AK80 Video Switcher

User Manual

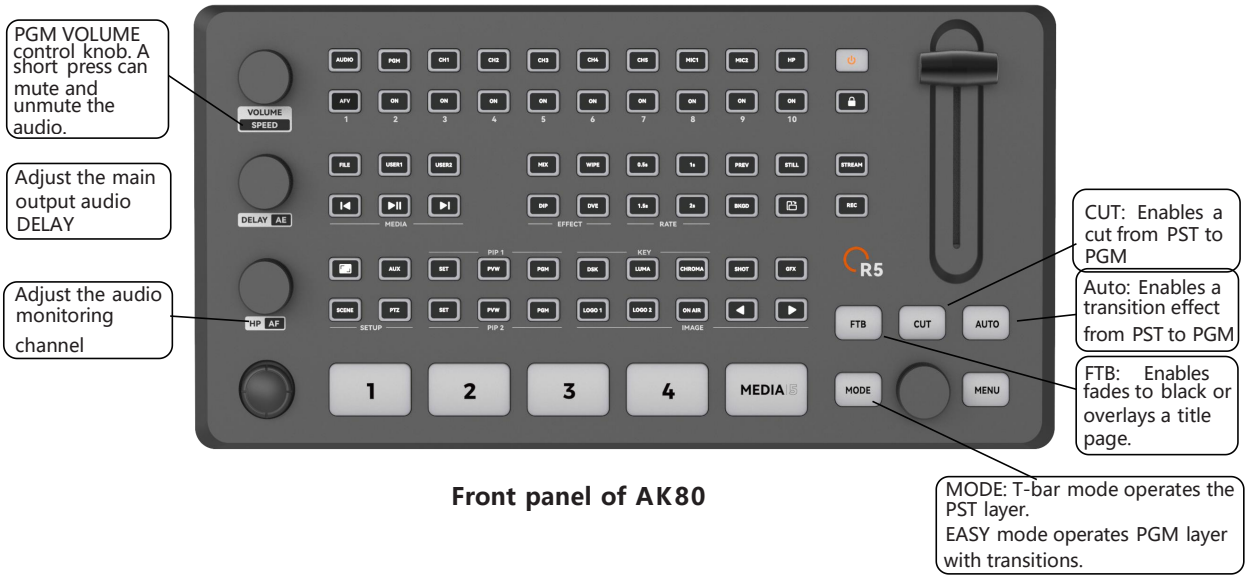
Contents

1. Quick Start

1.1 Overview

The AK80 is a professional live streaming switcher. It supports four multi-resolution HDMI inputs and one USB camera or USB drive input, or you can set a SRT source as the 5th signal source. HDMI1 and HDMI2 support 4K resolution. Additionally, it supports two external audio inputs, allowing real-time monitoring of the composited audio output or one of the specific audio input. Besides, it supports two variable output channels and Multi-view output. It transmits the edited audio and video signals to a computer for live streaming via the UVC interface, and it can also support network streaming by entering the stream key and stream code.

When using the UVC interface, the AK80 will be recognized as an HD webcam by PC supporting MJPEG and YUY2 formats (MJPEG format is default under USB2.0, YUY2 format is the default under USB3.0. YUY2 is suggested in priority by providing superior image quality and more efficient decoding performance). Besides, It also includes functions such as PTZ camera control, scene presets, keying, transition effects, mixed audio and monitoring, recording, and so on. It makes an ideal and professional tool for handling various live streaming applications.



Front panel of AK80

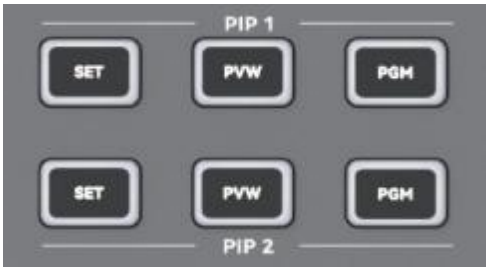
2.Local Panel Operations

2.1 Image Section

2.1.1 The "BKGD" button is for the background signal switch. When this button is illuminated, it can switch the background layer in PST or PGM.

(2.1.1)

2.1.2 The section shown below is the function area for setting PIP (Picture-in-Picture) layers. The AK80 provides two PIP layers. When you need to preview a PIP layer in PST, press the "PVW" button and then click the "SET" button to activate the PIP layer setup switch. At this point, you can change the input source of the PIP layer and adjust the size of the PIP layer. When you want to synchronize the PIP layer in PST with PGM, simply press the "PGM" button for the corresponding layer.



(2.1.2)

2.1.3 The section shown below is the LOGO function area. The AK80 can add two LOGOs simultaneously. When LOGO1 and LOGO2 are illuminated, the LOGO appears in PST. When LOGO1 and LOGO2 are in a flashing state, you can switch the LOGO using the left and right arrow keys. To synchronize the LOGO with PGM, click "ON AIR."

(2.1.3)

2.1.4 The section shown below is for selecting transition effects and setting transition time. You can choose the desired transition effect and transition duration based on different scenarios.

(2.1.4)

2.1.5 The section shown below is for setting the fifth media source. You can switch and pause the video being played. Press the "FILE" button to quickly access the menu and select different storage to play the media source.

(2.1.5)

2.2 Audio Section

2.2.1 The section shown below is the audio function area. CH1-CH4 refer to the four signal sources, while MIC1 and MIC2 correspond to two external audio inputs. "AUDIO" provides quick access to the audio menu. To keep the audio from one of the input sources illuminated, switch on the "ON" button correspondingly; click "ON" again to turn it off. To switch to AFV mode, first select the desired input source (CH1/CH2/CH3/CH4) and then click "AFV" to activate AFV mode.

(2.2.1)

2.3 Auxiliary Function Section

2.3.1 The section shown below contains the power button and lock button. After the switcher switched on, click the power button to turn it on, long press to turn it off. Long press the lock button to lock the panel, and short press to unlock it.

(2.3.1)

2.3.2 The section shown below contains quick output function buttons for PGM and AUX. After pressing the PGM output button or AUX output button, select the desired output source, and the PGM and AUX output interfaces will output the selected signal source. To switch back to MV output, press the "MV" button again.

(2.3.2)

2.3.3 The section shown below contains quick scene menu buttons and PTZ control switch. Press the scene shortcut button to quickly access scene settings. When the PTZ control button is flashing, use the joystick to control PTZ movement, and use the knob to select the camera position.

(2.3.3)

2.3.4 The section shown below contains KEY buttons, which can quickly turn on the chroma key,LUMA key and DSK.

(2.3.4)

2.3.5 The section shown below contains the screenshot button and background image button. Press "SHOT" to take a screenshot of the current PGM screen. Short press "GFX" to switch the background image to PST or PGM.

(2.3.5)

2.3.6 The section shown below contains the PST preview button and still button. "PREV" is the preview transition button, which displays the transition effect in the PST window of the Multiview. To ensure the accuracy of the transition, you can simulate the transition effect between PGM and PST signals through preview and then switch to PGM output. "STILL" is the image still button; short press to freeze the PGM screen.

(2.3.6)

2.3.7 The section shown below contains the streaming and recording buttons. Press briefly to turn on or turn off the streaming and recording (When turning off recording, make sure the REC light is off before removing the recording device.)

(2.3.7)

3.Menu Functions

3.1 Input

3.1.1 The input setting includes 4 x HDMI input sources and the input reading and source selection for the 5th signal. When an HDMI input source is connected, the current input source resolution will be displayed. You can display the HDMI signal or a TP test signal. In the 5th signal setting, you can select a USB camera signal, SRT source or a MEDIA source. Besides, you can also flip the corresponding input source horizontally or vertically.

(3.1.1)

3.2 Output

3.2.1 In the output setting, you can configure the AUX output and PGM output. The AUX OUT or PGM OUT output interfaces can be set to Multiview output or a specific signal source output. You can also select the frame rate for the output or rotate the output image.

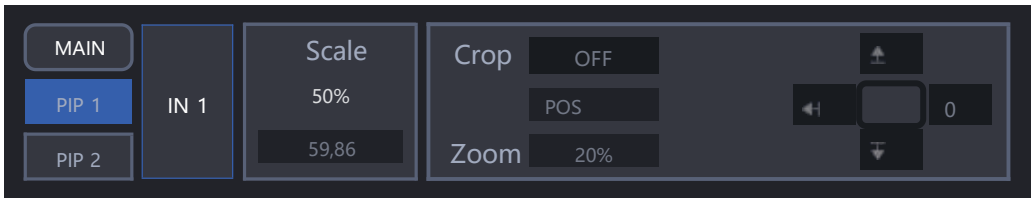
(3.2.1)

3.3 Layer

3.3.1 In the Layer menu, you can select the input sources corresponding to the MAIN layer and the two PIP layers.

(3.3.1)

3.3.2 The Layer menu also allows adjustments to the scaling size and cropping of the PIP layers. In the menu, you can choose the edges of the PIP layers to be cropped and control the cropping size by rotate knob controls.



(3.3.2)

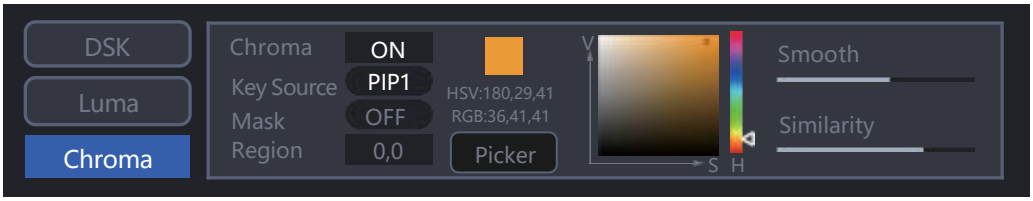
3.4 Effects

In the transition effects setting, you can choose different transition effects. The AK80 has 36 built-in transition effects. In this setting, you can also set the duration for transitions and FTB (Fade to Black), as well as the edge blending degree. Additionally, you can use rotary knob and the joystick to select the colors for DIP and FTB.

(3.4)

3.5 Chroma Key

In the KEY menu, you can separately configure the DSK, luma key, and chroma key. When chroma key is needed, select the HDMI signal of the PIP and turn on it to perform chroma key. There are two keying methods: one is color picking and another one is manual selection. When color picking is selected, a color picking box will appear in the input source image of the PIP layer, and the joystick can control the box to choose the corresponding color for keying. Manual color selection is supported through the knob and joystick. The bottom layer can be added as needed.



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3.6 Audio

3.6.1 In the audio setting, each audio channel can be individually adjusted. Short-pressing any audio channel allows access to the audio menu.

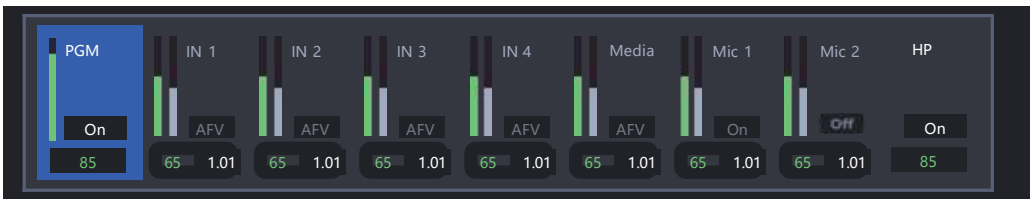
3.6.2 Knob 1 is the VOLUME knob, it adjusts the master output volume. Short press means mute the volume.

3.6.3 Knob 2 is the DELAY knob, which controls the delay of the current output volume.

3.6.4 Knob 3 is the HP (Headphone) knob, which adjusts the monitoring volume.

3.6.5 The menu includes the PGM master output volume, four input source volumes (IN1/IN2/IN3/IN4), two external audio input volumes (MIC1/MIC2), and one monitoring volume (HP).

3.6.6 HP offers selective monitoring, such as during entertainment live stream or video conferences, allowing you to monitor the content by selecting the relevant input source.



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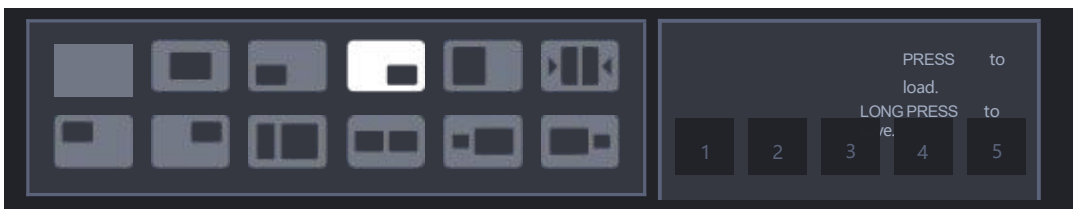
3.7 Scene

The scene menu provides 12 preset scenes, and you can also access the scene menu directly by pressing the "SCENE" button and selecting the desired scene. You can save and load scenes by knob. Long-press means to save the current "PST" scene, and short-press to load preset scene.



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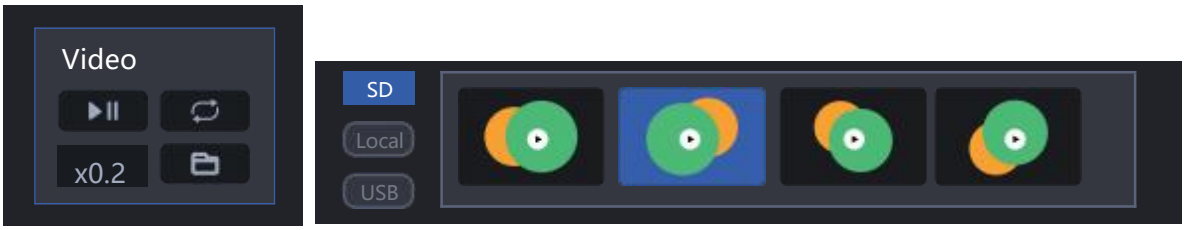
3.8 Media

3.8.1 In the media menu, you can adjust the settings for the fifth signal source. In the current menu, you can select video signals from different storage devices, adjust the video playback speed, and loop playback.



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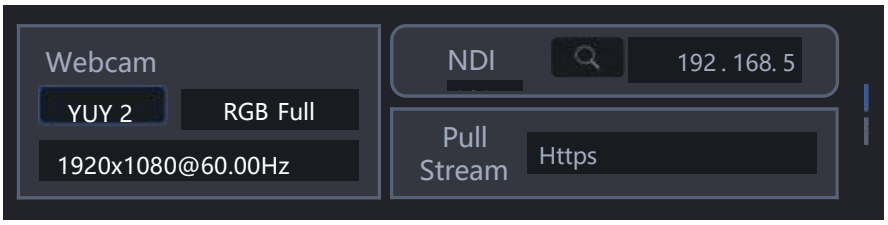
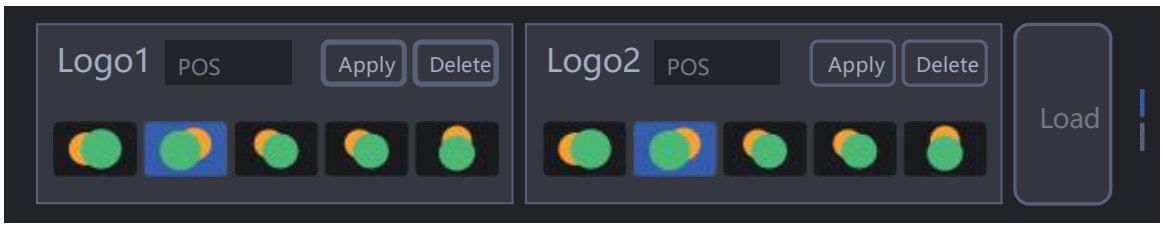
3.8.2 You can configure the parameters of web camera and adjust the frame rate. You can select NDI signal sources or SRT sources for the fifth video playback channel.



(3.8.2)

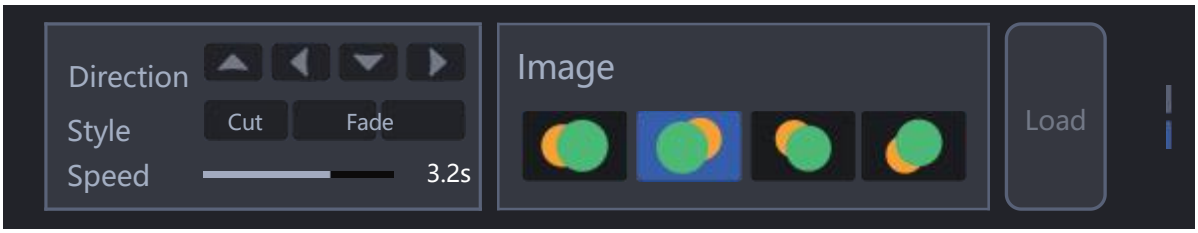
3.9 Image

3.9.1 In the image menu, you can select and import logo and background image materials. Select the logo or background image, you can apply the current logo or delete it by pressing the knob. You can also upload logos from a USB drive or SD card. (To import new logos or background images, simply insert the storage device into the AK80, and the storage device will automatically generate the corresponding folder. You just need to place the materials in the appropriate folder and select "load" to import them.)



(3.9.1)

3.9.2 The AK80 offers different types of logo transitions, including cut, fade in fade out and moving transitions. It also provides speed adjustments with slow, medium, and fast options. For moving transitions, you can choose from four directions: up, down, left, or right.



(3.9.2)

3.10 PTZ Control

3.10.1 In PTZ control, using a router or switch to connect the AK80 and PTZ cam- eras in the same network, it can control up to four PTZ cameras. In the PTZ

setting, you can adjust pan, tilt, and zoom and focus manually and automatically. There are three knobs in the upper left corner: the first knob is to adjust the speed PTZ camera; the second knob is to adjust the camera's exposure, with a short press to switch between auto and manual exposure ; the third one is to adjust the camera's focus, with a short press to switch between auto focus and manual focus.

3.10.2 The IP address can be modified by using joystick and the knob. You can also obtain the PTZ IP on the same network through automatic search; using the magnifier to search the IP address. The first three digits of the PTZ IP must match the first three digits of AK80 IP. (Note: 192.168.5.163)

3.10.3 The PTZ can be controlled by the PTZ button; when the PTZ button is blinking, you can use the joystick to control the lens's horizontal and vertical movement.

(3.10)

3.11 System Settings

3.11.1 It mainly include network setting, timing setting, streaming frame rate and bit rate, video recording format, frame rate, bit rate, parameter setting, system information, and system reset.

3.11.2 In the network setting, you can view the MAC address, choose to enable or disable Dynamic Host Configuration Protocol (DHCP), and set the IP address, sub-net mask, and default gateway. After completing the setting and apply it.

3.11.3 The IP address can be automatically obtained by connecting an external Ethernet cable and enabling DHCP. Alternatively, you can manually enter the IP address using the joystick and knob. In both ways, you need to apply the changes, save it and activate them.

(3.11)