory reset

When you select either of the options, a prompt is displayed asking you whether you want to continue the action. Rotate the knob to answer **No** (default) or **Yes,** and then proceed.

Return to Home

Rotate the knob to select **Return to Home**. You can set the period during which the system stays at the current screen before returning to the home screen automatically when no operation is performed. The default setting is 30s.

A pen icon is displayed on the right, indicating the value is editable. Press the knob and the text box is highlighted, indicating the value is editable now. Rotate the knob to set the desired time value, and then press the knob to confirm the setting.

Figure 6-22 Return to home

6.3.3.3 Communication Settings

To ensure normal communication with the control PC or U3 event controller, you need to set the IP settings of the F4 Lite properly.

Rotate the knob to select **Communication Settings** and press the knob to enter its submenu. You can view the device MAC address and set the IP parameters.

Figure 6-23 Communication settings

- MAC Address: View the device MAC address.

- IP Settings: The options are **DHCP** or **Manual**.

- IP Address: Set the device IP address.

    1. Rotate the knob to select **IP Address**.

    2. Press the knob, and the number in the first text box is highlighted, indicating the value is editable.

    3. Rotate the knob to set the number in the first text box and press the knob to confirm the setting.

    4. Rotate the knob to follow the same way to set the numbers in all text boxes to complete the IP address settings.

- Subnet Mask: Set the subnet mask.

    1. Rotate the knob to select **Subnet Mask**.

    2. Press the knob, and the number in the first text box is highlighted, indicating the value is editable.

    3. Rotate the knob to set the number in the first text box and press the knob to confirm the setting.

    4. Rotate the knob to follow the same way to set the numbers in all text boxes to complete the subnet mask settings.

- Gateway: Set the gateway.

    1. Rotate the knob to select **Gateway**.

    2. Press the knob, and the number in the first text box is highlighted, indicating the value is editable.

    3. Rotate the knob to set the number in the first text box and press the knob to confirm the setting.

    4. Rotate the knob to follow the same way to set the numbers in all text boxes to complete the gateway settings.

After the settings, select **Apply** to save and apply your settings. If you want to cancel the settings, select **Reset**.

📄 **Notes**

- The IP address of the device must be on the same network segment as the IP address of the control PC or the U3 event controller.

- The IP address of the device must not conflict with the IP address of the control PC. For example, if the IP address of the control PC is 192.168.0.10, the device IP address must be 192.168.0.X and X cannot be 10.

- Under DHCP mode, the IP address may be 0.0.0.0 due to the inexistence of the server or bad network connection. It is recommended you switch to manual mode or check your network connection again.

6.3.3.4 Language
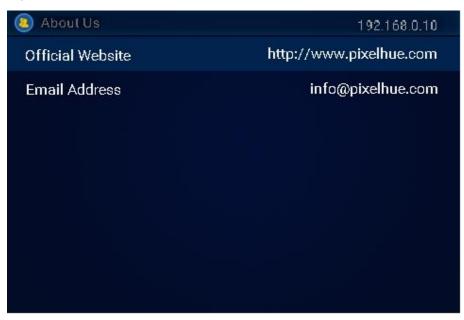
Rotate the knob to select **Language** and press the knob to enter the submenu screen.

Currently, English and Simplified Chinese are supported.

6.3.3.5 About Us

Rotate the knob to select **About Us** and press the knob to view the company website and email address.

Figure 6-24 About us

7

Event Management Software Triton

About This Chapter

This chapter guides you on how to use Triton that is built-in the U3 event controller, and also how to obtain the Triton installation package and install the software if you are using a PC for the device control. A series of basic operations will be provided for your reference.

Overview

- Introduction
- Software Operations
  - Overview
  - User Interface Introduction
  - Controls Introduction
  - Device
  - Input
  - Output
  - Screen
  - Layer
  - Multiviewer
  - Settings

7.1 Introduction

Triton is an event management software built in the U3 event controller, to uniformly manage and control the F series devices. Triton can also be installed and running on the Windows platform, allowing you to control and manage the F series devices more quickly and conveniently, release your mosaic innovation, and explore the device performance.

- Highly intuitive and friendly user interface

- Multiple operation modes, meeting different industry applications

- Completely visualized operations, easy to operate and use

- Fit for Windows platform

- Free splicing of LED and LCD screens

- Flawless management and control over multiple F series devices

7.1.1 Obtain Software

- If you use the U3 event controller, you do not have to install any software because Triton is already built in.

- If you have purchased an F series device, the software is included in the provided USB drive.

- You can also download the software from the official website of Pixelhue Technology Ltd at www.pixelhue.com.

7.1.2 Install Software

If you are using a PC for device control, then follow the below requirements and instructions to install Triton before you use the F series devices for your events.

Requirements of Software Operating Environment

- CPU: 32/64 bits, 1 GHz or greater

- RAM: 2GB or greater

- GPU: DirectX 9 128M and above

- HD space: 16G minimum available

- Monitor: resolution ≥ 1366×768 pixels

- OS: Windows 7 SP1 or later, 32-bit or 64-bit (recommended)

Software Installation

The software installation procedure is as follows:

Step 1 Browse the directory where the installation program is downloaded.

Step 2 Run the program and follow the instructions to proceed until the installation is completed.

📄 **Note**

> During installation, if the anti-virus software or firewall prevents the installation, select to allow the installation.

7.2 Software Operations

7.2.1 Overview

In this section, we will take the user interface pictures of a PC software to illustrate the operations.

The operations using either a PC or event controller are the almost same. The only difference is that the primary screen of the event controller displays the main user interface, while the secondary screen displays the properties screen. If you want to learn some basic operations using an event controller, please refer to 8.6 Operations.

📄 **Notes**

- The software pictures given in this chapter are used for illustration purposes only. The actual user interface may vary slightly due to product enhancement. The content of the pictures can be slightly different from reality, such as the form and position of the software windows, input source images and more.
- The software pictures and descriptions in this chapter are based on the latest release of Triton, which may vary with the actual product in your hand. Please always obtain the latest product user manual from our official website or technical support staff.

7.2.2 User Interface Introduction

The main user interface of Triton is shown in Figure 7-1. The functions of each area are described in Table 7-1.

Here we take the F4 as an example to illustrate the software interface functions and operations.

Figure 7-1 Main user interface
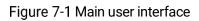
Table 7-1 User interface description

No.	Descriptions
A	Major function modules • Device: Add and configure the devices, and view the device statuses. • Input: View the input thumbnails, and configure the inputs. • Output: View the output thumbnails, and configure the outputs. • Screen: Add and configure the screens. • Layer: Add and configure the layers. • MVR: View and configure the monitoring of the inputs, PVW and PGM. • Setting: Perform firmware update and diagnostics, import and export project files, as well as view technical support and software-related information. • Save: Save the configuration data to the connected F series device. For the specific functions of each module, please read the following sections.
B	Device area • Add and configure the device. Online and offline devices are both supported. • View and change the device basic information, network settings, synchronization, backup (input and device), output mapping, dynamic range conversion, factory reset and restart settings. Color code: • Orange outline border indicates the device is selected. • Green device name and IP indicates the device is an online device. • Gray device name and IP indicates the device is an offline device.
C	Rear panel diagram area • Click the **Sync** button on the top right to refresh the installed cards. 　If the added device is an offline device, **Sync** changes to **Edit**. Click the **Edit**
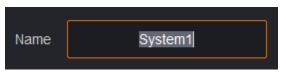
No.	Descriptions
	button to change the installed input and output cards. • Click the **MVR** button to enable or disable the Multiviewer function. Color code for input connectors: • Green: Accessed with a signal • White: No signal • Gray: Unavailable Color code for output connectors: • Green: Connected to the backend device • White: Not connected • Gray: Unavailable
D	• Configure the device name. • View the device IP address, sync source, frame rate of sync source and sync status.
E	• On the left, the system status messages will be shown. • On the right, change the UI language and view the system date and time.

7.2.3 Controls Introduction

7.2.3.1 Edit Box

Edit box is mainly used to edit a value or name.

Figure 7-2 Edit box

Double click the text in the box, and the text background turns to gray, indicating changes can be made.

7.2.3.2 Check Box

Check box is mainly used to enable or disable a function.

Figure 7-3 Check box

Check or uncheck the box to enable or disable the function.

7.2.3.3 Slider

Slider is mainly used to adjust a parameter value.

Figure 7-4 Slider

Move the slider to change a value.
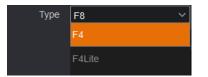
![Notes icon] **Notes**

- The value can also be changed by clicking – or +, or by entering a value directly in the edit box.
- All the value text boxes allow you to directly enter formulas for better using experience.

7.2.3.4 Drop-Down Menu

Drop-down menu is mainly used to select a value or parameter from the drop-down list.

Figure 7-5 Drop-down list

Click the drop-down arrow and select a desired item from the list.

7.2.4 Device

Select **Device** to enter the **Device** page.

7.2.4.1 Add Devices

Triton supports both the online and offline device configuration.

- Online devices: Devices connected to the network, highlighted in green
- Offline devices: Devices not connected to the network, in gray

Add Online Devices

Step 1 At the top left of this page, click to open the **Add Device** window, as shown in .

Figure 7-6 Add online devices

Step 2 Select the devices you want to add.

The system will automatically search for all the online devices on the current network segment and display them.

Step 3 (Optional) Assign the device group. The default option is **None**.

- A device group can have at most 8 devices.

- When the devices are in the same group, a single U3 controller can simultaneously control all the devices in the group.
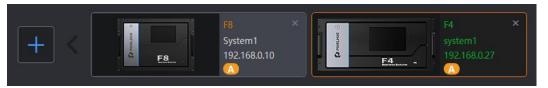
   The supported control operations include preset loading, Take, Cut, T-bar, Swap, Copy, transition effect and duration settings, FTB, FREEZE PGM and MATCH PGM.

📄 **Notes**

- All the in-field F series devices and the U3 event controller must have been connected to the same network.
- Only the F series devices in the same group can be controlled simultaneously.

After the device groups are assigned successfully, the devices are all marked with letters (such as A), as shown below.

Figure 7-7 Assign device groups

Step 4 Click **OK** to finish adding online devices.

Add Offline Devices
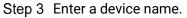
Step 1 At the top left of this page, click ⊞ to open the **Add Device** window.

Step 2 Click **Add Offline Device** at the bottom left to open the **Add Device** window, as shown in Figure 7-8.

Figure 7-8 Add offline devices-1

Figure 7-9 Add offline devices-2

Step 3 Enter a device name.

Step 4 Click the drop-down box next to **Type** to select a device model.

All the F series devices listed can be added to Triton. You can select any device in the drop-down list.

Step 5 Enter the device IP address.

Step 6 Click the **+** button and add the input or output cards to the corresponding slots.

Step 7 Assign the device group.

Step 8 Click **OK** to finish adding an offline device.

📄 **Note**
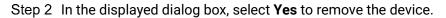
When adding an offline device, its IP address cannot be the same as the IP address of an added device.

7.2.4.2 Remove Devices

Step 1 On the **Device** page, click ✖ at the top right of the device you want to remove.

Figure 7-10 Remove devices

Step 2 In the displayed dialog box, select **Yes** to remove the device.

7.2.4.3 Configure Device Properties

After a device is successfully added, click ⬚ at the bottom right corner to open a new window where you can configure more device properties and other advanced functions, etc., which are described in Figure 7-11 and Table 7-2.

Figure 7-11 Device properties

Table 7-2 Device properties

Type	Parameter	Description
Basic Information	Device Name	The name of the current device that helps you easily recognize and manage the device The device name can consist of 15 English letters, numbers, underscores, hyphens and/or spaces. The name cannot be all spaces and the name cannot start with a space.
	Hardware Version	The firmware version of the connected F series device It is read by Triton from the device and cannot be changed.
	MAC Address	The MAC address of the connected F series device It is read by Triton from the device and cannot be changed.
Network Settings	IP Address	The IP address of the connected F series device It is the same as the device's IP address.
	Subnet Mask	The subnet mask of the connected F series device
	Gateway	The gateway of the connected F series device
	Apply	After the network settings, click **Apply** to make the settings take effect.
Sync Mode		Select **Enable** to turn on the synchronization function. • Select **Genlock** to enable Genlock as the sync source. • Select **Sync with main input source** and select an input source from the rear panel diagram that appears as the sync source. After the settings, click **Apply** to make the settings take

Type	Parameter	Description
		effect.
Input Backup		The input backup function ensures the output will not be interrupted whenever a signal source fails. Select **Enable** to turn on the input source backup function. • Add a new backup: In the **Backup Details** area, select the desired two input sources to form a backup pair. • Delete a single backup: Select the desired pair and then click **Cancel Backup**. • Clear all backups: Click **Clear All** to break all the backup pair relations. • Add more backups: Click **+** to add more backup pairs. **Note:** After the input backup function is configured successfully, in the device rear panel diagram area, the icon ▦ appears next to the pair connectors indicating they are in a pair relation.
Output Mapping		This function makes it easier for you to know the connector position and facilitate your screen configuration quickly. Select **Enable** to turn on the output mapping function. After this function is enabled, the corresponding slot information of the connector will be displayed in the output connector area on the screen, such as **Output x-y**.
Dynamic Range Conversion		This function enables the free conversion between different HDR formats. Select **Enable** to turn on the dynamic range conversion function. • Selected: You can configure the HDR-related parameters on the input and output properties page. – Input parameters: Basic: Bit depth, color gamut, dynamic range HDR10: Tone mapping, luminance, ambient illuminance HLG: Luminance, ambient illuminance – Output parameters: Basic: Color space, bit depth, color gamut, dynamic range HDR10: Tone mapping, luminance HLG: Luminance • Deselected: The signal source will not be converted and processed. – Input parameters: Only bit depth supports the override function. – Output parameters: Only color space and bit depth can be set.

Type	Parameter	Description
		Note: Currently, only the HDMI 2.0 input connector, 12G-SDI input connector and HDMI 2.0 output connector (4K capacity) support this function.
Device Backup		This function enables the screen not to go black whenever the signal source of a certain layer is lost or abnormal by seamless switching from the primary link to the backup one (work with the sending devices and receiving cards). Click to view the description, application, working principles of the device backup function. • Enable: Check the box to turn on the device backup function. • All: Click **All** to select all the screens. • Screen name: Select the desired screens.
Factory Reset		Reset the device settings to factory defaults. • Keep User Data: Reset the parameter settings to factory defaults, except for user-defined EDID and gallery files, language settings. • Reset All: Reset all the parameters to factory defaults. After the settings, click **Apply** to make the settings take effect. **Note:** For the F4 Lite, to ensure the operation stability after the factory reset, it is recommended you unplug the device power cord, then re-plug it and at last turn on the device.
Restart	Restart	Restart the connected F series device.
	Shut down	Shut down the connected F series device.

7.2.4.4 Change Card Type

For an online device, you cannot change the card type or delete the added cards because they are physically installed in the device.

For an offline device, you can change the card type or delete the added cards. If the card is being used, you cannot change its type or delete it.

After you click the **Edit** button in the device diagram area, the cards on the backplane are activated and editable, and then you can change or delete them.

- Change card type: Click **+** in the target card area and select the desired card from the listed ones. After the card is changed, the card connectors will appear on the backplane.

- Delete a card: Click **+** and select **None** to delete the card.

  After the editing is completed, click **Save** at the top right of the backplane area to save the changes.

7.2.4.5 Switch Output Card Capacity

On the **Device** page, select the desired output card and switch its capacity on the window that appears.

- The F_4K HDMI2.0/OPT Output Card supports the capacity switching on the HDMI connector. The HDMI connector supports DL (default) or 4K output.
  - DL: 2x HDMI 1.4 outputs
  - 4K: 1x HDMI 2.0 output (HDMI 1 and HDMI 2 output the same content)
- The F_4xDVI1.4 output card supports capacity switching. The supported options are **SL** and **DL**.
  - SL: 4x DVI outputs
  - DL: 2x DVI outputs (Connectors 2 and 4 work in DL mode. Connectors 1 and 3 copy the outputs on connectors 2 and 4, respectively.)
- The F_4xHDMI1.4 output card supports capacity switching. The supported options are **SL** and **DL**.
  - SL: 4x HDMI 1.3 outputs
  - DL: 2x HDMI 1.4 outputs (Connectors 2 and 4 are HDMI 1.4. Connectors 1 and 3 copy the outputs on connectors 2 and 4, respectively.)

Figure 7-12 Switch output card capacity

7.2.4.6 Change Input Card Connectors

The F_2xHDMI2.0+2xDP1.2 input card allows you to use only one group of input connectors at a time. On the **Device** page, click this card on the device diagram and then select **DP1.2** or **HDMI2.0** next to **Connector** on the window that appears.

📄 **Note**

For the definition of "group" here, please refer to the cautions in 错误!未找到引用源。 错误!未找到引用源。.

Figure 7-13 Switch input card connector

7.2.4.7 Take Control over Device

The F series can be controlled by one terminal only. If multiple operators are required to control the F series device, one needs to take control of the device from another operator first.

Step 1 At the top of the **Device** page, select the device to be controlled.

If the selected device is being controlled by others, the below message prompts.

Figure 7-14 Take control over a device

The IP list at the bottom right corner shows the control terminals (U3 or Triton) that have been connected to the device. √ indicates the current control terminal.

Step 2 Click **Take Control** to gain control of the device. The device will decide whether to be controlled according to its current status.

- Yes => Controlled successfully

- No => Failed to be controlled, and a message prompts in Triton or U3 indicating the control failure

📄 **Notes**

The following situations may lead to control failure.

- Some operations are being performed on the device, such as preset loading or saving, image capturing, PVW and PGM switching and more.
- The device is being updated or restored, such as project file importing or exporting, project file applying and more.

7.2.5 Input

Select **Input** to enter the **Input** page.

After a device is added, the system will automatically detect and identify all the installed input and output cards as well as all the available connectors. In addition, the system will automatically set each input connector as an input.
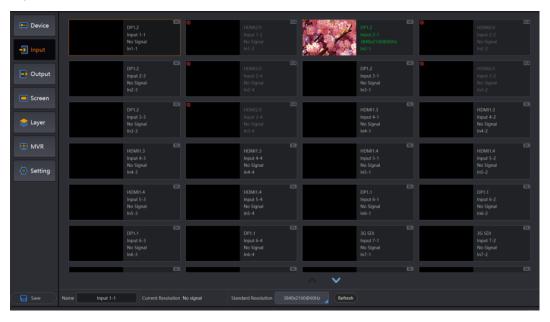
Figure 7-15 Input page

7.2.5.1 Input View

Each input thumbnail provides you with the following information.

Figure 7-16 Input thumbnail

On the left side,

- Video image: The signal is accessed normally.
- Black: No signal is accessed or the accessed signal is abnormal.

On the right side,

- **DP1.2**: Indicates the input connector type.

- **Input 2-1**: Indicates the input name that can be changed on the properties panel.

- **3840×2160@60Hz**: Indicates the resolution of the current input source. If the input source is an interlaced signal, a letter "i" is shown in the resolution, for example, 1920×1080i@60Hz.

- **In2-1**: Here, 2 indicates the input card number and 1 indicates the connector number on the input card.

- **4K:** Indicates the input connector capacity.

7.2.5.2 Input Settings
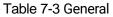
Click ![slider icon] at the bottom right of the **Input** page or double click an input to open the input source settings window. The input properties include general, EDID, color and DSK settings.

General

The general settings include the basic info, bit depth override, capacity switching, cropping and HDCP. For details about the parameters and settings, see Table 7-3.

Figure 7-17 General

Table 7-3 General

Parameter	Description
Basic Information	
Name	The input name that helps you to manage the inputs or add input sources easily
	The input name can consist of 15 English letters, numbers, underscores, hyphens and/or spaces. The name cannot be all spaces and the name cannot start with a space.
The following info are all automatically read by the software and then displayed here.	
Type	The type of the current input

Input Resolution	The input resolution of the current input
Color Space	The color space of the current input
Color Range	The color range of the current input
Bit Depth	The bit depth of the current input
Color Gamut	The color gamut of the current input
Dynamic Range	The dynamic range of the current input
Source Info Override	
Quantization Range	Configure the quantization parameter of the input source. The options include **AUTO**, **Full** and **Limited**.
Bit Depth	Configure the override parameter of the input source bit depth. The options include **AUTO**, **8bit**, **10bit** and **12bit**.
Color Gamut	Configure the override parameter of the input source color gamut. The options include **AUTO**, **Rec.601**, **Rec.709**, **DCI-P3** and **Rec.2020**.
Dynamic Range	Configure the override parameter of the input source dynamic range. The options include **AUTO**, **SDR**, **HDR10** and **HLG**.
Tone Mapping	Enable or disable the tone mapping function.
Luminance	Adjust the peak brightness. The value ranges from 100 to10000 and defaults to **1000**.
Ambient illuminance	Adjust the ambient illuminance. The value ranges from 0 to 200 and defaults to **30**.
Click **Reset** to abandon the changes and reset the values to defaults. **Notes:** • Before you configure the **Source Info Override** settings, make sure you have enabled the **Dynamic Range Conversion** function on the device properties page. • Currently, only the HDMI 2.0 input connector supports the source info override settings.	
Capacity	
Capacity	Switch the input connector capacity. All connectors, except for SDI connectors, support the capacity switching. The options include: • SL • DL • 4K
Crop	
Crop	Select **Enable** to enable the input cropping function. • X: The initial horizontal position of the cropped part

	• Y: The initial vertical position of the cropped part
	• Width: The width of the cropped part
	• Height: The height of the cropped part
	You can click ⬚ next to **Width** and **Height** to lock the aspect ratio. After locked, only the width can be adjusted, and the height will be calculated and adjusted automatically.
	Click **Reset** to abandon the changes and reset the values to defaults.
HDCP	
HDCP	Select **HDCP** to enable the HDCP decryption of the input source.
	• Only an HDCP-encrypted source supports this option.
	• Except for the SDI connectors, other connectors all support this function.

EDID

View and set the input source EDID, as well as import and export the EDID configuration. For details about the parameters and settings, see Table 7-4.

Figure 7-18 EDID

Table 7-4 EDID

Parameter	Description
Standard	The commonly-used resolutions and frame rates for the selected connector are listed.
	Click the small blue triangle on the resolution box and then select a desired resolution and frame rate from the window that appears.
Custom	Customize the width, height, and frame rate.
	• Width: The width of the input source image
	• Height: The height of the input source image

Parameter	Description
	• Click the small blue triangle on the frame rate box and then select the desired frame rate from the window that appears. After the settings, click **Apply** to make the settings take effect.
Advanced	Select **Advanced** to enable the advanced EDID settings. The parameters of the advanced settings are as follows. After the settings, click **Apply** to make the settings take effect. **Note:** It is recommended the trained personnel use the advanced EDID function.
Import EDID	Import a local EDID file for quick configuration. • Browse: Select the file from your local computer. • Apply: Make the selected EDID file take effect.
Export EDID	Export the current EDID configuration for quick and easy deployment in the future use. .bin and .dat formats are supported.

📄 **Note**

When the input source is DVI, HDMI or DP and the input source is from a graphics card, the EDID settings are available.

Color

The color parameters of the input source include contrast, brightness, hue and saturation. For details about the parameters and settings, see Table 7-5.

Figure 7-19 Color

Table 7-5 Color

Parameter	Description
Contrast	The value ranges from 0 to 100, and defaults to **50**. • RGB: Adjust the contrast R, G and B values independently according to your needs. The contrast R, G and B values range from 0 to 100, and default to **50**. • Click **Reset** to reset the values to factory defaults.
Brightness	The value ranges from 0 to 100, and defaults to **50**. • RGB: Adjust the brightness R, G and B values independently according to your needs. The brightness R, G and B values range from 0 to 100, and default to **50**. • Click **Reset** to reset the values to factory defaults.
Hue /Saturation	The hue value ranges from −180 to +180, and defaults to **0**.
	The saturation value ranges from 0 to 100, and defaults to **50**.
	Click **Reset** to reset the values to factory defaults.

DSK

DSK includes luma key and chroma key settings.

📄 **Notes**

- Only the online devices support the keying function.
- The keying must be carried out on an input source that has been successfully recognized.

Figure 7-20 DSK

Select **Enable** to turn on the keying function.
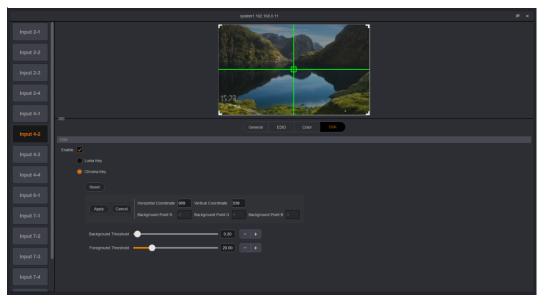
- Luma Key

  Select **Luma Key** to enable the function, and drag the sliders to change the
  brightness threshold and brightness values, respectively.

- Chroma Key

  1. Select **Chroma Key** to enable the function.

  2. Click **Pick** and a crosshair appears on the image thumbnail above. You
     can move the crosshair to select the desired color.

3. Click **Apply** to complete the DSK settings.

Click **Cancel** to abandon the changes.

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

4. (Optional) You can adjust the **Background Threshold** and **Foreground Threshold** values to optimize the keying effect.

7.2.6 Output

Select **Output** to enter the **Output** page.

The system will automatically detect all the output connectors and add them to this page.

Figure 7-21 Output page

7.2.6.1 Output View

Each output thumbnail here provides you with the following information.

Figure 7-22 Output

On the right side,

- **HDMI2.0**: Indicates the output connector type.

- **Screen 1**: Indicates the name of the screen that the output connector loads.

- **3840×1080@60Hz**: Indicates the resolution of the current output connector.

- **Out1-1**: Indicates the output card No. and the connector No. of the output card corresponding to the output.

7.2.6.2 Output Settings

Click at the bottom right of the **Output** page or double click an output to open the output settings window. The output properties include general, timing and color settings.

General

The general settings include the basic output information, color space, bit depth and test pattern. For details about the parameters and settings, see Table 7-6.

Figure 7-23 General
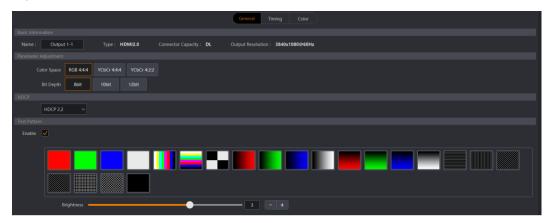
Table 7-6 General

Parameter		Description
Basic Information	Name	The output name that helps you to identify the output connector easily
		The output name can consist of 15 English letters, numbers, underscores, hyphens and/or spaces. The name cannot be all spaces and the name cannot start with a space.
	Type	The type of the output

Parameter		Description
		It is identified by the system from the connected device and cannot be changed.
	Connector Capacity	The capacity of the output

It is automatically read by the system and cannot be changed.

• SL: Pixel clock up to 165 MHz

• DL: Pixel clock up to 300 MHz

• 4K: Pixel clock up to 600 MHz |
| | Output Resolution | The output resolution |
| Parameter Adjustment | Color Space | The color space and sampling rate of the output

Select an appropriate color space and sampling rate so that the connected device can receive and accept the signal.

The options include **RGB 4:4:4**, **YCbCr 4:4:4** and **YCbCr 4:2:2**. |
| | Bit Depth | The output bit depth

The options include **8 bit**, **10 bit** and **12bit**. |
| | Color Gamut | The output color gamut

The options include **AUTO**, **Rec.601**, **Rec.709**, **DCI-P3** and **Rec.2020**. |
| | Dynamic Range | The output dynamic range

The options include **AUTO**, **SDR**, **HDR10** and **HLG**. |
| | Tone Mapping | Enable or disable the tone mapping function. |
| | Luminance | Adjust the peak brightness.

The value ranges from 100 to10000 and defaults to **1000**. |
| Click **Reset** to abandon the changes and reset the values to defaults.

Notes:

• Before you configure the **Parameter Adjustment** settings, make sure you have enabled the **Dynamic Range Conversion** function on the device properties page.

• Currently, only the HDMI 2.0 output connector (4K capacity) supports the parameter settings here.

• You can also adjust the above parameters under the **General** tab on the screen properties page. | | |
| HDCP | | Enable the HDCP function or select the HDCP version for the output.

The options include:

• Off

• HDCP 1.4

• HDCP 2.2 |
| Test Pattern | | Test patterns can be used to check the connection |

Parameter	Description
	between the output connectors and the LED screen. You can also use the test patterns to check whether the display functions well.
	Select **Enable** to enable the test function first.
	• Grid: Indicates the width of gradient color or the space between test lines. This parameter is available when the test pattern is not a pure color.
	• Speed: Indicates the moving speed of the test lines. This parameter is available when the test pattern is lines.
	• Brightness: Indicates the brightness of the test pattern displayed on the LED screen.

Timing

Set a standard or custom resolution for the current output connector.

Figure 7-24 Timing

Table 7-7 Timing

Parameter	Description
Standard	The commonly-used resolutions and frame rates for the selected connector are listed.
	Click the small blue triangle on the resolution box and then select a desired resolution and frame rate from the window that appears.
Custom	Customize the width, height, and frame rate.
	• Width: The width of the output image
	• Height: The height of the output image
	• Frame Rate: The frame rate of the output image

Parameter	Description
	Click the small blue triangle on the frame rate box and then select the desired frame rate from the window that appears. After the settings, click **Apply** to make the settings take effect.
Advanced	Select **Advanced** to enable the advanced EDID settings. The parameters of the advanced settings are as follows. After the settings, click **Apply** to make the settings take effect. **Note:** It is recommended the trained personnel use the advanced EDID function.
EDID	Learning the backend device EDID is supported once the device is connected, and you can apply the EDID to the specified input connector. • Apply: Make the EDID take effect on the selected input. • Export: Export the EDID to your local or other devices.

Color

The color parameters of output include contrast, brightness, hue and saturation. For details about the parameters and settings, see Table 7-8.

Figure 7-25 Color

Table 7-8 Color

Parameter	Description
Contrast	The value ranges from 0 to 100, and defaults to **50**. • RGB: Adjust the contrast R, G and B values independently according to your needs. The contrast R, G and B values range from 0 to 100, and default to **50**. • Click **Reset** to reset the values to factory defaults.
Brightness	The value ranges from 0 to 100, and defaults to **50**. • RGB: Adjust the brightness R, G and B values independently according to your needs. The brightness R, G and B values range from 0 to 100, and default to **50**. • Click **Reset** to reset the values to factory defaults.
Hue /Saturation	The hue value ranges from −180 to +180, and defaults to **0**.
	The saturation value ranges from 0 to 100, and defaults to **50**.
	Click **Reset** to reset the values to factory defaults.

7.2.7 Screen

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

7.2.7.1 Add Screens

You can add either the common screens or AUX screens. The procedures of adding these two kinds of screens are the same. Here we take the common screen as an example to illustrate.

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

Step 2　Click **+** at the lower left of the page to add a screen.

Figure 7-26 Add screens-1
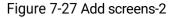
Step 3　Select **Common Screen**.

Step 4　Enter a screen name in the text box next to **Screen Name**.

Step 5　Set the screen row and column quantities by clicking **+** and **─** at the lower right corner based on the screen structure.

After you complete the row and column settings, the corresponding dotted frame boxes appear in the screen editing area and each dotted frame box indicates one output connector.

Step 6　Click and drag an output connector on the right side to the desired frame box in the screen editing area.

Figure 7-27 Add screens-2

![Note icon] **Notes**

- Only the outputs from cards of the same type and with the same resolution and frame rate can be configured on the same screen.
- The output connector will not be in the list on the right side after being clicked and dragged to the editing area.
- For a common screen, all the output connectors are listed on the right. For an AUX screen, all the AUX connectors are listed on the right.

Step 7 After all the settings, click **OK**.

7.2.7.2 Set Basic Properties

On the **Screen** page, click ![settings icon] at the bottom right to open the screen settings window as shown in Figure 7-28.

Under the **General** tab, you can name the screen, and view the screen mosaic size and use the test pattern to test the display.

Figure 7-28 Configure screens

- Click ⊕ at the bottom left of a mosaic area to locate the output connector on the device backplane. The selected connector is highlighted.

- Click ⋀ or ⋁ to scroll up or down the output connector list.

- Select a desired output mosaic layout.

  The layout options include 1×1, 1×2, 2×1, 1×3, 3×1, 1×4, 4×1, 2×2, and custom mosaic.

📄 **Note**

Click ⊞ to customize an output mosaic layout. On the displayed dialog box, enter the row and column quantities, respectively. The system will automatically generate a layout for preview, and then click **OK** to complete adding a new mosaic layout.

Table 7-9 Screen basic parameters

Parameter	Description
Basic Information	• Name: The screen name that helps to manage the screens and control playback on screens easily. The screen name can consist of 15 English letters, numbers, underscores, hyphens and/or spaces. The name cannot be all spaces and the name cannot start with a space. • Output Quantity: The number of outputs on the current screen • Mosaic Area: The total screen resolution is automatically calculated according to the output connector resolution and screen structure. • Output Timing: Customize your desired frame rate by selecting a rate from the window that appears.
Test Pattern	The test patterns can be used to check the connection between the output connectors and the LED screen. You can also use the test pattern to check whether the display is normal.

Parameter	Description
	Select **Enable** to enable the function first.
	• Grid: Indicates the width of gradient color or the space between test lines. This parameter is available when the test pattern is not a pure color.
	• Speed: Indicates the moving speed of the test lines. This parameter is available when the test pattern is lines.
	• Brightness: Indicates the brightness of the test pattern displayed on the LED screen.

7.2.7.3 Set Screen Color

Under the **Color** tab, you can configure the output image quality by adjusting the color parameters, such as contrast, brightness, and more.

Figure 7-29 Color

Table 7-10 Color

Parameter	Description
Contrast	The value ranges from 0 to 100, and defaults to **50**.
	• RGB: Adjust the contrast R, G and B values independently according to your needs.
	The contrast R, G and B values range from 0 to 100, and default to **50**.
	• Click **Reset** to reset the values to factory defaults.
Brightness	The value ranges from 0 to 100, and defaults to **50**.
	• RGB: Adjust the brightness R, G and B values independently according to your needs.
	The brightness R, G and B values range from 0 to 100, and default to **50**.
	• Click **Reset** to reset the values to factory defaults.
Hue	The hue value ranges from −180 to +180, and defaults to **0**.

/Saturation	The saturation value ranges from 0 to 100, and defaults to **50**.
	Click **Reset** to reset the values to factory defaults.

📄 **Note**
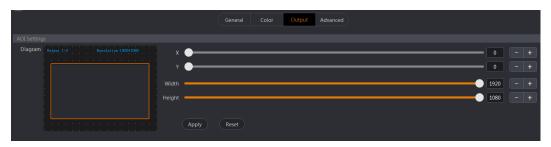
During the color adjusting process, it is recommended you add a layer or open the test pattern in advance, which will be easier for you to view the image quality change.

7.2.7.4 Set AOI

Under the **Output** tab, the AOI (Area of Interest) settings are available. An orange box appears within the output connector area and it can be positioned and sized freely to make the AOI a new active output area.

Step 1 Select the desired screen on the left.

Step 2 Select the **Output** tab to enter the AOI settings page.

Figure 7-30 AOI

Step 3 Select the desired output connector on the top half part of the page.

Step 4 Reposition and resize the AOI area as required.

- X: Set the horizontal position of the selected screen area.
- Y: Set the vertical position of the selected screen area.
- Width: Set the width of the selected screen area.
- Height: Set the height of the selected screen area.

Step 5 Click **Apply** to complete and apply the settings.

Step 6 Repeat Step 3 to Step 5 to complete the AOI settings for other screen areas.

7.2.7.5 Set Edge Blending

Edge blending is a technique used when using multiple projectors to display portions of a single image. To display a single seamless image, adjacent projectors need to overlap edges slightly and compensate for the double brightness created in different regions. The projector needs to selectively adjust its brightness for the pixels in this overlap region.

Step 1 Select the desired screen on the left.

Step 2 Select the **Advanced** tab to enter the advanced settings page.

Step 3 Select the desired output connector on the top half part of the page.

Step 4 Set the overlap region by adjusting **Initial X** or **Initial Y** in the **Output Position** area.

- X: Set the horizontal position of the selected area.
- Y: Set the vertical position of the selected area.

Figure 7-31 Edge blending

Step 5 Select the blending edge and enable the feathering as required.

1. Select the desired blending edge next to **Edge**.
2. Check the box next to **Feathering**.
3. Adjust the **Gamma** and **Width** values to present a single image with uniform brightness.

7.2.7.6 Set Virtual Pixels

If the F series devices work with the LED display controllers or sending cards, the configured screen size is the same as the actual screen size. If the F series devices work with the all-in-one controllers, the configured screen size may differ from the actual screen size due to the scaling function of the all-in-one controller. In this circumstance, lots of calculations may be required to precisely control the actual layer size and position. With the help of the virtual pixel function, the complicated calculations will not be troublesome.

Step 1 Select the desired screen on the left.

Step 2 Select the **Advanced** tab to enter the advanced settings page.
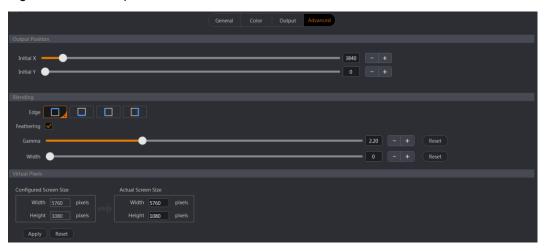
Figure 7-32 Virtual pixels

Step 3 In the **Virtual Pixel** area, fill in the **Width** and **Height** of the actual screen.

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

After the settings, you can view the actual display effect on the **Layer** page after adding a layer.

7.2.8 Layer

After a screen is added, you can add, delete and sort layers on the screen, and adjust the layer position, size and other properties.

Select **Layer** to enter the **Layer** page.

 Notes

- Layers are screen-specific, so please select the target screen on the top of the page before you do any layer operations.
- Select **Multiple Select** on the top right of the page and then you can view and operate multiple desired screens simultaneously.
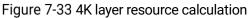
7.2.8.1 Calculate Layer Resources
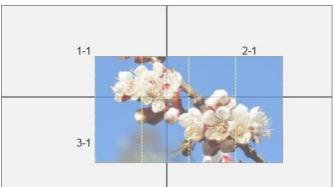
The quantity of layers that can be added to a screen is decided by both the resources of the output card and the resources that other layers used.

The resource allocation rules are as follows:

- Each output card supports 8x SL layers, 4x DL layers or 2x 4K layers. When the layer resources are exhausted, no more layers can be added.
- SL layer:
  - A single layer occupies only one resource within one output card.
  - When a cross-card output is required, the layer occupies one more resource every time it crosses a second output card.
- DL layer:
  - A single layer occupies two resources within one output card.
  - A DL source can be divided into 2x SL sources. When a cross-card output is required, the resource will be calculated according to the actual position of the layer partition areas that locate at the output connectors.
- 4K layer:
  - A single layer occupies four resources within one output card.
  - A 4K source can be divided into 4x SL sources. When a cross-card output is required, the resource will be calculated according to the actual position of the layer partition areas that locate at the output connectors.

    For example, as shown in the below figure, the layer occupies 2x SL resources of output 1-1 connector and output 3-1 connector respectively and occupies 3x SL resources of output 2-1 connector and output 4-1 connector respectively. The layer shown below occupies 10 SL resources in total.

Figure 7-33 4K layer resource calculation

Calculate Cropped Layer Resources

The DL and 4K sources are automatically partitioned. After the layer input cropping of a DL or 4K layer, the resource that the cropped layer occupies depends on the position and size of the new layer.

The layer shown below is cropped upon a 4K layer. After the cropping, the new layer occupies 2x SL resources of each output connector, respectively. In total, this layer occupies 8x SL resources of the output card.
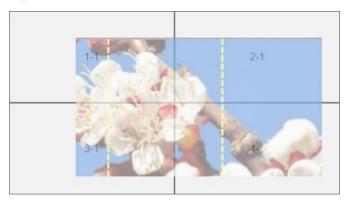
Figure 7-34 Input cropping resource calculation

Calculate AUX Screen Resources

The F series devices provide an AUX card with four AUX outputs.

- An AUX connector supports a 4K layer resource.

- A single AUX card supports 16x SL layer, 8x DL layers or 4x 4K layers.

- Each AUX screen supports one layer only. If the layer resolution exceeds the layer resource limit of the AUX screen, the layer cannot be added to the AUX screen.

7.2.8.2 Add Layers

Add Layers for Common Screens

Step 1 On the top of the **Layer** page, select the desired screen.

Step 2 On the right of the **Layer** page, select the **Input** tab, and then click and drag an input to the PVW area to add a layer.

A single output card supports up to 8x SL mixing layers, 4x DL mixing layers or 2x 4K mixing layers.

Figure 7-35 Add layers for common screens

📄 **Notes**

- Click ⬛ at the bottom left of the PGM area to capture the current frame of the input source and use the captured image as BKG.

- Click 🔓 at the bottom left of the PGM area to enable the editing of the PGM area.

Step 3 Select an added layer, and then you can view the layer information and perform the relevant operations as shown in Figure 7-36.

Figure 7-36 Layer

- 4K: Indicates the layer capacity.

  The layer capacity changes automatically according to the input source resolution. The capacity can be **SL**, **DL** or **4K**.

- **Input 2-1**: Indicates the input source of the current layer.

- ⊕: Click this icon to make the selected layer fill the mosaic areas it crosses. Each mosaic area is loaded by one output connector.

- ⊗: Delete the selected layer.

- ⤢: Click and drag it to change the layer size (leftward).

- ◥: Click and drag it to change the layer size (rightward).

Add Layers for AUX Screens

Prerequisites: You have added an AUX screen in advance.

Step 1 On the top of the **Layer** page, select the desired AUX screen.

Step 2 On the right of the **Layer** page, select the **Input** or **Output** tab, and then click and drag an input to the AUX-PVW area to add an AUX layer.

Figure 7-37 Add layers for AUX screens

Step 3 Send the AUX-PVW content to AUX-PGM by clicking **Cut** or **Take** or pushing **T-bar**.

📄 **Notes**

- Only one input or PGM can be added.
- Dragging a new input or PGM to the AUX layer will replace the existing one.
- AUX layer is displayed in full AUX screen, and its size and position cannot be changed.
- Click [icon] to clear all the layers on the AUX screen.
- AUX layers do not support all property settings, such as flipping, border, layout, color, crop and more.

7.2.8.3 Switch Input Sources

When the layer layout remains unchanged, Triton allows you to change the input source of a layer by simply dragging the target input source to the layer area.

Step 1 Select the **Input** tab on the right of the **Layer** page to view the input source list.

Step 2 Click and drag the target input source to the target layer to change the input source.

Figure 7-38 Switch layer input source

Notes

- A solid green box appears indicating the new source when you drag it to the layer area.
- A small green rectangle appears at the center of the layer area, indicating where you need to drag the new source.
- Drag the new source into the green rectangle to replace the original source; otherwise, a new layer will be created.

7.2.8.4 Adjust Layers

After a layer is added, abundant adjustment buttons are provided at the bottom of the **Layer** page for you to easily and freely adjust the layers.

These buttons allow you to adjust the layer position, size, priority, layout, set PVW to PGM mode, transitions, fade and freeze layers and more, as shown in Figure 7-39.

Figure 7-39 Quick adjustment area

Quick Layer Adjustment

The following shortcut buttons are provided for you to quickly adjust the layer position, priority, size and more. To quickly adjust a layer, select a target layer and click the corresponding shortcut button below the PVW area.

- : Bring the selected layer forward.

- : Send the selected layer backward.

- : Bring the selected layer to front.

- : Send the selected layer to back.

- ![icon]: Stretch the selected layers to fit the screen horizontally.

- ![icon]: Stretch the selected layers to fit the screen vertically.

- ![icon]: Stretch the selected layers to fill the screen.

- ![icon]: Show the alignment option icons as below.

  - ![icon]: Align the selected layers to the left screen edge.

  - ![icon]: Align the selected layers to the top screen edge.

  - ![icon]: Align the selected layers to the right screen edge.

  - ![icon]: Align the selected layers to the bottom screen edge.

  - ![icon]: Align the selected layers to the horizontal screen center.

  - ![icon]: Align the selected layers to the vertical screen center.

  - ![icon]: Align the selected layers to the screen center.

- ![icon]: Show the layer copying option icons as how below.

  - ![icon]: Add a new layer that displays the same image with the selected layer.

  - ![icon]: Add a new layer that displays the mirrored image of the selected layer.

- **X**: Set the horizontal coordinate of the layer. You can enter a number or click **+/-** to adjust the coordinate.

- **Y**: Set the vertical coordinate of the layer. You can enter a number or click **+/-** to adjust the coordinate.

- **Width**: Set the width of the layer. You can enter a number or click **+/-** to adjust the width.

- **Height**: Set the height of the layer. You can enter a number or click **+/-** to adjust the height.

- **Ratio**: Quickly select the layer aspect ratio. The options include **Custom**, **1:1**, **5:4**, **3:2**, **16:9** and **16:10**.

  When you change the ratio, the original layer height remains unchanged and the system calculates the width automatically.

PVW/PGM Adjustment Area

This area allows you to pan, adjust, restore and clear the PVW/PGM area.

![toolbar showing pan, zoom 13%, and other icons]

- ![icon]: Click the icon to activate the pan function and the icon will turn to ![icon]. Pan the PVW and PGM areas at the same time.

- ![icon]: Zoom in the PVW and PGM areas at the same time.

- ⊖: Zoom out the PVW and PGM areas at the same time.

- ⬛: Restore the PVW and PGM areas to their original view after being moved or zoomed.

- ☑: Click the icon to activate the select function and the icon will turn to ☑. Select all the PVW layers and click again to cancel the selection.

  After this button is clicked, a fluorescent rectangle appears, indicating all the layers are selected.

- 🗑: Delete the selected layer.

  If you have clicked ☑, click this button to delete all the layers in the PVW area.

- ⬨: Clear all the layers in the PVW area.

- ↻: Restore the size and position of the selected layer in the PVW area to defaults.

  The default layer size is half of the input resolution width and height, and the default layer position is (0, 0).

Transition

This area allows you to perform the transition-related settings.
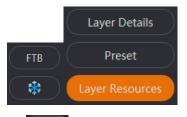
Figure 7-40 Transition settings

- Swap: Set the PVW and PGM switching mode.

  - Swap: The swap function is enabled, and the PVW and PGM displays are swapped.

  - Swap: The swap function is disabled, and the PVW and PGM display the same content.

- Fade: Select a transition effect.

- 0.5 s − +: Set the transition effect duration by entering numbers directly or clicking **+/-**. The duration ranges from 0.1s to 10s and defaults to 0.5s.

- Cut: Send PVW to PGM instantly without any transition effect.

- Take: Send PVW to PGM with a selected transition effect within a specified time.

- T-Bar: Show the virtual T-Bar. Click and drag the T-Bar to manually send the layers in PVW to PGM with a selected transition effect.

Other Function Buttons

Figure 7-41 Others

- **FTB**: Click the icon to activate the FTB function and the icon will turn to **FTB**. Make the screen fade to black.

- **❄**: Click the icon to activate the FTB function and the icon will turn to **❄**. Freeze the screen.

- **Layer Details**: Open the layer properties window where you can set all the layer-related parameters.

- **Preset**: Open the preset window where you can save, load and clear presets.

- **Layer Resources**: Show the real-time usage of the layer resources. The button is clicked by default (orange).

7.2.8.5 Set Layer Properties

Click **Layer Details** at the bottom right on the **Layer** page to open the layer property settings window. Layer property settings include basic layer information, layout, color and input settings.

Select a layer on the left, and then set the layer properties on the right.

General

The **General** tab allows you to set the layer name, flipping, background, border and mask. These properties are described in Table 7-11.

Figure 7-42 General
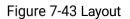
Table 7-11 General

| Parameter	Description	
Basic Information		
Name	The layer name	
	The layer name can consist of 15 English letters, numbers, underscores, hyphens and/or spaces. The name cannot be all spaces and the name cannot start with a space.	
Cut and Fill		
Select **Enable** to enable the cut and fill function.		
Select **Yes** or **No** next to **Link Layers** to set whether to adjust the layer layout info (such as position and size) of both the cut and fill layers.		
Notes:		
• When the cut and fill function is enabled, the background, border and opacity function cannot be used.		
• When the cut and fill function is enabled, the keying effect disappears.		
Flip		
Type	Set whether to flip the layer image. Four options are provided.	
	• ⬛ Normal : Do not flip the layer image.	
	• ⬛ : Flip the layer image horizontally.	
	• ⬛ : Flip the layer image vertically.	
	• ⬛ : Flip the layer image both horizontally and vertically.	
Background		
Background	Set the current layer as the background image.	
	Only one layer can be set as the background for a screen. When layer A has already been set as the background, if you want to set layer B as the background, layer A background will be automatically canceled.	
Border		
Set whether to enable the layer border function. If you have enabled the function, you can set the border width/height and color required.		
• ⬛ None : Disable the layer border function and the border parameters below are unavailable.		
• ⬛ : Set the hard inner borders for the layer.		
• ⬛ : Set the soft borders for the layer.		
• ⬛ : Set the inner halo for the layer.		
Width	Set the width of the left and right borders.	Click ⬛ to lock the layer aspect ratio. At this time, only the width can be adjusted, and the height will be calculated and adjusted automatically according to the
Height	Set the height of the top and bottom borders.	
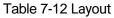
	aspect ratio you set.
Red/Green/Blue	Set the individual R, G and B color values for the layer border color. The values default to 50.
Select Color	Customize a layer color in the window that appears.
Layer Mask	
Select **Enable** to enable the layer mask function. Click **Reset** to reset the layer mask settings to defaults. **Note:** When the layer border function is enabled, the layer mask function cannot be used.	
Mask Top	Mask the layer from top to bottom.
Mask Bottom	Mask the layer from bottom to top.
Mask Left	Mask the layer from left to right.
Mask Right	Mask the layer from right to left.
You can adjust the above four parameters by dragging the slider, clicking **+/-**, or entering the value manually.	

Layout

The **Layout** tab allows you to set the layer aspect ratio, size and position. The layout properties are described in .

Figure 7-43 Layout

Table 7-12 Layout

Parameter	Description
Aspect Ratio	
Ratio	Select an aspect ratio for the layer from the listed ratios. The options include **Custom**, **1:1**, **5:4**, **3:2**, **16:9** and **16:10**. **Note:** During the aspect ratio adjustment, the layer width is changed based on the layer height.
Custom	Customize the aspect ratio by dragging the sliders, clicking **+/-**, or entering the value manually.

Layer	
Reset	Reset the layer size and position settings to defaults.
X	Set the initial horizontal coordinate of the layer.
Y	Set the initial vertical coordinate of the layer.
Width	Set the layer width.
Height	Set the layer height.

Click [S] to lock the layer aspect ratio. At this time, only the width can be adjusted, and the height will be calculated and adjusted automatically according to the aspect ratio you set. After the height reaches the maximum value, the width cannot be increased.

Color

The **Color** tab allows you to set the layer image quality, including contrast, brightness, hue, saturation and more. The color properties are described in .
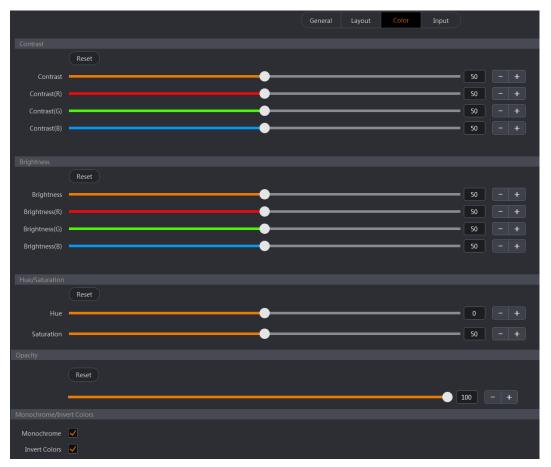
Figure 7-44 Color

Table 7-13 Color

Parameter	Description
Contrast	The value ranges from 0 to 100, and defaults to **50**. • RGB: Adjust the contrast R, G and B values independently

	according to your needs.
	The contrast R, G and B values range from 0 to 100, and default to **50**.
	Click **Reset** to reset the values to factory defaults.
Brightness	The value ranges from 0 to 100, and defaults to **50**.
	• RGB: Adjust the brightness R, G and B values independently according to your needs.
	The brightness R, G and B values range from 0 to 100, and default to **50**.
	Click **Reset** to reset the values to factory defaults.
Hue/Saturation	
Hue	The value ranges from −180 to +180, and defaults to **0**.
Saturation	The value ranges from 0 to 100, and defaults to **50**.
Reset	Reset the hue and saturation to defaults.
Opacity	
Opacity	The value ranges from 0 to 100, and defaults to **100**.
	Reset: Reset the opacity to defaults.
Set the above values by dragging the slider, clicking **+/-**, or entering the value manually.	
Monochrome/Invert Colors	
Monochrome	Select whether to set the layer image to a grayscale image.
Invert Colors	Select whether to invert the layer color to its complementary color that combined with the original color makes white (RGB: 255,255,255).
	For example, if the original color is red (RGB: 255,0,0), the inverted color is cyan (RGB: 0, 255, 255).

Input

The **Input** tab allows you to crop the layer input source, or make the layer a no-source layer filled with pure color. The input properties are described in Table 7-14.

Figure 7-45 Input
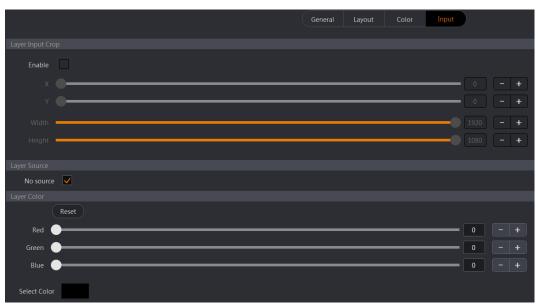
Table 7-14 Input

Parameter	Description
Layer Input Crop	
Enable	Enable the input cropping function of the layer image, and then the cropped image will be the layer source.
X	Set the initial horizontal coordinate of the cropped part.
Y	Set the initial vertical coordinate of the cropped part.
Width	Set the width of the cropped part.
Height	Set the height of the cropped part.
Layer Source	
Layer Source	Select **No source** to remove the current input source from the layer and make the layer filled with pure color.
Layer Color	
Note: When **No source** is selected, the **Layer Color** parameters can be set.	
Reset	Reset the color values to defaults.
Red	Adjust the red component individually.
Green	Adjust the green component individually.
Blue	Adjust the blue component individually.
Select Color	Click ▇ next to **Select Color** to customize the layer color in the window that appears.

7.2.8.6 Capture Input Sources

Capture an input source and use the captured frame as a BKG if necessary.

Step 1 Select **Layer** to enter the **Layer** page.

Step 2 On the right side, click **Input** to show the input list, as shown in Figure 7-46.

Figure 7-46 Input list

Step 3 Click in an input area, and the system will capture the current frame of the selected input source automatically. The captured image can be saved in Triton, as shown in Figure 7-47.

Figure 7-47 Capture an input source

Step 4 Name the captured image.

If you are not satisfied with the captured image, click **Capture Again** to re-capture the current input source.

Step 5 Click **Save** to complete the capturing of the input source and save the captured image to the gallery.

Click **Cancel**, and the captured image will not be saved.

📄 **Note**

> When you need to capture the current frame of PGM, click 📷 at the bottom left of the PGM area.

7.2.8.7 Manage Gallery

Gallery allows you to add and store the BKG and LOGO images. The saved BKG and LOGO files can be directly used on the **Layer** page.

Step 1 Select **Layer** to enter the **Layer** page.

Step 2 At the top of the page, select the screen you want to operate.

Step 3 On the right side, click **Gallery** to view the added BKG and LOGO files.

Step 4 Select the desired BKG or LOGO file and drag it to the PVW or PGM area to add a BKG or LOGO.

📄 **Notes**

- BKG always locates at the bottom, and its size and position cannot be changed.
- LOGO always locates at the top, and its size cannot be changed. The position of LOGO can be changed by simply dragging it.
- Before you drag any image to the PGM area, ensure you have enabled the PGM editing function. Click 🔒 at the bottom left of the PGM area to enable the PGM editing function.

Add BKG Images

The procedure of adding a BKG or LOGO image is the same.

Step 1 Go to **Layer** > **Gallery** > **BKG** to view the BKG gallery, as shown in Figure 7-48.
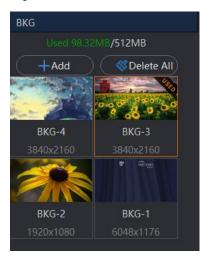
Figure 7-48 Add BKG

Step 2 Click **+Add** and select a local image from the window that appears.

Step 3 Select the target image file and then click **Open** to add the selected image to the gallery.

> 📄 **Note**
>
> Triton allows you to add at most 254 BKG images and the total size of the added BKG images cannot exceed 512 MB. Every time you add a BKG image, the system calculates and displays the used and available space.

Add LOGO Images

Step 1 Go to **Layer** > **Gallery** > **LOGO** to view the LOGO gallery, as shown in Figure 7-49.
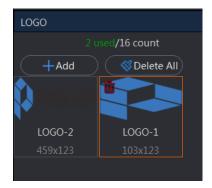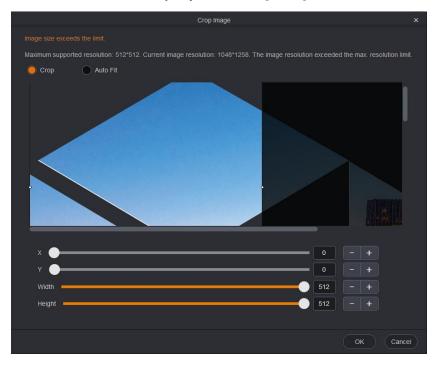
Figure 7-49 Add LOGO

Step 2 Click **+Add** and select a local image from the window that appears.

Step 3 Select the target image file and then click **Open** to add the selected image to the gallery.

Triton supports at most 16 LOGO images (512×512). If the added image size exceeds the limit, cropping may be needed.

- **Crop**: Set the initial horizontal position (X), initial vertical position (Y), width and height of the cropped image.

- **Auto Fit**: Automatically adjust the image height or width to fit the limit.
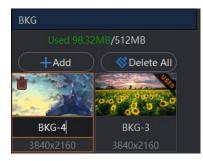
Rename BKG/LOGO

After a BKG or LOGO image is added, the system will automatically name it **BKG-X** or **LOGO-X**. **X** is the smallest unused number, which will automatically increase when more images are added. The image name can be renamed to distinguish the images by their names in future use.

Click the BKG/LOGO name, and an orange outline border appears indicating the name is editable now. Enter the desired name directly.

Figure 7-50 Rename BKG/LOGO

Delete BKG/LOGO

Click the target BKG/LOGO image and the icon 🗑 appears at the top left of the image. Click the icon to delete the image, or click [Delete All] at the top of the BKG/LOGO gallery to delete all the added BKG/LOGO images.

7.2.8.8 User Keys

The user key function allows you to select some or all of a layer's properties, such as input, border, color, position, size and more, and then save them as a user key. You can apply the saved user key to other layers for easy configuration.

Figure 7-51 User key

The user key menu provides the following parameters:

Item	Description
Input Source	The input source of the selected layer
No-Source Layer	The no source setting of the selected layer
Flip	The flipping effect the selected layer image
Border	The on/off status and its parameters of the selected layer
Mask	The on/off status and its parameters of the selected layer
Size	The size of the selected layer
Position	The position of the selected layer
Color	The image quality parameters of the selected layer, including contrast, brightness, hue-saturation, opacity, monochrome/invert colors
Input Crop	The input source cropping parameters of the selected layer
Cut & Fill	The cut and fill status and setting of the selected layer

Save User Keys

Step 1 Select **Layer** to enter the **Layer** page.

Step 2 Select the target layer in the PVW or PGM area.

Step 3 In the **User Key** area on the right pane, select the desired properties.

All the properties are selected by default.

Step 4 Name the new user key.

After a user key is saved, the system will automatically name it **User Key001**. When more user keys are saved, the number at the end of each subsequent name automatically increases by 1. However, if a user key name has been changed, the newly-added user key will use that name before change. For example, you have saved User Key001, User Key002 and User Key003, and then User Key002 has been changed, the fourth user key name will be User Key002.

Step 5 Assign a color to it.

Currently eight colors are supported and blue is the default option.

Step 6 Click **Save**.

After a user key is successfully added, a new user key item appears in the **List** area.

Step 7 (Optional) Repeat the above steps to create more user keys.

Apply User Keys

You can apply a user key to the target layer via either of the following method.

- Select a layer in the PVW or PGM area, and then double click the target user key in the list.
- Click the target user key and then drag it to the desired layer in the PVW area.

Other Operations

- : Click this icon next to a user key name to open the property settings window where you can change the user key name, label color and sequence number.
- : Delete the selected user key.
- **Clear**: Clear all the saved user keys.

Notes
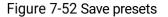
- At most 128 user keys can be saved.
- User key cannot be applied to AUX layers.
- Empty layers, multiple layers and AUX layers cannot be saved as user keys.
- A user key can be applied to one layer only at a time.

7.2.8.9 Manage Presets

Triton supports up to 128 presets. You can save the layer information configured in PVW or PGM as a preset. Saving a preset will save both the selected screen and layer information stored in the screen.

Save Presets

Step 1 After completing the layer settings on the **Layer** page, click **Preset** at the bottom right to save the layer settings as a preset.

Figure 7-52 Save presets

Step 2   Select the target preset.

Step 3   Click **Save PGM** or **Save PVW**, and the system will save the layer settings in the PVW or PGM area of the selected screen to the target preset.

📄 **Note**

> If the target preset you select is a nonempty preset, when you click **Save PGM** or **Save PVW**, a prompt will appear asking you whether you want to overwrite the current preset. If you select **Yes**, the current preset will be overwritten by the new one.

Load Presets

Step 1   Click **Preset** to open the preset window, as shown in Figure 7-53.
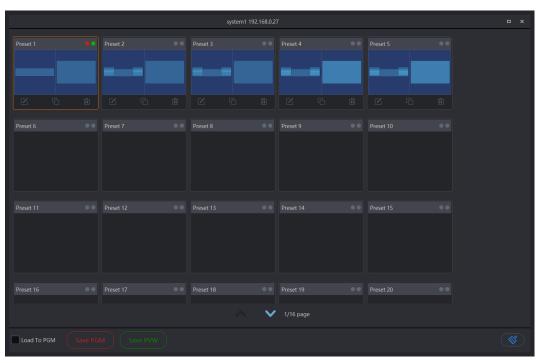
Figure 7-53 Load presets

In the preset page, you can know the information as illustrated below:

Markings	Description
Red	The preset loaded to PGM
Green	The preset loaded to PVW
Preset Area	**Description**
Blue, with layout thumbnail	Saved presets that can be loaded
Gray	Empty presets that cannot be loaded
Highlighted in orange	The preset being selected
AUX icon	The preset contains the AUX data

Other Operations

You can also rename, overwrite, delete a preset or clear all the presets.

- ◻: Rename the preset.

  After you click this icon, an orange rectangle box appears outside the preset name, indicating the preset name is editable now. Enter a new name directly.

- ◻: Overwrite the current preset with a new one.

- ◻: Delete the current preset.

- Load To PGM : Directly load the selected preset to PGM.

- ◻: Clear all the saved presets.

7.2.8.10 Adjust Screen Display Sequence and Size

The screen display order on the layer page is the screen creation order. Sometimes, it may occur that the on-site screen order is inconsistent with the order shown on the layer page which may lead to the unmatched editing or may confuse the operator as well. To solve the problem, Triton allows you to adjust the screen display order.

Step 1 Select the desired screen at the top.

Step 2 Adjust the screen order by simple drag and drop operation.

After the reordering, the screen order in the PVW and PGM area changes accordingly.

In addition, for a better preview and using experience, Triton allows you to adjust the size of the screen editing area.

Step 1 Move the cursor to the edge of the screen in the layer editing area, and a double-sided arrow appears.

Step 2 Click and move the arrow leftward or rightward to adjust the screen area size as you wish.

7.2.9 Multiviewer (MVR for Short)

The last output card installed on an F series device can be used as an MVR card. Before you configure the Multiviewer function on the **MVR** page, please make sure you have enabled the function by clicking the **MVR** button on the device rear panel diagram on the **Device** page. After the Multiviewer function is enabled, you can monitor all the input sources, PVW and PGM.

Prerequisites

An MVR card is inserted into the slot correctly.

MVR Configuration

Select **MVR** to enter the Multiviewer page and click to open the Multiviewer property settings window. If you control the F series devices on the U3 event controller, the primary screen displays the Multiviewer page and the secondary screen displays the properties screen.

Multiviewer supports the UMD display and the display content varies according to different Multiviewer windows.

- Input MVR: The input source name, connector type, resolution and AUX label
- Output MVR: The screen name-PVW/PGM, screen size and AUX label

Figure 7-54 MVR page

7.2.9.1 Add MVR Windows

Step 1 Select the desired MVR or both MVR on the top of the **MVR** page.

Step 2 Click **Input** or **Output** on the right to show the input or output list.

Step 3 Click and drag an input under the **Input** tab or a PVW/PGM under the **Output** tab to the Multiviewer editing area.

📄 **Notes**

- The MVR windows in the editing area cannot overlap.
- Each input or output can be used by one MVR window only.
- Dragging a new input source, PVW or PGM to an existing MVR window will overwrite the existing content.

Step 4 Change the MVR window layout, clear the MVR windows and set the MVR window properties as required.

- : Arrange the MVR windows quickly according to a layout template. Four templates are provided.
  - Red indicates an MVR window displaying a PGM source.
  - Green indicates an MVR window displaying a PVW source.
  - Blue indicates an MVR window displaying an input source.

- : Set the grids for you to perfectly place the MVR windows manually.
  - The more MVR windows you need, the larger you can set the grid row and column quantities.
  - When you select and drag an input source, PVW or PGM to an MVR editing area, a green rectangle appears indicating the object you are dragging and a

blue rectangle appears indicating the actual window size. The actual window size depends on the input source resolution.

- ⬙ : Quickly clear all the MVR windows.

- ⬌ : Open the MVR settings window where you can adjust the MVR window position and size, and set the color for the MVR window name, border or background.

7.2.9.2 Set MVR Window Properties

Step 1 Click ⬌ to enter the MVR window property settings page.

Step 2 Select the target MVR window on the left and set its related properties.

Figure 7-55 MVR window properties

- Aspect Ratio

  Set the aspect ratio of the MVR window. The options include **Custom**, **1:1**, **5:4**, **3:2**, **16:9**, **16:10** and **Native**.

- Window Position

  Set the window position and size.

Parameter	Description
X	Set the initial horizontal position of the selected window.
Y	Set the initial vertical position of the selected window.
Width	Set the width of the selected window.
Height	Set the height of the selected window.

- Output Color

  Set the color for the MVR window name, border or background.

Name	
Parameter	**Description**
Name	Indicate the MVR window name. Show: Select whether to display the name and size on the MVR window.
R/G/B	Set the R/G/B component individually for the color of the MVR window name.
Select Color	Customize the color of the MVR window name in the window that appears.
Border	
Parameter	**Description**
R/G/B	Set the R/G/B component individually for the color of the MVR window border.
Width	Set the width of the left and right window border (inner).
Height	Set the height of the top and bottom window border (inner).
Select Color	Customize the color of the MVR window border in the window that appears.
Background	
Parameter	**Description**
R/G/B	Set the R/G/B component individually for the color of the MVR window background.
Select Color	Customize the color of the MVR window background in the window that appears.

- HDCP

    Set the HDCP function for the Multiviewer. You can enable the HDCP function or select the HDCP version.

7.2.10 Settings

7.2.10.1 Firmware Update

You can select to update the connected online device. You can also select to update the whole unit or a single component, such as the control card, input card and output card. The update procedure is as follows:

📄 **Notes**

- Before the update, make sure you have downloaded the target firmware package of the components or device to be updated from the official website of Pixelhue Technology Ltd.
- Every time you enter the update page, please refresh the cards installed on the device. If the device is offline, the cards installed under the offline mode are displayed by default.
- The offline device does not support the selection of the update package.

Step 1　Go to **Setting** > **Firmware Update** to enter the firmware update page.

Step 2　Click **Browse** to select the update package from the window that appears. After a package is selected, the package name appears in the text box next to **Update File**.

Step 3　Click **Update** to update the selected items below.

Step 4　Click **Check for updates** to check whether there are new updates of the components or devices.

Figure 7-56 Firmware update

7.2.10.2 Diagnostics

When the device does not function well, you can diagnose the device for quick troubleshooting, and send your test result to our technical support staff for help.

Step 1　Go to **Setting** > **Diagnostics** to enter the device diagnostics page.

Step 2　Click **Run Diagnostic** to run the test. After the test is completed, the result report will be displayed.

Note

The diagnostics may cause transient abnormal display. The display will resume after the diagnostics.

7.2.10.3 Project File

You can save the configuration data as an independent project file for easy use in the future.

Step 1　Click **Save** below the main function modules.

Step 2　Go to **Setting** >**Project File** to enter the project file page.

Step 3　Click **Save Project** to open the project file properties window.

Figure 7-57 Save project

Step 4   Name the project file and add a remark for the file.

Step 5   Click **OK** to save the project file.

After a project file is successfully saved, the project file related information, such as name, remarks, will be displayed on the **Project File** page.

Other Operations on Project File

- Edit: Click **Edit** next to the project file to open the project properties window. You can change the project file name and remarks.

- Apply: Click **Apply** next to the project file to load all the configurations in the current project file to the connected device.

- Save As: Click **Save As** next to the project file to save the current file to a specified path.

- Delete: Click **Delete** to delete the current project file.

- Save All As: Save all the project files to a specified path.

- Delete All: Delete all the saved project files.

- Import Project: Import an external project file to the current project file list.

- Apply Others: Load another saved project file to the connected device.

7.2.10.4 Technical Support

Triton provides technical support for our customers in many different countries and regions around the globe. Go to **Setting** > **Technical Support** to view our contact information.

7.2.10.5 Logs

On this page, you can select to export the logs, including the software logs, card logs and main control logs.

Figure 7-58 Logs

7.2.10.6 About

On this page, you can view some product-related documentation, such as user agreement and user manual which can help you know better about our product.

8 U3 Event Controller

About This Chapter

This chapter introduces you to the U3 event controller, including its lights, buttons, touchscreens, control method, as well as guides you to perform connections and basic operations.

Overview

- Hardware Introduction
- Lights and Status LEDs
- Touchscreens
- Control Overview
- Connections
- Operations

8.1 Hardware Introduction

8.1.1 Overview

The U3 is a large-scale event controller developed by PIXELHUE. With built-in intelligent and high-performance event management software Triton, the event controller takes full control over the F series devices. The U3 can work with multiple F series devices, to provide an ideal solution for big events, such as large press conferences, various interactive performances, music tours, and immersive art exhibitions.

With two 21.5" ultra-clear capacitive touchscreens, you can easily configure the sources, screens, presets, layers at your fingertips. Additionally, a high-resolution T-bar with 64 levels of adjustment is provided for precise controlling of the preset transitions.

Thanks to the excellent buttons, high-resolution T-Bar and dual touchscreen design, the U3 is a vastly simplified, more powerful controller for live events nowadays.

8.1.2 Front View

Figure 8-1 Front view

Primary Screen

Displays the main user interface of the built-in software, allowing you to add devices and configure screens, inputs and outputs, BKG/LOGO gallery, layers, presets and Multiviewer monitoring, as well as perform basic settings.
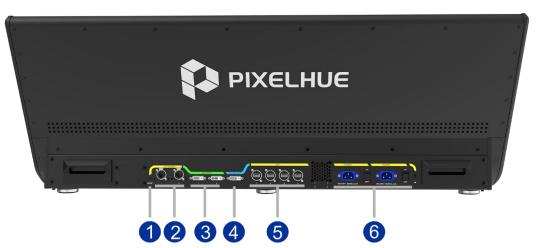
Secondary Screen
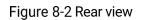
Displays related property settings for each function, allowing you to view or set the properties, or view the Multiviewer information.

Buttons and Lights

The following sections will describe the lights and detailed button functions and usage.

8.1.3 Rear View

Figure 8-2 Rear view

No.	Connector	Qty	Description
1	Pinhole reset	1	Reserved
2	ETHERNET	2	Connect to and control the F series devices.
3	DVI INPUT	2	Connect to two monitoring connectors on the last output card of the connected F series device for Multiviewer and input view. • DVI input 1 is for Multiviewer. • DVI input 2 is for input view.
4	DVI OUTPUT	1	Loop the DVI input 1 signal.
5	USB	4	Connect to a mouse, keyboard and USB drive.
6	POWER	2	Connect to two power sources. Two rocker switches are provided.

8.1.4 Side View

Figure 8-3 Side view

No.	Connector	Qty	Description
1	Script lights (L+R)	2	Dedicated for easy reading of scripts and using of event controller buttons
2	Work lights	2	
3	Logo lights (L+R)	2	PIXELHUE logo
4	USB ports	2	Connect to a mouse, keyboard and USB drive.

8.2 Lights and Status LEDs

8.2.1 Lights

The U3 provides users with two script (gooseneck) lights, two front-panel work lights for easy reading of scripts and using of controller buttons, as well as two logo lights on both sides.

8.2.2 Status LEDs

The buttons on the controller provide status LEDs indicating different statuses.

- Green indicates the screen, layer, source or preset is selected.
- Yellow indicates the screen or layer is added, the source is accessed and the preset is saved.
- Red indicates the source is not accessed.
- Off indicates the screen, layer, source or preset is not added.

8.3 Touchscreens

The touchscreen is a 21.5" ultra-clear capacitive touchscreen that offers direct interaction with Triton.

The primary screen displays the main user interface of Trion, allowing you to add devices and configure screens, inputs and outputs, BKG/LOGO gallery, layers, presets and Multiviewer monitoring, as well as perform basic settings for the U3.

The secondary screen displays related property settings for each function, allowing you to view or set the properties, or view the Multiviewer information.

⚠️ **Cautions**

- Do not scratch or tap the touchscreens with sharp objects.
- The touchscreens adopt resinous material, and can be soluble in acid-base, alcohol and lipid substances. Please keep your hands clean when touching the screens.

8.4 Control Overview

You can operate the U3 event controller via the following three methods.

- Buttons: Press or hold down the buttons for quick operations.

- Mouse and keyboard: Use the mouse and keyboard to perform operations after the mouse and keyboard are connected to the USB ports located at the device side or rear panel.

- Touchscreens: Two touchscreens allow you to use the device via simple finger operations.

8.4.1 Buttons

📄 **Note**

Descriptions for **Press** and **Hold down** in this chapter are as follows:
- Press: Press the button and release it immediately.
- Hold down: Hold down the button for 3s or longer.

8.4.1.1 SCREEN Buttons

In this area,

- 16 screen buttons with multi-page functionality allow you to add screens and view screen statuses. The number of screens that can be added depends on the type of the connected F series devices.

- The OLED labels above the buttons display the screen names that can be changed on the secondary screen.

- The arrow (up and down) buttons allow you to jump to the next page or previous page.

- The OLED label next to the arrow buttons displays the current page number (16 screens per page).

Status LEDs:

- Green: The screen is selected or being edited.

- Yellow: The screen is added.

- Off: The screen is not added.

  You can press any of the non-lit buttons to add a new screen.

8.4.1.2 LAYER Buttons

In this area,
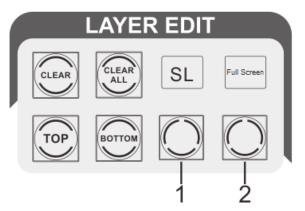
- 16 layer buttons with multi-page functionality allow you to add layers and view layer statuses. The number of layers that can be added depends on the type of the connected F series devices.

- The OLED labels above the buttons display the layer names that can be changed on the secondary screen.

- The arrow (up and down) buttons allow you to jump to the next page or previous page.

- The OLED label next to the arrow buttons displays the current page number (16 layers per page).

Status LEDs:

- Green: The layer is selected.

- Yellow: The layer is added.

- Off: The layer is not added.

  You can press any of the non-lit buttons to add a new layer.

8.4.1.3 LAYER EDIT Buttons

The layer edit buttons mainly allow you to perform the layer editing operations, such as adjusting layer priority and clearing layers.

- CLEAR: Press the button to clear the selected layer. The layer whose status LED is green can be cleared.

- CLEAR ALL: Hold down the button to clear all the layers.

- TOP: Press the button to bring the selected layer one level up, and hold down the button to bring the selected layer to front.

- BOTTOM: Press the button to send the selected layer one level down, and hold down the button to send the selected layer back.

- Blank button 1+OLED label: Press the button to set the layer capacity. The options include SL, DL and 4K.

  After you switch the layer capacity, press a layer button in the LAYER area. The system will automatically search for the input source with the selected capacity and then add the layer.

- Blank button 2+OLED label: Press the button to make the selected layer fill the output areas the layer crosses. Press the button twice to make the selected layer fill the whole screen.

8.4.1.4 INPUT Buttons

In this area,

- 16 input source buttons with multi-page functionality are provided. The number of input sources that can be added depends on the type of the connected F series devices.

- The OLED labels above the buttons display the input source names that can be changed on the secondary screen.

- The arrow (up and down) buttons allow you to jump to the next page or previous page.

- The OLED label next to the arrow buttons displays the current page number (16 input sources per page).

Status LEDs:

- Green: The input source is being used by a layer.

- Yellow: The input source is accessed.

- Red: The input source is not accessed, but used by the layer.

- Off: The input source is not accessed, and not used by the layer.

8.4.1.5 PRESET Buttons

In this area,
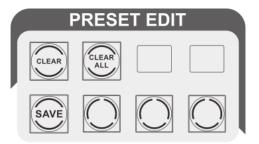
- 32 preset buttons with multi-page functionality are provided. The number of presets that can be added depends on the type of the connected F series devices.

- The OLED labels above the buttons display the preset names that can be changed on the secondary screen.

- The arrow (up and down) buttons allow you to jump to the next page or previous page.

- The OLED label next to the arrow buttons displays the current page number (32 presets per page).

Status LEDs:

- Green: The preset is loaded to PVW.

- Red: The preset is loaded to PGM.

- Yellow: The preset is a device-specific one and the preset is saved.

- Blue: The preset is a peripheral-specific one. Press the button to switch the preset of the peripheral device, such as the media server.

- Purple: The preset is configured on both the F series device and peripheral device. Press the button to switch the preset for them both.

- Off: The preset is not added.

8.4.1.6 PRESET EDIT Buttons

The preset edit buttons mainly allow you to perform the preset editing operations, such as clearing and saving presets.

- CLEAR: Clear the selected preset.

- CLEAR ALL: Hold down the button to clear all the presets.

- SAVE: Press the button to save a preset.

- Blank buttons: Three blank function buttons are reserved for your future use, and the OLED labels display the function name.
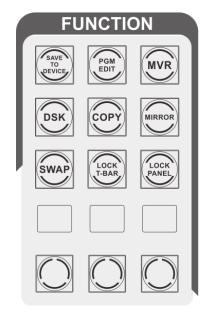
8.4.1.7 NUMBER Buttons

This area allows you to enter numbers or adjust the parameter values.

- 0–9: Press a button to input a number.
- -: Decrease the number by 1.
- +: Increase the number by 1.
- BACK: Delete the numbers.
- ENTER: Confirm the input.

8.4.1.8 FUNCTION Buttons

- SAVE TO DEVICE: Save the configured parameters to the connected F series devices.
- PGM EDIT: Enable or disable the PGM editing function. After enabled, the button is lit and you can edit the layers displayed on PGM.
- MVR: Enter the Multiviewer page to view the Multiviewer information.
- DSK: Reserved

- COPY: Press the button to add a new layer that displays the same image with the selected layer.

- MIRROR: Press the button to add a new layer that displays the mirrored image of the selected layer.

- SWAP: Press the button to set PVW to PGM switching mode.

  - When the button indicator is lit, the SWAP function is enabled and the images displayed on PVW and PGM are swapped.

  - When the indicator is not lit, the SWAP function is disabled and the images displayed on PVW and PGM are the same.

- LOCK T-BAR: Hold down the button for 3s to lock or unlock the T-Bar function.

- LOCK PANEL: Hold down the button to lock the touchscreens and buttons. To unlock, you need to enter the password on the primary screen. The password is "admin" by default.

- Blank buttons and OLED labels: Six blank function buttons are reserved for your future use, and the OLED labels display the function name.

8.4.1.9 FREEZE PGM / MATCH PGM / FTB Buttons
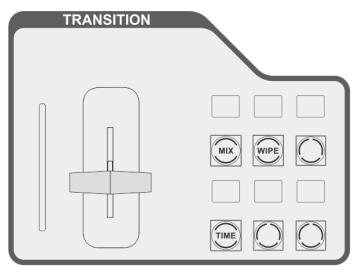
- FREEZE PGM: Freeze or unfreeze the current frame of the image currently displayed on PGM.

- MATCH PGM: Keep the layers on PVW the same size and position as those on PGM.

- FTB: Make the output image displayed on PGM fade to black.

8.4.1.10 CUT / TAKE Buttons

- CUT: Send PVW to PGM directly, without any transition effect.

- TAKE: Send PVW to PGM with a selected transition effect.

8.4.1.11 TRANSITION Buttons

- LED bar: Its status corresponds to the T-Bar progress.

- A manual transition T-bar is provided on this event controller. It locates at the lower right of the controller for user convenience.

  The T-bar transitions from 0 to 100% and has an LED bar indicating the transition progress.

- T-Bar: Control the transition speed manually.

- MIX: Turn on or turn off the fade effect.

- WIPE: Reserved

- TIME: Set the transition effect duration.

  Press the TIME button or the adjacent button on its right to increase or decrease the duration by 0.1s. The OLED label above the button displays the duration.

- Blank buttons and OLED labels: Four blank function buttons are reserved for your future use, and the OLED labels display the function name.

📄 **Note**

When using the T-Bar for the transition, the panel button presses will take no effect.

8.4.2 Mouse and Keyboard

1. Connect the mouse and keyboard to the USB ports located at the U3 side or rear panel.

2. Perform necessary operations by using the mouse and keyboard.

8.4.3 Touchscreens

Two touchscreens allow you to operate the device via simple finger touch operations.

8.5 Connections

8.5.1 Connect with F8/F4

- Method I

  Connect the No. 2 Ethernet port (preferred) on the rear panel of the U3 event controller to the Ethernet port on the control card of the F8/F4 for device control.

- Method II

  Connect the No. 2 Ethernet port (preferred) on the rear panel of the U3 event controller to a router, and connect the Ethernet port on the control card of the F8/F4 to the router.
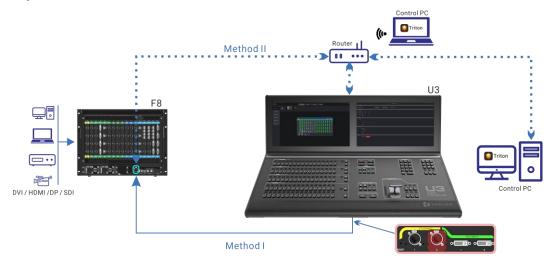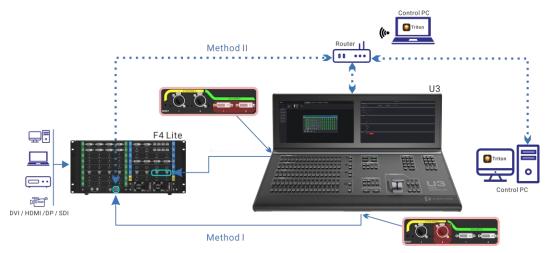
Figure 8-4 U3 and F8/F4 connections

📄 **Note**

Here takes the F8 to illustrate the connections. The F4 is connected in the same way as the F8.

8.5.2 Connect with F4 Lite

- For device control

  - Method I

    Connect the No. 2 Ethernet port (preferred) on the rear panel of the U3 event controller to the Ethernet port on the control card of the F4 lite.

  - Method II

    Connect the No. 2 Ethernet port (preferred) on the rear panel of the U3 event controller to a router, and connect the Ethernet port on the control card of the F4 Lite to the router.

- For Multiviewer and input view

  Connect DVI input 1 and 2 connectors of the U3 event controller to DVI 1 and 2 connectors on the last output card of the F4 Lite.

Figure 8-5 U3 and F4 Lite connections

8.6 Operations

The U3 event controller runs from the same software as Triton. The user interface and operations are the same as those described in the previous chapter.

This section will describe some basic operations using the event controller buttons. Together with touchscreen operations, you can complete any task with great ease.

8.6.1 User Interface Introduction

After the U3 is started, the primary screen displays the user interface of the built-in software Triton and the secondary screen displays the corresponding properties page or the operation interface of the connected peripheral.

Figure 8-6 Primary screen

Figure 8-7 Secondary screen

8.6.2 Virtual Event Controller

Under the **Settings** tab, there is a tab named **Event Controller** that allows you to operate the event controller via touchscreen operations. You can use these virtual buttons and controls as you use the real ones.

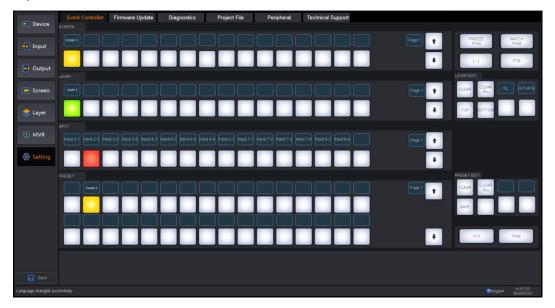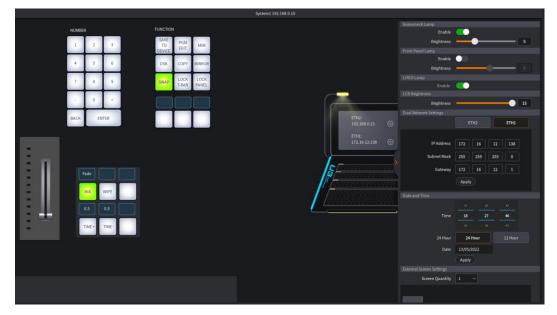Go to **Settings** > **Event Controller** to enter the virtual controller page.

Figure 8-8 Primary screen

On the primary screen, you can do the followings by simple tap and drag operations.

- SCREEN:
  - Add screens or change the corresponding relations between buttons and screens.

- – Perform other screen operations, such as freeze PGM, match PGM, FTB and more.
- LAYER:
  - – Add layers or change the corresponding relations between buttons and layers.
  - – Clear layers or adjust layer priority.
- INPUT: Change the corresponding relations between buttons and input sources.
- PRESET:
  - – Change the corresponding relations between buttons and presets.
  - – Clear and save the presets.
  - – Send content to the screen.

Figure 8-9 Secondary screen

On the secondary screen, you can do the followings by simple tap and drag operations.

- NUMBER: Enter numbers.
- TRANSITION: Bind transition effects to blank buttons.
- FUNCTION: Perform the desired functions.
- Gooseneck Lamp: Turn on/off the gooseneck lamp and set its brightness. The value ranges from 1 to 15 and defaults to 1.
- Front Panel Lamp: Turn on/off the front panel lamp and set its brightness. The value ranges from 1 to 15 and defaults to 1.
- LOGO Lamp: Turn on/off the Logo lamp.
- LCD Brightness: Set the brightness of the primary and secondary screens. The value ranges from 1 to 15 and defaults to 1.
- Dual Network Settings:

  The U3 provides two Ethernet ports for device control. The Ethernet ports support both dual redundant and independent working modes.

In the dual redundant mode, two Ethernet ports share the same IP address, subnet mask and gateway. If one port fails, the other one takes the mission seamlessly to ensure the stable control over the F series devices.

In the independent mode, two Ethernet ports have their own IP addresses, subnet masks and gateways, respectively.

- – Mode: DHCP and automatic options are supported.
- – IP: Set the IP address.
- – Subnet Mask: Set the subnet mask to ensure the U3 event controller and the connected F series devices are on the same network segment.
- – Gateway: Set the gateway.
- Date and Time: Set the date and time displayed on the event controller. 24 Hour and 12 Hour options are included.
- External Screen Settings:
  - – Screen Quantity: Set the quantities of the screens for the peripheral device, such as a media server.
  - – Width & Height: Set the resolution of the selected screen.
  - – Set as U3 Operation Screen: Set whether to use the secondary screen as the operation screen for the peripheral device.

8.6.3 Peripheral Management

The U3 event controller supports the connection and management of the peripheral devices, such as the media servers. After you have completed the physical connections between the media server and the U3 event controller, you can bind the programs in the media server to the preset buttons of the U3 event controller.

Binding rules are as follows:

- One program can be bound to different buttons.
- One button can be bound to only one program of a device.
- One button can be bound to programs from different devices.

Step 1 Go to **Settings** > **Peripheral** to enter the peripheral management page.

Figure 8-10 Peripheral management

Note

Press the **MVR** button in the **FUNCTION** area on the U3 front panel, and the MVR button indicator turns green, indicating the secondary screen is dedicated to the media server and displays the user interface of the media server.

Step 2 On the right side of the above figure, select an online media server.

- Green: The media server is online.

- Gray: The media server is offline.

Operations:

- Refresh: All the peripheral devices are automatically identified and listed here. You can also tap **Refresh** to manually refresh the device list.

- Delete: Select the target device and tap **Delete**.

Step 3 Select a program and drag it to the target preset button to bind the program to the desired preset button.

Operations:

- Sync: After a device is selected or a program changes, the program info will be synchronized automatically to the U3 event controller. You can also tap **Sync** to manually synchronize the programs.

- Nonempty Programs: Select this option to view the programs that have the content in them.

Status LEDs:

- Yellow: Only the switcher preset is bound to the button.

- Blue: Only the media server program is bound to the button.

- Purple: Both program and preset are bound to the button.

- Green: The preset is selected.

- Off: The preset is not used.

Step 4 Perform other necessary operations as required.
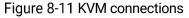
Other operations:

- Unbind a single button: Tap and drag **NULL** at the top to the target button.
- Unbind all buttons: Tap **Unbind All**.

Step 5 Press the preset button on the front panel to switch the program playback.

Step 6 Press the **CUT** or **TAKE** button to play the programs.

8.6.4 KVM Control

The U3 event controller supports the control of various multimedia playback systems (such as a media server) via KVM (keyboard, video and mouse).

The KVM physical connections are as follows.

Figure 8-11 KVM connections

After the connections, press the **MVR** button in the **FUNCTION** area on the U3 front panel, and the MVR button indicator turns green, indicating the secondary screen is dedicated to the media server.

- When you move the cursor to the secondary screen, all your mouse and keyboard operations apply to the media server.
- When you move the cursor to the primary screen, all your mouse and keyboard operations apply to the U3 event controller.

📄 **Notes**

- Perform the external screen settings in advance under the **Event Controller** tab before you perform any operations on the media server. For the specific settings, please refer to Virtual Event Controller.
- For the detailed media server related operations, please refer to the user manual of the media server.

8.6.5 How to add devices?

After all hardware connections are completed, all online devices will be detected and added automatically. The added devices will be displayed on the top of the **Device** page on the primary screen.

For adding an offline device, please refer to Add Offline Devices.

📄 **Note**

All the F series devices on the same network segment will be detected and displayed automatically.

8.6.6 How to add screens?

8.6.6.1 How to add common screens?

1. Press a screen button in the **SCREEN** area to add a screen.

   After a screen is added successfully, the screen button in the **SCREEN** area turns yellow. The first available output is automatically added to the screen.

2. Select **Screen** on the primary screen, and then go to the secondary screen to configure the added screen.

3. Set the desired mosaic layout for the screen by clicking "**+**" or "**—**" at the lower right corner.

4. Tap and drag the output connectors on the right to the screen editing area to complete the screen configuration.

5. Tap [icon] at the lower right corner on the primary screen and make necessary configuration for the screen name, test pattern, color, output and other advanced properties.

After you have changed the screen name successfully, the OLED label above the button displays the new screen name. The screen button turns green when the screen is selected and being edited.

8.6.6.2 How to add AUX screens?

1. Tap [+] at the bottom left on the primary screen.
2. Select **Screen** on the primary screen, and then go to the secondary screen to configure the added screen.
3. Set the desired mosaic layout for the screen by clicking "**+**" or "**−**" at the lower right corner.
4. Tap and drag the AUX connectors on the right to the screen editing area to complete the AUX screen configuration.
5. Tap [icon] at the lower right corner on the primary screen and make the necessary configuration for the screen name, test pattern and color.

8.6.7 How to add layers?

8.6.7.1 How to add layers?

• Add layers

1. Press a layer button in the **LAYER** area to add a layer.

    After a layer is added successfully, the layer button in the **LAYER** area turns yellow. The first available input source is automatically added to the layer.
2. Select **Layer** on the primary screen, and then go to the secondary screen to configure the added layer.
3. Select the desired layer on the left, and make the necessary configuration for the layer name, cut and fill, flipping, background, border, mask, layout, color and input source.

After you have changed the layer name successfully, the OLED label above the button displays the new layer name. The layer button turns green when the layer is selected and being edited.

- Edit layers

After you have added the layers successfully, you can adjust the layer priority by pressing the **TOP** and **BOTTOM** buttons, delete the selected layer or all layers by pressing the **CLEAR** and **CLEAR ALL** buttons, set the layer capacity by pressing the first blank button in the **LAYER EDIT** area and make the layer fill the output areas it crosses by pressing the second blank button. For details about those blank buttons, please refer to 8.4.1.3 LAYER EDIT Buttons.

8.6.7.2 How to add BKG or LOGO images?

1. Select **Gallery** on the Layer page and then tap to add the desired BKG or LOGO image.

2. Tap the BKG or LOGO name and the name box becomes editable. Rename the name as you like.

3. Tap the target BKG or LOGO and then tap to delete the image.

📄 **Note**

The BKG or LOGO image cannot be deleted when it is being used by the screen. If you insist on deleting it, go to the **Layer** page on the primary screen to remove it from the target screen first, and then delete it as described in the above step.

8.6.7.3 How to switch the layer input source?

The U3 provides 16 input buttons and supports at most 32 input sources under full load. The input buttons allow you to add or switch an input source for the selected layer.

- Add input source

After a layer is added, the first available input source is added automatically for the layer.

- Switch input source

If you want to switch the input source for the selected layer, press a target layer button, and then press a desired input source button.

8.6.8 How to save and load presets?

- Save presets

  1. Press the **SAVE** button in the **PRESET EDIT** area to activate the preset saving function, and then the button starts to flash (yellow).

  2. Press a preset button in the **PRESET** area to save the current layer layout and settings as a preset. The preset button turns yellow after the preset is saved successfully.

- Load presets

  1. Press a preset button (yellow) in the **PRESET** area to load the selected preset to PVW.

  2. Press the **CUT** or **TAKE** button, or push the T-bar to send the PVW to PGM.

9 Maintenance and Update

About This Chapter

This chapter introduces you to how to install and replace cards and power supplies, as well as how to perform the update for the flex-view seamless switchers.

Overview

- Device Maintenance
    - Card Installation and Replacement
    - Power Supply Replacement
    - Flight Case Installation
- Firmware Update
    - Update via USB Drive
    - Update in Triton
    - Update on U3 Event Controller

9.1 Device Maintenance

The F series devices adopt a modular and plug-in design, allowing you to replace any card or power supply in the field conveniently.

Note

The following illustrations take the F4 Lite as an example. Other device models are maintained the same way as the F4 Lite.

9.1.1 Card Installation and Replacement

For a chassis with some empty slots

Please follow the below procedure to install an extra card.

1. Unfasten the screws that fix the blank plate.
2. Remove the plate.
3. Insert the new card and fasten the screws to fix the new one in place.

For a fully-loaded chassis

Please follow the below procedure to replace an existing card.

1. Unfasten the screws that fix the card.
2. Pull out the card with care.
3. Insert the new card and fasten the screws to fix the new one in place.
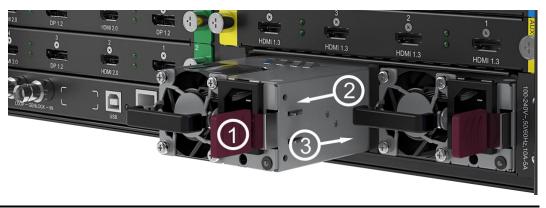

Caution

All the cards can only be installed into the designated slots. Installing a card into an incorrect slot will cause device failure. For specific information about card installation, please refer to 5 Hardware Introduction.

9.1.2 Power Supply Replacement

1. Press the dark red plate on the power supply module to unlock the module.
2. Pull out the module with care.

3. Insert the new module in place and the module will be locked automatically if correctly installed.

⬥ **Caution**

Locate the front face (with a dark red plate) of the power module first before you insert the module into place.

9.1.3 Flight Case Installation

If you have ordered a flight case from Pixelhue, follow the procedure below to install the flex-view seamless switcher into the flight case if necessary.

1. Locate two connecting pieces in the device package and the M5 screws in your flight case, and then take them out of the box.

2. Locate the screw holes on the device front panel, and then use the screws to fasten the device to the fight case.

3. Locate the screw holes on the device rear panel, and then fix the device to the flight case via fastening the connecting pieces using the screws.

9.2 Firmware Update

9.2.1 Update via USB Drive

1. Insert a USB drive that stores the update files into the USB port on the device front panel.

2. Go to **Setting** > **Firmware Update** and follow the displayed instructions to perform the update.

For more information about the update, please refer to the detailed update descriptions in Menu Operations.

> 📄 **Notes**
>
> • Make sure you have downloaded the firmware packages of the components to be updated from the official website of Pixelhue Technology Ltd., and have stored the update packages to a USB drive in advance.
>
> • The F4 Lite does not support the firmware update via the front panel menu. You can update it in Triton or on the U3 event controller.

9.2.2 Update in Triton

1. In Triton, go to **Setting** > **Firmware Update** to enter the update page.

2. Click **Browse** to select the desired update file to perform the update.

For the details about the update, please refer to Firmware Update.

> 📄 **Note**
>
> Make sure you have downloaded the firmware packages of the components to be updated from the official website of Pixelhue Technology Ltd in advance.

9.2.3 Update on U3 Event Controller

1. Insert a USB drive with the update package in it to the U3.

2. On the primary screen of the U3, go to **Setting** > **Firmware Update** to enter the update screen.

3. Tap **Browse** to select the desired update file to perform the update.

> 📄 **Note**
>
> Make sure you have downloaded the firmware packages of the components to be updated from the official website of Pixelhue Technology Ltd., and have stored the update packages to a USB drive in advance.

A Specifications

A.1 Flex-View Seamless Switchers

	F8	F4	F4 Lite
Input Card Slots	8	8	8
Output Card Slots	8	6	6
AUX Card Slots	1	1	1
Layers (No Multiviewer)	64x SL mixing layers, 32x DL mixing layers, or 16x 4K mixing layers	48x SL mixing layers, 24x DL mixing layers, or 12x 4K mixing layers	40x SL mixing layers, 20x DL mixing layers, or 10x 4K mixing layers
Multiviewer Connectors	2	2	2
Input View	Via Ethernet cable	Via Ethernet cable	Via DVI/HDMI cable
Presets	128	128	128
BKG Storage	512 MB	512 MB	512 MB
LOGO	16	16	16
Control	Triton	GUI-based event management software designed for flex-view seamless switchers	
	U3	Large-scale event controller engineered for flex-view seamless switchers	
Processing	FPGA-based Apollo image processing architecture Real 4K60p 4:4:4 8-bit video processing		
Front Panel Screen	7" Touchscreen	7" Touchscreen	3.5" LCD
Ethernet Port	100M	100M	100M
Dimensions	Without handles, rack ears & rack mount W 482.6 × D 515.5 × H 354.9 mm W 19 × D 20.3 × H 14 inches With handles, rack ears & rack mount	Without handles, rack ears & rack mount W 482.6 × D 513 × H 212.2 mm W 19 × D 20.2 × H 8.4 inches With handles, rack ears & rack mount	Without handles, rack ears & rack mount W 482.6 × D 513 × H 212.2 mm W 19 × D 20.2 × H 8.4 inches With handles, rack ears & rack mount

	W 482.6 × D 543.5 × H 361.4 mm	W 482.6 × D 546.5 × H 228.2 mm	W 482.6 × D 546.5 × H 228.2 mm
	W 19 × D 21.4 × H 14.2 inches	W 19 × D 21.5 × H 9.0 inches	W 19 × D 21.5 × H 9.0 inches
Weight	*Fully loaded without accessories* 39.1 kg / 86.2 lbs *Fully loaded with accessories & flight case* 67.5 kg / 148.8 lbs	*Fully loaded without accessories* 30.3 kg / 66.8 lbs *Fully loaded with accessories & flight case* 50.3 kg / 110.9 lbs	*Net weight without accessories* 25 kg / 55.12 lbs *Shipping weight with accessories* 50 kg / 105.82 lbs
Electric Parameters	Power connector: 100–240V~, 50/60Hz, 10A–5A Max power consumption: 700 W	Power connector: 100–240V~, 50/60Hz, 10A–5A Max power consumption: 600 W	Power connector: 100–240V~, 50/60Hz, 10A–5A Max power consumption: 450 W
Noise on Average (@1, 0.75m height)	55 dB	53 dB	53 dB
Operating Temperature	0°C to 45°C	0°C to 45°C	0°C to 45°C
Operating Humidity	0% to 85%, non-condensing	0% to 80%, non-condensing	0% to 80%, non-condensing
Certifications	CE, FCC, IC, RoHS	CE, FCC, IC, RoHS	CE, FCC, IC, RoHS

A.2 U3 Event Controller

Connectivity	
2x Ethernet	Control the connected F series devices.
2x DVI inputs	Connect to the last output card on an F series device. DVI input 1 - Multiviewer DVI input 2 - Input view
1x DVI output	Loop DVI input 1.
4x USB	Connect to a mouse, keyboard and USB drive.
2x Power	Connect to two power sources.
1x Reset button	A pin-hole reset button for restarting the device
User Controls	

16x SCREEN buttons and customizable OLED labels with multi-page functionality

16x LAYER buttons and customizable OLED labels with multi-page functionality

6x LAYER EDIT buttons and 2x OLED labels

16x INPUT buttons and customizable OLED labels with multi-page functionality

32x PRESET buttons and customizable OLED labels with multi-page functionality

3x PRESET EDIT buttons, 3x reserved buttons and 2x OLED labels
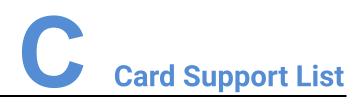
10x NUMBER buttons, +, -, Enter and Back buttons

6x FUNCTION buttons, 4x reserved buttons and 3x OLED labels	
FREEZE PGM / MATCH PGM / FTB / CUT / TAKE buttons	
2x TRANSITION buttons and 1x T-Bar with an LED bar to indicate the transition progress	
Screen	
2x 21.5" capacitive touchscreens	
Overall	
Dimensions	W 1100 × D 674.8 × H 388.8 mm 43.3 × 26.6 × 15.3 inches
Weight	• Net weight: 32 kg / 70.5 lbs • Gross weight: 84 kg / 185.2 lbs (with accessories & flight case)
Electric Parameters	• Power connector: AC 100V–240V 50/60Hz • Power consumption: 100 W on average
Noise on Average (@1, 0.75m height)	50 dB
Operating Conditions	• Operating temperature: 0°C to 50°C • Operating humidity: 0% to 85%, non-condensing
Certifications	CE, FCC, IC, RoHS

B Input Source Features

Input Connector	Bit Depth	Sampling	Supported Resolutions	Supported Bandwidth (Gbps)
SL-DVI	8bit	RGB 4:4:4	2480×1152@60Hz	4.95
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	12bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
DL-DVI	8bit	RGB 4:4:4	3840×1080@60Hz 3840×2160@30Hz	9
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	12bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
HDMI 1.3	8bit	RGB 4:4:4	2048×1152@60Hz	4.95
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		

		RGB 4:4:4		
	12bit	YCbCr 4:4:4		
		YCbCr 4:2:2		
HDMI 1.4	8bit	RGB 4:4:4	3840×2160@30Hz 3840×1080@60Hz	9
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	12bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
HDMI 2.0	8bit	RGB 4:4:4	4096×2160@60Hz 8192×1080@60Hz	18
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4	4096×2160@30Hz 4096×1080@60Hz	
		YCbCr 4:4:4		
		YCbCr 4:2:2	4096×2160@60Hz	
	12bit	RGB 4:4:4	4096×2160@30Hz 4096×1080@60Hz	
		YCbCr 4:4:4		
		YCbCr 4:2:2	4096×2160@60Hz	
DP 1.1	8bit	RGB 4:4:4	3840×1080@60Hz 3840×2160@30Hz	10.8
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	12bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
DP 1.2	8bit	RGB 4:4:4	8192×1080@60Hz 4096×2160@30Hz 3840×2160@60Hz	18

		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	12bit	RGB 4:4:4		
		YCbCr 4:4:4		
		YCbCr 4:2:2		
3G SDI	8bit	YCbCr 4:2:2	1920×1080@60Hz	2.97
	10bit	YCbCr 4:2:2		
	12bit	YCbCr 4:2:2		
12G SDI	8bit	YCbCr 4:2:2	4096×2160@60Hz	11.88
	10bit	YCbCr 4:2:2		
	12bit	YCbCr 4:2:2		

C Card Support List

Card Type		F8	F4	F4 Lite
Input	F_4xDVI Input Card	√	√	√
	F_4xHDMI1.3 Input Card	√	√	√
	F_4xHDMI1.4 Input Card	√	√	√
	F_4x3G SDI Input Card	√	√	√
	F_12G SDI Input Card	√	√	√
	F_4xDP1.1 Input Card	√	√	√
	F_2xHDMI2.0+2xDP1.2 Input Card	√	√	√
Output	F_4xDVI output card	√	√	√
	F_4xHDMI1.3 output card	√	√	√
	F_4xDVI1.4 output card	√	√	√
	F_4xHDMI1.4 output card	√	√	√
	F_4x3G SDI output card	√	√	√
	F_12G SDI output card	√	√	√
	F_2xDVI1.4+4xFiber output card	√	√	√
	F_2xHDMI 2.0+4xFiber output card II	√	√	√
AUX	F_4xAUX_HDMI1.3 output card	√	√	√
	F_4xAUX_DVI1.3 output card	√	√	√

- √: Supported
- ×: Not supported

D **Stream Deck Control**

About This Chapter

The F series devices support control through a third-party device - Stream Deck. When controlling through Stream Deck, it is necessary to complete the configuration of Stream Deck device through the Companion software.

This chapter walks you through you how to control the F series devices through Companion.

Overview

- Software Obtaining and Preparations
- Software Configuration

D.1 Software Obtaining and Preparations

- User registration has been completed in companion official website (https://bitfocus.io/companion).

- The supported Companion software version has been obtained from technical support.

- Ensure that Stream Deck is connected to a computer with Companion installed, and that both the computer and the F series device are on the same network segment.

D.2 Software Configuration

Step 1 After downloading the Companion installation package, double click the package to install the software.

Step 2 After the installation, double click the Companion software shortcut to open the software.

Figure 9-1 Companion software interface

Step 3 Click **Launch GUI** to enter the Companion configuration page.

Figure 9-2 Companion configuration page

Step 4　Enter the desired device name in the **Add connection** area search box on the **Connections** interface, "F8" for example, and the system will automatically display all relevant product models.

Figure 9-3 Search device

Step 5　Click **Add** before the device model you want to control.

Step 6　After adding the device, the system enters the **Edit Connection** configuration interface.

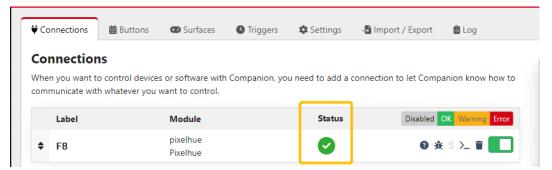Figure 9-4 Connection configuration

Step 7　Configure the control device.

- Label: The name of the controlled device is required. The name can only contain letters, numbers, underscores and dashes.
- IP Address: Enter the IP address of the device to be controlled.
- Model: Select the controlled device.

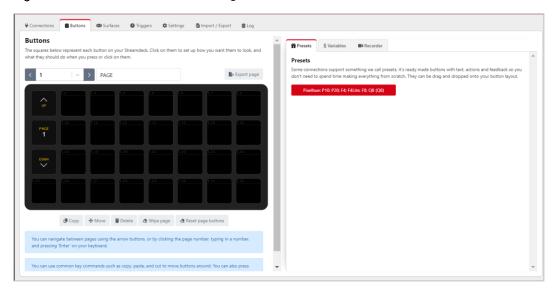Step 8   Click **Save** to complete the connection configuration.

If the configuration is correct, under the Connections tab, the status of the connected device is displayed as ✅.

Figure 9-5 Device connection complete

Step 9   Click **Buttons** to enter the Stream Deck button configuration interface.

Figure 9-6 Stream Deck button configuration

Step 10 In the **Presets** area on the right, click the added control device to expand the preset function menu.
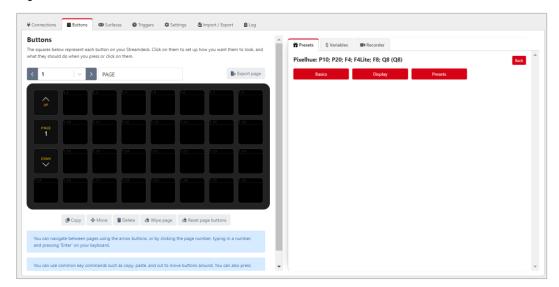
Figure 9-7 Preset function menu

Step 11 Click one of the **Basics**, **Display** and **Presets** menu buttons on the right side to expand the function list, drag the function buttons on the right side to the buttons of Stream Deck on the left side, and complete the button binding between the control function and Stream Deck.

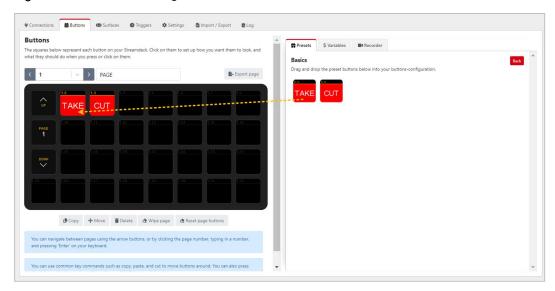Figure 9-8 Function binding - Basics

📄 **Note**

Since Stream Deck does not support page navigation horizontally, when adding functions to the buttons on the Stream Deck, make sure the number of buttons horizontally matches the physical device.

Step 12 Click **Back** to select a different function menu and complete more function bindings.
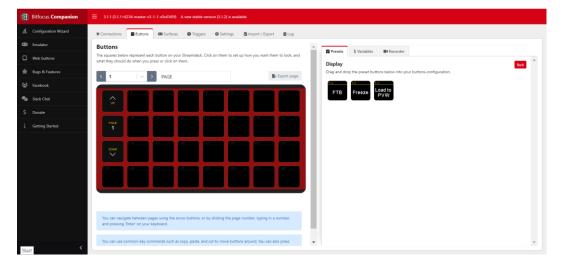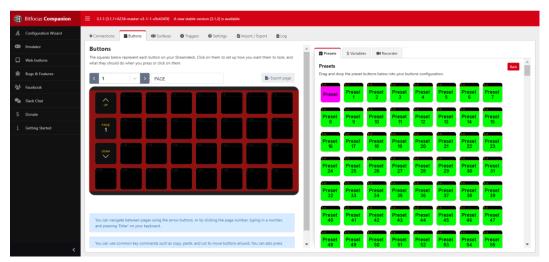
Figure 9-9 More function binding - Display

Figure 9-10 More function binding - Presets

Step 13 After the configuration is completed, the function name will be displayed on the button of Stream Deck. Press the corresponding button, and check whether the function bound to the button is triggered in the controlled device.

- Yes = > Stream Deck is successfully configured.

- No = > Contact your technical support to find out the reason and reconfigure.

Other Operations

- Replace button function

  Directly drag a new function from the right side list to the target button to replace the existing function.

- Delete button function

  Click **Delete** at the bottom to activate button function deletion. Click the function on the button that needs to be deleted to delete the corresponding function.

- Clear button functions

  Select the button page that needs to be cleared, click **Wipe page** at the bottom to clear all the added buttons functions on that page.

📄 **Note**

For more information, please refer to the Companion user manual.

E Troubleshooting

Problem	Possible Causes	Remedy
The flex-view series device does not start after it has been powered on for a long time and has no output	Too many BKG files are stored, causing the startup time to be longer	Delete the BKG files that you do not use.
Triton exits unexpectedly or gets stuck during the U3 use	Triton crashed or the system threw an exception	Power off the U3 and then restart it.
A sync error occurs after the device restarts, or after you change the IP address or factory reset the device	There is device preemption on the LAN	Restart the service of Triton.
	The device status in the service is not updated	Sync again.
Triton fails to connect the device, or the connection is unstable and the device goes offline frequently	Wrong IP configuration, or connected to the wrong Ethernet port	Check the IP configuration to make sure your PC, the flex-view series device and the U3 are on the same network segment, and their IP addresses do not conflict. The U3 has two Ethernet ports that are on the different network segments. Make sure you connect the device to the right Ethernet port.
	The firewall is not disabled on your PC and the service connection is blocked	Disable the firewall on your PC.
	There are multiple versions of Triton or service on the network, causing device preemption	Make sure the Triton versions on PCs or the U3 on the network are the same. Delete or exit the unused Triton program and service.
	The versions of Triton and hardware program do not match	The released trial versions of Triton are incompatible. Make sure the versions of Triton and hardware program match.
	Triton or the service threw an exception	Restart Triton.

Problem	Possible Causes	Remedy
Failed to sync data in Triton, or Triton fails to identify the cards	Data error	Factory reset the device.
	The versions of Triton and hardware program do not match	Check the versions of Triton and hardware program (including the main control card and other cards) to make sure the versions match.
No input view image is displayed in Triton	Data is not synchronized	Sync the data. Only the input source that has signal can have the input view image displayed in Triton. If the data is not synchronized, Triton will treat the input source as one that has no signal.
	The DVI IN 2 signal is not connected to the U3	Check the signal on the DVI IN 2 connector. The input view image is from the DVI IN 2 connector of the U3.
The U3 does not start normally after it is powered on	Power supply issue	Replace the power cord, or connect the power supply to both power modules.
	The DVI IN 2 signal of the U3 is unstable, causing abnormal startup of the U3	Disconnect or replace the DVI IN 2 signal cable and then power on the U3 again.
The touchscreen responds inaccurately or does not respond	The touchscreen has a problem	Use the mouse to perform operations, or restart the U3.
The output image flashes once at a certain interval during playback of presets when no operation is performed on the U3 and flex-view series device	The T-Bar receives an abnormal parameter value due to a system issue and the image in the PVW flashes in the PGM	Make sure the presets in the PVW and PGM are the same.
Some layers cannot be displayed normally during playback of presets	Multiple screens are configured for the connectors of a single output card, or the presets being played may exceed the resource limit, causing the display to be abnormal	Avoid configuring multiple screens for a single output card, or pay attention to the resource usage when configuring and saving the presets.
The BKG displayed on the screen is colorful dots on a white background, or no image is displayed on the monitoring screen	The input or output card has been disconnected and then reconnected while the flex-view series device is powered on	Restart the device. It does not support hot swapping of input and output cards.

Problem	Possible Causes	Remedy
The output images are not synchronized after the sync function is enabled on the backend device	For the screen loaded by multiple output cards, synchronization must also be configured for their connectors. The flex-view series device may be working with the backend device, but the sync status of the backend device is unstable	Use an external sync signal on the backend device, or use the output signal on the connectors of a single output card as the sync source.
The screen data and other data are lost after the flex-view series device is restarted	The data are not synchronized before you perform configuration in Triton and the data are not saved to the device	Sync the data before you perform configuration in Triton.
	The data are not saved manually	Manually save the data after the configuration is done.
The server displays that there is signal output, but the flex-view series device cannot identify the signal	The bandwidth of the signal from the graphics card exceeds the bandwidth range that the connector can identify	Manually modify the timing standard of the graphics card.
	The graphics card is configured with virtual EDID, but this EDID does not comply with the EDID standard of the device	Delete the virtual EDID of the graphics card.
Failed to set the dual link input resolution to 3840×1080@60Hz	Not supported by the DVI adapter	Use the DVI-DVI cable to directly connect the graphics card to the dual link connector. Do not use the adapter.
The laptop provides a 4K signal, but the input resolution cannot be set to 7680×1080@60Hz or other resolutions	The laptop uses the integrated GPU by default and therefore does not have enough output capacity. Please switch to a dedicated GPU	Try to switch to the computer's dedicated GPU. You can also try to disconnect and reconnect the signal cable, or restart the laptop.
The output image is black, but the LED screen displays a gray image	The color space of the input source or backend device is not the full range	Check the input source and backend device to make sure the color space is in full range.
There is an exclamation mark shown in the power supply area in Triton	There may be a new firmware version of the power supply module or the third-party power supply module is not recognized	Contact your local distributor or PIXELHUE technical support staff.

📄 **Note**

If you encountered other technical issues, please contact our technical support staff.