

HDMI Video Switcher

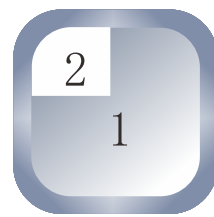
Users Manual



Preview



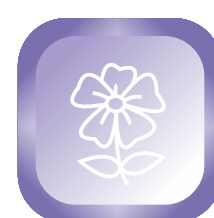
Transition effects



PIP



Audio embed



RGB chroma key



Video capture

01.Product introduction.....	2
02.Interface introduction.....	3
03.Control panel.....	4
04.Key areas.....	5
05.Video capture.....	11
06.Software connection.....	12
07.Software operation.....	14
08.Size application.....	17
09.Product parameter.....	18

1. Product introduction

Switcher supports 4 HDMI video signal input, 1 *HDMI PVW output + 1*HDMI PGM output; Supports HDMI embedded audio + External audio, it can be embedded in the HDMI signal output or output from audio port after mixing processing; also equipped with Type-C video capture port, support OBS, vMix, VLC, PotPlayer and other market software, to achieve online video recording, streaming.

HDMI input signal is automatically adapted for above 720P resolution, 1080P output signal resolution can be selected according to requirements(1080p60/1080p50/1080p30/1080p25/1080p24), which is quite flexible.

Support PIP for PVW and PGM, support adjust the window size and position, and support screen freeze.

Support RGB(Red, Green or Blue) background cutout; and can adjust the tint according to the shade of the studio filter's background color in software.

Support hard-cutting with CUT key and AUTO special effect switch, and the transition speed can be adjusted with RATE keys(0.5, 1.0, 1.5, 2.0).

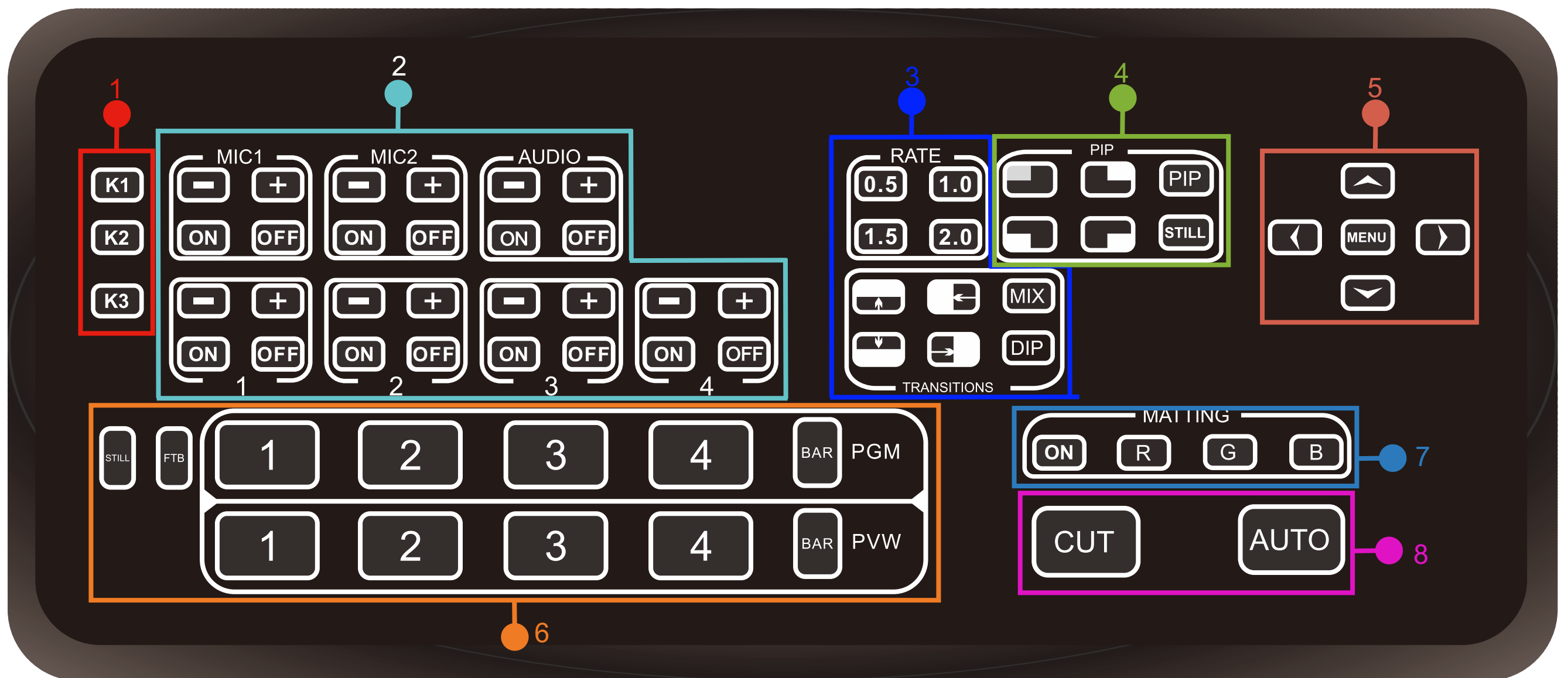
Widely used for video conferences, live broadcasts, weddings, radio and television, program production, outdoor sports, teaching courses, and others video switching scene.

2. Interface introduction



No.	Interface	Function
①	AUDIO OUT	3.5mm analog audio output
②	AUDIO IN	3.5mm analog audio input
③	MIC IN	Microphone audio input
④	HDMI IN	4*HDMI signal source input
⑤	PREVIEW OUT	Preview monitor output
⑥	PROGRAM OUT	PGM output
⑦	CONTROL	Software control and upgrade
⑧	DC	12V power supply
⑨	TYPE-C OUT	Video capture and streaming

3. Control panel



No.	Partitioning	Function
1	Function key area	Output resolution, mute and reset function
2	Audio control area	Audio switch and volume control
3	Special effect switch area	Transition effects selection
4	PIP control area	PIP function control
5	Menu control area	Setting menu information with keys
6	Video area	PVW and PGM function selection
7	Chroma key area	RGB standard color background cutout
8	Enable key area	Transition effect control and turn on PIP in the main screen

4. Buttons areas

4.1. Function area:

K1: Switch PGM output resolution, currently supports resolutions: 1080p60, 1080p50, 1080p30, 1080p25, 1080p24. The resolution can be switched by pressing the button according to the adaptive equipment.

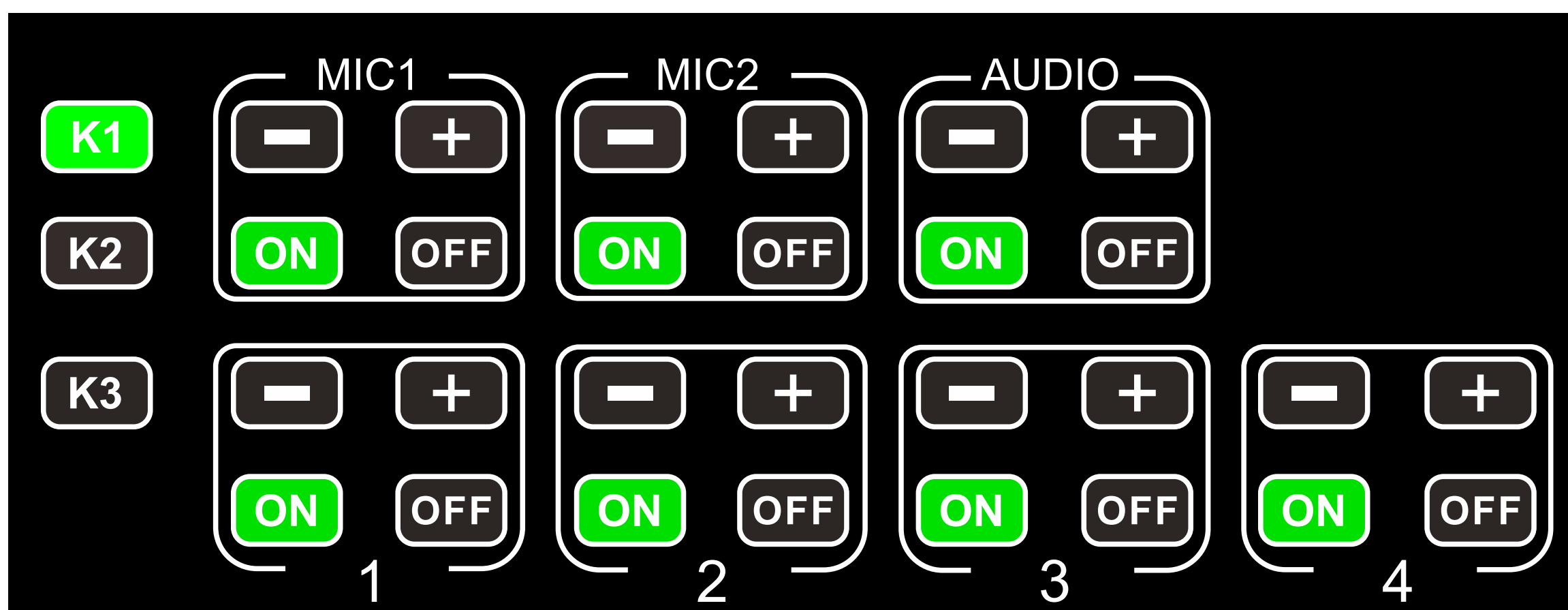
K2: Reset function, one-key reset all functions to the power-on state.

K3: After pressing K3, the PGM output and 3.5mm audio output switch to mute, press "K3" again to resume volume output.

4.2. Audio area:

+/-: Volume adjustment (increase or decrease), press the key once to gradually adjust, or press and hold the key to continuously adjust volume.

"ON/OFF": When press the "ON" button, the green light will on, it indicates that this audio input is available, when press the "OFF" button, the red light will on, it indicates that this audio input is unavailable.

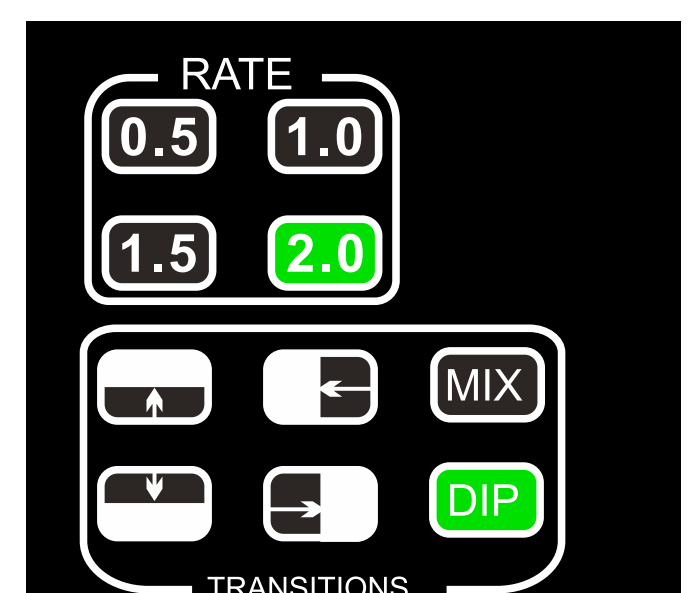


4.3. Special effect Switch:

0.5, 1.0, 1.5, 2.0: Transition rate for special effect transitions

TRANSITIONS: There are 6 transition modes:

MIX Transition, DIP fade in and fade out effects, four special effects wipe transitions (up/down/left/right)



• This operation can be implemented only after PIP and ON cutout function is turn off

MIX Special effect example



A



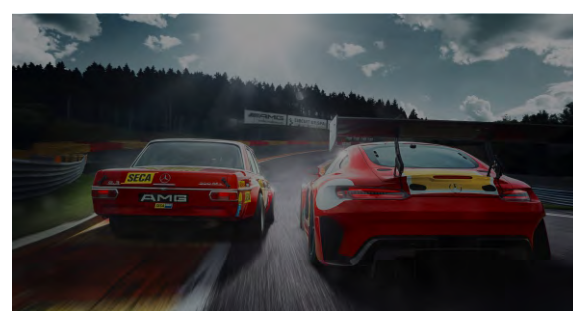
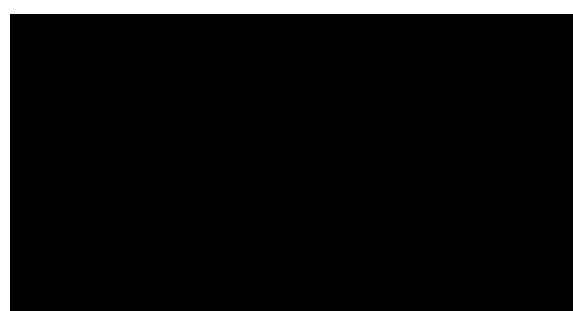
B

Press the MIX key in the special effect switch area (green light is displayed after pressing), and then press AUTO to switch. Superimposed on the A picture and gradually superimposed the B picture, until the transition to the end, the picture is completely replaced by the B picture .

DIP Special effect example



A



B

Press the DIP key in the special effect switch area (green light is displayed after pressing), and then press AUTO to switch. A gradually darkens the picture until it is completely black, and then gradually changes from black to B picture.

Example of four direction effects



A

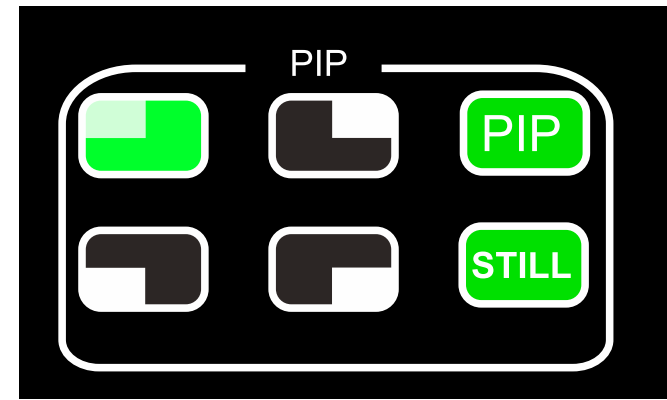


B

Press ↑ in the special effect switch area (green light is displayed after pressing), and then press AUTO to switch. The A picture is unchanged, and the B picture is gradually wiped in by the upward direction until the picture completely becomes B.

4.4.PIP section:

PIP: Picture-in-picture enable switch, press the button to turn on the PVW picture-in-picture function, press the CUT button at the same time to turn on the picture-in-picture function of the main interface, press PIP button again to turn off the picture-in-picture function.



STILL: Picture-in-picture freeze function, press the button to freeze the PIP image on the PGM video, but the preview monitoring of PIP function cannot be frozen.

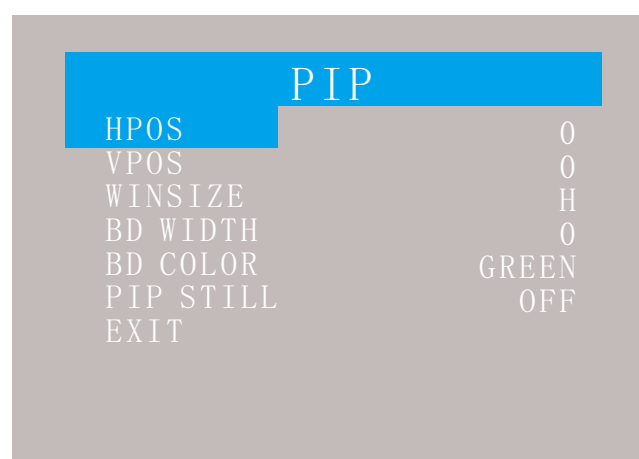
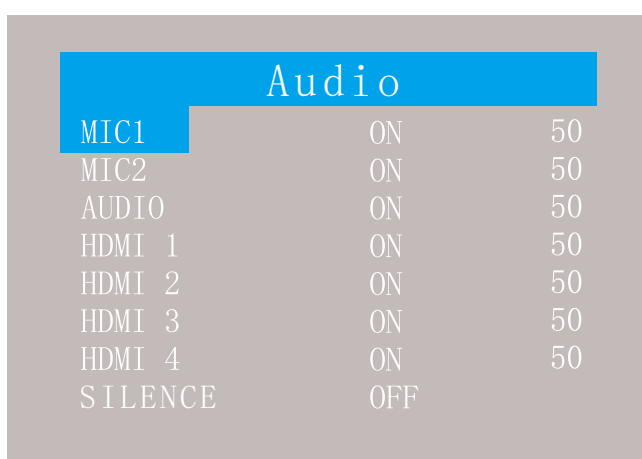
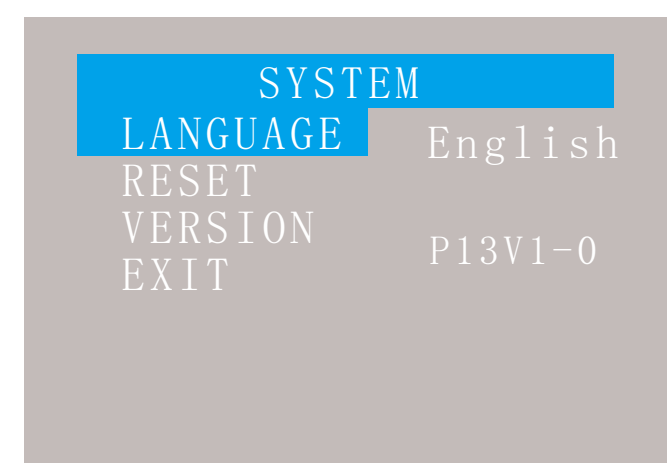
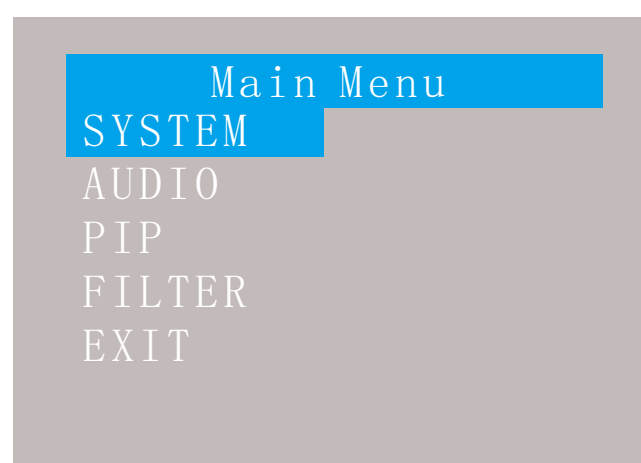
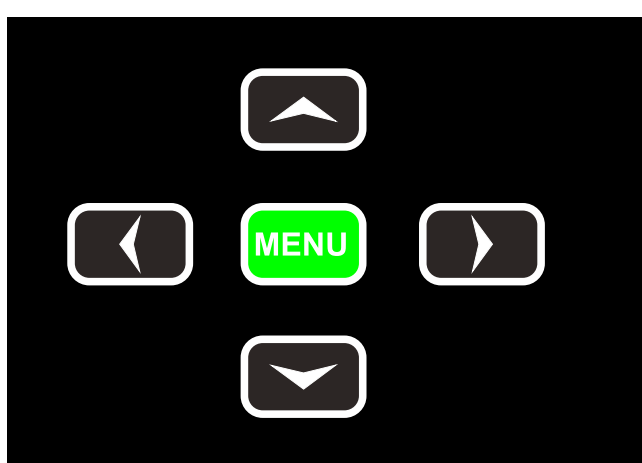


4 position keys: PIP display area, the PIP initial value is displayed in the boundary corner position.

- The PIP size, position and border color size can be modified by the menu key. If the PIP function of PGM live broadcast needs to be turned on and off by the CUT button when the PIP button lights up.

4.5. MENU area:

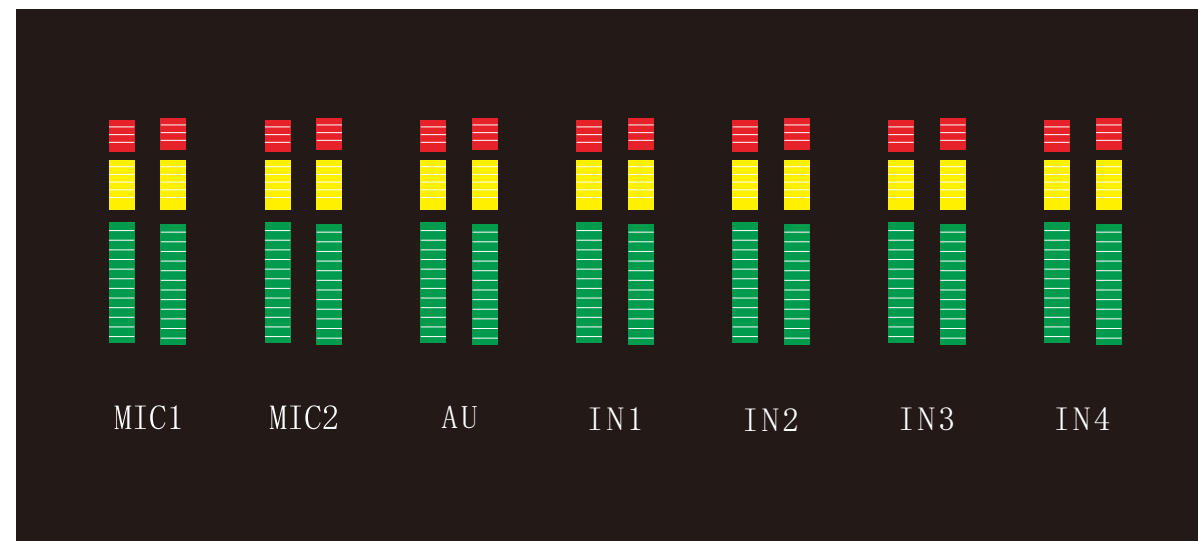
MENU: Switch to the main MENU. Press this button to MENU functions by the PVW screen, the effect is as follows:



4 directions keys: control the menu up and down, left and right;

If you need to change the parameter value through the menu, you need to use the up and down keys to select the target option first, then use the left and right keys to control the menu cursor to the target item, and finally the corresponding parameter value can be changed by the up and down keys.

- When you need to return or exit, you can select return or exit at the cursor, and press the MENU button again.



On the right side of the menu bar is the audio status monitor, which reflects the current audio input or output, and the audio bar will jump with the volume.

4.6. Video area:

PVW: the monitoring preview screen, as shown in the following figure

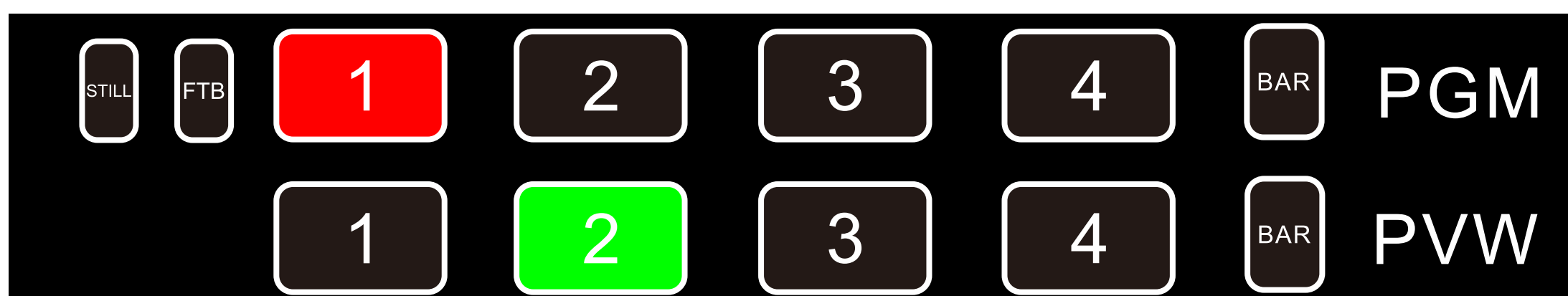
There are four Windows at the bottom corresponding to the input source monitor, respectively corresponding to the No. 1-4 keys on the control panel of the switch console.



STILL: PGM live screen still button, after pressing the button, then output PGM video animation will enter the freeze phenomenon.

FTB: PGM live screen black screen button, after pressing the button, the live screen will be black.

BAR: Picture color bar key, when pressed, it can control PGM/PVW to output color bar picture.



After the device connects to the video signal source, press 1 (PGM) and 2 (PVW) in the button panel, the live and preview signal sources in the output multi-screen monitor are 1 (PGM) and 2 (PVW) respectively, the signal sources are HDMI IN1 and HDMI IN2 respectively.

The effect diagram is as follows :



- When you need to switch between PVW and PGM screen, you can press the CUT or AUTO button to switch between the live PGM signal source and PVW signal source.

4.7. Chroma key area:

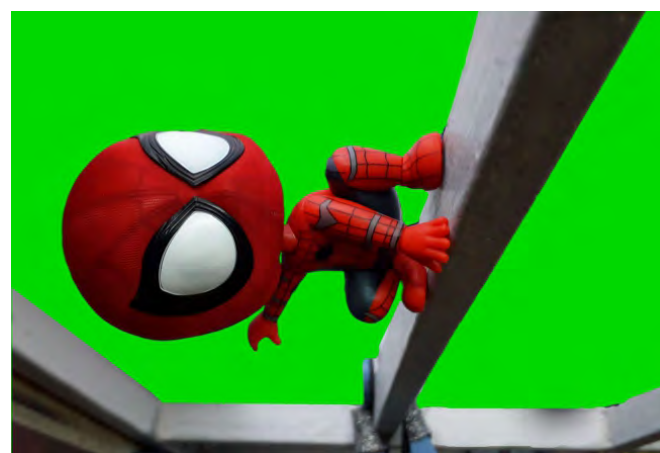
ON: Enable switch key for the filter: Press this key to select the RGB three-color background keying function, then overlap with the background image to achieve the purpose of keying and superimposing imposing the background.



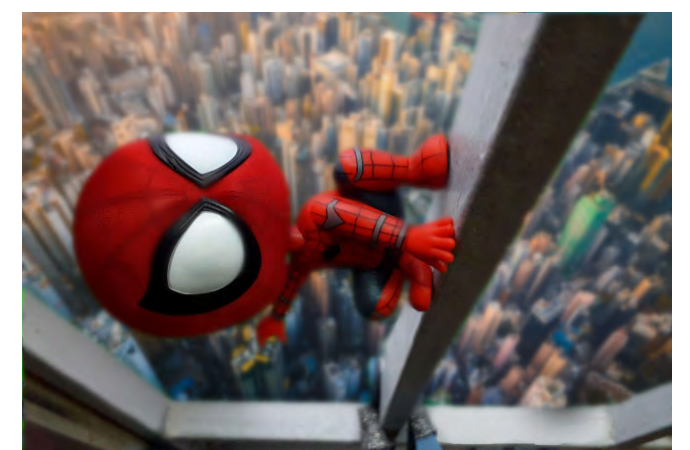
Operation: Press the ON enable key, then press the G (GREEN) key, the PGM signal source is the background, and the PVW signal is the keying source, and the overlay effect can be achieved, as shown in the figure below:



+



=



Background source

Keying source

Overlay effect

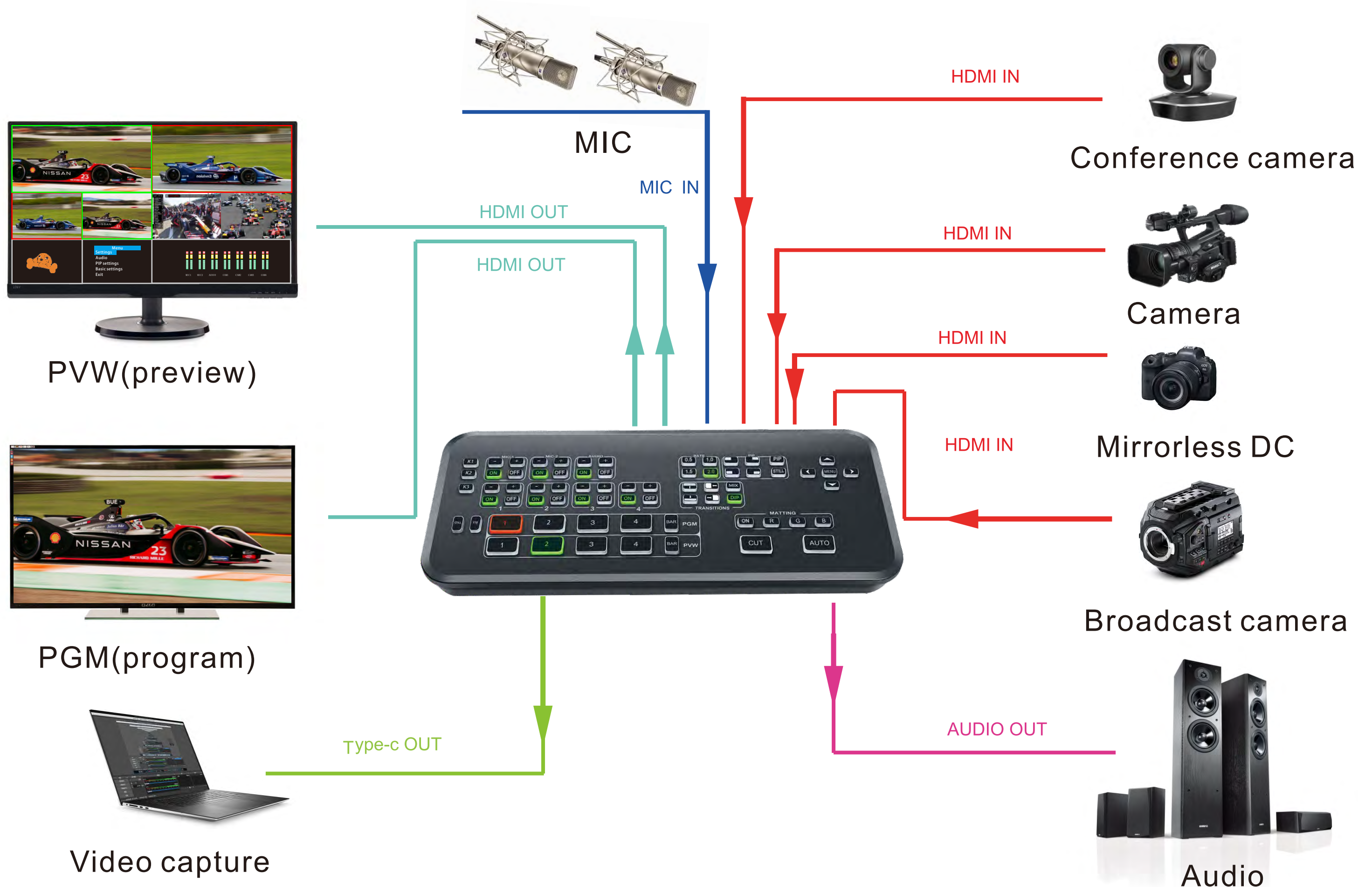
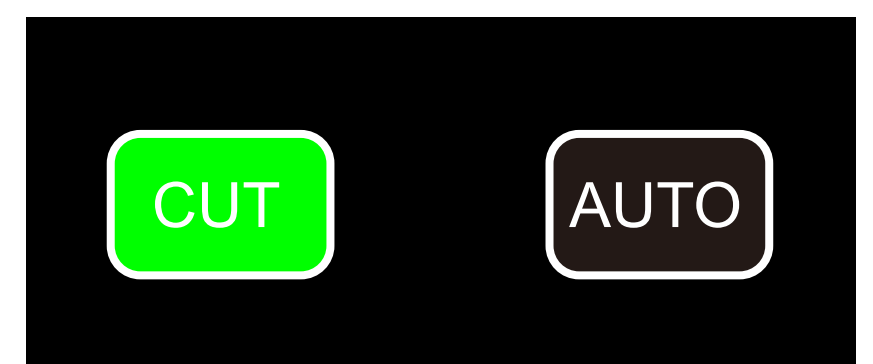
- R (Red selects the red background cutout)
- G (Green selects the green background cutout)
- B (Blue selects the blue background cutout).

• Other red and blue color operations are the same as green. If the background color is not the standard chromaticity, and the image keying effect needs to be adjusted in detail, they can be operated by software.

4.8. Function key area

CUT: The switch button for the PGM live screen and the PVW monitoring preview screen, it is also the picture-in-picture display button of the PGM screen in the PIP picture-in-picture mode. (see 5.4. PIP).

AUTO: PGM live screen and PVW monitoring preview screen special effects switch button
(See 5.3. Special effect operation for operation).



5.Video Capture

The live switcher supports various capture and streaming software on the market.

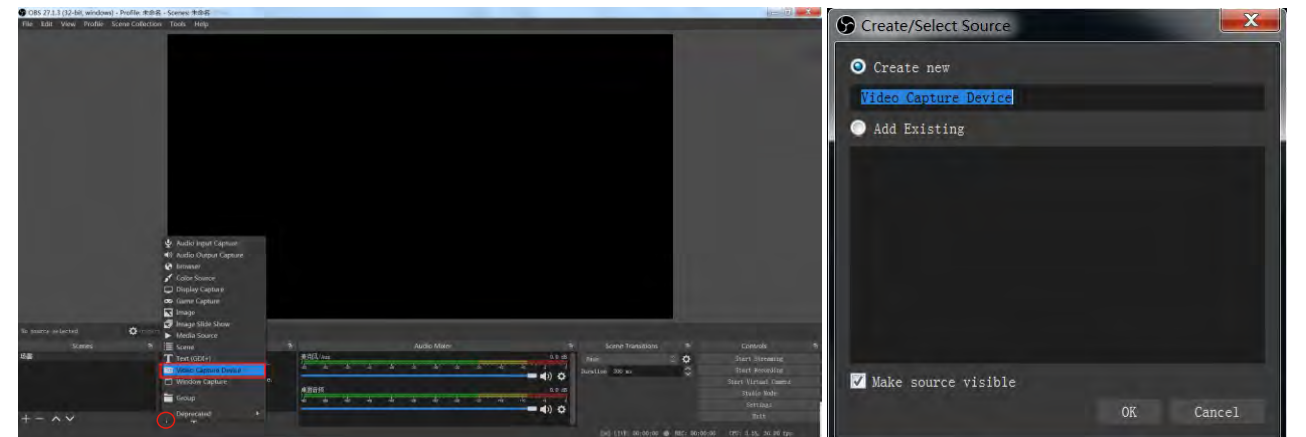
We take OBS software for video capture as an example, as follows:

Open the OBS official website and download the OBS software:

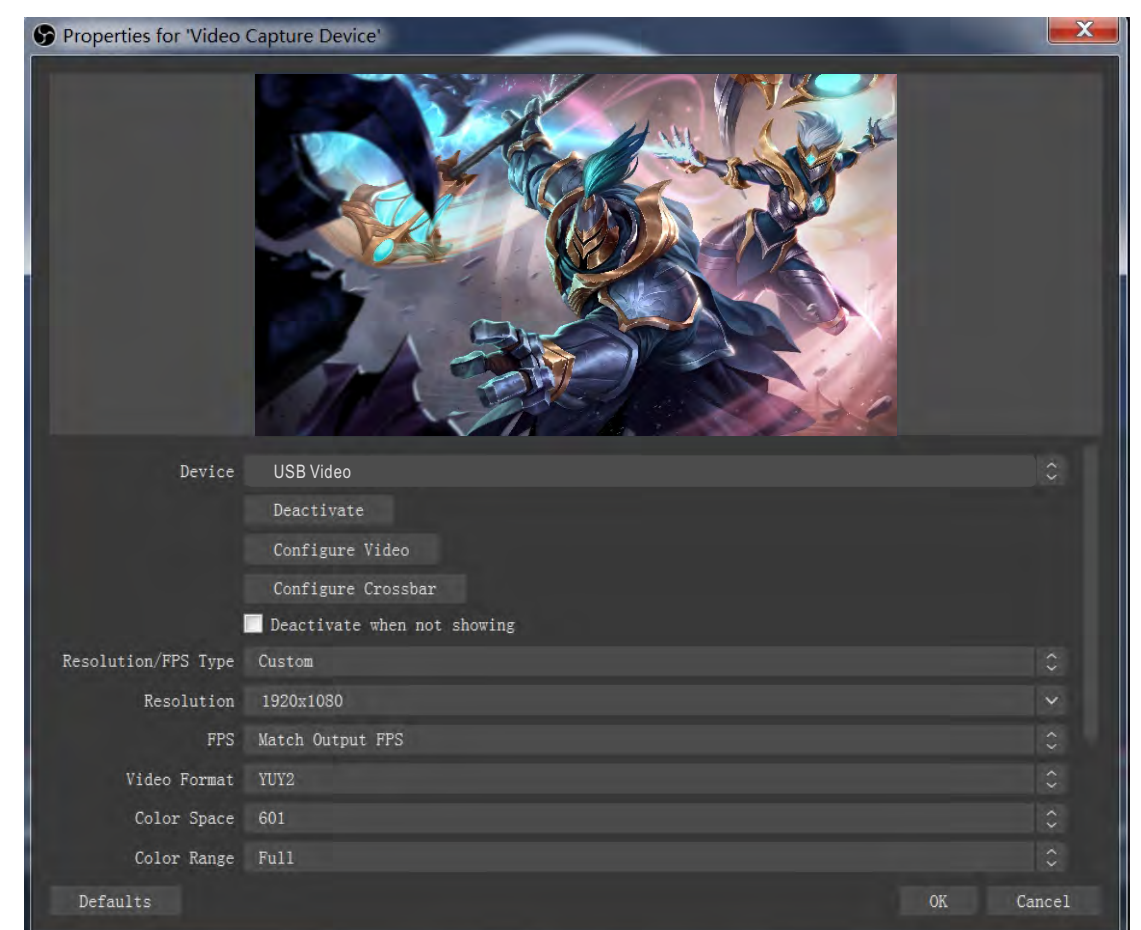
<https://obsproject.com/download>

5.1 Video capture:

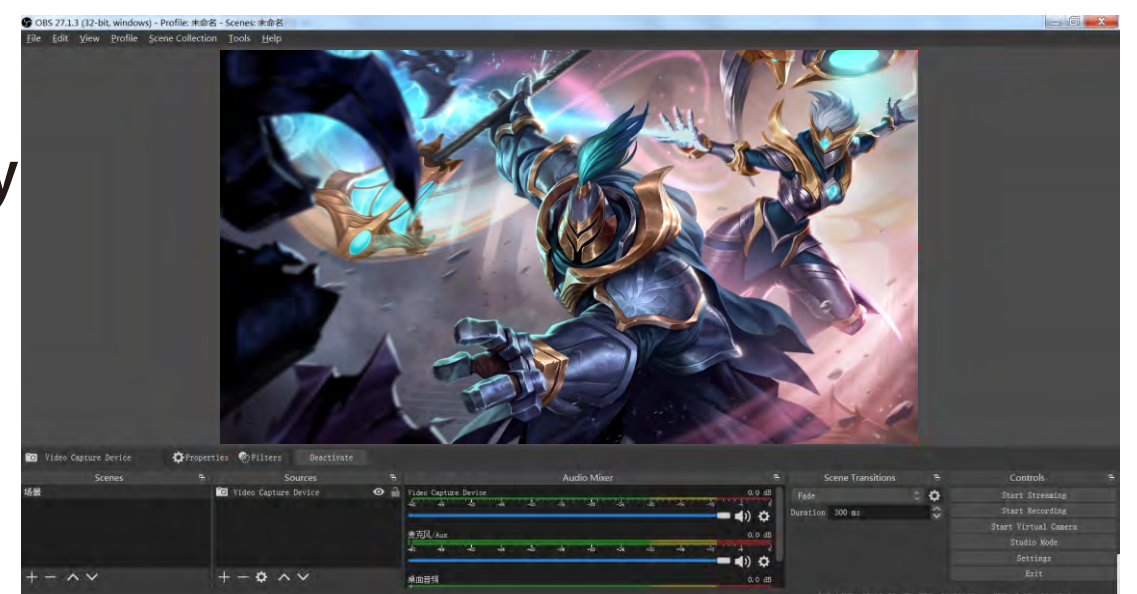
5.17. Open the OBS software and click the source box "+" in the lower left corner of the interface, then click "Video Capture Device", in the pop-up interface, click Create New and change the name, make source visible and click ✓.



5.1-2. At the device, select: USB Video,
Click Activation Type: Activate;
Resolution: 1920x1080;
FPS: Highest FPS;
Video format: YUY2;
Color space: 601;
Click OK.



5.1-3. After the video is played normally, you can freely choose to "start recording" at the control option in the lower right corner, and the saved recording path is in the upper left corner of the "File-Show recordings".



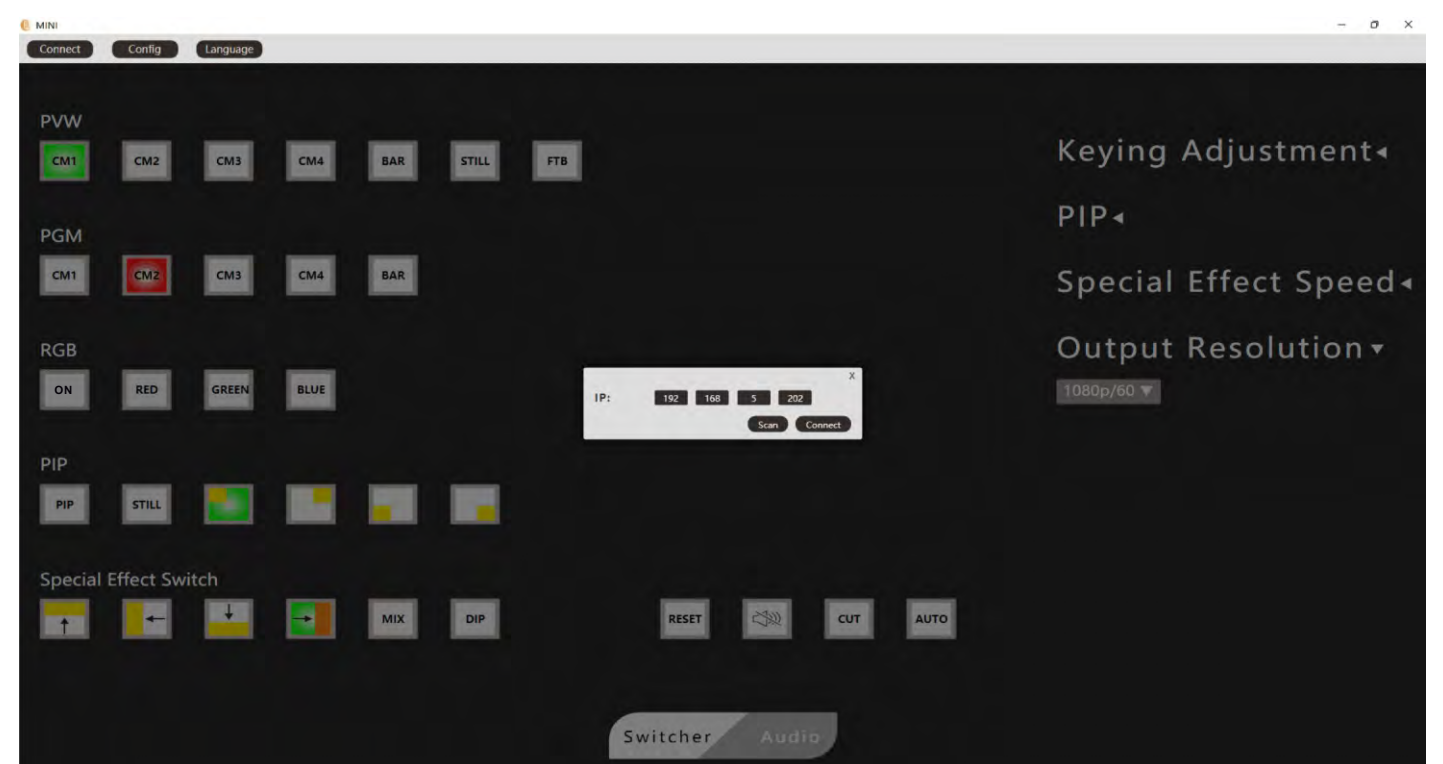
6. Software connection

The switcher can complete online operations without touching the device itself, and supports more detailed keying adjustments and audio settings, you can connect to a computer through the device's own LAN interface for remote control.

The switcher and the computer or mobile device must be in the same IP network segment, and these devices must share the same subnet mask and gateway settings. In addition, the first three segments of the control panel IP address must also match. If a computer connects to the switcher directly, you need to manually change the IP of the switcher to avoid IP conflicts on the same network segment.

6.1. Confirm the device IP

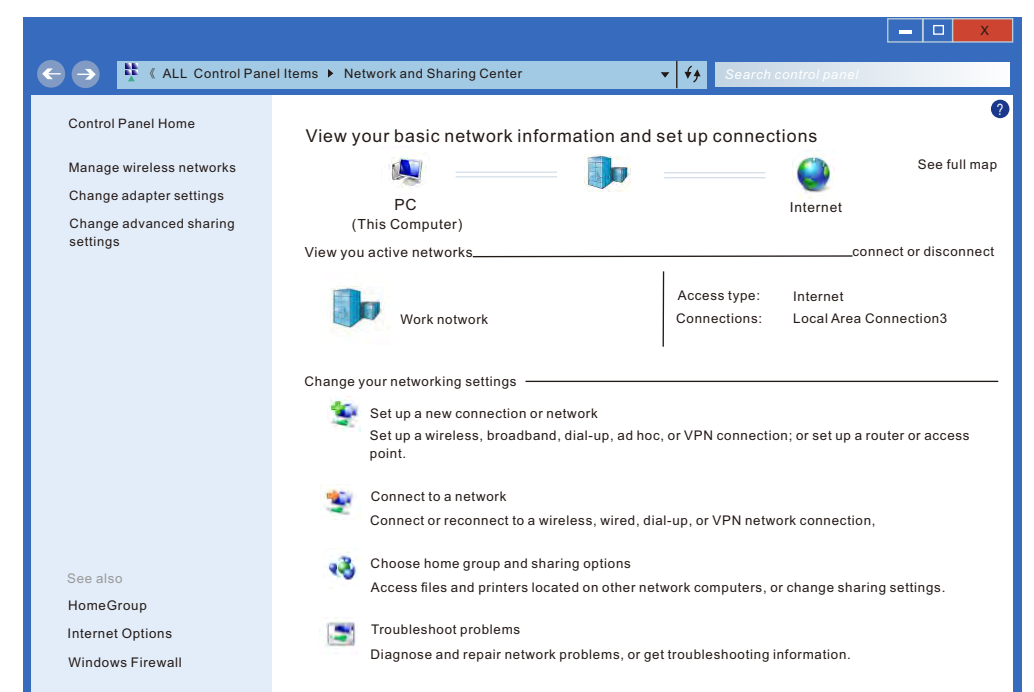
1. Confirm the normal connection between the device and the computer port.
2. Open the switcher and click the IP connection in the upper left corner.
3. Click Search in the pop-up window.
4. After the search is successful, the number displayed is the device IP.



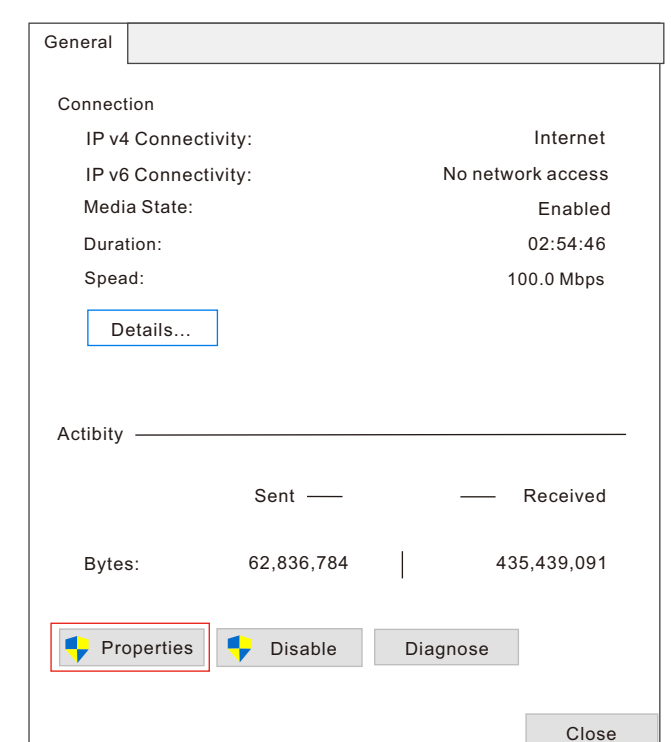
Then we go to the next step to modify the IP of the computer.

6.2. Modify PC IP

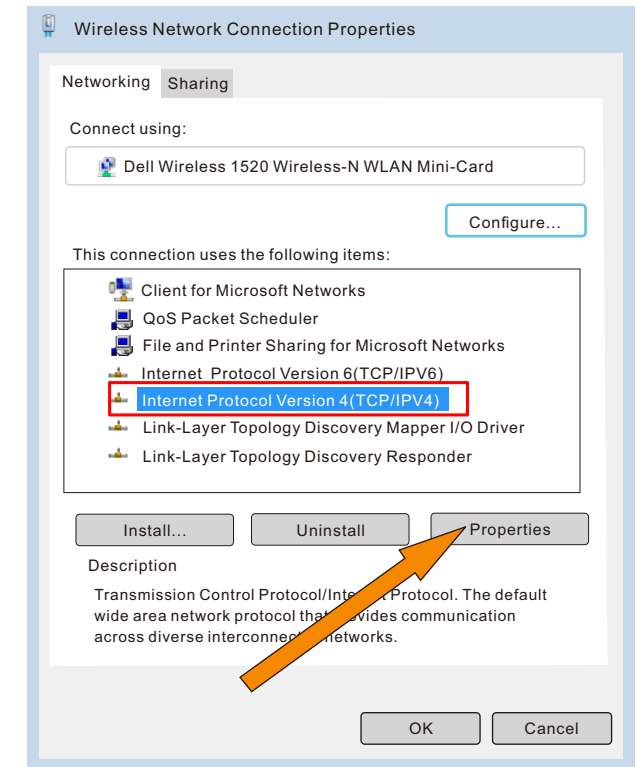
- 6.2-1. Open the "Network and Sharing Center";
Click on "Internet";
eg: if you are using Wifi, the network port is connected to the live switch, then you need to select LAN.



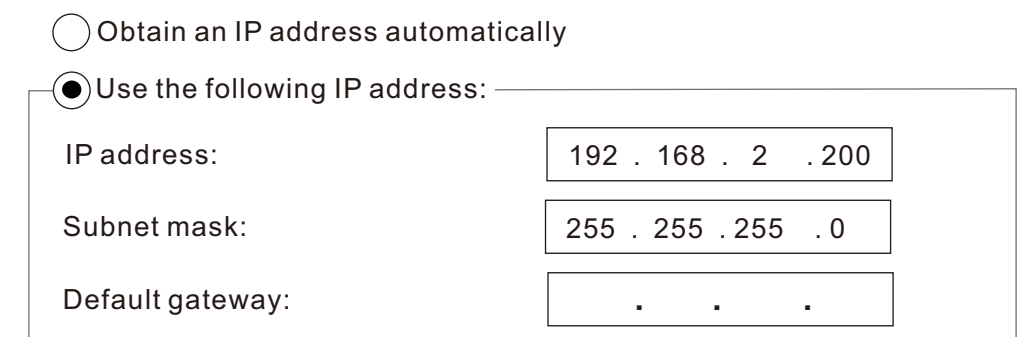
- 6.2-2. Access to Properties (may require administrator privileges);



6.2-3. Under "This connection uses the following items", find "Internet Protocol version 4 (TCP/IPv4)";



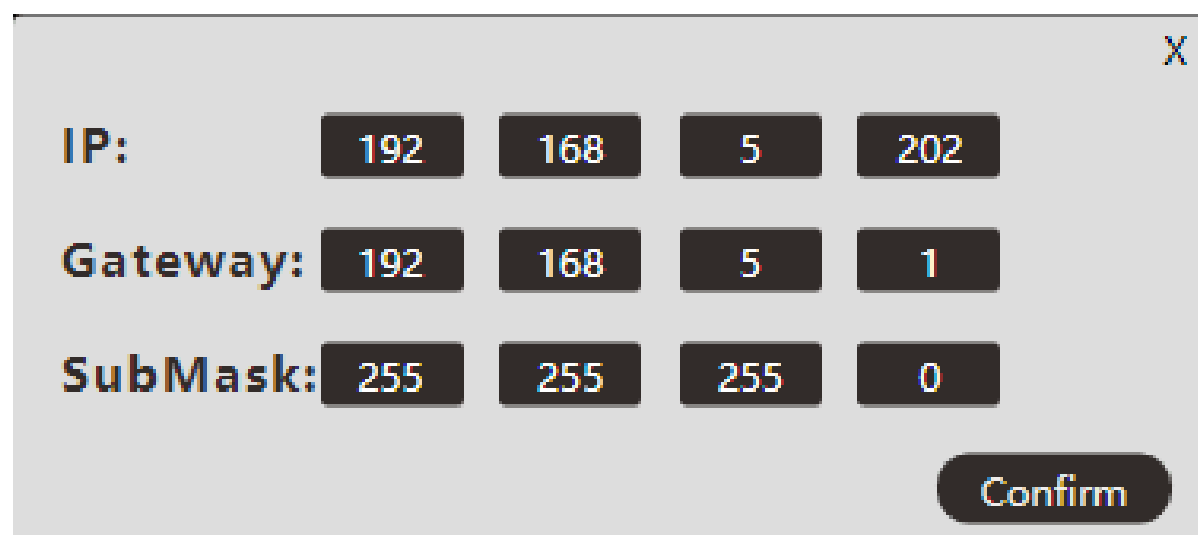
6.2-4. Select "Use the following IP address" and change the IP address to the same network segment as switcher, please make sure that the IP addresses do not conflict. Click "Subnet Mask" and the computer will automatically calculate the subnet mask of the address; Click OK.



6.2-5. Click "confirm" and return to the live switcher software, and click "Connect" to control the software.

6.3 System IP settings

When you need to change the IP address, subnet mask and gateway data of the device, you can click the system configuration option, the software will automatically pop up the relevant information pop-up window, you can also make corresponding settings according to your practical requirements, click OK after completion. The device will be automatically disconnected after the change is completed, and you will need to reconnect the device.



- If the IP addresses of other devices on the network have the same fourth field value, there will be a conflict and the device will not connect. If a conflict is encountered, just modify the identification value of the fourth segment of the IP address of the device.
- You can also use a network switch to connect this switcher, and you can use a computer in the same LAN network to control the switcher: you need to use a computer to connect the device directly, and then change the IP of the switcher in the system configuration of the software synchronize with the LAN IP, and then repeat the steps (6.2 Modify PC IP), and reconnect with the software after completion.



Chinese and English language for choice.

Software Interface

The software button corresponds to each key position of the device. When it is lit, the device light will be lit synchronously, and the operation command will be issued to the device synchronously.

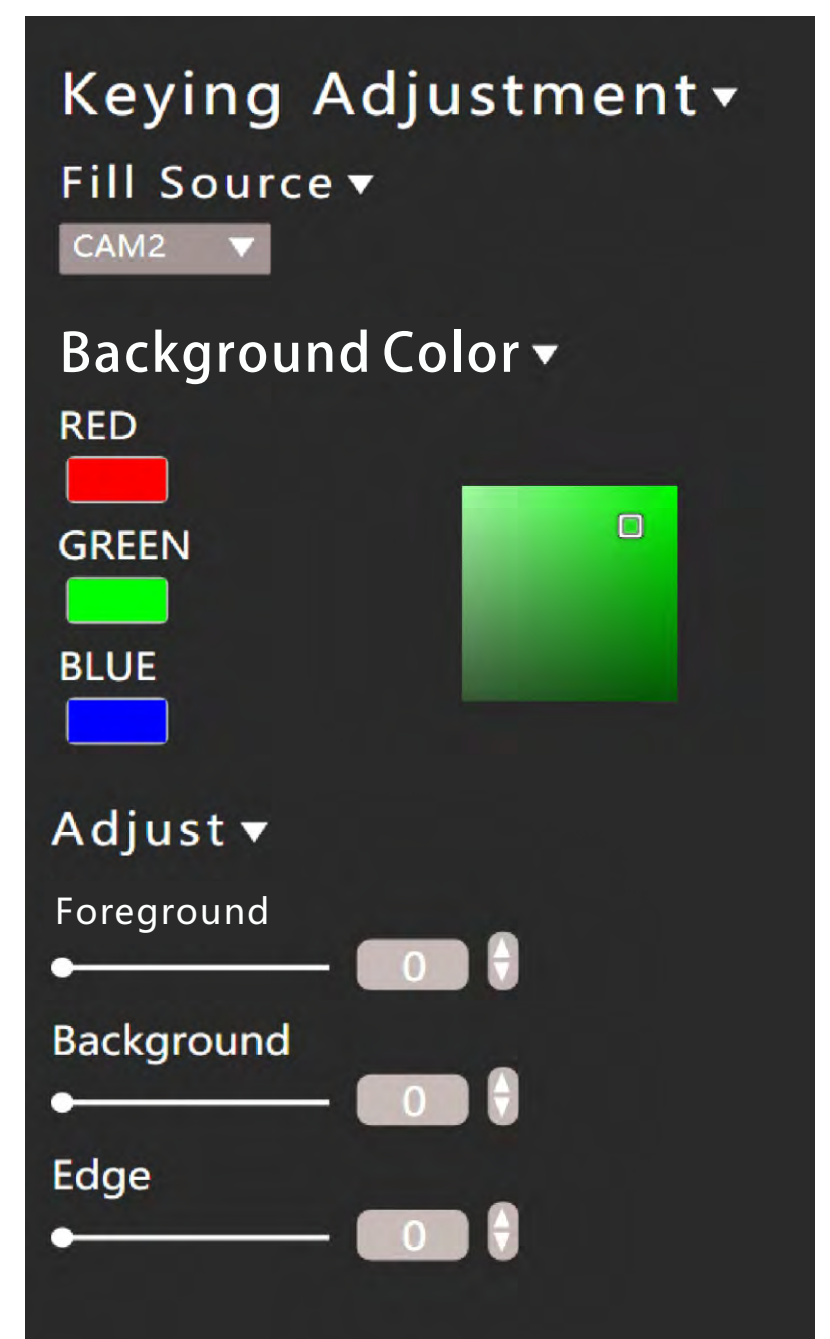
7.1 Keying Adjustment: Press ON key to turn on/off

7.1-1 Fill Source: CAM1-4 synchronized as a PVW button, and also a PVW input signal source.

7.1-2 Background Color: Detail adjustment cutout background, you can adjust the tint according to the shade of the background color of the studio filter.

When the background is green, the other two colors are locked. Similarly, when the background color is red or blue, the other two colors cannot be adjusted.

7.1-3 Adjust: This function can be adjusted in more detail. You can operate this function, when you are not satisfied with the effect or the ideal effect is not achieved due to factors such as lighting and environment.



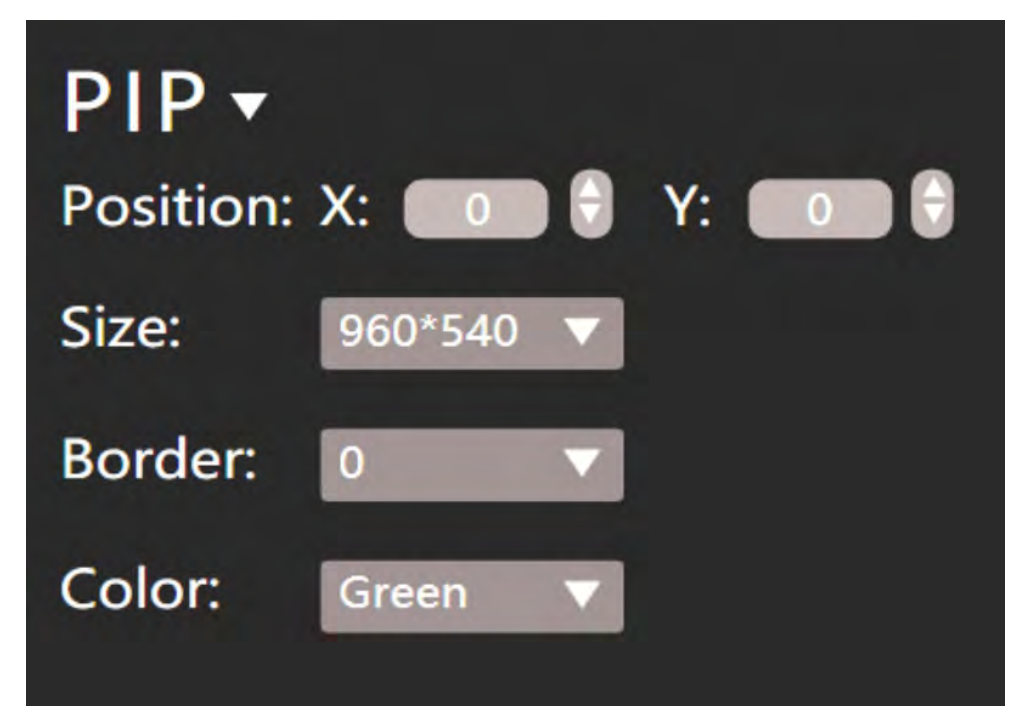
7.2 PIP (Picture In Picture)

7.2-1 Position: X/Y respectively represent the position of the PIP shape, which can be adjusted by the up and down keys.

7.2-2 Size: Three PIP sizes to choose from.

7.2-3 Border: The thickness of the picture-in-picture frame can be adjusted according to practical requirements.

7.2-4 Color: Three border colors are available, which are red, green and blue.

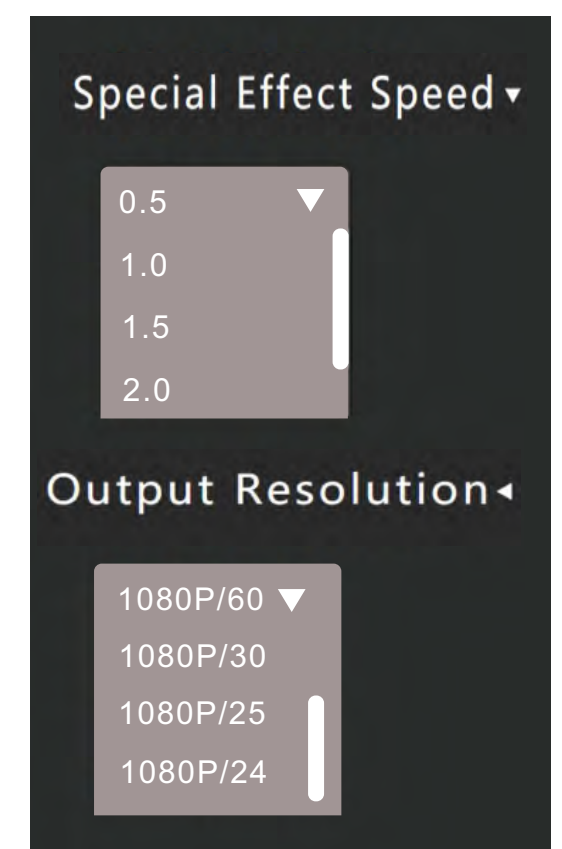


7.3 Effect speed:

There are 4 kinds of speeds that can be adjusted when switching the speed of special effects conversion, and the switching speed of 0.5, 1.0, 1.5, 2.0 gradually increases.

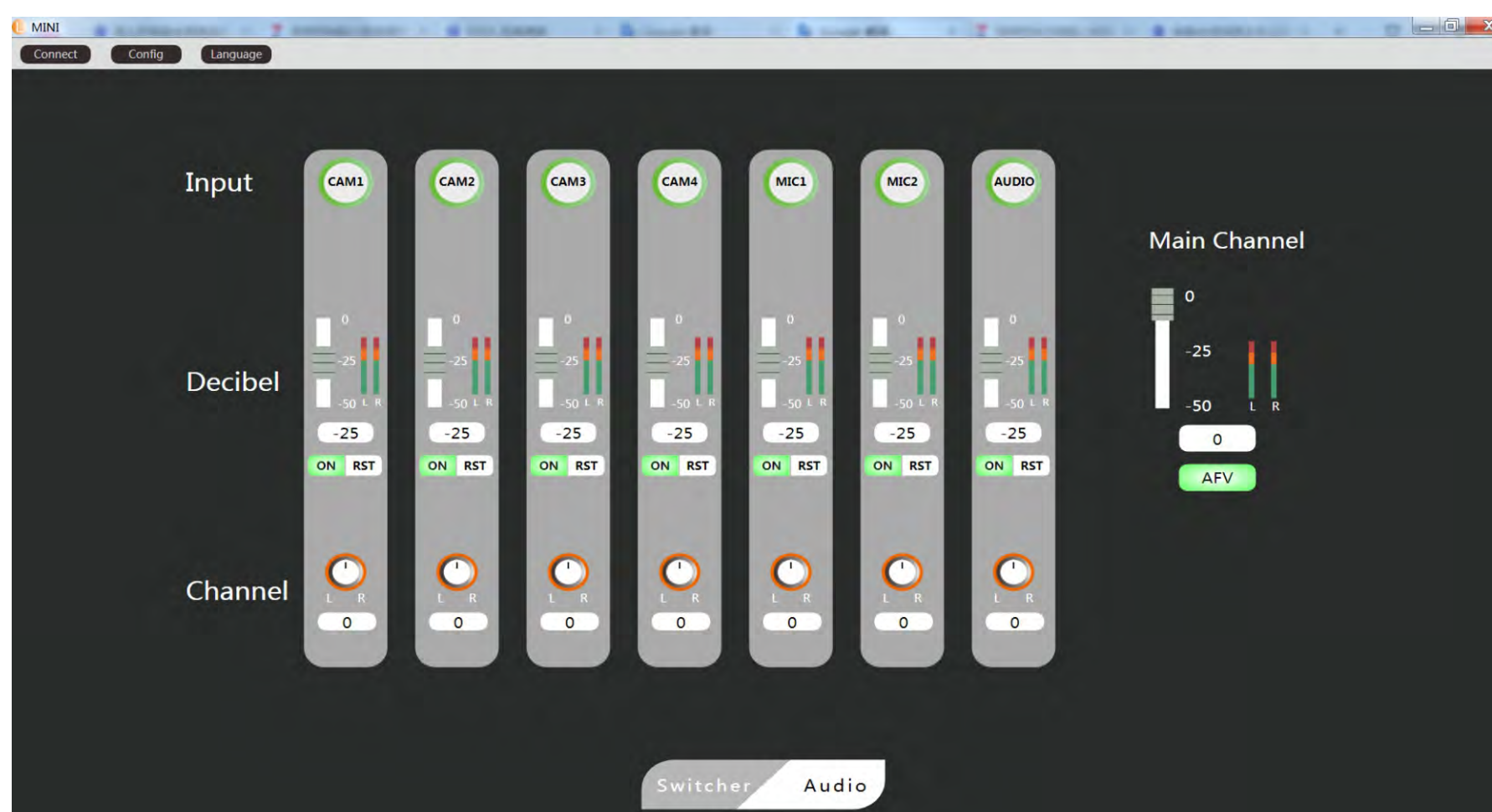
7.4 Output resolution:

Through the host computer, you can more accurately adjust the PGM output resolution you need. The default resolution is: 1080P/24, 1080P/25, 1080P/30, 1080P/50, 1080P/60.



Audio Interface

The live switcher built-in mixer to use embedded HDMI audio from cameras, media servers, and other inputs, don't need an external audio mixer.



7.5 Input:

The 7 audio bars represent 7 channels of audio input respectively. You can make detailed adjustments to each channel of audio through the following operations.

7.6 Decibel:

You can adjust the volume of each input source through the slider. The right audio column will fluctuate with the volume of the current left and right channels. When the "On" light is on, the audio of this channel keeps running normally. When "On" is not selected, the channel audio bar no longer changes and is muted.

7.7 Channel:

Here is to adjust the audio output of the left and right channels.

7.8 Main channel:

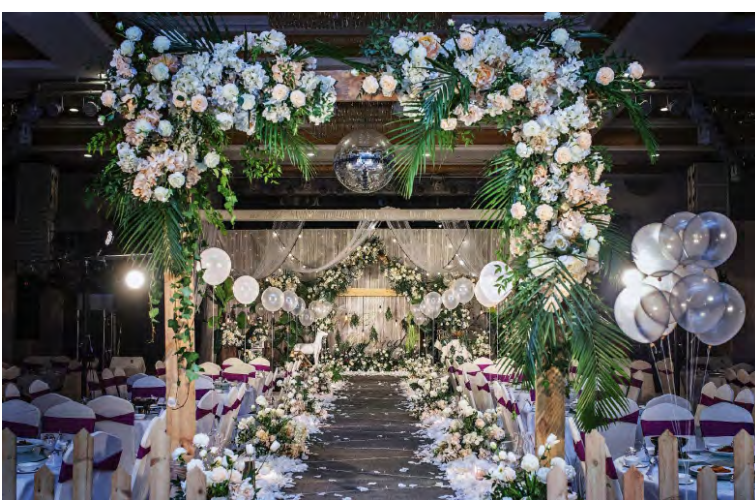
AFV is the function of audio following video function. When you choose to turn on the "AFV" button, the PGM live screen will only play the audio of the current signal source, and there will be no audio output from other channels.

8.Size application



Specification	Weight	Device weight	0.65kg
		Packing weight	1.15kg
	Size	Device size	260mm x 115mm x 40mm
		BOX size	286mm x 150mm x 100mm

This product has a wide range of applications and is suitable for various outdoor, multi-camera switching scenarios, and fully meets various projects such as live events, game live broadcasts, virtual studios, music production and online conferences...



Wedding



Video conference



Live broadcast



Sporting events



E-Sports



Music production

9. Product parameter

INTERFACE	
Video input	4-Port HDMI-A
Video output	2-Port HDMI-A, 1-Port usb2.0
Audio input	1 * 3.5mm audio, 2 * Microphones
Audio output	1 * 3.5mm stereo audio
Rj45	10/100 BaseT network interface
Power input	DC power
BASIC PARAMETERS	
Video input standard	720p50,720p60,1080p60,1080p50,1080p30,1080p25,1080p24,1080p23,1080i60,1080i50
Computer video input standard	720p50,720p60,1080p60,1080p50,1080p30,1080p25,1080p24,1080p23,1080i60,1080i50, 1680x1050,1360x768,1280x1024,1280x960,1280x800,1280x768,1024x768,800x600
Video output standard (PGM)	1080p60,1080p50,1080p30,1080p25,1080p24
Video output standard (PVW)	1080p60
Color space	RGB
Color space conversion	Automatic
WORKING ENVIRONMENT	
Operating temperature	0-70°C
Storage temperature	-10°C-85°C
Humidity	0%-90 % (non-condensing)
CONTROL	
Audio control	7 sets of audio input control buttons, which can control sound addition and subtraction, switch, reset
Video control	PVW and PGM video channel switching, switching special effects, picture-in-picture, screen filter function selection
Menu	Device status can be controlled and viewed through MENU
Function keys	K1 resolution switch, K2 reset initial state, K3 mute
SOFTWARE	
Software	Swicher Mini

