

# FoMaKo

## Live Stream Video Mixer Switcher User Manual V1.0



## FoMaKo

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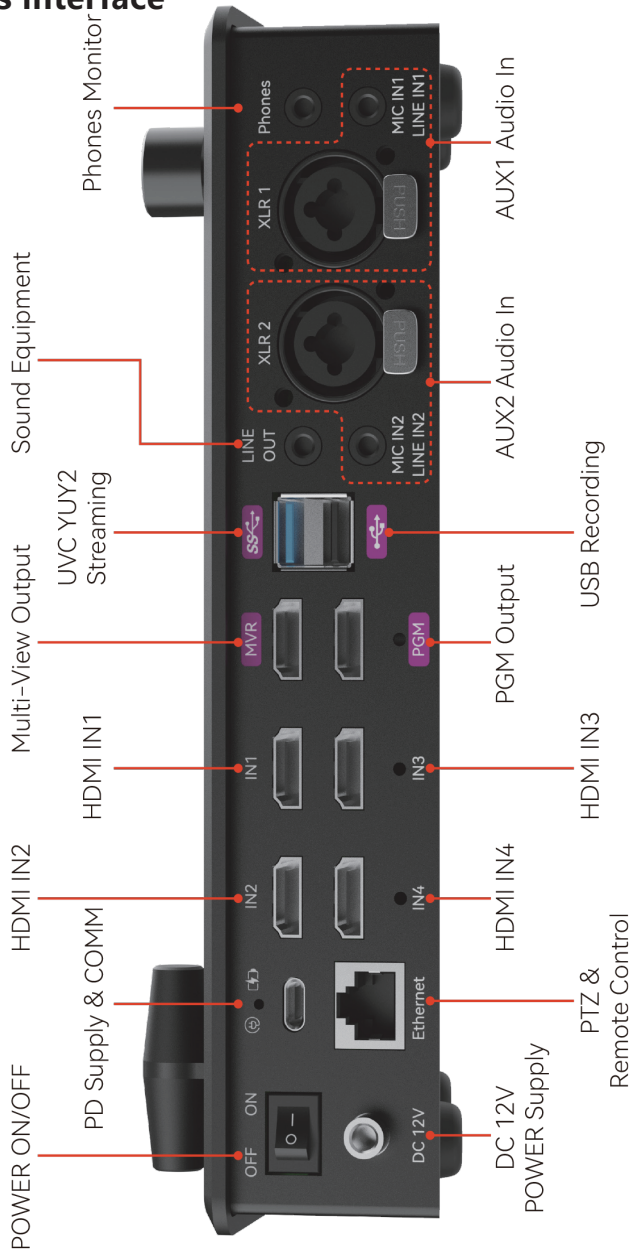
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# 1. Product Introduction

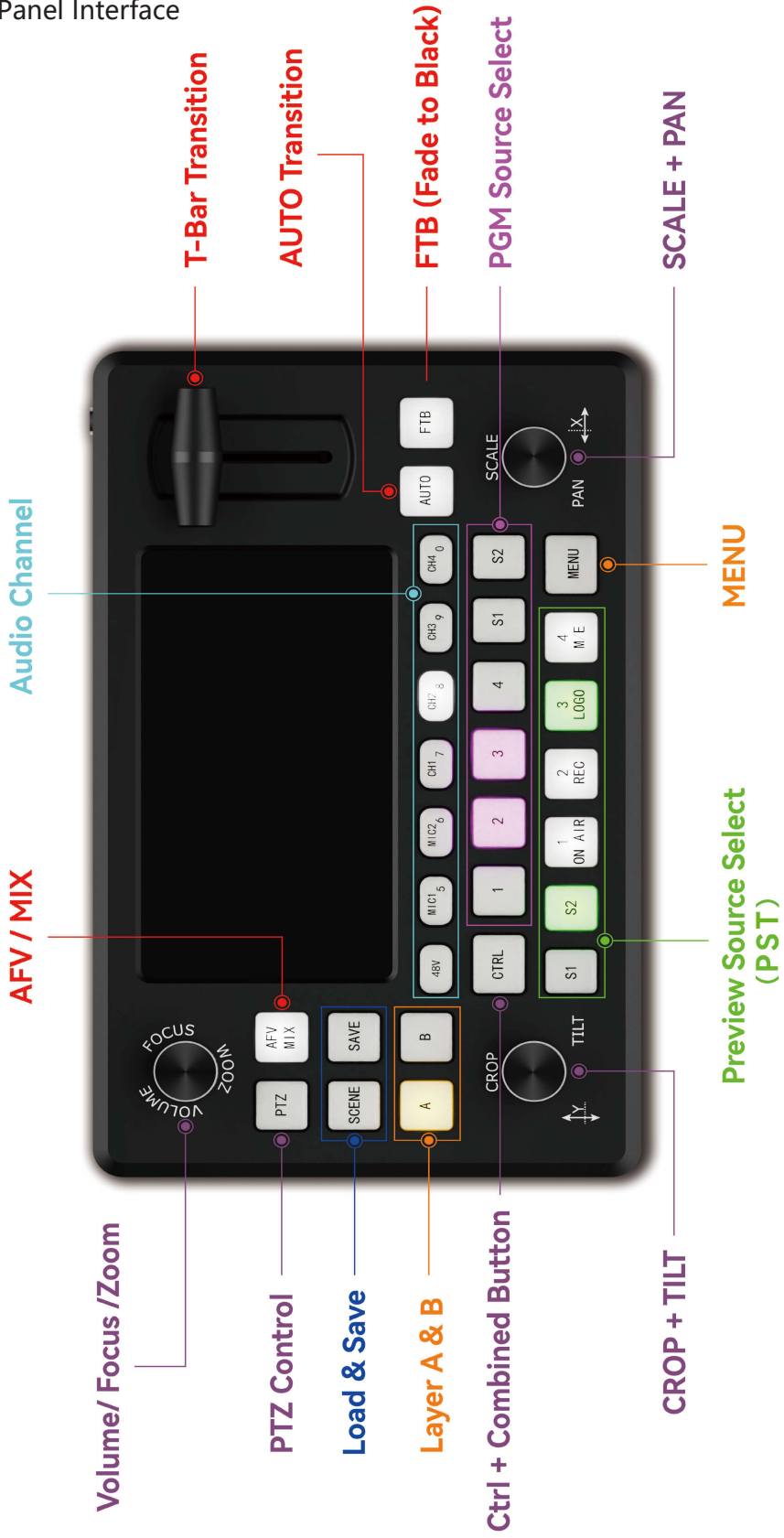
## 1.1 Overview

FoMaKo video switcher is the world's first 5.5-inch 10 display monitor with multi-layer video processing, YUY2 Lossless UVC streaming, VENC hard-encoding record, professional sound card-level audio processing, 4 cameras live broadcasting production, highly integrated and compact AV live streaming switcher, with broadcast-level live production by 4 x camera PTZ control simultaneously. Only by 29 buttons, 3 knobs and T-Bar can operator use the M/E panel to realize single-person live broadcasting friendly and easily.

## 1.2 Connectors Interface



### 1.3 Control Panel Interface



## 2. 2. Key Button and Operation Instructions

### 2.1 Video Operation

#### 2.1.1 Preview/Preset (PST) bus button

Number 1, 2, 3, 4 Buttons: Represent the current signal status, when there is no signal input, the button is off. While, the button is on white when there is a signal input, and the button is on green if the signal is selected in the PST.

S1, S2 Buttons: Represent the status of the two BK pictures under PST. If BK2 is selected, S2 will light up in green;

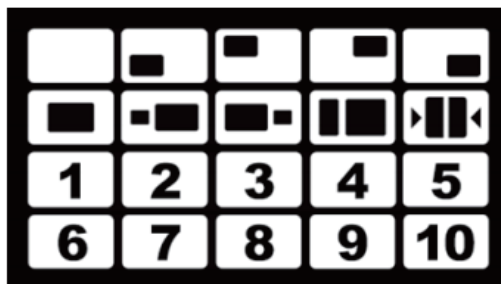
#### 2.1.2 Program (PGM) bus button

Number 1, 2, 3, 4 Buttons: Indicates the selected signal source in PGM, the selected one is purple color, and the unselected one is off; If the PGM has only one layer ( A or B is available), press the 1, 2, 3, 4 buttons to quickly switch the PGM layer; If there are two layers on PGM, CTRL + 1.2.3.4 button, then quickly switch the A layer of PGM.

S1, S2 Buttons: Represent the status of the two BK pictures under PGM. If BK1 is selected, S1 will light up purple, and S2 will not light up. It can also be used as Page Function, If you choose BK2 Page, S1 and S2 will light up in cyan, and S1 can be turned to the previous page, S2 is the next page.

#### 2.1.3 SCENE Button

Press the button, quickly select the preset/custom scene through number 1-10 or knob X/Y.



#### 2.1.4 SAVE Button

Press the SAVE button, the yellow light is on, and the edited layer under PST can be saved through 1~10 number button.

## 2.2 Audio Operation

The panel also has an excellent audio mixer function, supporting professional XLR balanced input, 6.35-inch balanced input, 3.5-inch MIC input or LINE input, which can be mixed with embedded audio source from four HDMI inputs in real

time to create Powerful mixing function, and the output supports 5-BAND EQ sound processing, through the convenient button switch and simple menu settings, you can create real-time mixing and 5-BAND EQ sound to bring professional sound quality enjoyment.

### **2.2.1 Audio Mixer Diagram**

Two AUX analog audio channels can drive one to two analog-sound respectively. AUX1 is responsible for the mixing of XLR 1, MICIN1 or LINE IN1 sound channels, and AUX2 is responsible for the mixing of XLR2, MICN2 or LINE IN2 sound channels, that is, it supports at most four channels of external analog audio inputs and four channels of HDMI digital audio, in this case, there are a total of eight channels of real-time audio source processing.

### **2.2.2 AFV mode**

Long press and hold the AFV/MIX button to activate the AFV mode and light up red. At this time, the main output is the sound of MASTER, which is the built-in audio source of selected layer on the PGM and the real-time MIC audio mixing (Operator can set embedded audio source or mute in each input under AFV menu). In AFV mode, MIC1 and MIC2 can still be turned on or off freely.

### **2.2.3 MIX mode**

Press and hold the AFV/MIX button to switch to MIX mode and light up white. At this time, the main output is the sound of MASTER, which is the real time mixer under MIC1, MIC2, CH1, CH2, CH3, CH4 buttons, under MIX mode, these 6 audio sources can be freely turned on or off.

### **2.2.4 Audio Monitor**

Through the phone jack, the menu can be set to monitor the sound of MIC1, MIC2, CH1, CH2, CH3, CH4 or MASTER channel. or by pressing and holding the button CTRL + MIC1, MIC2, CH1, CH2, CH3, or CH4. can monitor the audio of the corresponding channel, and when free the button, monitoring channel restored.

### **2.2.5 Volume adjustment**

In pre-listen state, hold down either CTRL + MIC1, MIC2, CH1, CH2, CH3, or CH4, then rotate the volume knob, you can adjust the volume of the corresponding audio channel independently. In normal state, the upper left knob can adjust the MASTER volume, press the knob to mute the MASTER, press it again to resume the sound.

## **2.3 PTZ Control**

By the unique operation panel and its convenient and friendly operation, operator can control and load 4 x PTZ cameras at the same time.

### **2.3.1 PTZ basic operations**

press the button, the white light is on, enter the PTZ mode, press the PTZ button again to close. In PTZ mode, turn the knob X to control the Pan and move left and right, knob Y to control Tilt and move up and down, and the knob Zoom to control the zoom in and out of the lens. If the focus mode is set to manual mode, CTRL+- knob ZOOM can adjust the FOCUS of the camera.

### **2.3.2 Save preset points**

In PTZ mode, press the SAVE key, the yellow light is on; Button 1, 2, 3, 4 under Program/PGM , and 5.6.7.8.9 and 0 displayed in audio buttons, when yellow lights is on, it indicates the 10 preset save channels for the current camera position, click any number keys can quickly save the corresponding preset to the channels.

### **2.3.3 Recall preset points**

In PTZ mode, press the SCENE key, the blue light is on; Number buttons 1, 2, 3, and 4 under preview /PST, press the corresponding button to select different camera position, and it will light up green; Button 1, 2, 3, 4 under Program/PGM , and 5.6.7.8.9 and 0 displayed in audio buttons, when blue lights is on under the 10 numbers, it indicates the 10 preset save channels for the current camera position, click any number keys can quickly load the corresponding preset of the position.

### **2.3.4 Multi-Camera PTZ Connection**

Connect an external Ethernet switch, enter to the video switcher menu to set IP of each PTZ camera. Activate the PTZ mode, and select different camera to operate through the buttons 1, 2, 3, and 4 under Preview (PST).

### **2.3.5 PTZ Control Protocol**

Support Visca Over IP protocol.

## **2.4 Knob**

### **2.4.1 Knob X**

You can move the position of selected layer horizontally under PST.

### **2.4.2 Knob Y**

You can move the position of selected layer vertically under PST.

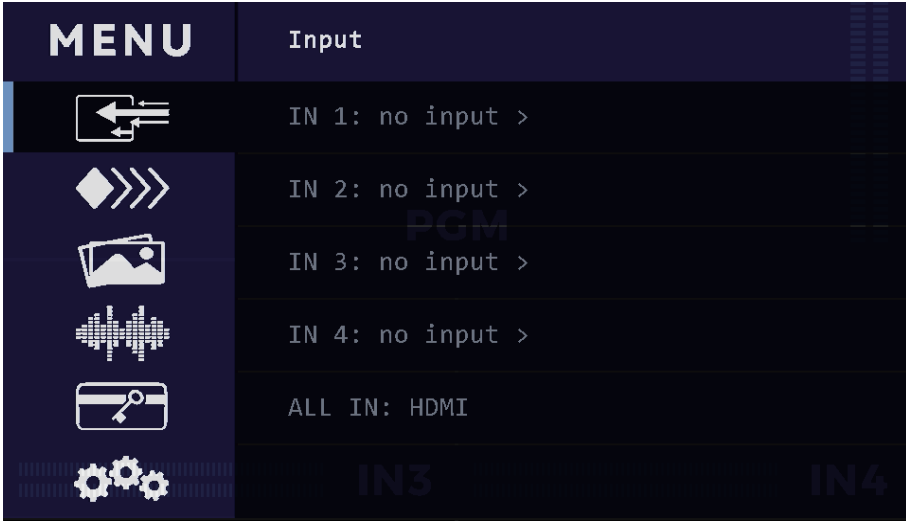
### **2.4.3 Knob Z**

In normal mode, the MASTER volume can be adjusted. Press the knob to mute the MASTER, and press again to reply to the sound.

In PTZ mode, the lens can be controlled to zoom in and out.  
(Another CTRL + Knob combination operation will be explained in detail later!)

# 3. MENU Function Introduction

## 3.1 Input & Output



### 3.1.1

The input setting includes four HDMI input. When there is an HDMI signal present, it will read and display the resolution of the corresponding source.

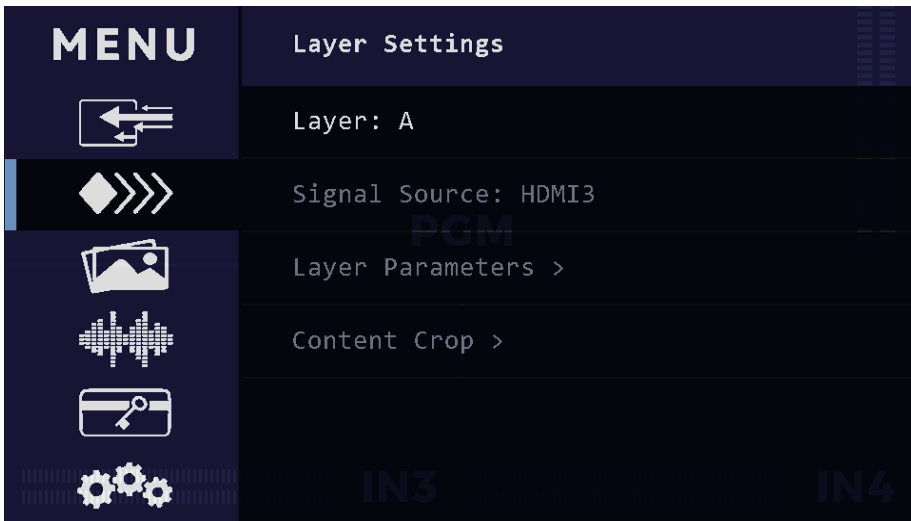
### 3.1.2

When there is no signal, you can set inputs as TP1, TP2, or TP3 color bar.

### 3.1.3

Output Setting: HDMI and USB can be optional PGM or PST output.

## 3.2 Layer Settings

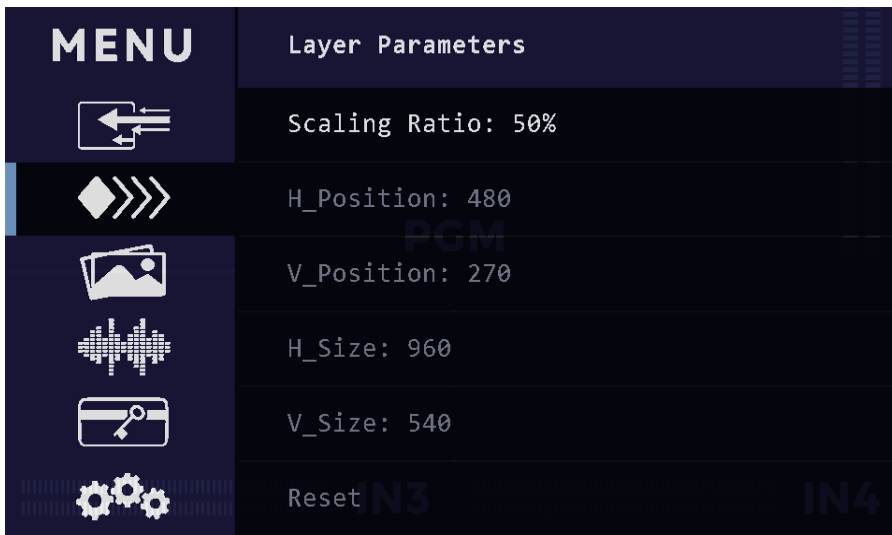




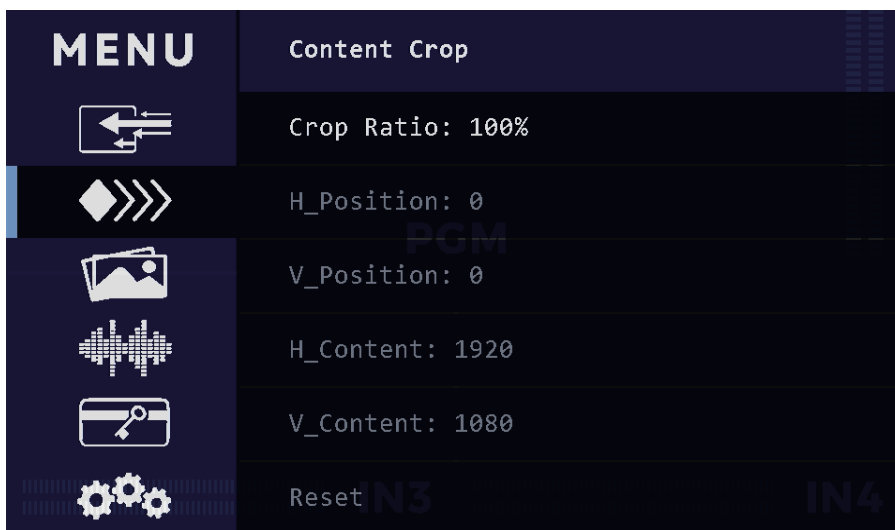
3.2.1 Layer: A layer, B layer or A and B layer can be opened together.

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

3.2.3 Layer parameters: Set the position, size for current scaling ration of layer, and reset to the initial value with one click.



3.2.4 Content Crop: Set the position, content for current crop ration of layer, and reset to the initial value with one click.



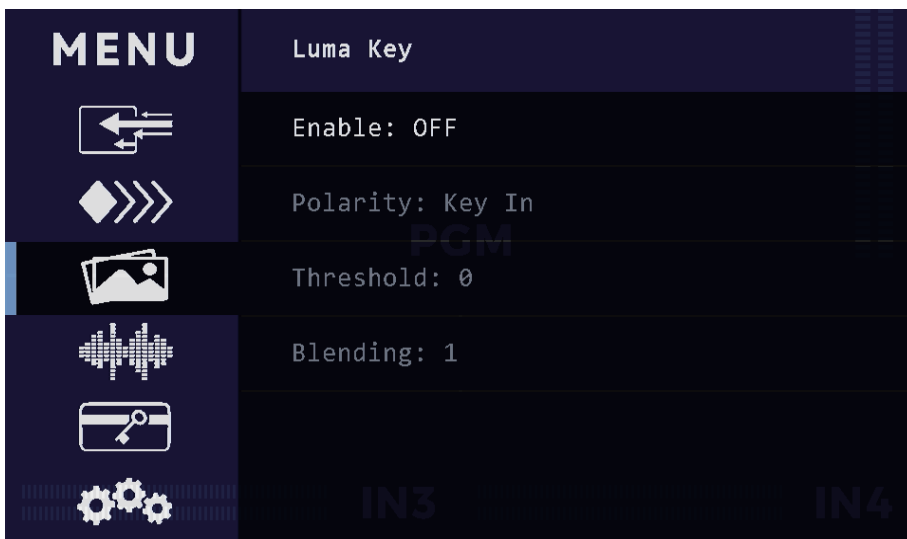
### 3.3 Picture Setting (can import 16 pictures)

3.3.1 BK1: assign the picture of BK1 from picture pool.

3.3.2 BK2: assign the picture of BK2 from picture pool.

3.3.3 Picture Reload: Reload the imported pictures, either singly or ALL of them.

3.3.4 BK layer Setting: The panel has 2 luma keyers for two BK pictures. in PST interface, the BK picture be brought to front or sent to bottom, when BK picture sent to bottom, the luma key will be disable.



3.3.5 LOGO Setting (can import 2 logos) : support PNG files with alpha transparency, select logo1 or logo2, enable the logo, set the position and size of the logo.



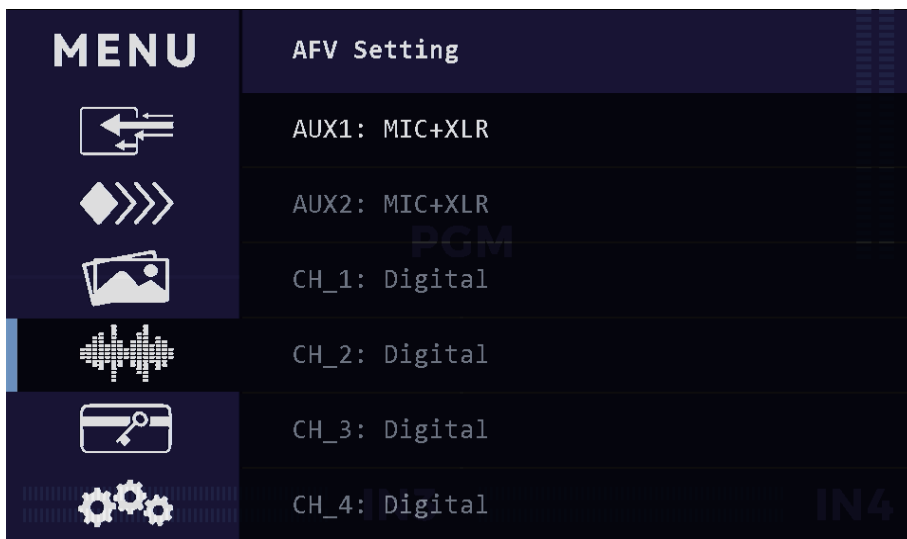
## 3.4 Audio Settings

3.4.1 Audio Channel: set on/off for CH1, CH2, CH3, CH4, AUX1, AUX2 channel, you can be open multi-channel audio at the same time, simply for audio mixing.

3.4.2 Volume: adjust the volume of CH1, CH2, CH3, CH4, AUX1, AUX2, Master or Monitor.

3.4.3 Input delay: set the delay time of AUX1 and AUX2.

3.4.4 AFV Setting: Audio following video, optional LINE or MIC input, the master output is determined by the signal source in PGM, for example the IN1 signal is on PGM, the IN1 audio will be assigned as master output, the corresponding CH1 button light on. In AFV mode, the CH1, CH2, CH3, and CH4 buttons cannot be operated.



3.4.5 Audio Monitor: MASTER, HDMI1, HDMI2, HDMI3, HDMI4, AUX1, AUX2 can be monitored.

## 3.5 Advanced

### 3.5.1 PTZ

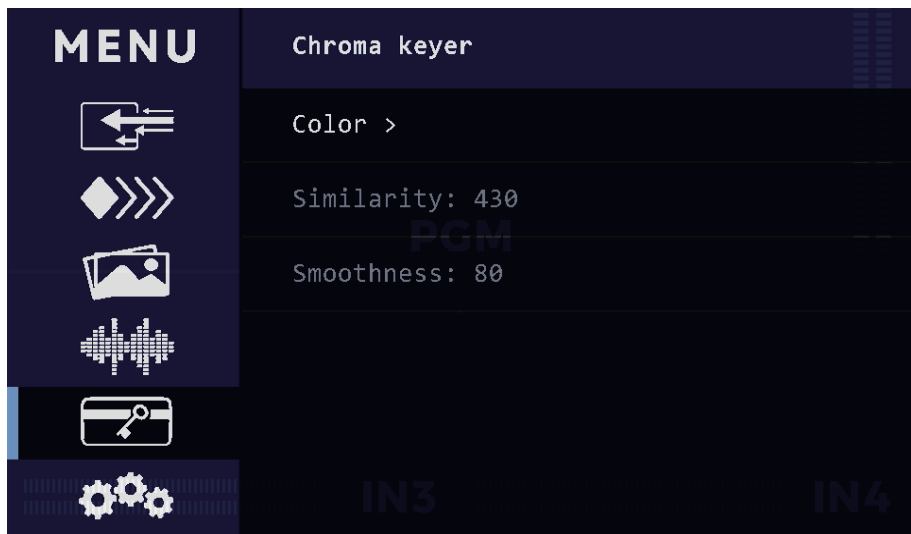
3.5.1.1 PTZ Setting: one camera PTZ control can be directly connected to video switcher Ethernet port, multiple PTZ need to use a router or switch to connect video switcher and PTZ at the same IP gateway, then you can perform pan, tilt, zoom, focus adjustment.



3.5.1.2 PTZ IP list & PTZ PORT List: Corresponding to the IP address and port number of cameras.

3.5.1.3 Preset point: Save and call the preset point.

3.5.2 Chroma Key: The video switcher 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 Graphic Slide Setting: Two BK pictures can be set to slide 1 and slide 2 respectively.



Luminance Threshold: When sliding, the content smaller than the luminance threshold will be deducted, and only the content larger than the luminance threshold will be displayed.

Slide direction: from Left to Right, or from Top to Bottom.

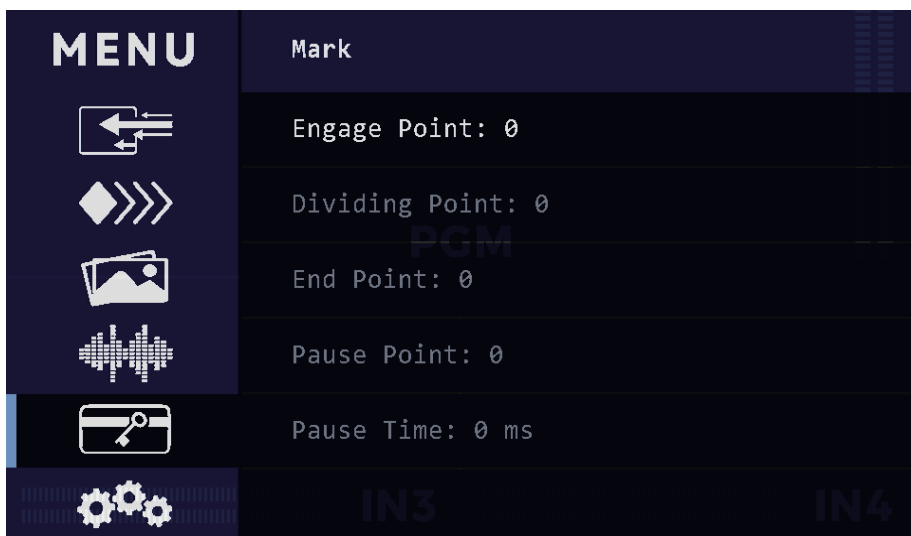
Engage point: Take the edge of the BK image direction as the start point and display the coordinates of the graphic.

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

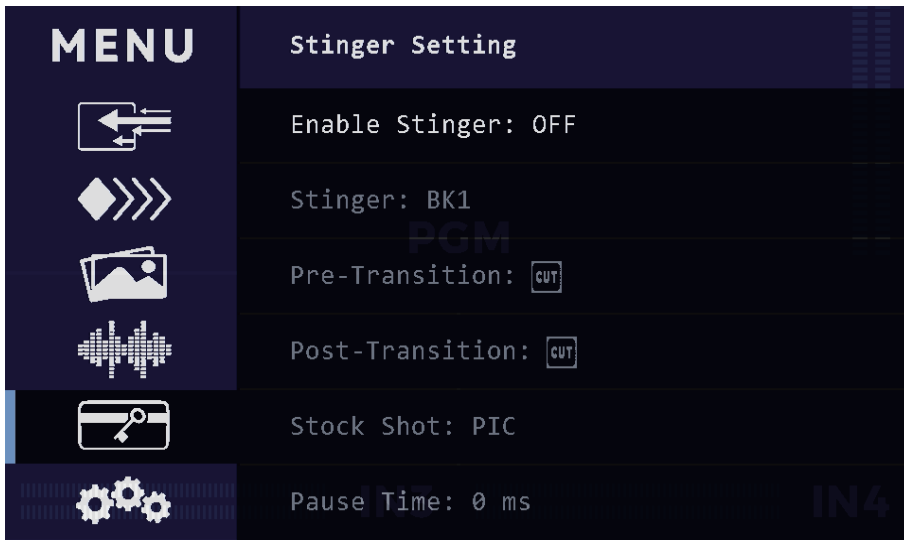
End Point: take the edge of the BK image direction as the start point, and end the coordinates of the graphic.

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

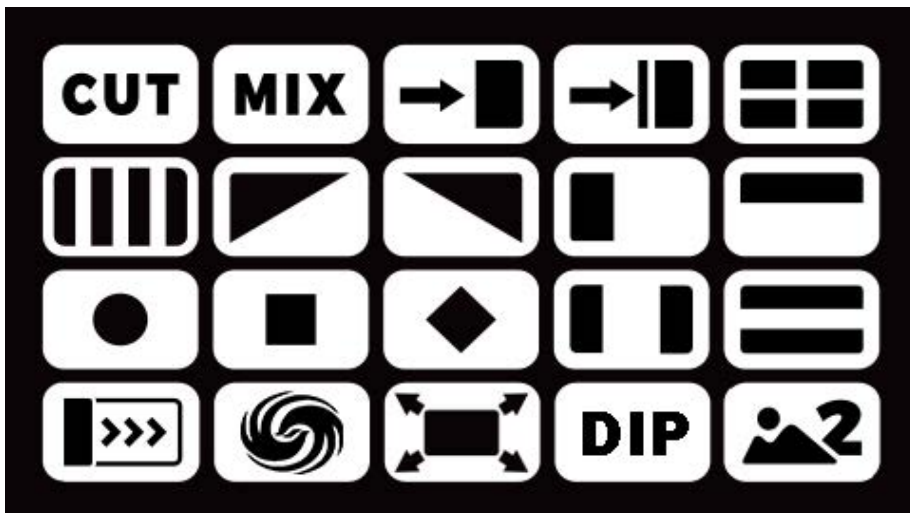
Pause Time: Set between 0 and 5 seconds, 0.5 seconds for the step.



3.5.3.2 Stinger Setting: Two BK pictures can be set as stinger effect 1 and stinger effect 2 respectively, or DIP customized color can be used as a transition.



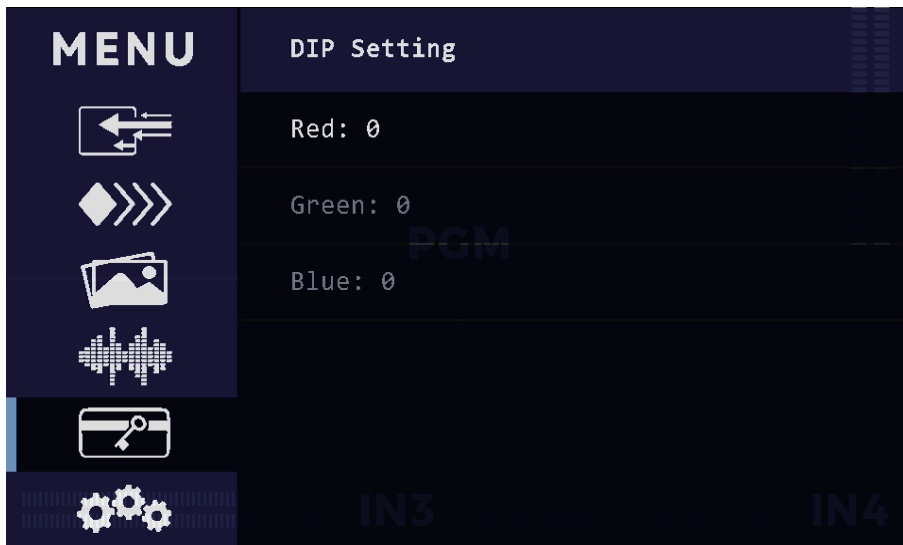
In the process of stinger effects, use the one-way method when using AUTO transition, and use the two-way method when using T-BAR transition.  
 Pre-Trans & Post-Trans: CUT, MIX, DVE Push, DVE Squeeze, Cross Wipe, Venetian Blinds, Diagonal NWSE, Diagonal NESW, Horizontal Wipe, Vertical Wipe, Circle Wipe, Box Wipe, Diamond Wipe, L&R Barn Doors, T&B Barn Doors.



## STOCK SHOT: PIC / DIP

Add Pause: Indicates the stagnation time between the pre-trans and the post-trans when AUTO is pressed.

DIP Effect :set both the pre-trans and post-trans of the stinger effect to MIX, select DIP transition, and customize the color of DIP. Operator can use DIP transitions such as black and white etc to realize the transition of specific colors fade in and out or various filters such as dusk, blue and purple to make more styles on the video.



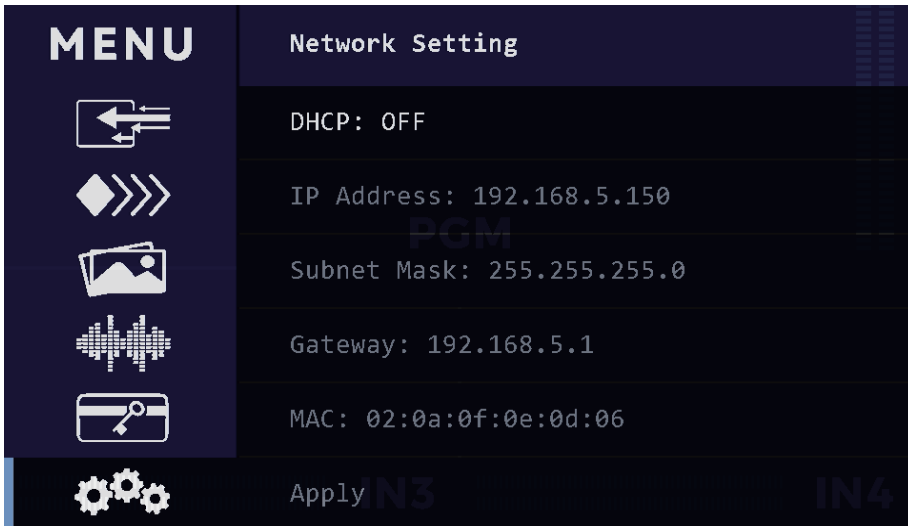
### 3.5.4 Scenes

After finishing editing in the PST interface, scenes can be saved, and up to 10 scene banks can be supported.

## 3.6 System

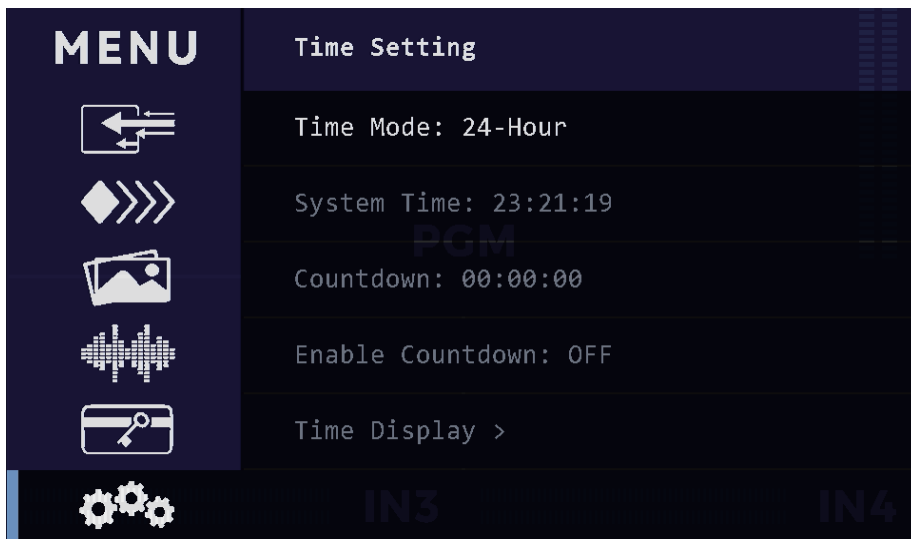
### 3.6.1 Network Setting

In network Settings, you can view MAC address, turn on/off DHCP (dynamic host configuration protocol), set IP address, subnet mask, default gateway, and apply after setting.



### 3.6.2 Time setting

Change time mode, set system time, countdown, display time in PST or PGM interface, and adjust the position.



### 3.6.3 Native parameters

Set fan speed, keypad brightness and LCD screen brightness.



## 4. Shortcut Keys Instruction

### 4.1 Video related shortcut keys

4.1.1 A & B buttons: which represent two layers, the selected layer shows yellow, and the layer shows no color when the layer is closed.

4.1.2 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.

4.1.3 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.

4.1.4 CTRL + Knob

Knob X: Press CTRL + Knob X to perform SCALE operation.

Knob Y: Press CTRL + Knob Y to perform CROP operation (ROI).

Knob Z: If the camera's focus mode is set to manual mode, CTRL + Knob Z can adjust the focus.

4.1.5 MENU

MENU + Knob X: You can select the left and right regions of the ROI content;

MENU + Knob Y: You can select the upper and lower regions of the ROI content;

MENU + M/E: Enable the selection of transition effect;

MENU + LOGO: Enable the LOGO;

MENU + REC: Start or Stop Recording.

### 4.2 Audio related shortcut keys

4.2.1 Pressing and holding the button CTRL + MIC1, MIC2, CH1, CH2, CH3, or CH4. can monitor the audio of the corresponding channel, and when free the button. monitoring channel restored.

4.2.2 In pre-listen state, hold down either CTRL + MIC1, MIC2, CH1, CH2, CH3, or CH4, then rotate the volume knob, you can adjust the volume of the corresponding audio channel independently.

4.2.3 In normal state, the upper left knob can adjust the MASTER volume, press the knob to mute the MASTER, press it again to resume the sound.

4.2.4 Long pressing AFV/MIX button light up in red, enable AFV mode, long pressing again to close.

4.2.5 When the microphone input is 48V, long pressing the 48V button light up in red, enable phantom supply, and long pressing it again to close.

## **5. Pictures and LOGO Import**

### **5.1 Pictures Import**

Please contact technology support to get detail instruction

### **5.2 LOGO import**

Please contact technology support for detail instruction.

One Operator Multiple Audiences

Accelerate Live Production

Production is easier and fun with FoMaKo Panel