mini EDGE SDI

User Manual

RGBlink®

Since April 1, 2025, the system of mini-edge models will be upgraded to the system of mini-edge SDI.

For mini-edge models already purchased or for which the purchasing needs were submitted to RGBlink before April 1, 2025, please contact your local sales representatives for solutions.

Since April 1, 2025, please use mini-edge SDI models and related material and pricing system.

Attention please:

1. mini-edge devices do not have SDI input connectors and the embedded system cannot support any SDI operations. You can not set IN1~IN4 of a mini-edge as SDI inputs. If necessary, please purchase a mini-edge SDI instead.

2. The silkscreens of mini-edge and mini-edge SDI will be unified to that of mini-edge SDI. You can distinguish between the two models by checking whether your device has SDI input connectors.

Content

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

★Power Adapter

USB-C to USB-C Cable

★Stands

Quick Start

Notes:

1. The standard power supply can **ONLY** be used with the mini-edge SDI, and cannot be used for powering other devices simultaneously. RGBlink disclaim all responsibility for instability or damage caused by improper use.

2. For desktop applications:

   2.1 It is recommended to use portable stands for better heat dissipation and more stable space when using the device in various desktop applications. The installation steps are as follows:

   a. Tear off the white protective film on the back;

b. Attach the adhesive area to mini-edge SDI to provide support and reduce device temperature.

2.2 We also strongly recommend you to use the mini-EFP. With the mini-edge SDI model installed, it delivers enhanced stability and security for content production. This shock-resistant portable solution serves as an all-terrain production helper, ideal for diverse scenarios including music festivals, outdoor weddings, sports events, and other field productions.

For more details about mini-EFP, please go to the website: https://rgblink-web.azurewebsites.net/productsinfo.aspx?id=280.

3. For other non-desktop applications, please consult your sales representatives for the best solutions suited the actual scenarios.

1.2 Product Overview

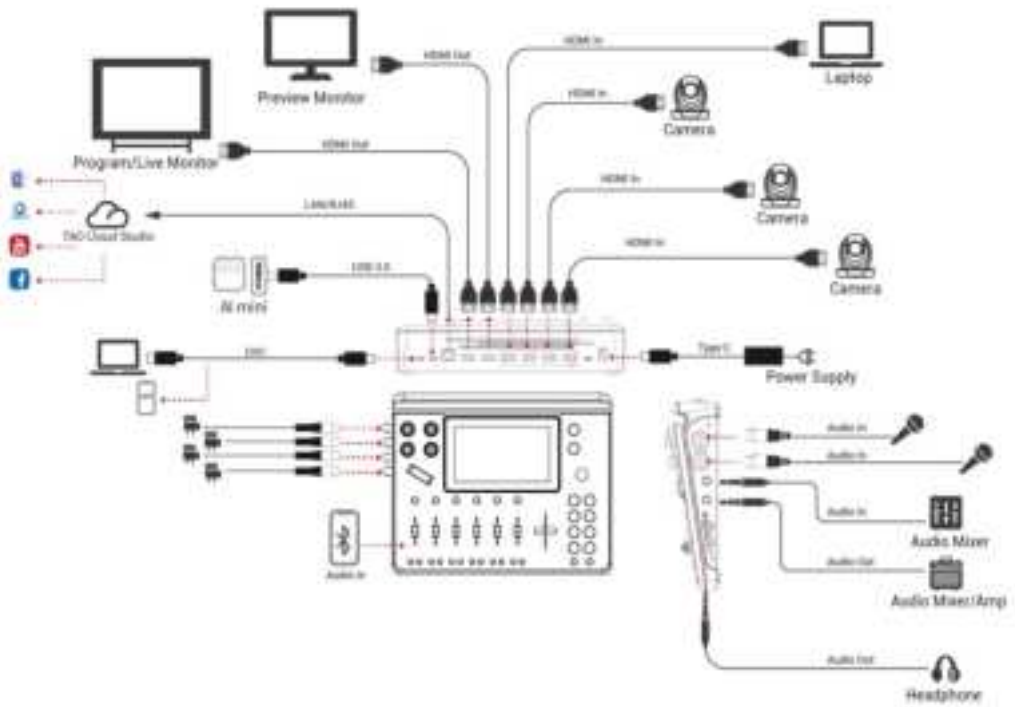
mini-edge SDI features four 4K HDMI 2.0 inputs and four 3G-SDI inputs, one UVC and one NDI bi-direction input & output, supporting digital embedded audio and video signals from PC, Camera and more. Also analog audio by 1 x Phantom,1 x Line in and 1 x Mic, and a Bluetooth audio.

There are two separate HDMI outputs for multi-viewer Preview, Program or Test Pattern. One USB 3.0 output supports YUY2 and MJPEG capture formats, which can be recognized as a webcam for streaming to Facebook, YouTube, ZOOM, etc.

The UVC can be used bidirectionally for USB disk recording, wireless speaker and wireless microphone. This function can be applied to devices such as RGBlink AI mini. The Ethernet port with NDI license enable is bi-direction too, which ensures that the NDI encoder and decoder can work at the same time. mini-edge SDI is built in with 5.5-inch TFT panel for menu operation and multiviewer video display.

Compared with mini-edge, mini-edge SDI has 4 more 3G SDI inputs, a ready-to-be-licensed bidirectional NDI, and also noise reduction for audio inputs. Else it features dynamic output control, multi-view preview, picture in picture, chroma key, transitions, on board PTZ camera controls and much more.

mini-edge SDI is webAPP ready. It is also integrated with TAO Cloud for remote control and can stream to at least 4 content platforms at the same time.

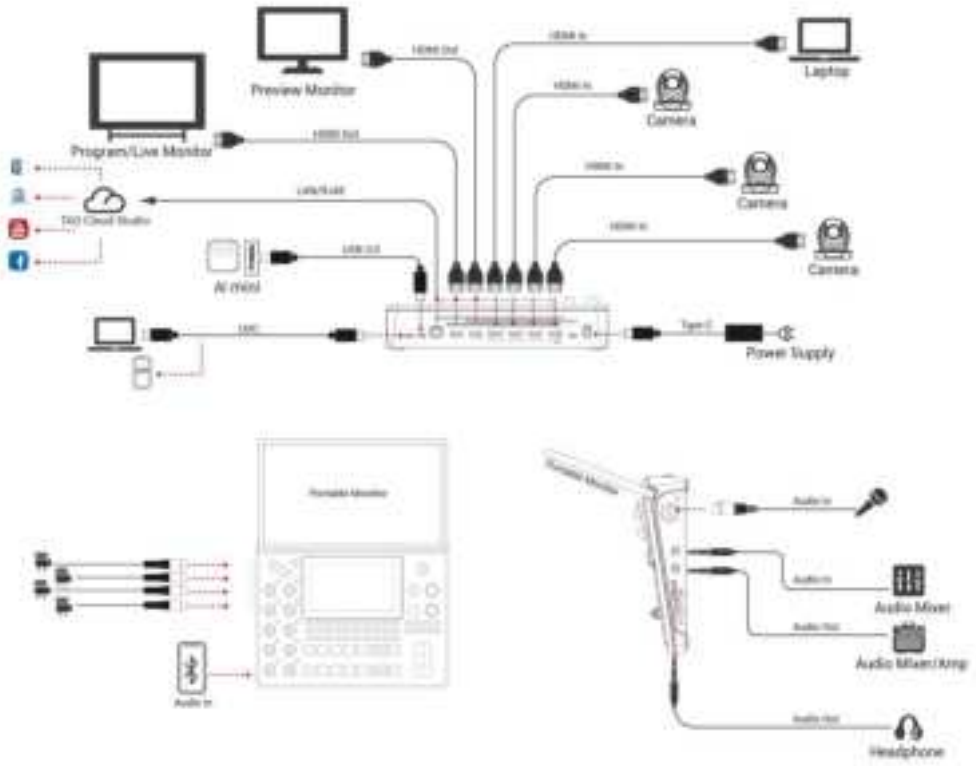


Notes:

1. If using 4 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 one platform.
3. To stream to multiple platform, it is recommended to use TAO Cloud Studio.

1.2.1 Application

mini-edge SDI features multiple connectors for versatile applications. Refer to Chapter two Install Your Products for the connections of the connectors.



On top of the front panel of mini-edge SDI, there's a slot for inserting RGBlink's portable monitor. This allows users to have a larger screen for monitoring purposes.The Type-C interface on the display can be used to supply power to the monitor and also transmit audio and video signals. Meanwhile, the mini HDMI interface is highly versatile and can be compatible with most devices such as HD TVs and HD cameras.

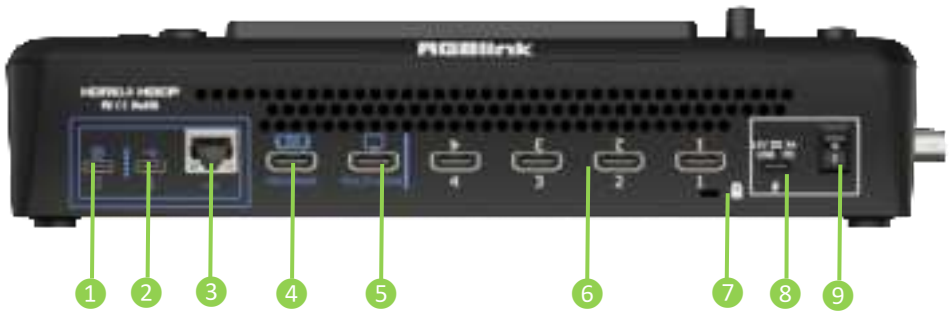
For more details about RGBlink portable screen, please go to the website: https://rgblink-web.azurewebsites.net/productsinfo.aspx?id=275.

If you want to purchase RGBlink's portable monitor, please consult your sales representative for prices of the package or single unit.

1.2.2 Key Features

- Embedded 5.5-inch monitor
- 10 input connectors (4 x HDMI 2.0, 4 x 3G-SDI, 2K UVC, and 2K NDI)
- 10-CH video inputs for selection
- Maximum 8 channels for audio mixing
- 2-CH independent HD HDMI
- 2K streaming and live via IP and UVC
- Streaming supports NDI | HX2
- Streaming and management via RGBlink TAO Cloud
- Manual real-time control of PTZ cameras, such as zoom in/out, rotation, and focus, via VISCA or NDI
- Third-party control and integration via free RGBlink Central Control Protocol

1.2.3 Interface Panel



No.	Interface	Description
❶	UVC	● Insert a U disk or SSD for recording. ● UVC audio and video output port. Recognized as a webcam to provide an audio and video source in streaming or remote video conference when connected to a computer (via USB-C cable) or an Android device (via OTG cable).
❷	USB-C [1]	● Connect to a USB camera as the fifth input signal (default function). ● Insert an SSD or U disk for recording. ● Insert a U disk to import audio, video, and graphic files. ● Network sharing from Cell phone with a USB-C cable connection and also Network sharing enable on cell phone.

❸	**Ethernet Port**	● Achieve network connection for live streaming. ● Remote camera control. ● NDI HX2 encoding/decoding.
❹	**PROGRAM Output**	Default to output real-time scenes, and can be set as multiviewer Preview or Test Pattern.
❺	**Multi-View Output**	Default to be a multiviewer output, and can be set as Program or HDMI 1~4 / SDI 1~4.
❻	**HDMI 1~4 IN**	● Four HDMI input channels for connecting HDMI sources.
❼	**Locking Hole**	Use the T-lock to fix the device.
❽	**USB-C Power Socket**	PD protocol support, 12V 3.3A.
❾	**Power Switch**	Boat-shaped switch. Press downward to turn on the switch.
❿	**Headphone Output**	3.5mm mini-jack for audio monitoring.
⓫	**6.35mm TRS Jack**	Balanced TRS audio output.
⓬	**Line-in**	Balanced 6.35mm TRS jack to connect to PC, mobile phone, or audio console.
⓭	**MIC in**	● XLR+TS input port to connect to microphone. ● 48V Phantom Power supported.
⓮	**+48V DIP Switch** [2]	● 48V Phantom Power switch ● Default to OFF.
⓯	**SDI 1~4 Inputs**	● Four SDI input interfaces can be connected to HD cameras, computers, and other input sources. ● Input resolution supports HD and backward compatible. ● Input supports 3G/HD/SD-SDI.

Notes:

[1] ONLY choose one of the functions to use. It does not support USB hub or docking station.

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

1.2.4 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**
● FOCUS 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	

Function Settings	
Area	**Description**
	■ **5.5" HD Screen** For showing input, output, recording and live streaming status, and displaying the menu content.

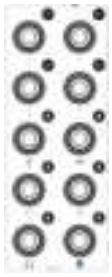
	■ SHORTCUTS/Number Button ● Button Definition ○ Shortcuts Button ○ Number Button ● Button Color Description ○ Button Unlit: no shortcuts saved. ○ Button Lit White: shortcuts saved. ○ Button Lit Blue: act as a number button ● Button Operation ○ Short Press: to distribute shortcuts. ○ Interface with Input Box: to input numerical values.
	■ MENU/EXIT/LOCK Button ● Button Definition ○ MENU Button ○ EXIT Button ○ LOCK Button
	■ MENU Browsing/Confirm Button ● Button Definition ○ MENU Browsing Button ○ Confirm Button
	■ RECORD Button ● External Hard Disc Status Display ○ Recording OFF: 1) unlit if no hard disc connected; 2) lit white with disc space more than 300M. ○ Recording ON： button blinks red if space is less than 300M. ● Press to Enable/Disable Recording ○ Press to start the recording. Button lit red to indicate normal recording process. ○ Press button again to stop the recording. The Button blinks red to indicate the video-saving process.
	■ ON AIR Button ● Network Status Display ○ Streaming OFF: button lit white for normal communication ○ Streaming ON： 1) button blinks red to show failed streaming but normal communication; 2) button blinks white to show failed streaming and communication; 3) button blinks yellow to show successful streaming with unmatched upstream bitrate; 4) button turns green to show successful streaming with matched upstream bitrate. ● Press to Enable/Disable Streaming ○ Press to start streaming: 1) button lit green to indicate a successful streaming; 2) button blinks red to remind the user to configure the streaming address. ○ Press once again to stop streaming: 1) button turns red to

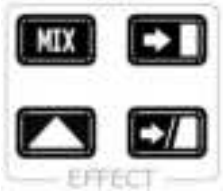
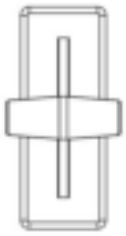
	indicate the video-saving process; 2) button goes dark if streaming is completed.

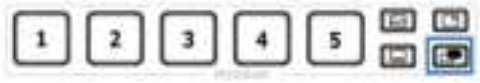
Camera Control

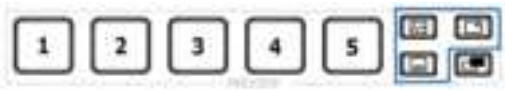
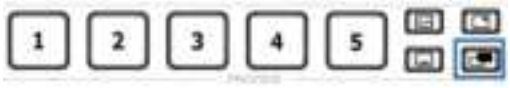
Area	Description
	■ **FOCUS Button with Indicator** ● Focus Status Display ○ Manual Focus: indicator unlit. ○ Auto Focus: indicator lit blue. ● FOCUS Button ○ Rotate the button for manual focus. ○ Press the button for auto focus.
	■ **Toggle** ● Size adjustment for Layer A and Layer B. ● Zoom in/out for PTZ control.
	■ **5-Direction Joystick** ● Move the joystick up, down, left and right ○ to adjuzt position for layer. ○ to set pan, tilt and zoom for a PTZ camera. ● Short Press ○ to enter PTZ Control Interface.

Volume Control

Area	Description
	■ **Volume Control Knob** ● Knob Number 1~4: volume control of HDMI/SDI embedded audio. ● Other Six Knobs: volume control of MIC, USB Input, Line-in, Bluetooth, Headphone Out and Program Out.
	■ **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, fade in/out. For more transition effects, tap the "EFFECTS" on the MENU to select. ● Button Lit White: a transition effect selected.
	■ Transition Duration Selection Button ● Default: 1.0 second. ● Button Lit White: a transition duration selected.
	■ T-Bar PVW and PGM views can be transitioned by pushing T-bar.
	■ CUT Button Press to fast 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 Blinks Red: transition is being applied. ○ Button Goes Dark: transition completed.
Layer Settings	
Area	Description
	■ Layer A/B Button ● Button Unlit: layer OFF or not be placed on PVW. ● Short Press ○ Press the Button Unlit: the button turns blue to indicate an enabled and selected state, which allows the user to use the toggle and joystick for size and position adjustment. ○ Press the Button Lit Blue: to disable the selected layer and the button turns dark. ○ Press another layer button except the Layer A/B button: the button pressed turns blue and the Layer A/B button changes from blue to green. ● Long Press: to enter LAYOUT.
	■ Layout Selection Button ● Short Press: to set the layout for the selected layer, and the button

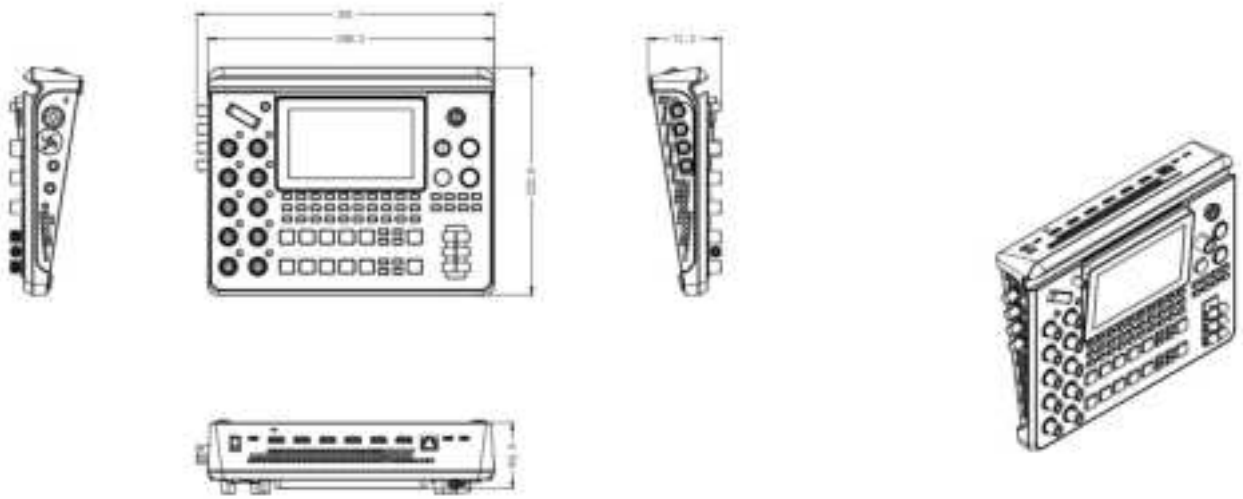
	turns green. ● Long Press: to enter CROP/SCALE.
	■ **Chroma Key** ● Short Press: to enable or disable Chroma Key (layer B is set by default). ● Long Press: to enter the Chroma Key interface.
	■ **Preset Loading Button** ● Button Color Description ○ Button Unlit: no view contained. ○ Button Lit Green: view contained. ○ Button Lit Red: view being loaded. ● Button Operation ○ Long Press: to save the current view or not. ○ Short Press the Button Lit Green: to place the view on Preview, after which this button turns red. ○ If you switch to another view, the button of the loaded view changes from red to green.
	■ **PROGRAM Source Row** ● Button Definition ○ Button 1~4: 1~4 HDMI/SDI inputs. ○ Button 5: UVC/NDI/MEDIA Source.
	■ **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 ○ Button Lit White: to place layer on PGM out, and the button turns red. ○ Button Lit Red: to remove the layer from the 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 the button goes dark.
	■ **PREVIEW Source Row** ● Button Definition ○ Button 1~4: 1~4 HDMI/SDI inputs. If you use a PTZ as an input, the TALLY light will turn green. ○ Button 5: UVC/NDI/MEDIA Source.

	■ **PREVIEW Layer Button** ● Icon Definition ○  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 enter Media Interface. ○ Short Press: 1) to enter Media Interface or not if no layer is contained; 2) to remove the layer from PVW, after which the button turns white. The button turns blue during the layer-adding process.
	■ **PREVIEW Clear Button** ● Button Color Description ○ Button Lit Green: no layer on PVW. The button goes dark after a layer is added. ● Button Operation ○ Short Press Button Unlit: to clear layer on PVW. The cleared layer will be saved as a view and the button turns green. ○ Press the Button with a View Saved: to load view to PVW.

1.2.5 Dimension

What follows is the dimension of mini-edge SDI.

For your reference: 291mm x 222.6mm x 71.3mm

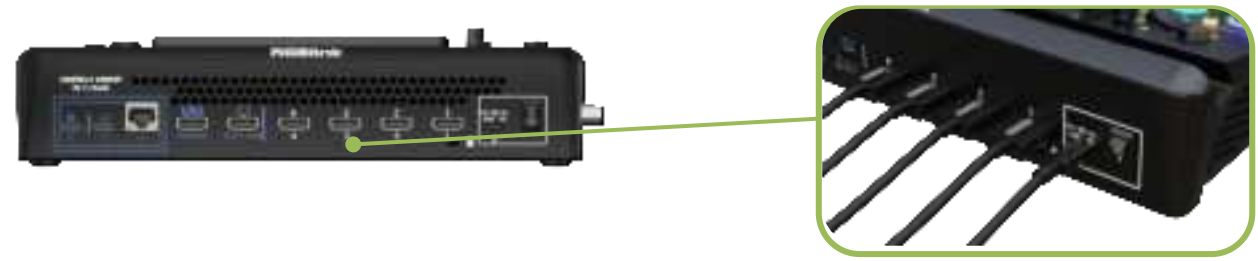


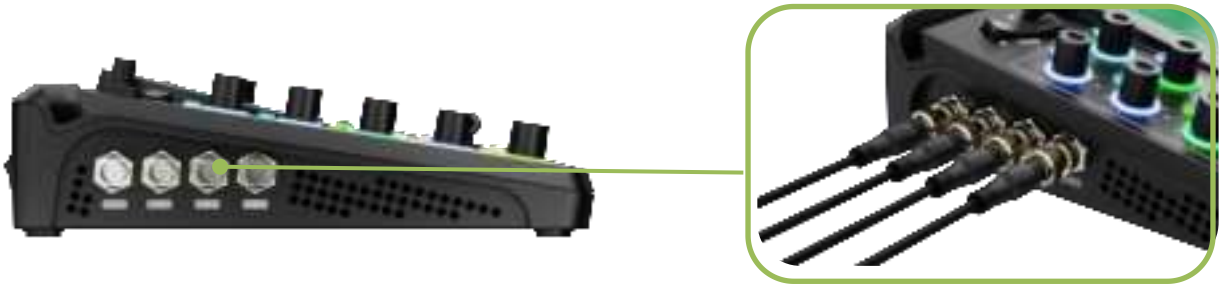
Chapter 2 Install Your Product

2.1 Connecting HDMI/SDI Input

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

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



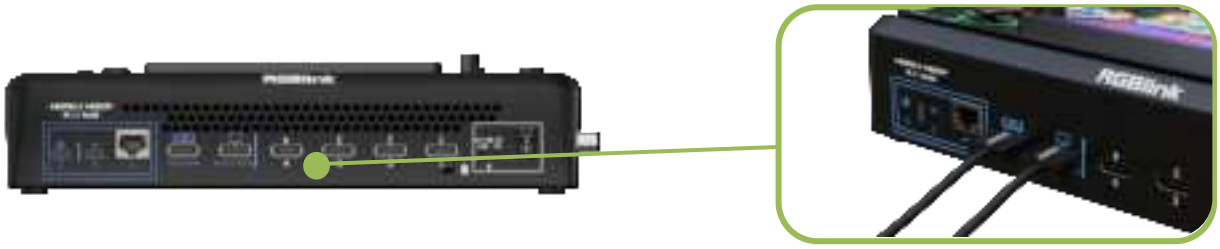


Notes:

The HDMI/SDI cable is not included in the mini-edge SDI 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 a multiviewer and program output interfaces to a monitor with an HDMI input interface so as to check PVW and PGM views in real time.



The MULTI-VIEW port can connect to a monitor such as a computer. The PROGRAM port can connect to devices such as projector, LED screen or TV.

On the MENU interface, rotate ENTER to "OUTPUT" and press to enter output setting. Users can select the scenes and resolutions of the MULTI-VIEW and PROGRAM output.

MULTI-VIEW: display the scenes of HDMI 1~4, SDI 1~4, or UVC signal sources and program output.
PROGRAM: set as PMG or TP.

2.3 Connecting Microphone and External Monitoring Devices

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

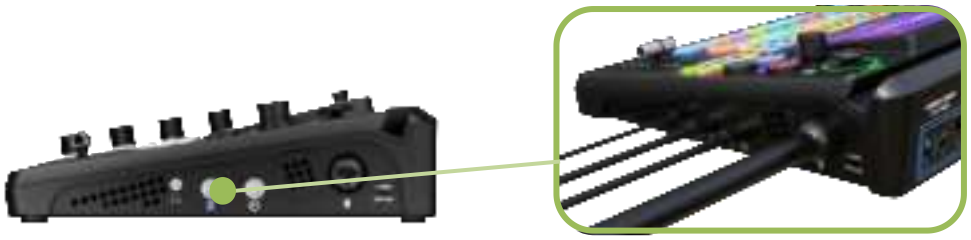
External audio inputs:
1.MIC in. It adopts XLR+TR jack with 48V Phantom power and can be connected to active or passive microphones.
2.Line in. 6.35mm TRS jack, which can be connected to computer, mobile phone, tablet, audio console and other line audio inputs.

External audio outputs:
1.Line out. 6.35mm audio output.
2.Headphone out. 3.5mm jack for audio monitoring, which can be connected to earphones.

For computers or phones with no audio input ports, mini-edge SDI embeds a Bluetooth module. Users can connect mini-edge SDI to devices with bluetooth function, such as computers or mobile phones, to

input steady and high quality audio signals in real time. (For more details please refer to the Bluetooth section)

In addition to the audio ports mentioned above, mini-edge SDI supports built-in audio (HDMI/SDI 1~4). Besides, pressing the AFV buttons which correspond to the interfaces HDMI/SDI 1~4 can trigger the audio-follow-video function. These 8 audio inputs can be controlled via the operation board to achieve audio mixing and monitoring. For more details, please refer to the Audio section.



Notes:

1. Noise may occur during plugging, unplugging and audio tuning. When connecting the audio output port (main output and monitor port) to the speaker, if the speaker is powered on, it may be damaged during the unplugging process. Therefore, please power on the speaker after connection, and power off it first before unplugging.
2. MIC supports access to a wireless microphone with a 3.5mm female to 6.5mm male single-track adapter. LINE supports access to a wireless microphone with a 3.5mm female to 6.5mm male dual-track adapter.
3. Balanced signals can only be input through MIC 1 or MIC2; stereo signals can only be input through LINE IN.

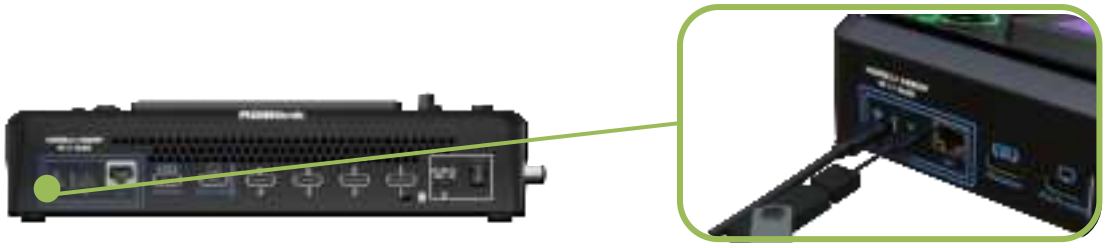
2.4 Connecting USB for Streaming and Recording

1. Streaming

The USB 3.0 port **labeled number 2** is for video capture, which allows users to capture videos to a 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.

2. Recording

Insert a U disk into the other USB 3.0 port **labeled number 1** by USB 3.0 cable to perform recording. mini-edge SDI supports recording streaming media content to an external USB storage device, such as a 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.



Notes:

1. For the U disk, please use one with a USB 3.0 port.
2. For SSD, please check if it needs an extra power supply.
3. OTG cable is only for file transfer and cannot be used for streaming.
4. For dual-channel streaming, or using UVC output/recording simultaneously, the touch screen

may get sluggish.

5. USB-C ports adopt the USB 3.1 data transmission protocol.

2.5 Connecting Router

Connect router and mini-edge SDI with CAT6 cable.

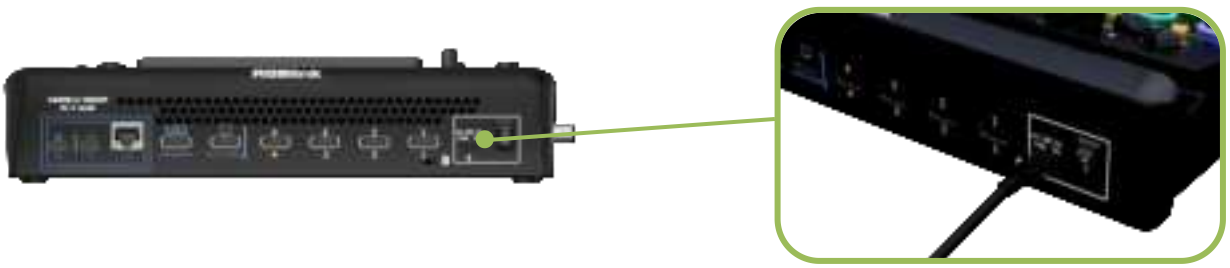
Push MENU Button to gain access to **MENU.** Use ENTER Knob to select **SETTING** > **NETWORK** >**Turn OFF DHCP** > Use Number Button to **set IP address**. When connecting the mini-edge SDI and the router, the IP address of the mini-edge SDI must be in the same LAN as the router.

Connect router and mini-edge SDI with CAT6 cable.

If the router has DHCP enabled and has set up a specific network segment, and mini-edge SDI also has DHCP enabled, there is no need to set IP address by yourself. When mini-edge SDI 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.

2.6 Plugging in Power

RGBlink mini-edge SDI 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 SDI to power plug by the link cable

Notes:

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

1. Support PD "Fast Charge" capability.
2. USB-C charging port allow two-way insertion.
3. The power supply is rated for a minimum of 40W.

2.7 Turning on Your mini-edge SDI

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

Chapter 3 Use Your Product

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

3.1 Main Interface

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

Area	Description
❶ PREVIEW	Show Preview screen and audio meter.
❷ PROGRAM	Show Program screen and audio meter.
❸ HDMI/SDI Signal	Show HDMI/SDI 1~4 signals and audio meter.

④ UVC Signal	Monitor UVC/NDI input signal. For more details, refer to
⑤ Audio Status	Monitor Microphone, UAC, Line-in and Bluetooth input status. For more details, refer to
⑥ Recording	Check recording duration and status.
⑦ Streaming	Check streaming duration and status.

3.2 MENU

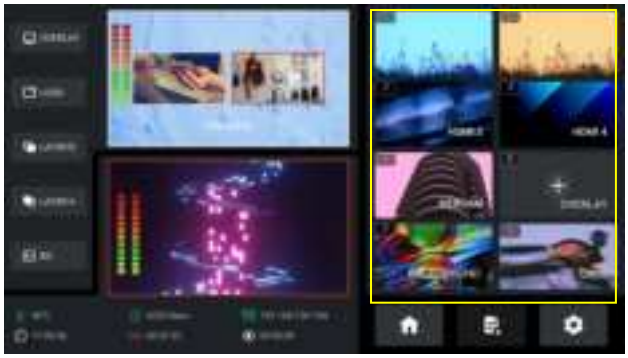
There is a 5.5 screen on operation board showing input& output status and menu content.
Press the “MENU” Button in the main interface and the LCD screen will quickly enter MENU.

As shown in the figure above, the UI style on the screen is similar to the current smartphone operating interface. The first-level menu contains several icons. Users can rotate ENTER knob to move the cursor to a certain function and then press the knob once again to quickly enter the corresponding function management interface.

Area	Description		
❶ PREVIEW	Show Preview screen and audio meter.		
❷ Layer Selection	● Icon in green indicates enabled status. ● Icon in blue indicates editing status.		
❸ PROGRAM	Show Program screen and audio meter.		
❹ Status Display	: Temperature	: Bit Stream	: Network State& IP
	: Time	: Streaming duration	: Recording duration
❺ Icons	Correspond to Main Interface, Standby Interface and MENU Interface.		
❻ Function Selection	Eight functions in total are available in MENU, including **EFFECTS**, **LAYOUT**, **PTZ**, **SCENE**, **CHROMA KEY**, **AUDIO**, **OUTPUT** and **SETTING**. Press the MENU button can return to the previous page.		

3.3 Material Editing Interface

Rotate ENTER knob to move the cursor to  icon, press the knob once again to enter material editing interface. Besides this, users can also long press the background, logo, or overlay icons along the PVW and PGM row on the front panel to enter the material editing interface.



Signal Monitoring & Source Selection:

● 1~5 windows for monitoring four HDMI/SDI 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 Adding Layers

3.4.1 Adding Layer A

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

2. The Preview Source row is for selecting the signal source for preview. The 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 turn green.
Press 1~5 number buttons along the Program Source row to add it to the PGM view and the selected PGM button will turn 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.

4. Pressing any layout button on the PICTURE IN PICTURE row on the front panel, users can adjust the layout of layer A.

Or you can push MENU button to enter the menu interface. Use ENTER knob to move the cursor to LAYOUT icon, and press ENTER knob again to enter layout setting interface. Select required layout for Layer A and place it on the background.

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

3.4.2 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.

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

Notes: The buttons on the PREVIEW row will get no response when users press the background, logo, or title button which turns blue indicating that it is editable. In this case, if users want to set layer A or layer B, they should press the A/B button on the front panel and now the buttons on the PREVIEW row can be used.

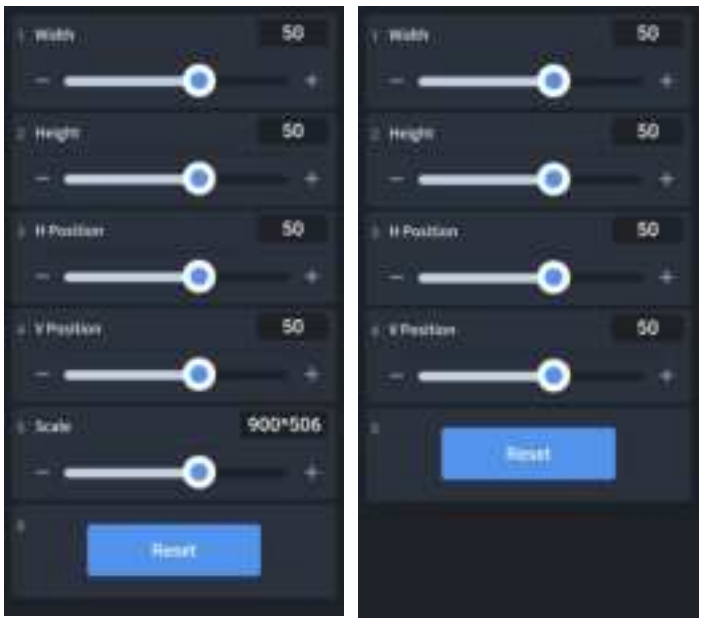
3.5 PIP Layout (Picture-in-Picture)

mini-edge SDI defaults to single-screen switching. 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 is display on the full screen, and at same time the PIP video source will be displayed on the PGM window as an inset window. To use PIP function, proceed as follows:

1. Press MENU Button to enter MENU, use ENTER knob to move the cursor to the LAYOUT icon, then press ENTER knob once again to gain access to the PIP layout setting interface. Besides this, users can also long press the buttons of PICTURE IN PICTURE row on the front panel to enter the layout setting interface.

2. Rotate ENTER knob to the wanted PIP layout and press ENTER to confirm. mini-edge SDI provides 6 layout forms in total. Besides, users can also tap the buttons along the PICTURE IN PICTURE row on the front panel to select a layout.

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



4. 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, there are Width, Height, Horizontal Position and Vertical Position can be set. The **Reset** button at the bottom is for restoring settings to the default values.

3.6 Adding Materials

mini-edge SDI allows users to import materials, such as BACKGROUND, LOGO, OVERLAY, etc. mini-edge SDI not only support displaying two video layers on the integral screen, but also can add three static layers (Background, logo and overlay), providing richer content creation and promoting the brand building.

3.6.1 Layer Storage Path

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

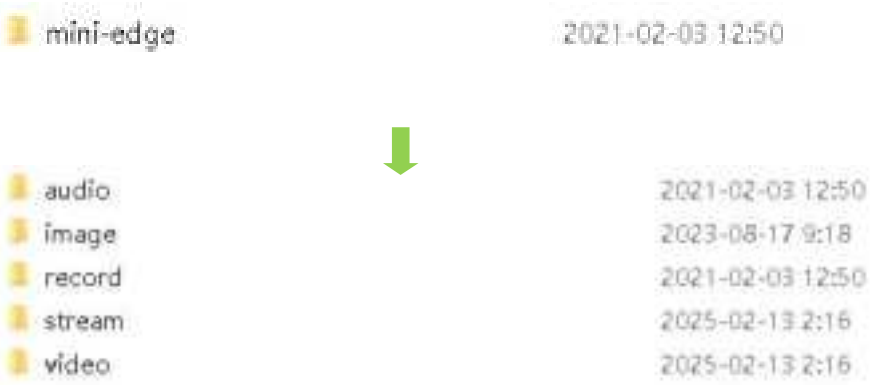
1. Before importing layers, please create folders for layer storage in the U disk, which can be done manually and automatically.

1.1 Create Folders Automatically：

a. Insert a U disk into USB interface labeled number 1 and reboot mini-edge SDI, the U disk will automatically form a folder named mini-edge SDI;
b. The mini-edge SDI folder includes five folders: audio, image, record, stream and video. The image folder includes three folders: background, logo and overlay.

1.2 Create Folders Manually:

a. Create a folder named mini-edge SDI by yourself;
b. Create audio, image, record, stream and video folders respectively in mini-edge SDI folder;
c. Create three sub-folders in image: background, logo and overlay.



2. Store materials in the corresponding folder and insert the U disk to the USB port labeled number 1.

3. Wait for mini-edge SDI to load available files. The Figure below shows no files available in the USB disk.

Notes: Layers should meet the following requirements:

1. BACKGROUND:

(1) space and symbols are not allowed in the 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 are not supported.

2. LOGO:

space and symblos are not allowed in the picure name;

png format (32-bit depth), resolution within 1920x1080, subject to the actual output resolution.

3. OVERLAY:

(1)space and symbols are not allowed in the picture name;

(2) png format (32-bit depth), resolution within 1920x1080, subject to the actual output resolution.

Audio: in mp3 format.

3.6.2 Adding a Background

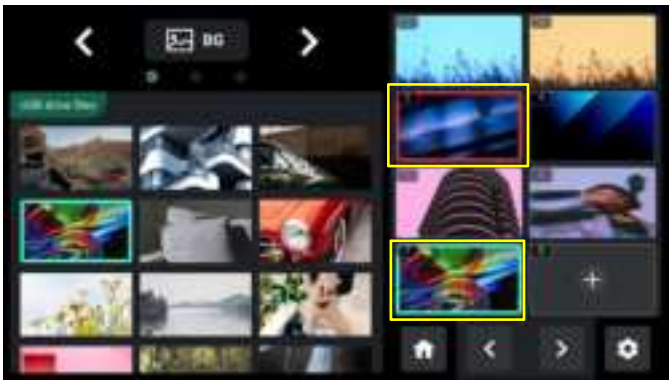
1. Add a Background Layer

1.1 Import the material to the folder named “background”, and insert a U disk into the USB port labeled number 1.

1.2 Gain access to Background Interface:

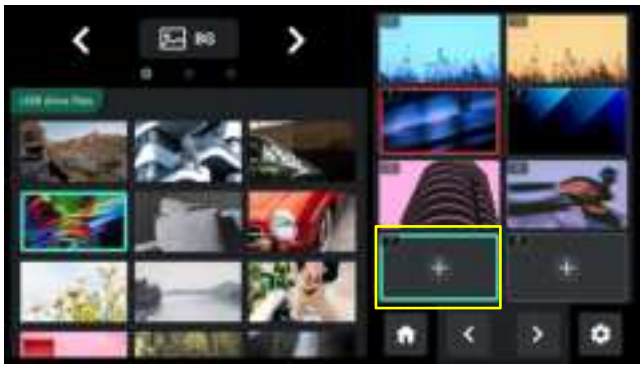
a. Rotate ENTER knob to move the cursor to  icon, press the knob again to enter material editing interface.
b. Use ENTER knob to move the cursor to BKG icon in Source Selection Area, press ENTER knob once again to enter. Or long press BKG Button  along the PREVIEW Outputs Row.

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

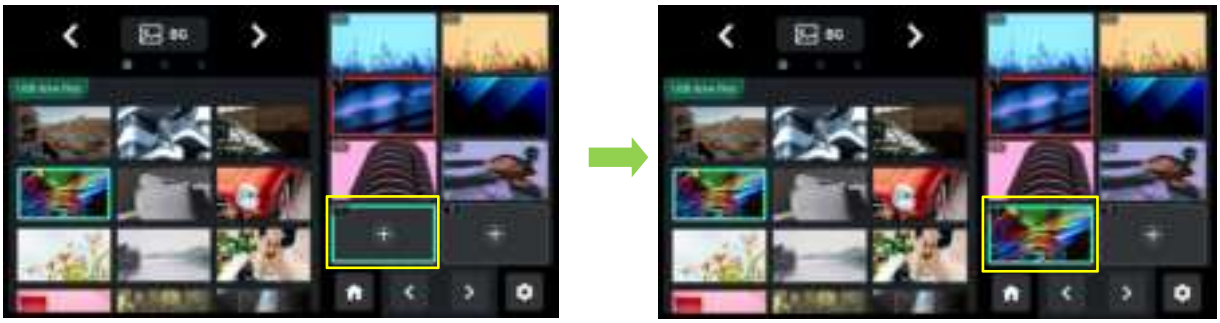


1.3 Add a background source:

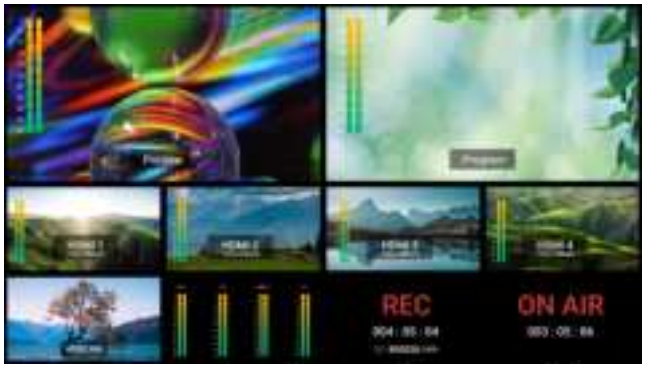
a. “+” indicates window with no source saved. If the user wants to add background image to Window 7, rotate ENTER knob to move the cursor to Window 7, press ENTER knob once again.



b. 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.



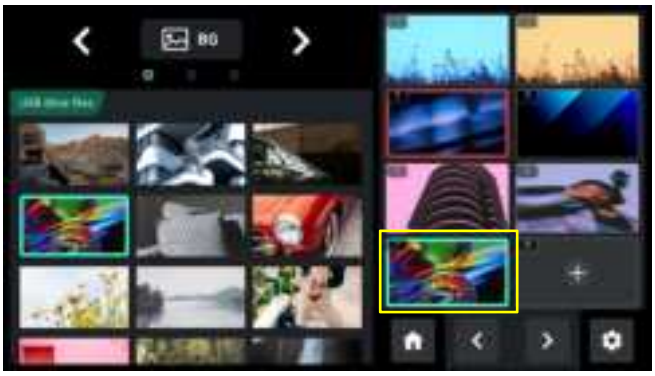
c. The added background image will be placed on PVW window.



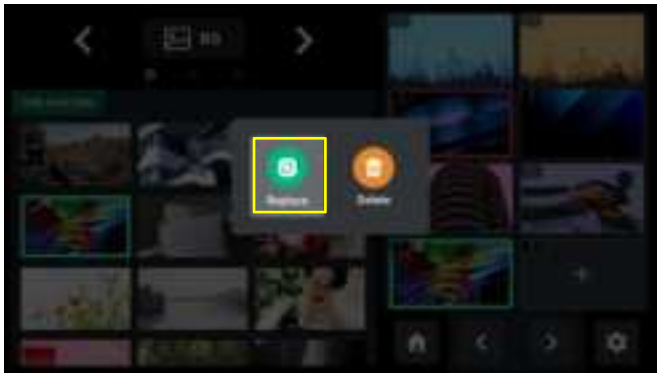
d. If the BKG button along the Program Source Row illuminates white, press the button to place a background layer on Program screen and the button will turn red.Press button illuminated red to remove the background, and the button indicator changes to white.

2. Replace a Background Source

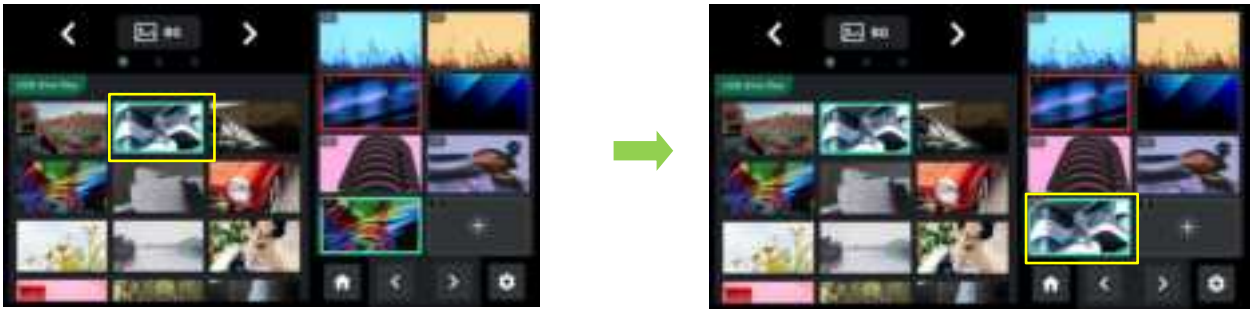
2.1 To replace background source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2.2 Rotate ENTER knob to move the cursor to Replace, then press the knob once again.

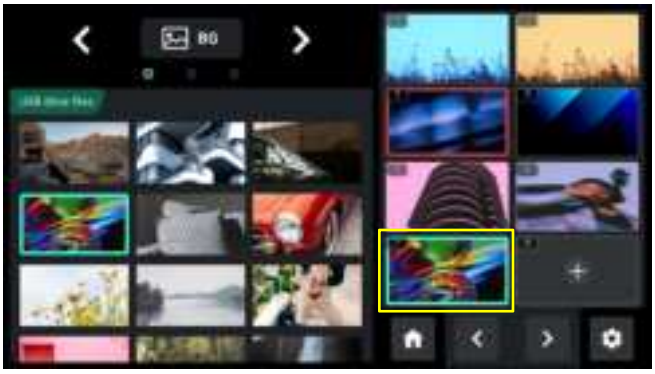


2.3 Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select one background source in the U disk, and then press the knob once again to replace.

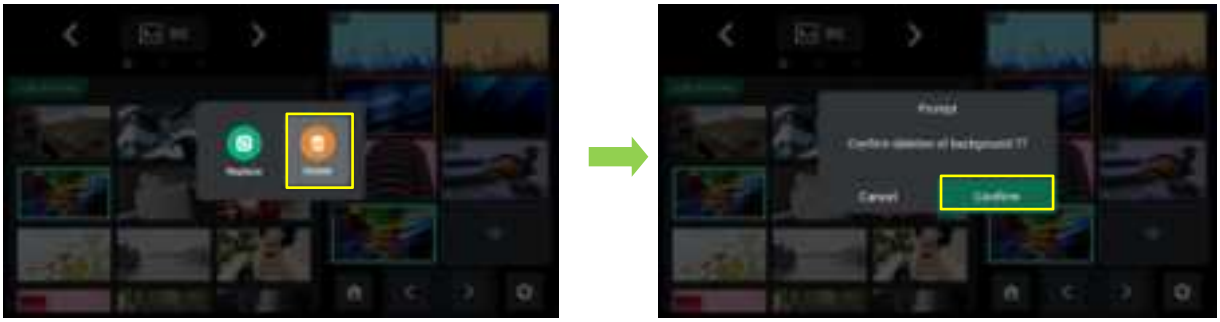


3. Delete a Background Source

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



3.2 Rotate ENTER knob to move the cursor to “Delete”, press the knob and then choose “Confirm” for deletion.



3.6.3 Adding a LOGO

1. Add a Logo

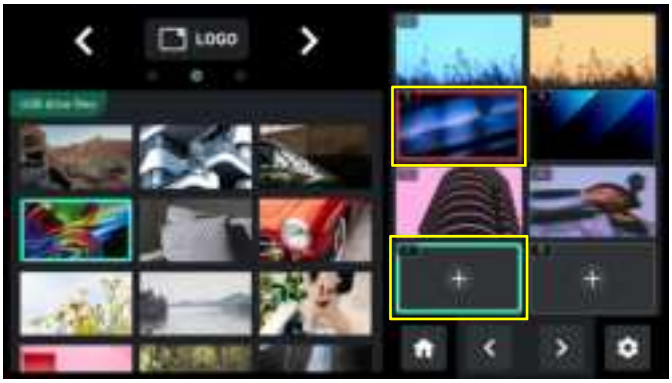
1.1 Import the material to the folder named “logo”, and insert a U disk into the USB port labeled number 1.

1.2 Gain access to LOGO Interface:

a. Rotate ENTER knob to move the cursor to  icon, press the knob again to enter material editing interface.

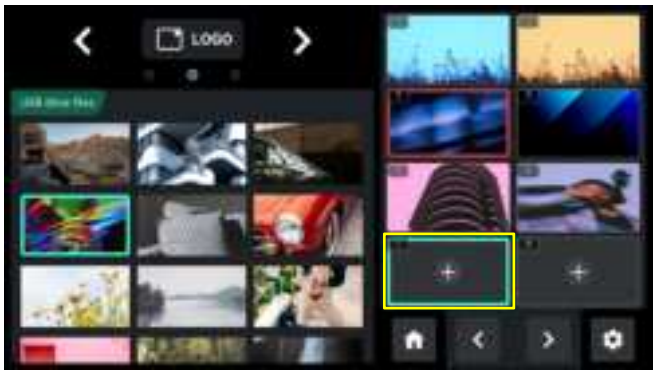
b. Use ENTER knob to move the cursor to LOGO icon in Sour Selection Area, and press ENTER knob again to enter. Or long press LOGO Button  along the PREVIEW Outputs Row.

c. 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.

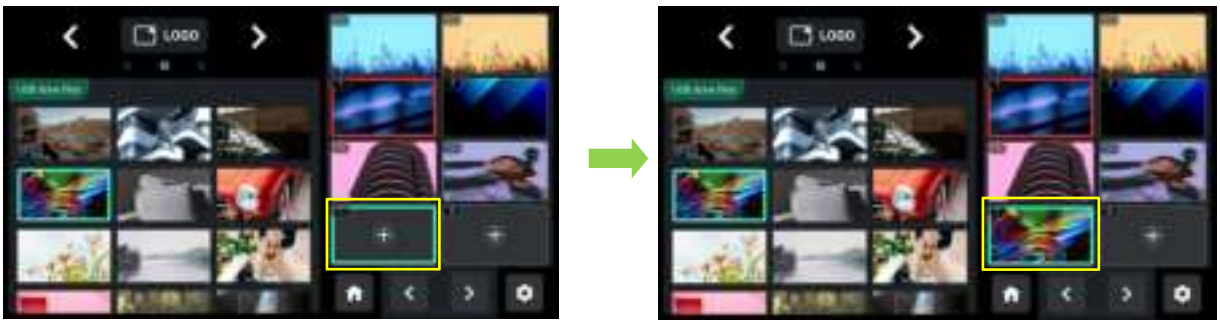


1.3 Add a LOGO Source

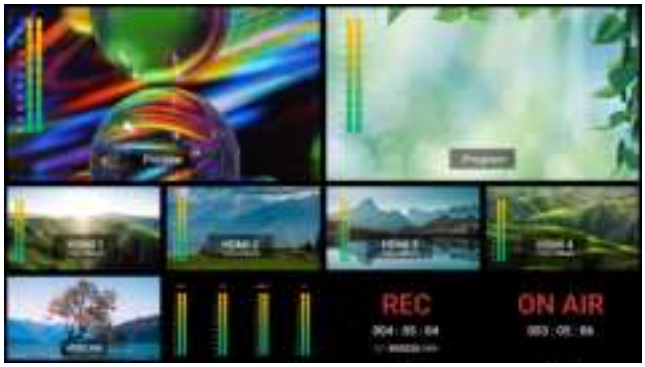
a. “+”indicates window with no source saved. If the user wants to add LOGO image to Window 7, rotate ENTER knob to move the cursor to Window 7, press ENTER knob once again.



b. 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.



c. The added LOGO image will be placed on PVW window.

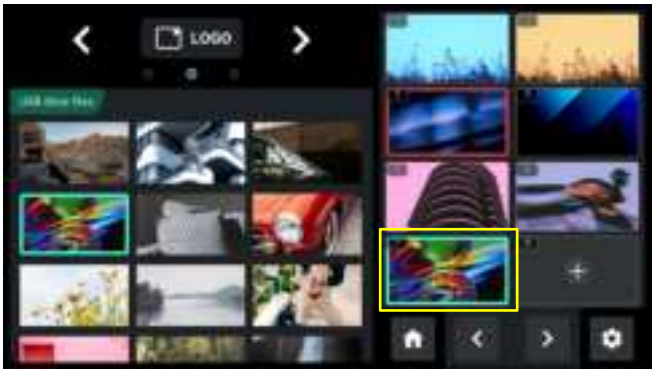


d. If the LOGO button along the Program Source Row turns white, press the button to place a LOGO layer on Program screen and the button will turn red. Press button illuminated red to remove the layer, and the button indicator changes to white.

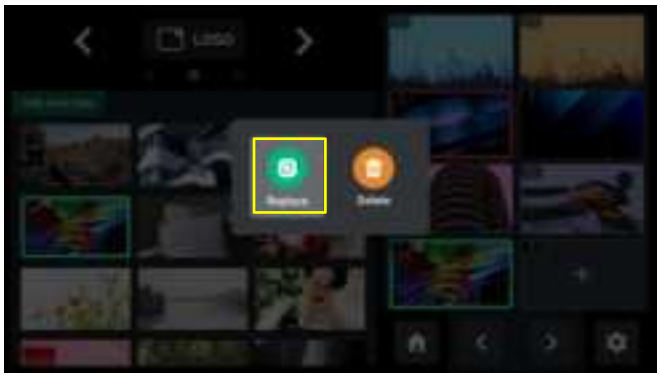
e. The user can set layout, use the toggle for layer zoom-in and zoom-out and the joystick to set the position.

2. Replace a LOGO Source

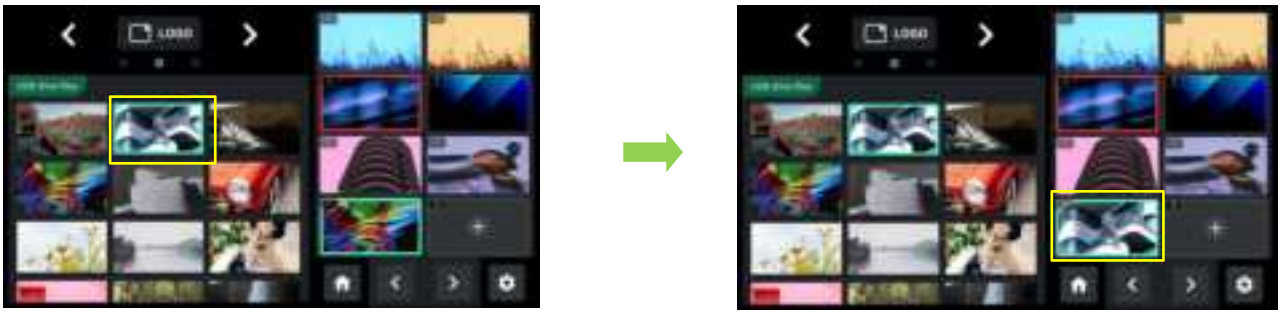
2.1 To replace LOGO source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2.2 Rotate ENTER knob to move the cursor to “Replace”, then press the knob once again.

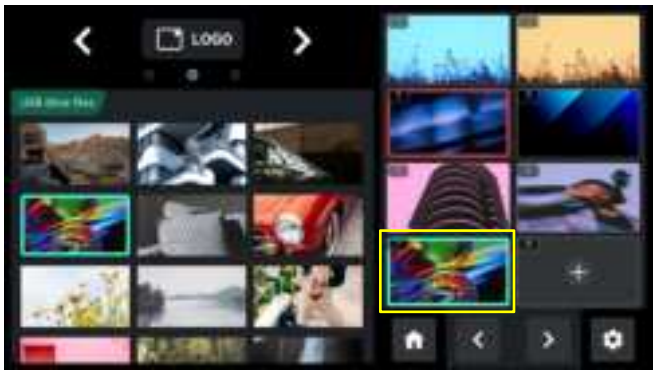


2.3 Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select one Logo source in the U disk, and then press the knob once again to replace.

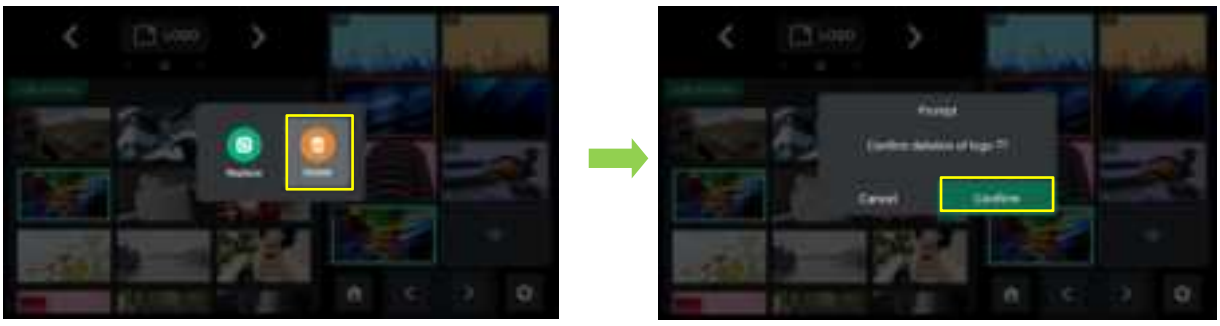


3. Delete a LOGO Source

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



3.2 Rotate ENTER knob to move the cursor to “Delete”, press the knob and then choose “Confirm” for deletion.



3.6.4 Adding a Overlay

1. Add a Overlay Source

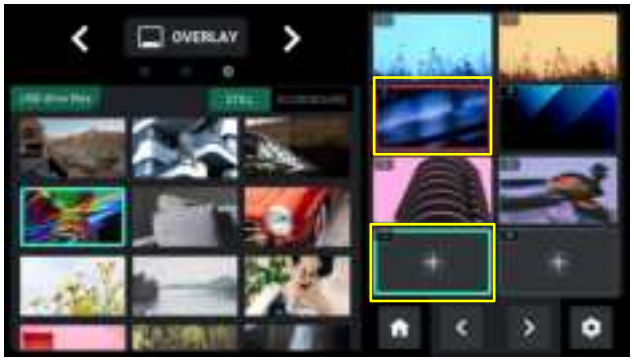
1.1 Import the material to the folder named “overlay”, and insert a U disk into the USB port labeled number 1.

1.2 Gain access to Background Interface:

a. Rotate ENTER knob to move the cursor to  icon, press the knob again to enter material editing interface.

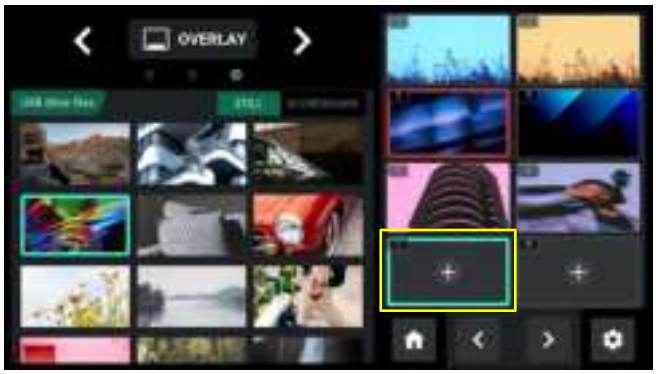
b. Use ENTER knob to move the cursor to OVERLAY icon in Sour Selection Area, press ENTER knob once again to enter. Or long press OVERLAY Button  along the PREVIEW Outputs Row.

c. 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.

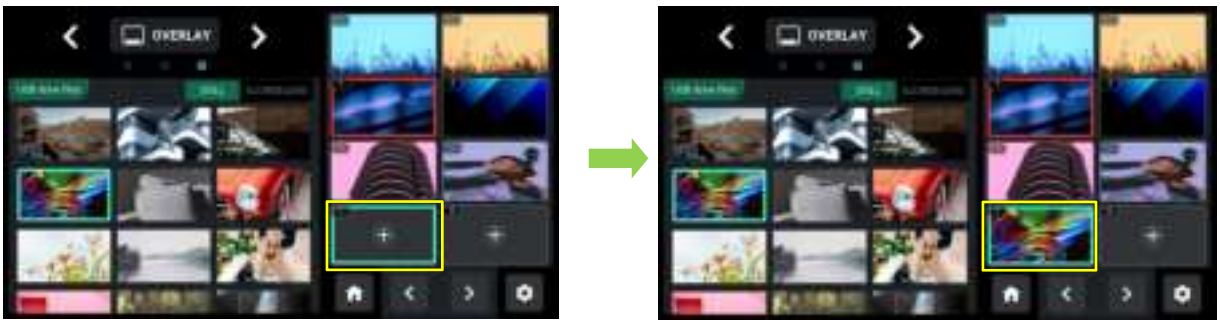


1.3 Add a Overlay Source.

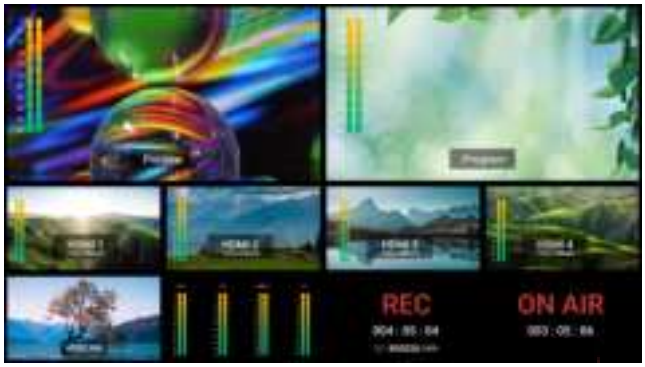
a. “+”indicates a window with no source saved. If the user wants to add a overlay image to Window 7, rotate ENTER knob to move the cursor to Window 7, press ENTER knob once again.



b. 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.



c. The added background image will be placed on PVW window.

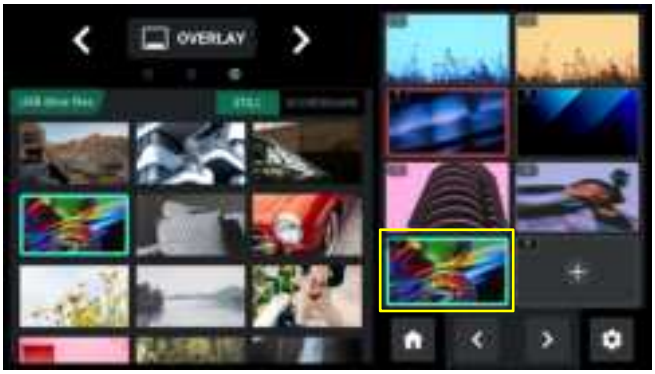


d. If the OVERLAY button along the Program Source Row illuminates white, press the button to place a background layer on Program screen and the button will be illuminated red.Press button illuminated red to remove, and the button indicator changes to white.

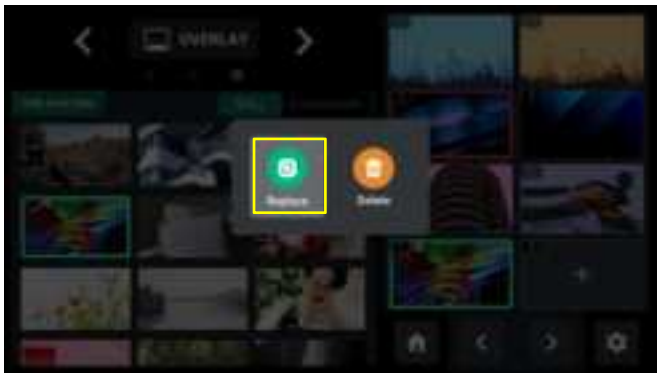
e. Same as operations in Adding Layer A and Adding Layer B, choose required layout in LAYOUT interface and use the Joystick to quickly adjust horizontal and vertical position of OVERLAY.

2. Replace a Overlay Source

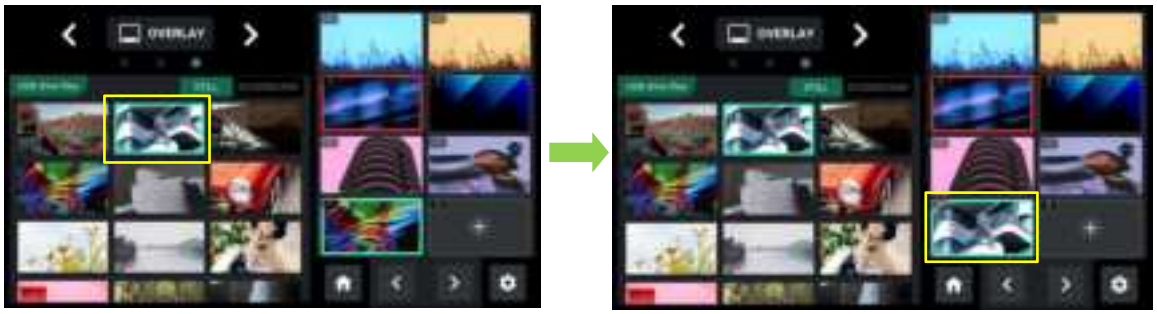
2.1 To replace overlay source saved in Window 7, rotate ENTER knob to move the cursor to Window 7, then long press ENTER knob.



2.2 Rotate ENTER knob to move the cursor to “Replace”, then press the knob once again.

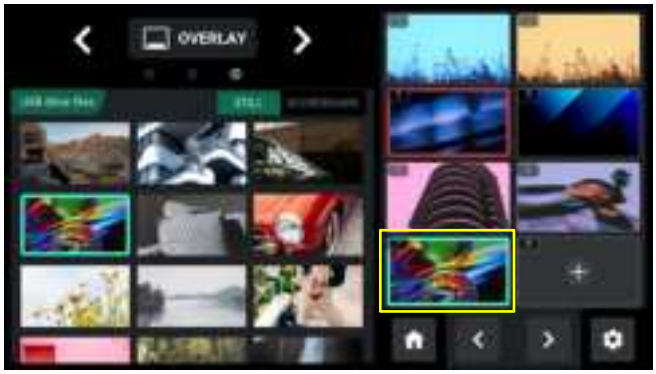


2.3 Then the cursor will automatically jump to USB files on the left side. Rotate the ENTER knob to select one overlay source in the U disk, and then press the knob once again to replace.

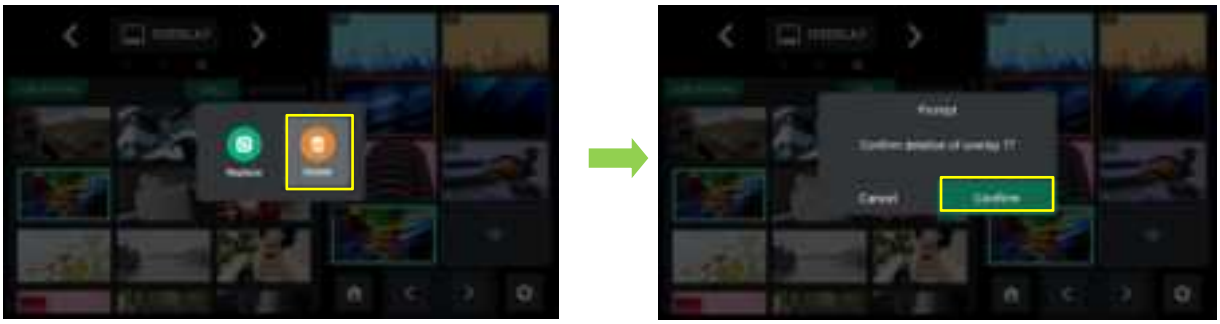


3. Delete a Overlay Source

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



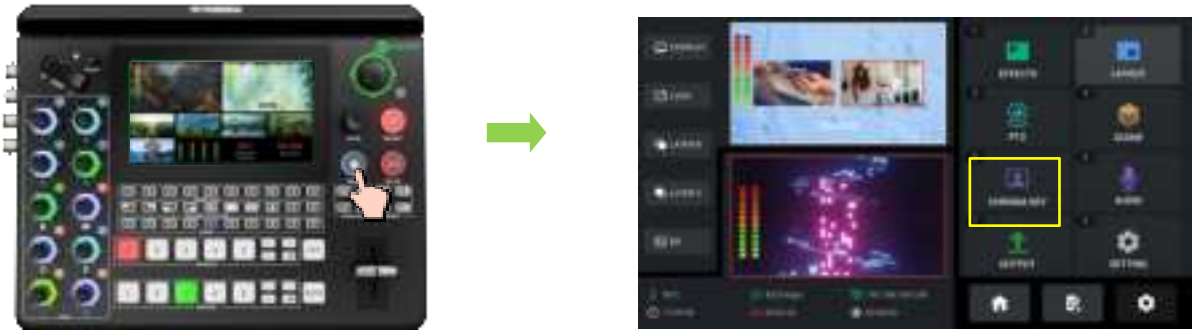
3.2 Rotate ENTER knob to move the cursor to Delete, press the knob and then choose Confirm for deletion.



3.7 Chroma Key

mini-edge SDI supports keying which means removing the solid color background and overlaying it on another signal to realize the application of virtual reality. The Chroma Key function defaults to OFF and it operates on layer B by default when it is enabled. Please proceed as follows:

1. Push MENU Button to enter Main Menu, rotate ENTER knob to “CHROMA KEY”, and press the knob again to enter the setting interface.



2. Select a background color to be removed. So far mini-edge SDI can key out green and blue colors and the keying color default green.

3. When a keying color is selected, the Chroma Key  on the PICTURE IN PICTURE row on the front panel turns green and the PVW window jumps to show layer B with the selected color removed. Users

can also key out the color simply by pressing the Chroma Key button. As shown in the figure below, the green bar on layer B shown on the PVW window is removed:

4. On the keying setting interface, users can change the keying color and use ENTER knob to shift options between Max, Min and Margin. Max defaults to 1232, Min defaults to 560, Margin defaults to 200. After the setting, the parameters are saved directly on the device.Whether it is the upper computer, including cell phones, or the lower computer to open the keying, you can directly open the last saved parameter settings the next time you use it.

3.8 Controlling PTZ Camera

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

The PTZ preset of mini-edge SDI 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.

3.8.1 PTZ Control

1. Press MENU button to enter Main Menu.

2. Rotate ENTER knob to move the cursor to "PTZ", and press the knob once again to enter the setting interface. On the setting interface, rotate the ENTER knob to HDMI1/HDMI2/HDMI3/HDMI4 or SDI1/SDI2/SDI3/SDI4 and press the ENTER knob to switch to different camera control interfaces.

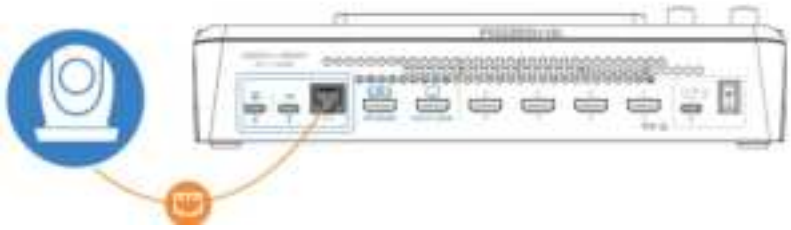
3. PTZ Camera Control

mini-edge SDI 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 SDI to control ONE camera and simultaneously control FOUR cameras.

3.1 Case 1: mini-edge SDI controls ONE camera.

3.1.1 Connect mini-edge SDI and the camera directly via an Ethernet cable;



3.1.2 Configure the IP address of the camera.

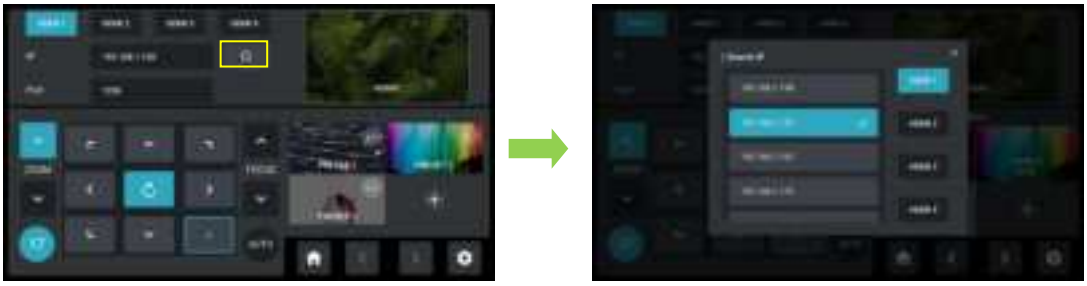
Note that the IP address of mini-edge SDI and camera controlled should be in the same LAN, which means the former three digits of the IP addresses of the camera and the device should be the same. Please proceed as follows:

3.1.2.1 Check or modify the IP address of the PTZ:

Automatic:

a. If using the network cable to directly connect camera to mini-edge SDI, mini-edge SDI can only control one camera. The current IP address and IP address set before can be captured by device automatically.

b. If devices are connected in the same LAN, rotate ENTER knob to move the cursor to  icon. Press the knob once again, and mini-edge SDI 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.



Manual:
To modify the IP address, users can rotate the ENTER knob to “IP” on the interface and press ENTER again. At this point, the SHORTCUT row on the front panel turns blue and functions as number buttons. Users can press the wanted numbers for IP address. After the modification, press MENU to exit.

3.1.2.2 Check or modify the device IP address:
Automatic:
On the main interface, rotate the ENTER knob to “SETTING” and then “Network”, users can check the device IP address on the “Network” interface. The IP address is automatically distributed when DHCP is enabled.

Manual:
Users can disable the DHCP and modify the IP address by using the SHORTCUT row on the front panel.

3.2 Case 2: mini-edge SDI controls FOUR cameras via a switcher.

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

3.2.2 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 SDI and camera are in the same LAN.)

3.2.3 Connect camera and computer to the switcher.

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

Notes:

1. The computer IP, mini-edge SDI 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 and NDI PTZ are supported. Protocols including CGI/HTTP/Pelco-D/Pelco-P are not supported.

3.8.2 PTZ Preset

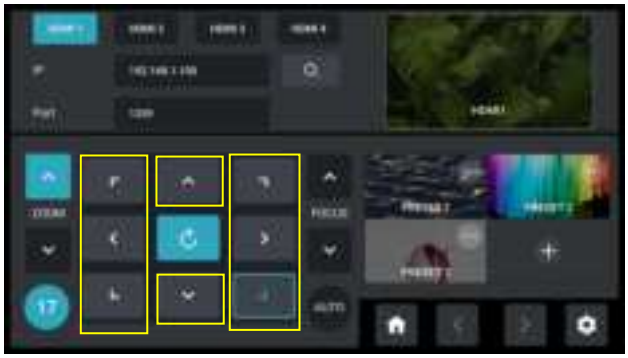
1. Focus

1.1 Use the toggle on the front panel to adjust focus.

1.3 Press “FOCUS” button on the front panel can achieve auto focus adjustment and rotate the knob to achieve manual focus adjustment.

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

2. Use 5-direction Joystick to adjust the position of camera. When pressing the 5-direction joystick to a certain position, the corresponding position icons on the interface will be lightened.



3. 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.

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

5. Adding PTZ presets:

5.1 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.

5.2 Rotate 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.

3.9 Saving and Loading Scenes

mini-edge SDI **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.

3.9.1 Save a Scene

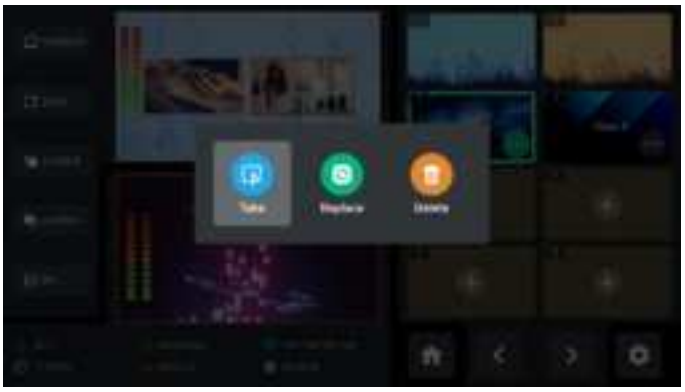
1. After setting the effect, push MENU Button to enter MENU, rotate ENTER knob to move the cursor to “SCENE”, and press knob once again to enter the interface.

mini-edge SDI allows user to save 16 presets in total to the corresponding View 1~16. The preset saving interface is shown as below.

2. 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. Users can also press the number buttons on the VIEW row on the front panel to save a scene.

3.9.2 Load a Scene to the PVW window

If the window selected already contains a scene, press ENTER, rotate the knob to “Take”, and press ENTER to confirm. Then the scene will immediately be loaded to the PVW window.



3.9.3 Replace a Scene

1. If the window selected already contains a scene, press Enter and a prompt box will pop up. Rotate the knob to “Replace”, and press ENTER to confirm. Then the scene will be replaced with the current scene on the PVW window.

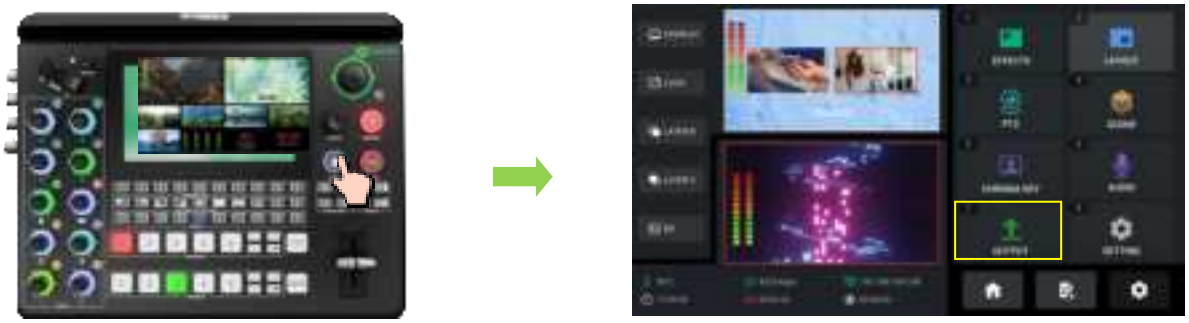
2．Users can also long press the number button on the VIEW row on the front panel which corresponds to the selected scene, then a prompt box will pop up. Rotate ENTER to “Confirm” and press ENTER again. Then the scene will be replaced with the current scene on the PVW window.

3.9.4 Delete a Scene

1. If the window selected already contains a scene, press Enter and a prompt box will pop up. Rotate the knob to “Delete”, and press ENTER to confirm.

3.10 Video Output

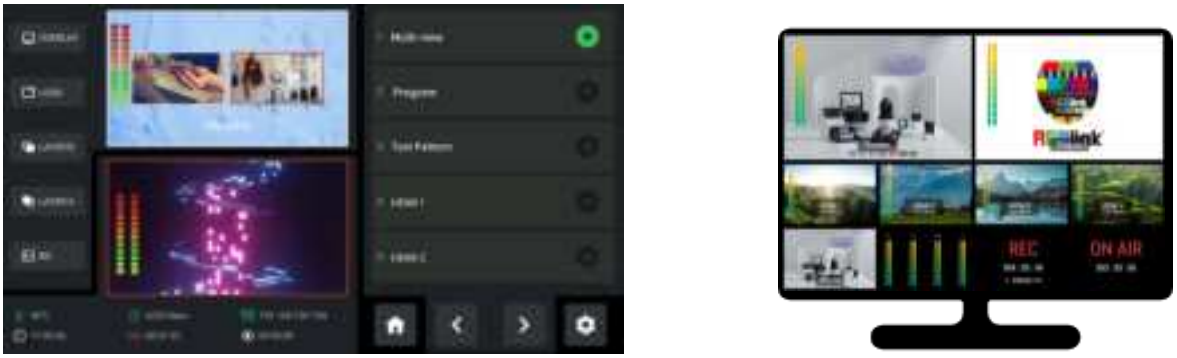
1. Push MENU button to enter MENU.



2. Rotate ENTER knob to move the cursor to “OUTPUT”, and press knob once again to enter the setting interface.

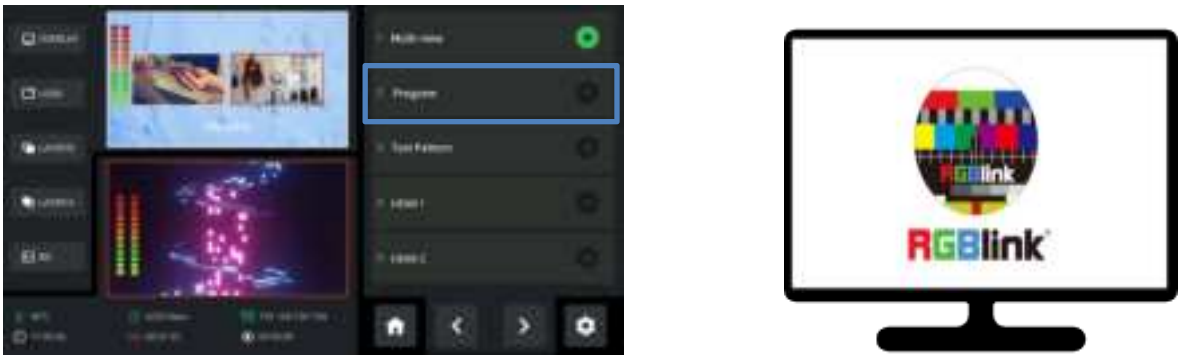
3.10.1 Multi-view

1. Use the Enter knob to select “Multi-view”. The monitor is by default to show the multi-view scenes.

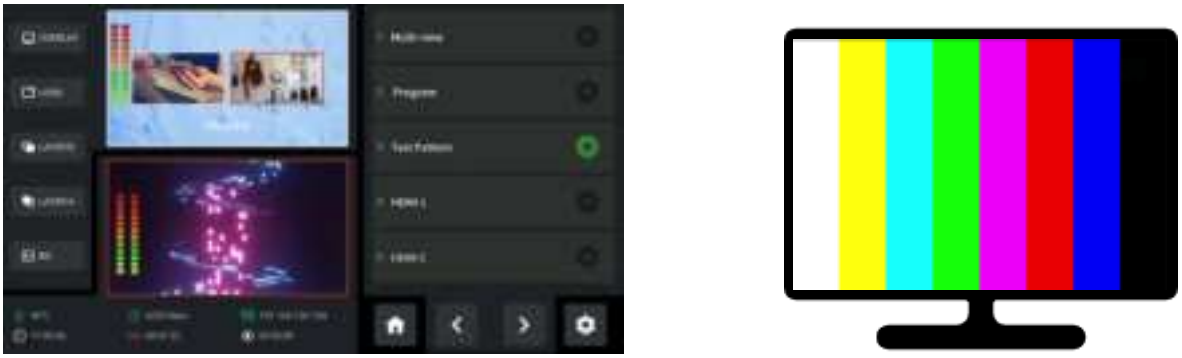


Select “Multi-view” as the multi-view output

2. User can also user the ENTER knob to select Program, Test Pattern or HDMI/SDI 1~4 inputs for various applications.



Select “Program”as the multi-view output



Select “Test Pattern” as the multi-view output

Select “HDMI1” as the multi-view output

3. 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/SDI is generally used to adapt displays with HDMI/SDI input interfaces. Turn on DVI/HDMI, mini-edge SDI can adapt to different types of display devices.

3.10.2 Program

1. The connected monitor defaults to display the program scene.

Output the Program scene by default

2. Users can also select to output multi-view scenes and test pattern as needed.

Select “Multi-view” as the program output

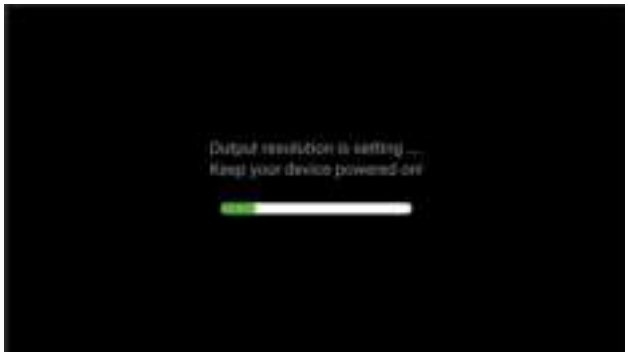
Select “Test Pattern” as the program output

3.10.3 Resolution

mini-edge SDI support output resolution up to 3840x1080@30. Users can select the matched output resolution as needed.

1. On the “OUTPUT” setting interface, rotate ENTER knob to “Format” and press ENTER to enter the resolution selection interface.

2. Please keep the device powered on after selecting a resolution.



3.11 TAO Cloud Device Access

With TAO Cloud integrated directly into RGBlink devices, such as mini-edge SDI, users can do more content production. The TAO Cloud creates an effective streaming platform, catering to the need for fast production. Users can take full advantage of TAO Cloud to distribute the content to more than 30 mainstream live-streaming platforms, breaking through the geographical limitation.

3.11.1 Binding mini-edge SDI to TAO Cloud

1. On the “OUTPUT” interface, use ENTER to select “TAO Cloud”.

2. If mini-edge SDI is unbound to TAO Cloud, a box will pop up to prompt the users to get a verification code. Please make sure your network is working before receiving the verification code.

3. Log into TAO Cloud (available at https://www.tao1live.com), and use a Facebook account to log in or sign up with email.

4. Enter TAO Cloud homepage. Click“All Appliances”> “Binding Devices” to enter interface as shown. Enter device name (customizable) and verification code, then click“Bind”to confirm.

5. You can check binding status in All Appliances interface.

6. If you want to unbind, use the ENTER button to select "TAO Cloud" once again and then select "Rebind". Then you can choose to rebind or perform other operations.

Notes:

If mini-edge SDI has been connected to the internet, you can perform device unbinding via a factory reset.

3.12 Streaming

So far mini-edge SDI supports three ways of streaming: device, TAO Cloud, USB output capture.

3.12.1 Streaming on Device

The device can perform push streaming without the need of a computer or mobile phone as long as the network is working. Used with live-streaming platforms, the device can distribute the content up to four 4 platforms at the same time.

3.12.1.1 Network connection

The network connection should be normal before enabling the streaming. Two ways are available for providing network connection for mini-edge SDI: 1. cable connection; 2. smartphone tethering.

1. Direct Cable Connection

mini-edge SDI switcher's Ethernet connector lets you stream directly. Connect mini-edge SDI to the internet by plugging a network cable from the Ethernet port to an internet router or a network switch. It is recommended to use RGBlink CAT6 cable with order code as 940-0001-00-11-0.

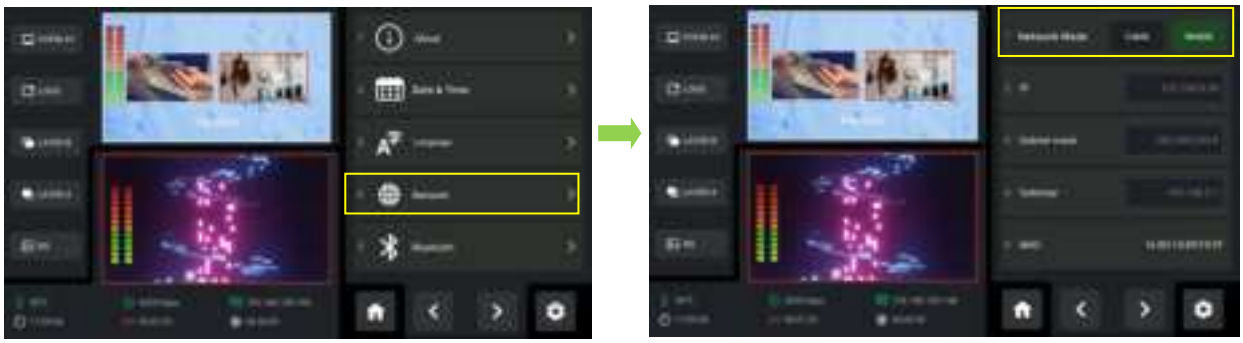
2. Smartphone Tethering

2.1 For iOS system, please do as follows:

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

b. 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'.

c. 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.



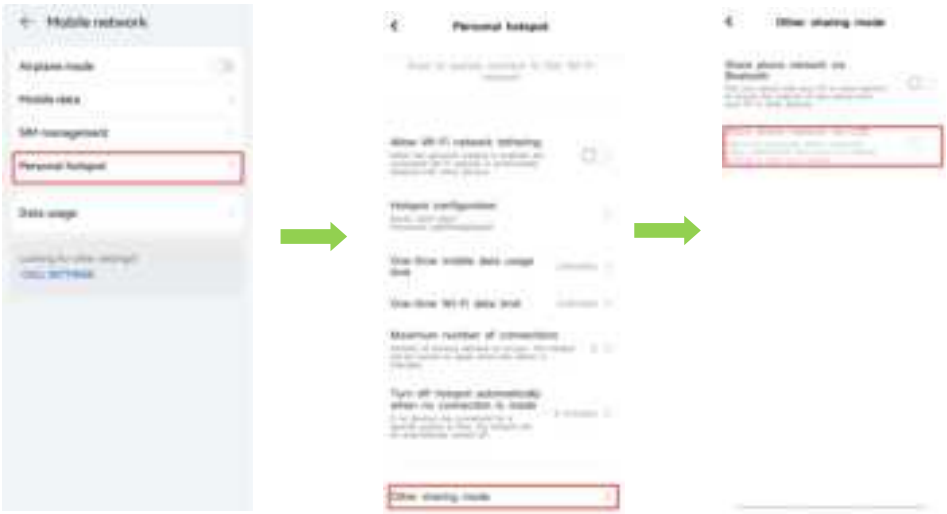
d. As shown in figures below, if the status changes from "Not Discoverable" to "Connection", it means that the mini-edge SDI and your mobile phone have achieved network sharing.

2.2 For Android system, please do as follows:

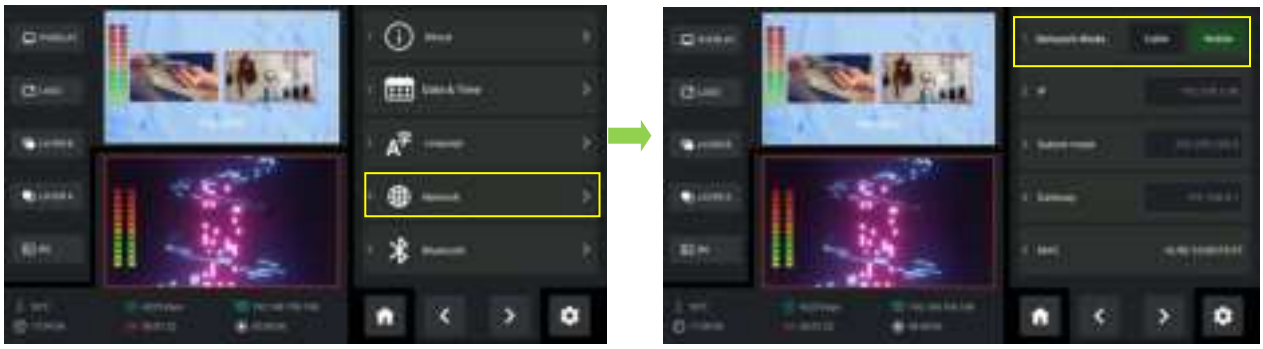
a. Open ‘Settings’> ‘Additional settings’> ‘Developer options”> Turn on ‘USB debugging’.

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

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



d. 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.



Notes:

1. Please make sure the DHCP is enabled when using Smartphone Tethering.
2. If failed to use network sharing, please connect USB-C interface of OTG cable to mini-edge SDI, then use standard data cable to connect your phone to USB-A interface of OTG cable.
3. The user interface may vary according to mobile phone types, please refer to the actual use.

3.12.1.2 Copy the Streaming Address (Take YouTube as an Example)

In above operations, mini-edge SDI has been connected to the network. Then TAO cloud can distribute a streaming address. To stream the content to a platform, proceed as follows. This section takes YouTube Live as an 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”.

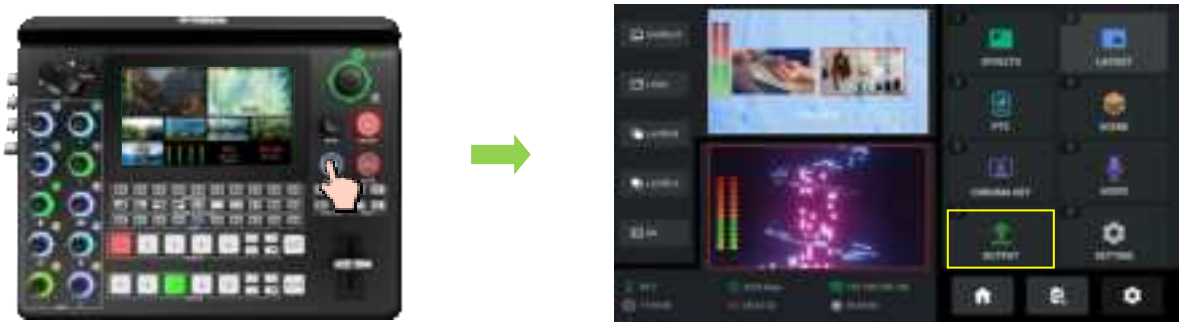
4. Type in a title and add a description in the dialogue box, click “create stream” and then copy the Stream URL and Stream Key.

5. Open TAO Cloud, connect it to the mini-edge SDI device, fill in the copied Stream URL/Stream key into the “Push Stream Address Box”, click “Distribute”, and the mini-edge SDI device will automatically recognize the push stream address.

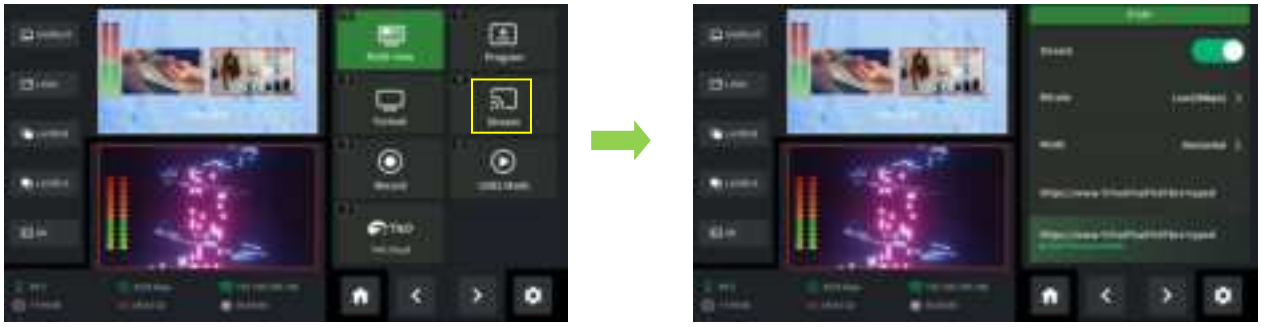
3.12.1.3 Select the Platforms to be Streamed

mini-edge SDI supports streaming to 4 platforms at the same time.

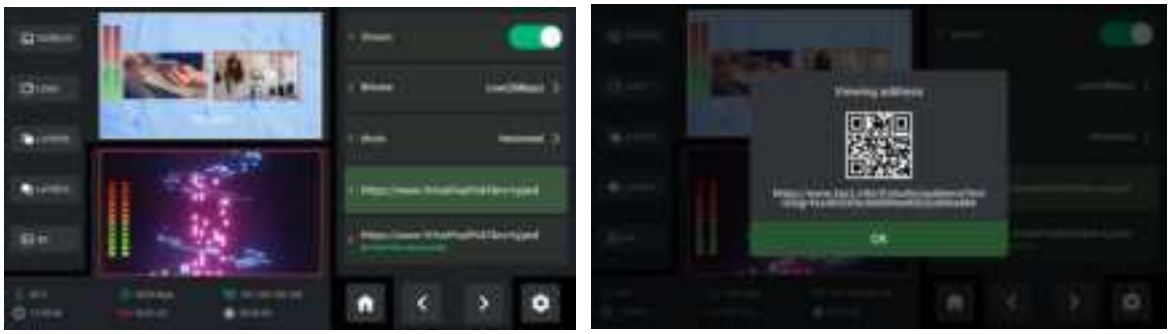
1. Push MENU Button to enter MENU. Rotate ENTER knob to move the cursor to “OUTPUT”, press knob once again to enter the setting interface.



2. Rotate ENTER knob to move the cursor to “Stream”, and press knob once again to enter streaming configuration interface. The streaming address which are recognized successfully by the device will be shown on this interface for the users to select.



1.3 Rotate ENTER knob to move the cursor to streaming address, and long press the knob for about 3 seconds for QR code. Scan the QR code and check the streaming status in real time.



3.12.1.4 Streaming Setting

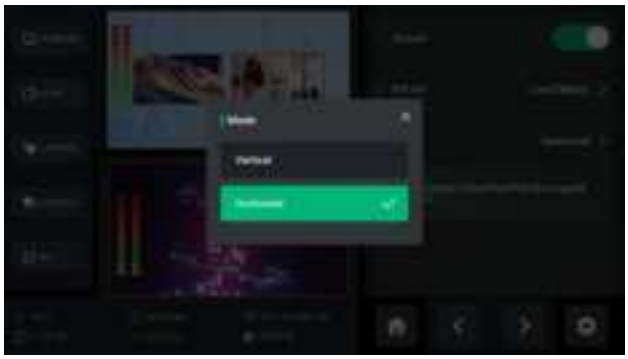
mini-edge SDI supports RTMP streaming protocol. Users can choose suitable bitrate and screen mode.

1. Bitrate

Users can adjust the bitrate of live video according to the actual situations. For example, if the network speed is slow, the bitrate can be switched to a lower level.

2. Screen Mode

Users can adjust the screen mode as needed. There are horizontal and vertical modes to be selected.



3.12.1.5 Enable Streaming

1. Enable the stream on the interface or press the “ON AIR” button on the front panel to start streaming. During the streaming, users can start or end the streaming by enable or disable the streaming address on the device.

2. To check the streaming status, users can rotate ENTER knob to any streaming address as needed and long press ENTER for about three seconds. A QR code interface will pop up for users to scan.

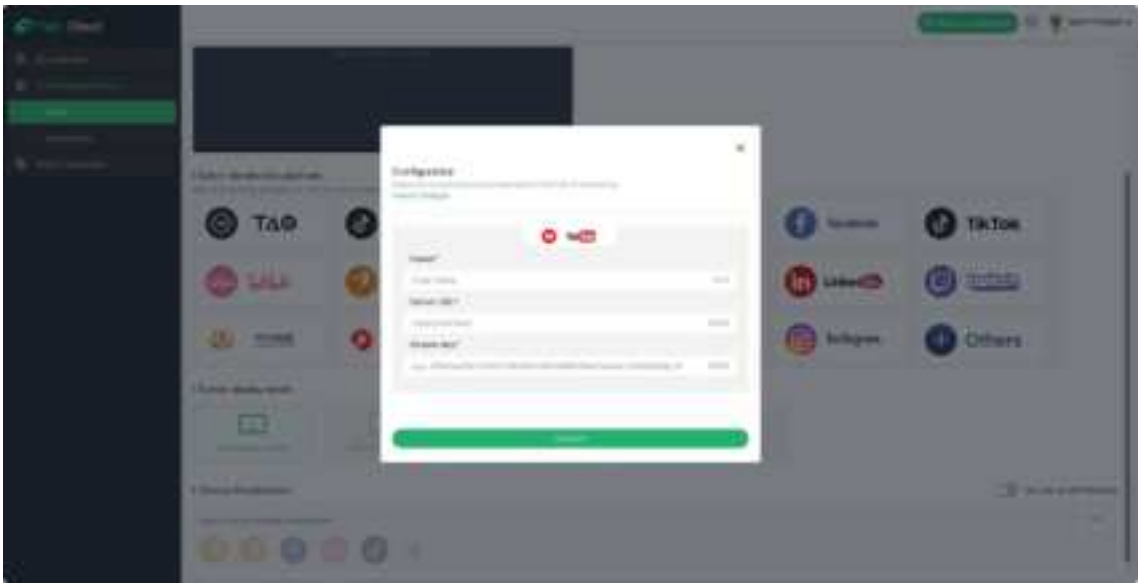
3.12.2 TAO Cloud Streaming

On the TAO Cloud platform, a wider streaming platform selection awaits the users. The TAO Cloud supports streaming the content to 32 platforms worldwide.

1. With device bound to the TAO Cloud (for the binding process, please refer to 3.11 TAO Cloud Device Access), users can have more platform options. Click “Home” on the navigation bar and click “Enter”to enter the streaming platform setting interface.

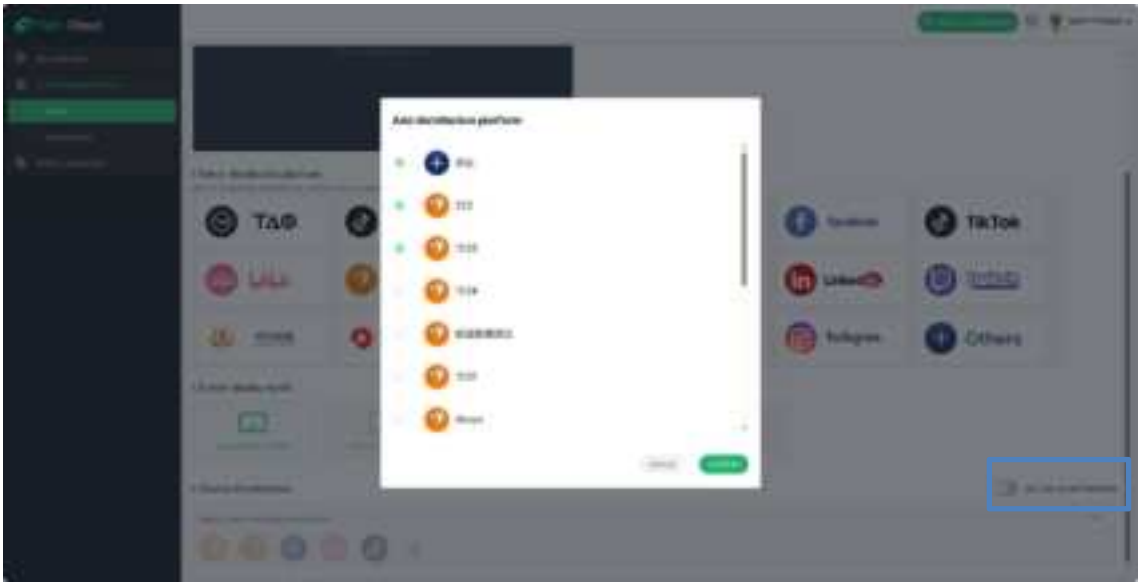
2. For the convenience of the users, the TAO Cloud provides the common streaming platforms worldwide. Users can click the platforms to be streamed or click “Others”to add a new platform. Users can also select the screen display mode on this interface.

3. A setting interface will pop up after clicking any platform. Please enter the studio name (customizable), streaming address and streaming key as the the box informed. Then click “Connect”.



4. To manage the studios already set, click “Destinations” on the navigation bar and enter the management interface.

5. With all these done, press “+” on the “Choose Destination” column to add platforms to be distributed. The icons of the added platforms will be displayed. Users can click any icon to stream the content or simply click “Go Live on All Platforms” to stream the content to all the added platforms.

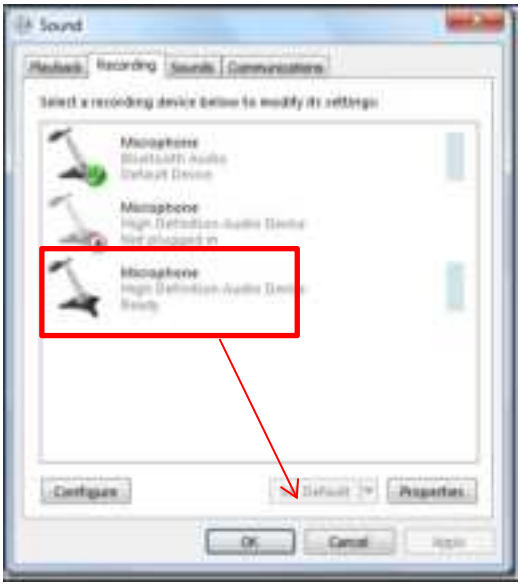


3.12.3 USB2 Capture Streaming

Users can also perform streaming via a third-party software when connecting a computer to a the USB port labeled number 2. This section takes OBS streaming as an example.

1. Audio Setting

a. When there is no audio playing, check the video source to see if it is set as default value.



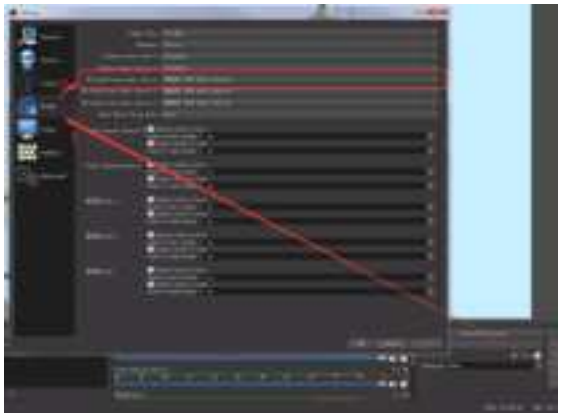
b. Check the audio setting on OBS.

Choose “Audio”, click “Setting“ and choose audio device (MIC/Auxiliary Audio Device).

2. Synchronize Video with External Audio

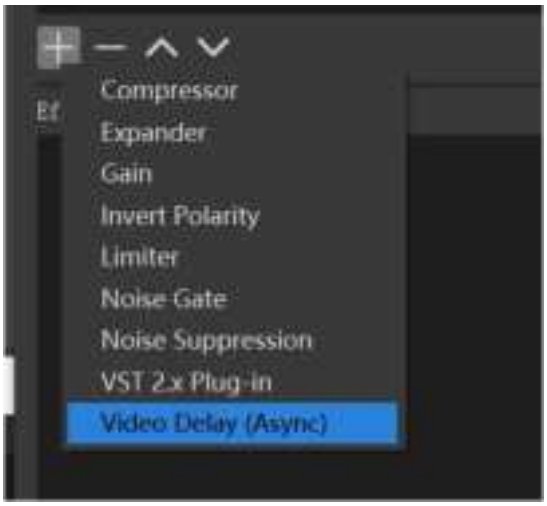
When the video itself doesn't have embedded audio and needs insert external audio, here are the steps:

a. Set the audio source: Setting→Audio→Mic/Auxiliary Audio Devices.



b. Right click the "Video Capture Device" in Source and choose "Filters".

c. Click“+”under Audio/Video Filters and choose Video Delay (Async).



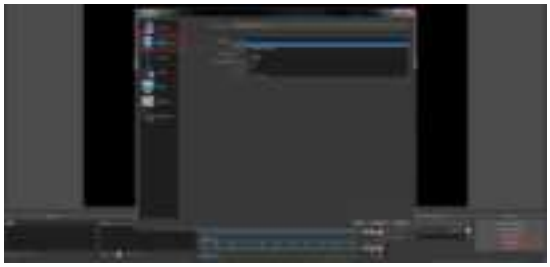
d. You can custom the filter name in the pop-up box. Click OK to confirm the filter name.

e. Input delay value in ms, the value needs to be adjusted until the video and audio are synchronous.

3. Streaming Setting

a. Find the RTMP URL and Stream Key provided by streaming broadcast website. Then Copy URL and Stream Key.

b. Back to OBS, click Setting in the lower right corner and click “Stream”. Choose Stream Type as “Streaming Service” or “Custom Streaming Server” . If “Streaming Service” is chosen, a list of streaming service names will be available in the drop-down list of Service. If the desired streaming service is in the list, select it from the list.For the Custom Service, simply fill in the URL and Stream Key. Paste the RMTP URL to Server or URL and Stream Key to Stream Key.



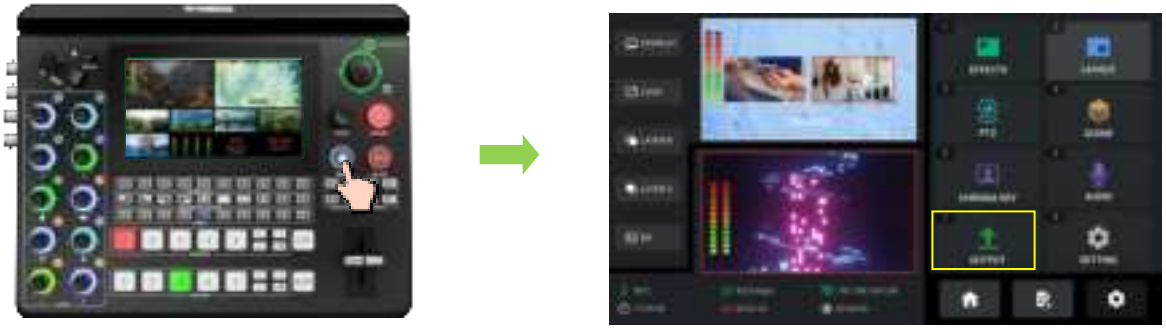
c. Click “Start Streaming”. Go back to live broadcast website and check the broadcasting.

3.13 Recording

mini-edge SDI embeds two USB ports and users can select one of them to record the content of the program output by inserting a U disk or SSD, providing reliable assistance for live content production. The U disk storage supports up to 64G and SSD supportsup to 2T. Please proceed as follows:

1. Insert the U disk or SSD for recording into USB-C port labeled number 1.

2. Press MENU button to enter the main interface, user ENTER knob to select “OUTPUT” and press ENTER Tto confirm.



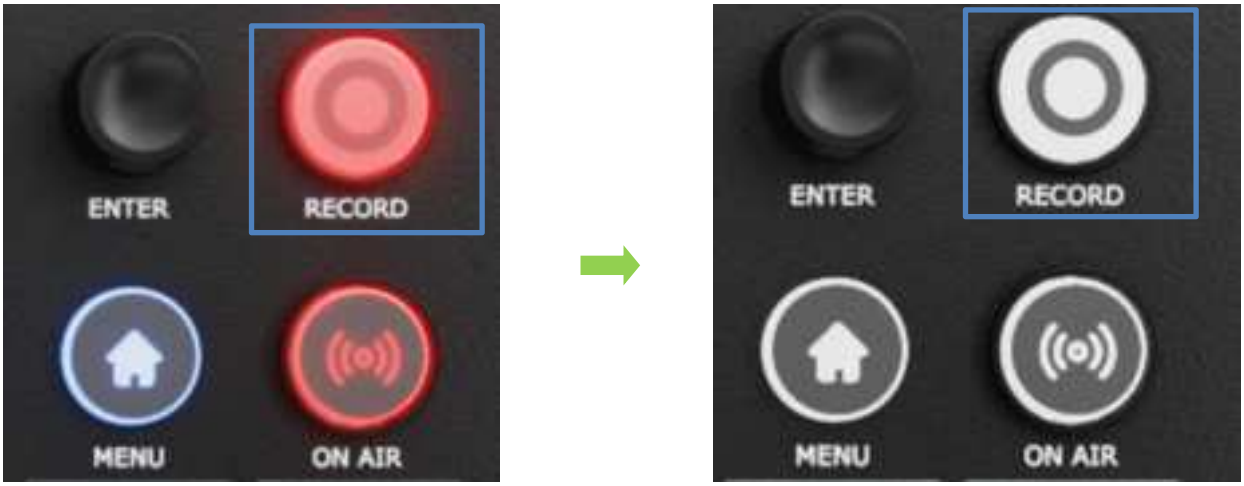
3. Rotate ENTER to “Record” and press ENTER to enter record setting interface.

U disk detected by the device

U disk undetected by the device

4. Press “RECORD” on the front panel to start recording and color of this button will change from white to red. During the recording, users can check the recording status and duration on the record setting interface, main interface and muti-view screen.

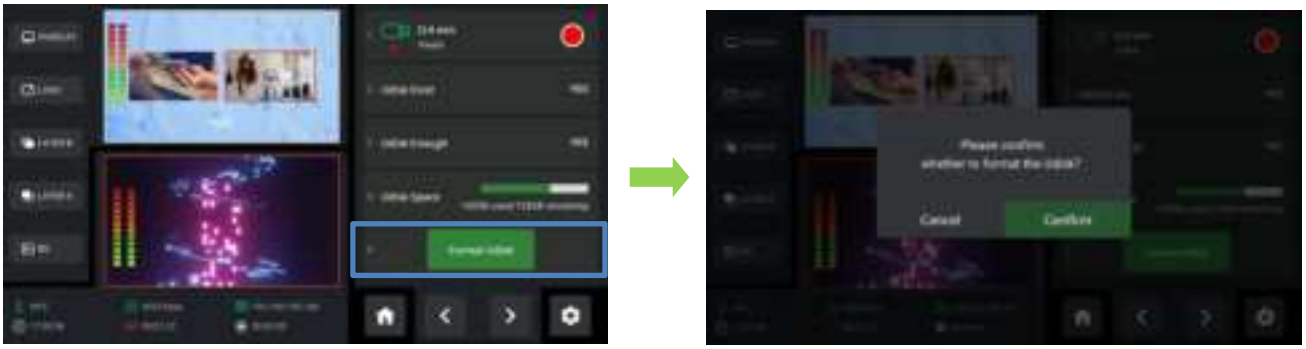
5. To end the recording, press “RECORD” on the front panel and the color of this button changes from red to white.



Notes:

1. During the recording process, do not remove the U disk.
2. The format supported by the U disk is exFAT. Please format the U disk if it is not. Do the

following steps: set the file format as “exFAT” on the computer and allocate the file 128kb each unit. Then use ENTER knob to select “Format U disk” and press ENTER to confirm.



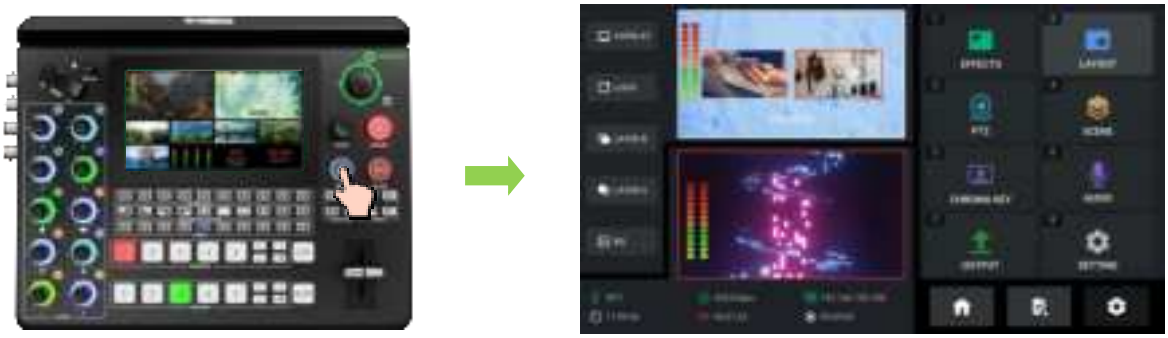
3. The recording is partitioned and saved every 4G. The content saved will be overwritten by new content from the first segment saved when the U disk storage is full. To avoid unexpected overwrite, users can check the U disk storage at any time on the recording setting interface.

3.14 Transition Effects

mini-edge SDI provides 17 transition effects for dynamic views switching. Users can select effects and set transition duration according to different situations.

3.14.1 Transition Effects Selection

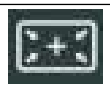
1. Users can simply use the four effects provided on the front panel. For more options, press MENU button and select“EFFECTS”on the interface to enter transition effects interface.



2. There are 15 transition effects for selection on the interface.

3.14.2 Transition Effects Illustration

Use ENTER knob to select the different transition effects as needed. For the illustrations of the effects, refer to the following table.

	Cut
	Fade
	Box Inwards
	Iris Box
	Cross Inwards
	Iris Cross
	Circle Inwards
	Wipe to Left
	Wipe to Right
	Wipe to Top
	Wipe to Bottom

	Wipe to Bottom Right
	Center Split Vertical
	Center Split
	Blinds Vertical
	DIP
	Blend

●  **CUT:** The Picture 1 switches to Picture 2 instantly with no transition effect.

●  **FADE:** FADE is a transition from Picture 1 to Picture 2 and two pictures are blended together during switching process.

●  **Box Inwards:** Box Inwards refers to replacing Picture 1 by Picture 2 and is achieved by using a box pattern closing in from the edge towards center.

●  **Iris Box**: Iris Box refers to replacing Picture 1 by Picture 2 and is achieved by using a box pattern growing from the center and progressing outward.

●  **Cross Inwards:** Cross Inwards refers to replacing Picture 1 by Picture 2 and is achieved by using a cross pattern closing in from the edge towards center.

●  **Iris Cross:** Iris Cross refers to replacing Picture 1 by Picture 2 and is achieved by using a cross pattern growing from the center and progressing outward.

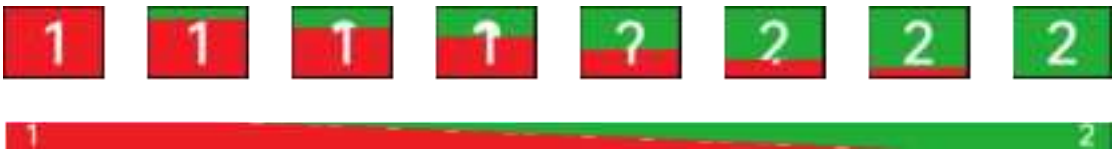
●  **Circle Inwards:** Circle Inwards refers to replacing Picture 1 by Picture 2 and is achieved by using a circle pattern closing in from the edge towards center.

●  **Wipe to Left:** The Picture 1 is unchanged, and the Picture 2 is gradually wiped in to replace Picture 1 from the leftward direction.

●  **Wipe to Right:** The Picture 1 is unchanged, and the Picture 2 is gradually wiped in to replace Picture 1 from the rightward direction.

●  **Wipe to Top:** The Picture 1 is unchanged, and the Picture 2 is gradually wiped in to replace Picture 1 from the upward direction.

●  **Wipe to Bottom:** The Picture 1 is unchanged, and the Picture 2 is gradually wiped in to replace Picture 1 from the downward direction.



●  **Wipe to Bottom Right:** The Picture 1 is unchanged, and the Picture 2 is gradually wiped in to replace Picture 1 from the diagonal direction.

●  **Center Split Vertical:** The Picture 1 is unchanged, and the Picture 2 grows from the center and extends vertically.

●  **Center Split Horizontal:** The Picture 1 is unchanged, and the Picture 2 grows from the center and extends horizontally.

●  **Blinds Vertical:** Blinds Vertical refers to an animation that imitates opening or closing blinds from a vertical direction. The Picture 1 is unchanged, and the Picture 2 which is divided into bars extend vertically.

-  **DIP:** Picture 1 gradually fades into a pure color, and then gradually changes from the pure color to Picture 2.

-  **Blend:** Blend is to mix images of two input signals with a softening effect around their edges.

3.14.3 Transition Duration

On the “DURATION” area on the front panel, users can select the transition duration which is in units of seconds as needed.

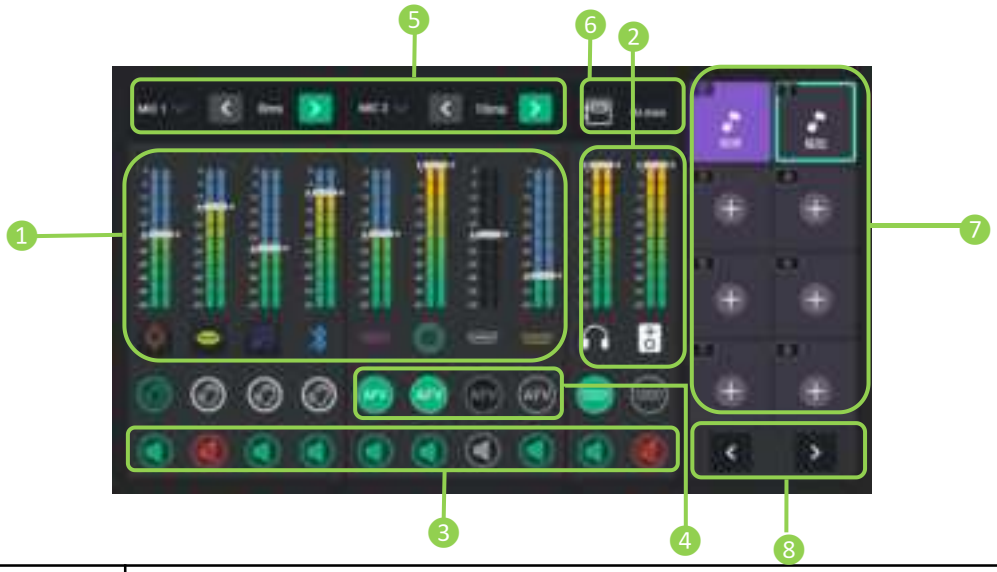
3.15 Audio

In addition to easy-to-use audio management on the front panel, the audio management interface on the screen provide a comprehensive audio functions, including mixed audio output, audio meter monitoring, volume setting, delay setting, audio effects and so on.

3.15.1 Audio Management Interface

Push MENU Button to enter MENU. Rotate ENTER knob to move the cursor to “AUDIO”, press the knob once again to enter audio management interface. The user can also 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 eight parts. Please refer to the following table for operation.



❶ Input Audio Meters	● Indicate MIC, UAC/NDI input, Line-in, Bluetooth, HDMI 1~4/SDI 1~4. ● Use the control knob on the front panel to adjust the volume. ● The bluetooth icon is touchable only when the device pairs successfully. For more details, please refer to Section 3.16.6.
❷ Output Audio Meters	● Indicate Headphone output and Program output. ● Press or knob the audio monitoring and Line out buttons  for audio control.
❸ Mute Button	● Icon illuminated green indicates OFF. Icon illuminated red indicates ON. ● Press the mute button  on the AUDIO area for input and output audio management.
❹ AFV Button	● AFV stands for audio - follow - video function, and indicates that the audio of the input source will be presented in the program along with the video when the video is switched. ● Enabling AFV, the audio will follow the video to make a soft gradual transition.

	Disabling AFV, the audio will remain on during and after video switching. ● The AFV buttons only function on the HDMI1~4 inputs. ● Button illuminated green indicates AFV ON. Button unlit indicates AFV OFF.
❺ Audio Delay	● Configure audio delay for MIC, Line-in, HDMI/SDI or Bluetooth to keep audio in sync with the video. ● Range: 0~300ms, increase or reduce 10ms each time.
❻ AI mini Identification	mini-edge SDI features MIC1 and MIC2 by default and a MIC3 will be displayed when recognizing a camera signal. Attach the AI mini receiver to the device, the interface will display **AI mini**. If attaching other brand cameras, the inerface will display **MIC3**.
❼ Audio Effects Area	● 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.
❽ Page up/Page Down	● Use ENTER knob to choose the right bottom icons to enter different audio clip storage page if the audio clips are more than eight. ● Use ENTER knob to choose “Page up” icon to enter Media for audio management; Use ENTER knob to choose “Page up” or “Page down” icon to back to Audio.

3.15.2 Selecting Microphone and Setting Level

The audio level setting can adjust the intensity of the audio signal to ensure it stays within an appropriate range. Audio level control is used when the sound is either too low or too high. The mini-edge SDI supports level setting for different types of microphones. Just tap the icons of microphone or line in to enter the level parameter setting interface.

3.15.2.1 Selecting Microphone

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

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

Notes:

1. If the voltage of the connected condenser is 48V, users need to open the switch of the 48V Phantom power of MIC IN. For more details, please refer to Section 1.2.2.

3.15.2.2 Line-in

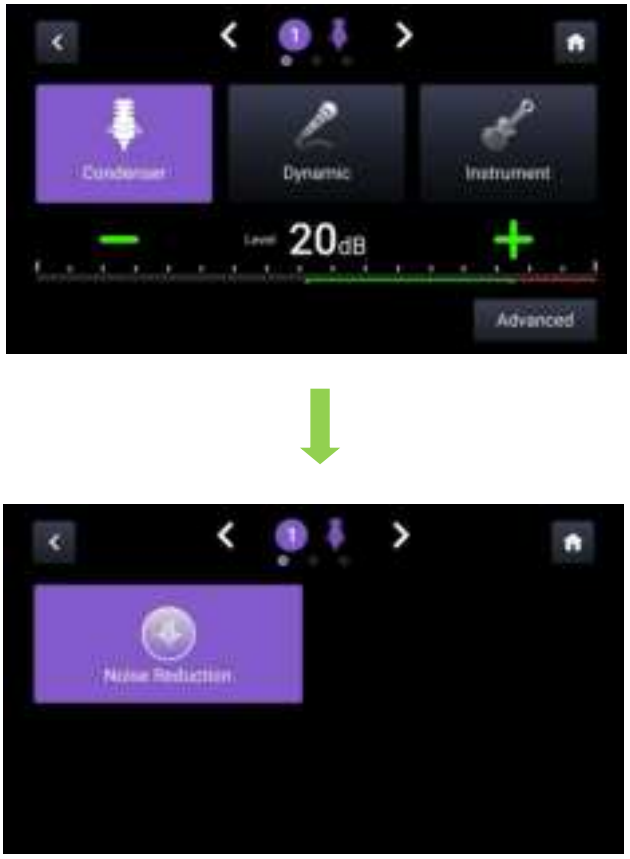
1. Rotate ENTER knob to the “Line-in” icon and press ENTER to enter the microphone selection interface.

2. Use “+” and “_” to adjust the volume of the selected input source.

3.15.3 Advanced Function

mini-edge SDI differs in audio performances from mini-edge. It provides noise reduction, which facilitates the recording of various scenarios.

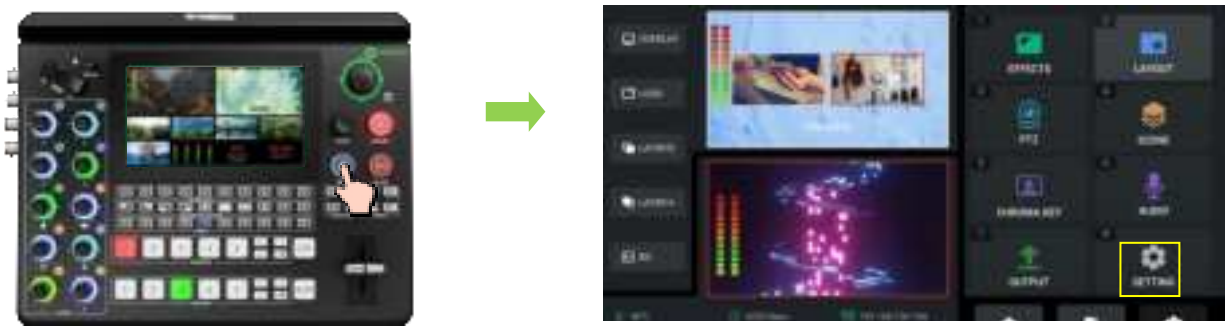
1. Tap "Advanced" on the microphone selection interface to enter the noise reduction interface. The icon will turn black after enabling it.



2. Slide the bar to adjust the level of noise reduction. Tap the button on the top right to reset the parameters.

3.16 Setting

1. Push MENU Button to enter MENU. Rotate the ENTER knob to move the cursor to "**SETTING**", press the knob once again to enter the setting interface.



2. As shown in the figures below, fifteen functions are available, including **About, Date&Time, Input, Language, Network, Bluetooth, Scene Loop, Switch Mode, Fan, Display, Color Management, PTZ Camera Protect, T-Bar Correction, Auto-return, and Reset.**

3.16.1 About

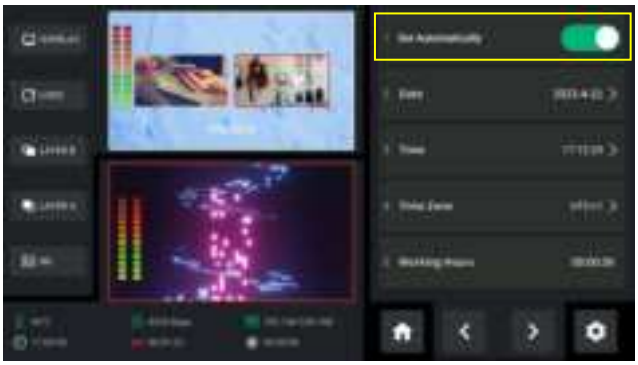
1. Rotate the ENTER knob to move the cursor to "About", press the knob once again to check information about mini-edge SDI. As shown in the figure below, users can check Device Name and SN (serial number). Select Model Version to gain access to upgrade interface.

2. Rotate the ENTER knob to move the cursor to "Upgrade Files", choose one file and press knob once again to upgrade mini-edge SDI. (More details please refer to Upgrade)

3.16.2 Date and Time

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

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



2. If the device is not connected to the network, users can set the time manually. Use ENTER knob to disable the auto time setting switch before manual time setting. The time set will be saved and start the automatic calculation.

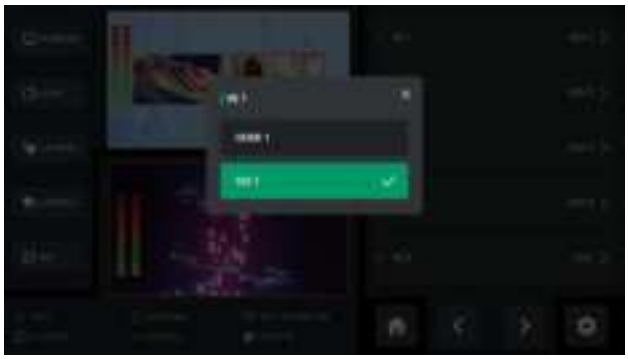
3.16.3 Input

mini-edge SDI provides ten input sources in total, including HDMI1~4, one UVC and one NDI.

3.16.3.1 Input Selection

1. Press “Input” to enter input sources setting.

2. For IN1~IN4, each IN has a HDMI (HDMI1~4) or a SDI (SDI1~4) to select.



3. For IN5, there are NDI and UVC to select.

3.16.3.2 Signal Switching via TAO Cloud

In addition to operating directly on the device, you can also control mini-family devices and operate signal switching, saving the trouble of firmware installation. Follow the steps mentioned in Section 3.11

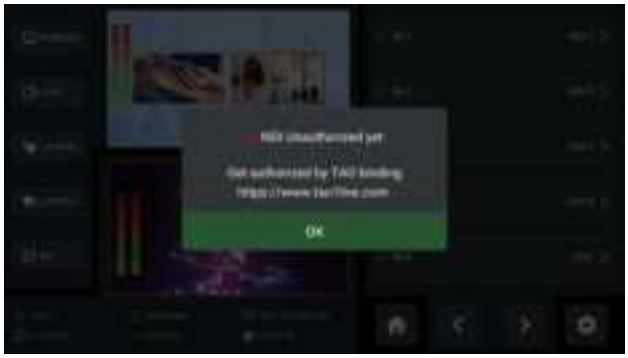
to bind your device to the TAO Cloud. Then you can check the basic information of your mini-family devices and operate signal switching. The device will respond correspondingly and immediately once you operate on the TAO Cloud.

We have made a detailed video about channel switching via TAO Cloud. Click the following link to learn: https://youtu.be/VssE0FBItI4

You can refer to this video for all channel-switching operations of mini-family products.

3.16.3.3 NDI Authorization

The NDI decorder is not available by default. If the NDI source is needed for IN5, users need to bind mini-edge SDI to TAO Cloud in advance. Note that this is a paid operation.



1. Users should first click “Enable” and enter the user mailbox and verification code into the box popped up to log into the TAO Cloud.

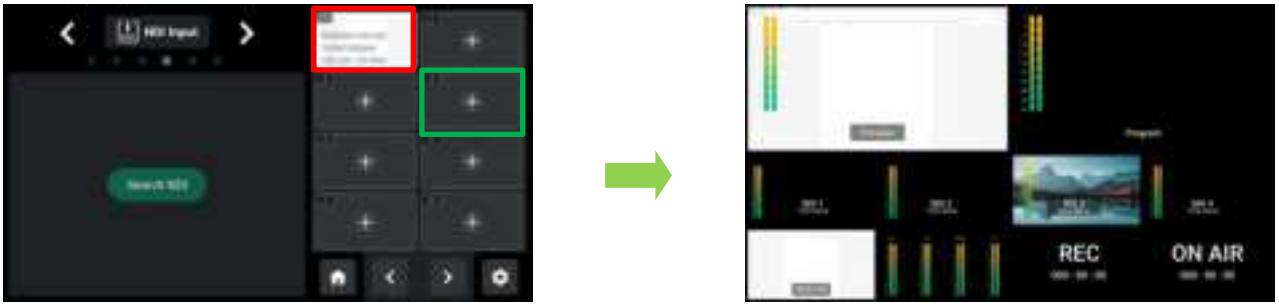
2. Then click “NDI enable”in the interface and a payment interface will pop up.

3. After scanning the code to pay, the interface will return to the TAO Cloud platform, and show “NDI enabled”

4. After the authorization, tap “NDI” and a prompt interface will appear. Tap “Yes” and then you can select or add NDI sources.

5. On the NDI input interface, users can search and select NDI sources. To select a NDI source, proceed as follows: Tap a window on the right column and the window border turn green. Select a NDI source and the window selected will display the image of the selected NDI source.

6. When selecting an NDI source window, the image will be synchronized to the IN5 window on the main interface. If the border of the window is red, it indicates the image of the window is on the IN5 monitoring window. If the border is green, it means the window is selected for editing. If users want to switch the input source of IN5, users can just select another configured window on the NDI source interface.



3.16.4 Language

For users in different regions, we may need to switch the language from English to Chinese or vice versa. mini-edge SDI supports language switch between English and Chinese.

Rotate the ENTER knob to move the cursor to “Language”, press the knob once again to enter the following interface. Then set system language as English or Chinese. The interface will switch to the set language immediately.

3.16.5 Network

mini-edge SDI offers two network modes: Cable and Mobile.

1. When choosing the cable network, users can open DHCP to let the device distribute the IP address automatically.

2. Users can also set the IP address manually. Disable the DHCP and use ENTER knob to move the cursor to IP column. Then the SHORTCUT row on the front panel will turn blue and function as a number button row for users to modify the IP address.

3. Besides, users can use a mobile phone to realize the network connection.

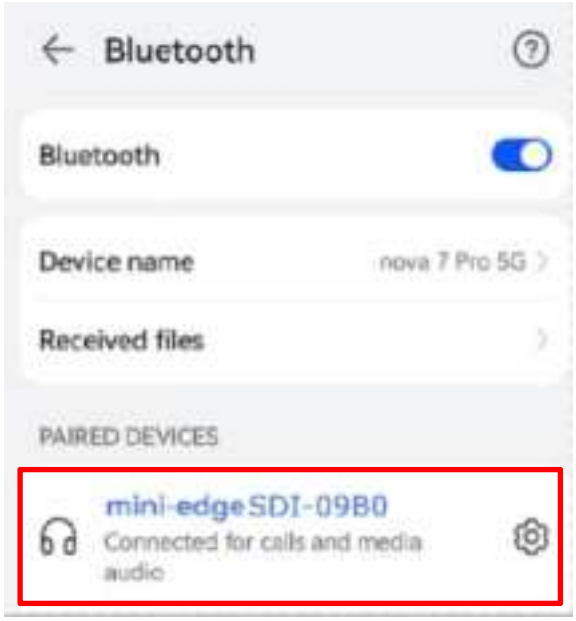
3.16.6 Bluetooth

1. Enable the Bluetooth

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

2. Pairing

Bluetooth defaults to ON. Turn on Bluetooth on mini-edge SDI and mobile phone to establish a Bluetooth connection. Users can check the device name on the phone and then select the mini-edge SDI model that needs to be paired in the Bluetooth Setting Interface of the phone. After successfully connecting mini-edge SDI to mobile phone, you can play music via Bluetooth.



Notes:

1. Every mini-edge SDI model has a special name and is generally named **mini-edge SDI-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.

3.16.7 Scene Loop

Scene loop refers to the cyclic switching of saved scenes, allowing users to check multiple screens simultaneously.

1. Enable Scene Loop

Choose “Scene Loop” to enter the following interface.

2. Loop Time Setting

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 the loop. After displaying the last view, it will automatically jump to the first view and continue the loop.

3.16.8 Switch Mode

mini-edge SDI provides PVW mode (default) and CUT mode.

1. Rotate the ENTER knob to move the cursor to “Mode”, press the knob once again to enter the following interface. Select the mode you want and customize switch time as needed.

2. Switch Mode

2.1 PVW Mode

For some important occasions, users might need to preview and preset the next scene to ensure the accuracy and stability of the screen. mini-edge SDI provides T-Bar PVW mode to allow switching 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.

2.2 CUT Mode

If the user wants to 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.

3.16.9 Fan

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

2. In the fan control interface, there are four levels of fan speed for users to choose from. Choose “Auto” to achieve automatic adjustment of the fan speed.

3.16.10 Display

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

3.16.11 Color Management

1. Rotate the ENTER knob to move the cursor to【Color Management】, press the knob once again to enter the interface below.

2. Use the ENTER knob to enable switch to set brightness, saturation, contrast, red, green and blue values for four HDMI/SDI inputs.

3.16.12 PGM PTZ Protect

When the PGM PTZ Protect is enabled, the preview scenes of the PTZ being controlled cannot be loaded to the Program if the PTZ content is displayed on the Program output.

3.16.13 T-Bar Correction

1. Rotate the ENTER knob to move the cursor to “T-Bar Correction”, press the knob once again to enter the interface below.

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

2.1 Push the T-bar to the very top;

2.2 Enable switch on Step 2;

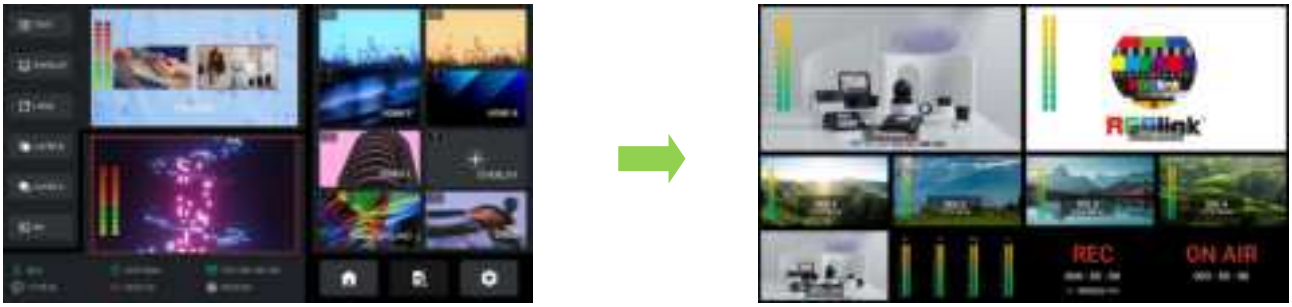
2.3 Push the T-bar to the bottom;

2.4 Enable switch on Step 4;

3.16.14 Auto Return

Rotate the ENTER knob to move the cursor to “Auto Return”, press the knob once again enter the following interfaces. 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. When time is up, the Standby Interface will automatically return to the Main Interface.



3.16.15 Reset

Rotate the ENTER knob to move the cursor to “Reset”, press the knob once again to check current version of mini-edge SDI and perform factory reset.

Chapter 4 Ordering Codes

4.1 Product Code

230-0008-01-0	mini-edge SDI

Chapter 5 Appendix

5.1 Specification

Connectors	Input	HDMI 4K	4×HDMI-A
		UVC(Webcam）	1×USB-C
		3G SDI	4×SDI
		NDI	1×NDI
	Output	HDMI 2K	1×HDMI-A
		USB (Stream)	1×USB-C
		USB (Record)	1×USB-C
		NDI	1×NDI
	Audio	In	2×6.35mm XLR + TS 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	HDMI	1280×720@50/59.94/60 | 1024×768@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 | 1920×1200@60 | 1920×1080i@50/59.94/60 | 1920×1080p@ 23.98/24/25/29.97/30/50/59.94/60 | 3840×2160p@30/50/60 | 4096x2160@30/50/60
	Output Resolutions	HDMI/ USB (webcam)	1280×720@50/60 | 1920×1080@24/25/30/50/60
	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
Power	Compatibility	USB Power Delivery (PD) 3.0	
	Supported Cables	Certified USB PD Aware	
	Input Voltage	Type-C 12V/3.3A	
	Maximum Power	40W	
Working Environment	Temperature	0℃~45℃	
	Humidity	10%~85% RH	
Physical	Weight	Net	1.48kg
		Packaged	2.80kg
	Dimension	Net	291.0mm × 222.6mm × 71.3mm
		Packaged	332.0mm × 238.5mm × 109.0mm

5.2 FAQ

1. Fail to power on mini-edge SDI?

A: The power adapter included in mini-edge SDI is the recommended power supply to use. If you use other power supply, make sure the power supply supports 12V 3.3A. Then check whether the power supply is connected, and use it correctly according to the power supply standard of your country/region. If the device still fails to power on, 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 SDI:

A: Please try to change the power adapter (support 40W).

3. mini-edge SDI upgrade notes:

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

4. mini-edge SDI cannot control PTZ:

A: Please make sure that the IP address of mini-edge SDI 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 SDI to 192.168.5.X (X should be a number within the range of 2 to 254, excluding 163). 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 SDI USB 3.0 RECORD cannot recognize U disk.

A: Please format the U disk (exFAT).

6. mini-edge SDI 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 SDI

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 SDI 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 SDI HDMI input what kind of YUV.

A: mini-edge SDI supports 4:4:4 and does not supports 4:2:0.

9. When inputting i signals, half of the mini-edge SDI screen flickers./ When switching from i signals to P signals, the height of the P signal is cut.

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

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

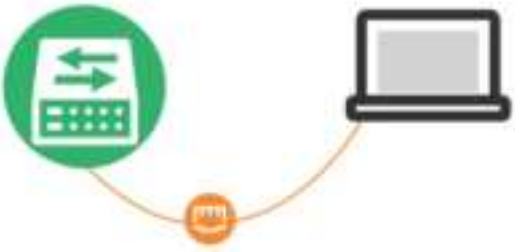
A: Currently, the PTZ controlling Pelco protocol is not supported.

11. Insert a USB disk for recording into mini-edge SDI and mini-edge SDI turns black?

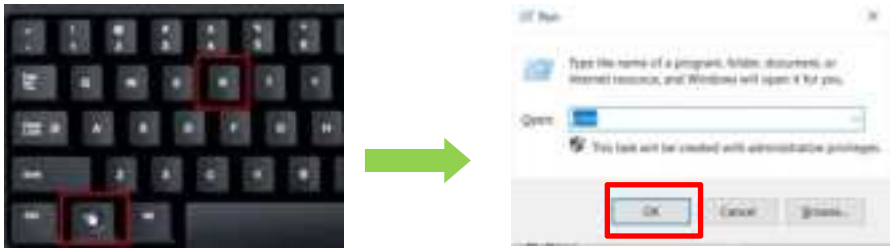
A: It means that the USB disk is in a read-only state, please use computer to unlock the USB disk.

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

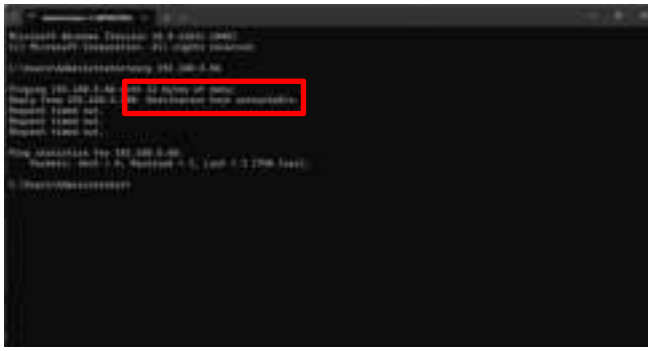
A: 12.1) Connect the switcher to the computer.



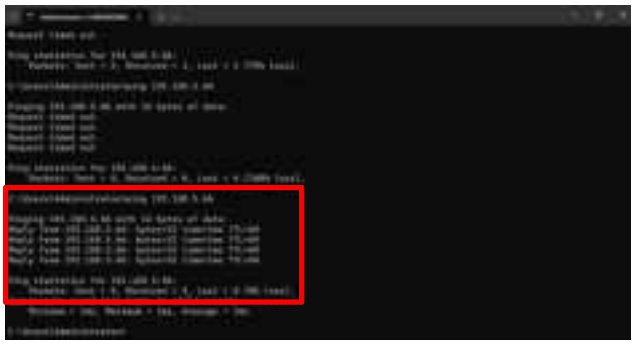
12.2) Press the "Windows" key and the "R" key to open the "Run" dialog box. Type "cmd" and click the "OK" .



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.



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 SDI to provide support and reduce device temperature.

14. Video playing via fifth input?

A：The fifth input supports video playing only in .mp4 format and 1080p resolution.

15. Controlling PTZ Camera During Live

To control PTZ camera while performing live streaming, please make sure PTZ, mini-edge SDI and network are in the same LAN, then turn on DHCP of mini-edge SDI 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 SDI with a router with DHCP features. Turn on DHCP of mini-edge SDI and the router, then mini-edge SDI 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.

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 SDI is 192.168.5.98 and the subnet mask is 255.255.255.0, please set the gateway to 192.168.5.1.

5.3 Upgrade

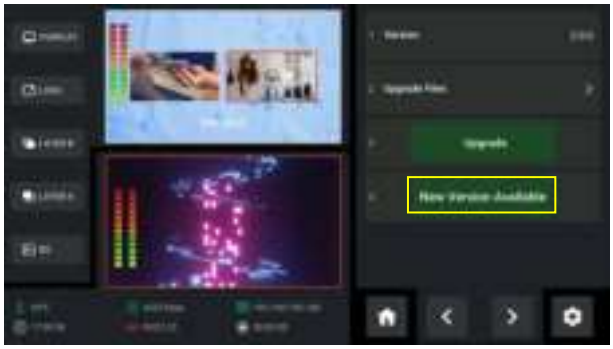
5.3.1 Online Upgrade

Upgrade Method: online upgrade
Steps:

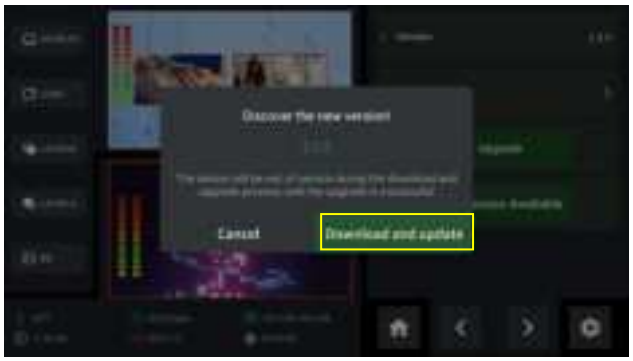
1. Connect mini-edge SDI and your PC via an Ethernet cable;

2. Open “Network Settings” on your PC and ensure that the PC has connected to the local area network where the device is located (such as enable DHCP to for auto IP address capture;
3. Use ENTER knob to choose “SETTING” > “About” > “Model Version”, then press the knob.
4. For no new version available, rotate the knob to move the cursor to “Check for updates”, then press the knob once again, the interface will display "Currently in the latest version".

5. "New Version Available" indicates that a new version has been captured.

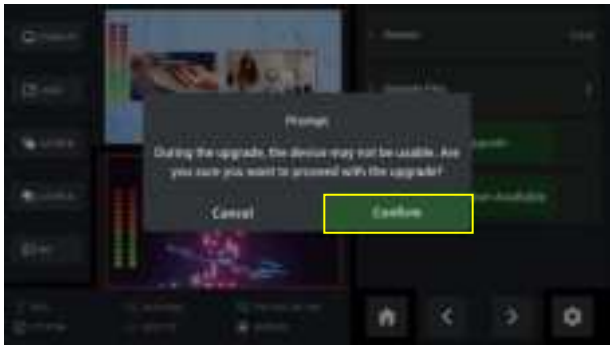


6. Rotate ENTER knob to move the cursor to “New Version Available”, then press the knob again to check the new version discovered. Choose “Download and update” to download the firmware.



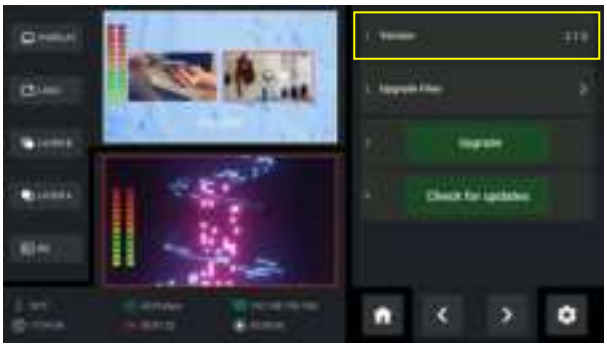
7. It takes about 10 minutes to download the file (depending on the network).

8. Rotate ENTER knob to move the cursor to “Confirm”, then press the knob again to perform the upgrade process.



9. DO NOT power off during upgrade process. mini-edge SDI will reboot after the upgrade is completed.

10. Check the new version in the following interface.



5.4 Customized Button Function

The buttons 0~9 on the front panel can be used as shortcut buttons. The user can assign functions to buttons 0~9 via webpage. The webpage is shown as below. **The shortcut functions include: SIGSEC, PTZ CX, DSK BG, Input Signal 1, Input Signal 2, Input Signal 3, Input Signal 4, Fan Speed +, Fan Speed-, Sleep | Power ON. Novice guide** is designed to help users quickly get started and master the basic operations of customized button function.

Notes:

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 clear all settings
- 

: Click to clear current setings

5.4.1 SIGSEC

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

- Security Thematic BG: One-click to realize switching 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 to go to black screen for Program.
- Colorbar: Static colorbar picture.

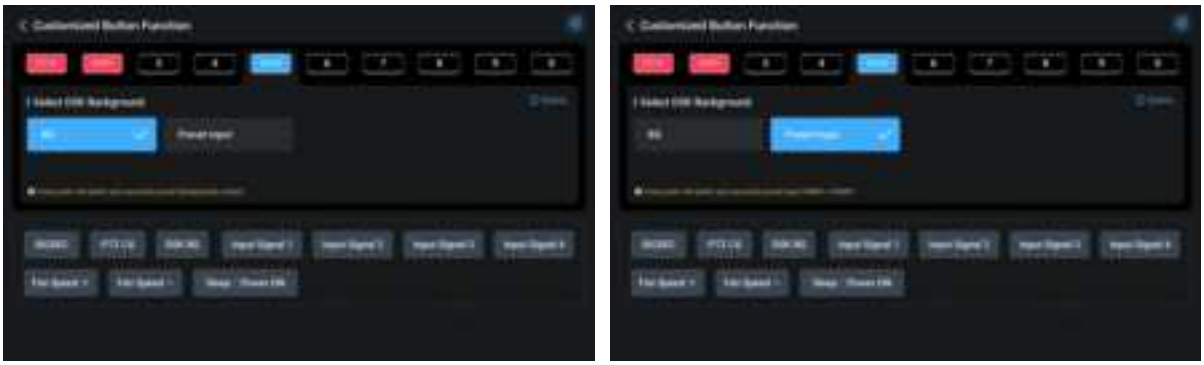
5.4.2 PTZ Signal

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.

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 the signal for chroma key. The user can also switch to the background image saved in mini-edge SDI by clicking the button with “DSK BG” function twice. That is, clicking the button will transition the current background image to the next image. If you have already switched to the last image, press the button once again to return to the first background image.

● Preset Input: HDMI 1~4 inputs function as the preset video signal and are the default input signals of DSK background.

5.4.4 Input Signal Selection

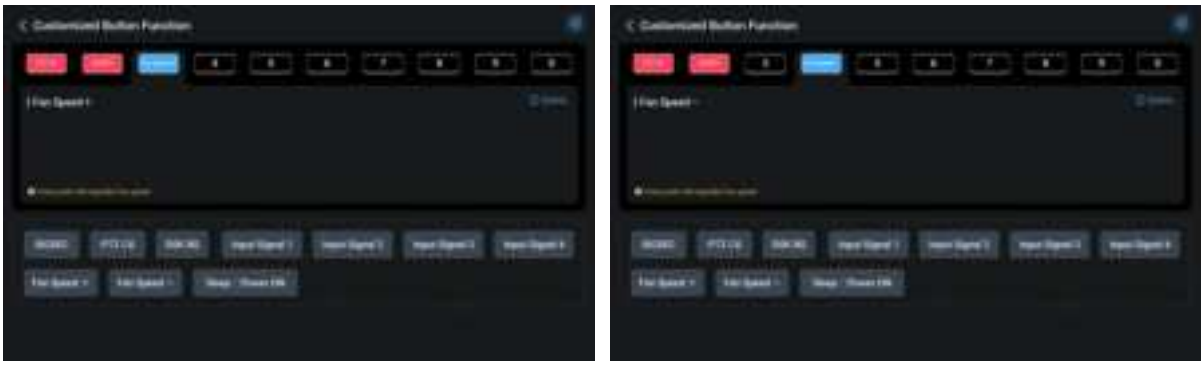
Drag **Input Signal 1/2/3/4** into any button from 0~9 to display the menu. The following figure shows the interface of “Input Signal 1”.

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

- Brightness Adjustment +：range from 1 to 255 (the default value is 128)
- Brightness Adjustment -：range from 1 to 255 (the default value is 128)
- Contrast Adjustment +：range from 1 to 100 (the default value is 50)
- Contrast Adjustment -：range from 1 to 100 (the default value is 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.

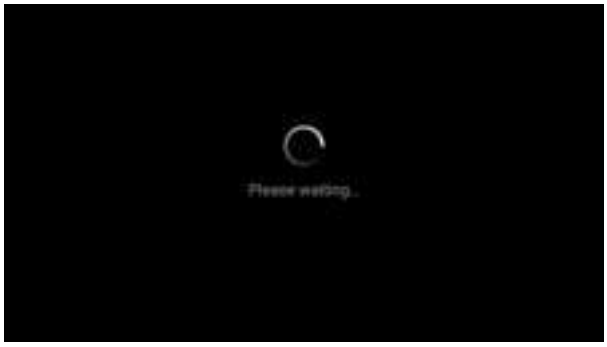
- Fan Speed+：range from 1 to 5 (automatic setting by default)
- Fan Speed-：range from 1to 5 (automatic setting by default)

5.4.6 Device Sleep | Power ON

Drag **Sleep | Power ON** into any button from 0~9 to display the menu.

If **Sleep | Power ON** is assigned to Button 1, press the Button 1 along the SHOUTCUTS row on the front panel, the interface is shown as below:

Rotate ENTER knob to move the cursor to “Yes”, press the knob to confirm. mini-edge SDI will enter standby mode in 3 seconds.



In standby mode, light of Button 1 changes to a faint blue glow. Meanwhile, as other buttons go dark, no operations can be performed. At the same time, the Program output turns black, and the recording and streaming processes are automatically disconnected.
In standby mode, press Button 1 once again to wake up the device. The Program output will be restored to the initial state, and streaming and recording will restart.

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).

●**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.

●**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.

● **ColourBurst:** 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 (1920x1080) 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	2025-03-25	0000#	First release.	Alyssa

Chapter 6 Support

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6.2 Operation Videos

Below are the tutorial videos of operating mini family's products. You can click the link to learn how to operate your device.

https://www.youtube.com/@rgblink/playlists