mini-edge

User Manual

RGBlink®

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Thank you for choosing our product!

This User Manual is designed to show you how to use this product quickly and make use of all the features. Please read all directions and instructions carefully before using this product.

Declarations

FCC/Warranty

Federal Communications Commission (FCC) Statement

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 may cause harmful interference, in which case the user will be responsible for correcting any interference.

Guarantee and Compensation

RGBlink provides a guarantee relating to perfect manufacturing as part of the legally stipulated terms of guarantee. On receipt, the purchaser must immediately inspect all delivered goods for damage incurred during transport, as well as for material and manufacturing faults. RGBlink must be informed immediately in writing of any complains.

The period of guarantee begins on the date of transfer of risks, in the case of special systems and software on the date of commissioning, at latest 30 days after the transfer of risks. In the event of justified notice of compliant, RGBlink can repair the fault or provide a replacement at its own

discretion within an appropriate period. If this measure proves to be impossible or unsuccessful, the purchaser can demand a reduction in the purchase price or cancellation of the contract. All other claims, in particular those relating to compensation for direct or indirect damage, and also damage attributed to the operation of software as well as to other service provided by RGBlink, being a component of the system or independent service, will be deemed invalid provided the damage is not proven to be attributed to the absence of properties guaranteed in writing or due to the intent or gross negligence or part of RGBlink.

If the purchaser or a third party carries out modifications or repairs on goods delivered by RGBlink, or if the goods are handled incorrectly, in particular if the systems are commissioned operated incorrectly or if, after the transfer of risks, the goods are subject to influences not agreed upon in the contract, all guarantee claims of the purchaser will be rendered invalid. Not included in the guarantee coverage are system failures which are attributed to programs or special electronic circuitry provided by the purchaser, e.g. interfaces. Normal wear as well as normal maintenance are not subject to the guarantee provided by RGBlink either.

The environmental conditions as well as the servicing and maintenance regulations specified in this manual must be complied with by the customer.

Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Installation Safety Summary

Safety Precautions

For all product installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.

To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.

The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening product shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your product should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

Chapter 1 Your Product

1.1 In the Box

mini-edge is equipped with **Power Adapter*1**, **USB-C to USB-C Cable *2, USB-C to USB-A Cable *1, Pad *2, Quick Start*1**.

★Power Adapter

USB-C to USB-C Cable

USB-C to USB-A Cable

★Stands

Quick Start

Warning:

1. The standard power supply can **ONLY** be used with the mini-edge, and is cannot be used for powering other devices simultaneously. RGBlink disclaim all responsibility for instability or damage caused by improper use.
2. Portable stands with strong tapes can be attached to the back of mini-edge for support and heat dissipation. Refer to 5.2 FAQ for installation steps.

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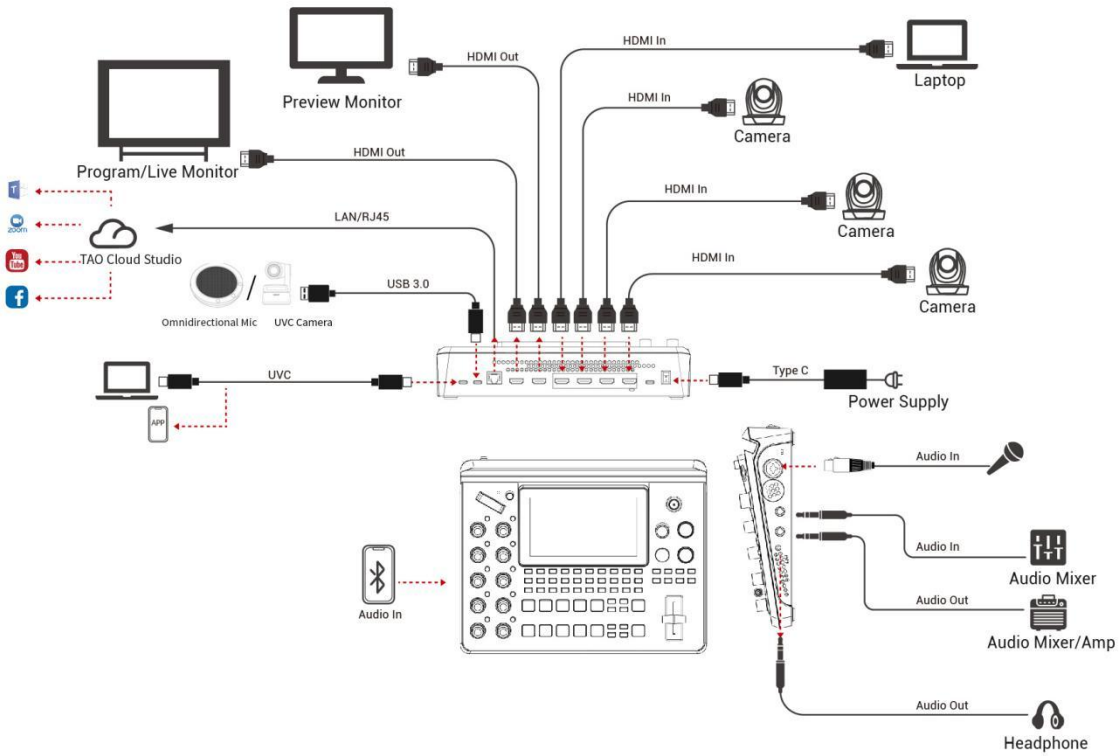
1.2 Product Overview

mini-edge provides five video input channels and eight audio input channels with multiple output interfaces available. mini-edge features professional and excellent performance, which supports multiple -layer overlay and audio mixing operations, providing more control over audio/video productions at the operator’ s fingertips.

This all-in-one mixer is designed for use in various events, such as multi-platform live streaming for e-commerce, remote conferences, as well as stages, education, press conferences, sports events, etc.



Note:

1. If use 2 platforms for streaming at the same time, please ensure the upstream bitrate is not less than 100Mbps.
2. For upstream bitrate lower than 100Mbps, it is recommended to use 1 platform.
3. To stream to multiple platform, it is recommended to use TAO Cloud Studio.

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1.2.1 Key Features

- Built-in 5.5 inch LCD screen
- Quad HDMI 2.0 inputs (HDCP compliance), resolutions up to 4K@60
- One USB (UVC) input supports camera source from RGBlink vue PTZ and webCAM
- Eight audio inputs with Four HDMI 2.0 embedded audio inputs and Four external audio inputs (one MIC, one LINE, one Bluetooth and one Type-C digital audio)
- Eight audio inputs allow for output of mixed audio across one or all available channels
- Dual HDMI 1.3 outputs for monitoring of multi-window PVW, PGM or AUX
- Dual audio out jacks for listening
- One-key recording. Recording capacity of hard drive is up to 2T
- Support simultaneous streaming to 4 live streaming platforms via RTMP(S)
- Support multi-layer overlay, layer scaling and cropping
- 17 switching effect modes
- 5-direction joystick for controlling up to 4 PTZ cameras
- Support saving up to 10 scene presets and thumbnails for real-time full preview
- Web control and monitoring, compatible with mobile devices and computers, compatible with multiple operating systems
- Support Chroma Key
- 5G/4G Smartphone Tethering for iOS and Android system
- Air cooling design to ensure 24/7 stable operation

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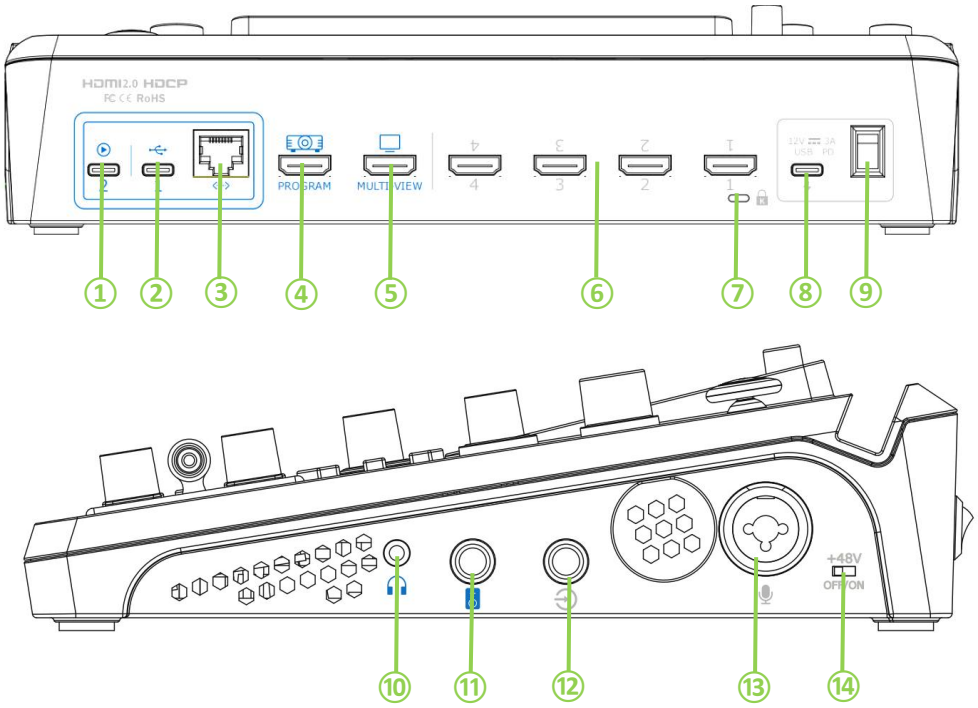
1.2.2 Rear Panel



No.	Interface	Description
①	**UVC**	• UVC audio and video output port. • Recognized as a webcam to provide audio and video source in streaming or video meeting software by connected to computer (via USB-C cable) or Android device (via OTG cable).
②	**USB-C** [1]	• Connected to a USB camera as the fifth input signal (default function). • Insert SSD or U disk for recording. • Insert a U disk to import audio and graphic files. • Use with standard USB-C cable to share network from mobile phone.
③	**Ethernet Port**	Achieve network connection and camera connection for streaming, remote control.
④	**PROGRAM Output**	Default to output real-time scene, can set as Multi-view Preview or Test Pattern.
⑤	**MULTI-VIEW Output**	Default as multi-view preview output, can set as Program or HDMI 1~4.
⑥	**HDMI 1~4 IN**	• Four HDMI input channels for connecting HDMI sources. • 4K resolution and downward compatible with all resolution.
⑦	**Locking Hole**	Use with T-lock to fix the device.
⑧	**USB-C Power Socket**	PD protocol, 12V 3A.
⑨	**Power Switch**	Rocker switch to power on or off the device.
⑩	**Headphone Output**	3.5mm mini-jack for listening.
⑪	**6.35mm TRS Jack**	Balanced XLR audio output.
⑫	**Line-in**	Balanced 6.35mm XLR jack to connect to mobile phone, computer or audio console.
⑬	**MIC in**	XLR/TRS Neutrik MIC in port with 48V Phantom Power supported.
⑭	**+48V DIP Switch** [2]	48V Phantom Power supported. Defaults to OFF.

Tips: [1] ONLY choose one of functions to use; does not support USB HUB.

[2] Except condenser microphones that require phantom power, please **Turn OFF** phantom power switch when connecting other devices.

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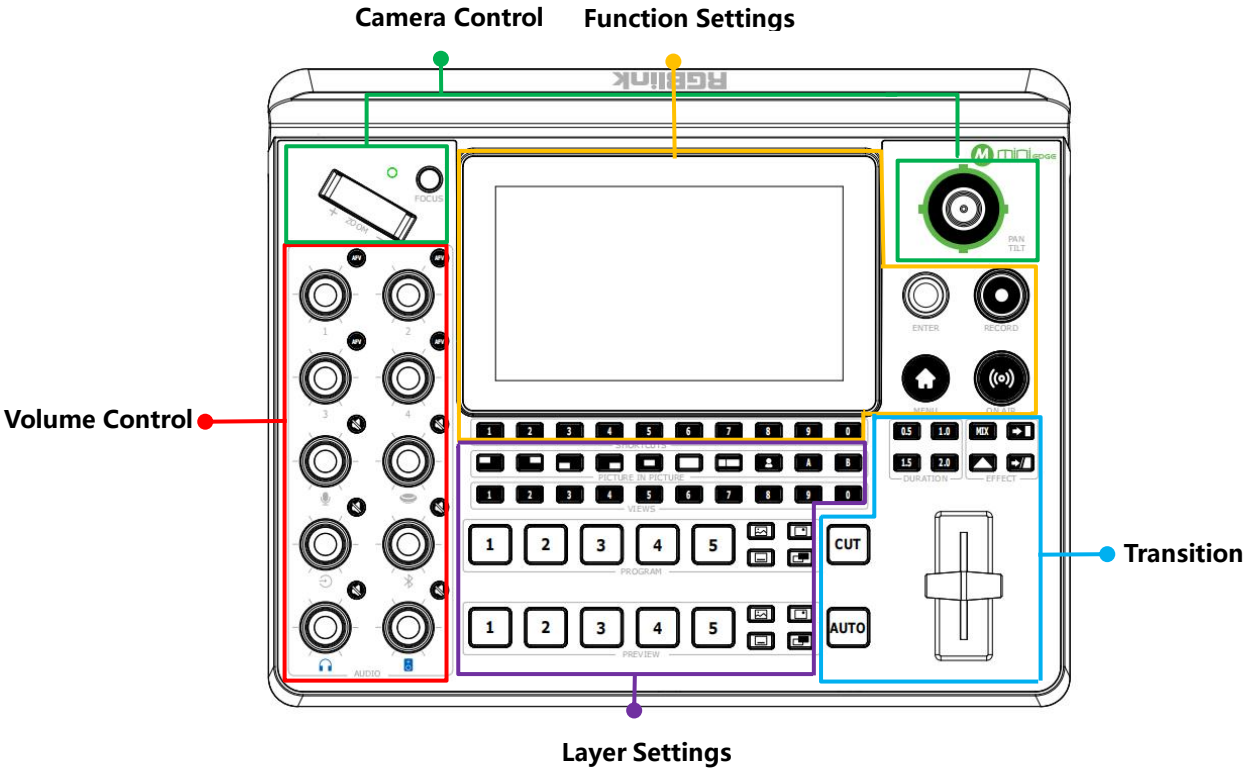
1.2.3 Front Panel



Function Settings	Transition
• 5.5" HD Screen • SHORTCUT/Number Button • MENU/EXIT/LOCK Button • Menu Browsing/Confirm Button (ENTER) • RECORD Button • ON AIR Button	• Transition Effect Selection Button (EFFECTS) • Transition Duration Selection Button (DURATION) • T-Bar • CUT Button • AUTO Button
Camera Control	**Layer Settings**
• FUCUS Button with Indicator • Toggle • 5-Direction Joystick	• Layout Selection Button (PICTURE-IN-PICTURE) • Chroma Key • Layer A/B Button • Preset Loading Button (VIEWS) • PROGRAM Source Row • PROGRAM Layer Button • PROGRAM FTB Button • PREVIEW Source Row • PREVIEW Layer Button • PREVIEW Clear Button
Volume Control	
• Volume Control Knob • AFV Button • Mute Button	

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Function Settings

Area	Description
	5.5" HD Screen For showing input& output status and menu content.
	SHOUTCUT/Number Button ● Button Definition ○ Shortcuts Button ○ Number Button ● Button Color Description ○ Button Unlit: no shortcuts saved. ○ Button Lit White: shortcuts saved. ○ Button Lit Blue: act as number button. ● Button Operation ○ Short Press: to assign shortcuts. ○ Interface with Input Box： to input numerical values.
	MENU/EXIT/LOCK Button ● Button Definition ○ MENU Button ○ EXIT Button ○ LOCK Button ● Short Press ○ In Main Interface, press to enter Menu. ○ In Menu, press to enter Main Interface. ○ In other interfaces, press to exit. ● Long Press ○ In Main Interface, press to lock control panel. ○ In other interface, press to enter Main Interface.
	MENU Browsing/Confirm Button ● Button Definition ○ MENU Browing Button ○ Confirm Button ● Rotate ○ to select a menu item. ○ to change a setting value. ● Short Press ○ to accept the selected item or apply changes to a setting. ○ to edit. ○ to enter the next higher level of menu. ○ to enable or disable a function.

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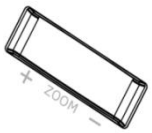
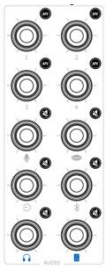
	RECORD Button ● Press to Enable/Disable Recording ○ Press to start recording. Button lit red indicates normal recording process. ○ Press button again to stop recording. Button blinked red indicates video-saving process.
	ON AIR Button ● Press to Enable/Disable Streaming ○ Press to start streaming: 1) button lit green indicates successful streaming; 2) button blinked red is to remind user to configure streaming address. ○ Press once again to stop streaming: 1) button with red LED indicates video-saving process; 2) button will go dark if streaming completed.

Camera Control

Area	Description
	FOCUS Button with Indicator ● Focus Status Display ○ Manual Focus: indicator unlit. ○ Auto Focus: indicator lit blue. ● FOCUS Button ○ Rotate button for manual focus. ○ Press button for auto focus.
	**Toggle** ● Size adjustment for Layer A and Layer B. ● Zoom in/out for PTZ control.
	5-Direction Joystick ● Move Up/Down/Left/Right ○ Position adjustment for layer. ○ Set pan, tilt and zoom for PTZ camera. ● Short Press ○ Restore values to the default if under PTZ Control.

Volume Control

Area	Description
	**Volume Control Knob** ● Knob Labeled Number 1~4: volume control of HDMI embedded audio. ● Other Six Knobs: volume control of Mic, USB Input, Line-in, Bluetooth, Headphone Out and Program Out.

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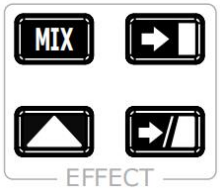
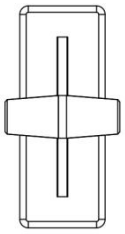
	AFV Button ● Button Color Description ○ Button Unlit: AFV OFF. ○ Button Lit White: AFV ON. ● Button Operation ○ Short Press: enable/disable AFV. ○ Long Press: to enter Audio.
	Mute Button ● Button Color Description ○ Button Unlit: MUTE OFF. ○ Button Lit Red: MUTE ON. ● Button Operation ○ Short Press: enable/disable MUTE . ○ Long Press: to enter Audio.

Transition

Area	Description
	**Transition Effect Selection Button** ● Default: MIX. ● Button Lit White: selected transition effect.
	Transition Duration Selection Button ● Default: 1.0 second. ● Button Lit White: selected transition duration.
	**T-Bar** PVW and PGM views can be transitioned by pushing T-bar.
	CUT Button Press to perform immediate manual switch between PVW and PGM views with no transition effect.
	AUTO Button ● Button Operation ○ Press to automatically transition PVW and PGM views according to the selected duration and transition effect. ● Button Color Description ○ Button Blinked Red: transition is being applied. ○ Button Gone Dark: transition completed.

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Layer Settings

Area	Description
	Layer A/B Button ● Button Unlit: layer OFF or not placed on PVW. ● Short Press ○ Press Button Unlit: button lit blue indicates enabled and selected state, which allows the user to use toggle and joystick for size and position adjustment. ○ Press Button Lit Blue: to disable selected layer and the button went dark. ○ Press another layer button except Layer A/B button: if Layer A/B button lit blue, it turns green and the button pressed lits blue.
	Layout Selection Button ● Short Press: to set layout for selected layer, and the button turns green. ● Long Press: to enter 3.4 PIP Layout (Picture-in-Picture).
	Chroma Key ● Short Press: to enable Chroma Key. ● Long Press: to enter Chroma Key.
	Preset Loading Button ● Button Color Description ○ Button Unlit: no view contained. ○ Button Lit Green: view contained. ○ Button Lit Red: view being loaded. ● Button Operation ○ Long Press Button: to add current view or not. ○ Short Press Button Lit Green: to place the view on Preview and this button turns red. ○ If you switch to another view, the button of loaded view changes from red to green.
	PROGRAM Source Row ● Button Definition ○ Button 1~4: 1~4 HDMI input sources. If you use PTZ as input, TALLY light will be illuminated red. ○ Button 5: UVC input source. ● Button Color Description ○ Button Unlit: no signal. ○ Button Lit White: unselected signal. ○ Button Lit Red: 1) signal output as the Program; 2) Button 1 lit red after factory reset. ● Button Operation ○ For Layer A or Layer B on Program: press to switch signal

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	on Layer A or Layer B. ○ For Layer A and Layer B on Program: select Layer A or Layer B, then press Button 1~5 to switch signal on one certain layer.
	PROGRAM Layer Button ● Icon Description ○ indicates BACKGROUND. ○ indicates LOGO. ○ indicates OVERLAY. ● Button Color Description ○ Button Unlit: no layer contained. ○ Button Lit White: layer contained. ○ Button Lit Red: Program out layer. ● Button Operation ○ Press Button Lit White: to place layer on PGM out, and the button turns red. ○ Press Button Lit Red: to remove layer from PGM out, and the button turns white.
	PROGRAM FTB Button ● Button Operation ○ Press Button Unlit: to fade the current source to black, and the button turns red. ○ Press Button Lit Red: to act in reverse from black to the currently selected source, and button goes dark.
	PREVIEW Source Row ● Button Definition ○ Button 1~4: 1~4 HDMI input sources. If you use PTZ as input, TALLY light will be illuminated green. ○ Button 5: UVC input source. ● Button Color Description ○ Button Unlit: no signal. ○ Button Lit Green: signal output as the Preview. ○ Button Lit White: unselected signal. ● Button Operation ○ For Layer A or Layer B on Preview: press to perform signal switch on Layer A or Layer B. ○ For Layer A and Layer B on Preview: select Layer A or Layer B, then press Button 1~5 to perform signal switch on one certain layer.
	PREVIEW Layer Button ● Icon Definition

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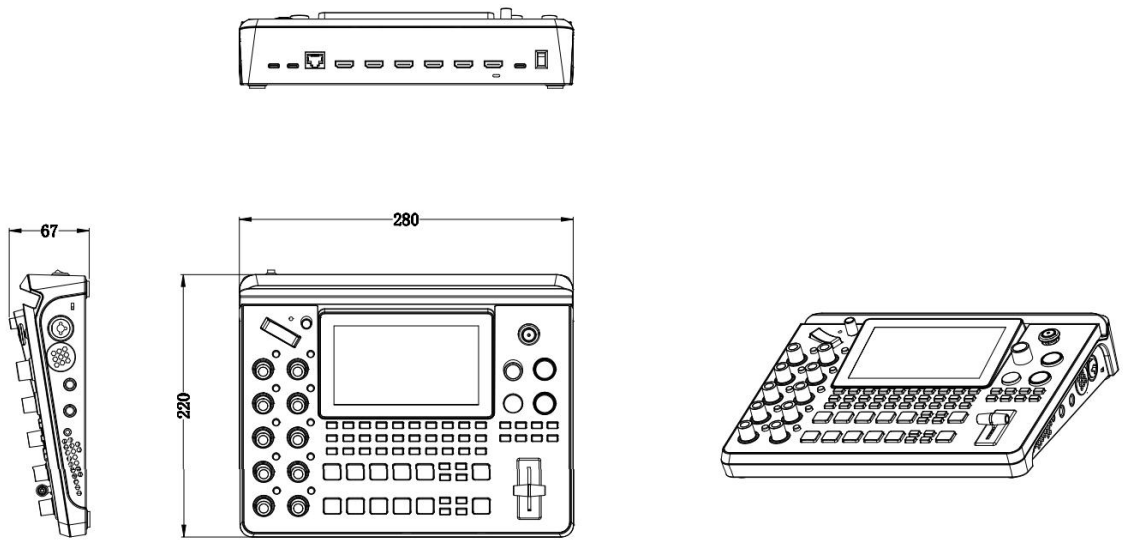
	○ indicates BACKGROUND. ○ indicates LOGO. ○ indicates OVERLAY. ● Button Color Description ○ Button Unlit: no layer. ○ Button Lit White: layer contained. ○ Button Lit Blue: layer enabled on PVW and selected. ○ Button Lit Green: layer on PVW but not selected. ● Button Operation ○ Long Press: to ener Media Interface. ○ Short Press: 1) to enter Media Interface or not if no layer contained; 2) to remove layer from PVW, the button turns white.
	PREVIEW Clear Button ● Button Color Description ○ Button Lit Green: no layer on PVW. Button goes dark after layer added. ● Button Operation ○ Short Press Button Unlit: to clear layer on PVW and save it to view. Button turns green. ○ Short Press Button with View: to load view to PVW.

1.2.4 Dimension

Following is the dimension of mini-edge for your reference: 280mm x 220mm x 67mm.



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Chapter 2 Install Your Product

2.1 Connecting HDMI Input

Users can use any camera, computer or other HDMI device as the input source of the mini-edge. mini-edge supports up to 4 sources of different formats and resolutions at the same time via 4 HDMI ports, and **4 HDMI inputs support up to 4K@60Hz**. If users are using interlaced signal, mini-edge supports de-interlace through HDMI 1 automatically.

Users can see the input views on the mini-edge screen when there is active signal plug in. Connect mini-edge to a monitor with HDMI output interface to see PVW views and output resolutions.

Warning:

The HDMI cable is not included in the mini-edge package and needs to be purchased separately. Some camcorders use a mini HDMI port, you need to buy a mini HDMI-HDMI cable separately when you use these camcorders.

2.2 Connecting HDMI Output

Users can use HDMI cables to connect MULTI-VIEW and PROGRAM output interfaces to a monitor with an HDMI input interface so as to check PVW and PGM views in real time.

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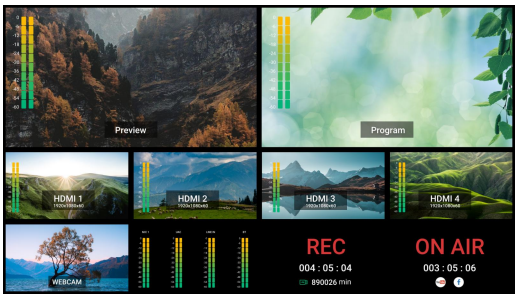
The default output of MULTI-VIEW port is multi-screen Preview view, so user can see the audio and video conditions of all input signal sources, check current status of each function of mini-edge and see the Preview view.



Users can switch screen mode and select HDMI output resolution on【OUTPUT】.

MULTI-VIEW supports output in multi-view, HDMI 1~4 signal source or program.

PROGRAM supports output in multi-view, program or test pattern.

2.3 Connecting Microphone and External Monitoring Devices

On the right panel of mini-edge, there are **four audio jacks in total**.

mini-edge features **TWO high-quality audio input jacks** on the right panel. The microphone input adopts Neutrik jack with 48V phantom power supported. The other one adopts Line-in 6.35mm TRS jack, which can be directly connect to the mobile phone, computer and console.

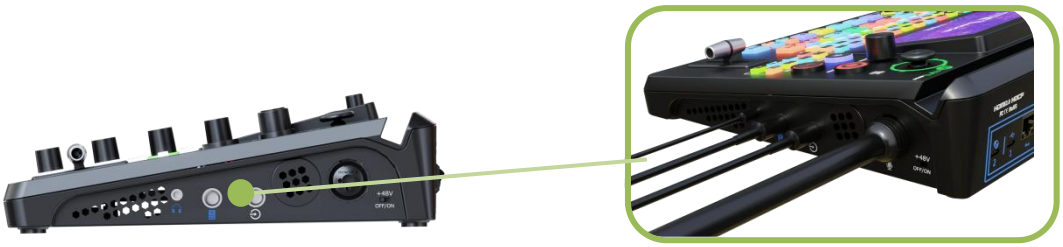
mini-edge comes with **TWO audio output jacks** on the right panel. One adopts 3.5mm mini-jack, which can be directly connect to the headphone for audio monitoring. The other line PGM output

jack adopts 6.35mm TRS jack, which is for connecting speakers.

For laptops or mobile phones with no audio output ports, mini-edge provides a **built-in Bluetooth module**. Users can connect to devices with Bluetooth function to input high-quality audio signals in real time. (More details please refer to Bluetooth)

In addition, the **four HDMI input ports all support embedded audio**. Turn on AFV Button on the front panel, the audio follows video to perform a soft gradual transition when video is switched.

There are 8 audio inputs in total, which can be controlled via operation board to achieve audio mixing and monitoring. (More details please refer to Audio)



Warning:

1. Noise may occur during plugging, unplugging and audio tuning. When connecting audio output port (main output and monitor port) to the speaker, if the speaker is powered on, it may be damaged during unplugging process. Therefore, please power on speaker after connection, and power off it first before unplugging.
2. MIC supports access to wireless microphone with a 3.5mm female to 6.5mm male single-track adapter. LINE supports access to wireless microphone with a 3.5mm female to 6.5mm male dual-track adapter.

2.4 Connecting USB for Streaming and Recording

The USB 3.0 port **labeled number 2** is for video capture, which allows users to capture videos to computer and the captured video content can be streamed to Facebook, YouTube, Zoom, Twitter and other streaming media platforms via a third-party Video Media Player software like OBS.

Insert a U disk to the other USB 3.0 port **labeled number 1** by USB 3.0 cable to perform recording. mini-edge supports recording streaming media content to an external USB storage device, such as U disk or SSD. The SSD storage can reach up to 2T, and the USB storage can support up to 64G.

The supported format is exFAT.

Warning:

1. For U disk, please use one with USB 3.0 port.
2. For SSD, please check if it needs extra power supply.
3. OTG cable only for file transfer cannot be used for streaming.
4. For dual-channel streaming, or use UVC output/recording simultaneously, the touch screen may get sluggish.
5. USB-C ports adopts USB 3.1 data transmission protocol.

2.5 Connecting Router

Connect router and mini-edge with CAT6 cable.

Push MENU Button to gain access to **MENU.** Use ENTER Knob to select **SETTING** > **NETWORK** >**Turn OFF DHCP** > use Number Button to **set IP address**. When connecting mini-edge and the router, the IP address of mini-edge must be in the same LAN as the router.

Connect router and mini-edge with CAT6 cable.

If the router has DHCP enabled and has set up a specific network segment, and mini-edge also has DHCP enabled, there is no need to set IP address by yourself. When mini-edge is connected to a router with DHCP enabled, it automatically obtains an IP address within the network segment set by the router to ensure communication with other devices.

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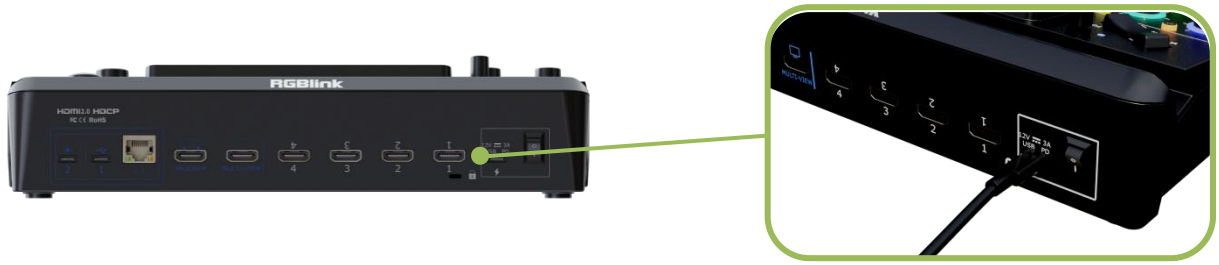
2.6 Plugging in Power

RGBlink mini-edge is packaged with a PD power adapter (power cable included) , check the power supply standard used in your country or region before power connection.



Connect mini-edge to power plug by the link cable

Warning:

The Power Supply included with mini-edge is the recommended power supply to use with the device. Power supply should meet the following requirements:

1. Support PD "Fast Charge" capability.
2. Interfaces are the same as the adapter provided.
3. The power supply is rated for a minimum of 36W.

2.7 Turning on Your mini-edge

After mini-edge is connected to power supply, push the DIP Switch on the rear panel, the device will show mini-edge logo and then enter to the main interface.

Chapter 3 Use Your Product

After the above steps are completed, users can use mini-edge to do the following.

3.1 Main Interface

As shown below, once powering on mini-edge, the 5.5 inch display will show mini-edge logo and then come into Main Interface. Operator can refer to the description below.

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Area	Description
1 PREVIEW	Show Preview screen and audio meter.
2 PROGRAM	Show Program screen and audio meter.
3 HDMI Signal	Show HDMI 1~4 signals and audio meter.
4 UVC Signal	Monitor UVC input signal.
5 Audio Status	Monitor Microphone, UAC, Line-in and Bluetooth input status.
6 Recording	Check recording duration.
7 Streaming	Check streaming duration and status.

3.2 MENU

There is a 5.5” screen on operation board showing input& output status and menu content.

Push MENU Button in Main Interface and the LCD screen will quickly enter MENU.

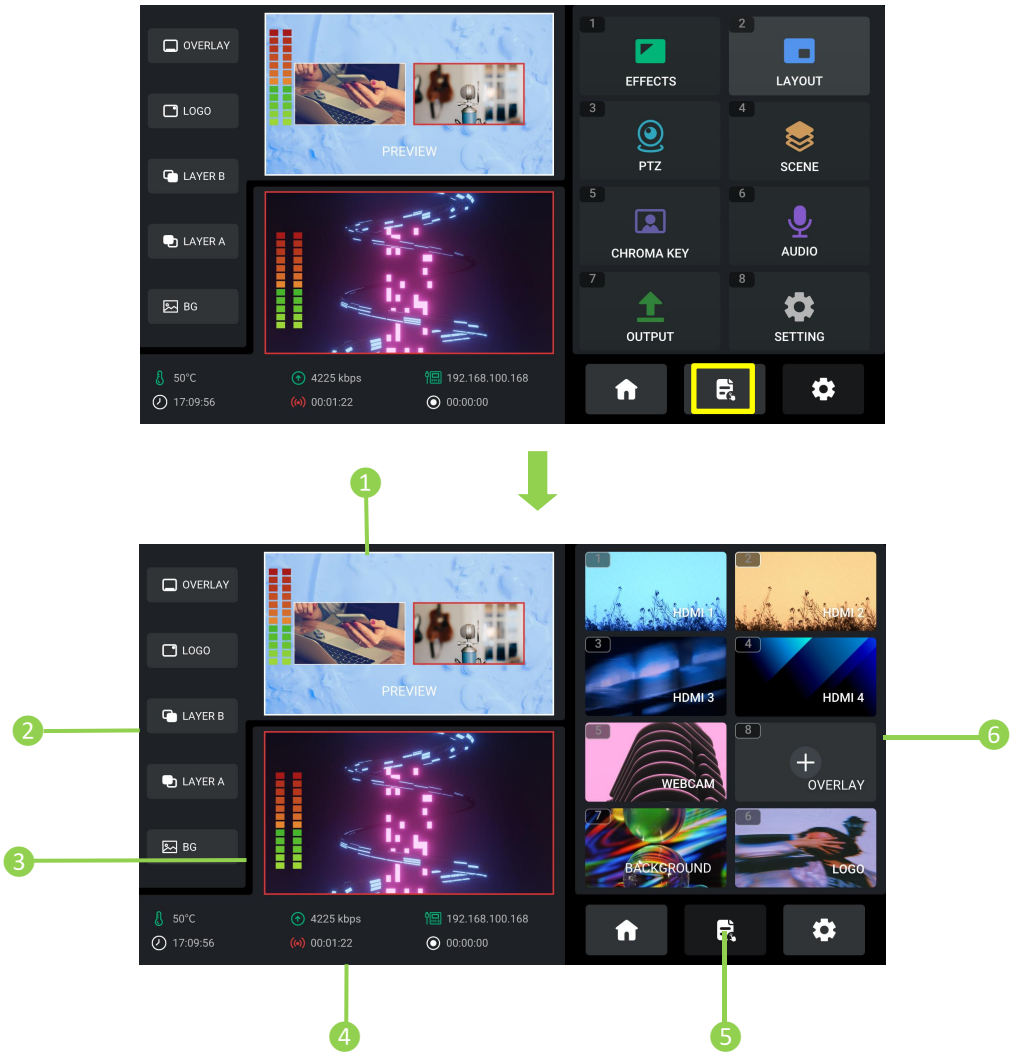
As shown in the figure above, the UI style on thescreen is similar to current smart phone

operating interface. The first-level menu is in icon. Users can rotate ENTER knob to move the cursor to certain function and then push the knob once again to quickly enter the corresponding function management interface.

Eight functions in total are available in MENU, including **EFFECTS**, **LAYOUT**, **PTZ**, **SCENE**, **CHROMA KEY**, **AUDIO**, **OUTPUT** and **SETTING**.

3.3 Standby Interface

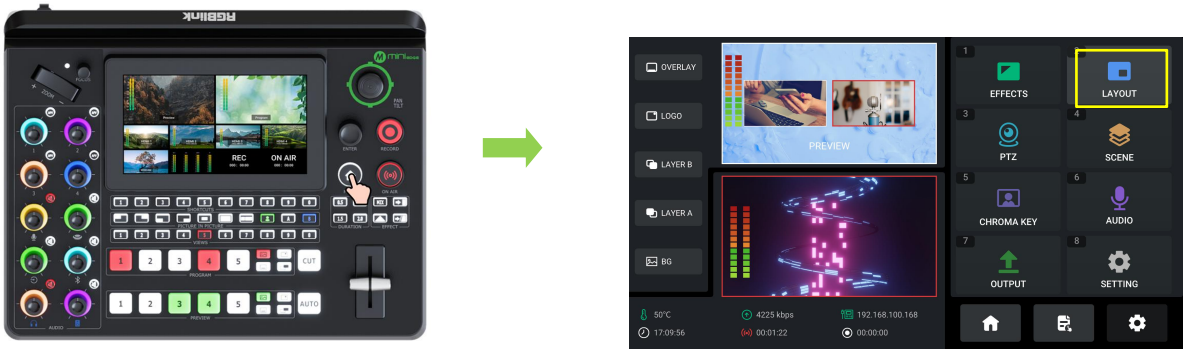
Rotate ENTER knob to move the cursor to icon, push the knob once again to enter Standby Interface.



Area	Description		
1 **PREVIEW**	Show Preview screen and audio meter.		
2 **Layer Selection**	• Icon in green indicates enabled status. • Icon in blue indicates editing status.		
3 **PROGRAM**	Show Program screen and audio meter.		
4 **Status Display**	50°C: Temperature	4225 kbps: Bit Stream	192.168.100.168: Network State& IP
	17:09:56: Time	00:01:22: Streaming Status	00:00:00: Recording Status
5 **Icons**	Correspond to Main Interface, Standby Interface and MENU Interface.		
6 **Signal Monitoring & Source Selection**	• 1~5 windows for monitoring four HDMI signals 1~4 and one UVC signal. Press 1~5 number button along Preview Source Row to place a signal on PVW out. • 6~8 windows for source selection, which allow the user to use U disk to import background images, logo images and overlay images. Use Enter Knob to move the cursor to certain window and push the knob once again to enter Media Management Interface.		

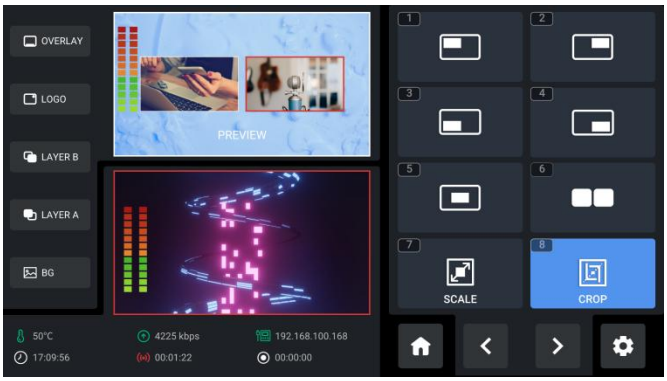
3.4 PIP Layout (Picture-in-Picture)

mini-edge defaults to single-screen switching. If you need to use PIP, push MENU Button to enter MENU, use ENTER knob to move the cursor to LAYOUT icon, then press ENTER knob once again to gain access to the PIP layout setting interface.

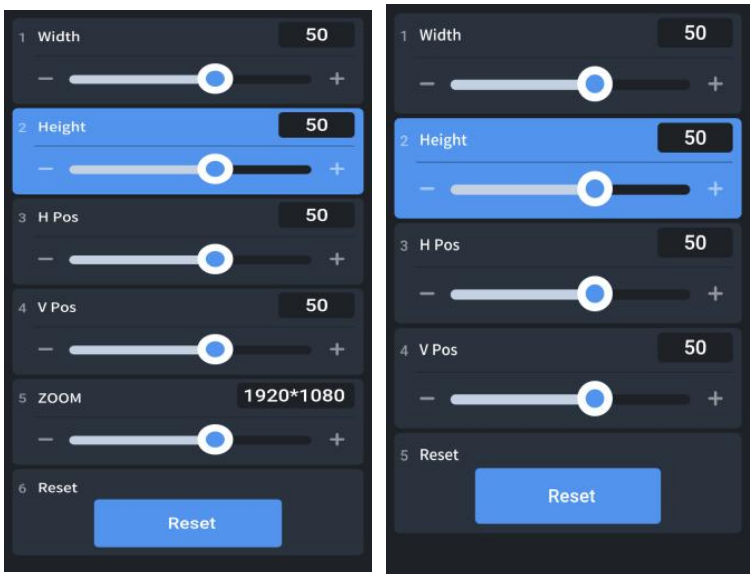


PIP layout allows multiple windows to be displayed simultaneously on a single screen, offering users a perfect platform to check multiple video contents at the same time. The PGM Program is

display on the full screen, and at same time the PIP video source will be displayed in the PGM window as an inset window.



Rotate ENTER knob to move the cursor to SCALE or CROP icon, press ENTER knob again to do more specific parameter settings for layer cropping and scaling.



Rotate ENTER knob to choose item and then do settings by rotating ENTER knob.

In **Layer Scaling** interface, users can adjust Width, Height, Horizontal Position, Vertical Position and set Zoom ratio.

In **Layer Cropping** interface, Width, Height, Horizontal Position and Vertical Position can be set.

Reset at the bottom is for restoring settings to the default values.

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3.5 Adding Layers

mini-edge allows users to import layers, such as BACKGROUND, LOGO, OVERLAY, etc.

3.5.1 Layer Storage Path

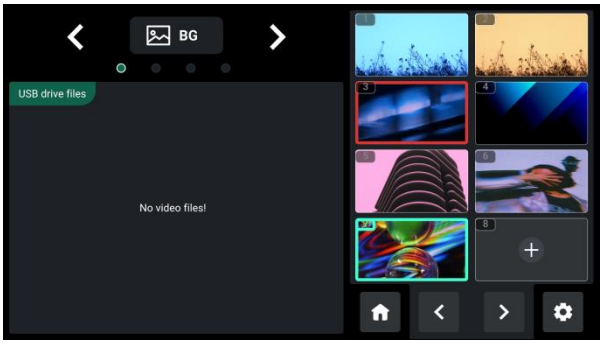
Use a U disk to import layers, such as BACKGROUND, LOGO, OVERLAY, etc.

Before importing layers, please create folders for layer storage in the U disk.

Create Folders Automatically:

1. Insert a U disk into USB interface labeled number 1, reboot mini-edge or enter BACKGROUND/LOGO/OVERLAY interface.

2. Wait for mini-edge to recognize available files. Figure below shows no files available in U disk.



3. If there are no available files, the USB flash drive will automatically create a folder named mini-edge, with **audio and image folders** included. The **image folder** includes three sub-folders: background, logo and overlay.

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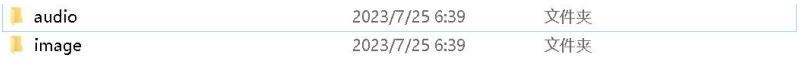


Tips: Layers should meet the following requirements:

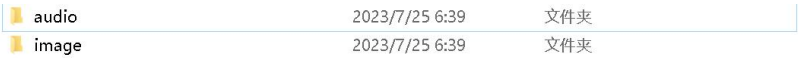
1. BACKGROUND: 1）no space and symbols in picture name；2) jpg, png format (32-bit depth) or bmp (24-bit depth), resolution within 1920x1080, subject to the actual output resolution; 3) picture size should be consistent with the resolution; 4) cropping and scaling not supported.

2. LOGO: 1）no space and symbols in picture name；2）png format (32-bit depth)，resolution within 1920x1080, subject to the actual output resolution.

3. OVERLAY: 1）no space and symbols in picture name；2) png format (32-bit depth)，resolution within 1920x1080, subject to the actual output resolution.

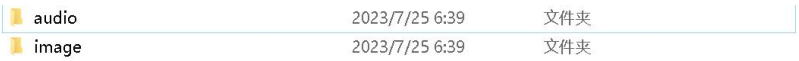
4. Audio: in mp3 format.

4. Store materials in corresponding folder.



Create Folders Manually:

1. Create a folder name mini-edge by yourself;
2. Create **audio and image folders** respectively in mini-edge folder;
3. Create three sub-folders in image: background, logo and overlay.
4. Store materials in corresponding folder.



Tips:

Go to RGBlink website（https://rgblink-web.azurewebsites.net/productsinfo.aspx?id=252）> mini-edge > download mini-edge _material pack.

3.5.2 Adding Background

1. Insert a U disk into the USB port labeled number 1 to import background sources.

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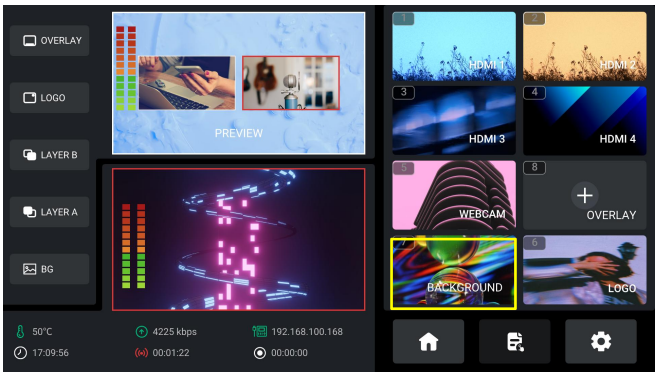
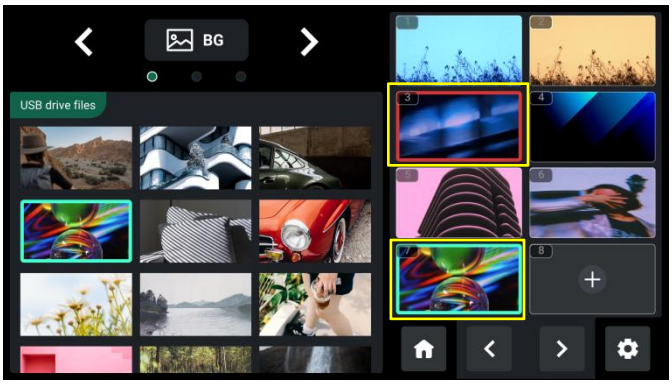
2. The user can gain access to Background Interface through the following methods:

Use ENTER knob to move the cursor to BKG icon in Sour Selection Area, press ENTER knob once again to enter. Or long press BKG Button along the PREVIEW Outputs Row.



3. Background Interface is shown as below: window with a **green** border indicates the cursor position, while window with a **red** border indicate that the backgound image has been placed on PVW window.



To add Background Source, Please follow the steps outlined as follows.

1) "+" indicates window with no source saved. If the user wants to add backgroud image to Window 7, rotate ENTER knob to move the cursor to Window 7, press ENTER knob once again.

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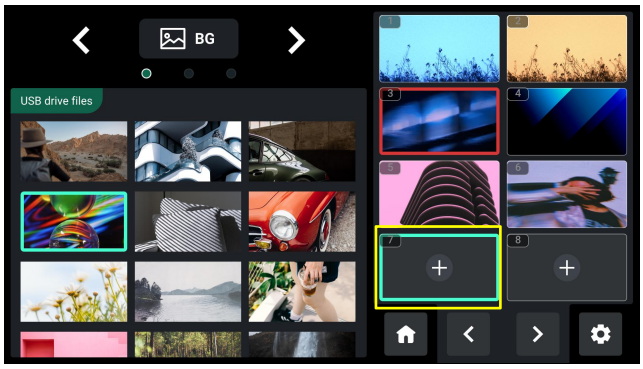
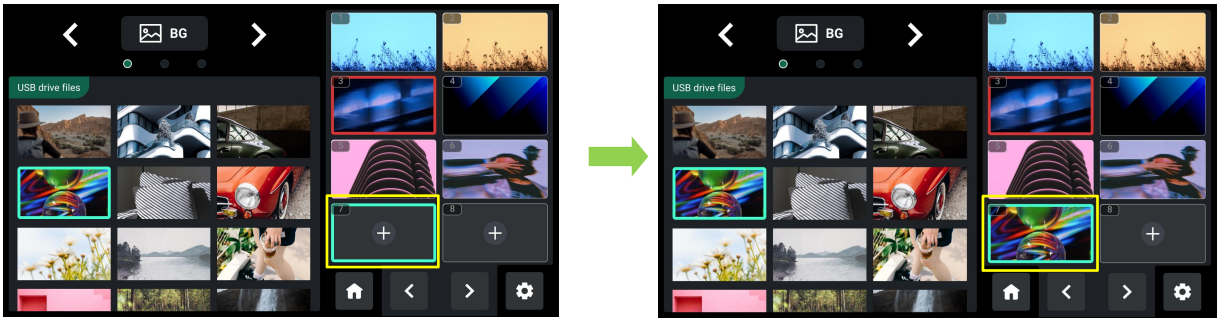
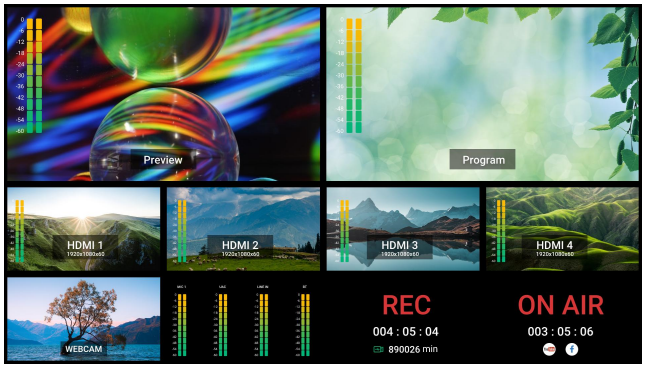


2) Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select the saved background images in the U disk, and then press the knob once again to add the image to Window 7.



3) The added background image will be placed on PVW window.



4) If the BKG button along the Program Source Row illuminates white, press the button to place a background layer on Program screen and the button will be illuminated red.

Press button illuminated red to remove, and the button indicator changes to white.

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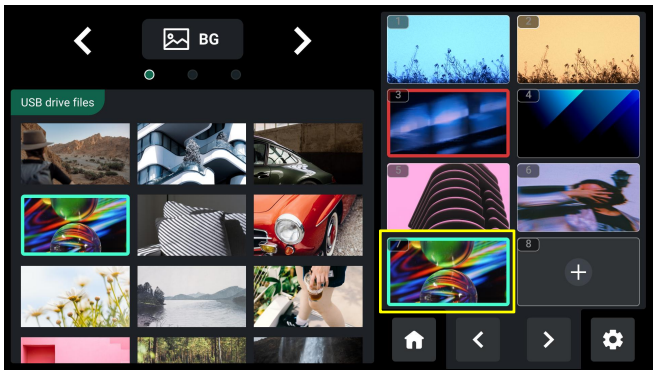
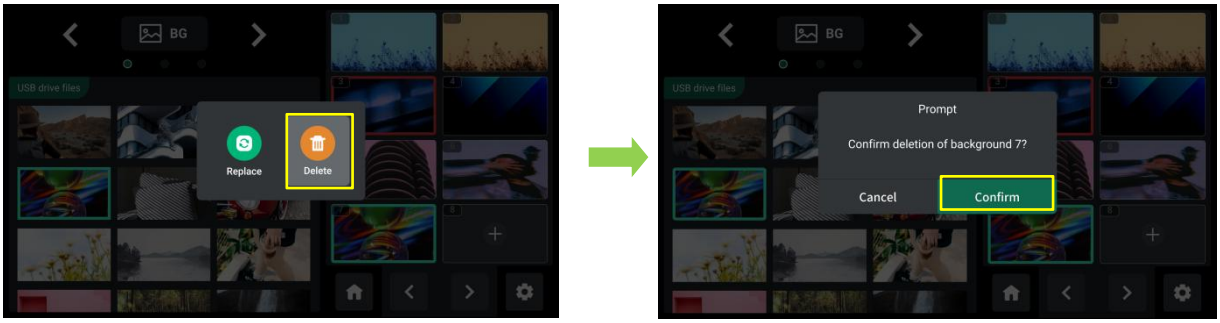
To delete Background Source, Please follow the steps outlined as follows.

1) To delete background source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2) Rotate ENTER knob to move the cursor to Delete, press the knob and then choose Confirm for deletion.



To replace Background Source, Please follow the steps outlined as follows.

1) To replace background source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.

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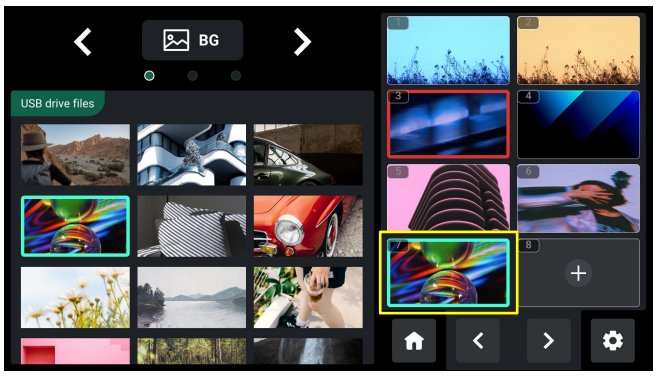
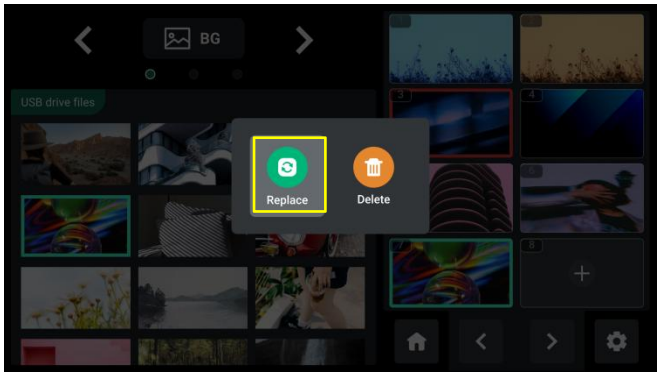
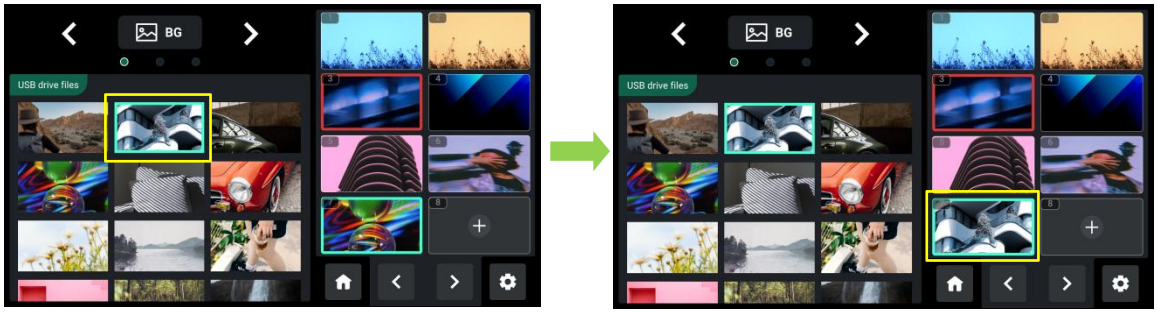


2) Rotate ENTER knob to move the cursor to Replace, press the knob and then choose Confirm for deletion.



3) Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select one background source in the U disk, and then press the knob once again to replace.



3.5.3 Adding Layer A

1. Push Layer A Button on the front panel to edit Layer A. This operation simultaneously enables Layer A.

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2. Preview Source row is for selecting the signal source for preview. Program Source row is for selecting the signal source for program.

Press 1~5 number buttons along the Preview Source row to select an input source for previewing and the selected PVW button will be illuminated Green.

Press 1~5 number buttons along the Program Source row to add it to the PGM view and the selected PGM button will be illuminated Red.

3. In the Main Interface, the user can use the toggle for layer zoom-in and zoom-out on PVW window and the joystick to set the position for more detailed adjustment.

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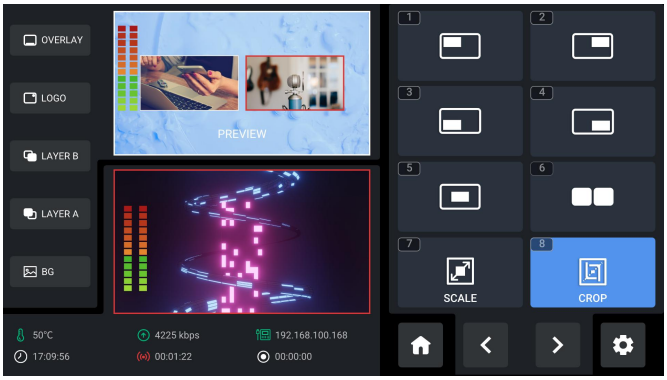
4. The user can gain access to Layout Interface through the following methods: Press layout button on the control panel.

Or you can push MENU button to enter menu interface. Use ENTER knob to move the cursor to LAYOUT icon, press ENTER knob once again to enter.



Select required layout for Layer A and place it on the background.

5. mini-edge supports layer scaling and cropping. Rotate the ENTER knob to the SCALE or CROP and press the knob once again to enter the parameter setting interface.

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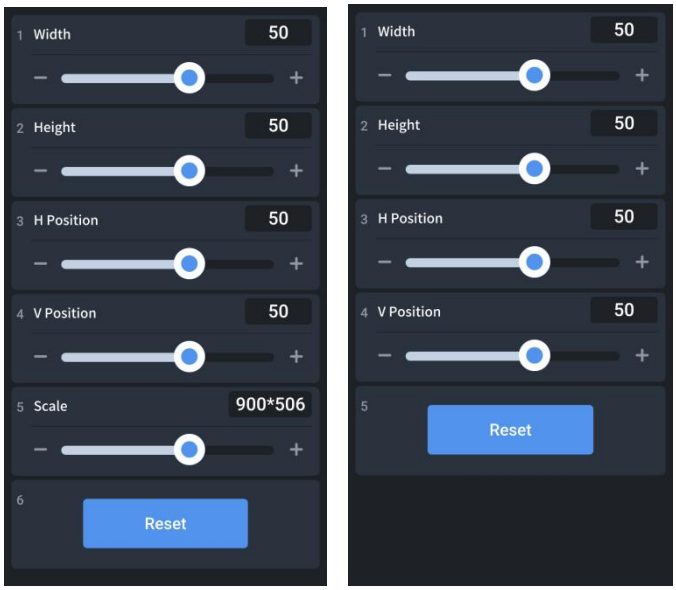

3.5.4 Adding Layer B

1. Push Layer B Button on the front panel to edit Layer B. This operation simultaneously enables Layer B.

2. Press 1~5 number buttons along the Preview Source row to select an input source for previewing and the selected PVW button will be illuminated Green.

Press 1~5 number buttons along the Program Source row to add it to the PGM view and the selected PGM button will be illuminated Red.

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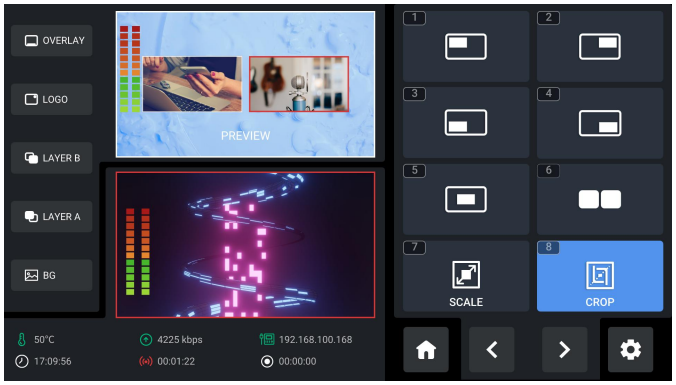
3. Layout Selection, Size & Position Adjustment, Layer Cropping & Scaling, please refer to operations in Adding Layer A.



3.5.5 Adding LOGO

1. Insert a U disk into the USB port labeled number 1 to import LOGO sources.

2. The user can gain access to LOGO Interface through the following methods:

Use ENTER knob to move the cursor to LOGO icon in Sour Selection Area, press ENTER knob once again to enter. Or long press LOGO Button along the PREVIEW Outputs Row.

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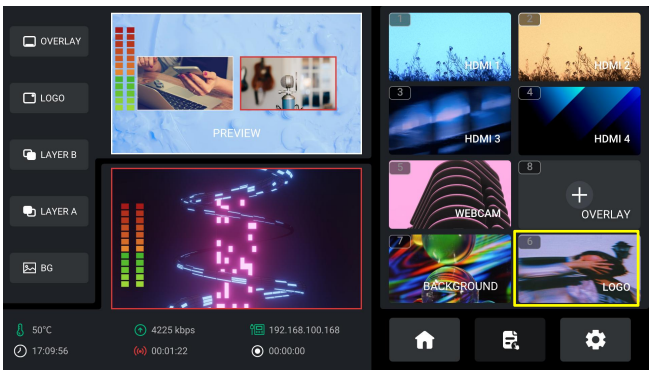
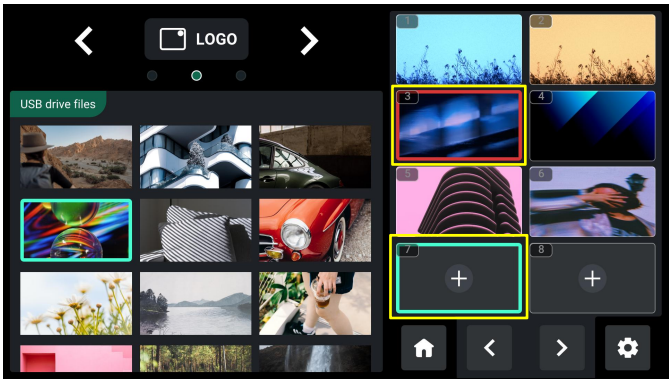
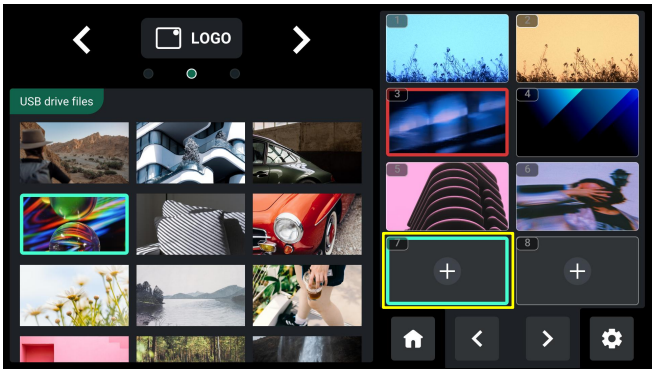


3. LOGO Interface is shown as below: window with a **green** border indicates the cursor position, while window with a **red** border indicate that the LOGO image has been placed on PVW window.



To add LOGO Source, Please follow the steps outlined as follows.

1) "+" indicates window with no source saved. If the user wants to add LOGO image to Window 7, rotate ENTER knob to move the cursor to Window 7, press ENTER knob once again.



2) Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select the saved LOGO images in the U disk, and then press the knob once again to add the image to Window 7.

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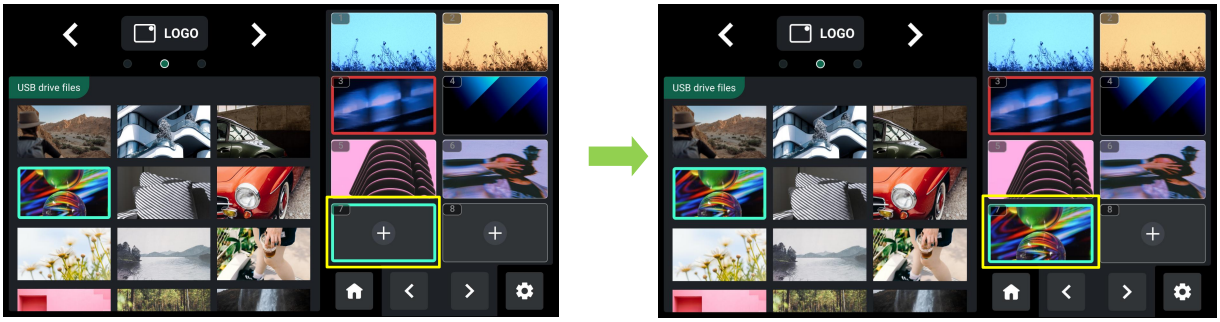
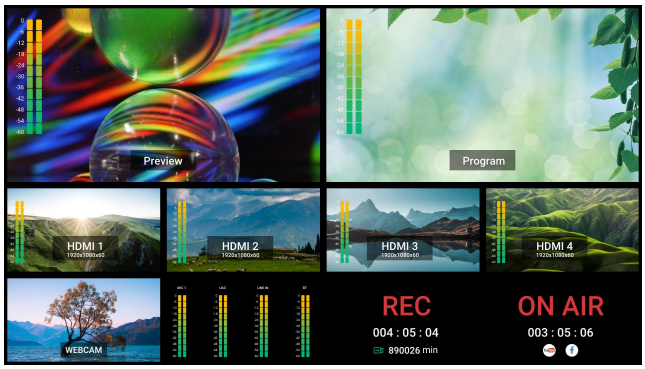


3) The added LOGO image will be placed on PVW window.



4) If the LOGO button along the Program Source Row illuminates white, press the button to place a LOGO layer on Program screen and the button will be illuminated red.

Press button illuminated red to remove, and the button indicator changes to white.

5) The user can set layout, use the toggle for layer zoom-in and zoom-out and the joystick to set the position.

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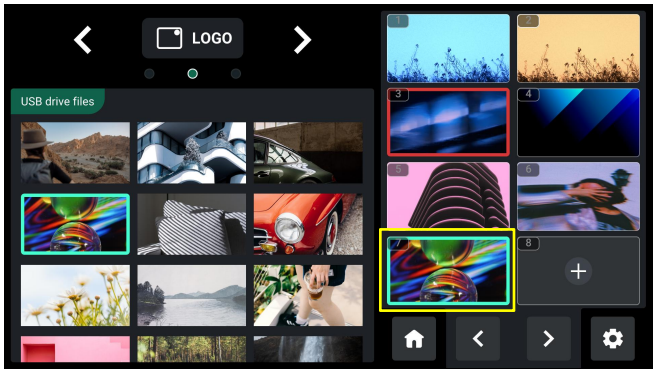
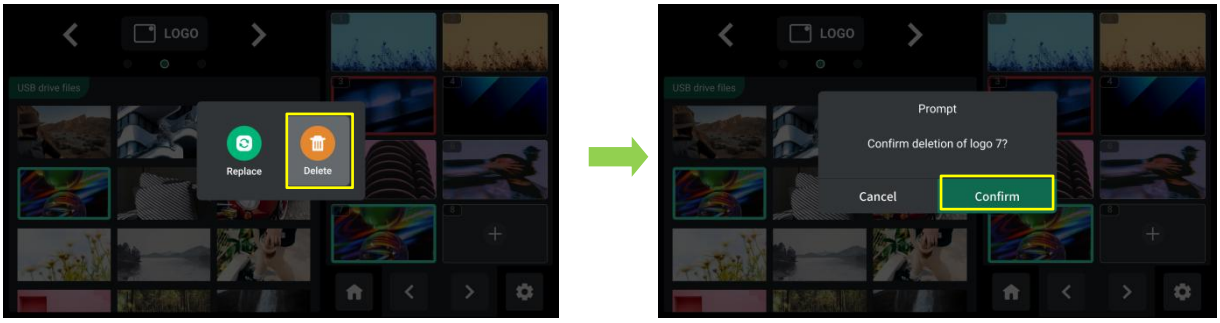
To delete LOGO Source, Please follow the steps outlined as follows.

1) To delete LOGO source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2) Rotate ENTER knob to move the cursor to Delete, press the knob and then choose Confirm for deletion.



To replace LOGO Source, Please follow the steps outlined as follows.

1) To replace LOGO source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.

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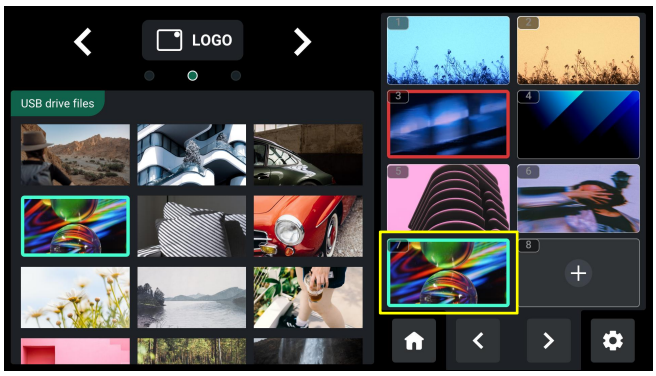
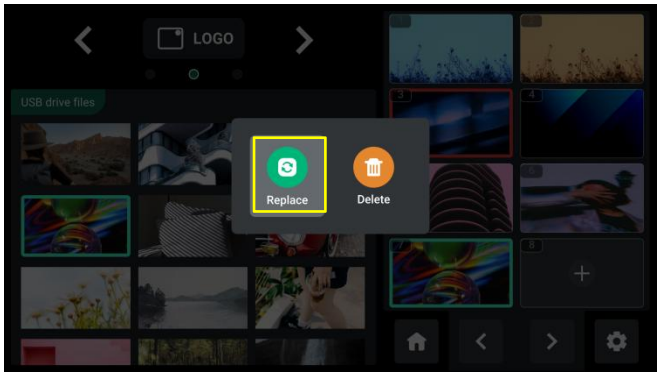
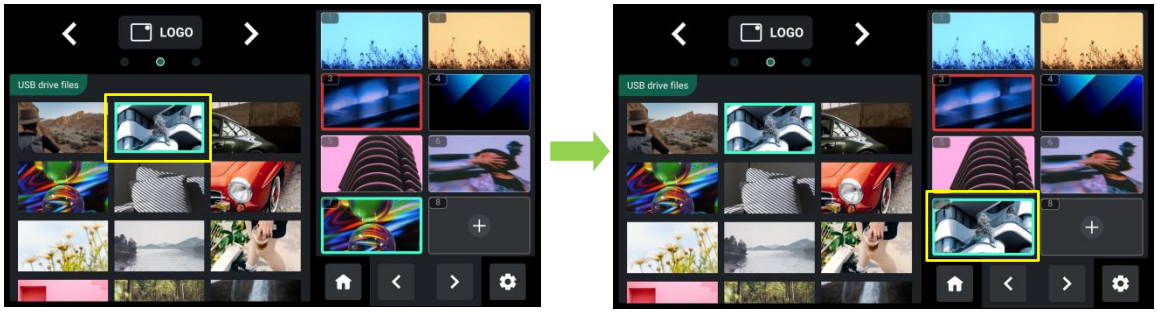


2) Rotate ENTER knob to move the cursor to Replace, press the knob and then choose Confirm for deletion.



3) Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select one background source in the U disk, and then press the knob once again to replace.



3.5.6 Adding Overlay

1. Insert a U disk into the USB port labeled number 1 to import overlay sources.

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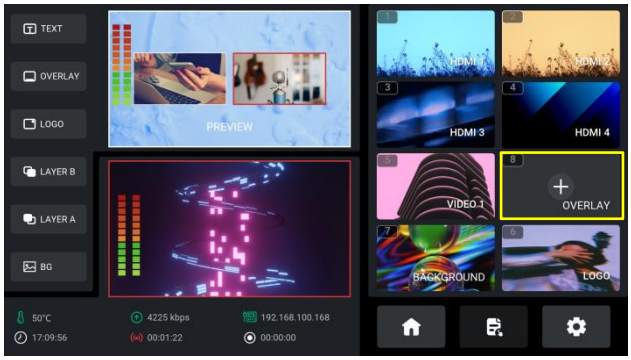
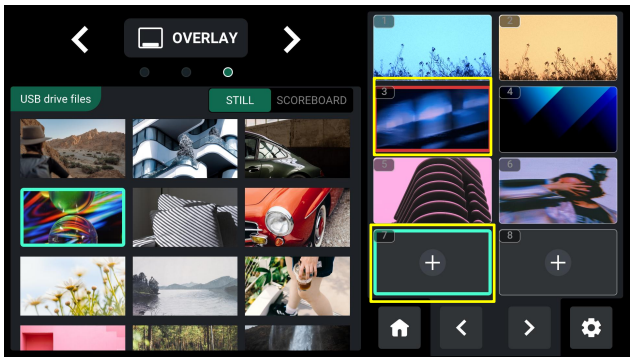
2. The user can gain access to Background Interface through the following methods:

Use ENTER knob to move the cursor to OVERLAY icon in Sour Selection Area, press ENTER knob once again to enter. Or long press OVERLAY Button along the PREVIEW Outputs Row.



3. Overlay Interface is shown as below: window with a green border indicates the cursor position, while window with a red border indicate that the backgound image has been places on PVW window.



To add Overlay Source, Please follow the steps outlined as follows.

1) "+" indicates window with no source saved. If the user wants to add overlay image to Window 7, rotate ENTER knob to move the cursor to Window 7, press ENTER knob once again.

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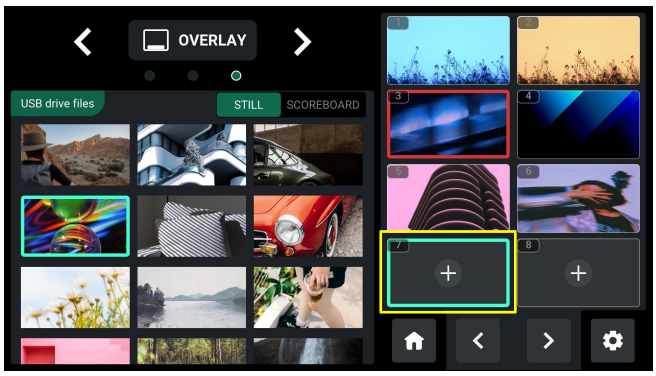
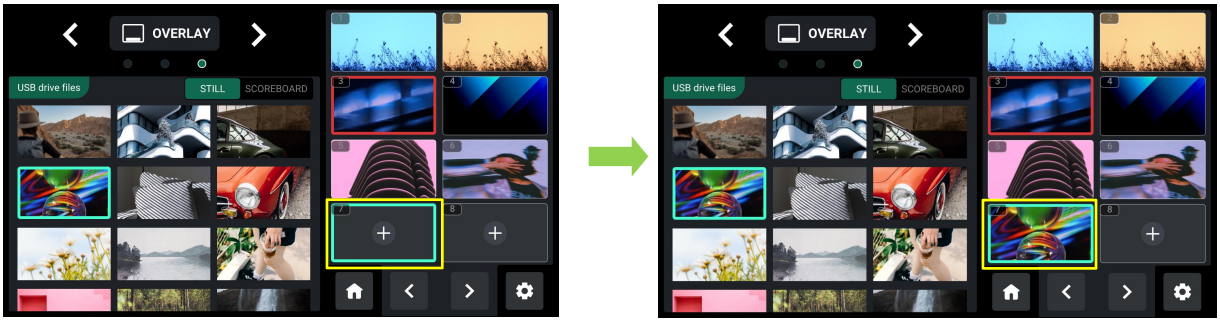
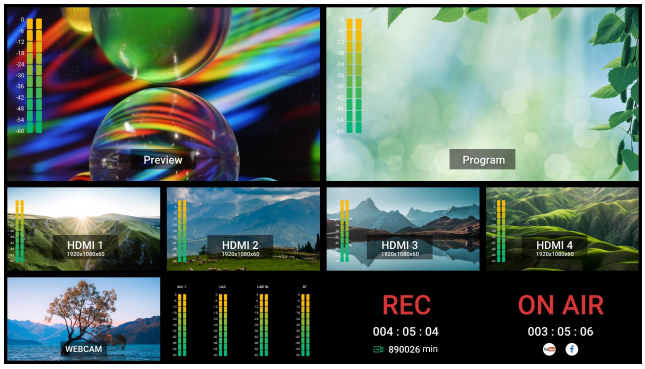


2) Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select the saved overlay images in the U disk, and then press the knob once again to add the image to Window 7.



3) The added background image will be placed on PVW window.



4) If the OVERLAY button along the Program Source Row illuminates white, press the button to place a background layer on Program screen and the button will be illuminated red.

Press button illuminated red to remove, and the button indicator changes to white.

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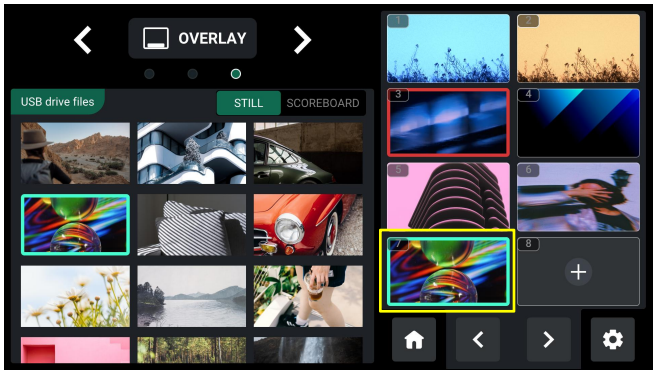
5) Same as operations in Adding Layer A and Adding Layer B, choose required layout in LAYOUT interface and use the Joystick to quickly adjust horizontal and vertical position of OVERLAY.

To delete Overlay Source, Please follow the steps outlined as follows.

1) To delete overlay source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2) Rotate ENTER knob to move the cursor to Delete, press the knob and then choose Confirm for deletion.

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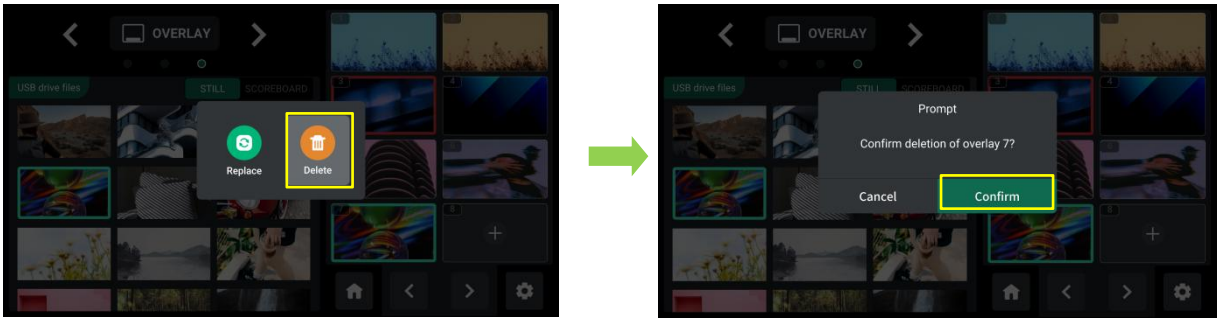
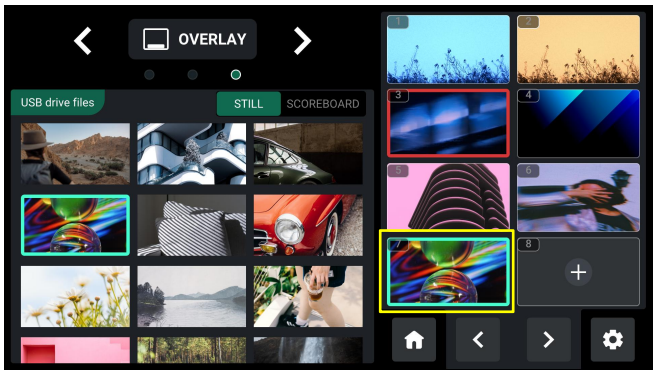
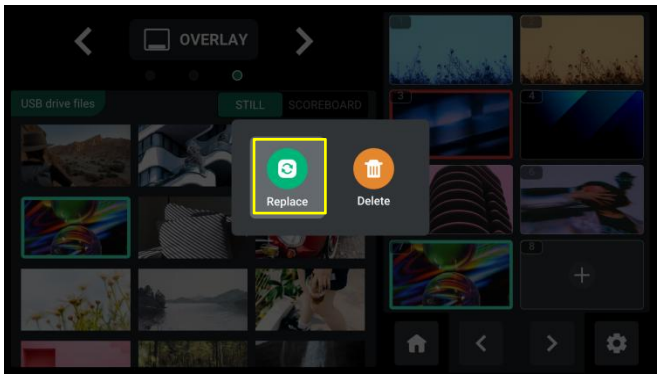


To replace Overlay Source, Please follow the steps outlined as follows.

1) To replace background source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2) Rotate ENTER knob to move the cursor to Replace, press the knob and then choose Confirm for deletion.



3) Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select one overlay source in the U disk, and then press the knob once again to replace.

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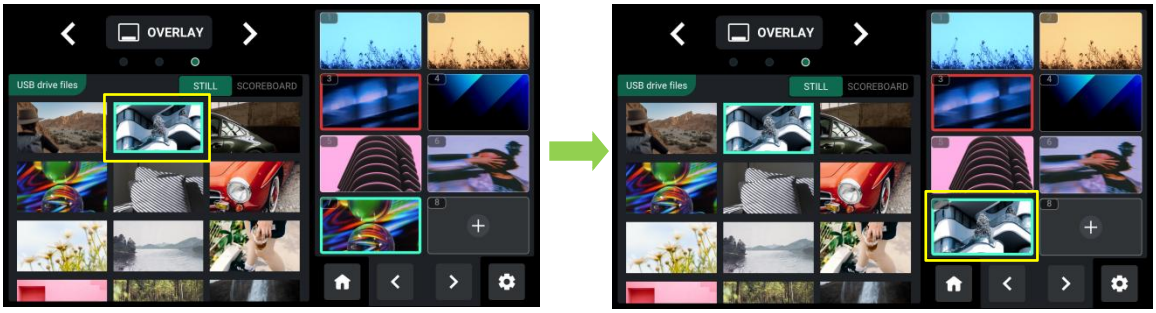
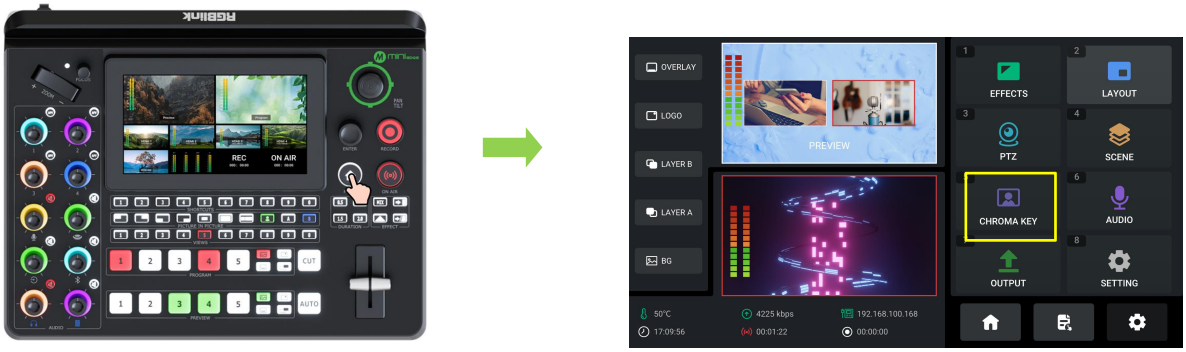
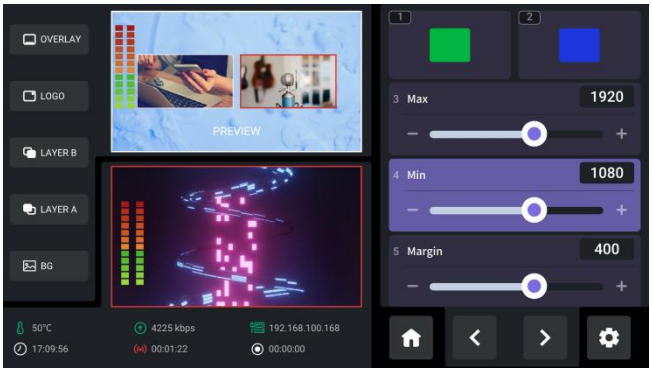


3.6 Chroma Key

mini-edge supports matting, that is, removing the pure color background and overlaying it on another signal to realize the application of virtual reality. Push MENU Button to enter Main Menu, rotate ENTER knob to move the cursor to【CHROMA KEY】, press knob once again to enter the setting interface.



Chroma Key defaults to OFF. Press Chroma Key Button on the front panel to enable and perform matting on Layer B by default. Select the background color which is default in green to be removed and make adjustments according to application.



Check the background color required and then use ENTER knob to shift options between Max,

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Min and Margin. Max defaults to 1232, Min defaults to 560, Margin defaults to 200.

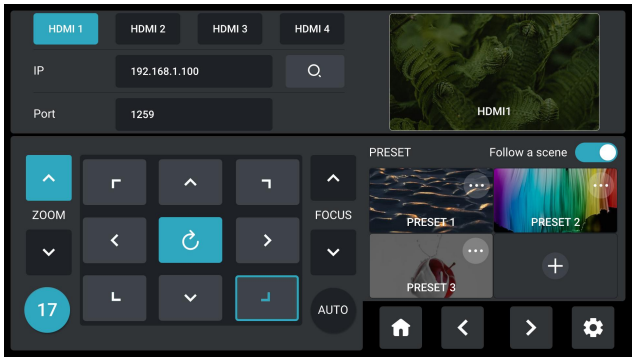
3.7 Controlling PTZ Camera

mini-edge can control the camera’ s lens moving horizontally and vertically, focus and zoom via **IP VISCA protocol** and save the position and zoom information for quick calling.

The PTZ preset of mini-edge not only saves the parameters of the PTZ, but also includes calling the camera, that is, when the preset of PTZ is loaded, the input is switched to the camera signal source at the same time.

Push MENU Button to enter Main Menu.

Rotate ENTER knob to move the cursor to【PTZ】, press knob once again to enter the setting interface.



mini-edge supports **simultaneous control of up to four cameras**.

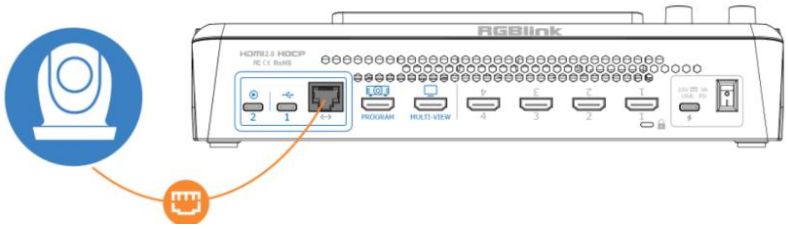
Please check if the port number of the controlled camera is 1259 (It’ s recommended to use RGBlink vue series PTZ camera). If the port number is not 1259, please enter the port number in

PTZ Control interface.

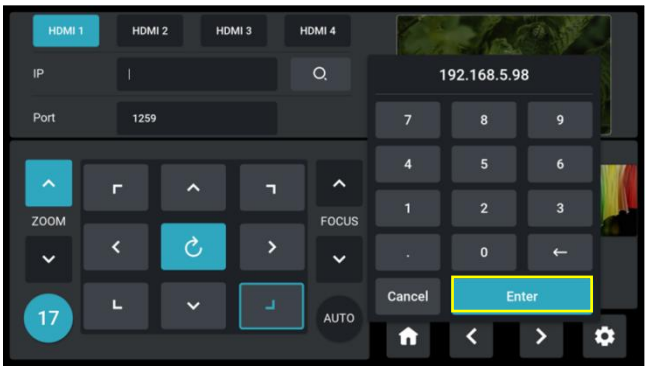
The following operations are explained with examples of using mini-edge to control ONE camera and simultaneously control FOUR cameras.

Example 1: mini-edge controls ONE camera.

1) Connect mini-edge and the camera directly via an Ethernet cable;



2) User Number Button on the control panel to enter IP address of the camera in the following interface and then rotate ENTER knob to choose "Enter" to save. **(Note: The IP address of mini-edge and camera controlled should be in the same LAN.)**



Example 2: Use mini-edge and switch to control FOUR cameras.

1) Use the **ping command** to analyze network connectivity, check if IP address of mini-edge and the cameras are occupied, operations please refer to FAQ.

2) Enter PTZ configuration interface below to set the camera's IP address, then choose "Enter" to save. (Make sure IP address has not been occupies, and IP address of mini-edge and camera are in the same LAN.)

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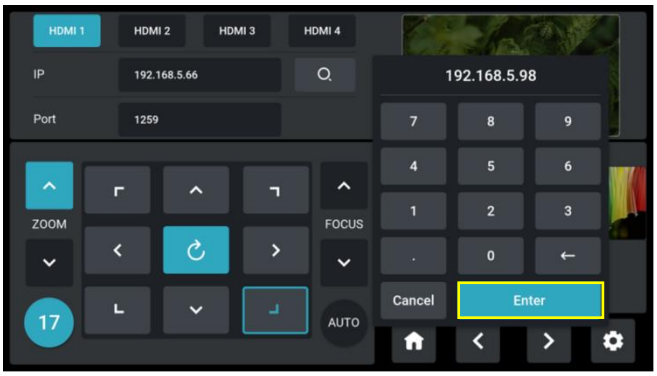

3) Connect camera and computer to the switch.

4) Connect mini-edge and camera to the switch via Ethernet cables (It is recommended to use RGBlink CAT6 cable with order code as 940-0001-00-11-0). Then use mini-edge for PTZ control.

Warning:

1. The computer IP, mini-edge IP and the tested IP must be in the same LAN.
2. It is suggested to use ping command to check IP addresses of four cameras one by one to ensure normal communication.
3. ONLY VISCA via IP protocol is supported. Protocols including NDI PTZ/CGI/HTTP/Pelco-D/Pelco-P are not supported.

5) User ENTER knob to select HDMI 1/HDMI 2/HDMI 3/HDMI 4 to switch camera control interface.

In addition to **Manual IP Setting**, mini-edge also supports **Automatic IP Identification**.

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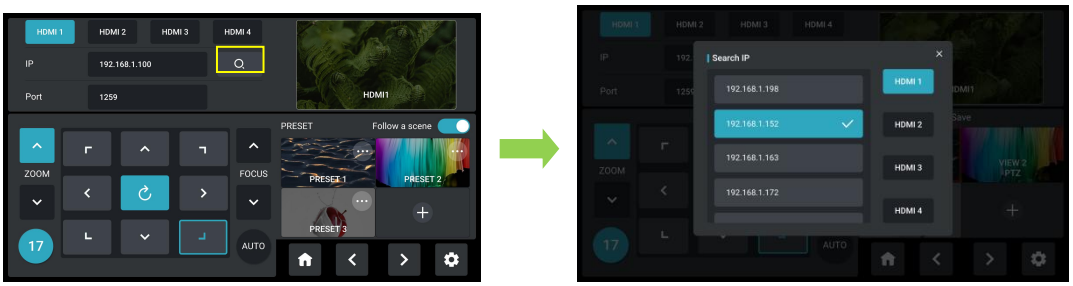
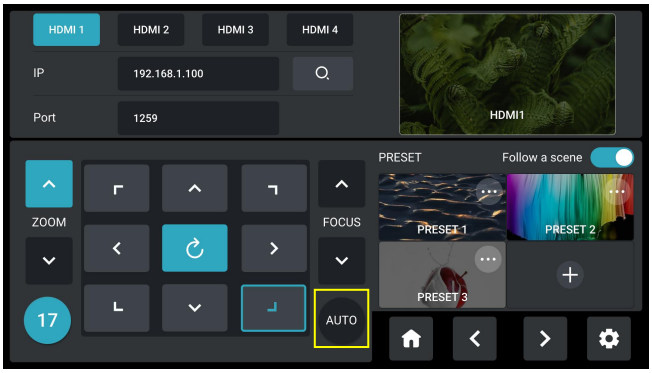
1. If use network cable to directly connect camera to mini-edge, mini-edge can only control one camera. The current IP address and IP address set before can be captured.

2. If devices are connected to same LAN, rotate ENTER knob to move the cursor to icon, press the knob once again, and mini-edge can capture current IP address and IP address set before of all cameras in the LAN. Select the IP address of the camera to be controlled in Search IP Interface.



Use Toggle on the front panel to adjust focus.

Automatic focus adjustment can be achieved by choosing **AUTO**.



Use 5-direction Joystick to adjust position of camera.

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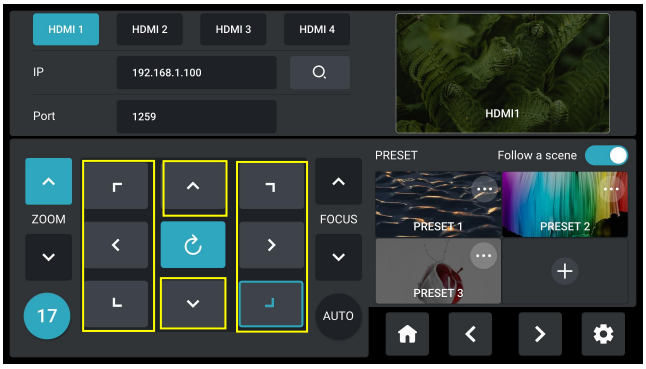
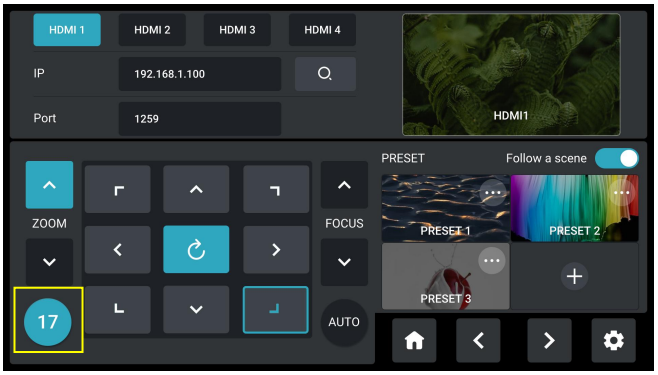
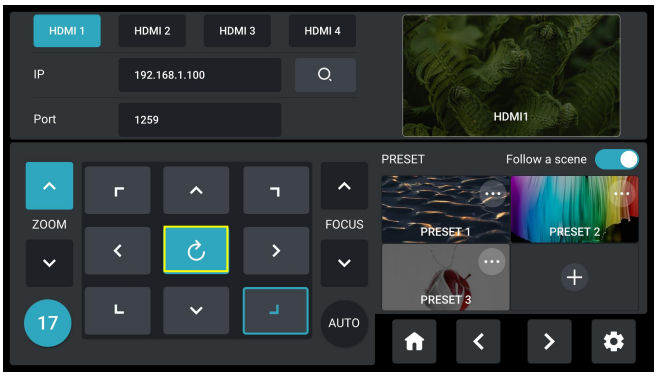


As shown in the figure below, the number displayed indicates the rotation speed of the camera. Move the cursor to this icon and then rotate ENTER knob to adjust rotation speed as 17 (by default), 14, 11, 8, 5 or 2.



Choose icon to or press joystick to clear wrong settings so as to restore the set parameters to the default values.



Users can create multiple views by setting different camera presets and adjusting parameters such as zoom. Rotate ENTER knob to move the cursor to , press the knob once again, then choose "Confirm" to capture a picture and add it to View.

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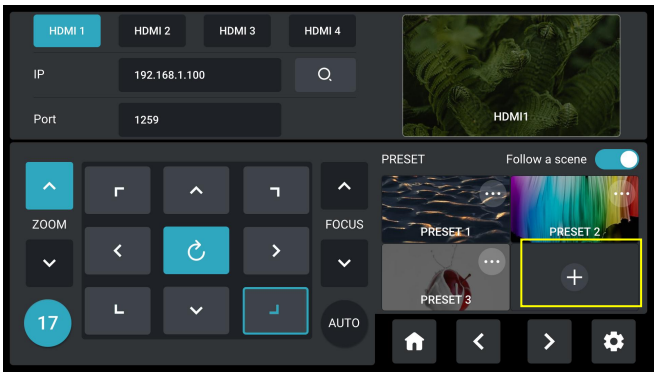
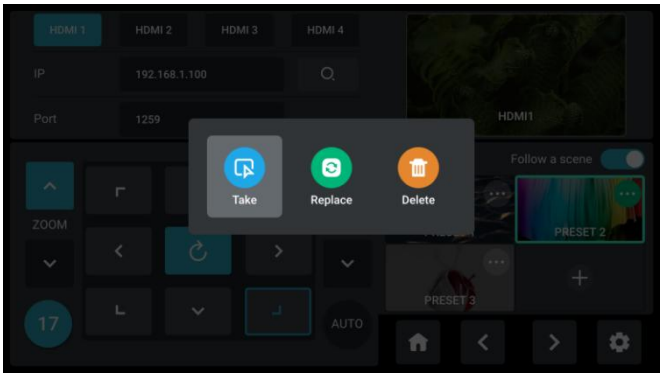


Rotata ENTER knob to select the preset with to enter the following interface. The user can load scenes, replace scenes, or delete scenes by selecting different icons.



3.8 Saving and Loading Scenes

mini-edge **save presets to Scene in real time**. If users want to quickly load current preset next time, just save it to corresponding scene. The Scene will save all the currently set parameters including Chroma Key, PTZ Presets and more. Therefore when user needs to load a preset, push corresponding Scene for quick calling.

After setting the effect, push MENU Button to enter MENU, rotate ENTER knob to move the cursor to【SCENE】, press knob once again to enter the interface.

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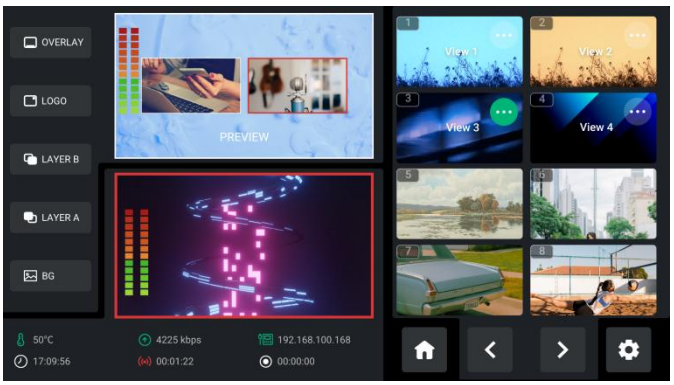
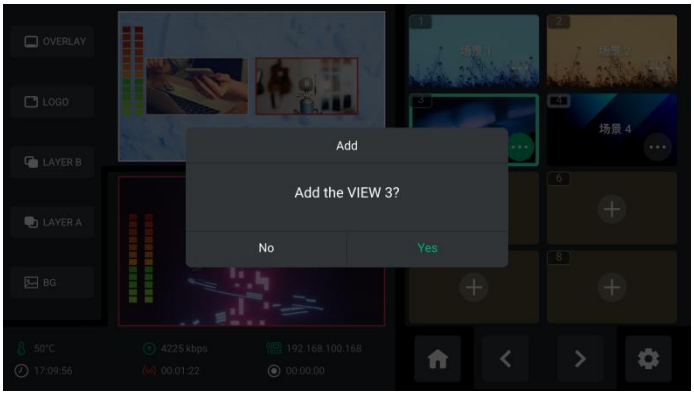
The preset saving interface is shown as below.



mini-edge allows user to save 10 presets in total to the corresponding View 1~10. If the selected window does not contain a preset, press ENTER knob to choose whether to form a static picture of the Preview scene and save it.



If the window has stored a preset, press ENTER knob to choose whether to load, replace or delete.

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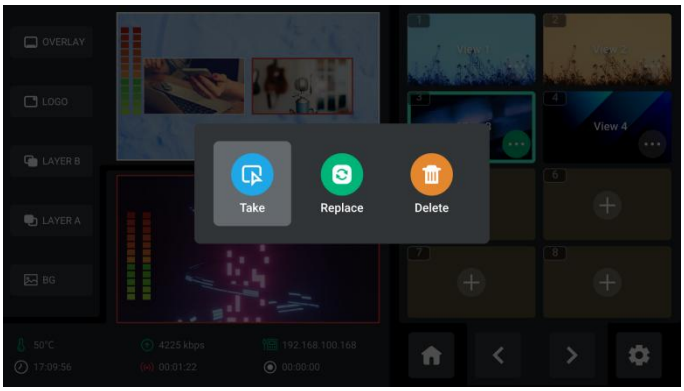
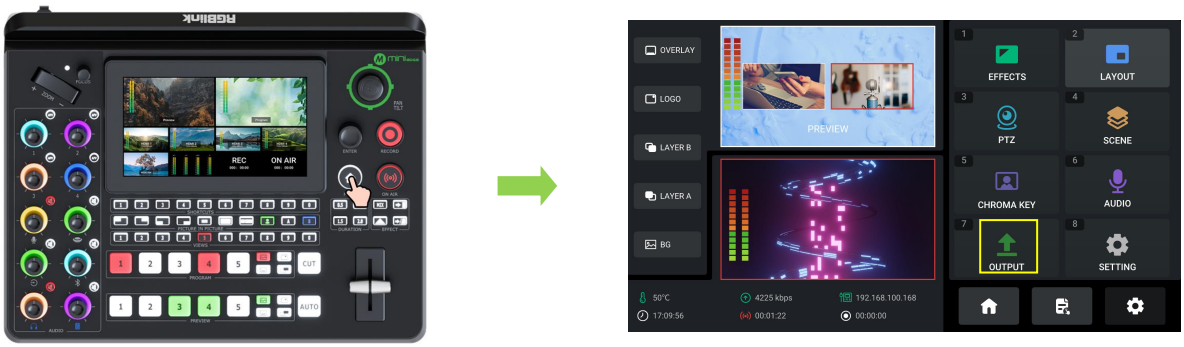
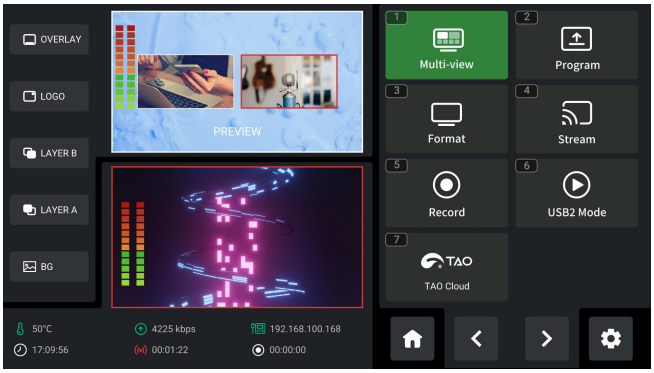


3.9 Video Output

Push MENU Button to enter MENU.



Rotate ENTER knob to move the cursor to【OUTPUT】, press knob once again to enter the setting interface.



3.9.1 Multi-view

Choose **Multi-view** to set parameters. Default to be Multi-view preview, which can be switched to Program，Test Pattern or 1~4 HDMI inputs for various applications.

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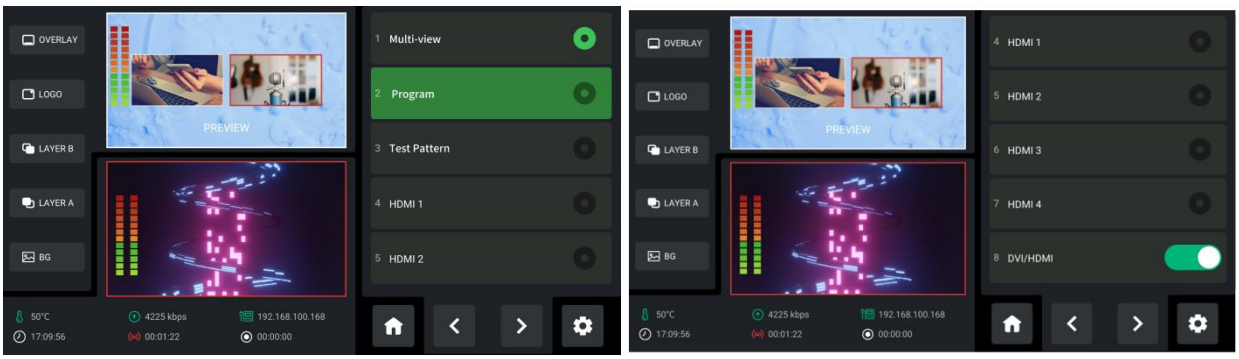
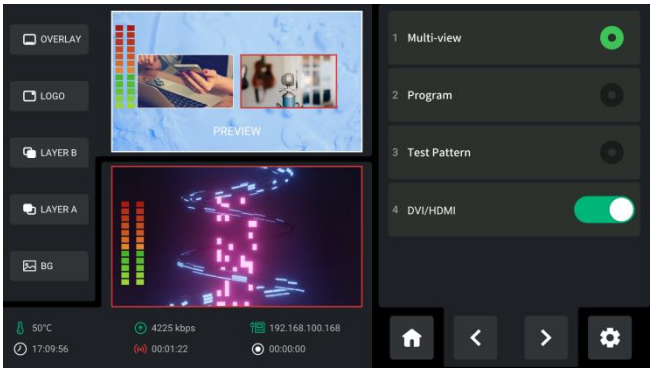


DVI/HDMI is turned on by default for connecting multiple display devices simultaneously. For example, DVI is generally used to adapt LED control cards (sending cards) and displays with DVI input interfaces, while HDMI is generally used to adapt displays with HDMI input interfaces.

Turn on DVI/HDMI, mini-edge can adapt to different types of display devices.

3.9.2 Program

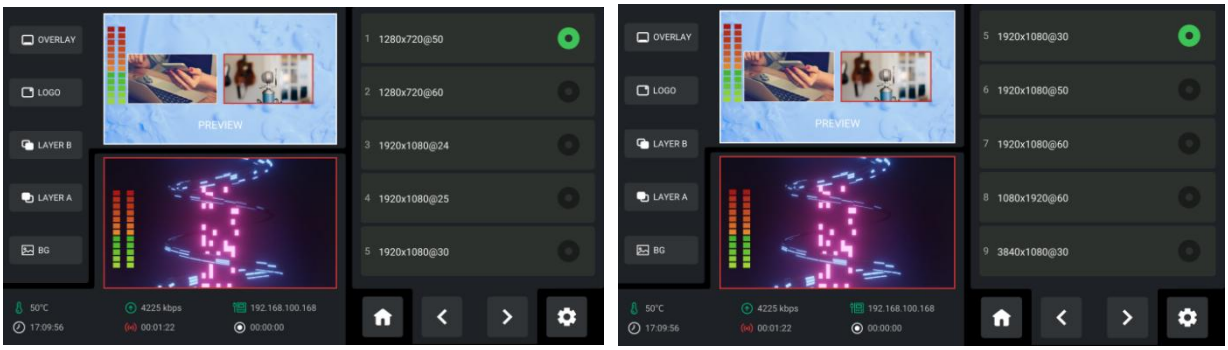
Choose **Program** to set parameters.



Default to be Program, which can be changed to multi-view Preview or Test Pattern.

3.9.3 Resolution

Choose **Format** to choose output resolution.



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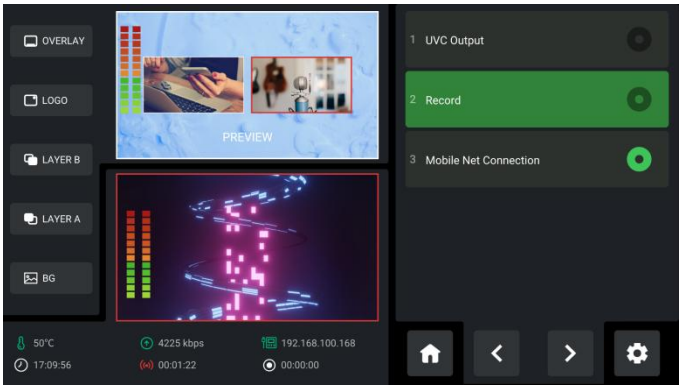
3.9.4 USB2 Mode

Choose USB2 Mode to set the function of USB-C interface labeled number 2.



- UVC Output: USB port can be recognized as USB webcam to connect computer or mobile phone for streaming or video conference.
- Record: Insert U disk for recording.
- Mobile Net Connection: Use with standard data cable to share network with mobile phone. (Refer to Smartphone Tethering).

Note:

1. Make sure USB2 and USB1 interface are in different functions when setting USB2 mode.
2. To ensure a successful mode switch, please disconnect USB2 interface first.

3.10 Streaming

Push MENU Button to enter MENU. Rotate ENTER knob to move the cursor to【OUTPUT】, press knob once again to enter the setting interface.

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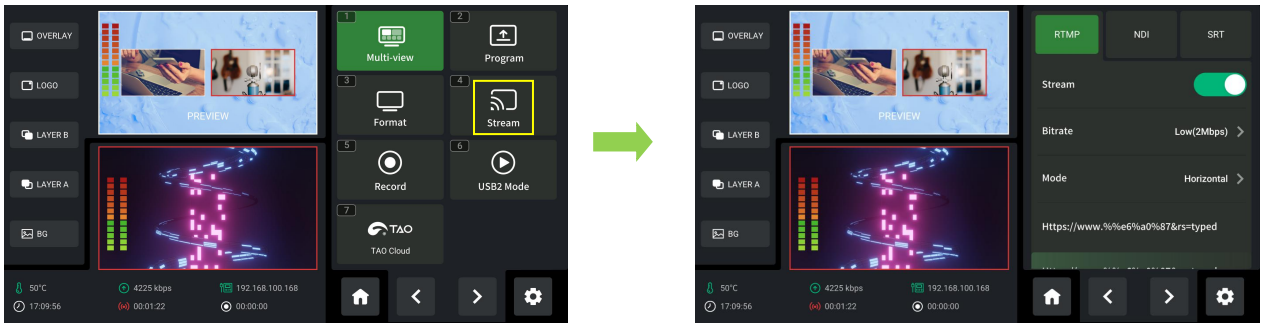
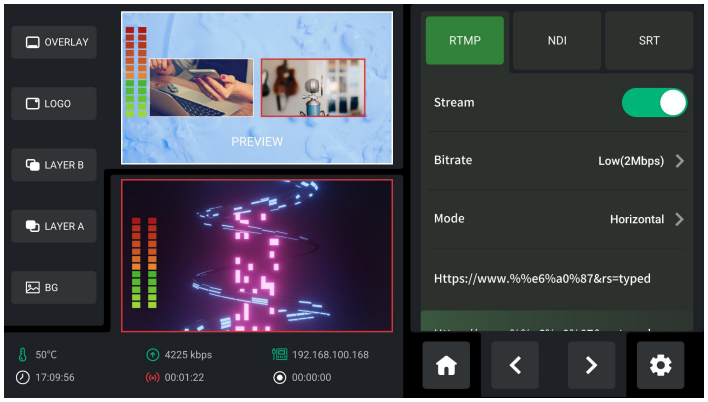
Rotate ENTER knob to move the cursor to【Stream】, press knob once again to enter streaming configuration interface.



mini-edge suppors RTMP protocol with bitrate and output mode can be set.



Please check network communication before enabling streaming.

You can provide network for mini-edge through **Direct Connection** or **Smartphone Tethering**.

3.10.1 Direct Connection

mini-edge switcher’ s Ethernet connector lets you stream directly. Connect mini-edge to the internet by plugging a network cable from the Ethernet port to an internet router or a network

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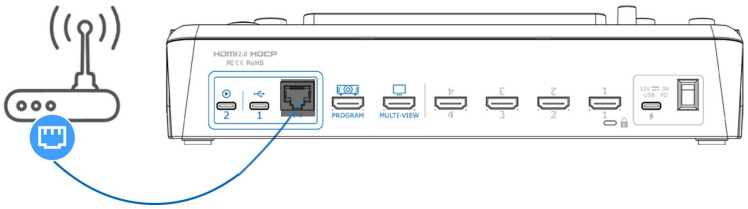
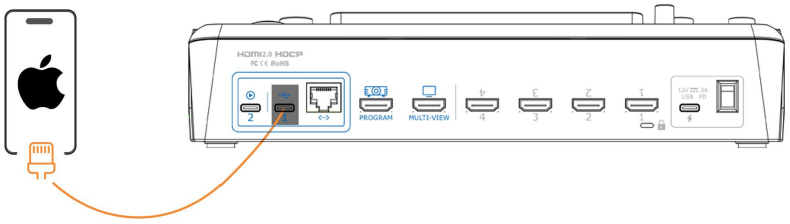
switch. It is recommended to use RGBlink CAT6 cable with order code as 940-0001-00-11-0.



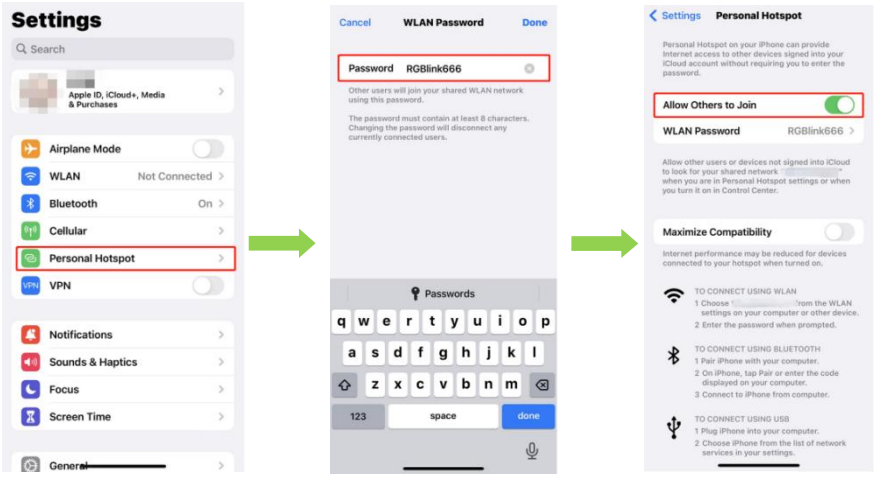
3.10.2 Smartphone Tethering

1. For iOS system, please do as follows:

1) Simply connect a standard power cord from your smartphone to the USB-C port labeled number 1 on your mini-edge.



2) Then the 'Trust This Computer' alert message will appear on your device. Tap 'Trust' on your device and do as followings: Open 'Settings' > Select 'Personal Hotspot' > Enter 'WLAN Password' > Turn on 'Allow Others to Join'.



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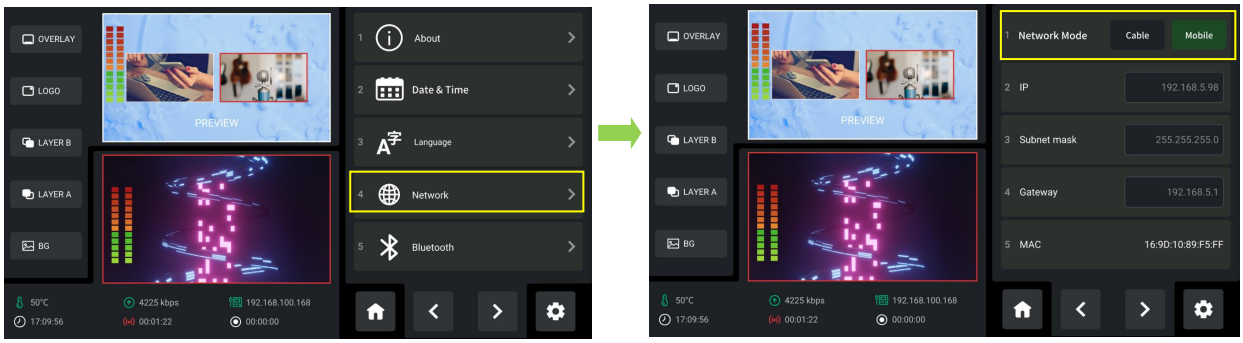
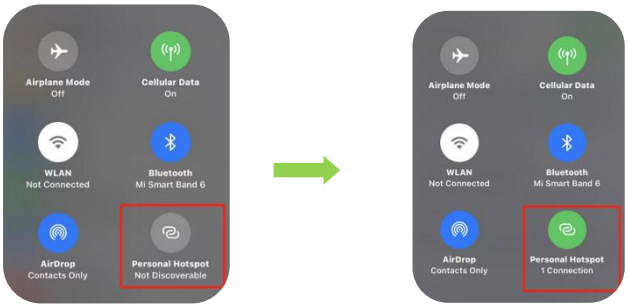
3) Push MENU button to enter Menu, rotate ENTER knob to move the cursor to【SETTING】, press knob once again to enter the setting interface. Use ENTER knob to select **Network** and then **Mobile** to stream by using the hotspot of mobile phone.

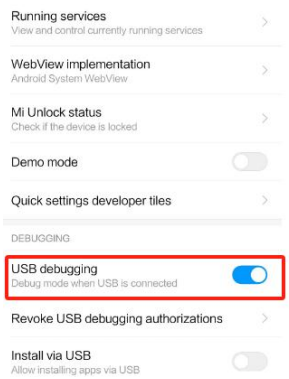


4) As shown in figures below, if the status changes from "Not Discoverable" to "Connection", it means that the mini-edge and your mobile phone have achieved network sharing.



2. For Android system, please do as follows:

1) Open 'Settings' > 'Additional settings' > 'Developer options" > Turn on 'USB debugging' .



2) Simply connect a standard power cord from your smartphone to the USB-C port labeled

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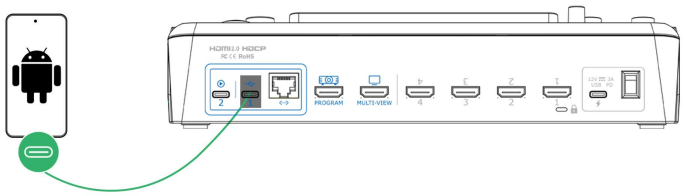
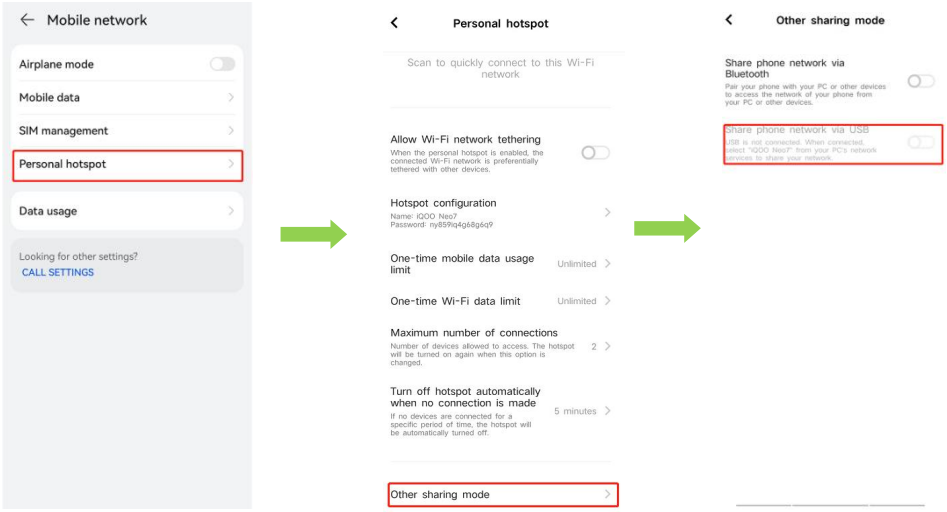
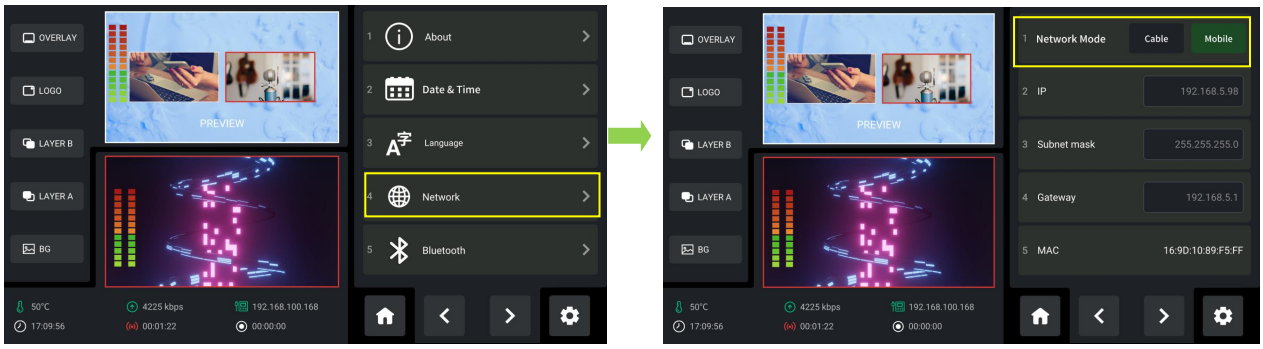
number 1 on your mini-edge.



3) Open ‘Settings’ > Select ‘Mobile Network’ > ‘Personal Hotspot’ > ‘Other Sharing Mode’ > Turn on ‘Share Phone Network via USB’.



4) Push MENU button to enter Menu, rotate ENTER knob to move the cursor to【SETTING】, press knob once again to enter the setting interface. Use ENTER knob to select **Network** and then **Mobile** to stream by using the hotspot of mobile phone.



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Warning:

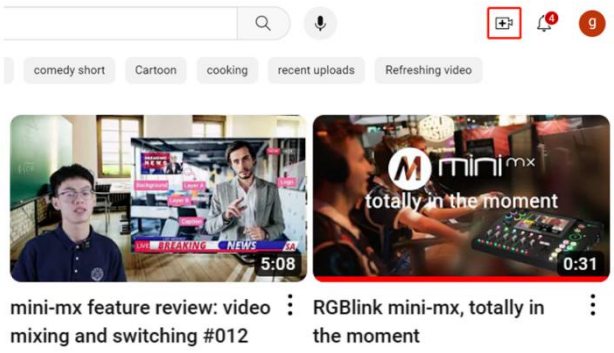
1. Select **Cable** when using local network for streaming.
2. Select **Mobile** when using Smartphone Tethering for streaming.
3. If failed to use network sharing, please operate Step 2 as follows: Connect USB-C interface of OTG cable to mini-edge, then use standard data cable to connect your phone to USB-A interface of OTG cable.

3.10.3 YouTube Live

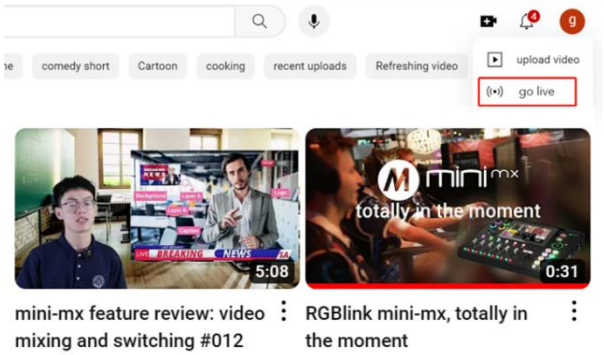
In above operations, mini-edge has been connected to network. Then prepare a USB disk to import streaming address and do as the steps below. This chapter takes YouTube Live as the example.

1. Log into your YouTube account on your computer;

2. Click the camera icon in the top right corner to create a video.



3. Select “go live”.



4. Type in a title and add a description in the dialogue box, click “create stream” and then copy the Stream URL and Stream Key.

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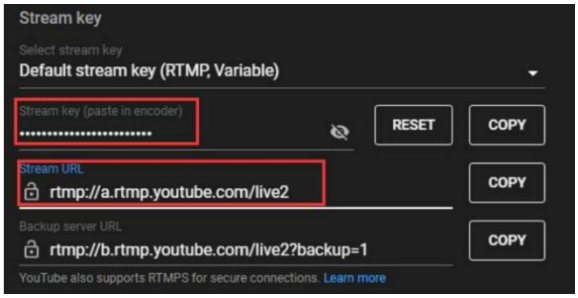
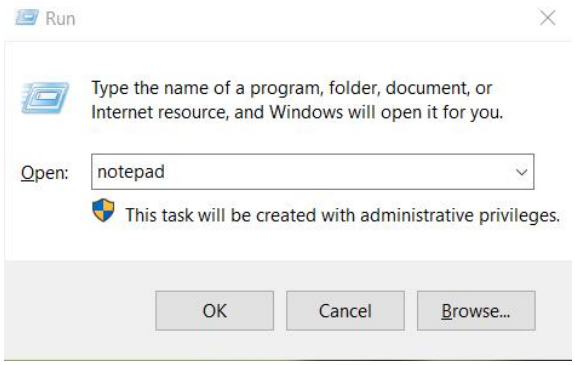
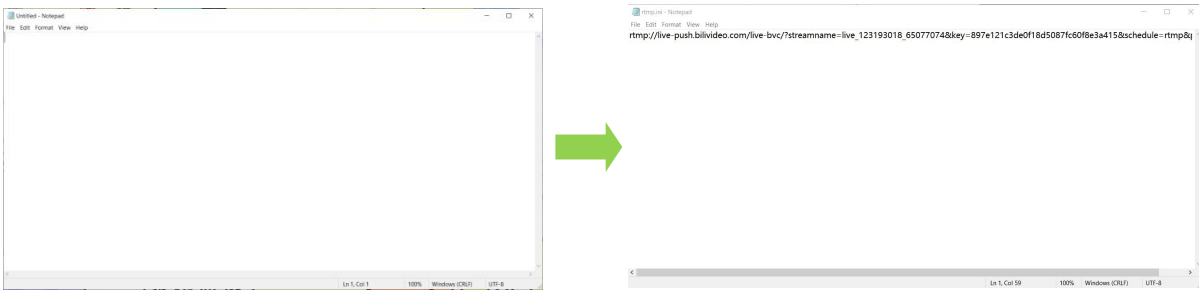


5. Press "Windows" key and "R" key to open "Run" dialog box. Type "notepad" and click the "OK" .

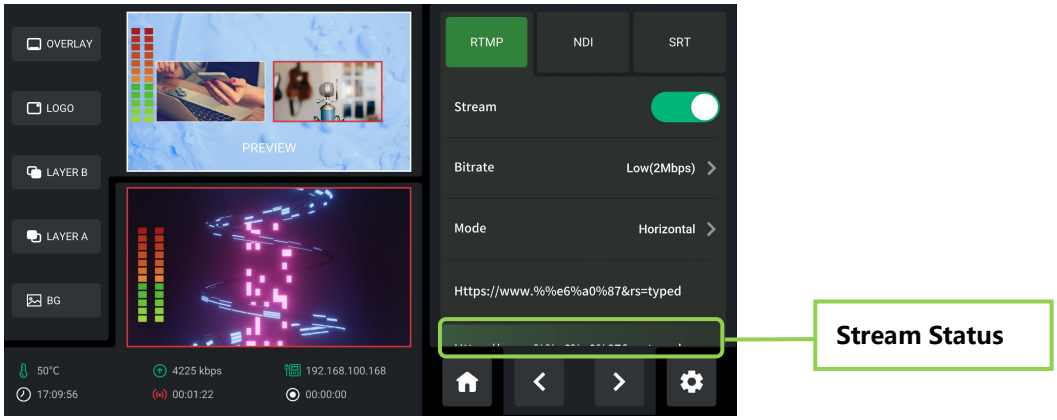


6. Paste the Stream URL and Stream Key in notepad and save file title as **rtmp.ini** (the format must be : rtmp://YOUR STREAM URL/YOUR STREAM KEY). Then copy the file to USB disk.



7. Connect the USB disk to mini-edge’ s USB port.

As shown in the figure below, users can view the imported streaming address and status.



mini-edge supports streaming up to 2 platforms at the same time. Push ON AIR Button on the

front panel to start streaming.

Users can according to the actual situation to adjust the Code Rate and Mode of the live video as needed. For example, if the network speed is slow, the Code Rate can be switched to a lower level.

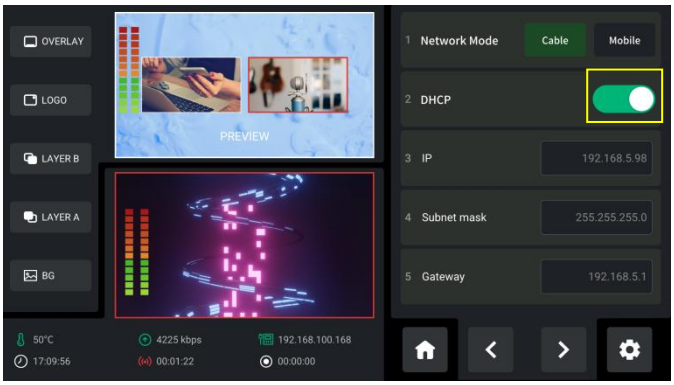
3.10.4 Controlling PTZ Camera During Live

To control PTZ camera while performing live streaming, please make sure PTZ, mini-edge and network are in the same LAN, then turn on DHCP of mini-edge in Network Interface at the same time. (Turning off DHCP will not affect live streaming if the IP address does not conflict)

In Menu, rotate ENTER knob to move the cursor to【SETTING】, then press knob once again. Use ENTER knob to select **Network** to configure IP address.

IP Setting:

Dynamic (IP configured by router) : Connecting mini-edge with a router with DHCP features. Turn on DHCP of mini-edge and the router, then mini-edge will capture an IP address automatically.



Static (set IP freely by yourself): Turn off DHCP to manually set IP address. Then choose “Enter” to confirm your setting.

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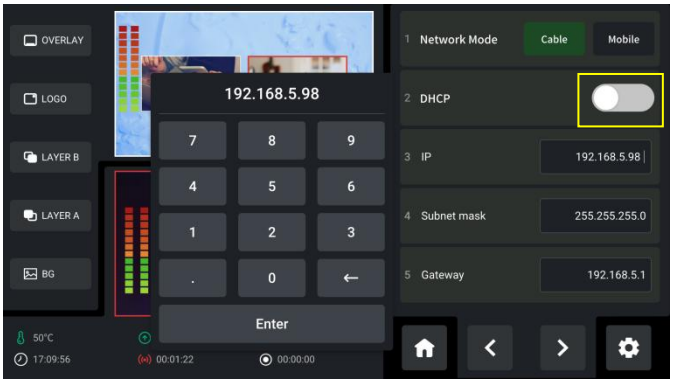

Subnet mask: Set the subnet mask. The default setting is 255.255.255.0.

Gateway: Set the Gateway according to the IP address and subnet mask. For example, if the IP address of mini-edge is 192.168.5.98 and the subnet mask is 255.255.255.0, please set the gateway to 192.168.5.1.

Note:

Please refer to Controlling PTZ Camera for PTZ operations.

3.11 Recording

The mini-edge **supports recording streaming media content** to an external USB storage through the USB 3.0 interface.

The supported format is exFAT. The recorded video will be sectioned after storage up to 4G with each section.

Insert a U disk to USB port labeled number 1. Before recording, format the U-disk first.

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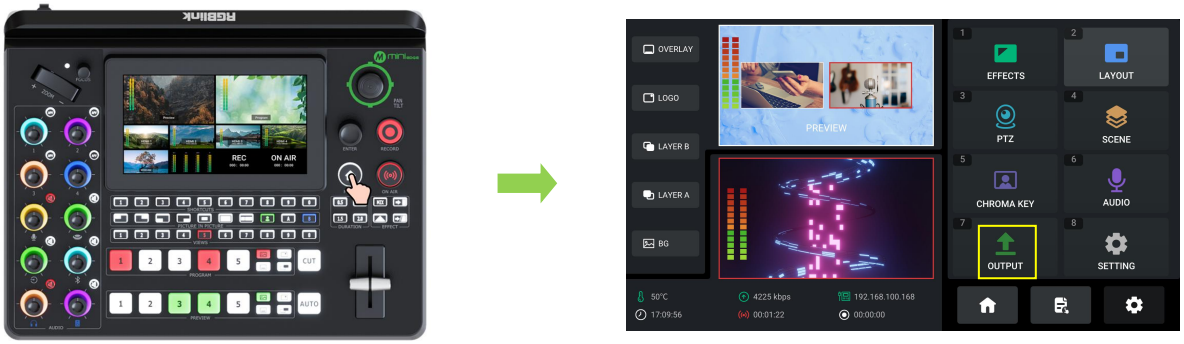
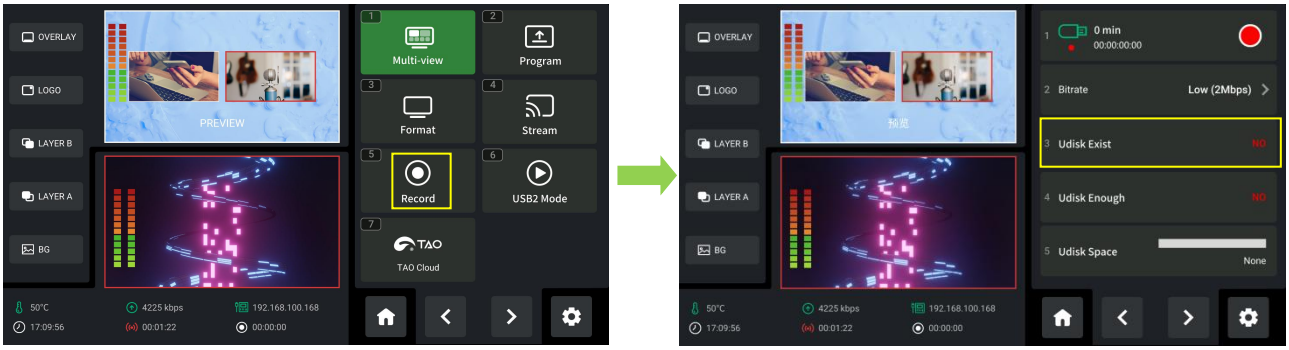
You can directly format U-disk on your mini-edge. The steps are as below:

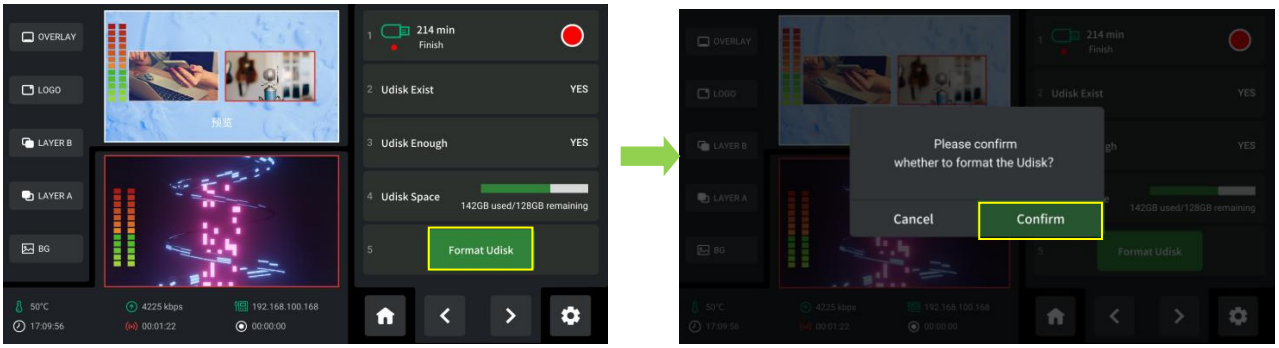
Push MENU Button to enter MENU, rotate ENTER knob to move the cursor to【OUTPUT】, press knob once again to enter the setting interface.



Rotate ENTER knob to move the cursor to【Record】, press knob once again to enter recording configuration interface. If no USB disk is inserted, the interface displays as follows:



Insert one USB disk and do as follows: Set the file system to exFAT and the size of allocation unit to 128kb > Disk formatting > Confirm to format disk.



Warning:

If the U disk cannot be recognized when inserting into mini-edge, use a dual USB cable to power U disk.

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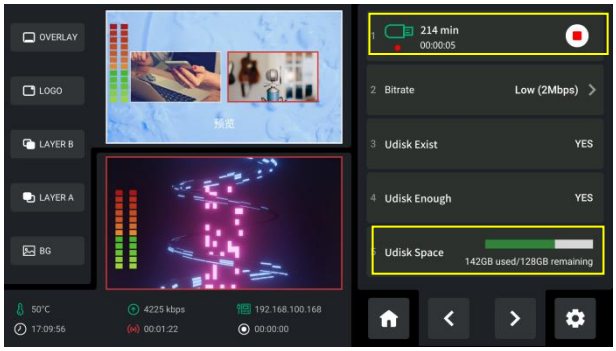
In Recording Interface, the disk information can be captured automatically by mini-edge.

Press Record Button on the control panel to start or stop recording, and you can check recording duration and progress.



3.12 Switch Effect Setting

The user can simply push the Effect Button on the control panel to set transition effect. Or push MENU Button to enter MENU, then rotate ENTER knob to move the cursor to【EFFECTS】, press knob once again for more options.

17 transition effects in total can be selected. Rotate ENTER knob to move the cursor to one effect you need, press knob once again to confirm.

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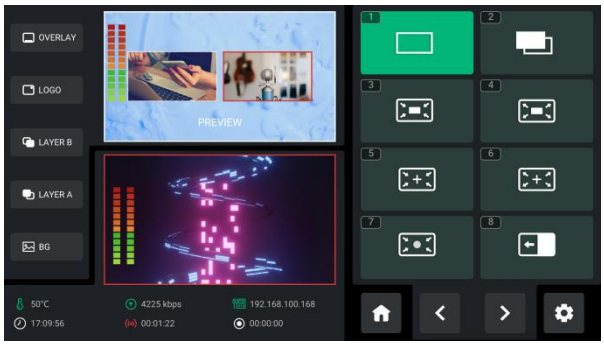

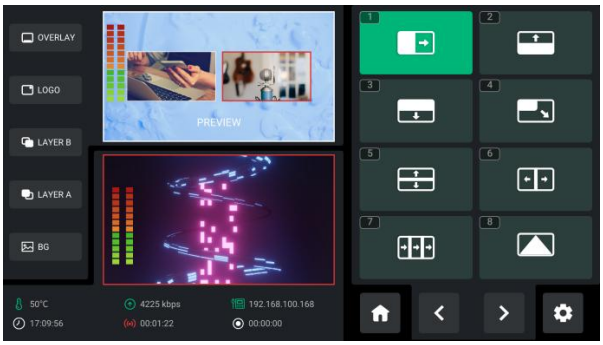

3.13 Audio

mini-edge supports mixed output of multiple channels, and also allows user to check volume meter.

Push MENU Button to enter MENU. Rotate ENTER knob to move the cursor to【AUDIO】, press knob once again to enter audio management interface. The user can aslo gain access to AUDIO by pressing AFV buttons or Mute buttons on the front panel.

As shown in the figure below, the Audio Management Interface is divided into seven parts. Please refer to the following table for operation.

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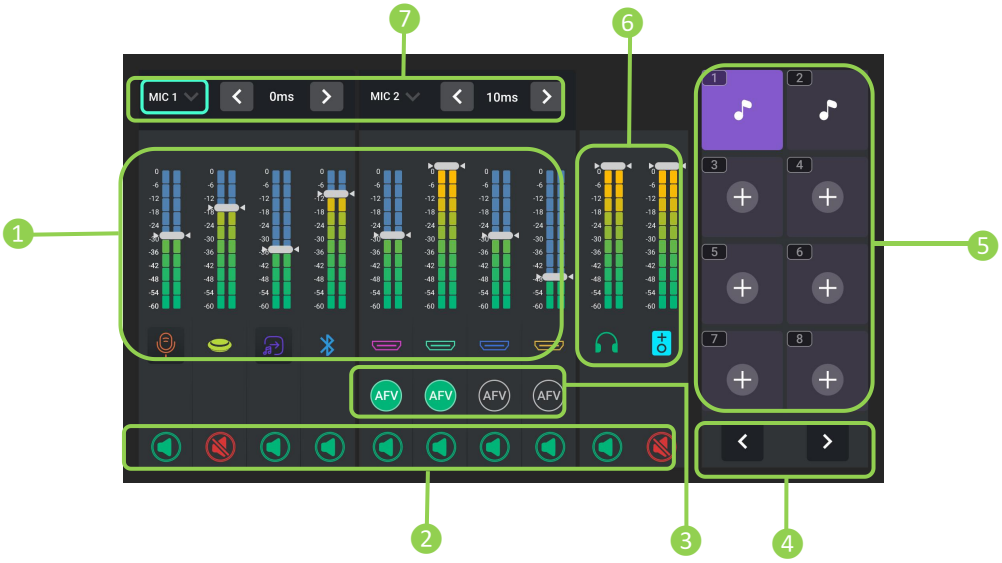

1 Input Audio Meters	● Indicate MIC、UAC、Line-in、Bluetooth、HDMI 1、HDMI 2、HDMI 3、HDMI 4. ● Icon with color below virtual slider indicates there is an active input signal. ● Use control knob on the front panel to adjust volume.
2 Mute Icon	● Icon illuminated green indicates OFF. ● Icon illuminated red indicates ON.
3 AFV Icon	● AFV stands for audio follows video. Enable AFV, the audio follows the video switch to perform a soft gradual transition when video is switched. Disable AFV, the audio will be remained on during and after video switching. ● Set AFV for any HDMI embedded audio so the audio switches with the video source to PVW and PGM automatically. ● Icon illuminated green indicates AFV ON. ● Icon unlit indicates AFV OFF.
4 Page Up/Down	● Use ENTER knob to choose Page Up or Page Down icon to enter different audio clip storage page. ● Use ENTER knob to choose Page Down icon to enter Media for audio management; Use ENTER knob to choose Page Up or Page Down icon to back to Audio.

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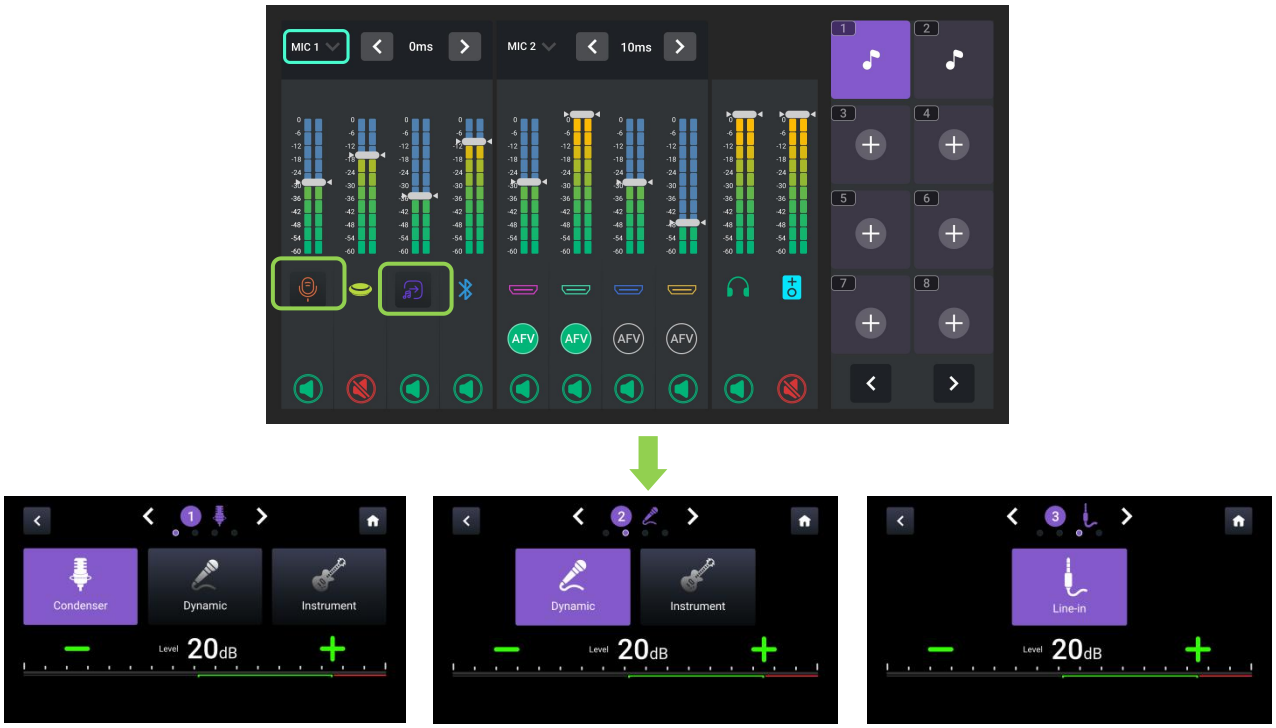
5 Audio Clips	● Audio clip storage and playback area. ● Use ENTER knob to choose one audio clip and play it in Program out. ● Icon in green indicates playing status; icon in white indicates the audio clip has finished playing.
6 Output Audio Meters	Indicate Headphone output and Program output.
7 Audio Delay	● Configure audio delay for MIC, Line-in, HDMI or Bluetooth to keep audio in sync with the video. ● Range: 0~300ms, increase or reduce 10ms each time.

Selecting Microphone and Setting Level

If the sound is too quiet or too loud, you need to control audio level. Select MIC or Line-in input icon to set audio levels for microphone in different types.



"+" and " - " icons are used for increasing or decreasing the audio level for the respective source.

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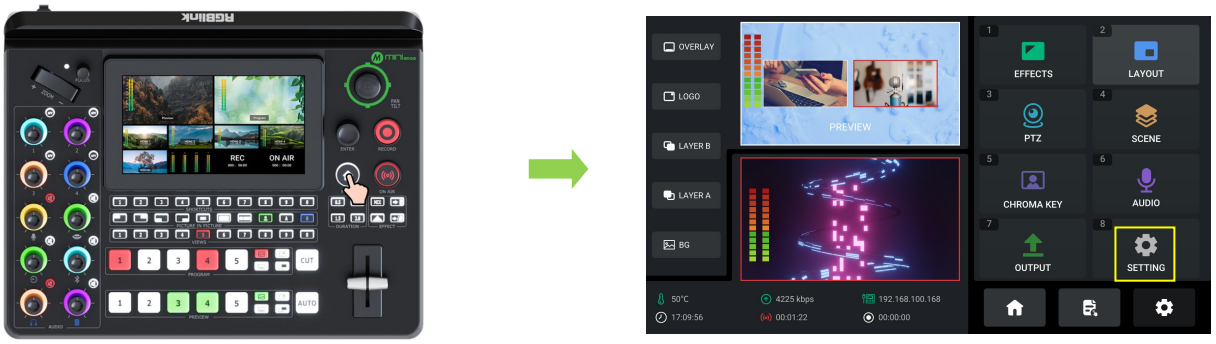
3.14 Setting

Push MENU Button to enter MENU.



Rotate ENTER knob to move the cursor to【SETTING】, press knob once again to enter the setting interface. As shown in the figures below, twelve functions are available, including **About**, **Date&Time**, **Language**, **Network**, **Bluetooth**, **Views Auto Loop**, **Switch Mode**, **Reset**, **Auto Return**, **Fan**, **Display** and **T-Bar Correction**.

3.14.1 About

Rotate ENTER knob to move the cursor to【About】, press knob once again to check information about mini-edge. As shown in the figure below, users can check Device Name and SN serial number. Select Model Version to gain access to upgrade interface.

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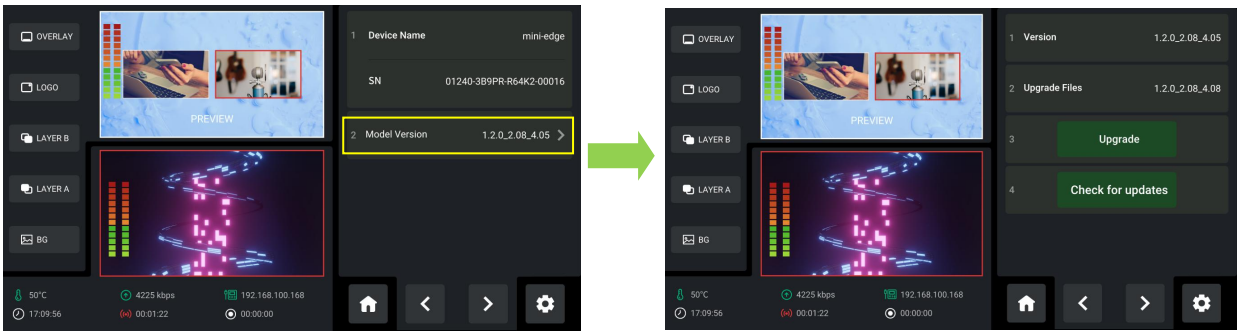
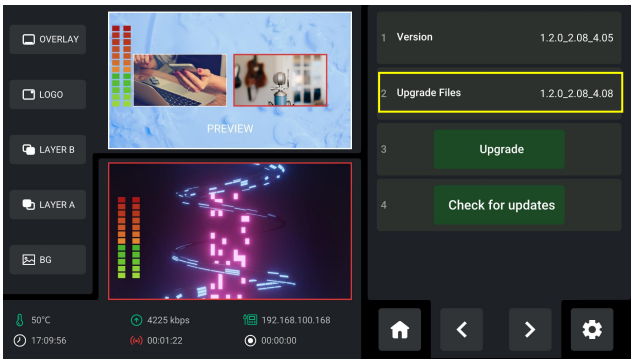


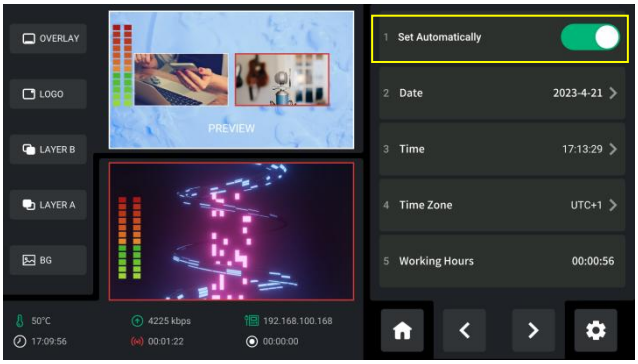
Rotate ENTER knob to move the cursor to【Upgrade files】, press knob once again to upgrade mini-edge.（More details please refer to Upgrade）



3.14.2 Date and Time

Rotate ENTER knob to move the cursor to【Date & Time】, press knob once again to check operating time and set time displayed in mini-edge.

If the device is connected to network, turn on automatic setting switch to synchronize the time.



If the device is not connected to the network, users can set the time manually.

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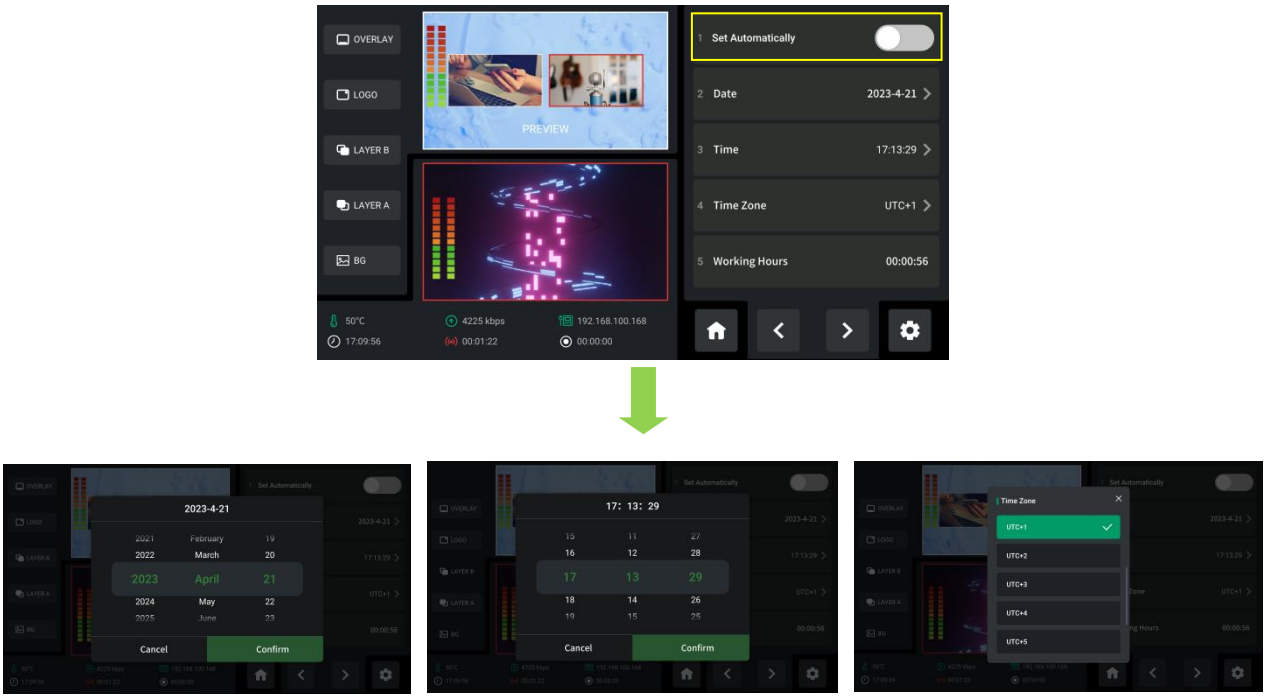
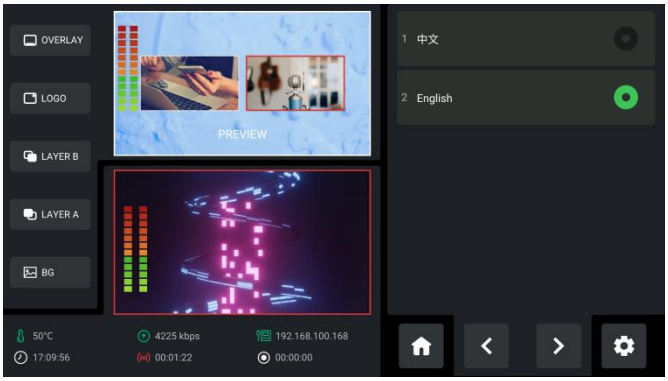


3.14.3 Language

Rotate ENTER knob to move the cursor to【Language】, press knob once again to enter the following interface.



Set system language as English or Chinese.

3.14.4 Bluetooth

Rotate ENTER knob to move the cursor to【Bluetooth】, press knob once again to enter the following interface.

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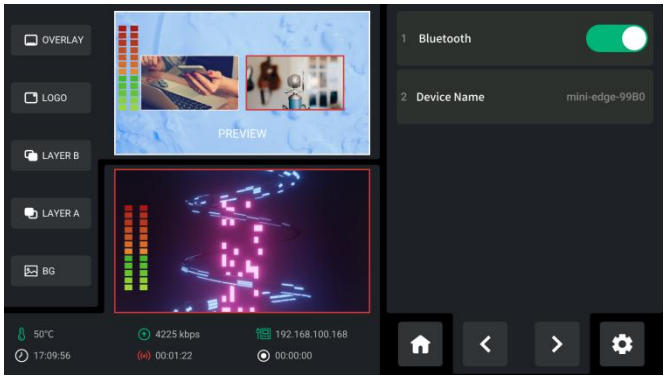
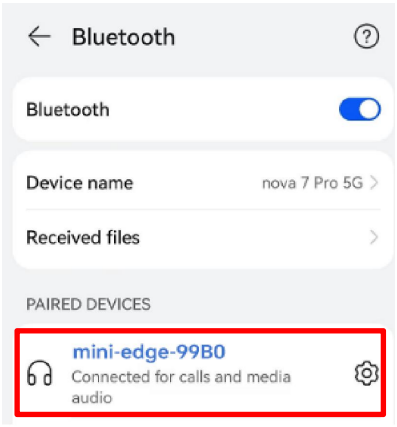


Bluetooth defaults to ON. Turn on Bluetooth on mini-edge and mobile phone to establish a Bluetooth connection. You can check device name in this interface and then select the mini-edge model that needs to be paired in the Bluetooth Setting Interface of the phone.



After successful connection of mini-edge and mobile phone, you can play music via Bluetooth.

Tips:

1. mini-edge is generally named as **mini-edge-XXXX**.
2. If there is no sound when playing music, please use the Channel Fader on the front panel to adjust the BLUETOOTH and PREVIEW volume to an appropriate level.

3.14.5 Views Auto Loop

Choose **Views Auto Loop** to enter the following interface.

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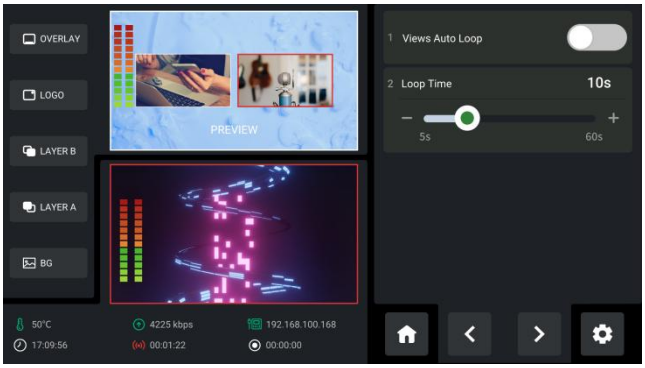
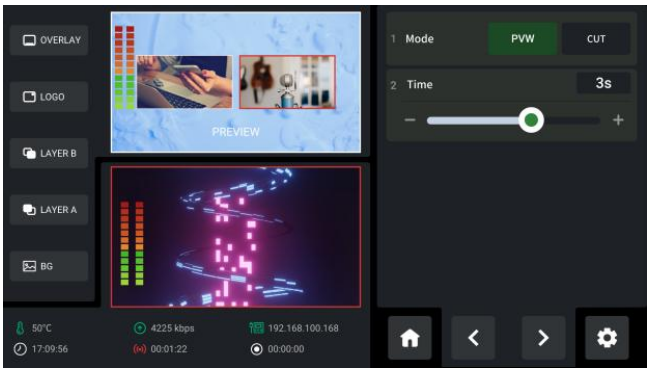


Views Auto Loop refers to the cyclic switching of saved views, allowing users to check multiple screens simultaneously.

Enable the function to set the loop time between views. For example, if the loop time is set to 10 seconds, each view will be displayed for 10 seconds before automatically switching to the next view in a loop. After looping the last view, it will automatically jump to the first view and continue the loop.

3.14.6 Switch Mode

Rotate ENTER knob to move the cursor to【Switch Mode】, press knob once again to enter the following interface.



mini-edge provides T-Bar PVW mode (default) and CUT mode. Select the mode you want and customize switch time as needed.

For some important occasions, users might need to preview and preset the next scene to ensure

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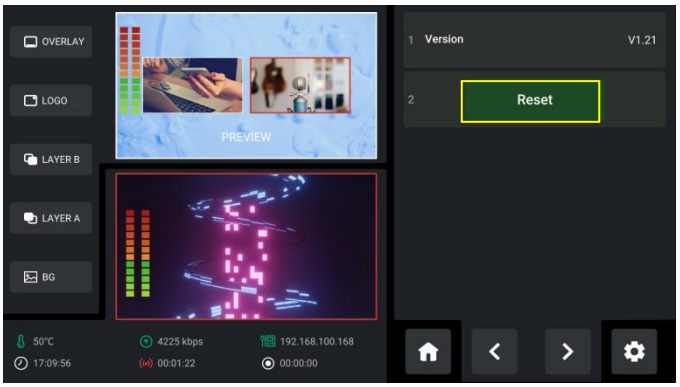
the accuracy and stability of the screen. mini-edge provides T-Bar PVW mode to allow switch after editing and confirmation. When PVW Mode is enabled, all operation could be checked on PVW window. Slide T-Bar to switch between PVW and PGM.

If the user wants t perform a quick switch between PVW and PGM, you can choose CUT mode in this interface and set time to be 0s, or simply press CUT button on the front panel. Then use Button 1~5 on the PREVIEW Source Row to switch input to PROGRAM.

3.14.7 Reset

Rotate ENTER knob to move the cursor to【Rest】, press knob once again to check current version of mini-edge and perform factory reset.



3.14.8 Auto Return

Rotate ENTER knob to move the cursor to【Auto Return】, press knob once again enter the following interface.

The user can disable Auto PVW or set interval to 15s, 30s, 45s or 60s.

As shown in the figure below, the interval is set to 15s. Time’ s up, and the Standby Interface will automatically return to the Main Interface.

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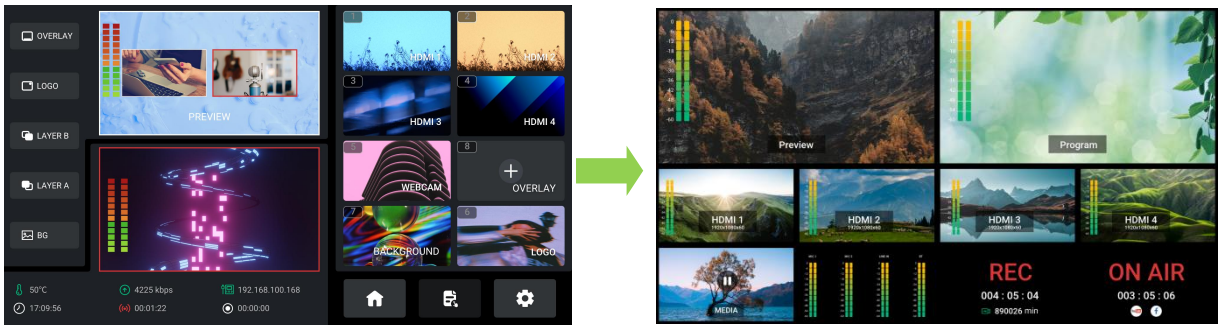
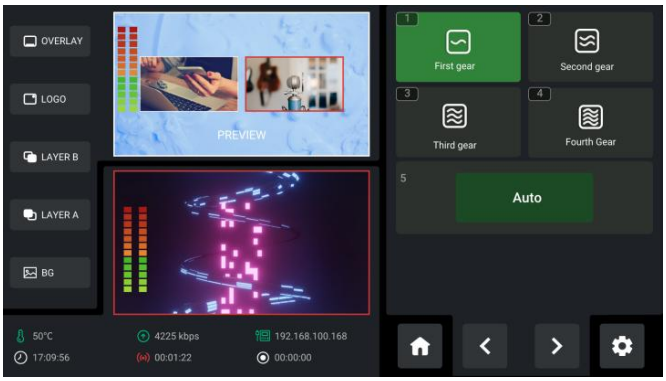


3.14.9 Fan

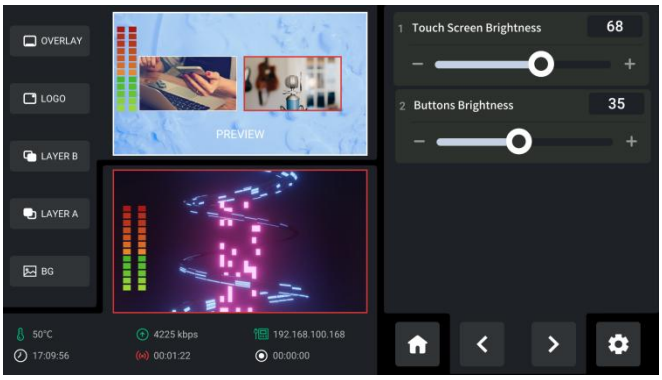
Rotate ENTER knob to move the cursor to【Fan】, press knob once again for fan speed adjustment.



In the fan control interface, four levels of fan speed for users to choose from. Choose **Auto** to achieve automatic adjustment of the fan speed.

3.14.10 Display

Rotate ENTER knob to move the cursor to【Display】, press knob once again to enter the interface below. Use ENTER knob to control brightness of touch screen and buttons.



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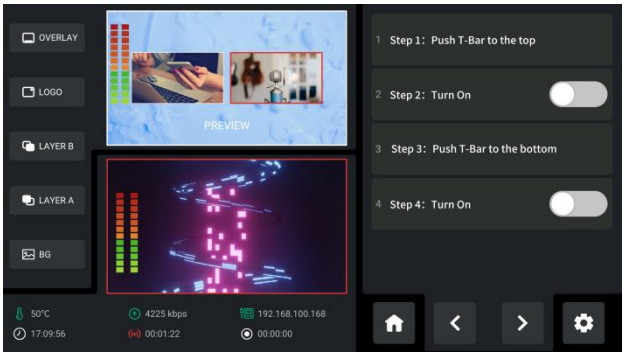
3.14.11 T-Bar Correction

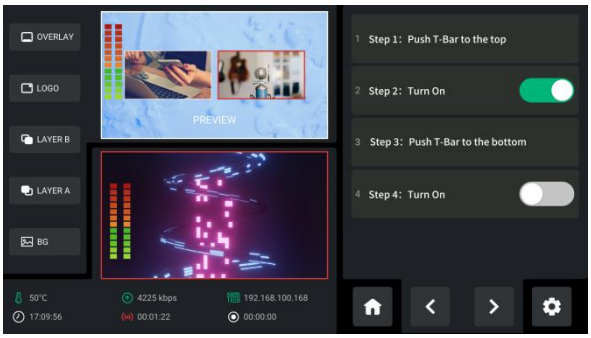
Rotate ENTER knob to move the cursor to【T-Bar Correction】, press knob once again to enter the interface below.



To ensure accuracy during use, T-Bar calibration is necessary before using.

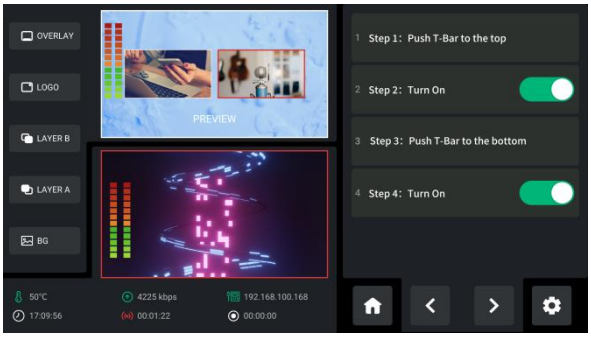
1) Push the T-bar to the most top;

2) Enable swith on Step 2;



3) Push the T-bar to the most bottom;

4) Enable swith on Step 4;



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Chapter 4 Ordering Codes

4.1 Product Code

230-0006-01-0	mini-edge

Chapter 5 Appendix

5.1 Specification

Connectors	Input	HDMI 4K	4×HDMI-A
	Output	HDMI 2K	1×HDMI-A
		USB (Stream)	1×USB-C
		USB (Record)	1×USB-C
	Audio	In	2×6.35mm XLR/6.35mm TRS Jack 1×6.35mm TRS Jack
		Out	1×6.35mm TRS Jack 1×3.5mm mini-Jack
	Communication	LAN	1×RJ45
	Power		1×USB-C
Performance	Input Resolutions	SMPTE VESA	720p@50/60 |1080i@50 | 1080p@23.98/24.97/50/59.94/60 1024×768@60 | 1280×720@60 | 1280×768@60 | 1280×800@60 | 1280×1024@60 | 1360×768@60 |1366×768@60 | 1440×900@60 | 1600×1200@60 | 1680×1050@60 | 1920×1080@60 | 1920×1200@60 | 3840×2160@60 | 4096x2160@60
	Output Resolutions	SMPTE VESA	720p@50/60 | 1080p@24/25/30/50/60 1024×768@60 | 1280×720@60 | 1280×768@60 | 1280×1024@60 | 1360×768@60 | 1920×1080@60
	Video	Video Formats	HDMI 2.0 | HDCP 2.2
		Color Space	RGB 8bit
		Video Sampling	4:4:4 YUV
		Video Latency	<4 frames
	Audio	Line In Delay	up to 8 frames
		Audio Format	HDMI Linear PCM, 24 bits/48 kHz, 2 ch USB Linear PCM, 16 bits/48 kHz, 2 ch
	Record/Storage	Record Formats	MP4 | WAV
		Disk Formats	FAT32(≤32 GB) | exFAT(64GB~2T)
	Supported Standards	HDMI	2.0
		USB	3.0
		H.265	ITU-T H.265/ ISO/IEC 23008-2

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Power	Compatibility	USB Power Delivery (PD) 3.0	
	Supported Cables	Certified USB PD Aware	
	Input Voltage	Type-C 12V/3A	
	Maximum Power	36W	
Working Environment	Temperature	0℃~45℃	
	Humidity	10%~85% RH	
Physical	Weight	Net	1.48kg
		Packaged	2.80kg
	Dimension	Net	280.0mm × 222.6mm × 63.5mm
		Packaged	332.0mm × 238.5mm × 109.0mm

5.2 FAQ

1. Fail to power on mini-edge?

A: The Power Supply included with mini-edge is the recommended power supply to use. If you use other power supply, make sure the power supports 12V 3A. Then check whether the power supply is connected first, and use it correctly according to the power supply standard of your country/region. If still failed to power on mini-edge, please check whether the power cord is damaged. Please contact us if the device is damaged during transportation..

2. If there is a power supply problem with the mini-edge.

A: Please try to change the power adapter (support 36W).

3. mini-edge upgrade notes.

A: Please connect U disk with standard OTG cable for upgrade. If the upgrade file cannot be recognized, please check whether its in .img format; If the file still cannot be recognized, please replace the OTG cable or contact us..

4. mini-edge cannot control PTZ.

A: Please make sure that the IP address of mini-edge and PTZ are in the same network segment.

For example, the IP address of PTZ is 192.168.5.163. Please also set the IP address of mini-edge to 192.168.5.X ((2~254) except163 Outside), confirm on mini XPOSE whether the Visca port number in the PTZ settings is the corresponding port number, for example, the Visca port number of the PTZ of RGBlink is 1259.

5. mini-edge USB 3.0 RECORD cannot recognize U disk.

A：Please format the U disk (exFAT).

6. mini-edge USB 3.0 WEBCAM cannot be recognized/recognized without picture(black picture).

A：Please confirm whether the computer configuration meets the following conditions, if not, please select one of the following methods 6.1)-6.5) for testing:

Windows：

CPU:i5 and above

Memory:8 GB or more

Operating System: Windows 10 64 bit processor or above

Graphics: Support Direct X9 128M or above (open AERO effect)

Hard disk space: Above 16G (primary partitions, NTFS format)

Connector: USB 3.0 or type c

Others: do not run multiple video capture or editing software simultaneously

MAC：

CPU：i5 and above

Connector: USB 3.0 or type c

Operating System: macOS 11.0 Big Sur or later macOS 10.15 Catalina

Others: do not run multiple video capture or editing software simultaneously

6.1)Or use typeC to USB3.0 hub to connect the computer and mini-edge

6.2)Or use USB software->ProcessControl_1.0.0.2 to improve performance of computer(in the attachment)

6.3)Lower the output resolution

6.4)Unplug and plug the USB3.0 cable and re-enter the streaming software.

6.5)Change the USB2.0 cable to do streaming (note that the picture quality is lower than the USB3.0 cable, and the USB2.0 cable is not recommended to use the PVW output)

7. Does mini-edge support HDCP?

A: The HDMI input supports the HDCP protocol, HDMI input 1 port supports HDCP2.X, the other input ports support HDCP1.X, and the output does not support HDCP protocol encryption

8. mini-edge HDMI input what kind of YUV.

A：mini-edge supports 4:4:4，not supports 4:2:0.

9. When mini-edge input is i format signal will be half-screened or cut with the P format signal, the height of the P format will be cut.

A： At present, the latest program can automatically determine the i/P signal source and automatically adjust the cropping value.

10. Can mini-edge control PTZ of Pelco protocol?

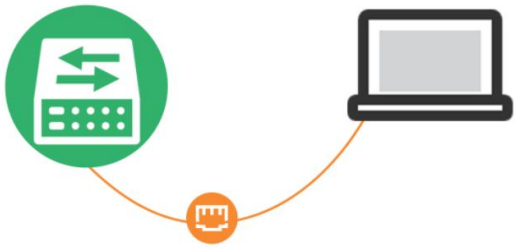
A：Currently, the PTZ controlling this protocol is not supported, mini-edge supports to control Visca protocol PTZ.

11. Insert USB disk for recording into mini-edge, mini-edge turns into black screen?

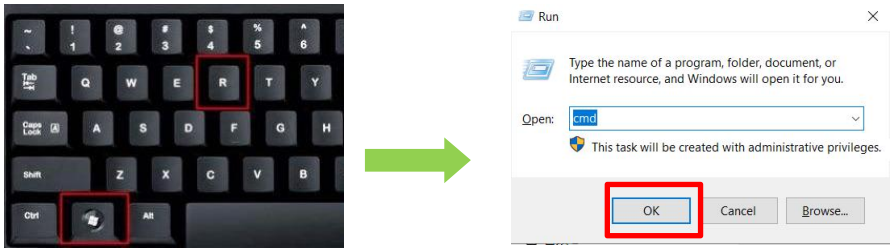
A：It means that the USB disk is in a read-only state, please use computer to unlock the USB disk.

12. Connection is normal but failed to search or recognize the camera?

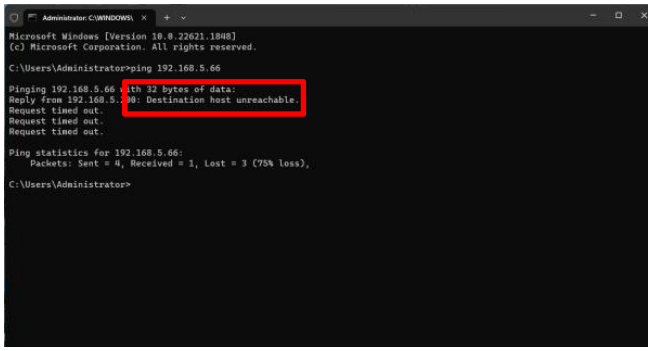
A: 12.1) Connect the switch to the computer.



12.2) Press the "Windows" key and the "R" key to open the "Run" dialog box. Type "cmd" and click the "OK" .



12.3) Enter "ping + IP address " , for example, "ping 192.168.5.66". If the interface shows "Destination host unreachable," it means that the IP has not been occupied.



12.4) Then enter "ping 192.168.5.66" in the "Run" dialog box again. Press "Enter" on the keyboard to access this IP address.

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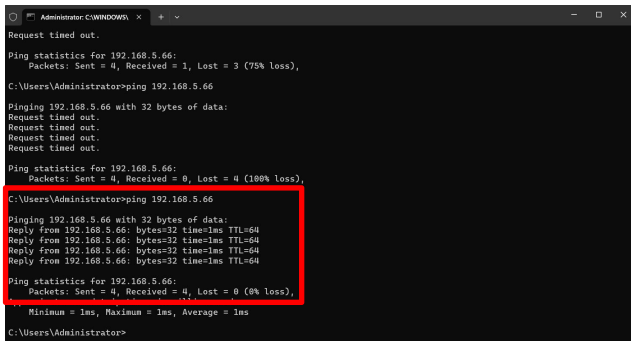

13. How to use stands?

A: 13.1) Tear off the white protective film on the back;

13.2) Attach the adhesive area to mini-edge to provide reliable support and reduce device temperature.

5.3 Upgrade

Tool: USB disk(copy the firmware to the root directory of USB disk)

Approaches for upgrade guideline:

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1) Website

https://rgblink-web.azurewebsites.net/productsinfo.aspx?id=269

2) Dropbox

https://www.dropbox.com/scl/fo/07xkx4n6fcixm816v2yxq/h?rlkey=9qtaewha08wb2n1wqhbue63mn&dl=0

Warning:

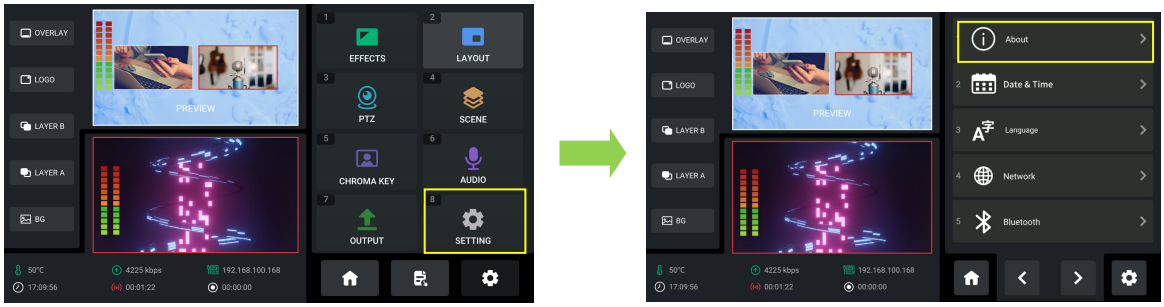
Do not power off during the upgrade process, otherwise mini-edge may be unable to enter the system after booting.

Steps:

1.Copy upgrade package to root directory of USB disk.

2. Power on the device and connect USB disk to USB-C port labeled number 1 by an OTG cable.

3. Push MENU Button to enter MENU. Rotate ENTER knob to move the cursor to【SETTING】, press knob once again and select【About】.



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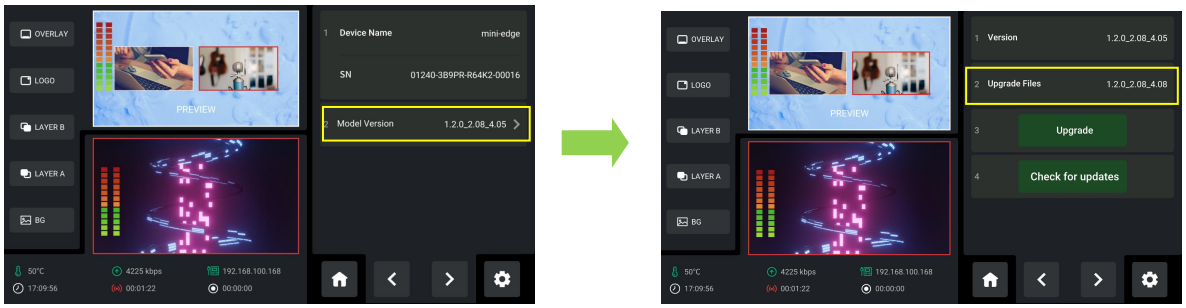
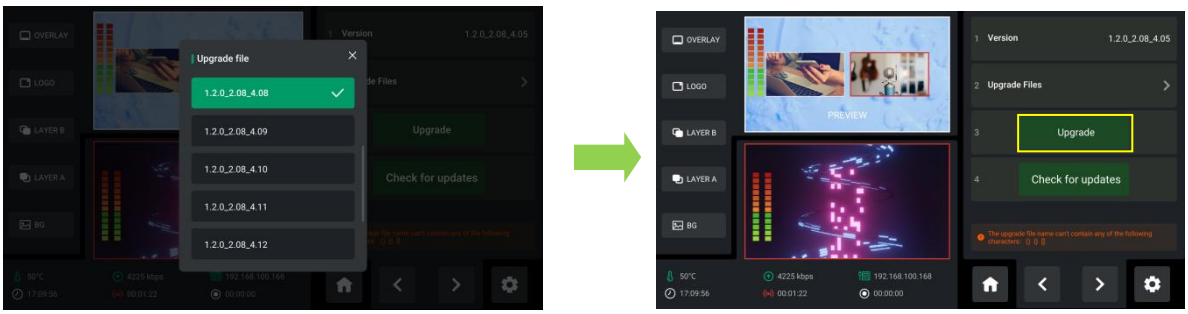
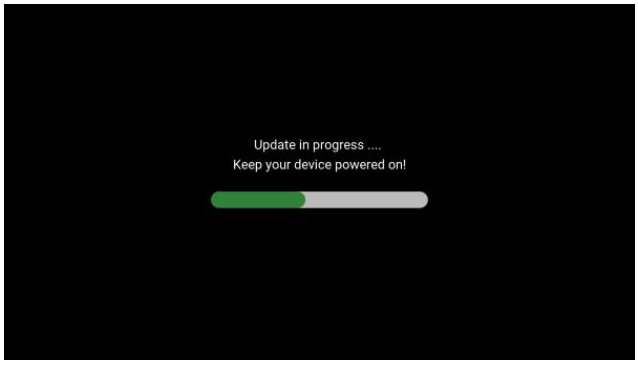
4. Select【Model Version】to check current system version and upgrade file version imported via USB disk. Rotate ENTER knob to move the cursor to【Upgrade files】, press knob once again to enter streaming configuration interface, choose【Upgrade】to upgrade mini-edge.



5. Use ENTER knob to choose Ugrade file and then Upgrade.



6. The upgrade interface is shown in the figure below. Please DO NOT power off the device during upgrade. mini-edge will reboot after upgrade is completed.



5.4 Customized Button Function

The 0~9 buttons on the front panel can be used as shortcut buttons. The user can assign functions to 0~9 buttons via webpage. The webpage is shown as below. **The shortcut functions**

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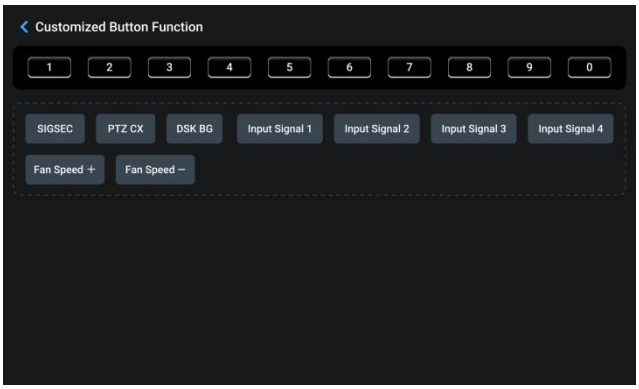
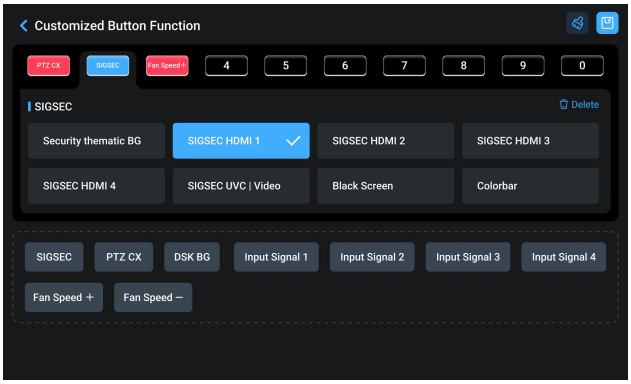
include: SIGSEC, PTZ CX, DSK BG, Input Signal 1, Input Signal 2, Input Signal 3, Input Signal 4, Fan Speed +, Fan Speed-.



Tips:

1. **SIGSEC** refers to Signal Security.
2. **X in PTZ CX** refers to signal channel.

Drag certain function to the button area for function assignment. The user can also assign the function to **multiple** buttons.



- Red color: Contain assigned function
- Blue color: Function being edited currently
- Number button: Available button (no function saved)
- : Click to save settings
- : Click to clear all settings
- Delete: Click to clear current setings

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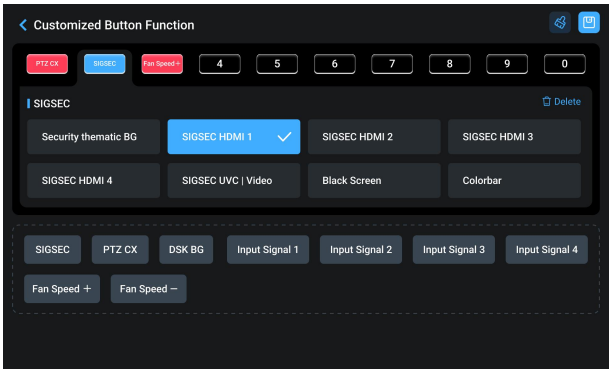
5.4.1 SIGSEC

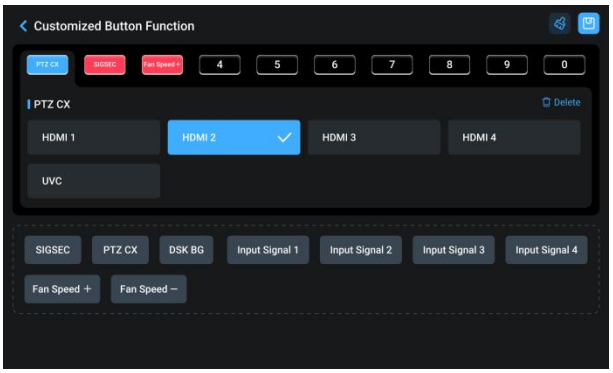
Drag **SIGCEC** into any button from 0~9 to display the menu, shown as below.



- Security Thematic BG: One-click switch to the specific backup signal in case of emergencies.
- SIGSEC HDMI 1~ HDMI 4: PGM output SIGSEC HDMI 1/2/3/4 in full screen in any state
- SIGSEC UVC | Video: Output UVC signal，video
- Black Screen: One-click black screen for PGM
- Colorbar: Static colorbar picture

5.4.2 PTZ Signal

Drag **PTZ CX** into any button from 0~9 to display the menu, shown as below.



The user can choose HDMI or UVC as PTZ signal to access to the corresponding PTZ control interface and enable PTZ control. Then you can use joystick and toggle on the front panel for more specific adjustments.

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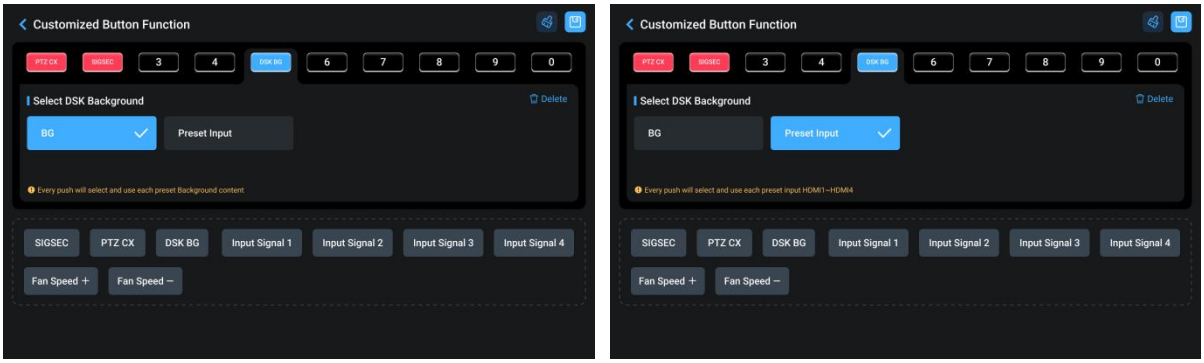
5.4.3 DSK

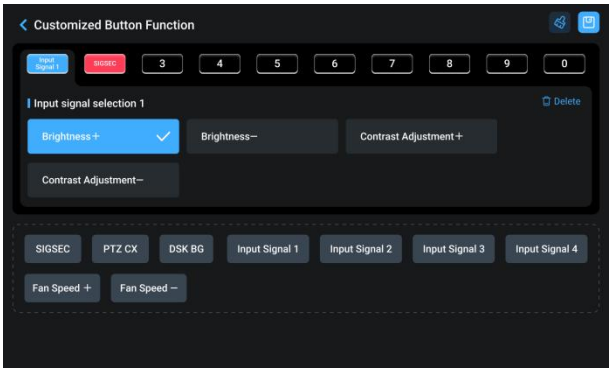
Drag **DSK** into any button from 0~9 to display the menu, shown as below.



- BG Background: Select background preset as signal for chroma key. The user can also switch the background image saved in mini-edge by clicking the button several times, that is, click the button will transition the current background image to the next image.
- Preset Input: HDMI 1~4 input as the preset video signal. Default to input signal of DSK background.

5.4.4 Input Signal Selection

Drag **Input Signal 1/2/3/4** into any button from 0~9 to display the menu. The following figure shows the interface of Input Signal 1.



Users can adjust the brightness and contrast values in this interface.

- Brightness Adjustment +： range from 1~255 (defaults to 128)

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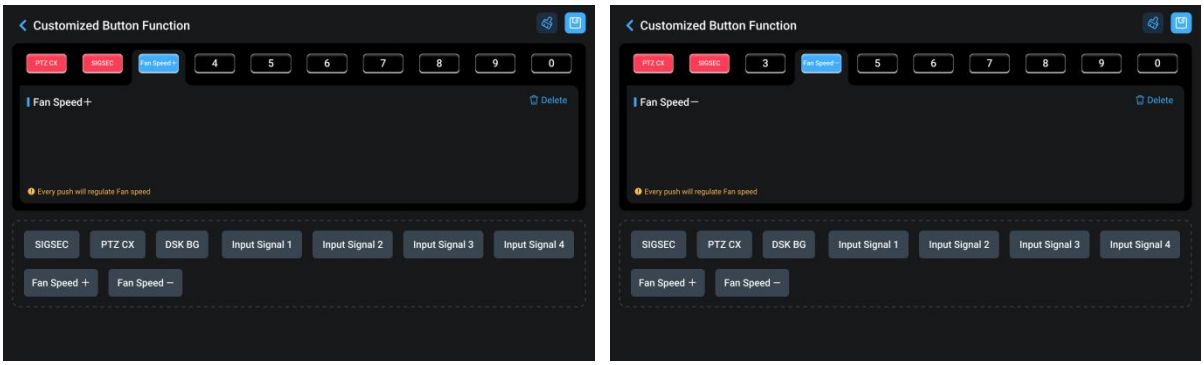
- Brightness Adjustment -: range from 1~255 (defaults to 128)
- Contrast Adjustment +: range from 1~100 (defaults to 50)
- Contrast Adjustment -: range from 1~100 (defaults to 50)

5.4.5 Fan Speed

Drag **Fan Speed+/Fan Speed-** into any button from 0~9 to display the menu.



Users can adjust the fan speed for heat dissipation.

- Fan Speed+: range from 1~5 (defaults to auto)
- Fan Speed-: range from 1~5 (defaults to auto)

5.5 Terms & Definitions

● **RCA:** Connector used primarily in consumer AV equipment for both audio and video. The RCA connector was developed by the Radio Corporation of America.

●**BNC:** Stands for Bayonet Neill-Concelman. A cable connector used extensively in television (named for its inventors). A cylindrical bayonet connector that operates with a twist-locking motion .

●**CVBS:** CVBS or Composite video, is an analog video signal without audio. Most commonly CVBS is used for transmission of standard definition signals. In consumer applications the connector is typically RCA type, while in professional applications the connector is BNC type.

●**YPbPr:** Used to describe the colour space for progressive-scan. Otherwise known as component video.

● **VGA:** Video Graphics Array. VGA is an analog signal typically used on earlier computers. The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using in mode.

●**DVI:** Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital

Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.

●**SDI:** Serial Digital Interface. Standard definition video is carried on this 270 Mbps data transfer rate. Video pixels are characterized with a 10-bit depth and 4:2:2 color quantization. Ancillary data is included on this interface and typically includes audio or other metadata. Up to sixteen audio channels can be transmitted. Audio is organised into blocks of 4 stereo pairs. Connector is BNC.

●**HD-SDI:** High-definition serial digital interface (HD-SDI), is standardized in SMPTE 292M this provides a nominal data rate of 1.485 Gbit/s.

●**3G-SDI:** Standardized in SMPTE 424M, consists of a single 2.970 Gbit/s serial link that allows replacing dual link HD-SDI.

●**6G-SDI:** Standardized in SMPTE ST-2081 released in 2015, 6Gbit/s bitrate and able to support 2160p@30.

●**12G-SDI:** Standardized in SMPTE ST-2082 released in 2015, 12Gbit/s bitrate and able to support 2160p@60.

●**U-SDI:** Technology for transmitting large-volume 8K signals over a single cable. a signal interface called the ultra high definition signal/data interface (U-SDI) for transmitting 4K and 8K signals using a single optical cable. The interface was standardized as the SMPTE ST 2036-4.

●**HDMI:** High Definition Multimedia Interface: An interface used for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable.

● **HDMI 1.3:** Released on June 22 2006, and increased the maximum TMDS clock to 340 MHz (10.2 Gbit/s). Support resolution 1920 × 1080 at 120 Hz or 2560 × 1440 at 60 Hz). It added support for 10 bpc, 12 bpc, and 16 bpc color depth (30, 36, and 48 bit/px), called deep color.

●**HDMI 1.4:** Released on June 5, 2009, added support for 4096 × 2160 at 24 Hz, 3840 × 2160 at 24, 25, and 30 Hz, and 1920 × 1080 at 120 Hz. Compared to HDMI 1.3, 3 more features added which are HDMI Ethernet Channel (HEC) , audio return channel (ARC),3D Over HDMI, a new Micro HDMI Connector, an expanded set of color spaces.

●**HDMI 2.0:** Released on September 4, 2013 increases the maximum bandwidth to 18.0 Gbit/s. Other features of HDMI 2.0 include up to 32 audio channels, up to 1536 kHz audio sample frequency, the HE-AAC and DRA audio standards, improved 3D capability, and additional CEC functions.

●**HDMI 2.0a:** Was released on April 8, 2015, and added support for High Dynamic Range (HDR) video with static metadata.

●**HDMI 2.0b:** Was released March, 2016, support for HDR Video transport and extends the static metadata signaling to include Hybrid Log-Gamma (HLG).

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● **HDMI 2.1:** Released on November 28, 2017. It adds support for higher resolutions and higher refresh rates, Dynamic HDR including 4K 120 Hz and 8K 120 Hz.

●**DisplayPort:** A VESA standard interface primarily for video, but also for audio, USB and other data. DisplayPort (orDP) is backwards compatible with HDMI, DVI and VGA.

●**DP 1.1:** Was ratified on 2 April 2007, and version 1.1a was ratified on 11 January 2008. DisplayPort 1.1 allow a maximum bandwidth of 10.8 Gbit/s (8.64 Gbit/s data rate) over a standard 4-lane main link, enough to support 1920x1080@60Hz

●**DP 1.2:** Introduced on 7 January 2010, effective bandwidth to 17.28 Gbit/s support increased resolutions, higher refresh rates, and greater color depth, maximum resolution 3840 × 2160@60Hz

● **DP 1.4:** Publish on 1 Mar, 2016.overall transmission bandwidth 32.4 Gbit/s ,DisplayPort 1.4 adds support for Display Stream Compression 1.2 (DSC), DSC is a "visually lossless" encoding technique with up to a 3:1 compression ratio. Using DSC with HBR3 transmission rates, DisplayPort 1.4 can support 8K UHD (7680 × 4320) at 60 Hz or 4K UHD (3840 × 2160) at 120 Hz with 30 bit/px RGB color and HDR. 4K at 60 Hz 30 bit/px RGB/HDR can be achieved without the need for DSC.

● **Multi-mode Fiber:** Fibers that support many propagation paths or transverse modes are called multi-mode fibers, generally have a wider core diameter and are used for short-distance communication links and for applications where high power must be transmitted.

●**Single-mode Fiber:** Fiber that support a single mode are called single-mode fibers. Single-mode fibers are used for most communication links longer than 1,000 meters (3,300 ft).

● **SFP:** Small form-factor pluggable , is a compact, hot-pluggable network interface module used for both telecommunication and data communications applications.

● **Optical Fiber Connector:** Terminates the end of an optical fiber, and enables quicker connection and disconnection than splicing. The connectors mechanically couple and align the cores of fibers so light can pass. 4 most common types of optical fiber connectors are SC, FC, LC,ST.

●**SC:** (Subscriber Connector), also known as the square connector was also created by the Japanese company – Nippon Telegraph and Telephone. SC is a push-pull coupling type of connector and has a 2.5mm diameter. Nowadays, it is used mostly in single mode fiber optic patch cords, analog, GBIC, and CATV. SC is one of the most popular options, as its simplicity in design comes along with great durability and affordable prices.

●**LC:** (Lucent Connector) is a small factor connector (uses only a 1.25mm ferrule diameter) that has a snap coupling mechanism. Because of its small dimensions, it is the perfect fit for high-density connections, XFP, SFP, and SFP+ transceivers.

●**FC:** (Ferrule Connector) is a screw type connector with a 2.5mm ferrule. FC is a round shaped threaded fiber optic connector,mostly used on Datacom, telecom, measurement equipment, single-mode laser.

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●**ST:** (Straight Tip) was invented by AT&T and uses a bayonet mount along with a long spring-loaded ferrule to support the fiber.

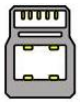
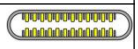
●**USB:** Universal Serial Bus is a standard that was developed in the mid-1990s that defines cables, connectors and communication protocols. This technology is designed to allow a connection, communication and power supply for peripheral devices and computers.

●**USB 1.1:** Full–Bandwidth USB, specification was the first release to be widely adopted by the consumer market. This specification allowed for a maximum bandwidth of 12Mbps.

●**USB 2.0:** or Hi–Speed USB, specification made many improvements over USB 1.1. The main improvement was an increase in bandwidth to a maximum of 480Mbps.

●**USB 3.2:** Super Speed USB with 3 varieties of 3.2 Gen 1(original name USB 3.0), 3.2Gen 2(original name USB 3.1), 3.2 Gen 2x2 (original name USB 3.2) with speed up to 5Gbps,10Gbps,20Gbps respectively.

USB version and connectors figure:

	Type A	Type B	Mini A	Mini B	Micro-A	Micro -B	Type C
USB 2.0							
USB 3.0							
USB 3.1&3.2							

●**NTSC:** The colour video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. NTSC utilizes an interlaced video signals.

●**PAL:** Phase Alternate Line. A television standard in which the phase of the colour carrier is alternated from line to line. It takes four full images (8 fields) for the colour-to-horizontalimages (8 fields) for the colour-to-horizontal phase relationship to return to the reference point. This alternation helps cancel out phase errors. For this reason, the hue control is not needed on a PAL TV set. PAL, is widely used in needed on a PAL TV set. PAL, is widely used in Western Europe, Australia, Africa, the Middle East, and Micronesia. PAL uses 625-line, 50-field (25 fps) composite colour transmission system.

●**SMPTE:** Society of Motion image and Television Engineers. A global organization, based in the United States, that sets standards for baseband visual communications. This includes film as well as video and television standards.

●**VESA:** Video Electronics Standards Association. An organization facilitating computer graphics through standards.

●**HDCP:** High-bandwidth Digital Content Protection (HDCP) was developed by Intel Corporation an is in wide use for protection of video during transmission between devices.

●**HDBaseT:** A video standard for the transmission of uncompressed video (HDMI signals) and related features using Cat 5e/Cat6 cabling infrastructure.

●**ST2110:** A SMPTE developed standard, ST2110 describes how to send digital video over and IP networks. Video is transmitted uncompressed with audio and other data in a separate streams.
SMPTE2110 is intended principally for broadcast production and distribution facilities where quality and flexibility are more important.

● **SDVoE:** Software Defined Video over Ethernet (SDVoE) is a method for transmission, distribution and management AV signals using a TCP/IP Ethernet infrastructure for transport with low latency. SDVoE is commonly used in integration applications.

●**Dante AV:** The Dante protocol was developed for and widely adopted in audio systems for the transmission of uncompressed digital audio on IP based networks. The more recent Dante AV specification includes support for digital video.

●**NDI:** Network Device interface (NDI) is a software standard developed by NewTek to enable video-compatible products to communicate, deliver, and receive broadcast quality video in a high quality, low latency manner that is frame-accurate and suitable for switching in a live production environment over TCP (UDP) Ethernet based networks. NDI is commonly found in broadcast applications.

●**RTMP:** Real-Time Messaging Protocol (RTMP) was initially a proprietary protocol developed by Macromedia (now Adobe) for streaming audio, video and data over the Internet, between a Flash player and a server.

●**RTSP:** The Real Time Streaming Protocol (RTSP) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers. The protocol is used for establishing and controlling media sessions between end points.

●**MPEG:** Moving Picture Experts Group is a working group formed from ISO and IEC developing standards that allow audio/video digital compression and Transmission.

●**H.264:** Also known as AVC (Advanced Video Coding) or MPEG-4i is a common video compression standard. H.264 was standardized by the ITU-T Video Coding Experts Group (VCEG) together with the ISO/IEC JTC1 Moving Picture Experts Group (MPEG).

●**H.265:** Also known as **HEVC** (High Efficiency Video Coding) H.265 is the successor to the widely used

H.264/AVC digital video coding standard. Developed under the auspices of ITU, resolutions up to 8192x4320 may be compressed.

●**API:** An Application Programming Interface (API) provides a predefined function which allows access capabilities and features or routines via a software or hardware, without accessing source code or understanding the details of inner working mechanism. An API call may execute a function and/or provide data feedback/report.

●**DMX512:** The communication standard developed by USITT for entertainment and digital lighting systems.The wide adoption of the Digital Multiplex (DMX) protocol has seen the protocol used for a wide range of other devices including video controllers. DMX512 is delivered over cable of 2 twisted pairs with 5pin XLR cables for connection.

●**ArtNet:** An ethernet protocol based on TCP/IP protocol stack, mainly used in entertainment/events applications. Built on the DMX512 data format, ArtNet enables multiple "universes" of DMX512 to be transmitted using ethernet networks for transport.

●**MIDI:** MIDI is the abbreviation of Musical Instrument Digital Interface. As the name indicates the protocol was developed for communication between electronical musical instruments and latterly computers. MIDI instructions are triggers or commands sent over twisted pair cables, typically using 5pin DIN connectors.

●**OSC:** The principle of Open Sound Control (OSC) protocol is for networking sound synthesizers, computers, and multimedia devices for musical performance or show control. As with XML and JSON, the OSC protocol allows sharing data. OSC is transported via UDP packets between devices connected on an Ethernet.

●**Brightness:** Usually refers to the amount or intensity of video light produced on a screen without regard to colour. Sometimes called black level.

●**Contrast Ratio:** The ratio of the high light output level divided by the low light output level. In theory, the contrast ratio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.

●**Colour Temperature:** The colour quality, expressed in degrees Kelvin (K), of a light source. The higher the colour temperature, the bluer the light. The lower the temperature, the redder the light. Benchmark colour temperature for the A/V industry include 5000°K, 6500°K, and 9000°K.

●**Saturation:** Chroma, Chroma gain. The intensity of the colour, or the extent to which a given colour in any image is free from white. The less white in a colour, the truer the colour or the greater its saturation. Saturation is the amount of pigment in a colour, and not the intensity.

●**Gamma:** The light output of a CRT is not linear with respect to the voltage input. The difference between

what you should have and what is actually output is known as gamma.

●**Frame:** In interlaced video, a frame is one complete image.A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still image of a series that makes up a motion image.

●**Genlock:** Allows synchronisation of otherwise video devices. A signal generator provides a signal pulses which connected devices can reference. Also see Black Burst and Color Burst.

●**Blackburst:** The video waveform without the video elements.It includes the vertical sync, horizontal sync, and the Chroma burst information. Blackburst is used to synchronize video equipment to align the video output.

●**Colour Burst:** In colour TV systems, a burst of subcarrier frequency located on the back part of the composite video signal. This serves as a colour synchronizing signal to establish a frequency and phase reference for the Chroma signal. Colour burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.

●**Colour Bars:** A standard test pattern of several basic colours (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly used colour bars are the SMPTE standard colour bars. In PAL video, the most commonly used colour bars are eight full field bars. On computer monitors the most commonly used colour bars are two rows of reversed colour bars

●**Seamless Switching:** A feature found on many video switchers. This feature causes the switcher to wait until the vertical interval to switch. This avoids a glitch (temporary scrambling) which often is seen when switching between sources.

●**Scaling:** A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.

●**PIP:** Picture-In-Picture. A small image within a larger image created by scaling down one of image to make it smaller. Other forms of PIP displays include Picture-By-Picture (PBP) and Picture- With-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.

● **HDR:** is a high dynamic range (HDR) technique used in imaging and photography to reproduce a greater dynamic range of luminosity than what is possible with standard digital imaging or photographic techniques. The aim is to present a similar range of luminance to that experienced through the human visual system.

●**UHD:** Standing for Ultra High Definition and comprising 4K and 8K television standards with a 16:9 ratio, UHD follows the 2K HDTV standard. A UHD 4K display has a physical resolution of 3840x2160 which is four times the

area and twice both the width and height of a HDTV/FullHD (1920 x1080) video signal.

●**EDID:** Extended Display Identification Data. EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the provided EDID data, ensuring proper video image quality.

5.6 Revision History

The table below lists the changes to the User Manual.

Format	Time	ECO#	Description	Principal
V1.0	2024-02-07	0000#	First release.	Aster
V1.1	2024-02-07	0001#	1. Update front panel description. 2. Update "Adding Layers".	Aster
V1.2	2024-03-27	0002#	Add Customized Button Function	Aster

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