FoMako

Multi-Camera 4K Video Switcher

User Manual V1.2

Professional Video Processor
PTZ Control
ProAV MIXER | RGB24 Capture
High Bitrate Recording | RTMP Live Streaming

www.fomako.net

Quick Start

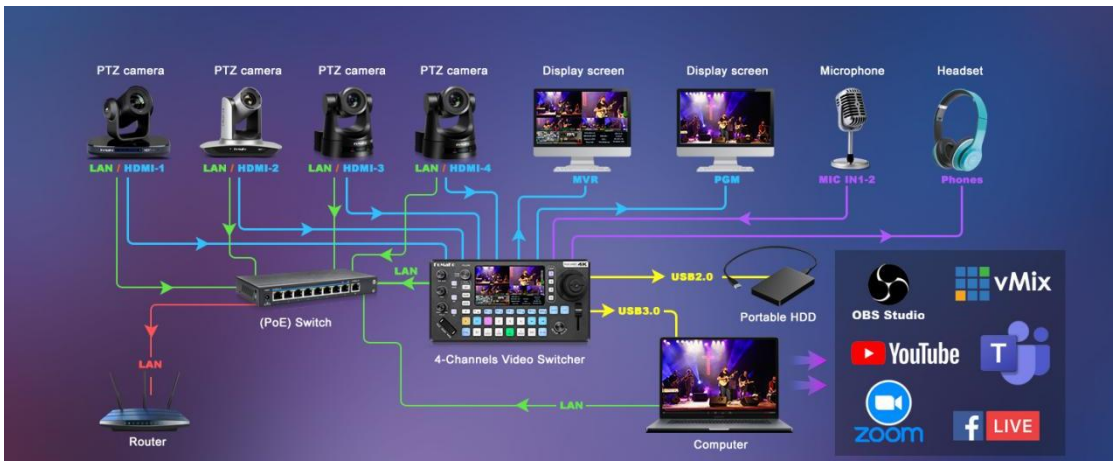
Dear Customers,

Thanks for ordering FoMaKo 4K video switcher panel, before using the panel, please read this quick start first. It will help you to use the video switcher panel easier.

1. About resolution

Input: HDMI 4K 60fps at maximum
Output: 1080P 60fps
Recording: 1080P 60fps
USB/IP Streaming: 1080P 60fps

2. Cable Connections



Here is the classic connection diagram.
(1) Connect HDMI video sources and audio sources to video switcher
(2) MVR/PGM HDMI video out for local preview
(3) Type-C for USB Live streaming, USB for PGM recording
(4) **Network connection:** Use network cable connect all devices(cameras, video switcher, computer) to network switch, network switch connect to router.
You'd better have a router in the network(LAN), then, router will assign IP addresses for all the devices.

All FoMaKo devices have DHCP enabled by default. After you complete the system setup, it is recommended that you disable DHCP on all devices; otherwise, when the devices or router restart, the router will reassign IP addresses to the devices.

3. Common Shortcut Keys

MENU + LOCK: Enable LOCK Function;
MENU + LOGO: Enable the LOGO;

MENU + REC: Start or Stop Recording;
MENU + Stream: Start or Stop IP Streaming;
M/E: Special effect choosing by “Setup Scale” knob.

4. **About Layers**

The video switcher has 4 layers.
Top layer=Logo layer
Layer 2=Layer A, is usually a picture in picture or a secondary preview screen.
Layer 3= Layer B, is the signal source .
Bottom layer=Background layer

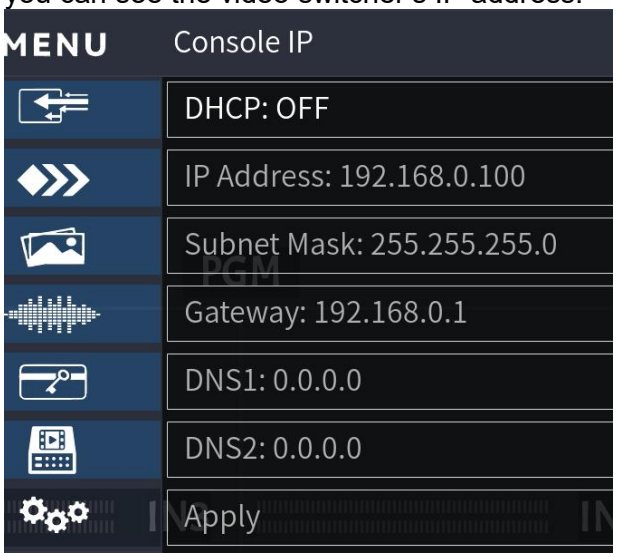
5. **Layer Control**

Top layer: Logo layer can turn on/off by “Menu+Logo”
Layer 2: Layer A, control by button “A”. When layer A button light up, You can use the joystick to adjust the size of layer A and move layer A
Layer 3: Layer B, control by button “B”. When layer B button light up, You can use the joystick to adjust the size of layer B and move layer B
Bottom layer: Background layer, when turn off layer A&B, this layer will show up.

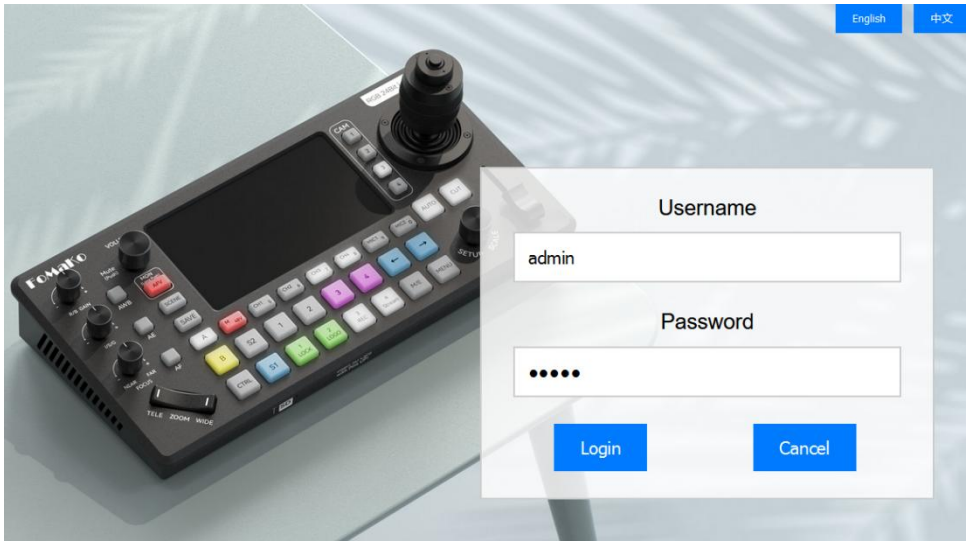
6. **The functions of background layer**

- Disable layer A&B, output background
- WIPE (Graphic Slide) picture
- Customs effects
- Background work with Luma Key

7. **Webpage login**
Go go video switcher’s menu setting-> System->network setting->Console IP, you can see the video switcher’s IP address.



Login the video switcher’s webpage by its IP address in computer web browser:
User name: admin
Password: admin



8. **PTZ Control Function**

This video switcher comes with professional PTZ controller joystock, support Visca over IP control protocol.

(1) **About cameras and PTZ controller's IP addresses**

 The first three parts of IP address must be the same for video switcher and cameras. For example:

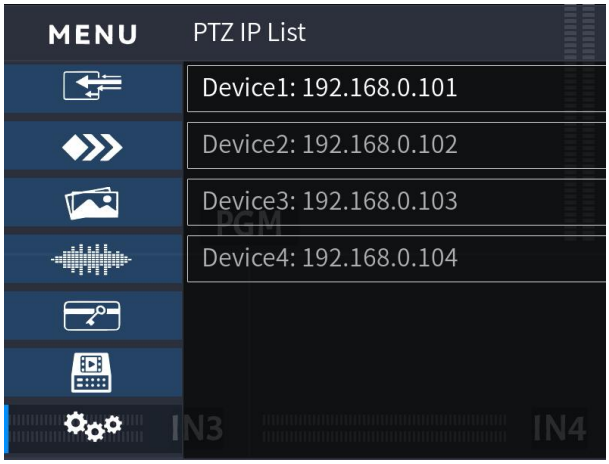
192.168.1.100 and 192.168.1.150 , the first three parts are the same. You can add the camera to controller.

192.168.1.100 and 192.168.**12**.150, the first three parts are not the same.You can't add the camera to the controller.

You have to change camera or video switcher's ip address, to make the first three parts become the same.

(2) Add IP PTZ Cameras to Controller

1) Please find out your camera's IP addresses
2) Go to Video switcher's menu setting->System->Network setting->PTZ IP List
3) Input the cameras' IP addresses



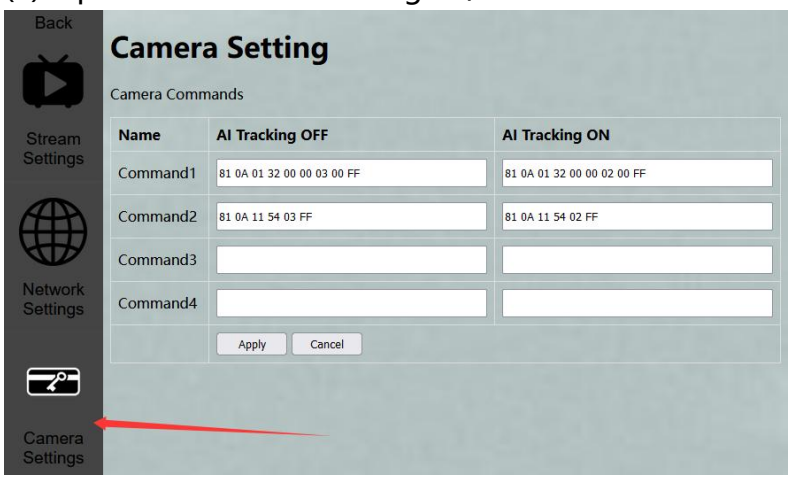
4) Now, press number 1~4 in CAM area, you can control the camera by the joystick.

9. **Turn on/off AI tracking**

When you can control the cameras by the joystick, now, you can use the video switcher to send Vsica commands to the camera, to turn on/off AI tracking function.

(1) Login the video switcher's webpage by its IP address.

(2) Input cameras' AI tracing on/off Visca commands in "Camera Settings".



The Vsica commands for FoMaKo cameras have been pre-set.

Camera Picture	Commands	Model ID
	Command1	FMK12UH Pro(20x), FMK20UH, FMK30UH K20UH,K20UH NDI, K20NS, K30NS
	Command1	FMK20SDI Pro, FMK30SDI Pro, KN20A Pro, KN30A Pro
	Command1	K800N
	Command2	K820N, K820S,K820

If have you have other brand PTZ cameras, please check the camera's user manual or contact the camera supplier to get the AI tracking on/off Visca commands.

(3)Go to video switcher's menu setting-> Advanced-> PTZ-> AI Tracking->AI Command. You can assign the right AI command for the camera.

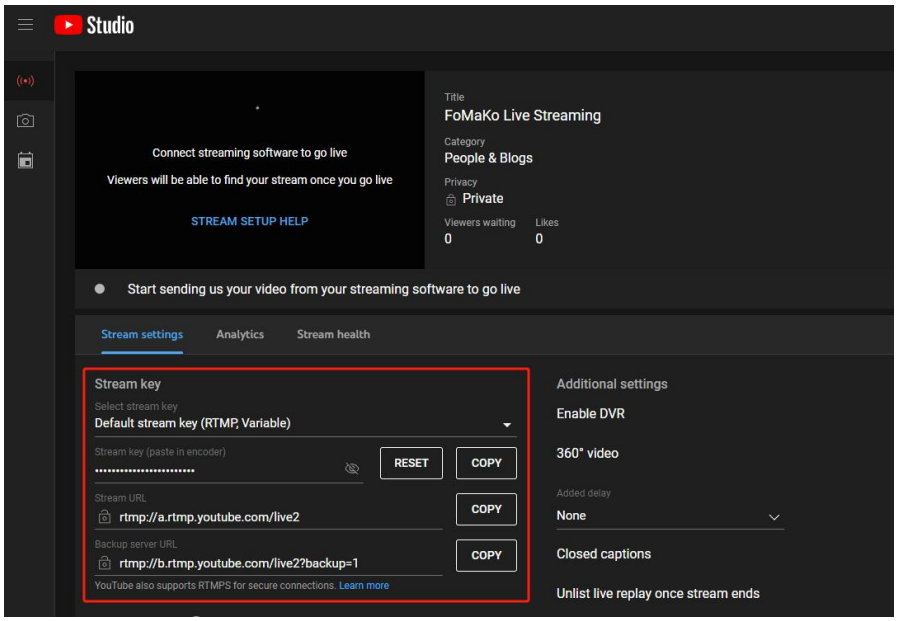
(4) Shortcut key to turn on/off AI tracking: **Ctrl + CAM ID**

For example:
Press "Ctrl + 1" , it will turn on AI tracking for CAM1,
Press "Ctrl + 1" again, it will turn off AI tracking for CAM1.

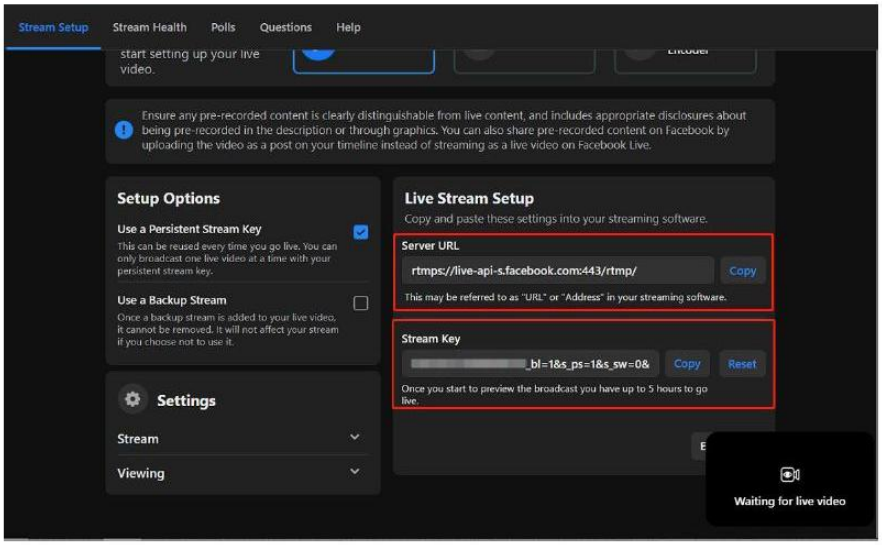
10. **Network Streaming**

Let's stream to YouTube and Facebook for example:
(1) Login Your YouTube/Facebook account, you can see the live stream URL and stream key here:

YouTube:

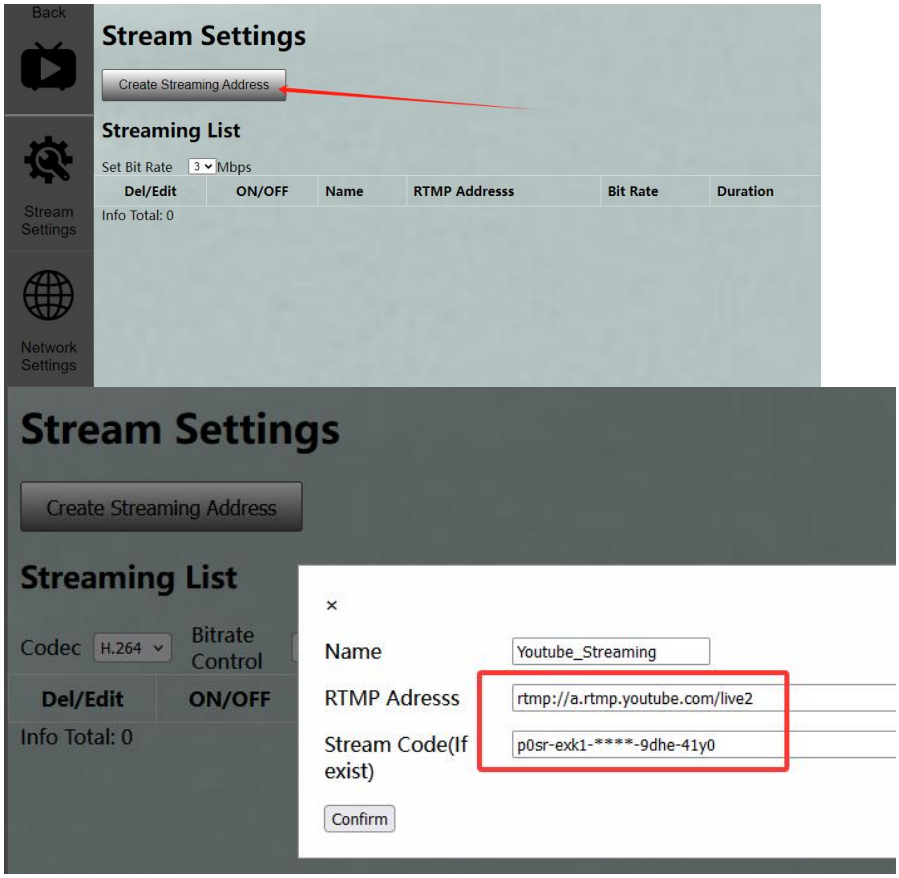


Facebook:

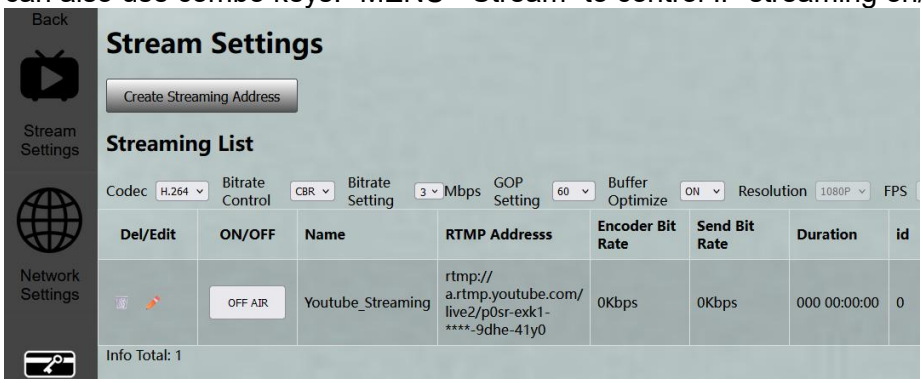


(2)Input the RTMP stream information to the video switcher.

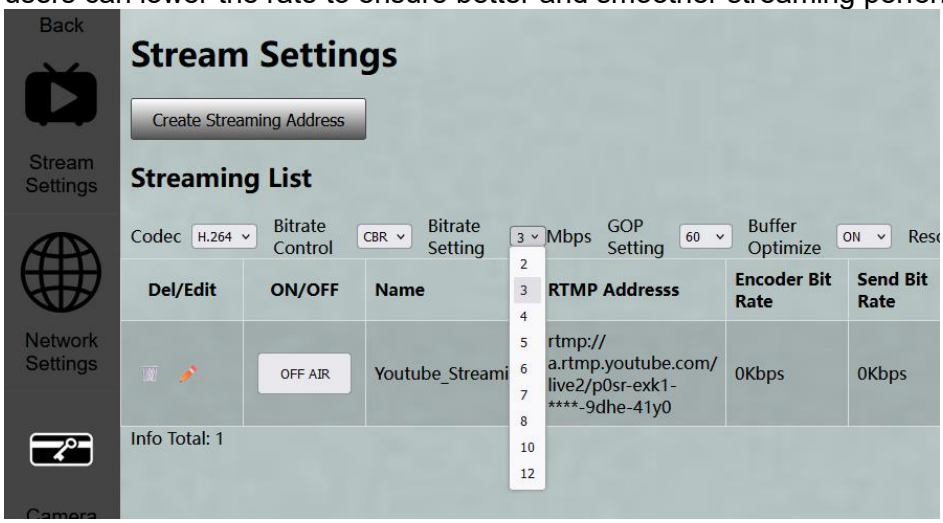
YouTube for example:
RTMP Address: rtmp://a.rtmp.youtube.com/live2
Stream Key: p0sr-exk1-****-9dhe-41y0



(3)You can control the IP streaming on/off by the “air on /off” button,
can also use combo keys: “MENU+ Stream” to control IP streaming on/off .



Adjust the streaming rate to 2-12 Mbps. If the network conditions are poor or restricted, users can lower the rate to ensure better and smoother streaming performance.



If you need more supports, please contact us at: support@fomako.net, normally, we can reply you within 12hours.

FoMaKo Support Team

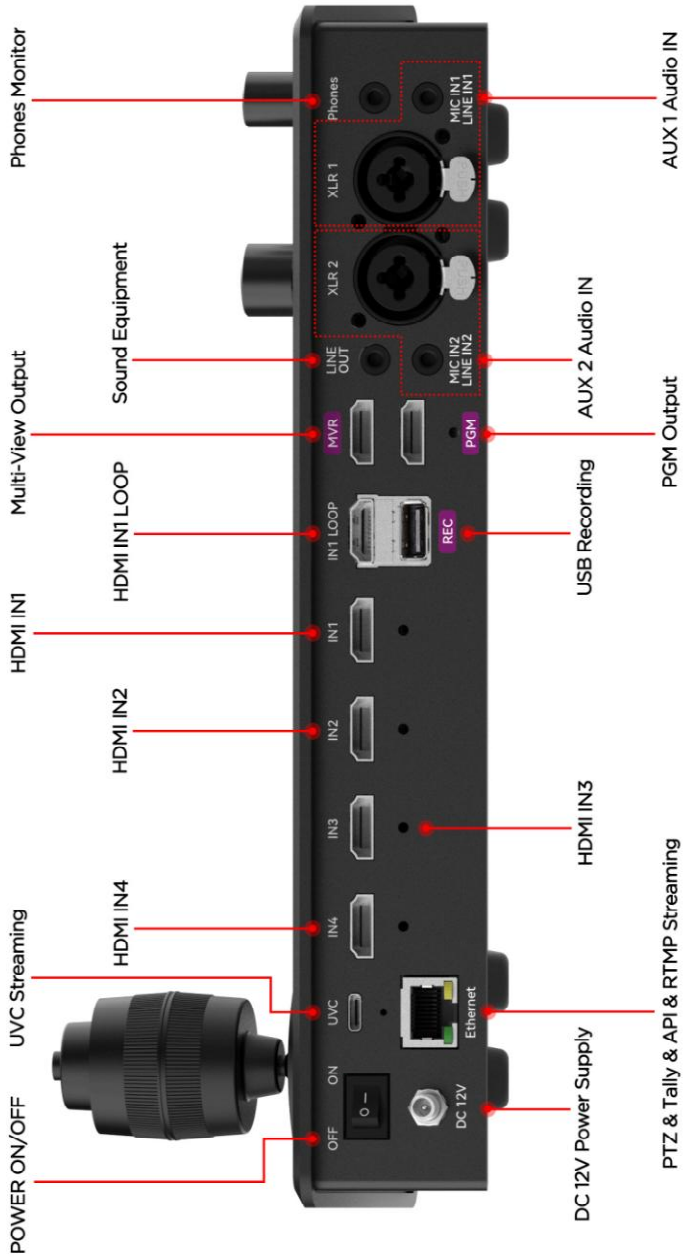
Contents

1.Product Introduction

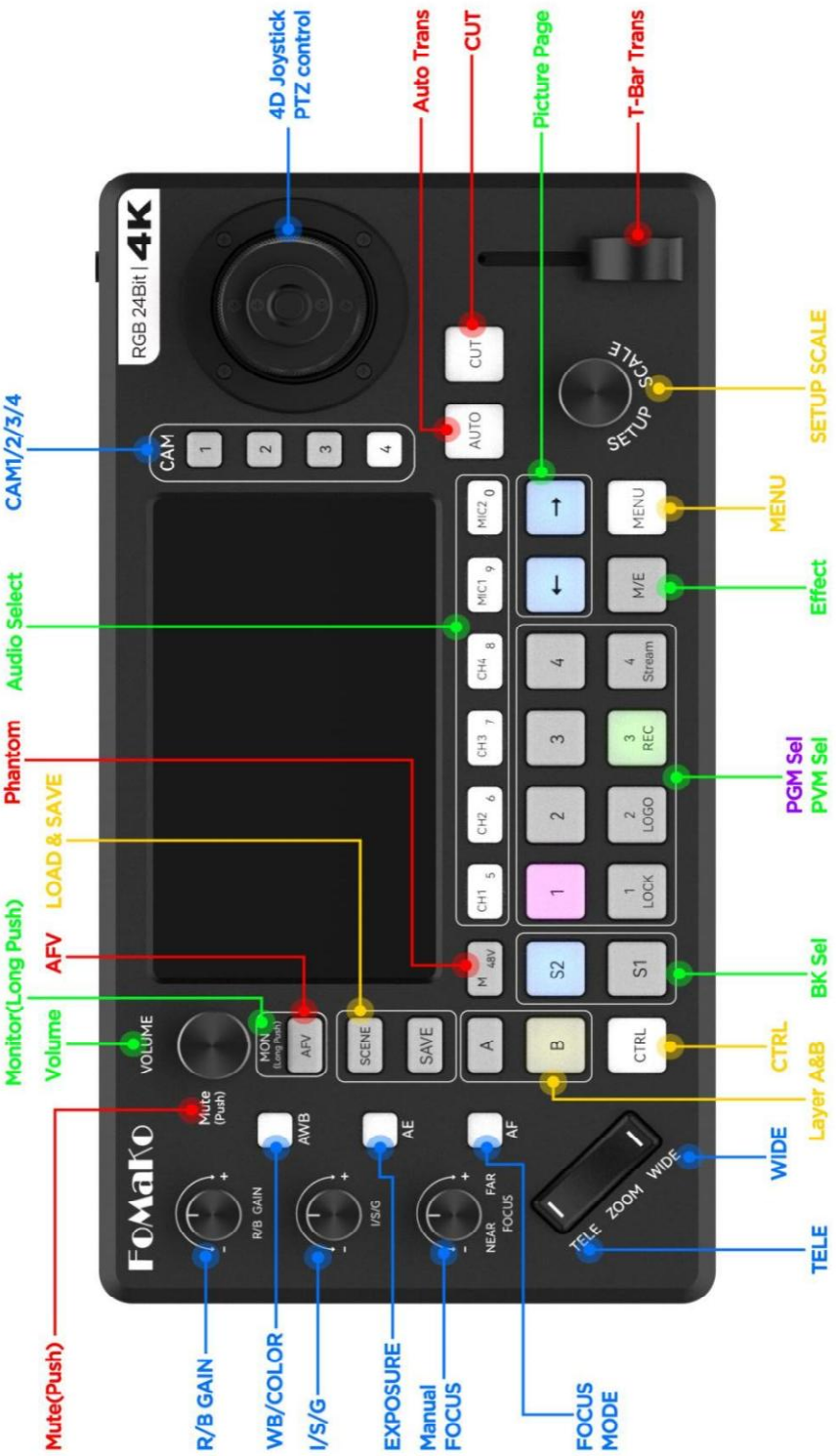
1.1 Overview

The FoMaKo KC800, guided by the philosophy of "One Operator, Multiple Audiences" and "Accelerate Live Production, Production is easier and fun with Control Panel", features an intuitive control panel that enables instant operation without requiring a host computer or frequent menu navigation. It delivers the best video quality among current switchers, and customized transitions are eye opening. Beyond effortless 1/2/3/4 camera position switching, it supports flexible editing across multiple scenes and layers. Enhanced audio processing and PTZ operation controls empower a single operator to master the entire production process.

1.2 Connectors Interface



1.3 Control Panel



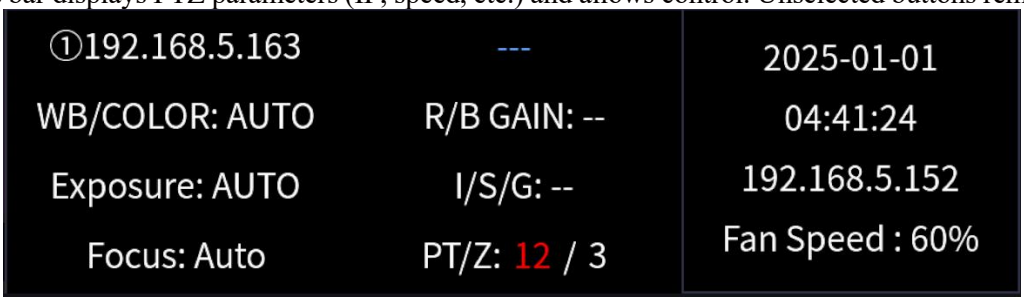
2. Key Button and Operation Instructions

2.1 PTZ-related

The FoMaKo KC800 features a unique control panel that enables simultaneous operation of four PTZ cameras through its user-friendly interface.
(Note: The control console's IP network must match that of the PTZ cameras.)

2.1.1 Camera (CAM) button

CAM1/2/3/4 buttons: Switch PTZ control. When selected, the cam button light up in white, the status bar displays PTZ parameters (IP, speed, etc.) and allows control. Unselected buttons remain off.



2.1.2 Joystick Control

In PTZ control mode, PT controls movement (up/down/left/right/upper-left/upper-right/lower-left/lower-right), and ZOOM rotation (clockwise for TELE telephoto zoom, counter-clockwise for WIDE wide-angle). Pressing the joystick's confirm button resets the camera's preset position to its original state.

2.1.3 White Balance (AWB) button

In PTZ control mode, this function switches the PTZ's white balance modes. Five options are available: Auto, OnePush, Manual, 3000K, and 4000K. Auto mode light up in white, while other modes remain off (more modes can be set in the menu).

2.1.4 Red/Blue Gain (R/B GAIN) knob

The manual mode under white balance allows adjustment of red and blue gain. Press the R/B knob to switch between red and blue channels. Rotate clockwise to increase the gain of the current channel, and counter-clockwise to decrease it. The gain range is 0-255.

2.1.5 **Exposure (AE) button**

In PTZ control mode, this function switches the PTZ exposure mode. Five modes are available: Auto, Manual, Shutter priority, Iris priority, and Bright priority. The button light up in white in auto mode, while the others remain off.

2.1.6 **I/S/G knob**

Press the AE button to switch modes. In manual mode, switch parameter selection by pressing the I/S/G knob, and adjust parameters (shutter, iris, gain) by turning the I/S/G knob.

In priority mode (shutter, iris, bright), adjust the corresponding parameter (e.g., brightness in bright mode). Turn clockwise to increase, counter-clockwise to decrease.

2.1.7 **Focus (AF) button**

In PTZ control mode, this indicator switches between auto and onepush focus modes. It lights up in white in auto mode but remains off in onepush focus mode. Pressing the FOCUS knob switches to manual focus.

2.1.8 **FOCUS knob**

Press or rotate the button to activate manual focus mode. Rotate clockwise to increase focus distance, and counter-clockwise to decrease focus distance.

Additionally, it can be used with CTRL. Pressing CTRL+FOCUS switches between PT speed and ZOOM speed.

Press and hold the CTRL key while rotating the FOCUS knob to adjust the PT speed (Pan/Tilt) or ZOOM speed of the current CAM camera position. Increase clockwise, decrease counterclockwise.

2.1.9 **TELE/WIDE button**

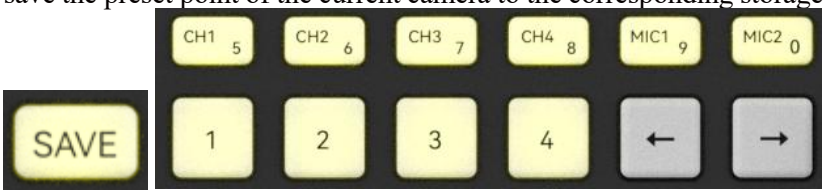
In PTZ mode, the ZOOM button controls the lens zoom. Press TELE for a telephoto effect to zoom out and capture distant subjects, or press WIDE for a wide-angle view.

2.1.10 AI Tracking

Use CTRL+CAM1/2/3/4 to turn AI tracking on/off with one click. Supports 4 preset commands (customizable via web interface). Users can select command modes from the menu to flexibly adapt to different scenarios.

2.1.11 Save preset points

Press the SAVE button to activate the yellow indicator. The PGM bus keys (1-4) and audio keys form the numeric keypad (with purple indicators showing saved camera positions). Press any number from 0 to 9 to save the preset point of the current camera to the corresponding storage channel.



2.1.12 Call preset points

Press the SCENE button to activate the blue indicator. The PGM bus keys (1-4) and audio keys form the numeric keypad (with purple indicators showing saved camera positions). Press any number from 0 to 9 to quickly access the preset camera positions.

2.1.13 Multi-camera PTZ connection

The external switch accesses the menu to configure the ports and IP addresses of each PTZ camera. Use the camera (CAM) buttons 1, 2, 3, and 4 to select different camera positions for operation.

2.1.14 PTZ control protocol

Supports Visca and Visca Over IP protocols.

2.2 Video-related

2.2.1 Preview (PST) Bus Button

The PST1, 2, 3, and 4 buttons indicate the current signal source status: no signal turns off, white signal activates, and green signal appears when selected on the PST layer.

The S1 and S2 buttons indicate the activation status of two BK image channels under PST. When BK2 is selected, S1 remains off while S2 lights up in cyan.

2.2.2 Program (PGM) Bus Button

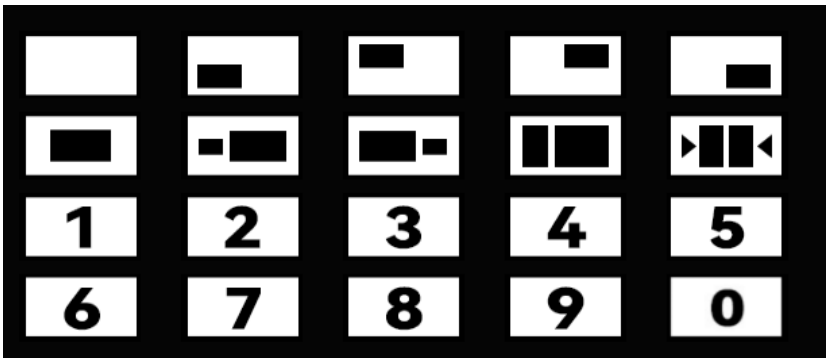
PGM1, 2, 3, 4 buttons: Indicate the selected signal source for PGM layers. Selected layers turn purple, while unselected remain off. For single-layer PGM (either A or B), press 1, 2, 3, or 4 to quickly switch between layers.

If the PGM contains two layers (A and B), press 1, 2, 3, or 4 to quickly switch between layers B. Press CTRL + 1, 2, 3, or 4 to switch between layers A.

← and → buttons: Page function for BK1 or BK2 (default is BK2; can be changed in the menu).

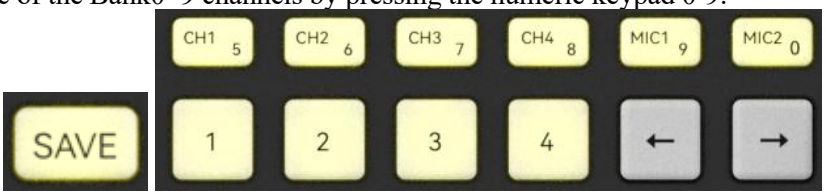
2.2.3 SCENE Button

Press the button to turn on the blue light and enable scene selection. Use the MENU knob to quickly select preset or custom scenes, or use the numeric keypad (0-9) to choose saved custom scenes.



2.2.4 SAVE button

Press the SAVE button to activate the yellow indicator. This allows you to save the edited PST image to one of the Bank0~9 channels by pressing the numeric keypad 0-9.



2.3 Audio-related

The FoMaKo KC800 also features an excellent mixing console with professional phantom XLR balanced inputs, 6.35-inch balanced inputs, 3.5-inch MIC inputs, or LINE inputs. It supports real-time mixing with four HDMI signal audio sources, delivering powerful mixing capabilities.

2.3.1 AUDIO MIXER architecture

The dual AUX channels support dual-channel analog audio routing: AUX1 handles mixing for XLR 1, MIC IN1, and LINE IN1 channels, while AUX2 manages XLR 2, MIC IN2, and LINE IN2 channels. This configuration enables up to four analog audio inputs simultaneously, combined with four HDMI digital audio channels, forming an eight-channel real-time audio processing system.

2.3.2 AFV mode

Press the AFV button to activate the AFV mode, which turns on the red indicator. In this mode, the main output MASTER provides the audio source for PGM video signals, while the real-time mix combines the microphone input. Both MIC1 and MIC2 can still be turned on or off independently.

2.3.3 **Mixing Assignment Mode**

Press the AFV button. If the AFV indicator is off, it activates the mixing assignment mode, where the main output MASTER plays the real-time mix selected from the buttons CH1, CH2, CH3, CH4, MIC1, and MIC2. In this mode, all six audio channels can be freely turned on or off.

2.3.4 **MON monitoring mode**

Monitoring: Through the Phone's headphone jack, you can set up monitoring for MASTER, CH1, CH2, CH3, CH4, MIC1, and MIC2 channels in the menu.

Alternatively, long press the AFV button until it turns cyan to activate the monitoring mode. Select the buttons M/48 (MASTER), CH1, CH2, CH3, CH4, MIC1, and MIC2 respectively. When you select a channel, the corresponding button will turn purple, allowing phones to monitor the selected channel. (Press briefly to exit the monitoring mode)

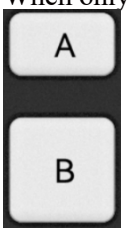
2.3.5 **Volume adjustment**

In monitoring mode (selected via M/48 buttons or CH1-CH4/MIC1-MIC2), adjusting the volume knob independently controls each channel. In normal mode, the knob regulates MASTER volume. Pressing the knob silences MASTER, with the AFV button flashing red. Pressing again restores sound.

2.4 Layer-related

2.4.1 **Layer Selected**

Keys A and B enable quick switching between PST's A/B layers. The active layer is highlighted in yellow, while unselected layers appear in white. When only one layer is active, the other key remains off.



2.4.2 **Layer Control**

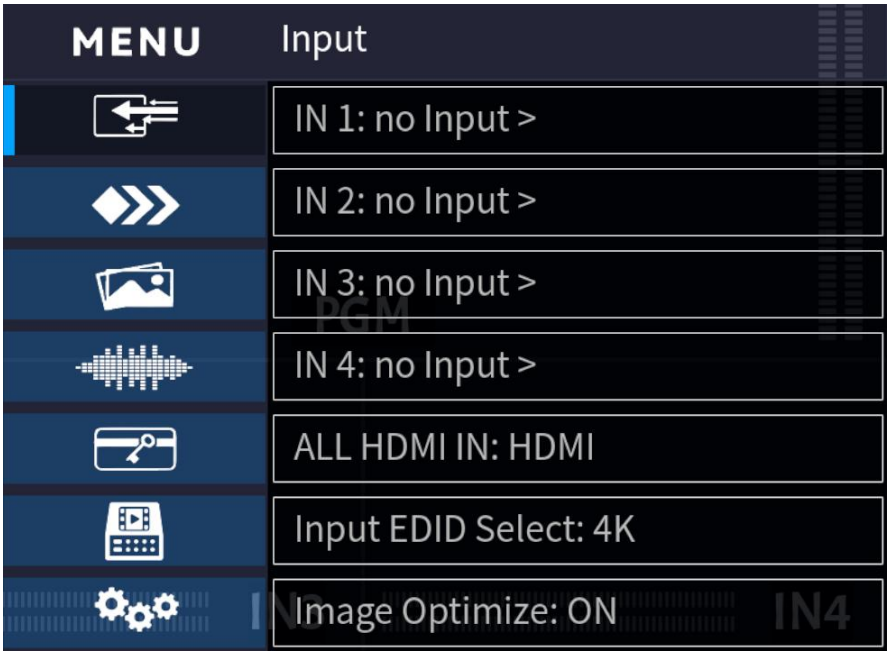
In non-PTZ mode (when buttons CAM1/2/3/4 turn off), the joystick controls layer movement in the following directions: up, down, left, right, top-left, bottom-left, top-right, and bottom-right.

You can zoom in and out layers by rotating them clockwise or counter-clockwise. Press the joystick reset button to quickly restore the layer to 100% original size and default position.

Alternatively, use CTRL+MENU knob to zoom layers: hold CTRL and rotate the menu clockwise to scaling up, counter-clockwise to scaling down.

3. Menu Details

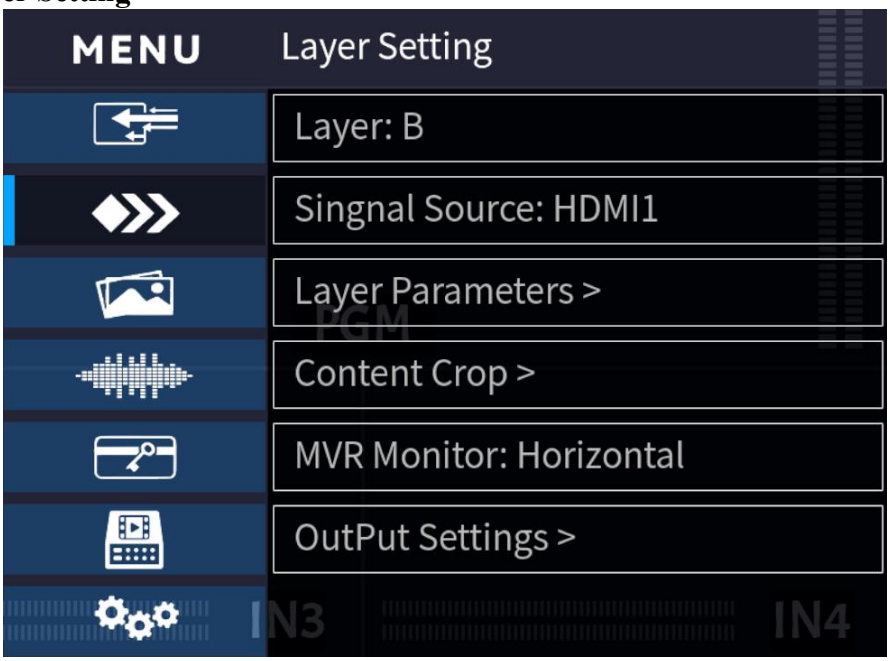
3.1 input



3.1.1

Supports automatic detection of 4 HDMI signal sources, displaying the current input resolution in real time. When no signal is detected, it can manually switch to TP test signal. EDID allows selection between 4K or 1080p input, and the picture quality optimization switch enhances color and saturation.

3.2 Layer Setting

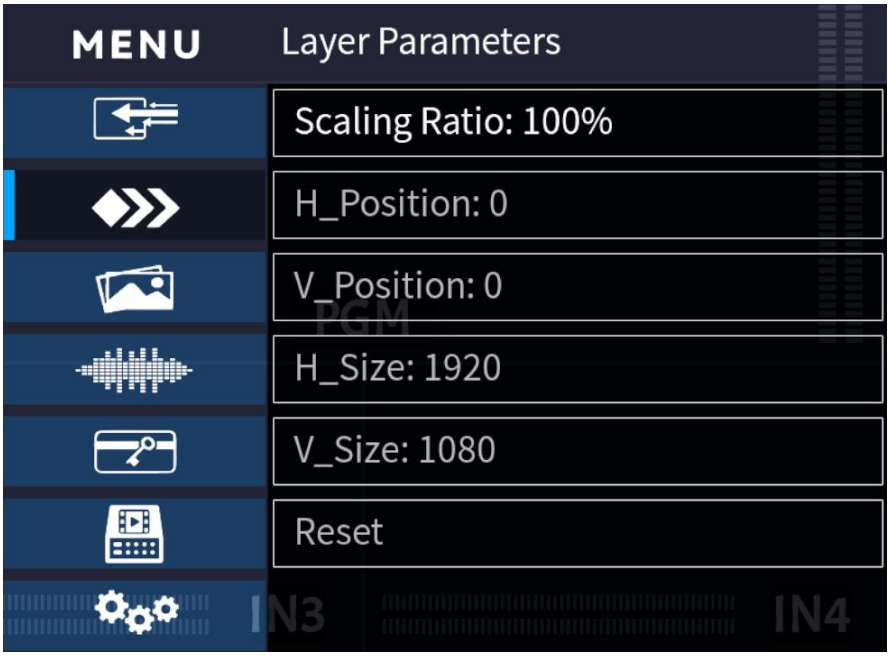


3.2.1 Layer: Select A layer or B layer.

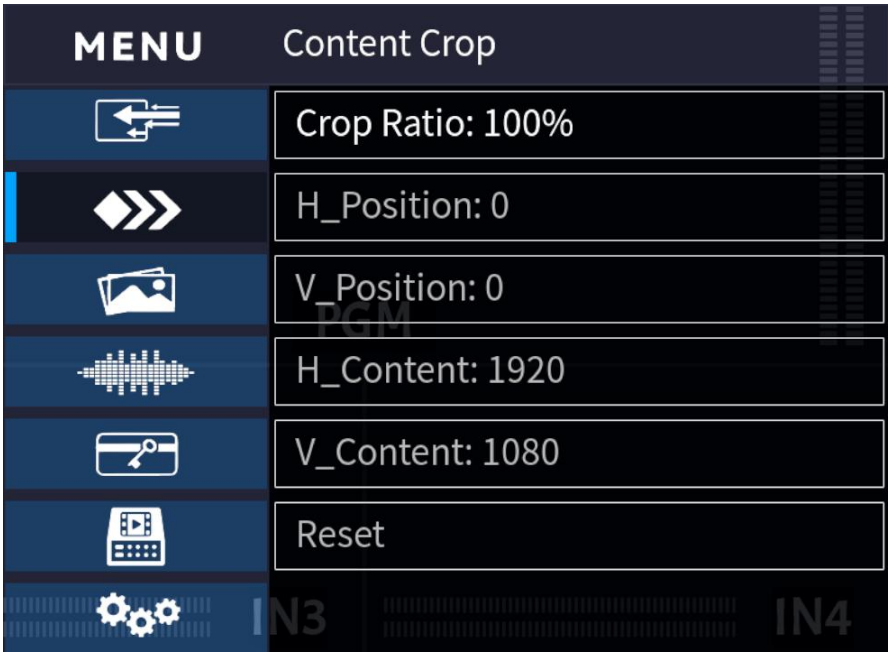
3.2.2 Signal source: Select the input signal source for the current layer.

3.2.3 MVR monitoring: Switch between Horizontal and Vertical layout.

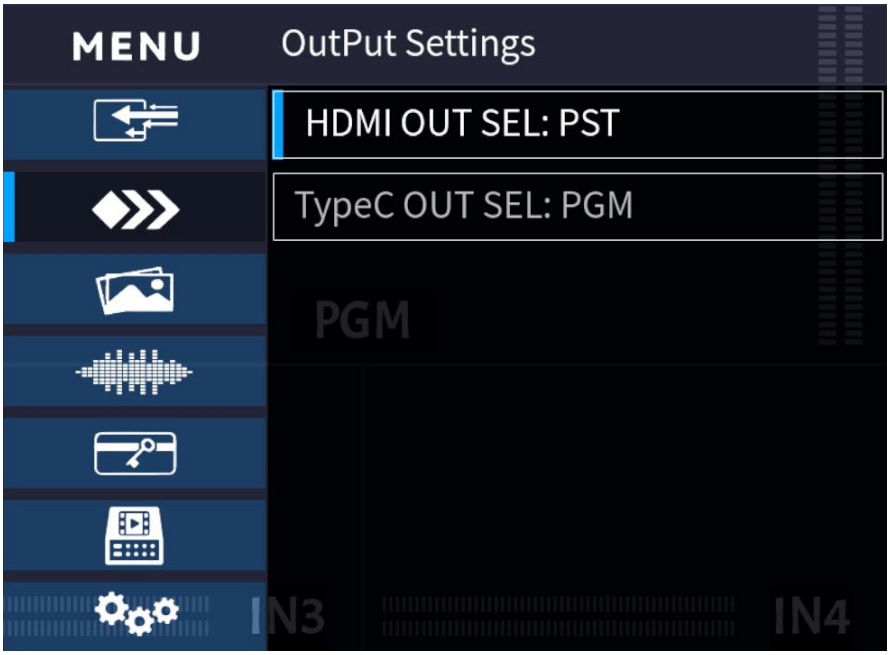
3.2.4 Layer parameters: Set the position, size, and scale ratio of the current layer. Reset to default values with one click.



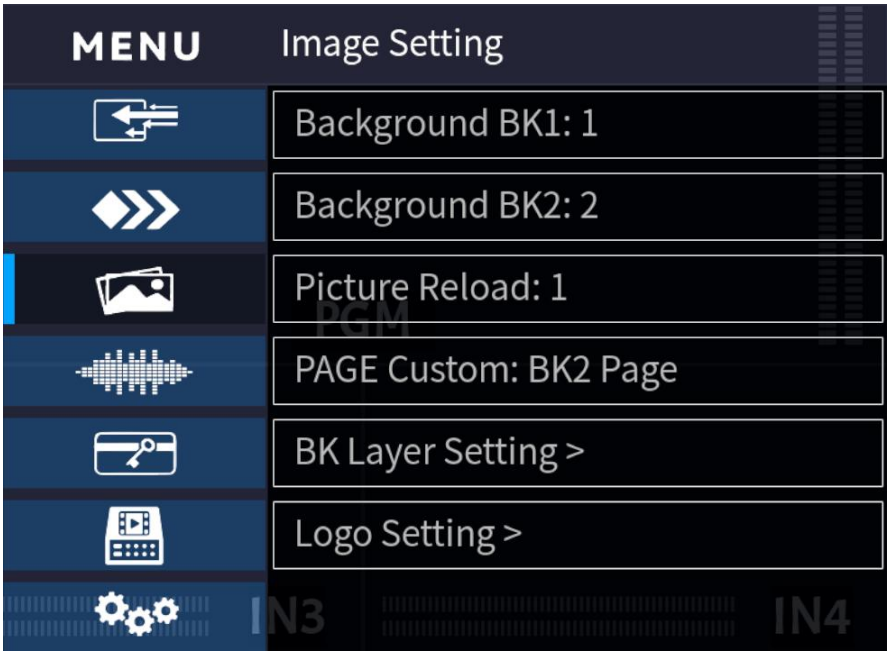
3.2.5 Content Crop: Set the position, size, and crop ratio of the current layer content. Reset to default values with one click.



3.2.6 Output Setting: Switch between HDMI / Type-C interfaces to output PGM (program) or PST (preview).



3.3 Image Setting (16 background images can be imported)



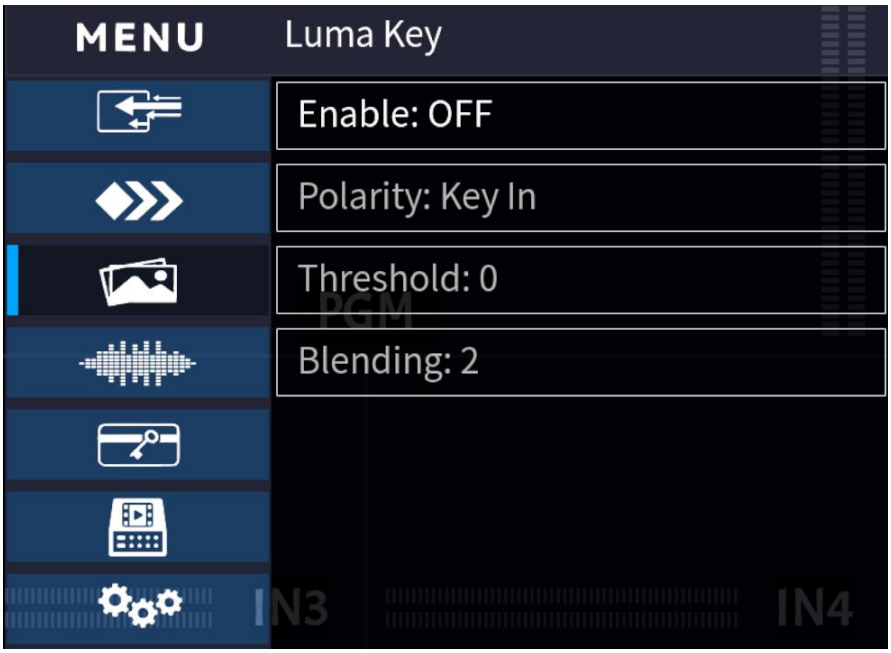
3.3.1 Background 1: Select the image for background 1.

3.3.2 Background 2: Select the image for background 2.

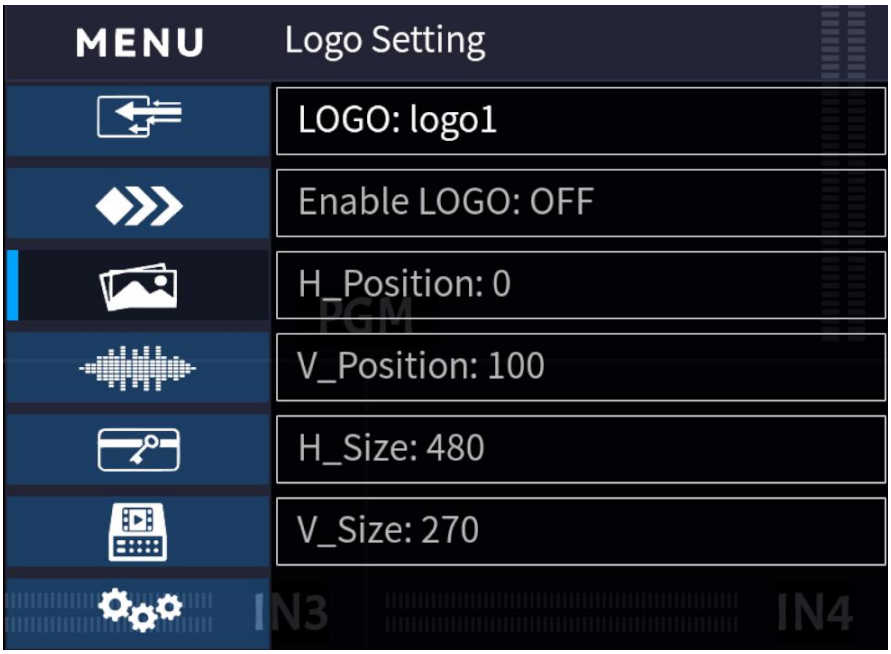
3.3.3 Image reload: Re-load imported images, either individually or all at once.

3.3.4 PAGE key: Set the ← and → keys to flip pages for BK1 or BK2.

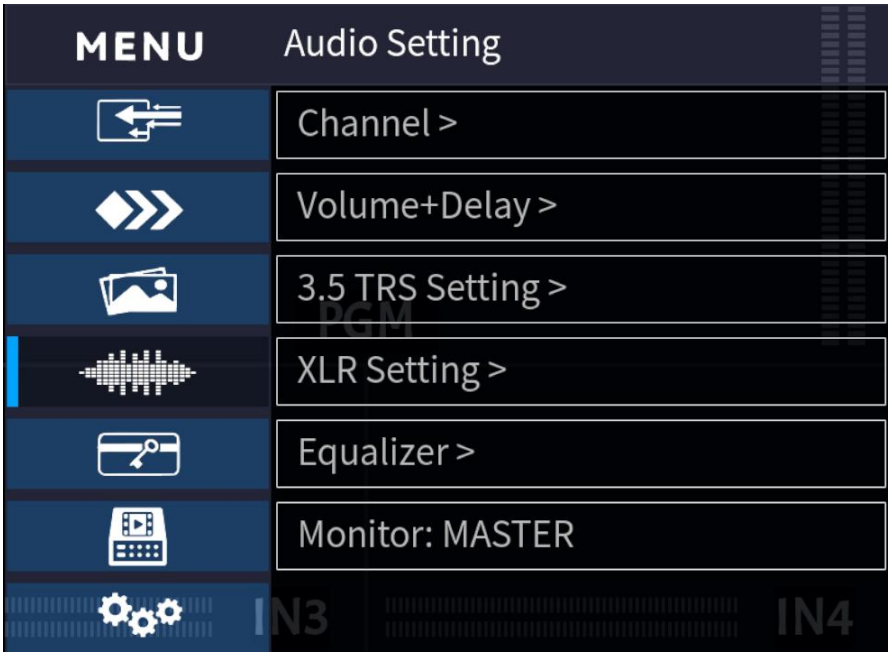
3.3.5 BK layer setting: picture can be set. When the picture is brought to front, the luma key function is applied. When the picture is sent to bottom, the luma key function will be automatically disabled.



3.3.6 Logo Setting (supports up to four logos): Supports transparent PNG files. You can turn the logo on/off and select logo1, logo2, logo3, or logo4 to adjust their position and size. (Use the combo key MENU+LOGO to quickly turn the logo on/off).

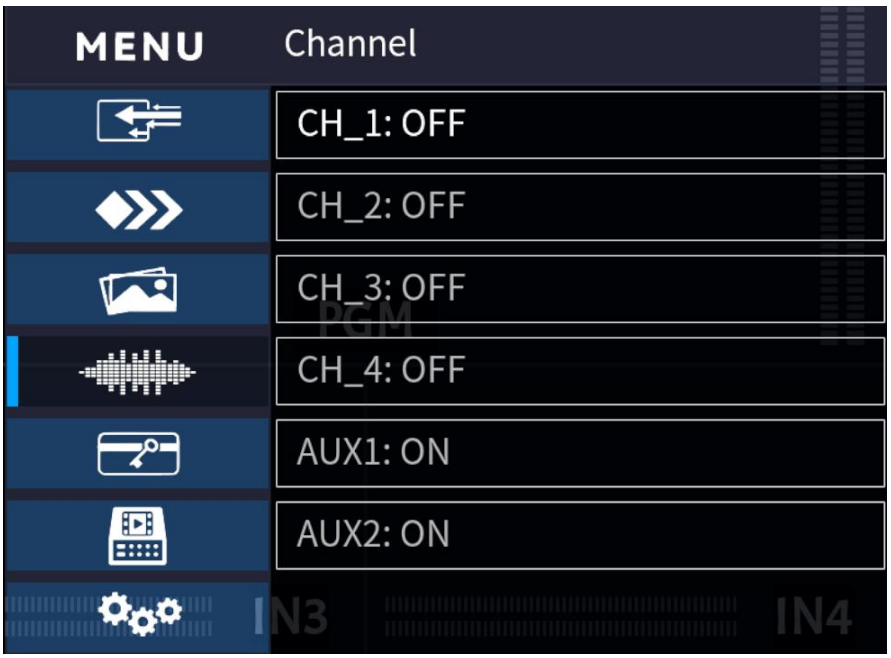


3.4 Audio Setting

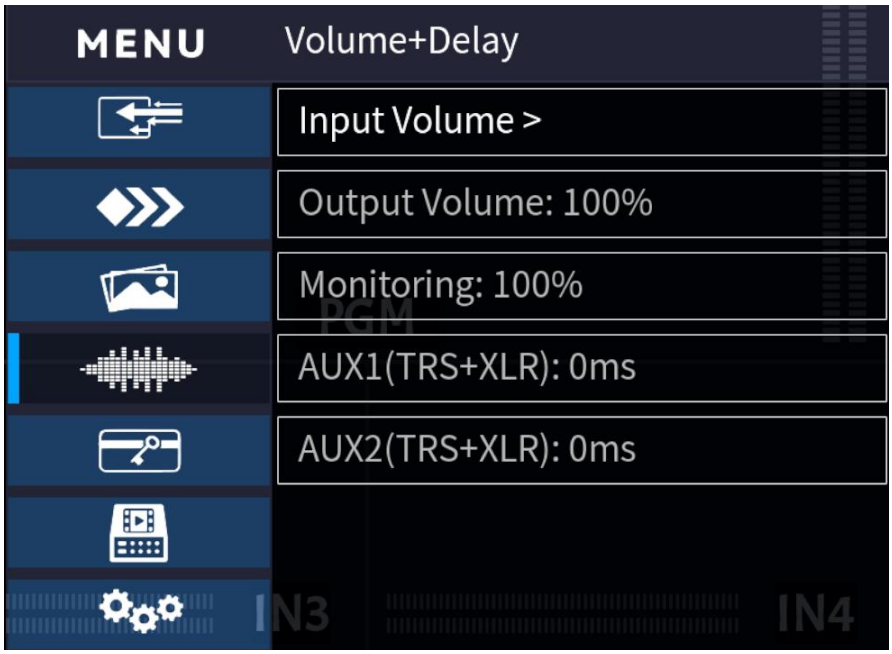


3.4.1 Monitor: Supports MASTER, HDMI1, HDMI2, HDMI3, HDMI4, AUX1, and AUX2.

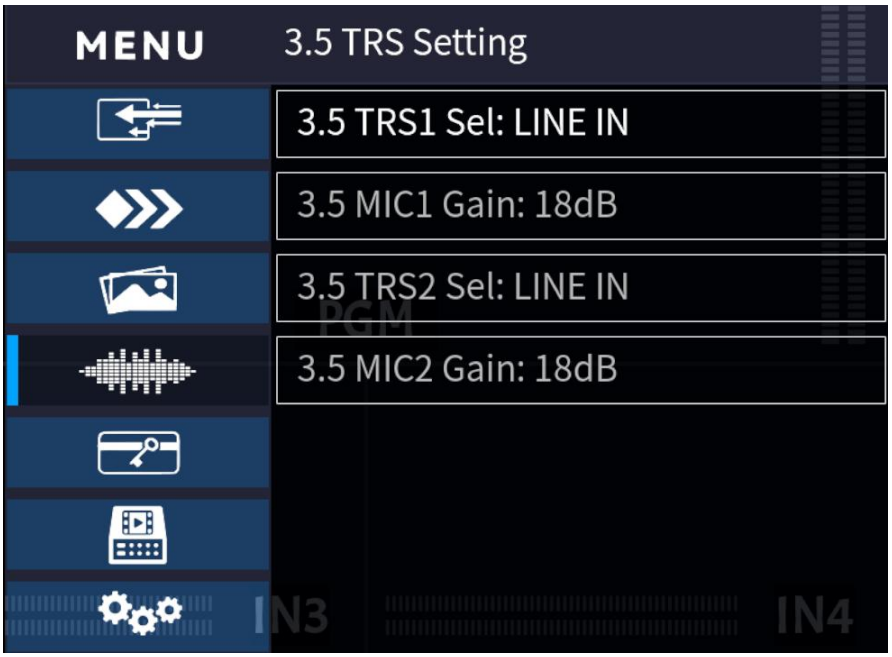
3.4.2 Audio channel: Turn on/off the sounds of CH1, CH2, CH3, CH4, MIC1, and MIC2. You can also turn on multiple audio switches simultaneously to achieve mixing effects.



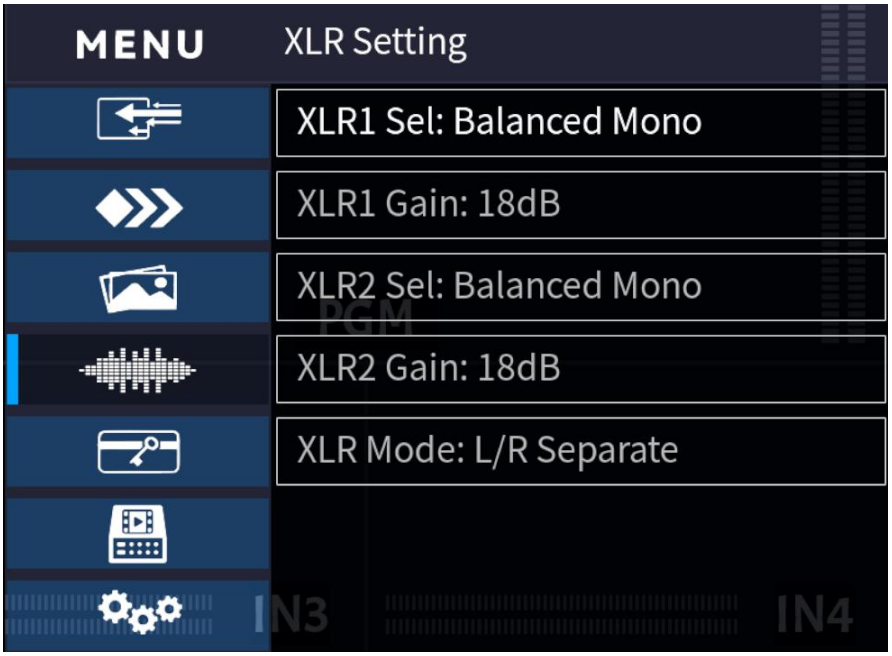
3.4.3 Volume + Delay: Adjust input volume, output volume, and monitor volume. Set AUX1 and AUX2 to simulate sound delay.



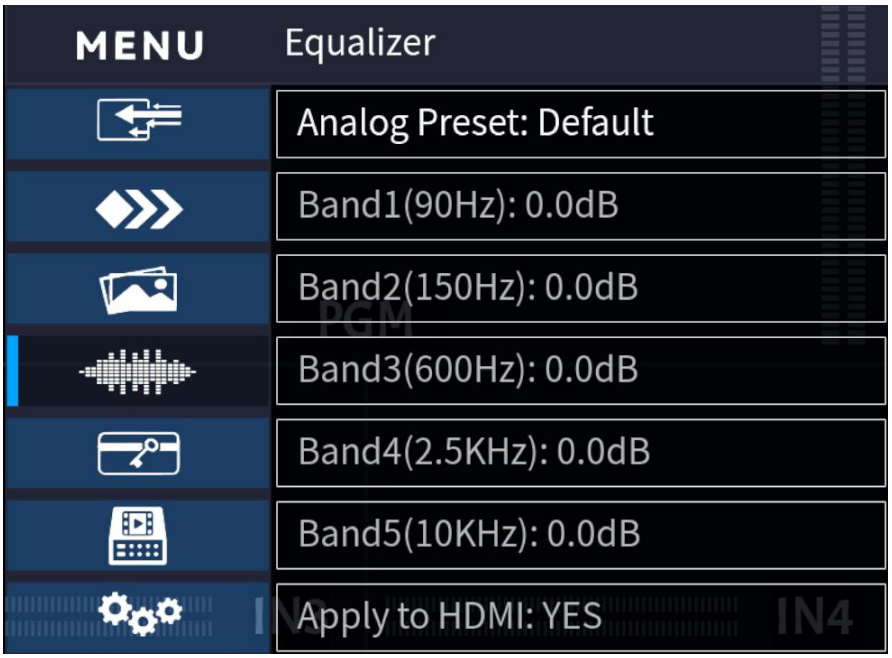
3.4.4 3.5 TRS Setting: Supports LINE IN, MIC IN, or MUTE. The MIC gain can be adjusted in steps of 6dB, ranging from-6dB to 30dB.



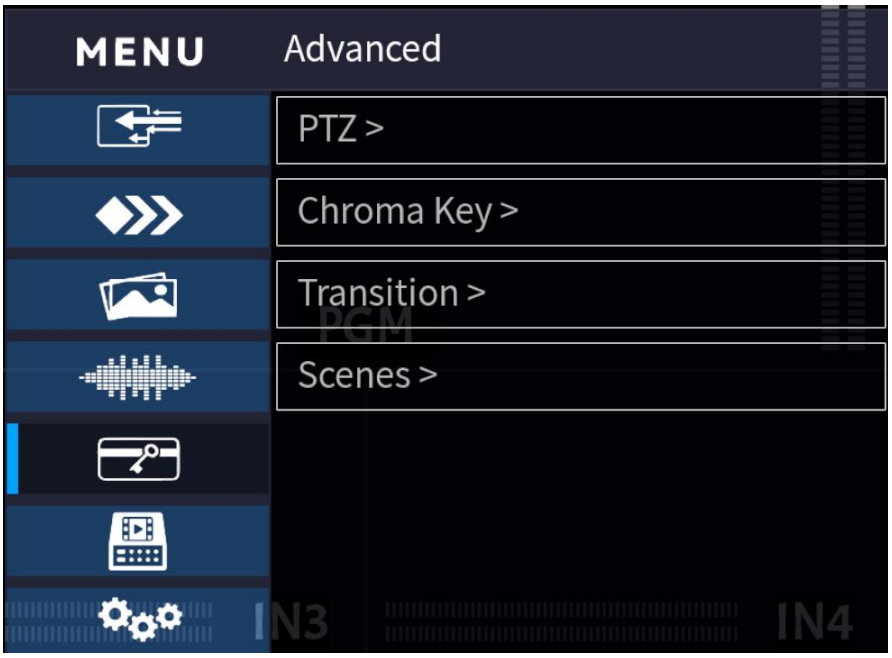
3.4.5 XLR Setting: The system supports balanced input, unbalanced mono, or mute. Gain can be adjusted from-6dB to 36dB in 6dB increments. For dual XLR applications, users can choose between Mono Copy (mono audio duplication) or L/R Separate (left/right audio separation), with XLR1 handling the left channel and XLR2 the right.



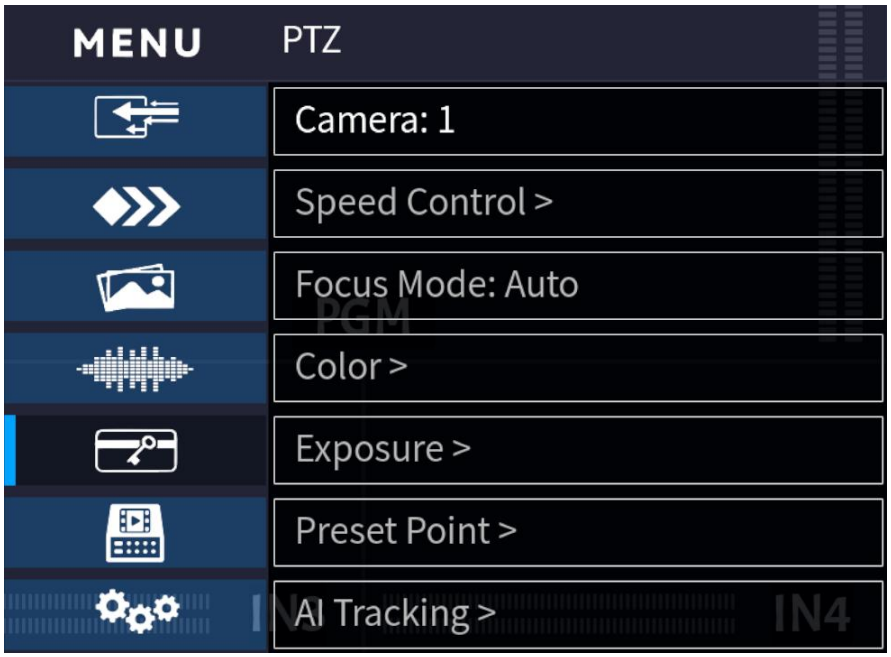
3.4.6 Equalizer: Switches between five EQ modes (default, meeting, movie, gaming, and custom). Each mode adjusts five bands independently, with a range of-10.5dB to 12.0dB in 1.5dB increments. You can choose whether to apply the current EQ settings to the HDMI output.



3.5 Advanced



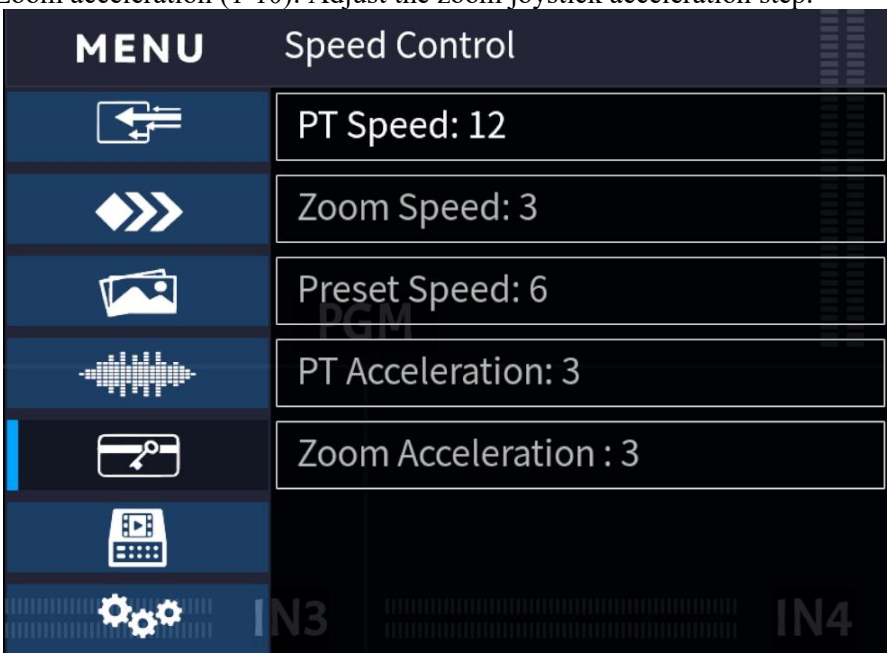
3.5.1 PTZ Setting: A single PTZ can be directly connected to the FoMaKo KC800 via a network cable. For multiple PTZ units, a switch is required to connect the FoMaKo KC800 and PTZ cameras to the same network segment, enabling adjustments for PTZ's horizontal, vertical, focus, color, and exposure.



3.5.1.1 Camera: select the camera to adjust parameters.

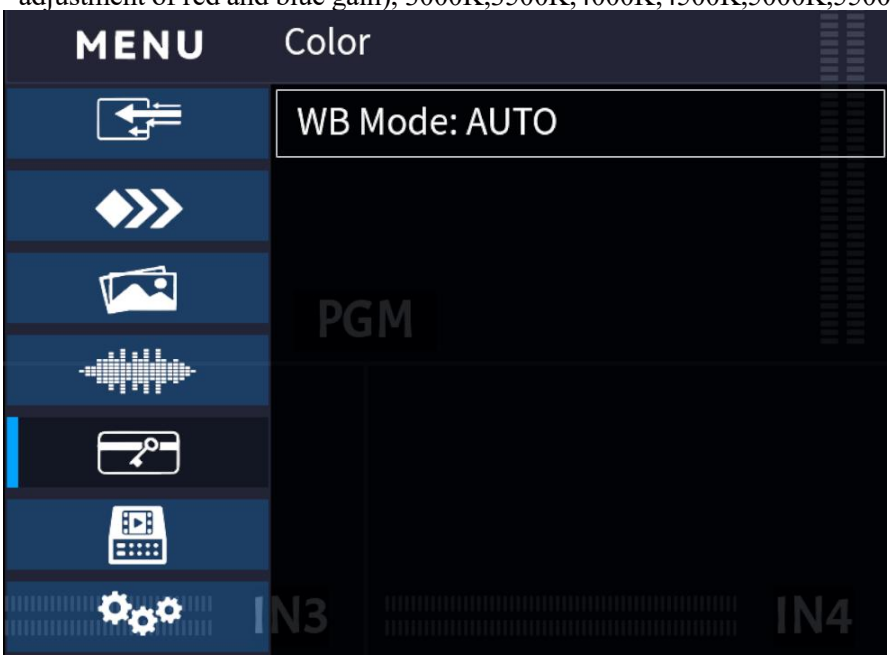
3.5.1.2 Speed Control:

PT Speed (1-20): Adjusts the speed of Pan/Tilt.
Zoom speed (1-8): Adjusts the speed of Zoom.
Preset point speed (1-10): Determines the movement efficiency when calling the preset point, working in coordination with PT speed.
PT acceleration (1-10): Adjust the acceleration step for pan/tilt movement of the joystick.
Zoom acceleration (1-10): Adjust the zoom joystick acceleration step.

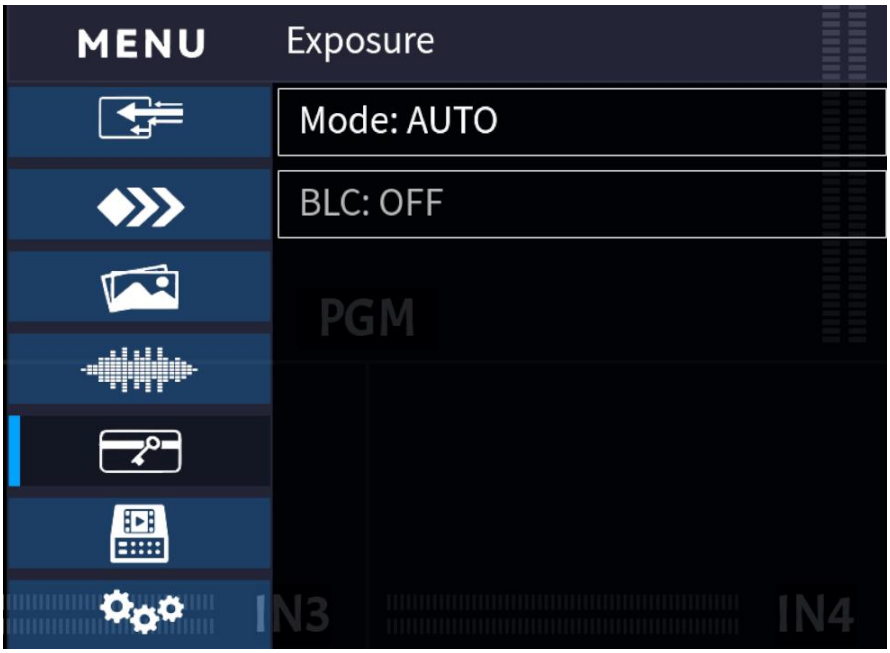


3.5.1.3 Focus mode: supports auto, manual, and onepush focus modes.

3.5.1.4 Color: Adjust the camera's white balance mode (auto, onepush, manual (with independent adjustment of red and blue gain), 3000K,3500K,4000K,4500K,5000K,5500K,6000K,7000K).



3.5.1.5 Exposure: Supports five modes (auto, manual, shutter priority, iris priority, and bright priority). Each mode has its own parameter adjustments.



3.5.1.6 Supports saving and calling preset points for 10 independent camera positions. You can clear a specific preset point or select ALL to clear all preset points.

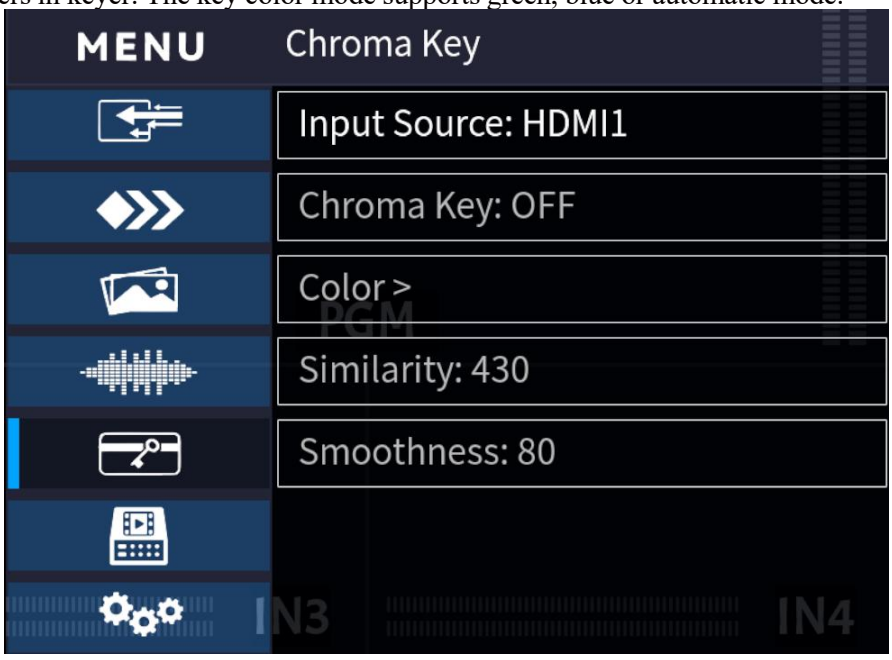
3.5.1.7 AI Tracking

3.5.1.8 Real-time tracking: Turn on or off with a menu switch or shortcut key CTRL+CAM1/2/3/4.

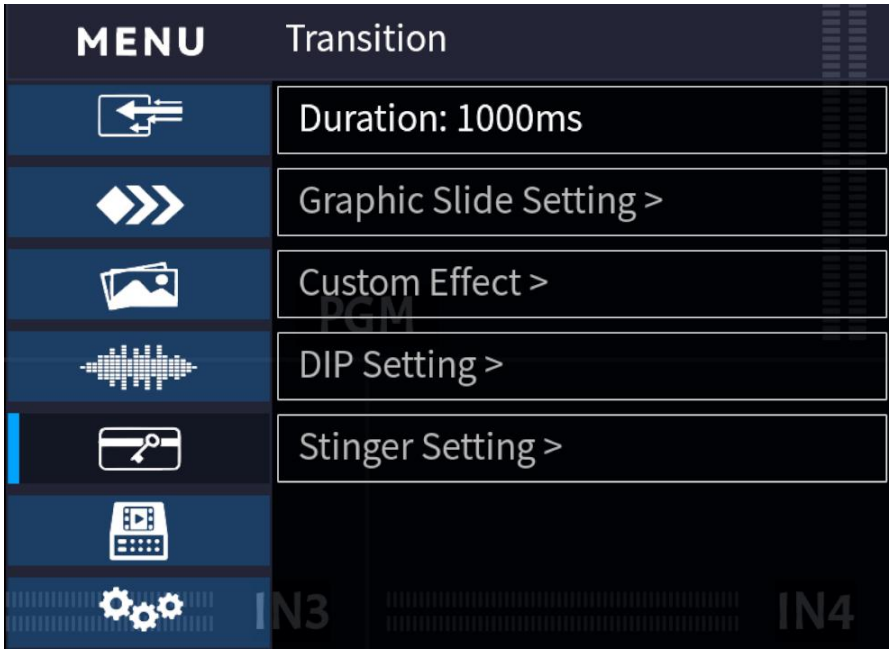
3.5.1.9 Tracking commands: Supports four commands (cmd1, cmd2, cmd3, cmd4). Users can configure tracking policies for different scenarios through the web interface.

3.5.1.10 For PTZ IP and PTZ PORT lists, see Menu--Network Settings

3.5.2 Chroma Key: The FoMaKo KC800 has 4 powerful USK, which can do chroma key for each HDMI source. Select one HDMI source, enable chroma key, select color mode and set the parameters in keyer. The key color mode supports green, blue or automatic mode.

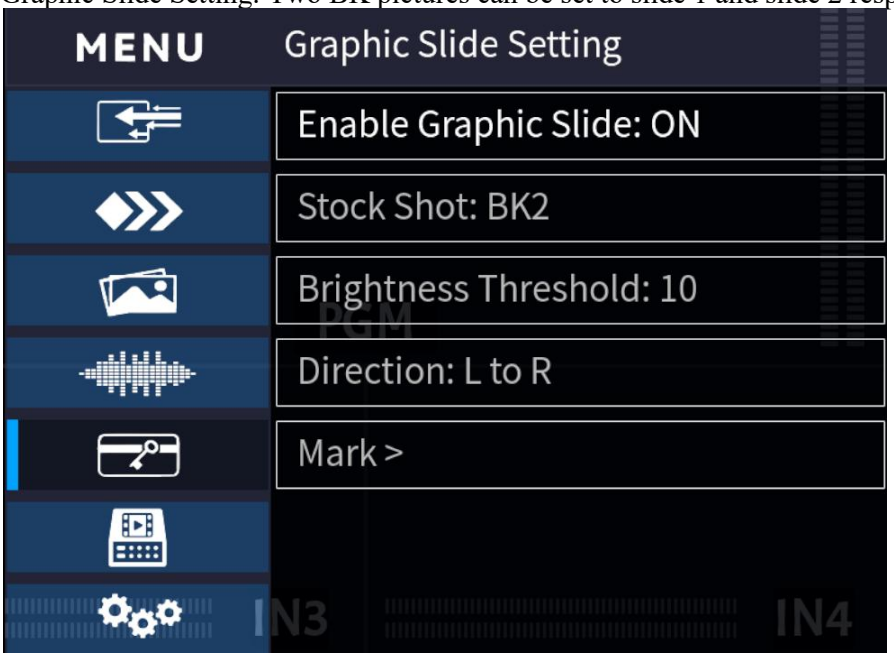


3.5.3 Transition



3.5.3.1 Duration: adjustable from 100ms to 4600ms (in 100ms increments).

3.5.3.2 Graphic Slide Setting: Two BK pictures can be set to slide 1 and slide 2 respectively.



Brightness Threshold: When sliding, the content smaller than the brightness threshold will be deducted, and only the content larger than brightness threshold will be displayed.
Direction: from Left to Right, or from Top to Bottom.

Engage point：Take the edge of the BK image direction as the start point and display the coordinates of the graphic.

Dividing Point： In the process of graphic slide, the actual division coordinates of the two screens, engage point < dividing point < end point.

End Point：take the edge of the BK image direction as the start point, and end the coordinates of the graphic.

Pause Point：graphic content stagnation coordinates, engage point < pause point <1920 (from Left to Right) or 1080 (from Top to Bottom).

Pause Time：Set between 0 and 5 seconds, 0.5 seconds for the step.

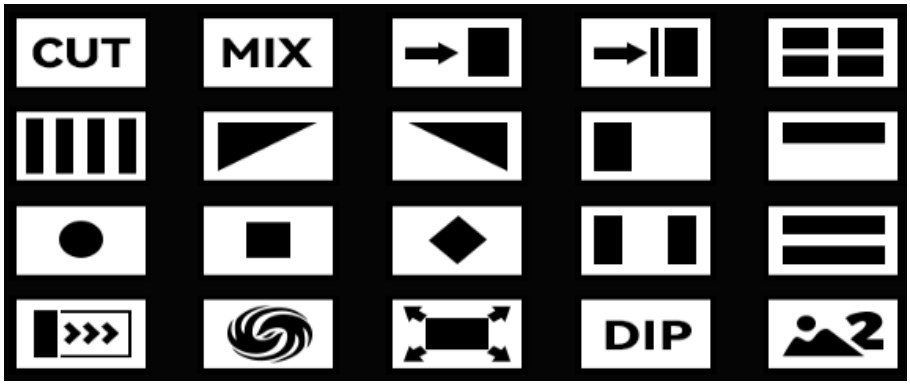
3.5.3.3 Custom Effect: freely unleash your transition creativity, and through BK's customized grayscale gradient images, you can create various fantastic and cool on-site stacked special effects; You can freely create various DIY images, supplemented by convenient ← and → page flipping operations, to quickly achieve various live productions. Stock Shot: BK1/BK2. Blending: 1~255.

3.5.3.4 DIP Setting: Set transition effects by adjusting the red, green, and blue color components (0-255).

3.5.3.5 Stinger Setting: You can choose image BK1 or BK2 as Stock Shot for the transition.

In the process of stinger effects, use the one-way method when using AUTO transition, and use the two-way method when using T-BAR transition.

Pre-Trans & Post-Trans：CUT、MIX、DVE Push、DVE Squeeze、Cross Wipe、Venetian Blinds、Diagonal NWSE、Diagonal NESW、Horizontal Wipe、Vertical Wipe、Circle Wipe、Box Wipe、Diamond Wipe、L&R Barn Doors、T&B Barn Doors.

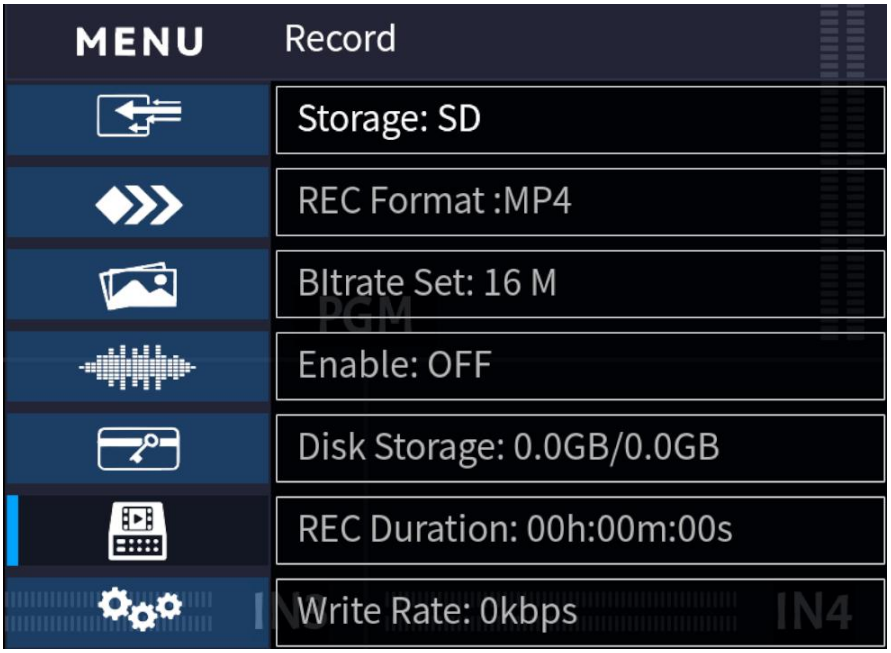


3.5.4 Scenes

After editing in the PST interface, you can save the scene. You can save and call up to 10 scenes. You can clear a single scene or select ALL to clear all scenes.

3.6 Encoder

3.6.1 Record



Users simply need to insert a USB drive or SD card into the device to start recording via the menu interface, or use the shortcut combination (MENU+REC) for quick activation. Before recording, users can freely choose between MP4 or TS formats based on their needs. During recording, real-

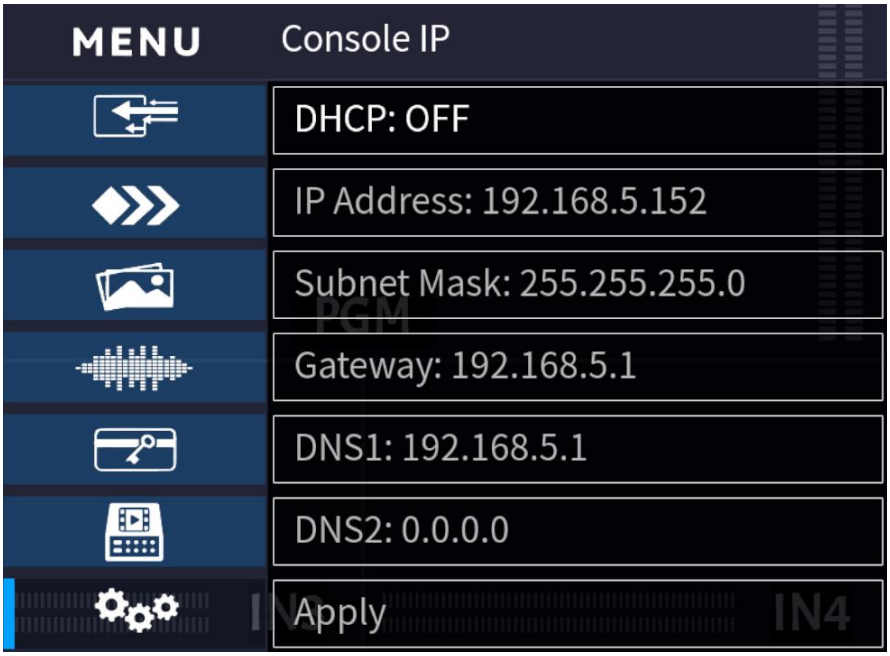
time bitrate adjustment is supported to optimize the balance between image quality and storage space. The menu interface also displays real-time disk usage (including used capacity and total capacity), recording duration (accurate to hours: minutes: seconds), and write speed, ensuring users can monitor the recording status at any time.

After recording starts, the recording duration in the message bar will dynamically display in green, indicating that the recording is proceeding normally and data is being written smoothly. If the disk write speed is insufficient, the duration display will automatically switch to yellow, indicating that the current storage performance may affect recording stability. Check the storage device status promptly.

Press the shortcut key MENU+REC again to stop recording, or close the menu to halt the process. Once the message "Recording file saved" appears, you can remove the USB or SD card.

3.6.2 Stream

Please make sure video switcher and computer are connected to the same router . (If you connect video switcher and computer to network switch, make sure the network switch connected to the router.) Go to menu settings-> System -> Network Setting-> Console IP

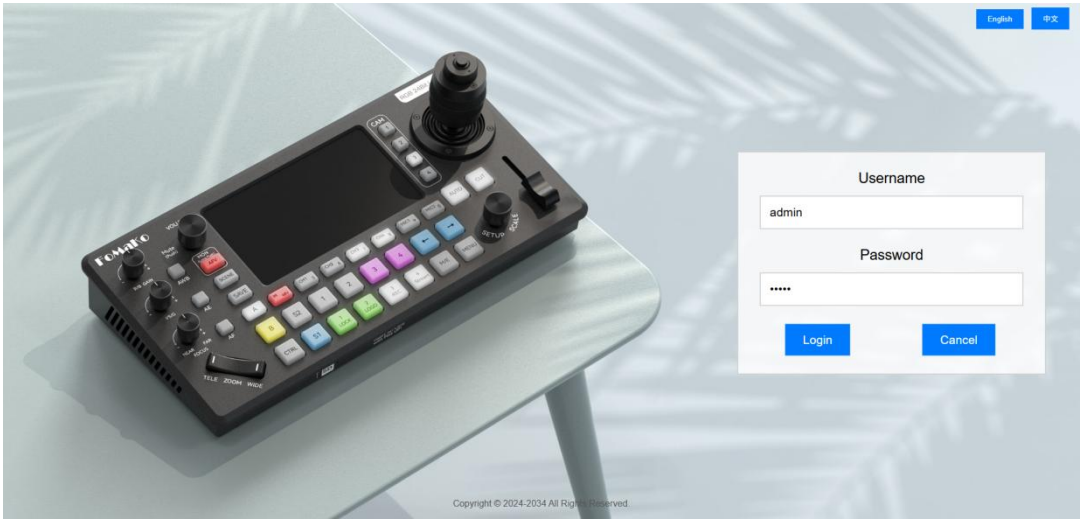


You can see the stream IP address which assigned by router.
(Important: when network IP streaming settings finished, high recommend to turn off DHCP. Because keep DHCP on, when router or video switcher power off and power on again, router maybe assign new IP address for video switcher.)

Visit the "Console IP" in computer web browser,

Default user name: admin

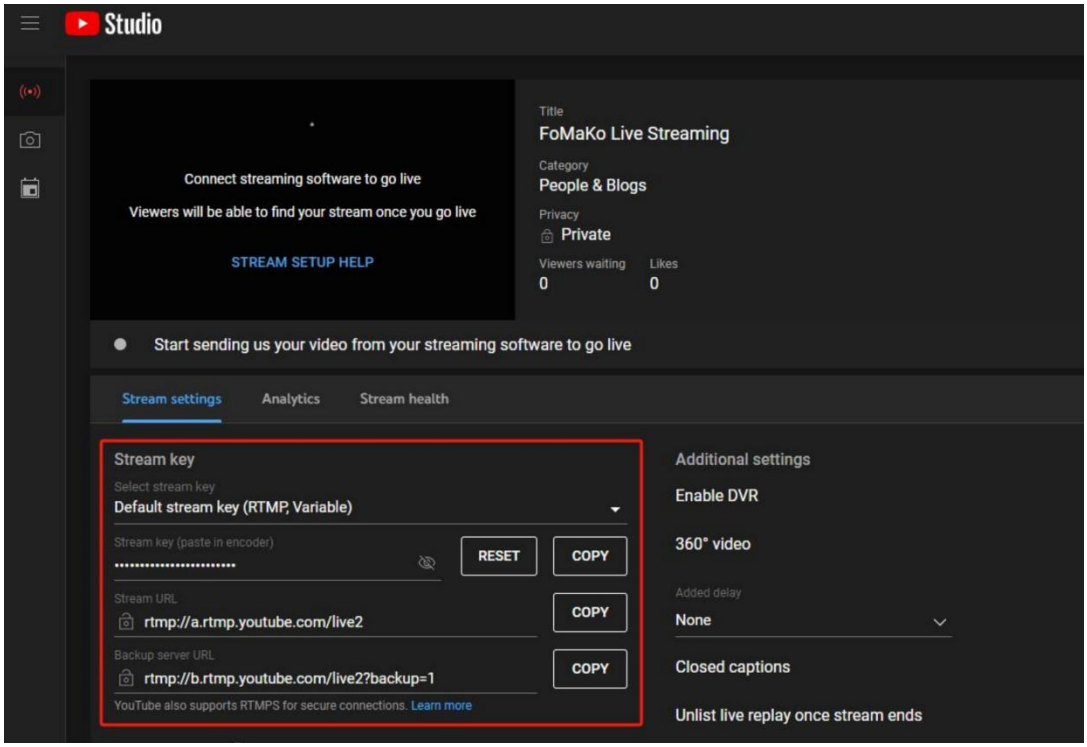
Default Password: admin



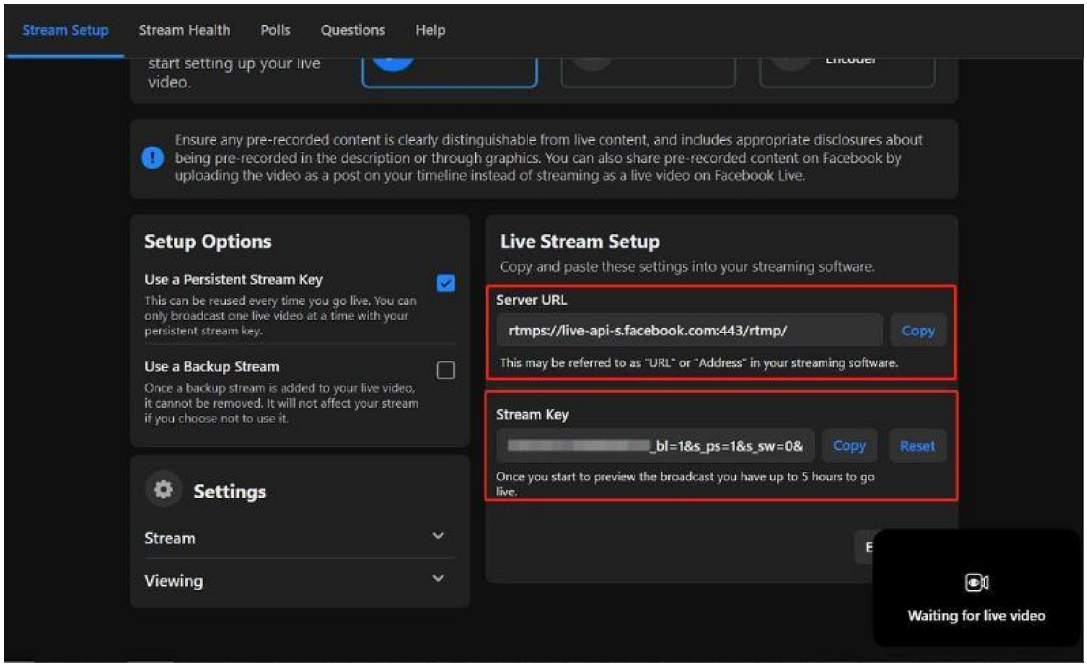
Now, let us stream to YouTube and Facebook for example:

- Login Your YouTube/Facebook account, you can see your live stream URL and stream key here:

YouTube:



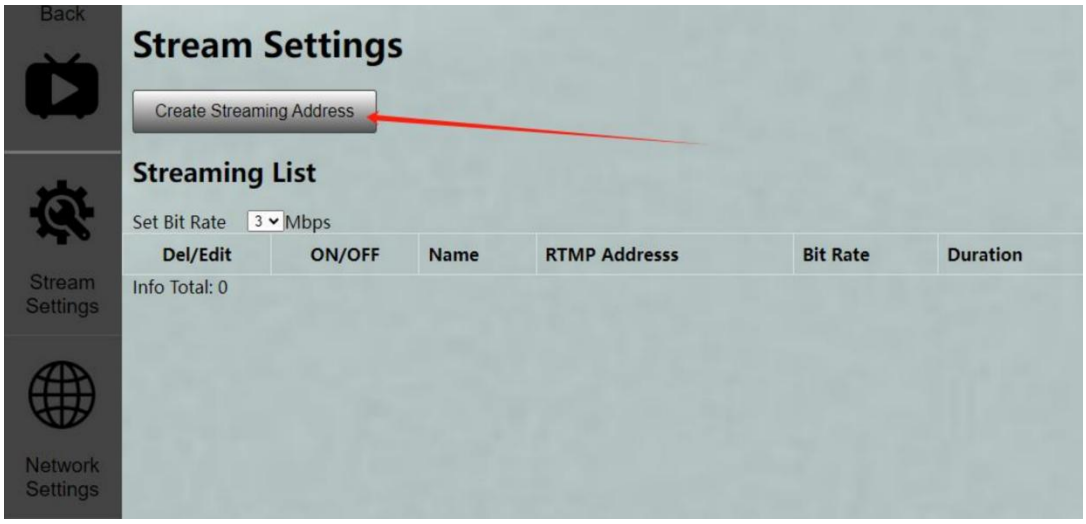
Facebook:

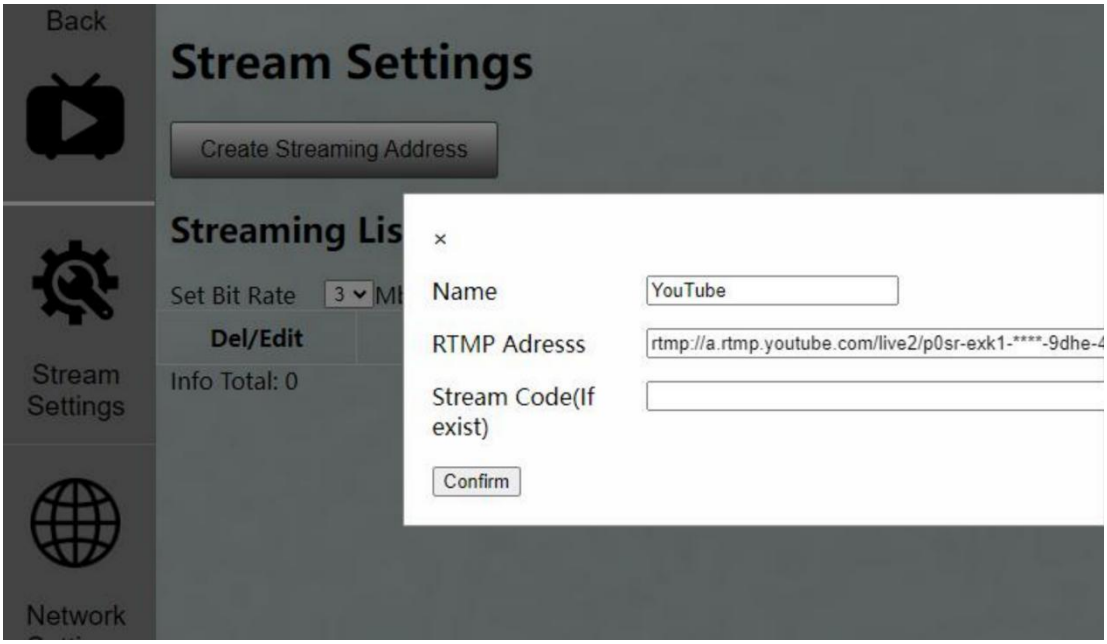


Now, you can input the RTMP stream address to the video switcher.
RTMP Stream Address Format: Stream URL/Stream Key

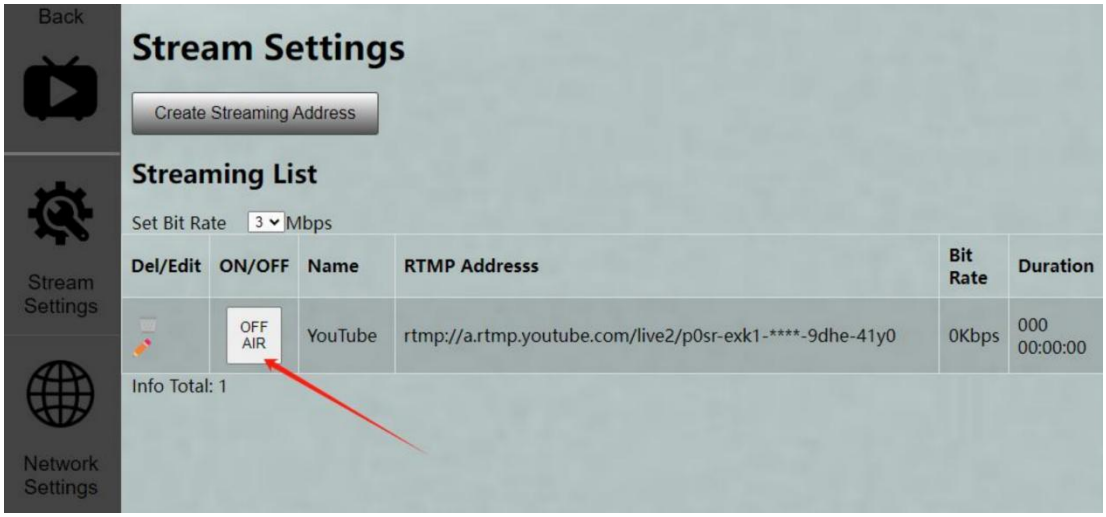
YouTube for example:

rtmp://a.rtmp.youtube.com/live2/p0sr-exk1-****-9dhe-41y0
Facebook for example:
rtmps://live-api-s.facebook.com:443/rtmp/FB-38347018451***4xGj4bTrzs0

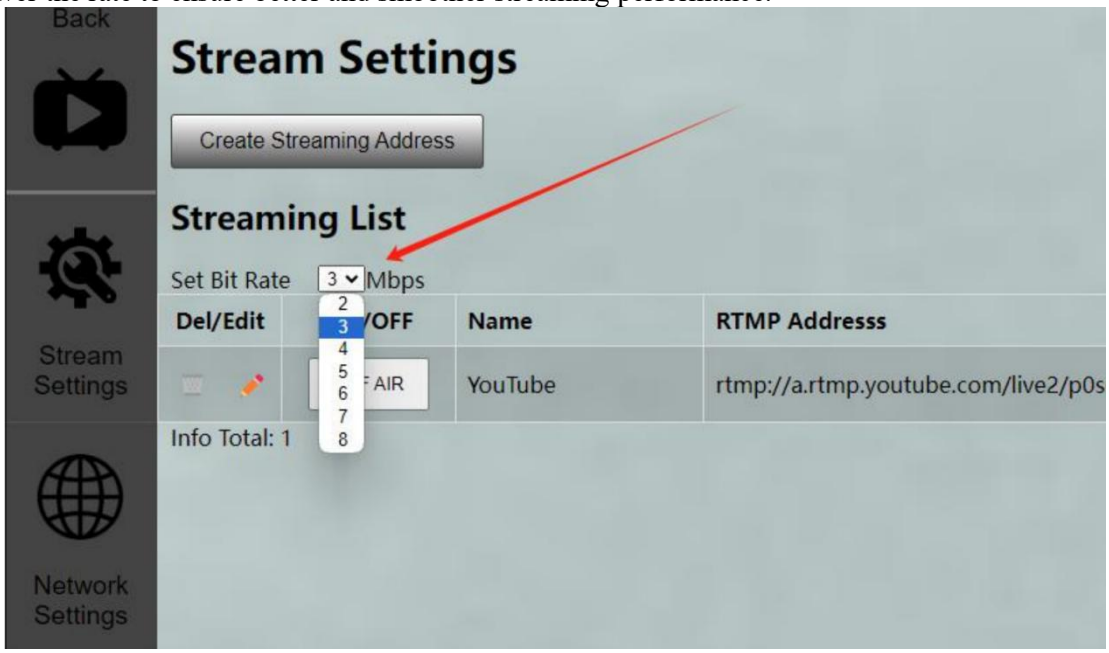




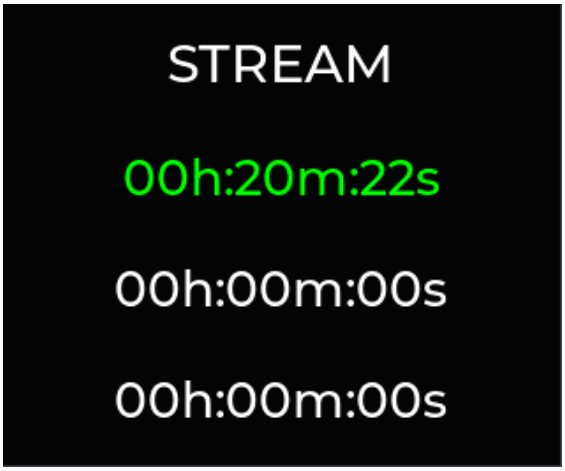
You can control the IP streaming on/off by the “air on /off” button,
can also use combo keys: “MENU+ Stream” to control IP streaming on/off .



Adjust the streaming rate to 2-12Mbps. If the network conditions are poor or restricted, users can lower the rate to ensure better and smoother streaming performance.

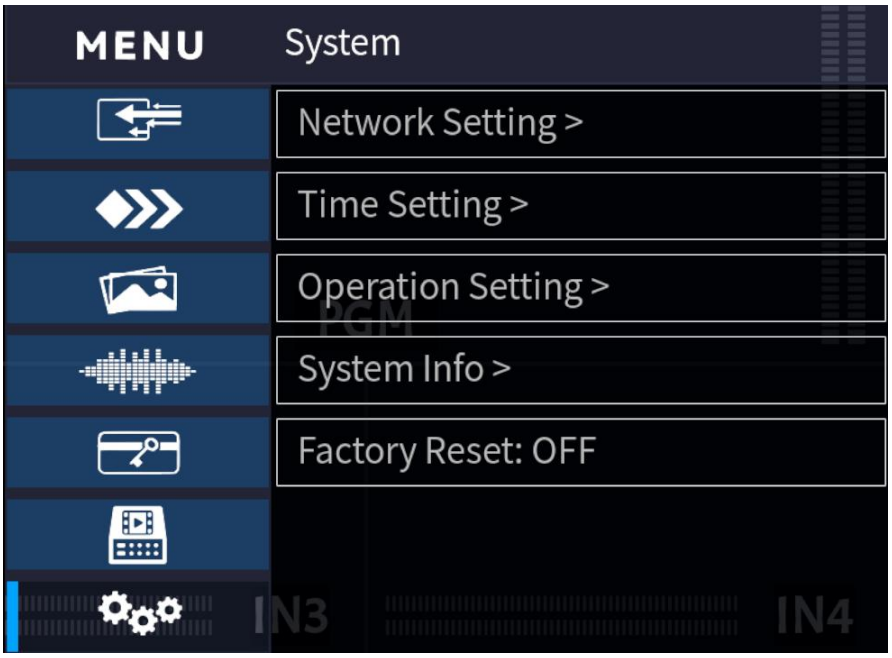


After creating a LIVE address, users can enable streaming through the on-air switch on the menu page or the ON AIR button on the web interface, or use the shortcut key combination (MENU + Stream). The server page displays the created server name and allows independent control of the streaming switch. During streaming, users can monitor the live duration (accurate to hours, minutes, and seconds), codec type, and current bitrate in real time.

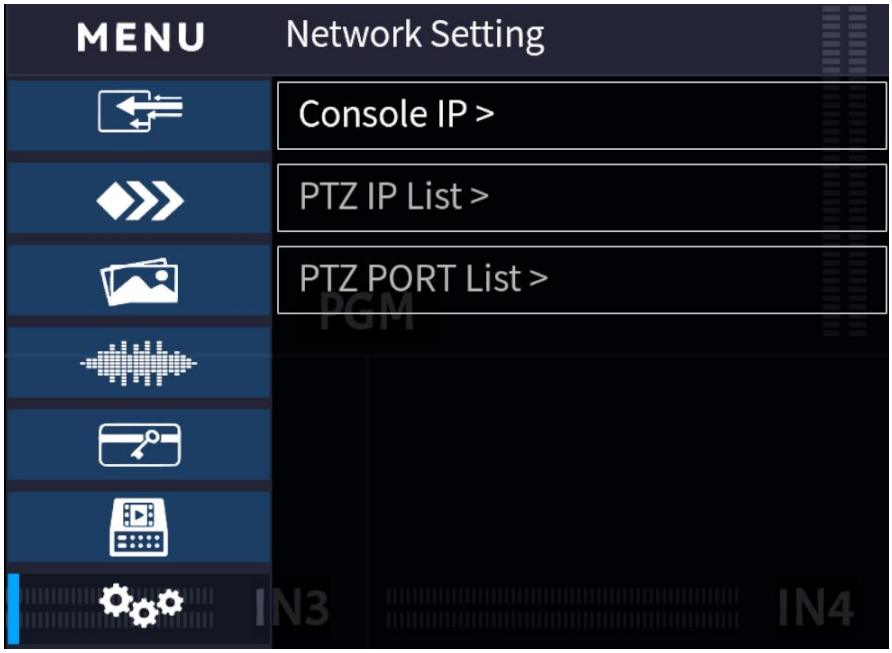


When streaming begins, the duration in the information bar will display in green, indicating normal streaming and good network quality. If the network quality is poor and the transmission speed is slow, the duration will automatically switch to yellow. The three rows of duration correspond to the status of servers 1 to 3, reflecting the streaming situation of each channel in real time.

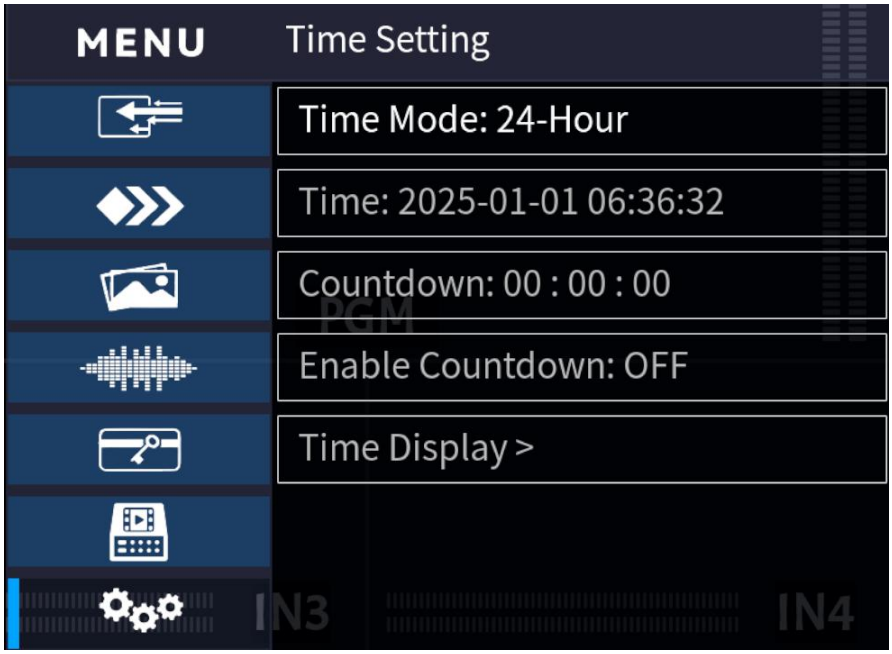
3.7 System



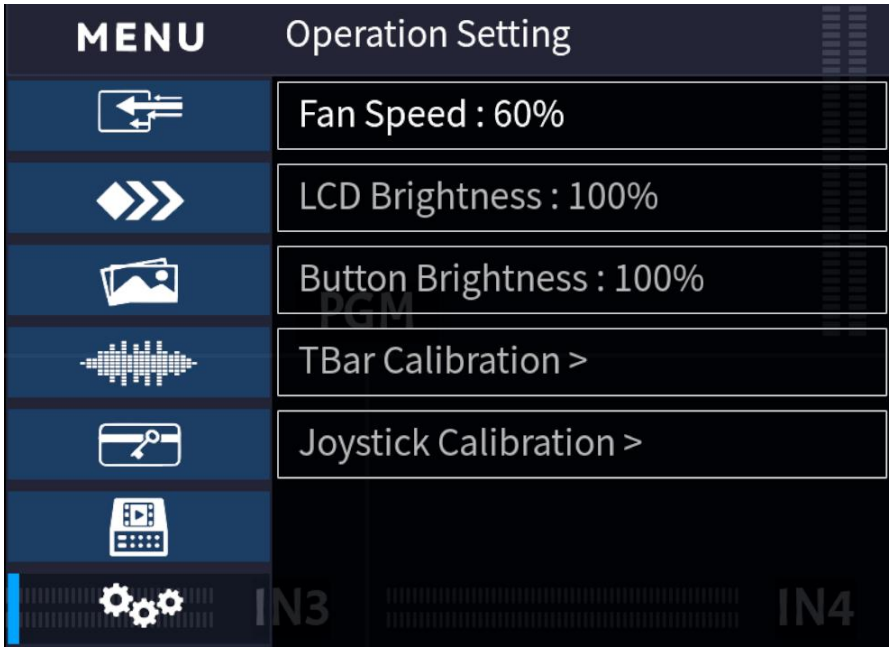
3.7.1 Network Setting: In network settings, users can choose to enable DHCP (Dynamic Host Configuration Protocol) for automatic allocation of IP addresses and other network parameters, or disable DHCP to manually configure IP addresses, subnet masks, default gateways, and DNS servers. After completing all settings, click Apply to take effect.



3.7.2 Time Setting: Change time mode, set system time, and enable countdown. Display time on PST or PGM interfaces with adjustable position.



3.7.3 Operation Setting: Set fan speed, LCD brightness, and keypad brightness. Supports T-Bar and Joystick calibration.



3.7.4 System information: Supports switching between Chinese and English, including software version information and MAC address etc.

4. Combo & Shortcut Keys Instruction

4.1 Video related combo keys

4.1.1 CTRL

4.1.1.1 CTRL + PST Bus button (S1, S2, 1, 2, 3, 4 at the bottom)
Press CTRL + S1 | S2, and the BK picture can be brought to front or sent to bottom;
Press CTRL + 1, 2, 3, 4 button to perform chroma key on the corresponding signal source.

4.1.1.2 CTRL + PGM Bus Button (middle row 1, 2, 3, 4)
CTRL + 1, 2, 3, 4 button, then quickly switch the A layer when PGM owns two layers.

4.1.1.3 CTRL + MENU knob: Scale the selected PST layer.

4.1.1.4 CTRL + CAM1/2/3/4: Turn AI tracking on/off.

4.1.1.5 CTRL + FOCUS (Push): Switches between PT speed and ZOOM speed for the current camera position.

4.1.1.6 CTRL + FOCUS (Rotation): Rotate the knob clockwise or counter-clockwise to adjust the PT speed of the current CAM position or the ZOOM speed.

4.1.2 MENU

4.1.2.1 MENU + LOCK: Turn keyboard lock on/off.

4.1.2.2 MENU + LOGO: Turn the logo on or off.

4.1.2.3 MENU + REC: Start or stop recording.

4.1.2.4 MENU + Stream: Start or stop IP streaming.

4.2 Audio-related shortcut keys

4.2.1 MON Monitoring: Long press the AFV button until it lights up cyan to activate monitoring mode. Press M/48 (MASTER), CH1, CH2, CH3, CH4, MIC1, or MIC2 to access individual channel audio. Press the AFV button briefly to exit monitoring mode.

4.2.2 In MON monitoring mode, press M/48 (MASTER), CH1, CH2, CH3, CH4, MIC1, or MIC2. Then adjust the volume knob to control the sound level of each channel.

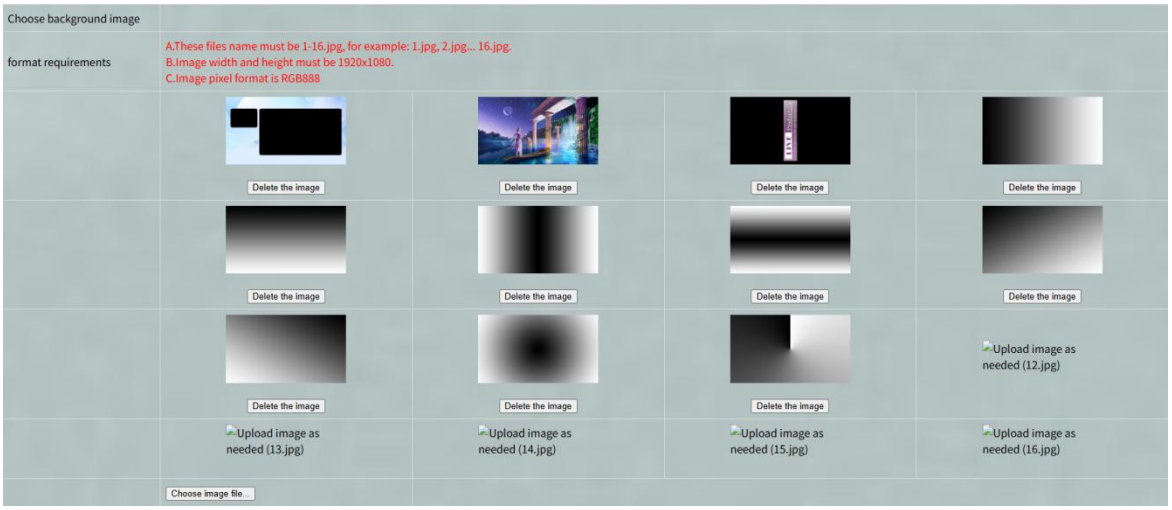
4.2.3 In normal mode, the volume knob adjusts the MASTER volume. Pressing the knob mute the MASTER, and pressing again resume the sound.

4.2.4 Press the AFV button to turn on the red light and enter audio follow video mode. Press again to turn it off.

4.2.5 When the input is a 48V microphone, hold the 48V button until the red light turns on. Turn on the 48V switch and hold it again to turn it off.

5. Importing Pictures and Logos

5.1 Importing Pictures



After logging in to the web interface, click the System Settings module to access this page. Click the Choose image file button below to upload eligible images (you can delete existing images). Up to 16 images are supported.

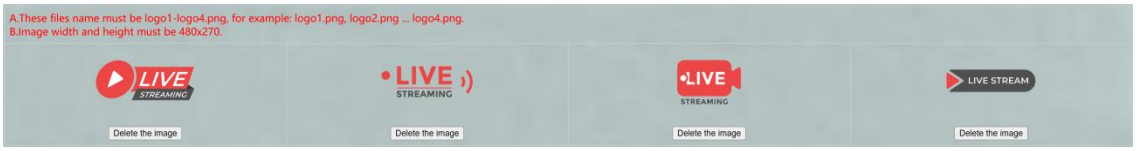
The image must meet the following requirements:

A. These file names must be 1-16.jpg, for example: 1.jpg, 2.jpg...16.jpg.

B. The image width and height must be 1920x1080.

C. The image pixel format is RGB888.

5.2 Importing Logos



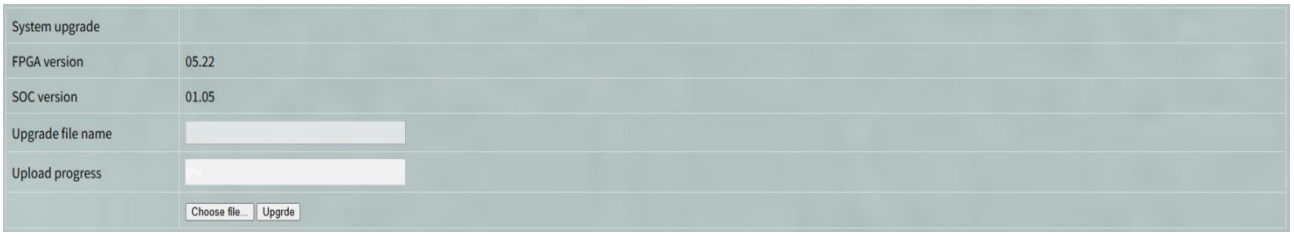
After logging in to the web version, click the System Settings module to access this page. Click the Choose image file button below to upload eligible images (you can delete existing images). Up to 4 images are allowed.

The image must meet the following requirements:

A. These file names must be logo1-logo4.png, for example: logo1.png, logo2.png...logo4.png.

B. The image width and height must be 480x270.

6. Web-page upgrade



- After logging in to the web interface, click the system settings module to access this page. This page displays the current software version.
- Click the Choose file button to select the completed.bin upgrade file

After confirming the file is correct, click the Upgrade button. The progress bar shows the upgrade status. The system will restart automatically after the upgrade.

Any changes to specifications will not be notified separately.

Specification

Connections	VIDEO	Input	HDMI Type A x 4 (INPUT 1 ~ 4), HDCP Supported
		Output (PGM)	HDMI Type A x 1 (PGM OUT), Optional PST for AUX output
		Output (MVR)	HDMI Type A x 1 (MULTI-VIEW OUT), Support horizontal / vertical Mode
		Output (LOOP)	HDMI Type A x 1 (IN1 LOOP)
		UVC Streaming	USB3.0 Type-C x 1, RGB24 / YUY2 Capture, Locking Screw
		IP Streaming	RJ45 x 1 , RTMP Streaming、RTMPS Streaming
		Recording Output	USB2.0 Type A x 1，SD Card x 1
	Audio	Input	XLR, 1/4-inch TRS phone x 2, balanced, phantom power (DC 48 V, 10 mA Max) 3.5mm TRS phone type x 2, Mic In / Line In Supported
		Output	3.5mm TRS phone type x 2, Phones / Line Out
	Communication	RJ45	100 BaseT x 1, PTZ / Tally / API Remote Control / Upgrade
		USB	USB2.0 Type A x 1, Upgrade
Performance	Input & Loop Resolution	HDMI	2160p 60/59.94/50/30/29.97/25/24/23.98Hz 1080p 60/59.94/50/30/29.97/25/24/23.98Hz 1080i 60/59.94/50Hz 720p 60/59.94/50Hz
	Output Resolution	HDMI	Up to 1920 x 1080p60
	Supported Standards	HDMI	2.0
		USB	3.0
		H.264	ITU-T H.264 | ISO/IEC 14496-10 AVC
		HEVC	ITU-T H.265 | ISO/IEC 23008-2 HEVC
	Supported Protocol	PTZ	VISCA & VISCA Over IP
		UVC & UAC	UVC 1.5 & UAC 1.5
	Video	Video Formats	HDMI 1.3/1.4/2.0 | HDCP 1.4/2.2
		Video Sampling	RGB 24bit (HDMI IN & OUT)
		UVC Color Space	RGB24 | YUY2
		Video Latency	4 frames
	Audio	Line In Delay	up to 8 frames
		Audio Formats	HDMI: Linear PCM, 16 bits/48 KHz, 2 ch
			Type-C: Linear PCM, 16 bits/48 KHz, 2 ch
	Record/Storage	Disk Formats	FAT32(≤32 GB) | exFAT(64GB~2T)
		Recording Formats	MP4, TS
Power Requirements	Input Voltage	DC 12V/3A	
	Max Power	36W	
	Compatability	Power Socket, Φ5.5 x 2.1mm	
Operational Environment	Temperature	0℃~60℃	
	Humidity	10%~85%	
Physical Specifications	Weight	Device	1.57kg
		Packaged	2.4kg
	Dimensions	Device	Panel: 280mm × 145.3mm; Side: topline 45.4mm, baseline 22.6mm;
		Packaged	327mm×186mm×130mm

Specifications are correct at time of printing and subject to change or alteration without notice.