GoStream Duet 8 ISO

User Manual

OSEE TECHNOLOGY LTD.

Product Information

Model: GoStream Duet 8 ISO

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Company

OSEE TECHNOLOGY LTD.

Contact Information

Address: No.22 Building, No.68 zone, Beiqing Road, Haidian District, Beijing, China

Post Code: 100094

Tel: (+86) 010-62434168

Fax: (+86) 010-62434169

Web: http://www.osee-dig.com/

E-mail: sales@osee-dig.com

About this manual

Important

The following symbols are used in this manual:

Tips

- The further information or know-how for described subjects above which helps user to understand them better.

Warning

- The safety matters or operations that user must pay attention to when using this product.

Contents

The user manual applies to the following device types:

❖ **GoStream Duet 8 ISO**

The images of GoStream Duet 8 ISO are adopted in the following descriptions. In this document, "GoStream" is used as the abbreviated form of "GoStream Duet 8 ISO" where applicable. Before reading the manual, please confirm the device type.

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Chapter 1 Overview

The GoStream Duet 8 ISO is an all-in-one professional live production switcher that integrates real-time production and streaming capabilities. It combines multi-camera audio/video signals into a single program output (PGM), suitable for both live broadcasting and post-production workflows. The device supports dynamic signal switching, professional effects processing, and multi-platform streaming, meeting broadcast-grade production requirements.

The GoStream Duet 8 ISO features 4x HDMI/SDI hybrid inputs, 4x auxiliary inputs (for storage devices, USB devices, or NDI HX3/SRT/RTMP network streams), 1x MultiSource effects channel, 2x media channels (sourced from the built-in media pool or external browser sources). It supports a wide range of input formats, including professional cameras (mirrorless, PTZ, USB webcams, etc.), computer content, and media assets.

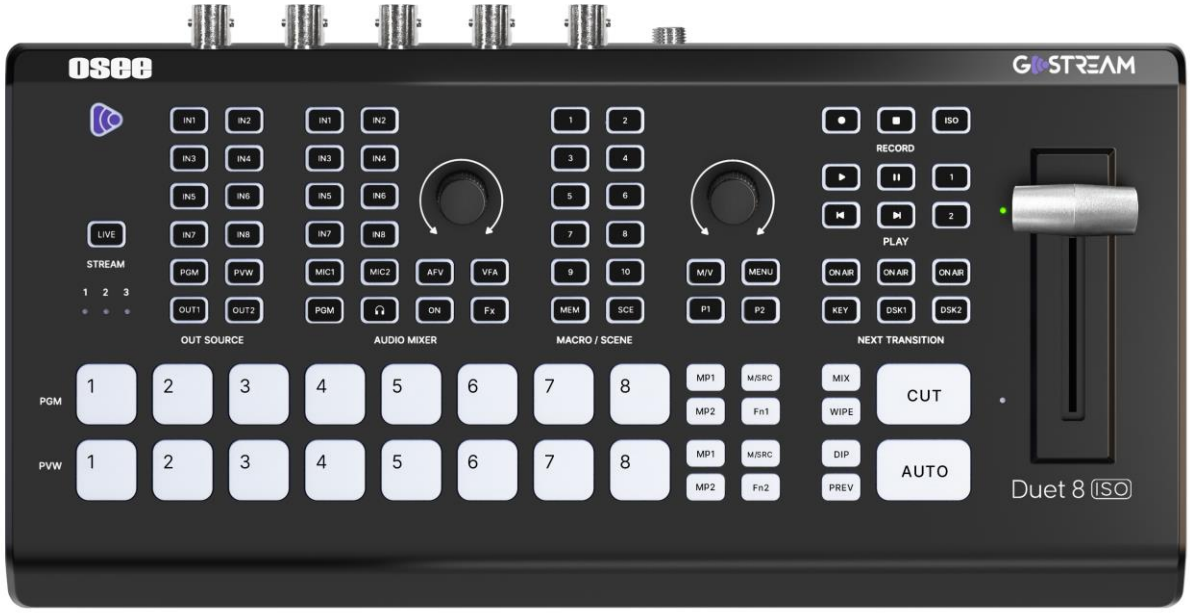
When connected to a computer via USB 3.0 Type-C, the switcher is automatically recognized as a UVC/UAC-compliant professional video capture device, supporting 1080p60 high-quality signal transmission. It is compatible with mainstream streaming software (including OBS Studio, vMix, Zoom, Microsoft Teams, etc.) for live streaming or can simultaneously stream to three preset platforms using built-in configurations.

The switcher supports multi-channel composite output, Individual signal monitoring, Multiview display mode, Real-time headphone monitoring of the mixed audio output.

Additional features include keying, transitions, macros, media pool, audio mixing, and MultiSource compositing, recording/playback via SD card and firmware updates, expandable SSD storage for higher capacity.

The GoStream Duet 8 ISO offers a dual-control system- Hardware control panel and GoStream Software Control. Hardware control panel (with multifunction buttons, faders, and quick-access knobs) for standalone operation without a computer, ideal for mobile setups. GoStream Software Control for remote precision adjustments, supporting multi-user collaboration, scene preset management, real-time status monitoring, millisecond-level sync between hardware and software controls.

The GoStream Duet 8 ISO is designed for TV stations, live events, broadcasts, production, and satellite transmissions, combining user-friendly operation with advanced live production capabilities.



Features

- Support versatile operation interfaces: Rear view with control buttons on front panel, T Bar, Operation Menu
- Support selectable outputs from external cameras, videos or still images from SD card/SSD disk, MultiSource, internal color or black generators etc.
- Video Specifications: Input: 4Kp60 compatible | Output: 1080p60
- Support auto-switching the Video via Voice
- PGM and 8-Channel ISO Recorders
- I/O Capacity, 11-source flexibility: 4× HDMI/SDI hybrid inputs, 4× auxiliary (storage, NDI, SRT/RTMP), 2× media channels (internal pool/browser sources), 1× MultiSource/Black Burst
- Output Options: 2× HDMI | 1× SDI | 1× USB | 1× PGM/Stream
- Audio Processing: 2 independent mic inputs (XLR/3.5mm, quad-selectable), Adjustable latency | Built-in mixer for embedded audio + mic signals
- Provide a flexible navigation menu to configure various settings
- Frame synchronizer for all inputs
- Support 1 upstream + 2 downstream keys: Luma | Chroma | PIP | Pattern
- Provide versatile video transition effects: DIP| WIPE| MIX| DEV.

- Multiview Monitoring: 4/8-input layouts | 13-window max (incl. PGM/PVW/audio meters)
- MultiSource Compositing: 5 independent layers: 4× PIP + foreground/background
- Multi-use for SD card: Record, PlayBack and Update
- Support remote live streaming and broadcasting: Simultaneous up to 3 platforms, Facebook | YouTube | Twitch | Bilibili | Weibo + custom RTMP, etc.

Chapter 2 Safety

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Warnings:

Read, keep and follow all of these instructions for your safety. Heed all warnings.

⚠Warning

Device

- Do not beat with a hard object or scratch the device.
- Install in accordance with the manufacturer's instructions.
- Refer all servicing to qualified service personnel. Servicing will be required under all of the following conditions:
  - ☐ The unit has been exposed to rain or moisture.
  - ☐ Liquid had been spilled or objects have fallen onto the unit.
  - ☐ The unit has been damaged in any way, such as when the power-supply cord or plug is damaged.
  - ☐ The unit does not operate normally.
- Clean only with dry cloth.
- Specifications are subject to change without notice.

⚠Warning

Position

- Do not block any ventilation openings.
- Do not use this unit near water.
- Do not expose the unit to rain or moisture.
- Do not use this unit near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.
- A nameplate indicating operating voltage, etc., is located on the rear panel.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

Warning

Power Supply Cord

- Do not defeat the safety purpose of the polarized or grounding-type plug.
- Do not damage the power cord, place heavy objects on the power cord, stretch the power cord, or bend the power cord.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the unit.
- If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord. It may cause fire or electric shock.
- Unplug this unit during lighting storms or when unused for long periods of time.
- Disconnect the power cord from AC outlet by grasping the plug, not by pulling the cord.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.

Chapter 3 Unpack and Installation

Unpack:

When unpacking the components of GoStream Duet 8 ISO, please verify that none of the components listed in Table 3.1 are damaged or lack. If there is any missing, contact your distributors or Osee Technology Ltd. for it.

Table 3-1 Packing List

No.	Item	Quantity
1	GoStream Duet 8 ISO	1
2	Power Adapter	1
3	Power Socket	4
4	Quick Start Guide	1

Installation:

1. **Prepare for installation**

Please follow the procedures below before installing GoStream:

- Check the equipment for any invisible damage that may have occurred during transit.
- Confirm all the items listed on the packing list have been received.
- Remove all the packing material including electrostatic-resistant packing.
- Retain these packing materials for future use.

2. **Mount a GoStream in your desired location. Adequate ventilation is required when installed to prevent possible damage to the GoStream.**
3. **Connect required cables for signal input and output.**
4. **Connect 12V3A DC using the power cord.**
5. **Connect the power cord to the power interface.**
6. **Fasten the power protect accessory.**
7. **As a final step, turn on the device by pressing the corresponding power button located on the front panel.**

Tips

- Please use the power cord supplied to avoid unnecessary trouble.

Chapter 4 Panel Layout and Device Features

GoStream displays the multiview image with a group of views on screen through the OUT3(HDMI) interface after connecting the inputs and outputs and powered on. This feature provides a very convenient overview for monitoring all sources and outputs simultaneously, including the program and preview outputs, all inputs sources, player sources, MultiSource and audio levels plus disk recording status and stream dynamics indicators.

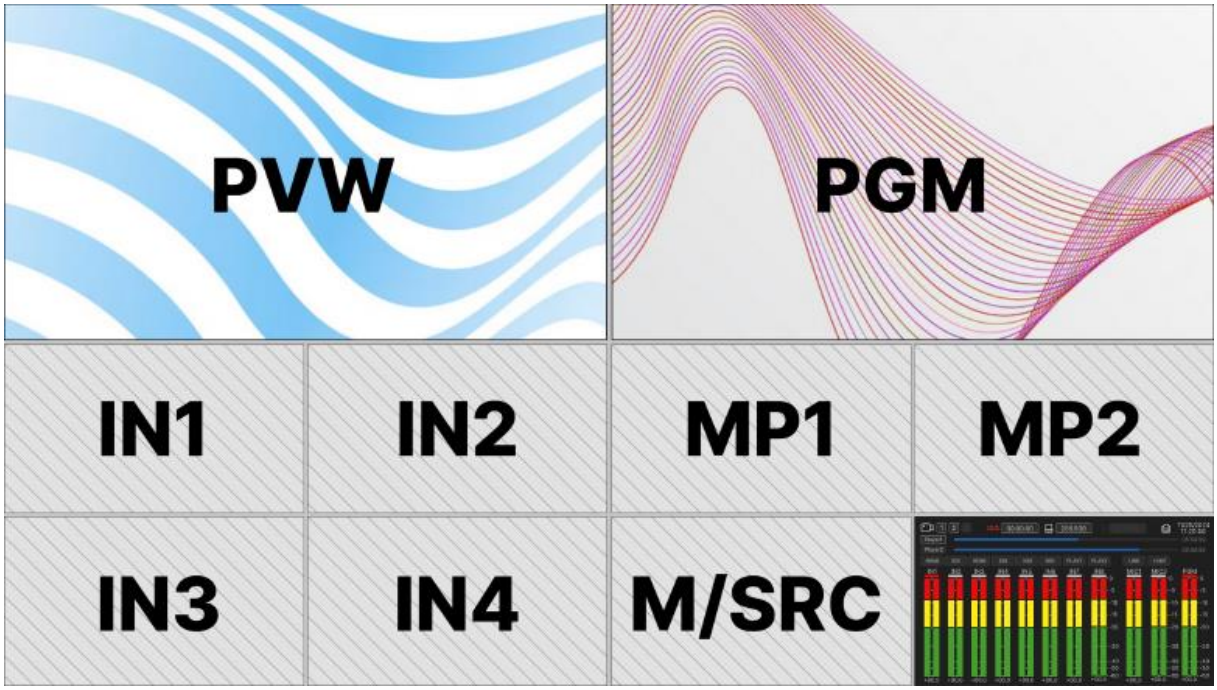


Figure 4-1 Multiview

Tips

- Refer to "4.1.3.1 Display Multiview" for more details about Multiview.

Press **MENU** button on the center of the switcher front panel, it will load the main menu pane on the bottom right in the multiview display, as shown in Figure 4-2:

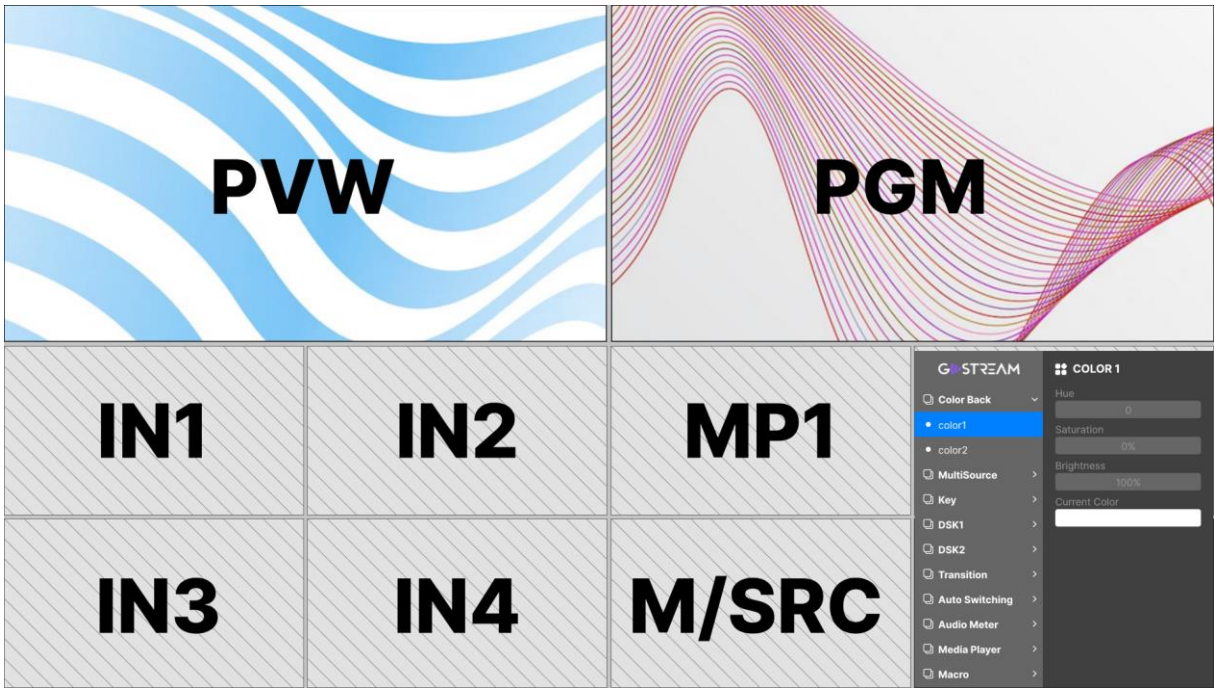


Figure 4-2 Main Menu

Tips

- Refer to "Chapter 5 MENU OPERATIONS" for details about the main menu.

4.1 GoStream Panel

GoStream is composed of multiple controls buttons with internal indicators, and provides a T bar for manual transition control on the right side. You can see the panel is divided into multiple areas and labeled as STREAM, OUT SOURCE, AUDIO MIXER, MACRO/SCENE, RECORD, PLAY, NEXT TRANSITION, PGM and PVW, which are according to its features and functions. It will introduce these areas and their buttons' function in the following section.

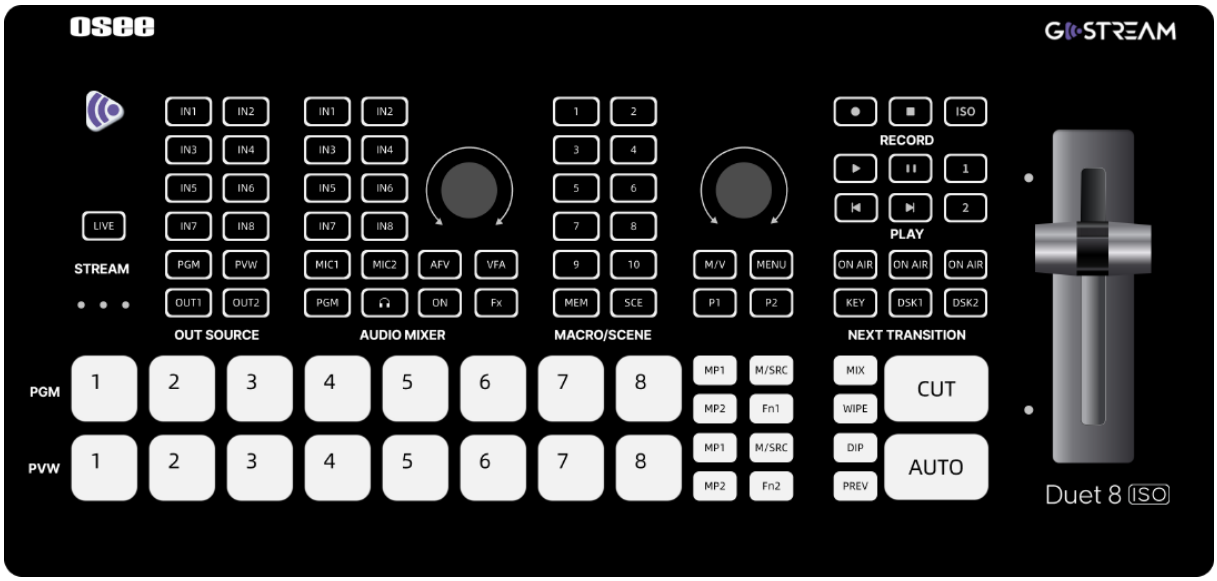


Figure 4.1-1 Control Panel

4.1.1 Panel Layout

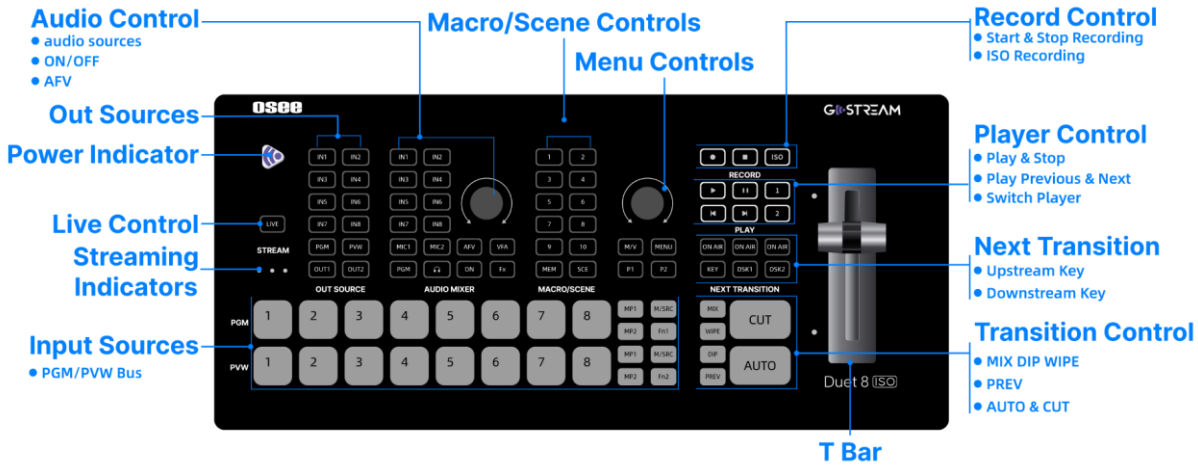


Figure 4.1-2 GoStream Panel

As shown in Figure 4.1-2, these areas are divided as: power control, signal sources control, Audio Mixer, macro/scene control, record and play, transition, next transition, live and menu. And there are groups of buttons in each area, as shown in the table below:

Table 4.1-1 Control Areas and Function Buttons

Area	Button	Description	Area	Button	Description
Power Indicator	POWER	Indicate power on or off	OUT SOURCE	IN 1	Select IN 1

Area	Button	Description	Area	Button	Description
STREAM	LIVE	Stream on air		IN 2	Select IN 2
Signal sources-PGM	IN 1	From IN1 input (HDMI/SDI)		IN 3	Select IN 3
	IN 2	From IN2 input (HDMI/SDI)		IN 4	Select IN 4
	IN 3	From IN3 input (HDMI/SDI)		IN 5	Select IN 5
	IN 4	From IN4 input (HDMI/SDI)		IN 6	Select IN 6
	IN 5	Videos From NDI, SRT/RTMP, Player 1		IN 7	Select IN 7
	IN 6	Videos From NDI, SRT/RTMP, Player 2		IN 8	Select IN 8
	IN 7	Videos From NDI, SRT/RTMP, USB1 CAM		PGM	Select PGM
	IN 8	Videos From NDI, SRT/RTMP, USB1 CAM		PVW	Select PVW
	MP1	Media Player1		OUT1	Set for OUT1
	MP2	Media Player2		OUT2	Set for OUT2
	M/SRC	Black Burst or MultiSource	MACRO/ SCENE	1	Macro command1
	Fx	Special Effects		2	Macro command 2
Signal sources-PVW	IN 1	From IN1 input (HDMI/SDI)		3	Macro command 3
	IN 2	From IN2 input (HDMI/SDI)		4	Macro command 4
	IN 3	From IN3 input (HDMI/SDI)		5	Macro command 5
	IN 4	From IN4 input (HDMI/SDI)		6	Macro command 6
	IN 5	Videos From NDI, SRT/RTMP, Player 1		7	Macro command 7

Area	Button	Description	Area	Button	Description
	IN 6	Videos From NDI, SRT/RTMP, Player 2		8	Macro command 8
	IN 7	Videos From NDI, SRT/RTMP, USB1 CAM		MACRO	Activate Macro
	IN 8	Videos From NDI, SRT/RTMP, USB1 CAM		SCENE	Activate Scene
	MP1	Media Player1	MENU	M/V	Multiview Mode Switcher
	MP2	Media Player2		MENU	Main Menu
	M/SRC	Black Burst or MultiSource		P1	Display Player1 List
	Fn1	Special Effects		P2	Display Player2 List
AUDIO MIXER	IN1	IN1 audio channel		Knob	Adjust Menu
	IN 2	IN2 audio channel	RECORD	Start	Start recording
	IN 3	IN3 audio channel		Stop	Stop recording
	IN 4	IN4 audio channel		ISO	ISO recording
	IN 5	IN5 audio channel	PLAY	Start	Start playing
	IN 6	IN6 audio channel		Pause	Pause playing
	IN 7	IN7 audio channel		Previous	Previous
	IN 8	IN8 audio channel		Next	Next
	MIC1	MIC1 input		1	Player1 Selection
	MIC2	MIC2 input		2	Player2 Selection
	AFV	Audio follows video	NEXT Transition	ON AIR	On air or off air
	VFA	Video follows audio		KEY	Upstream Key
	PGM	Choose an audio source through Audio Mixer menu		ON AIR	On air or off air
	Earphone	Earphone channel		DSK1	Downstream1 Key
	ON	Enable/Disable audio channel		ON AIR	On air or off air
	Fn2	Special Effects		DSK2	Downstream2 Key
	Knob	Adjust Audio	--	--	--

Area	Button	Description	Area	Button	Description
Transition Effects	MIX	Mix style	Transition Effects	CUT	Cut Transition
	DIP	Dip style		AUTO	Auto Transition
	WIPE	Wipe style		T Bar	Manual transition
	PREV	Preview Transition	--	--	--

- **Power Indicator**: Indicate the switcher on or off;
- **Signal Sources Control**: This block is divided into two areas including program bus and preview bus. The selected source from Program Bus (PGM) is directly output as the program signal. The selected source from Preview Bus (PVW) is a preview signal (the signal to be cut into PGM), which can be transitioned to the program signal.
- **Output Source Control**: Assigns the output source for OUT1 or OUT2.
- **Audio Mixer**: Configures embedded audio from cameras, media servers, etc., outputs to the switcher's Audio Mixer, and supports audio effects;
- **Macro/Scene Control**: Executes a set of switcher commands or quickly switches scene displays;
- **Recording Control**: Stores the PGM video (program output signal, including all switched signals, keying effects and transitions) to a storage device (SD card or SSD);
- **Playback Control**: Plays specified video clips stored on the storage device;
- **Transition Control**: Controls the transition between program and preview signals, supporting specified transition types (e.g., cut, mix, wipe);
- **Next Transition Control**: Controls the key signal for the next transition (on/off);
- **Live Control**: Streams the switcher's signal output for live broadcasting;
- **Menu Control**: Provides detailed parameter settings for switcher functions.

Tips

- All buttons on the panel have indicators, and the button will display in various color according to its real-time status.

4.1.2 Function Areas

The panel is divided into multiple functional areas based on operations and features. This section describes the button layout and primary functions of each functional zone on the control panel, as detailed below.

4.1.2.1 Power Control

- **Power on or off**

Connect the included power supply to the GoStream Duet 8 ISO's power port(12V3A) located at the center of the rear panel, as shown in Figure 4.1-3.

Press the power switch at the right corner of the rear panel to turn the device on or off.

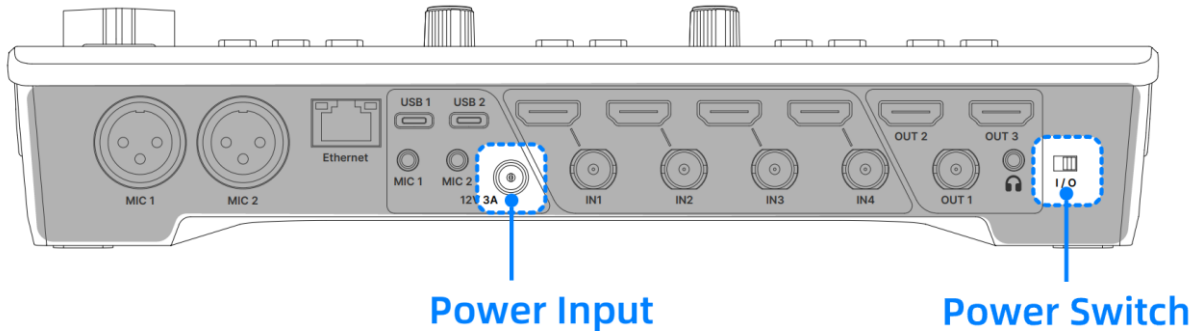


Figure 4.1-3 Power Port and Power Switch

The power indicator is located at the top left corner, it will light up in white during startup, as shown in Figure 4.1-4, and turn grey once the device has successfully started.

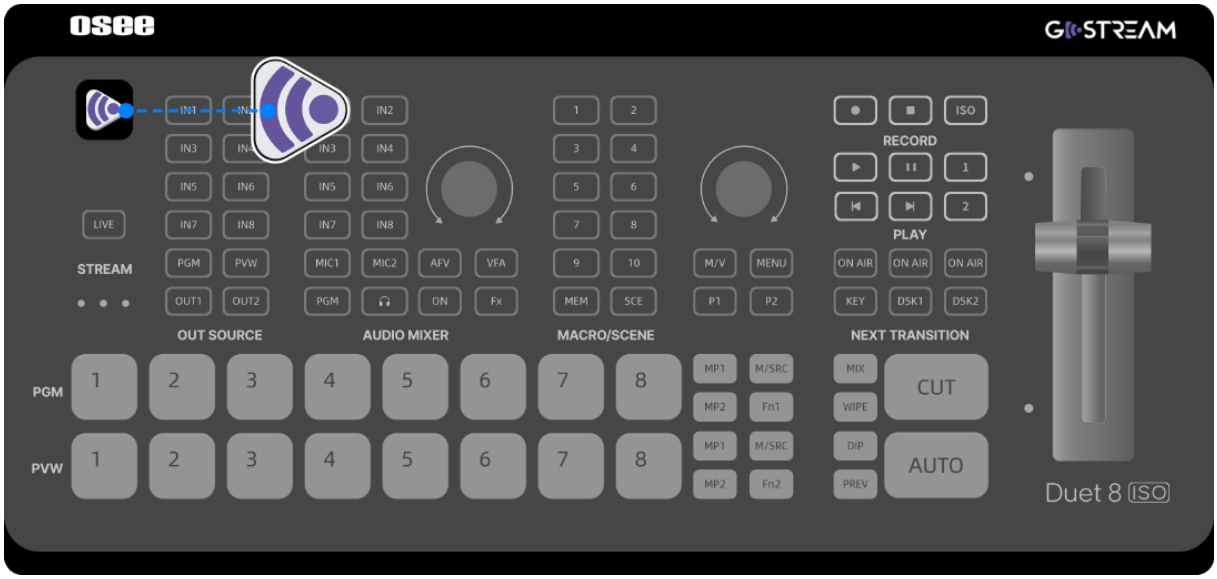


Figure 4.1-4 Power Indicator

Tips

- The power button is illuminated in highlighted color during startup with its internal light.

4.1.2.2 Signal Sources

Connect signal sources such as HDMI/SDI cameras, USB devices, network streams, etc., to the input interfaces of the switcher. The switcher supports real-time video signals from cameras, encoders, and other devices, as well as media files like recorded videos and images from SD cards, USB storage devices, or networks.

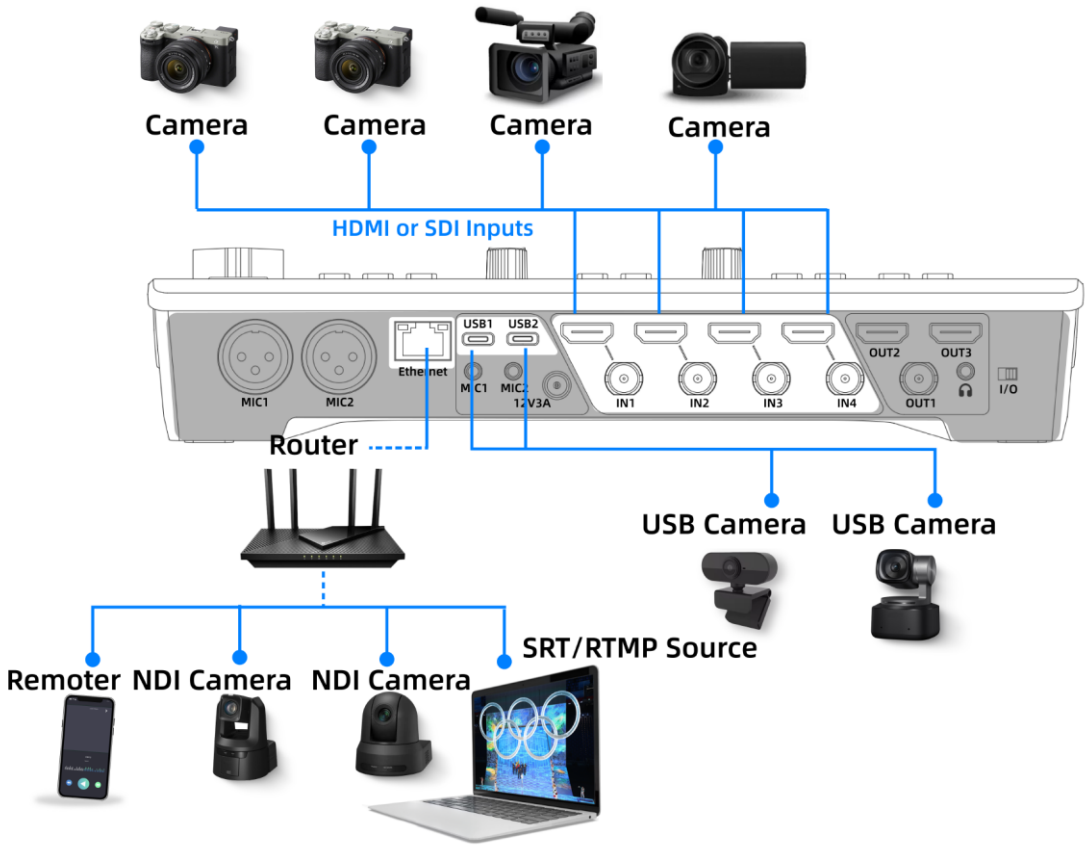


Figure 4.1-5 Comment Input Devices Connection to Switcher

In the input menu, select the appropriate input signal channel. Configure the channel parameters to match the signal source type (e.g., HDMI, SDI, network stream). For detailed information about the input signal menu, please refer to the content in "5.1.15 Inputs Settings"

CHANNEL	1	2	3	4
SOURCE	HDMI/ SDI	HDMI/ SDI	HDMI/ SDI	HDMI/ SDI
CHANNEL	5	6	7	8
SOURCE	NDI HX 3 SRT/RTMP Player1	NDI HX 3 SRT/RTMP Player2	NDI HX 3 SRT/RTMP USB1 CAM	NDI HX 3 SRT/RTMP USB2 CAM
CHANNEL	MP1	MP2	M/SRC	Fn
SOURCE	Still Image	Still Image/ Browser	MultiSource	Fn(x)

Figure 4.1-6 Types of Input Signals and Input Channels Relationships

The signal source buttons are located in the lower left section of the control panel, as shown in Figure 4.1-7, and are divided into two areas: the **Program Bus** (**PGM**) and the **Preview Bus** (**PVW**).

The signal source selected from the **Program Bus** (**PGM**) is directly output as the program signal. The signal source selected from the **Preview Bus** (**PVW**) serves as the preview signal, which can be transitioned to become the program signal.

The currently selected program bus signal serves as the base background layer (background source) in the multi-layer keying and compositing system.

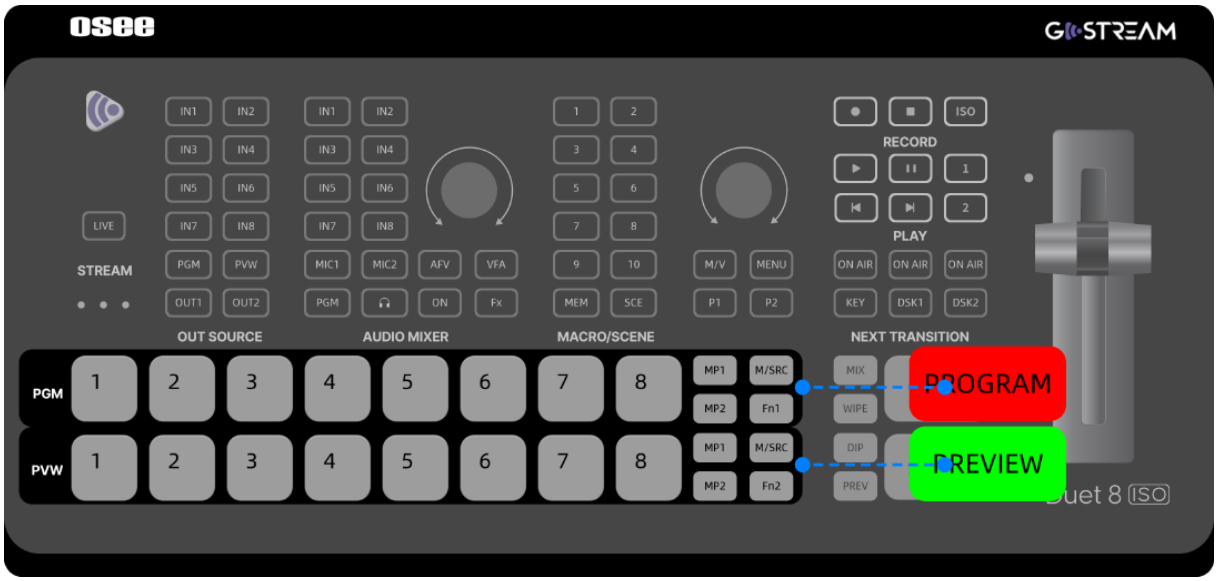


Figure 4.1-7 Input Source Buttons Location

This area is divided into two rows of information, as shown in Figure 4.1-7:

Top Row: **Program Bus (PGM)**, providing 8 + 2 + 1 signal sources, including:

- 4 **HDMI/SDI** inputs

- 4 inputs from **SD** cards, **USB** devices, or network devices (**NDI HX3**, **SRT/RTMP**).
- 2 Media Sources (MP1, MP2): These can be configured as still images from the built-in media pool or as external browser sources.
- 1 black burst signal (which can also be configured as **MultiSource**).

Bottom Row: **Preview Bus (PVW)**, with the same signal source configuration as the **Program Bus**.

The output multi-view window provides an overview of the current input source status of the switcher. Press any one of the buttons in PGM bus or PVW bus to switch between these sources.

- **Program Bus Source (Program output, labeled as PGM)**

The **Program Bus** is used to directly switch the selected signal to the program output. The button indicator corresponding to the current program output signal source will be highlighted in red, and a red rectangular frame will identify the signal source window as the current **PGM** (**Program Output**). Users can monitor the program output signal in real-time through the multiview window, as shown in Figure 4.1-8.

When performing a signal source switch on the Program Bus, the switching result will directly affect the program output (**PGM**), while the preview (**PVW**) remains unchanged. It means that switching operations on the **Program Bus** only alter the **PGM** output, ensuring the preview screen remains stable and facilitating the user's next steps for adjustments.

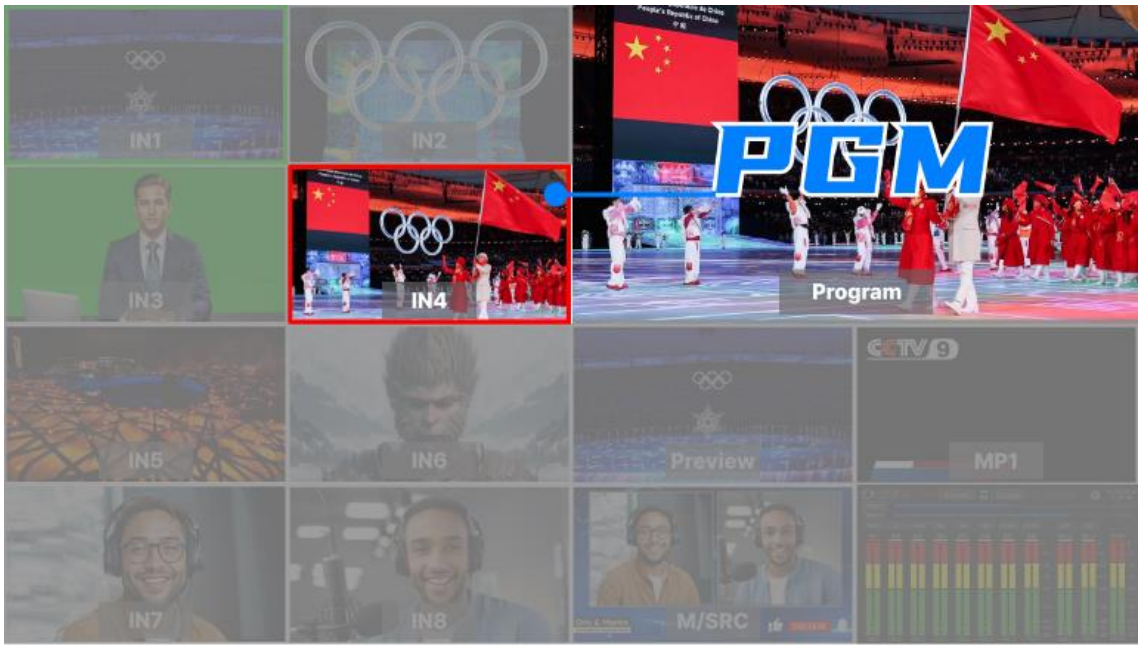


Figure 4.1-8 Signal Source and PGM View

■ Preview Bus Source (Preview output, labeled as PVW)

The **Preview Bus** is used to select the preview signal, which determines the signal source to be sent to the program output during the next transition. The button indicator corresponding to the currently selected preview signal source will be highlighted in green, as shown in Figure 4.1-9.

In the multiview window, the preview screen (**PVW**) is primarily used for pre-broadcast signal monitoring, ensuring the signal content aligns with the intended output. By operating the transition button, the preview signal can be switched to the program output signal.

When performing a signal source switch on the **Preview Bus**, the switching result will directly affect the preview view (**PVW**), while the program output (**PGM**) remains unchanged. This design ensures the continuity and stability of program broadcasting while providing users with ample time for previewing and adjustments



Figure 4.1-9 Signal Source and PVW View

Tips

- Refer to "4.1.3.1 Display Multiview" for details on multiview display.
- The source selected on program bus is displayed directly to the program output. You can change the program output immediately as soon as you press a source button on program bus.
- The signals from the Program Bus and Preview Bus serve as the background

signal layer at the very bottom of the entire output screen. The transition button controls the switch from the preview to the program output. For details about transitions, please refer to the content in "4.1.2.10 Next Transition".

- Particularly, the default signal on **M/SRC button** is an internal black burst, set the menu item **MultiSource→Window*→enable** to be ON, and it will display a splicing image connecting to **M/SRC button**. Refer to "4.1.3.2 Display MultiSource" for details on **MultiSource**.

4.1.2.3 Output Control

■ Connecting Monitoring Devices

After connecting the video sources, you can attach HDMI or SDI monitors, or a computer to the switcher's output interfaces to verify that all inputs are functioning properly and ensure smooth switching between signal sources.

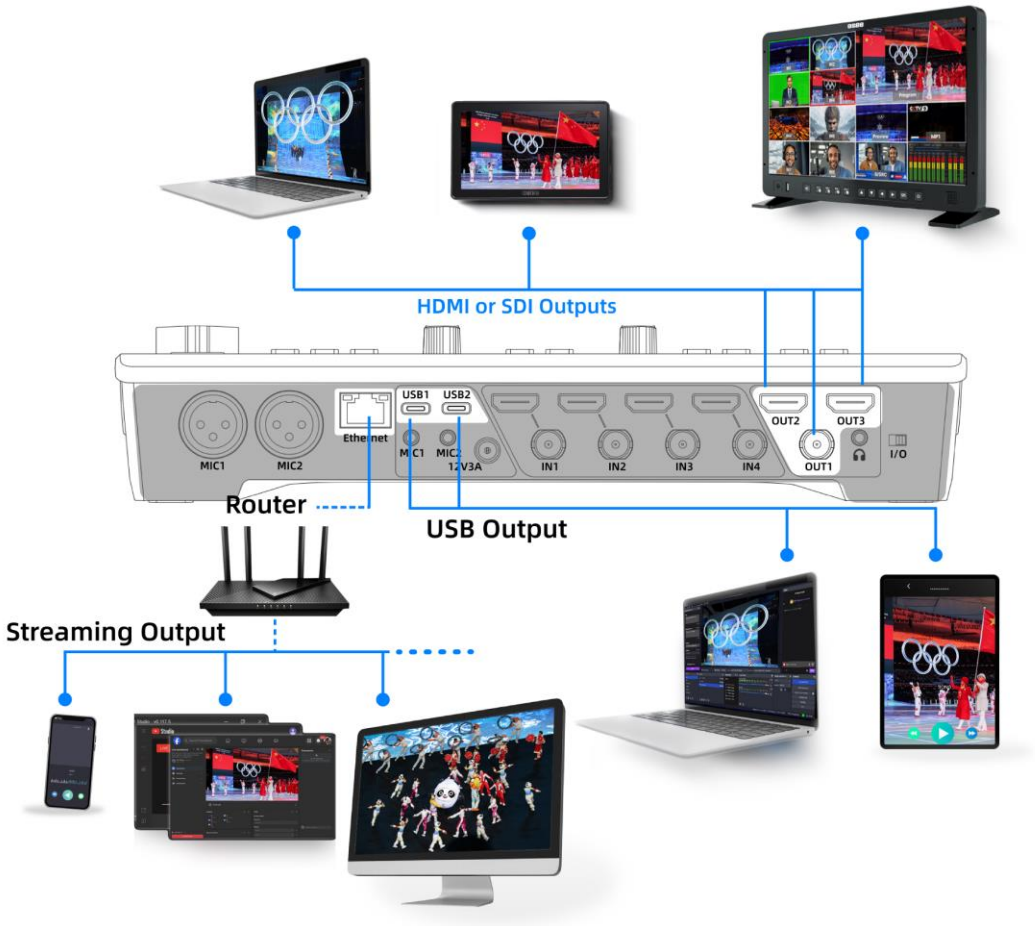


Figure 4.1-10 Comment Output Devices Connection to Switcher

The output signal types supported by each interface are shown in Figure 4.1-11. In the output menu, select the appropriate signal source and configure the corresponding channel parameters based on the output interface type (e.g., HDMI, SDI, USB, or network). For detailed information about the output signal menu, refer to "5.1.16Outputs Settings" in the document.

CHANNEL	OUT1(SDI)									
SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	PVW
CHANNEL	OUT2(HDMI)									
SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	PVW
CHANNEL	OUT3(HDMI)									
SOURCE	Multiview									
CHANNEL	USB OUT(USB1/USB2)									
SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	---
CHANNEL	STREAMING OUT(Ethernet)									
SOURCE	PGM									

Figure 4.1-11 Types of Output Signals and Output Channels Relationships

■ Output Signal Types

The switcher supports the following output signal types:

- **SDI Output**: Delivered via the **OUT1** interface, ideal for connecting professional cameras, recorders, or studio-grade monitoring equipment.
- **HDMI Output**: **OUT2** is a standard HDMI output for program signals. OUT3 is the dedicated MultiView output, providing a split-screen display for real-time monitoring of all input sources, PGM/PVW status, and Tally indicators.
- **USB Output**: Your computer will cognize the switcher as a webcam when output through **USB1** or **USB2** and you can select it as the webcam source in your streaming program, such as Skype, Zoom or OBS Studio. And it could record the MP4 files to external storage devices.
- **Streaming Output**: Network-based output supporting up to three simultaneous streams. Enables multi-platform live streaming (e.g., YouTube, Facebook, or custom servers).

- **Output Buttons Area**

Located in the upper-left section of the control panel, as shown in Figure 4.1-12, this area allows quick switching of SDI (OUT1) and HDMI (OUT2) output signals.

Operation Steps:

First, select output port. Choose either OUT1 (SDI) or OUT2 (HDMI).

Second, switch signal source. Press the corresponding IN1~IN8, PGM (Program Output), or PVW (Preview Output) buttons to select the output signal.

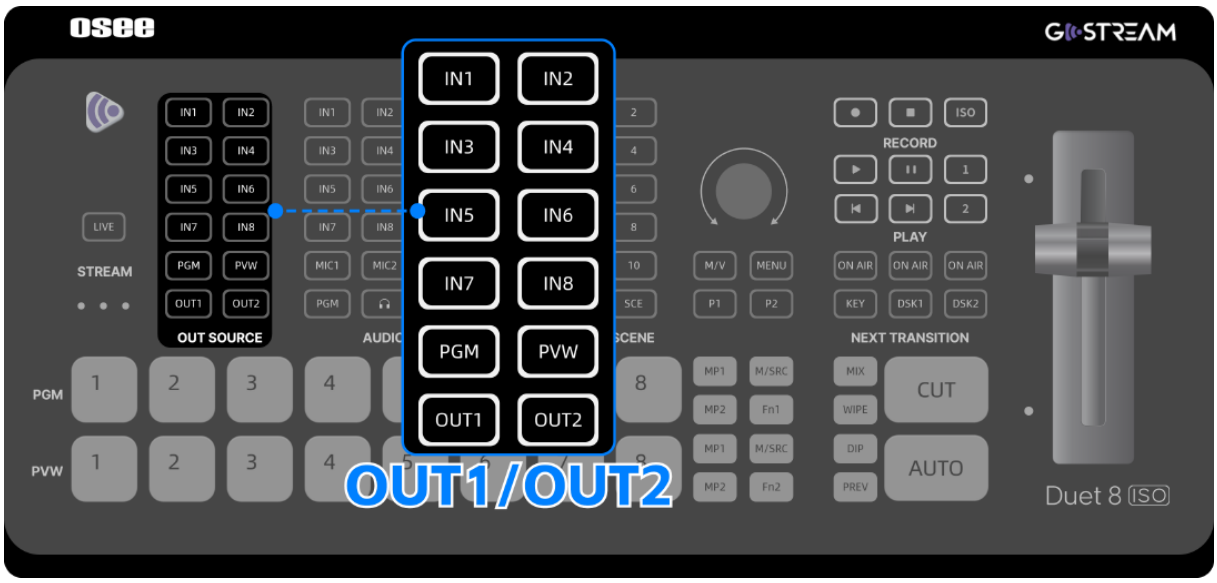


Figure 4.1-12 Output Source Buttons Location

Tips

- Refer to "5.1.16 Outputs Settings" for details on configuration of output signals, in this section you can customize output resolution, color space for output channel.
- Refer to "5.1.12 Stream Settings " for settings related to streaming transmission channels (STREAM1, STREAM2, STREAM3).

4.1.2.4 Audio Mixer

The switcher supports multi-channel audio mixing, level adjustment, and embedded audio output, and is compatible with the following audio sources:

- **Embedded Audio:** Audio embedded in HDMI/SDI signals, such as from cameras or playback devices.

- **Independent Audio Inputs:** External microphones or audio devices connected via XLR or 3.5mm interfaces, as shown in Figure 4.1-13.

- **USB Audio:** Audio devices or computer audio connected via USB interfaces.

- **Network Audio:** Audio signals transmitted via protocols such as NDI.

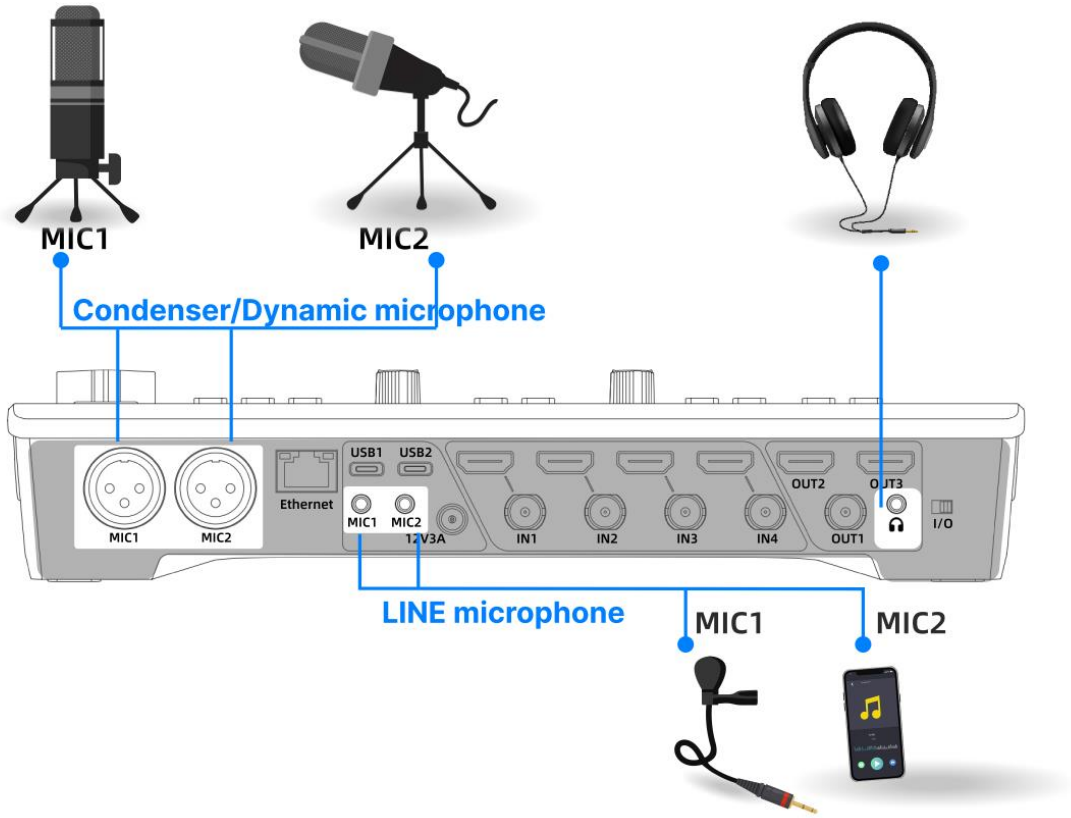


Figure 4.1-13 Buttons in Audio Mixer Area

The Audio Control Area (also called as Audio Mixer) is located on the center of the switcher's control panel, as shown in Figure 4.1.13. Select an audio source channel, then use the knob to adjust the audio level.



Figure 4.1-14 Buttons in Audio Mixer Area

Button	Description	Button	Description
IN1	Select the audio source for the IN1 channel	IN2	Select the audio source for the IN2 channel
IN3	Select the audio source for the IN3 channel	IN4	Select the audio source for the IN4 channel
IN5	Select the audio source for the IN5 channel	IN6	Select the audio source for the IN6 channel
IN7	Select the audio source for the IN7 channel	IN8	Select the audio source for the IN8 channel
MIC1	Select the MIC1 audio source (supports XLR/3.5mm)	MIC2	Select the MIC2 audio source (supports XLR/3.5mm)
PGM	Select the audio source for the Program Output (PGM).	🎧	Select the audio source for headphone monitoring.
ON	Turn the selected audio source on or off.	Audio Knob	Adjust the volume level or mute the selected audio source
AFV	Enable or disable "Audio Follow Video" (automatically switches audio with video).	VFA	Enable or disable "Video Follow Audio" (automatically switches video with audio).

■ **Audio Source Selection (IN1~IN8, MIC1, MIC2)**

☐ **Manual Selection**:

Function: Manually select audio input sources (IN1~IN8, MIC1, MIC2).

Operation:

Press the target audio button (e.g., IN1, MIC1).

Press the **ON** button to activate the audio source.

Menu Operation:

Set the target audio channel's switch to "**ON**" via **Audio Mixer** → **In1→enable** (using IN1 as an example).

☐ **Automatic Selection (Audio Follow Video - AFV)**

Function: Automatically synchronize audio source switching with video switching.

Operation:

Press the target audio button (e.g., IN1, IN4).

Press the **AFV** button to bind the video and audio sources.

Menu Operation:

Set the target audio channel's switch to "**AFV**" via **Audio Mixer** → **In1→enable** (using IN1 as an example).

☐ **Audio Channel Status Indication**

Tally Indicator Status:

Red: Audio channel is active (enabled).

Gray: Audio channel is inactive (disabled).

Tips

- **Audio Mixing Logic**: Active audio sources are mixed into the final program output signal regardless of whether the corresponding video signal is in program output status, and can be monitored in real-time via the headphone.
- **Control Interaction**: The **ON** button must be used in combination with a target audio source button (e.g., IN1). Channel status is indicated by the Tally light color.
- The **ON** and **AFV** functions are mutually exclusive, and cannot be enabled simultaneously on the same channel.

■ **Button Color**

White: Function activated (e.g., IN1 lights up white when pressed).

Gray: Function deactivated (turns gray when pressed again).

- **Audio Follow Video (AFV)**

Press the **AFV** button to enable automatic audio selection based on the current program (PGM) video's embedded audio.

Tips

- Only valid for audio sources IN1~IN8.

- **Adjust Volume**

Knob Control: Rotate the volume knob in clockwise or counterclockwise to increase or decrease the volume level of the selected audio source, supporting real-time adjustments or muting.

Quick Mute: After selecting an audio source, press the audio knob vertically downward to set the volume to 0, enabling instant muting.

- **Audio Parameter Configuration**

Audio Input Channel Configuration:

Access the main menu and navigate to: **Audio Mixer→****channel [**Channel Name**] to configure parameters for each audio input channel.

Audio Output Channel Configuration:

Set audio sources for output channels through:

Outputs→ Audio Source(Refer to Figure 4.1-15)

Audio Mixer→Headphone (Refer to Figure 4.1-16)

CHANNEL	1	2	3	4	5	6	7	8	9	10	11
OUT1	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	Mic1	Mic2	PGM
OUT2	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	Mic1	Mic2	PGM
OUT3	Multiview（PGM）										
USB OUT	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	Mic1	Mic2	PGM
Streaming OUT	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	Mic1	Mic2	PGM

Figure 4.1-15 Output Settings Menu for Audio Output Source

CHANNEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
HEADPHONE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	Mic1	Mic2	PGM	OUT1	OUT2	OUT3	USB OUT

Figure 4.1-16 Audio Mixer Menu for Headphone Source

Tips

- Audio channel monitoring is available through multiple output interfaces: **OUT1**, **OUT2**, **HEADPHONE**, etc. Assign the audio source via the Outputs or Audio Mixer menu. E.g., select **IN1** as the source for **OUT1** via **Outputs→ audio source →OUT1**.

■ Audio Meter

The audio meter view is displayed at the right bottom of the multiview, as shown in Figure 4.1-17. Each audio source is represented by a dedicated level meter column, providing real-time visual feedback of audio signal levels.

Channel parameters can be adjusted via Audio Mixer menu. Refer to Audio Mixer menu for the details.

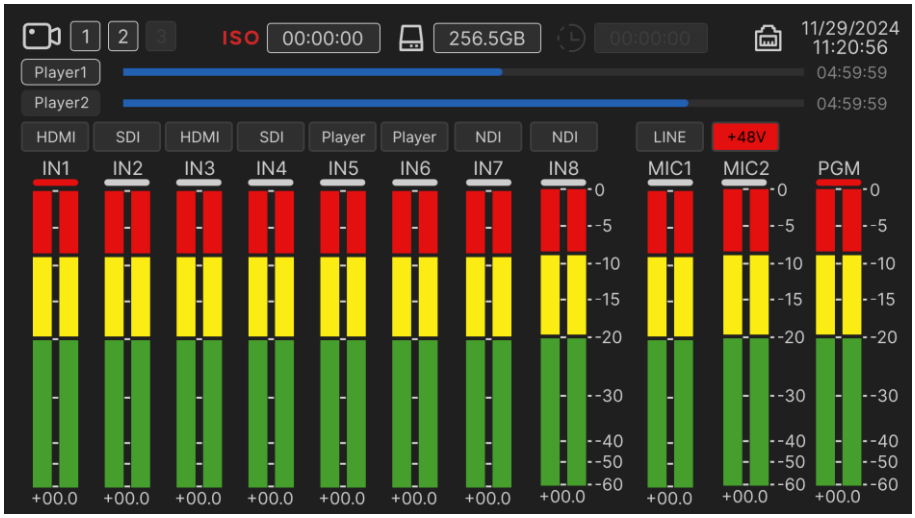


Figure 4.1-17 Audio Meter Panel

Tips

- Refer to "5.1.8 Audio Mixer Settings" for more details about the audio channels and audio parameters settings.
- Refer to "4.1.3.17 How to Use Audio Mixer" for more details about Audio Mixer

pane.

4.1.2.5 Macro/Scene Control

The Scene and Macro functions in the switcher are convenient tools for achieving efficient presets and rapid switching in video production, significantly enhancing workflow efficiency and professionalism.

By pre-configuring complex layouts (such as picture-in-picture, MultiSource, and graphic overlays), integrating multiple transition effects (like mix and wipe), and synchronizing control of audio devices or players, users can create and save template-based scenes or macros. During switching, the entire series of preset operations can be activated with a single button press.

The **Macro/Scene** Control Area, located in the upper-middle section of the control panel, as shown in Figure 4.1-18, serves as the switcher's automation control module. It enables quick access to preset operation sequences (Macros) or complex visual scenes (Scenes).

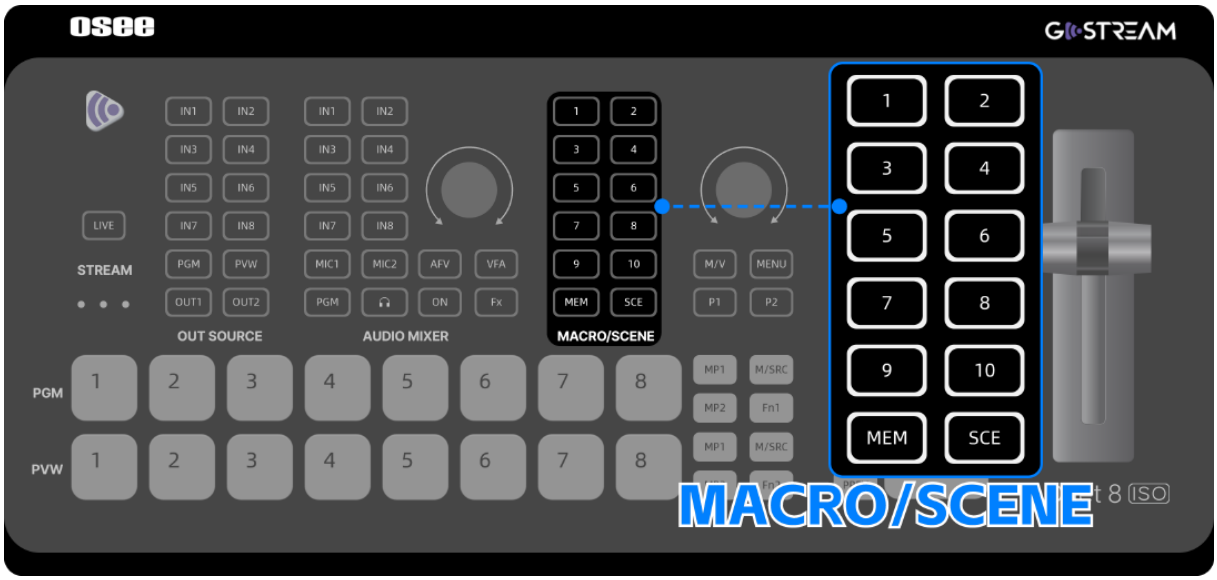


Figure 4.1-18 Macro Buttons

- **Mode Switching and Button Layout**

MEM Button: Click to enter Macro Mode, where you can record or trigger automated operation sequences (e.g., multi-device coordination, batch enabling effects).

When the **MEM** button is grayed out, clicking it selects the mode, and the button lights up white.

SCE Button: Click to enter Scene Mode, used to store or recall preset layouts (including signal sources, layers, transition effects, etc.).

When the **SCE** button is grayed out, clicking it selects the mode, and the button lights up white.

Number Buttons (**1~10**): Store 10 independent macros or save 10 scene templates.

- **Saving Macros/Scenes**

Macro Recording: Press and hold a number button to start recording or overwriting. During recording, the button is red. Once recording is complete, press the number button once to confirm. The button lights up solid white, indicating the macro has been saved.

Scene Recording: Record scene templates via the Scene Menu. When switching to Scene Mode, the numeric keys corresponding to recorded scenes will illuminate in bright white, indicating the presence of stored scenes.

- **Calling Macros/Scenes**

To call a macro or scene, first press the **MEM** or **SCE** button to switch to the corresponding mode. Then, press the desired number button to recall the stored content.

Example: Transition between multiple camera shots, overlay graphics into a live stream, and adjust audio levels-all with a single macro command. These operations can be recalled at any time.

Advanced Features: All operations can be automatically saved as XML files, allowing you to edit and combine them as needed.

Tips

- Refer to "4.1.3.19 How to Record and " for more details about Macro.
- If you want to record over a previously recorded macro, you should manually clear it which is saved in a folder named **Macro** in your SD card. Then follow the recording instructions again.

4.1.2.6 Main Menu

The Main Menu provides comprehensive access to all device functions, including signal source configuration, output settings, effect management, audio control, and more. The **MENU** button, located in the center of the control panel, serves as the physical entry point to the Main Menu. By using the **MENU** button in combination with the knob, users can perform more detailed parameter adjustments for various functions of the switcher.

1. **MENU button: Display the main menu**

Press the **MENU** button to display the main menu including a full list of panels for GoStream unit settings, and you can return to the upper level or exit the main menu after that by pressing this button again.

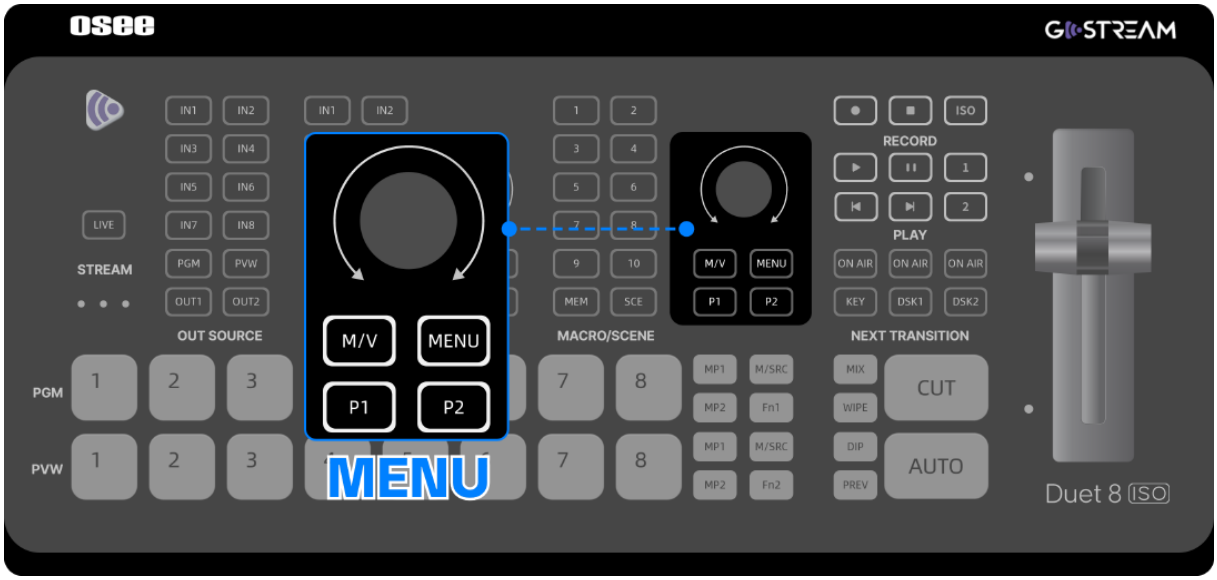


Figure 4.1-19 Menu Button

2. Knob: Adjust settings

Knob is used to select a menu item, increase or decrease an item value, and confirm selection. The details are as below:

- **Item Selection**

Press **MENU** button to display the main menu, scroll the knob clockwise to move the selection cursor downward along the menu list and select the next menu item, scroll the knob counterclockwise to select the previous item.

- **Value Selection**

After selecting a menu item in the main list, press the knob straight down to confirm the selection, and enter the submenu list, scroll the knob clockwise or counterclockwise to select a parameter which you desire to modify its value. Press the knob straight down again to confirm the selection, then you can increase its value by scrolling clockwise, or decrease it by scrolling counterclockwise.

- **Confirm Selection**

Press the knob straight down, you can enter the next level menu or confirm the value selection.

3. M/V: Select multiview display modes

Press **M/V** button to switch between **4-input Mode**  and **8-input Mode** .

4. **P1/P2: Select Player List**

Press **P1** button to display Player1 List, and press **P2** button to display Player2.

Tips

- Refer to "5.1 Main Menu" for more details about the main menu.

4.1.2.7 Recording

The switcher features built-in recording functionality, allowing the Program (PGM) signal to be recorded in real-time as high-quality video files and saved to an SD card. This enables simultaneous broadcasting and recording, ensuring content archiving and playback.

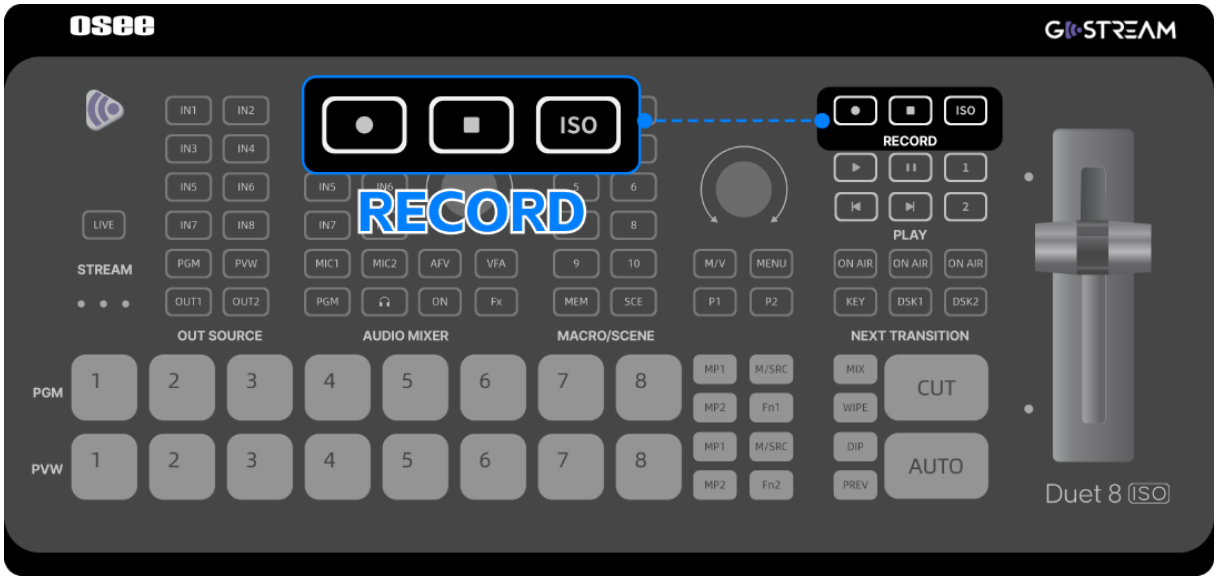


Figure 4.1-20 Record Buttons

To operate recording, press the buttons in the **RECORD** area on the control panel. The specific operations are as follows:

- **Start Recording**:

Press the **Start** Recording button  in the **RECORD** area. The button indicator lights up red, indicating that recording is in progress.

- **Stop Recording**:

Press the **Stop** button  to end the recording. When pressed, the stop button indicator lights up white, and it turns off after releasing the button.

- **ISO Recording**:

Press the **ISO** button  to enable multi-channel independent recording (ISO recording). This allows each signal source's footage to be saved separately, facilitating post-production editing. The button indicator lights up red.

Tips

- During recording operations, a yellow blinking light on the Record or ISO button indicates insufficient write speed of the storage device. Please inspect the storage device status Immediately.
- ISO recording files include: PGM video, individual signal source video files for each channel.



Figure 4.1-21 Colors for Record Button

Use these buttons in RECORD area to start or stop video recording.

Button	Comment	Description
	Start button	Press this button to start recording
	Stop button	Press this button to stop recording
	ISO button	Press this button to enable ISO recording, which allows multi-channel recording and independently saves each signal source's footage for easier post-production editing.

Tips

- Refer to "4.1.3.22 How to Record and Play" for more details about recording settings.

4.1.2.8 PlayBack

Use the play buttons to play the media files which you have recorded or saved in SD card or SSD disk.

Short press the **PLAY** button  to play a clip in your storage device, the play button is highlighted in green, then click **PAUSE** button  to pause playing. And you can press the **PREV** or **NEXT** button to select the previous clip or the next one you want to show.

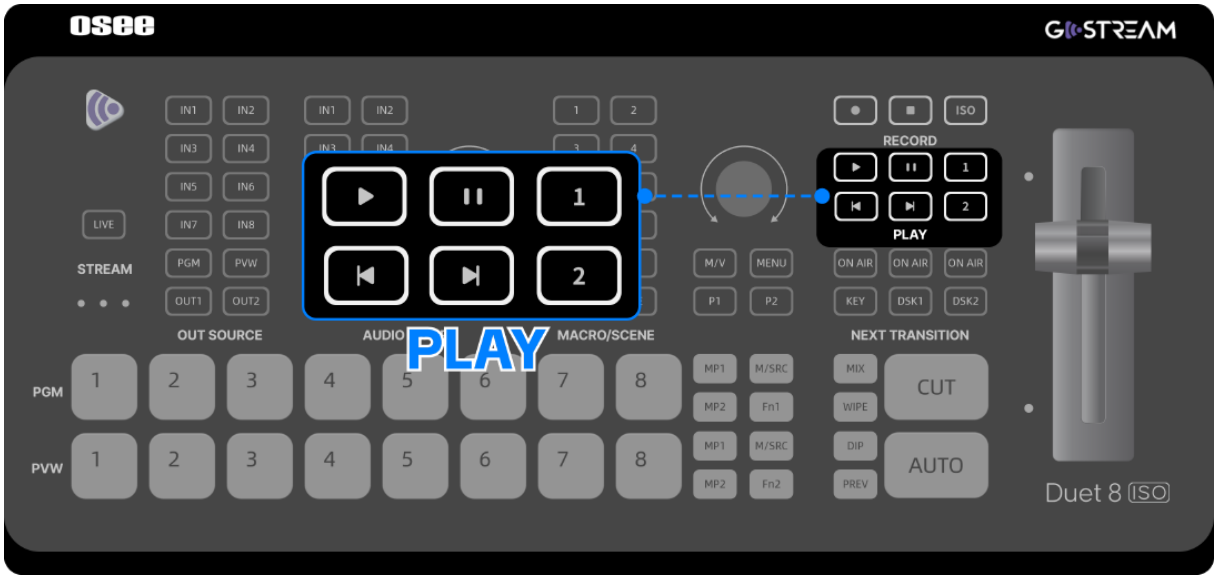


Figure 4.1-22 Play Buttons

Button	Comment	Description
	Play button	Press this button to play a video
	PAUSE button	Press this button to pause playing
	Previous Button	Play the previous clip in your media list
	Next button	Play the next clip in your media list
	Player1	Enable/Disable Player1
	Player2	Enable/Disable Player2

Tips

- Refer to "4.1.3.22 How to Record and Play" for more details about UVC recording and playing.
- Press the P1 or P2 button in **Menu** area to expand the playback file lists Player1, Player2 respectively in the lower-right corner of the multiview display window record clips selection.

4.1.2.9 Transition Control

When switching video sources, you can use a straight cut which will immediately change one source to another, or a transition which will gradually change one source to another over a defined duration. Transitions appear as an effect, and you can choose a transition style: dip, mix or wipe.

GoStream provides multiple transition modes, including cut, effect transition and manual transition. The transition area contains the following tools: a group of buttons, including **MIX**, **DIP**, **WIPE**, **PREV**, **CUT**, **AUTO** and a **T bar**, as shown in Figure 4.1-23:

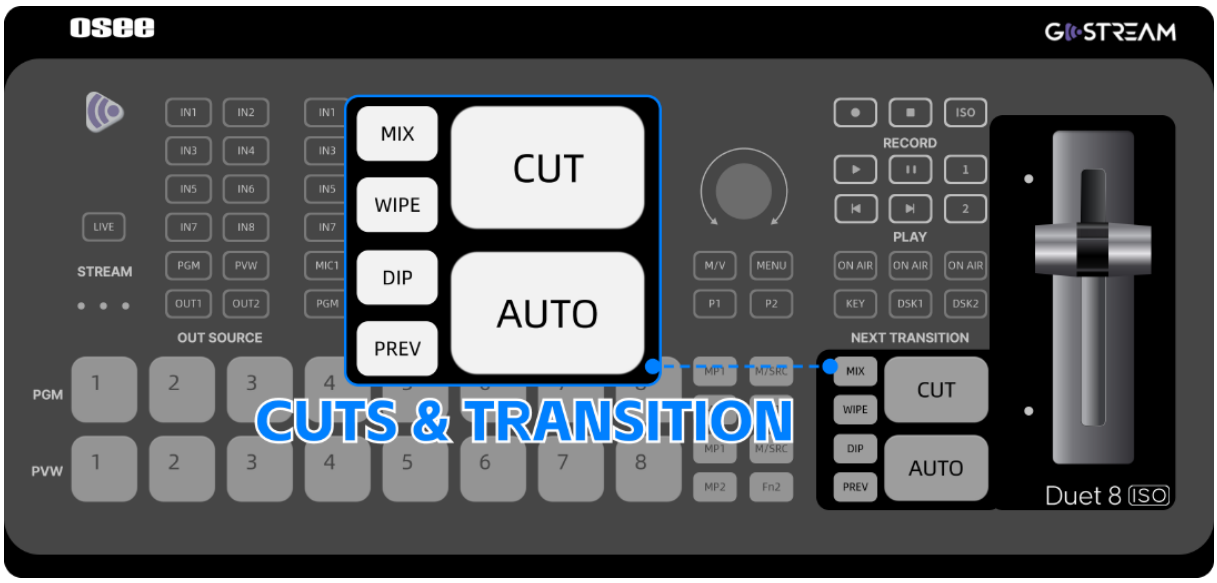


Figure 4.1-23 Transition Buttons

These buttons are mainly used as below:

Button	Comment	Description
MIX	Mix transition style	Choose mix style. A mix transition gradually fades the current source into the next until the original source is no longer visible.
DIP	Dip transition style	Choose dip style.

Button	Comment	Description
		A dip transition gradually fades the current source into the target source until the original source is no longer visible, and there is a third specify source appeared during the blending process of the original and target source. The third source which is defined as "dip source" in the dip menu could be a video signal, a color generator or internal color bar.
WIPE	Wipe transition style	Choose wipe style. A wipe transition will move a specified pattern across the original source revealing another effectively wiping across the image. Usually, the pattern could be a circle, diamond, rectangle and so on, and the pattern's border could be softened, colored and filled with a specified source.
AUTO	Auto Transition	Perform an auto transition. Press AUTO button to perform the selected effect transition(MIX/DIP/WIPE) of the program and preview outputs. You can see the transition process in PGM window of the multiview display.
PREV	Preview Transition	Switch to the preview transition mode, the transition simulation will be displayed in PVW window. This is very helpful for the operator to verify a mix, dip or wipe transition by performing it on the preview output, thus to avoid mistakes on air.
CUT	Cut	Perform a cut. Press CUT button to perform an immediate transition of the program and preview outputs.
T Bar	Manual Fader bar	The T-bar enables manual control of transition effects, allowing precise adjustment of the transition timing for seamless and professional results. Move the T-bar to control the speed and position of the transition effect. During manual transitions, the AUTO button lights up red to indicate that automatic transitions are temporarily overridden.

Tips

- Refer to "4.1.3.1 Display Multiview" for details about Multiview display.

GoStream provides the following transition modes, as shown in Figure 4.1-24:

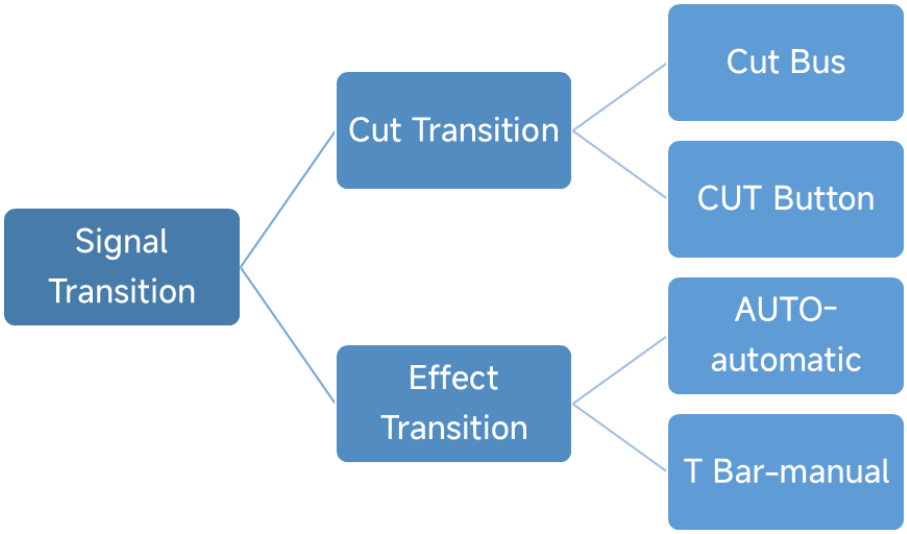


Figure 4.1-24 Transition Modes

Switching Mode:

- **Cut Transition**

"**Cut transition**" is the basic switching mode on the switcher. In cut transition, the program output is immediately changed from one source to another. A cut transition can be performed directly from the program bus, or using the CUT button.

Cut button will let you change sources as soon as you press **CUT** button without transition effects. The upstream key and the downstream key which has been selected to output in the next transition will also change in this operation.

Besides, pressing an input button on program bus will instantly switch it to air, it is also called as cut bus, but in this way, only the background signal will be changed, but not the upstream key and the downstream key, that is the upstream key and the downstream key will maintain the status quo.

The example for cut transition: switching from current program output A to preview output B is as shown in Figure 4.1-25:

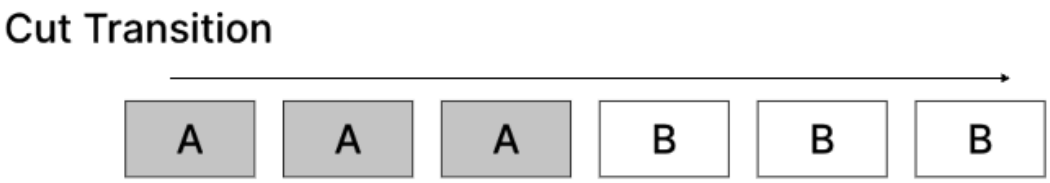


Figure 4.1-25 Cut Bus- Transition from A to B

- **Special Effects Transition**

Transitions let you smoothly switch from one source to another.

The cooperation of **AUTO** button with **MIX**, **DIP** or **WIPE** button will perform the selected effect transition at the duration specified in the ‘rate’ parameter.

Choose one of the three transition styles: **MIX**, **DIP** or **WIPE** by pressing any one of these three style buttons, the selected one will be indicated highlighted in white. Then press **AUTO** button, it will perform transition immediately, and the upstream key and the downstream key will take effect at once.

Tips

- You can also choose horizontal and vertical wipe transitions, or other shapes transitions by selecting their respective transition pattern in wipe menu.
- Refer to " 5.1.6 Transition Settings" for details about more details about patterns.

You can make sense of the mix, dip and wipe transition from the illustrations in Figure 4.1-26:

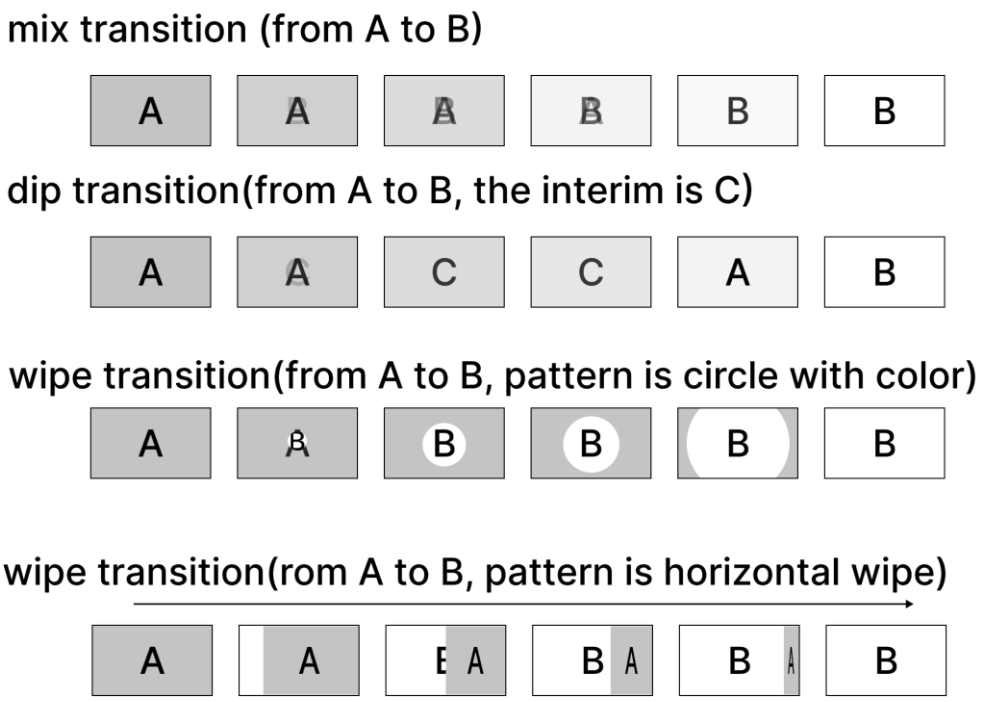


Figure 4.1-26 Transition Styles

■ Manual Transition

T bar is used as an alternative to the **AUTO** button and allows the operator to control the transition manually.

The **AUTO** button illuminates red during the process of the manual transition and

there are two indicators beside **T bar** which are used to indicate the manual transition progress.

■ **Preview Transition**

The **PREV** button enables the preview transition mode, allowing the operator to verify a **MIX**, **DIP**, **WIPE** or **PIP** transition by performing it on the preview output view using the T bar or **AUTO** button. This is a very helpful feature to avoid mistakes on air!

Press the **PREV** button, it is highlighted in red, then you will see the preview output match the program output, practice your selected transition with the **T bar** or **AUTO** button to confirm you are going to get what you want, but the source buttons will not change during preview transition.

Tips

- The source between the original and target signal in dip transition process could be a pure color, a graph or a dynamic video set via **Transition →dip→Fill Source** item.
- Wipe transition provides up to 11 effects, including horizontal wipe, vertical wipe, circle wipe and so on, refer to " 5.1.6 Transition Settings" for the details.

Color for Transition Control Buttons:

The status for the button colors in transition area are described in the following table:

Button	Button Color		Description
	Disable	Enable	
AUTO	white	Highlighted Red	Auto transition. Press this button after selecting a transition style. You can see the signal exchange both in PGM view and PVW view.
MIX	white	Highlighted white	Select one of the three styles to cooperate with **AUTO** button. First press style button, then press **AUTO** button to execute auto transition with the specified transition style.
DIP	white	Highlighted white	
WIPE	white	Highlighted white	
PREV	white	Highlighted Red	Preview transition. The transition will be performed in PVW view

Button	Button Color		Description
	Disable	Enable	
CUT	white	Highlighted white	CUT transition. You can see the signal exchange both in PGM view and PVW view.

Tips

- MIX, DIP and WIPE are mutual exclusive styles for effect transition, you can use only one at a time for AUTO transition.
- Configure your transition rate for MIX, DIP or WIPE in the corresponding items in settings of " 5.1.6 Transition Settings" menu.
- MIX, DIP or WIPE transition style is used in auto transition or manual transition.
- The CUT button performs an immediate transition of the Program and Preview outputs, regardless of the selected transition type.

4.1.2.10 Next Transition

The buttons in next transition area are used to control the cutting in or out of key signals to PGM individually. It provides one upstream key and two downstream keys. The key signal can be previewed through the preview window (PVW in the multiview window) before being cut in or out of broadcast via the **ON AIR** button. The layout of the next transition buttons is shown in Figure 4.1-27.

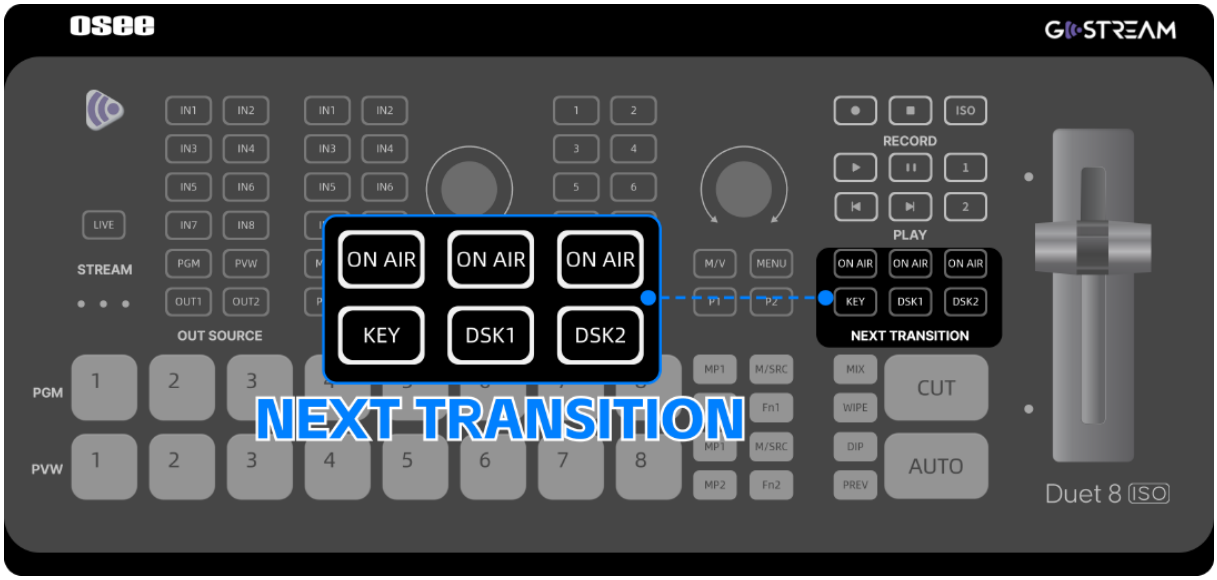


Figure 4.1-27 Next Transition Buttons

- **Key Buttons**: (one upstream key and two downstream keys)

  - **Upstream Key**: **ON AIR** and **KEY** button in first column are used to make the upstream key to be cut on or off. The **ON AIR** button in this column is corresponding to control the upstream key.

  - **Downstream Key1**: **ON AIR** and **DSK1** button in second column are used to make the downstream1 key to be cut on or off. The **ON AIR** button in this column is corresponding to control the downstream key1.

  - **Downstream Key2**: **ON AIR** and **DSK2** button in third column are used to make the downstream2 key to be cut on or off. The **ON AIR** button in this column is corresponding to control the downstream key2.

- **Button Functions and Color Indicator Instructions**

Button Functions:

The expression for these buttons is described as in the following table:

Table 4.1-2 Functions Description of Key Buttons

Group	Button	Comment	Function Description
Upstream key Control	ON AIR	ON AIR	The ON AIR indicator button indicates when the upstream key is currently on air and can also be used to immediately cut the key on or off air. 1. Press ON AIR button to enable it, the upstream key is immediately cut into the program output(PGM), the button is highlighted in red. Press the button again to turn it gray, the upstream key is directly cut off. 2. When using transition buttons, the ON AIR button state changes synchronously to indicate whether the upstream key is on air (requires the KEY button to be pressed)
	KEY	Upstream key	The upstream key enable button, used to determine whether the upstream key changes in the next transition, i.e., from none to present or from present to none. Press KEY button to light it up in bright white, and the upstream key will be loaded into the preview screen (PVW) and take effect in the next transition. Press the button again to turn it gray, and the upstream key will be deactivated, maintaining its current state in the next transition.
Downstream	ON AIR	ON AIR	The ON AIR indicator button indicates when the

Group	Button	Comment	Function Description
key1 Control			downstream key is currently on air and can also be used to immediately cut the key on or off air. 1. Press ON AIR button to enable it, the downstream key is immediately cut into the program output(PGM), the button is highlighted in red; press this button again, the downstream key is directly cut off. 2. When using transition buttons, the ON AIR button state changes synchronously to indicate whether the downstream key is on air (requires the DSK1 button to be pressed)
	DSK1	downstream key	The downstream key enable button, used to determine whether the downstream key changes in the next transition, i.e., from none to present or from present to none. Press DSK1 button to light it up in bright white, and the downstream key will be loaded into the preview screen (PVW) and take effect in the next transition. Press the button again to turn it gray, and the downstream key will be deactivated, maintaining its current state in the next transition.
Downstream key2 Control	ON AIR	ON AIR	The ON AIR indicator button indicates when the downstream key is currently on air and can also be used to immediately cut the key on or off air. 1. Press ON AIR button to enable it, the downstream key is immediately cut into the program output(PGM), the button is highlighted in red; press this button again, the downstream key is directly cut off. 2. When using transition buttons, the ON AIR button state changes synchronously to indicate whether the downstream key is on air (requires the DSK1 button to be pressed)
	DSK2	downstream key	The downstream key enable button, used to determine whether the downstream key changes in the next transition, i.e., from none to present or from present to none. Press DSK2 button to light it up in bright white, and the downstream key will be loaded into the preview screen (PVW) and take effect in the next transition. Press the button again to turn it gray, and the downstream key will be deactivated, maintaining its current state in the next

Group	Button	Comment	Function Description
			transition.

Tips

- Dual Function of the **ON AIR** Button: The ON AIR button combines both status indication and operational control functions.
    - Status Indication Function: It provides real-time indication of whether the corresponding key (such as the upstream key [KEY] or downstream keys [DSK1, DSK2]) is on air.
    - Operational Control Function: It directly controls the cutting in or out of the key signal into the program output (PGM).

Button Colors:

The colors of the next transition control buttons indicate different meanings when pressed and released, as detailed below:

Table 4.1-3 Color Indication Description of Key Buttons

Group	Button	Color	Function Description
Upstream key Control	ON AIR	White	Upstream key 1 is not cut into the program output (PGM).
		Bright Red	Upstream key 1 is cut into the program output (PGM) and is on air.
	KEY	White	The upstream key is deactivated, and the upstream key signal is not displayed in the preview screen (PVW).
		Bright White	The upstream key is activated, and the upstream key signal is displayed in the preview screen (PVW) and will take effect in the next transition.
Downstream key2 Control	ON AIR	White	Downstream key 1 is not cut into the program output (PGM).
		Bright Red	Downstream key 1 is cut into the program output (PGM) and is on air.
	KEY	White	The downstream key1 is deactivated, and the upstream key signal is not displayed in the preview screen (PVW).

Group	Button	Color	Function Description
		Bright White	The downstream key1 is activated, and the upstream key signal is displayed in the preview screen (PVW) and will take effect in the next transition.
Downstream key2 Control	ON AIR	White	Downstream key 2 is not cut into the program output (PGM).
		Bright Red	Downstream key 2 is cut into the program output (PGM) and is on air.
	KEY	White	The downstream key2 is deactivated, and the upstream key signal is not displayed in the preview screen (PVW).
		Bright White	The downstream key2 is activated, and the upstream key signal is displayed in the preview screen (PVW) and will take effect in the next transition.

- **Key Operation**:

Two methods for using key control buttons:

- **Method 1**: Loading Key Signals via Transition

  Activate the upstream or downstream key to load the key signal into the preview screen. At this point, preview the key content through the preview window (**PVW** in the multiview window) to ensure the effect meets expectations.

  Press the transition button (**CUT**, **AUTO** or **T-Bar**). After the transition, the key signal will be broadcast in the program output (**PGM**).

- **Method 2**: Using the **ON AIR** Button to Directly Cut In or Out of Broadcast

  Activate the upstream or downstream key to load the key signal into the preview screen. At this point, preview the key content through the preview window (**PVW** in the multiview window) to ensure the effect meets expectations.

  Press the **ON AIR** button corresponding to the upstream or downstream key. The key signal will be broadcast in the program output (**PGM**). Press the **ON AIR** button again to remove the key signal from the **PGM** output.

Tips

- **KEY**, **DSK1** and **DSK2** indicate whether the corresponding key can be taken to air with PGM or not.
- When loading the key signal via transition methods (**CUT**, **AUTO** or **T bar**), the **ON AIR** button will automatically turn red, indicating that the key signal is currently on air.

■ **For example**:

Logo (DSK1) Cut-In: During a news broadcast, preview the logo position and content through PVW, then press the **ON AIR** button to cut it into the broadcast, the logo is immediately cut into the PGM screen.

Operation:

Press the **DSK1** button to activate the downstream key 1 signal, displaying the logo signal in the upper-left corner of the preview screen.

Press the corresponding **ON AIR** button to cut the key signal into the program output. The changes in the preview screen and program output before and after the cut in are shown in Figure 4.1-28.

Before Cut-in:

Preview screen (PVW): Displays the logo signal.

Program output screen (PGM): No logo signal.

After Cut-in:

Preview screen (PVW): The logo signal disappears.

Program output screen (PGM): Displays the logo signal.

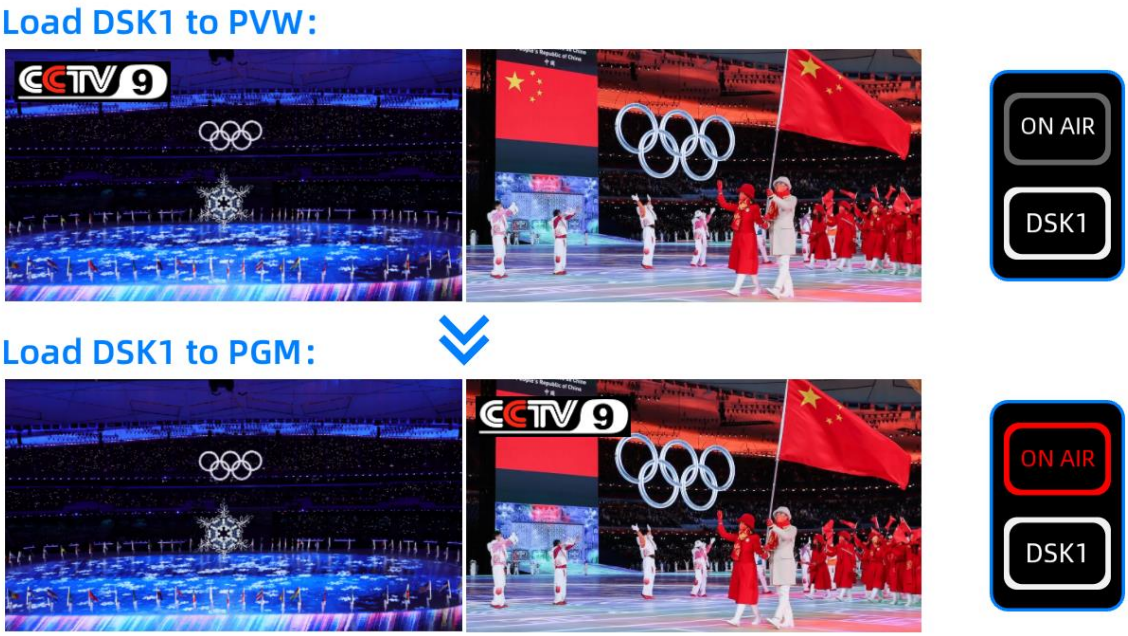


Figure 4.1-28 Next Transition Example

The final output on air is composed of upstream key, downstream key and background signal, the layer relationship of these signals from up to down is as shown in Figure 4.1-29:

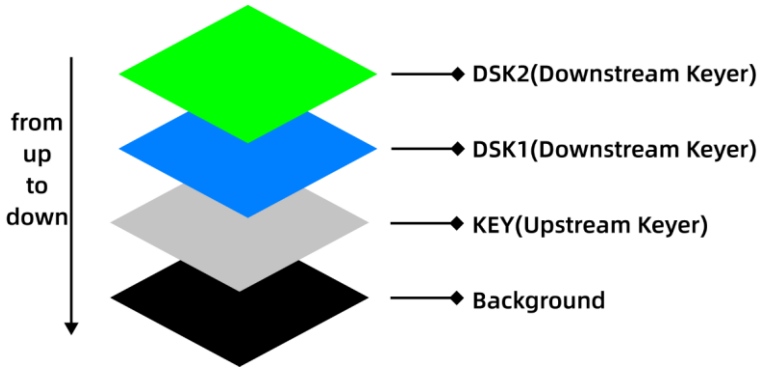


Figure 4.1-29 Output Layers Relationship

Tips

- The upstream key can be configured as a luma key, chroma key, pattern key or PIP key. Set the KEY type in "5.1.3Key Type" menu.
- Refer to "5.1.3.1 LUMA Key " for details about Luma Key parameter settings.
- Refer to "5.1.3.2 Chrome Key " for details about Chroma Key parameter settings.

- Refer to "5.1.3.3 Key Pattern " for details about Pattern Key parameter settings.
- Refer to "5.1.3.4 PIP " for details about PIP Key parameter settings.
- Refer to "5.1.4 DSK1 Settings" for details about DSK parameter settings.

4.1.3 Panel Operations

4.1.3.1 Display Multiview

Plug an HDMI television or monitor into your switcher's HDMI OUT3 connector so you can monitor your multiview.

Multiview features monitoring all input sources and outputs on one single screen simultaneously. This multiview is the default HDMI output source through OUT3 connector.

- **Multiview Display**

  As shown in Figure 4.1-30, you can monitor up to 10 views, including program output, preview output, four HDMI inputs, four SDI inputs, AUX input, two media players' images and audio levels plus streaming status, recording time and free space in SD card. And you can load the main menu on multiview to set the specific settings for the device.

  The layout of multiview displays can be flexibly adjusted according to your display requirements.

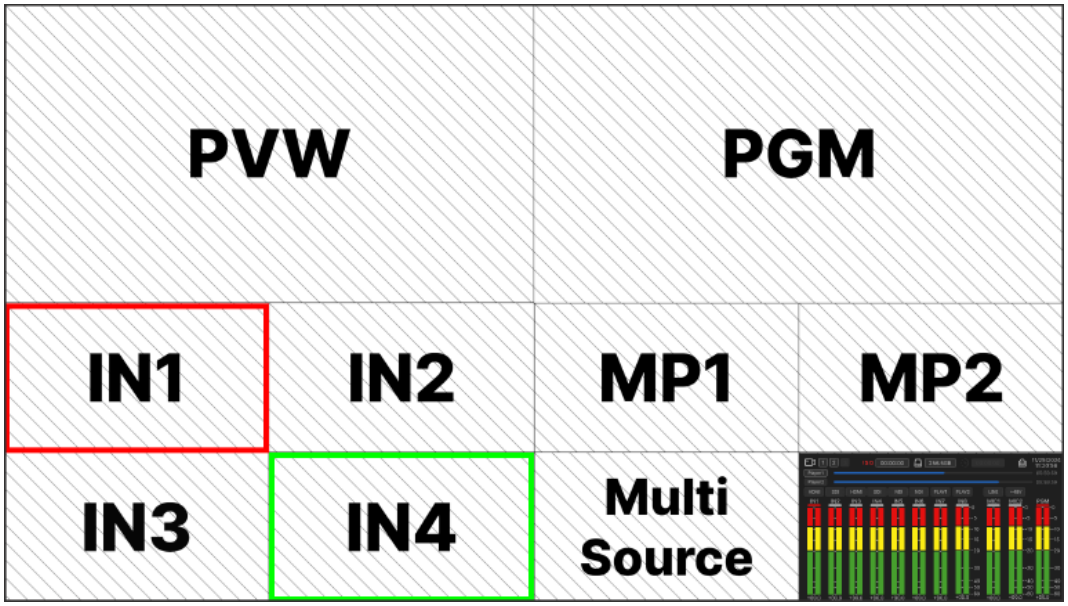


Figure 4.1-30 Multiview Display

■ Multiview Display Mode

The switcher supports the following two multiview display modes:

☐ 4-input Mode 

UMD	View Content	UMD	View Content
PVW	Preview Output (PVW)	PGM	Program Output (PGM)
IN1	IN1 input(HDMI/SDI)	IN2	IN2 input(HDMI/SDI)
IN3	IN3 input(HDMI/SDI)	IN4	IN4 input(HDMI/SDI)
MP1	Media Player1	MP2	Media Player2
M/SRC	MultiSource	Audio Meter	Audio levels, status of streaming, recording and SD card

☐ 8-input Mode 

UMD	View Content	UMD	View Content
PVW	Preview Output (PVW)	PGM	Program Output (PGM)
IN1	IN1 input(HDMI/SDI)	IN2	IN2 input(HDMI/SDI)
IN3	IN3 input(HDMI/SDI)	IN4	IN4 input(HDMI/SDI)
IN5	IN5(NDI HX 3, SRT/RTMP, Player1)	IN6	IN6(NDI HX 3, SRT/RTMP, Player2)
IN7	IN7(NDI HX 3, SRT/RTMP, USB1 CAM)	IN8	IN8(NDI HX 3, SRT/RTMP, USB2 CAM)
MP1	Media Player1	--	--
M/SRC	MultiSource	Audio Meter	Audio levels, status of streaming, recording and SD card

Users can flexibly select the appropriate mode based on the number of signal sources connected.

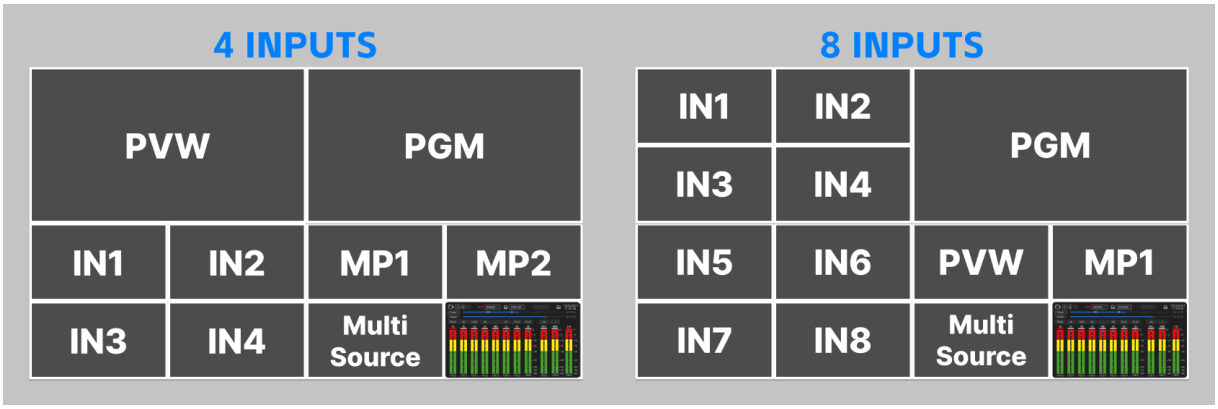


Figure 4.1-31 Multiview Display Mode

Tips

- Refer to "5.1.15 Inputs Settings" for adding input sources from In1~in8.
- Refer to "5.1.9 Media Player Settings" for adding input sources MP1 and MP2.
- Refer to "5.1.2 MultiSource Settings" for the configuration about MultiSource.
- Multiview is the default output source for OUT3 connector and is displaying either 10 sub-windows or 13 sub-windows through mode switching.

■ Switching Button for Multiview Display Mode

Press the **M/V** button to toggle between the two multiview display modes. The **M/V** button is located at the center of the switcher control panel, as shown in Figure 4.1-32.

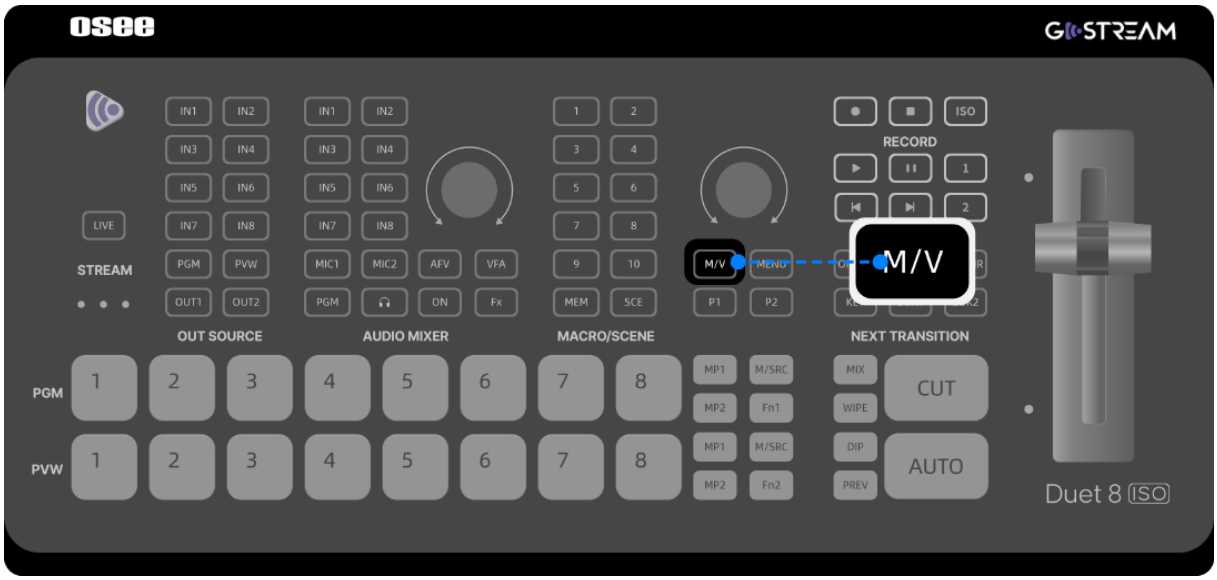


Figure 4.1-32 Multiview Display Mode Switching Button

Take the 8-input mode for example, after plugging in signal sources. As shown in Figure 4.1-33, the multiview window provides a real-time overview of the current input signals and broadcast content.

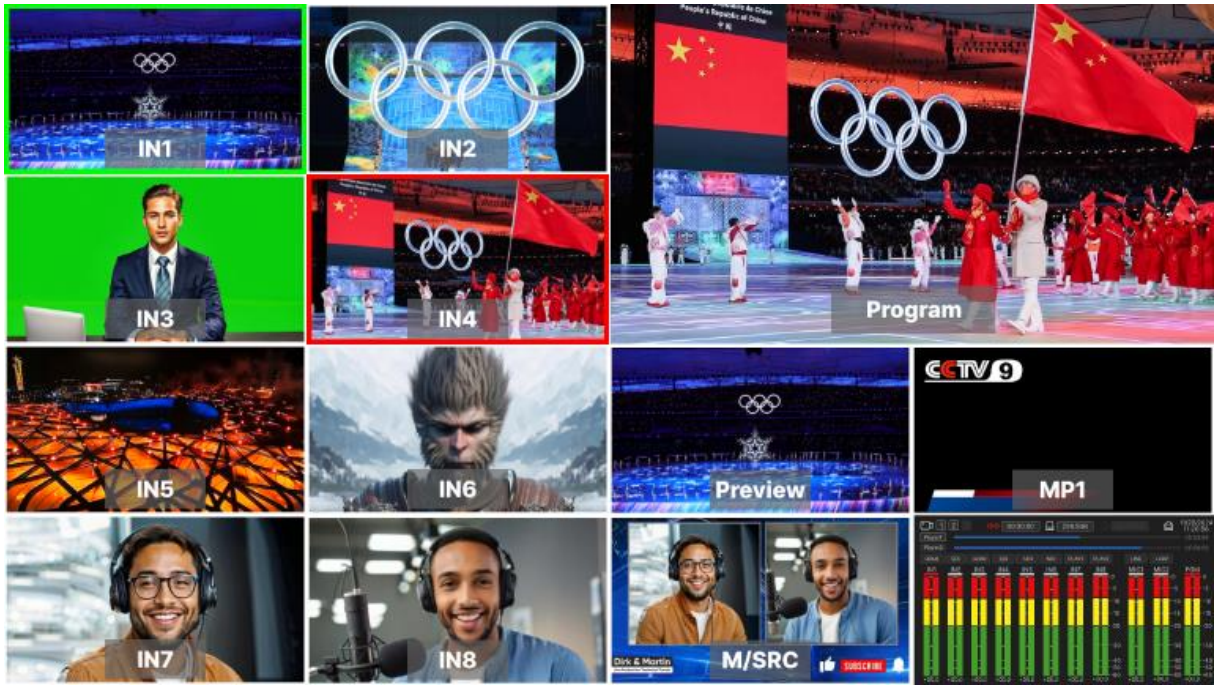


Figure 4.1-33 Multiview Display with Signals

■ Program Output and Preview Output Views

The views marked with a **Program** label and located in the top-right corner of the multiview display is the program window, and the other marked with a **Preview** label is the preview window of multiview display.

- ☐ **Program View:** The program view displays what is currently switched to the program output. it always shows the current program output for real-time monitoring of broadcast content.

- ☐ **Preview View:** The preview view displays the source which is the content scheduled for the next broadcast. It allows users to preview signal switching, transition effects, and key effects in advance.



Figure 4.1-34 Program Output and Preview Output Views

■ Signal Source Views

As shown in Figure 4.1-35, the input views display all signal sources connected to the switcher, supporting real-time monitoring. Use the input views to monitor the status and content of all signal sources in real time. The switcher supports the following signal sources:

- Cameras: Live footage from multi-camera setups.
- External Devices: Video content from computers, recorders, mobile devices, etc.
- Local Media: Files (e.g., videos, images) stored on the SD card.

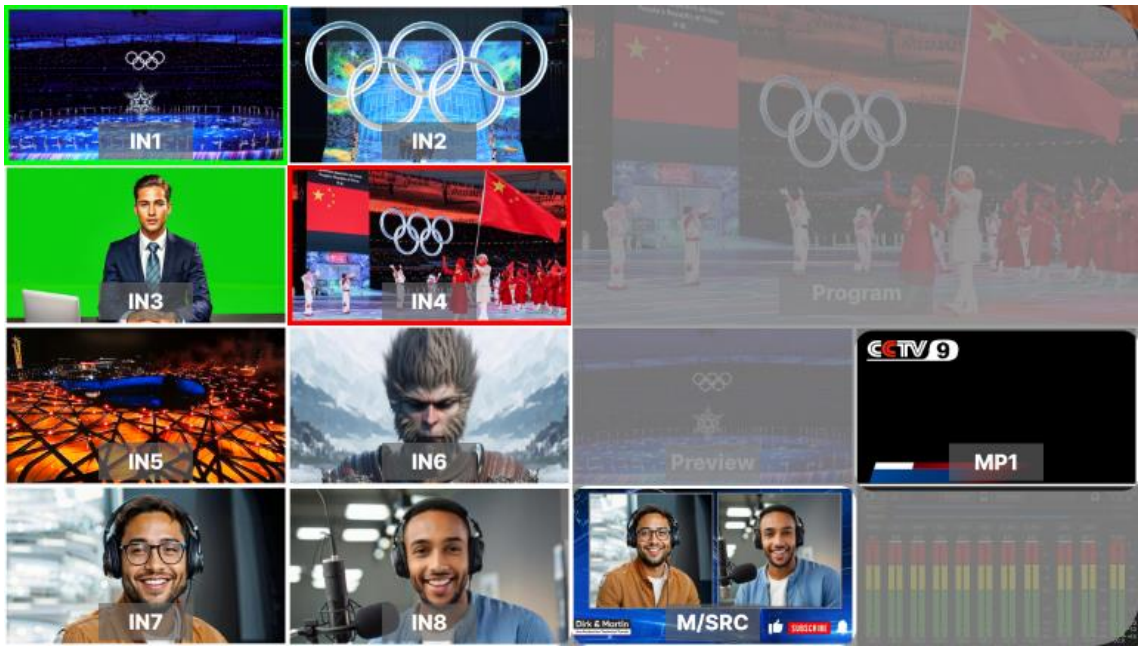


Figure 4.1-35 Signal Sources Views

The mapping between Input Views and signal sources in the MultiView display is as follows:

- IN1~IN4 Views: Signals from the switcher's IN1~IN4 (HDMI/SDI) input ports. Supports up to 8 cameras or computers connected simultaneously.

- IN5~IN8 Views: Signals from external devices connected via the switcher's Ethernet or USB interfaces. For example, including: mobile phone cameras (supports NDI Webcam), encoders supporting SRT/RTMP protocols, video sources stored on an SD card, etc.

- MP1 and MP2 Views: Correspond to still images or graphics from the switcher's built-in media pool, or external browser sources from specified network addresses.

- M/SRC View: Displays the multi-source composite image configured in the MultiSource menu.

Multiview Tally

When an input is switched to the preview or program output, a green or red tally border will appear around the input's view respectively.

Red Border indicates that the signal source is used for Program Output (PGM).
Green Border indicates that the signal source is used for Preview Output (PVW).

Audio Meter View

The audio meter view is displayed at the right bottom of the multiview, as shown in Figure 4.1-36, it provides a multiple-channel of audio level meter display, plus streaming status, recording status, progress of playback, timecode and free space in SD card.

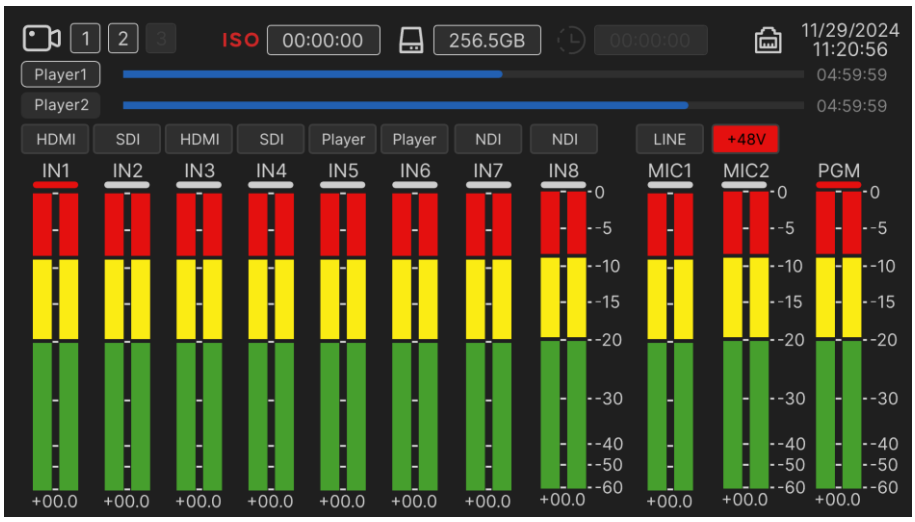


Figure 4.1-36 Audio Meter View

Tips

- **Complementary for Multiview:**

  - ☐ When pushing an upstream key or downstream key on air to PGM or PVW, any one of the sources in the multiview which is used as the upstream key or downstream key will be labeled as a colorful frame in the corresponding color of PGM or PVW.

4.1.3.2 Display MultiSource

MultiSource function allows you to arrange two to four designated sources on one screen at one time, it appears as an integrated window with the combined video sources which is assigned to **M/SRC button**. The MultiSource processor appears on the switcher as a single video input.

Configurate each window in **MultiSource** menu with options to resize, crop and position. It also allows the addition of diverse background or foreground elements.

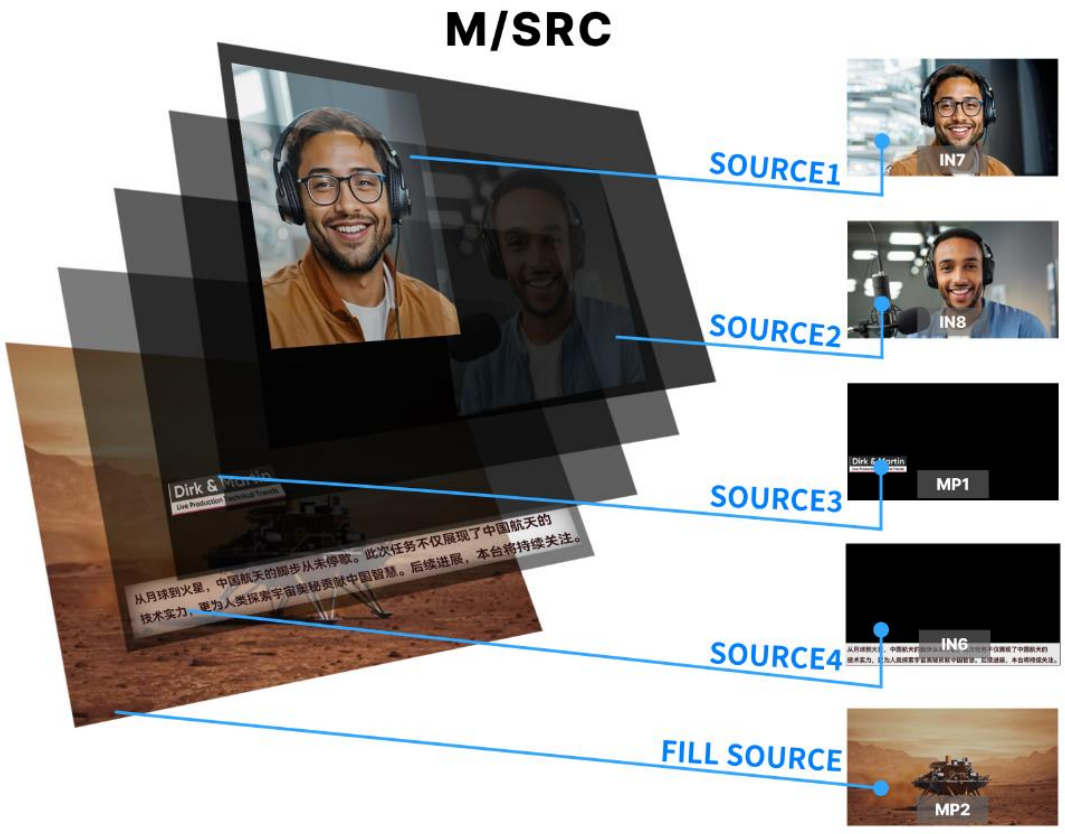


Figure 4.1-37 MultiSource

Follow the instructions below to set up MultiSource.

1. **Active MultiSource**

The default source on **M/SRC** button is a black burst, you should activate the source for each **Window** via the **Enable** option in **MultiSource →Window1~Window4** menu. Refer to "5.1.2 MultiSource Settings" for the details.

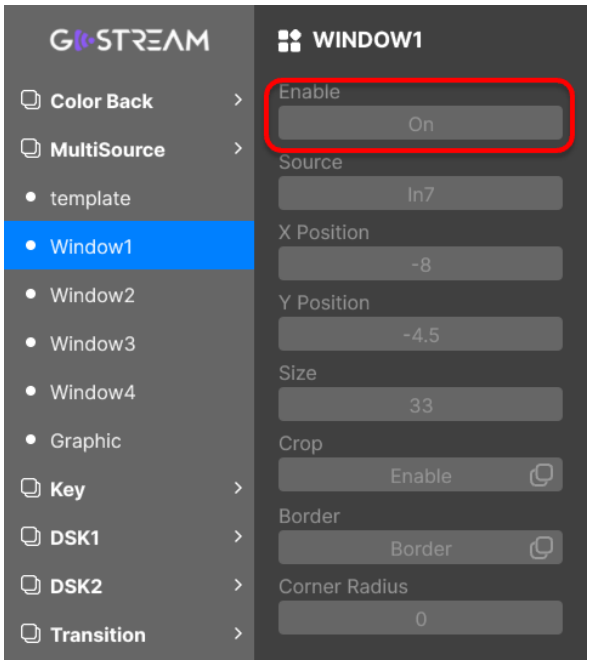


Figure 4.1-38 Enable Window1 for MultiSource

For example:

Set **MultiSource →Window1→ Enable** to be **On** to activate the MultiSource function, as shown in Figure 4.1-38. this splicing display will be selected by M/SRC button, as shown in Figure 4.1-39:

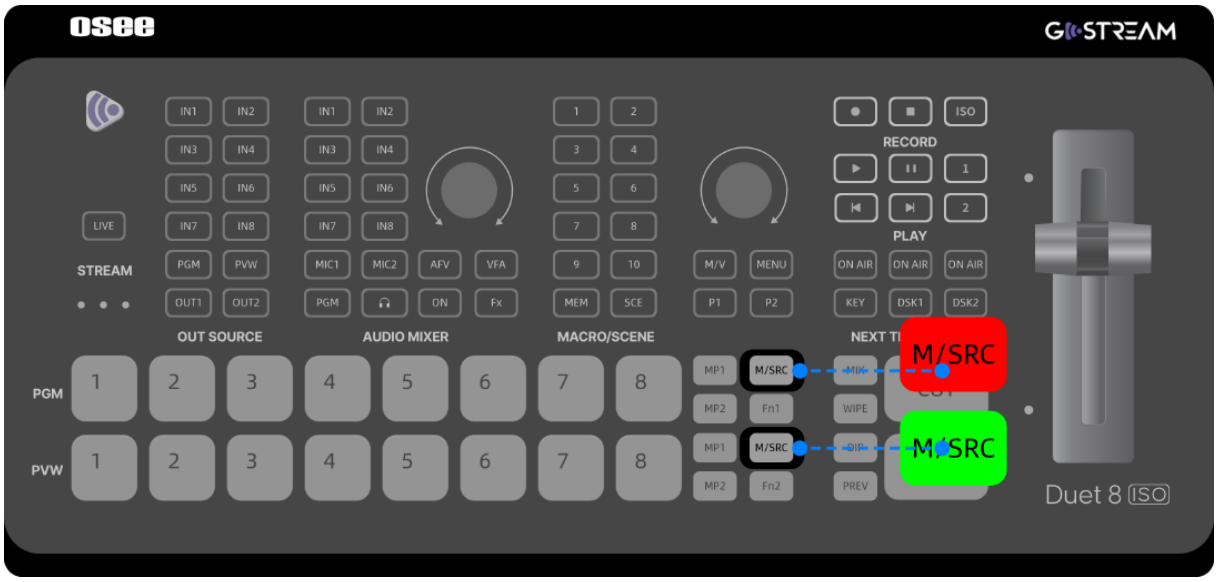


Figure 4.1-39 M/SRC button-as MultiSource

Tips

- The MultiSource screen supports up to 4 windows (**Window 1 - Window 4**), and each window's parameters must be configured individually in their respective menus. Here we use Window 1 as the primary example for the setup process. The steps for configuring Windows 2~4 are identical to those for **Window 1**. The setup methods for the remaining windows will not be repeated in subsequent sections.

2. MultiSource Templates

We provide twelve preset layouts, as shown in Figure 4.1-40. Choose one that is closest to your requirement, this will automatically arrange the windows in the default size to the preset positions indicated in the template. You can use the default settings in Window* options, and you can customize your layout as you prefer. That is, you can change the position and size via the X Position, Y Position and crop parameters in Window1~Window4 menu after selecting a template.

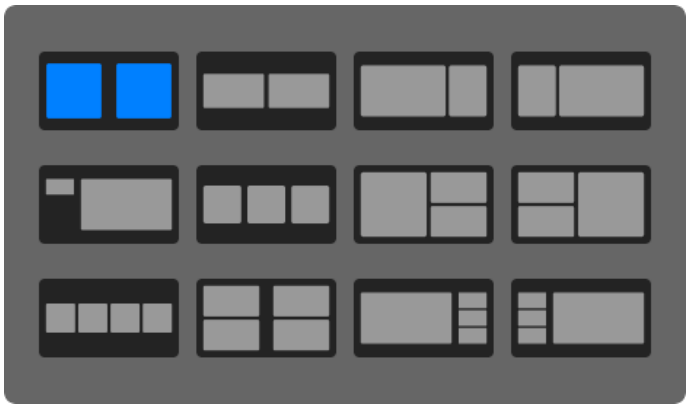


Figure 4.1-40 MultiSource Templates

Depending on the number of signal sources, the template styles can be categorized as follows, as shown in Table 4.1-4. Users can flexibly choose according to their actual needs.

Table 4.1-4 MultiSource Templates

Numeric	Layouts			
2				
				

Numeric	Layouts
3	
4	

And based on the preset templates, users can further adjust the size and position of each sub-window to create a personalized window layout.

Take the selection of the three signals with equal size layout for example, follow the instructions below:

First, activate Menu. Press the **MENU** button to open the on-screen menu. Press the knob above the **MENU** button to access settings, as shown in Figure 4.1-41:

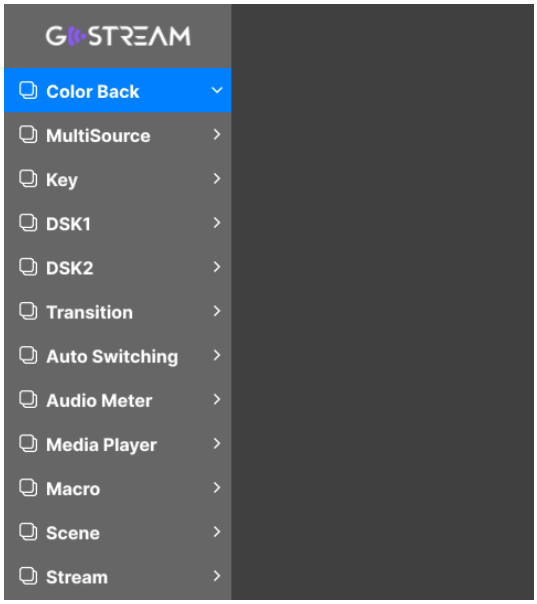


Figure 4.1-41 On-screen Menu

Next, navigate to MultiSource. Rotate the knob to highlight MultiSource in the left menu. Press the knob to select and expand the menu, as shown in Figure 4.1-42.

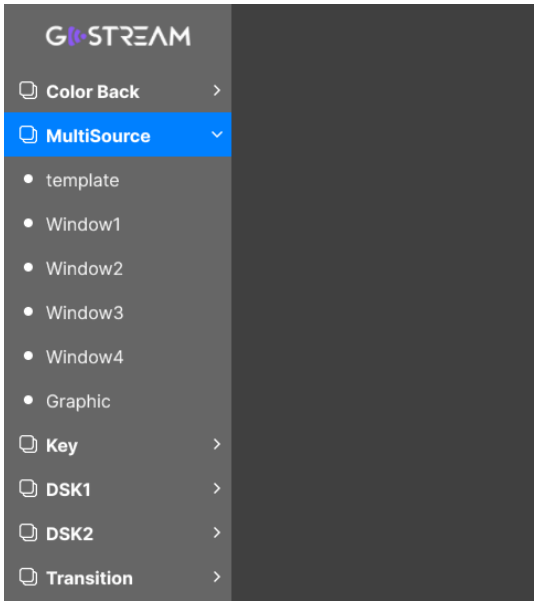


Figure 4.1-42 MultiSource Menu

Then select template option. Rotate the knob again to navigate to Template under the MultiSource menu. Press the knob to confirm, displaying template settings on the right panel. Press the knob again to enter submenu, as shown in Figure 4.1-43.

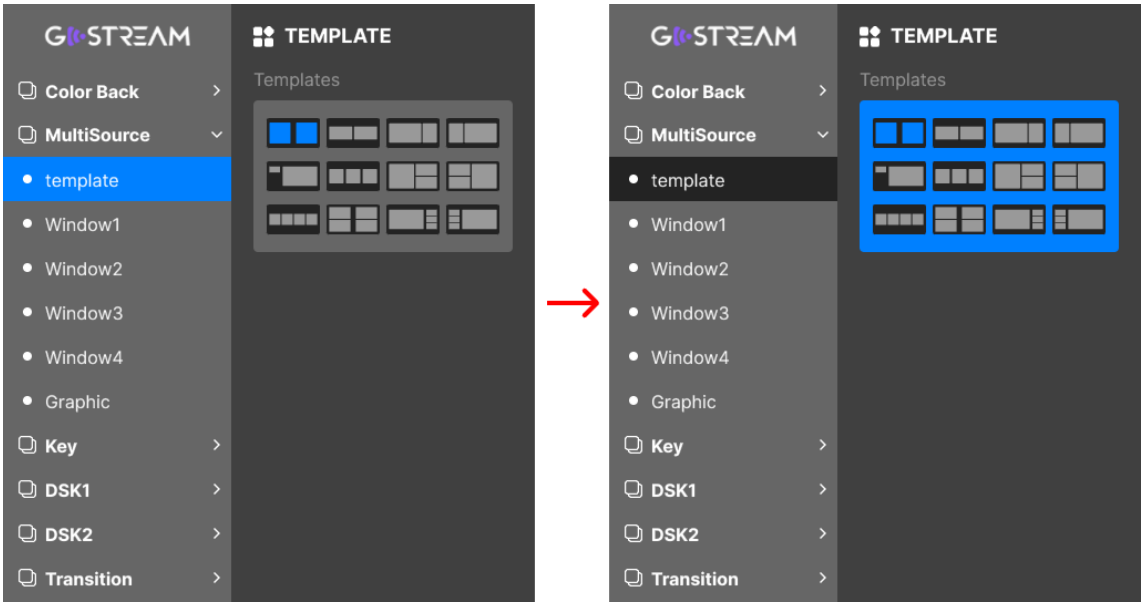


Figure 4.1-43 Selecting a Layout

Finally apply the desired template. Confirm template selection by pressing the knob. Rotate to browse templates and press the knob on the desired style, as shown in Figure 4.1-44.

A confirmation dialog will prompt: "This will change all MultiSource windows settings". Press the knob to confirm to apply the new layout.

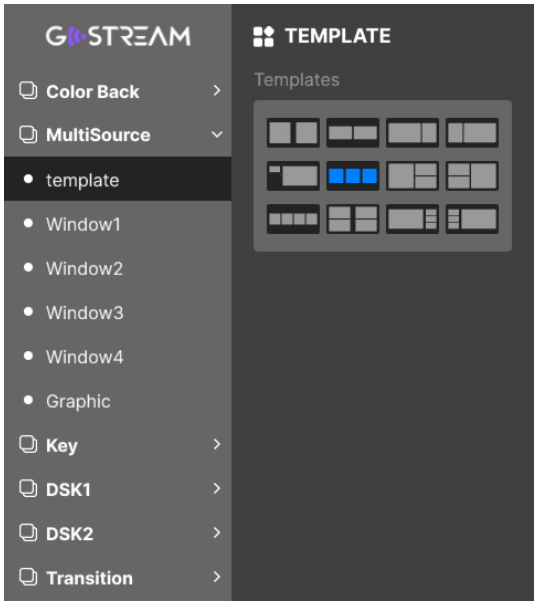


Figure 4.1-44 Choose a Desired Layout

The default layout of the template is a Dual-Window mode. A comparison before and after switching is shown in Figure 4.1-45.

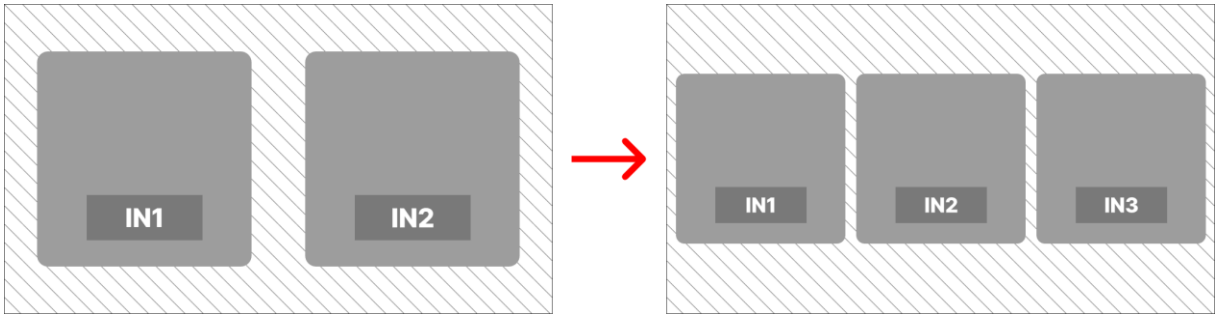


Figure 4.1-45 Comparison Diagram of Layout Switching

3. Set Signal Sources for MultiSource

In MultiSource mode, you can configure foreground and background graphic in addition to setting up window input sources.

- **Window Source**:

  Select **MultiSource →Window1→ Source** to set the source for Window1;

- **Background Source**:

  Select **MultiSource →Graphic→ Fill Source** to set the background, your choice will be placed behind all the sub-windows in MultiSource window.

☐ **Foreground Source**:

Select **MultiSource → Graphic→ Fill Source** to set the foreground, your choice will be placed over all the sub-windows in MultiSource window.

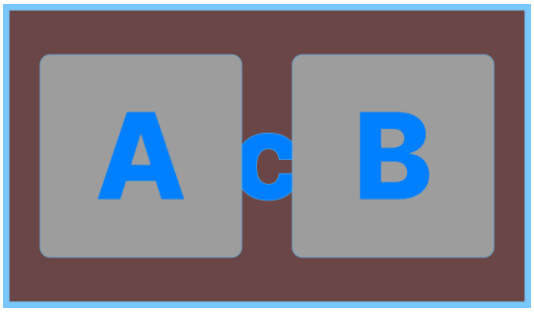


Figure 4.1-46 MultiSource with a Background

Tips

- In MultiSource, the background and foreground graphic remain unaffected by changes to the template, sub-window positions, or cropping parameters. The graphic is displayed in a tiled format at the bottom layer of the composite image.

4. Custom Layout Configuration-Size and Position

After selecting a template style, the system will automatically apply its default position and size.

To customize the layout with your desired size and position, adjust the following parameters:

☐ **Window Size**:

Navigate to **MultiSource →Window→ Size** to rescale the window.

☐ **Window Position**:

Navigate to **MultiSource →Window→ X Position/Y Position** to adjust the horizontal (X) and vertical (Y) coordinates of the window's center point.

For **X Position**: Decreasing the value moves the window left; increasing it moves the window right.

For **Y Position**: Decreasing the value moves the window up; increasing it moves the window down.

Example: 70% Equal-Size Dual-Window Layout
The coordinate axis distribution in the MultiSource display is illustrated using a 70% equal-size dual-window layout as an example, as shown in Figure 4.1-47:

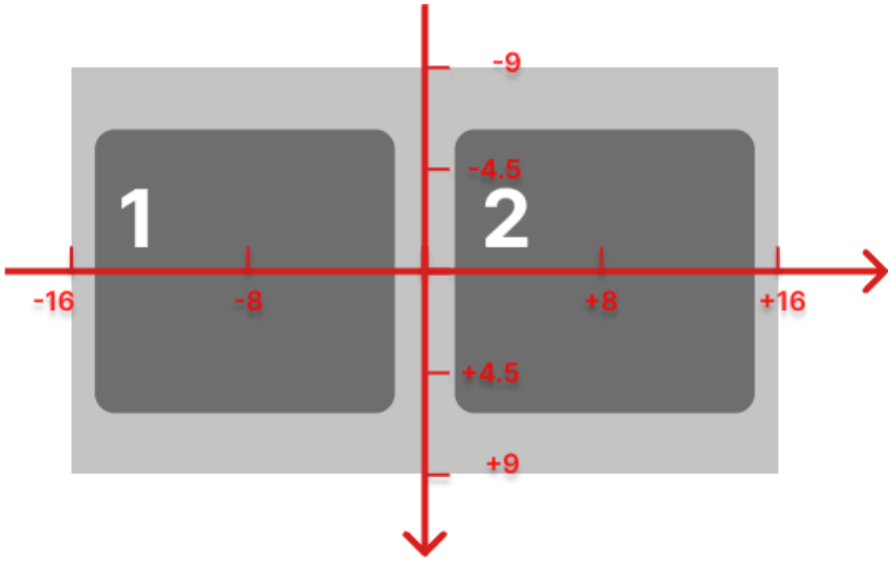


Figure 4.1-47 Coordinate for MultiSource Windows

5. Custom Layout Configuration-Cropping

After selecting a template style, the system will automatically apply its default window size.

To show only a part of the source, you can crop it to your desired part of the image. Follow the steps below to enable and configure cropping parameters.

☐ **Enable Cropping**:

Navigate to **MultiSource →Window1→ Crop → Enable**, set the switch to **On** to activate cropping the image.

Tips

- The cropping coordinates (Left, Top, Right, Bottom) are only effective when the switch is turned on.

☐ **Adjust Cropping Parameters:**

Navigate to **MultiSource →Window1→ Crop → Left/Right/Top/**

Bottom. Decreasing the value reduces the cropped area. Increasing the value expands the cropped area.

Horizontal Cropping: Adjust the Left and Right values to control the horizontal cropping range.

Vertical Cropping: Adjust the Top and Bottom values to control the vertical cropping range.

Example: Window 1 Cropping Area

Taking Window 1 as an example, the blue highlighted labeled area in the display indicates the cropping range, as shown in Figure 4.1-48:

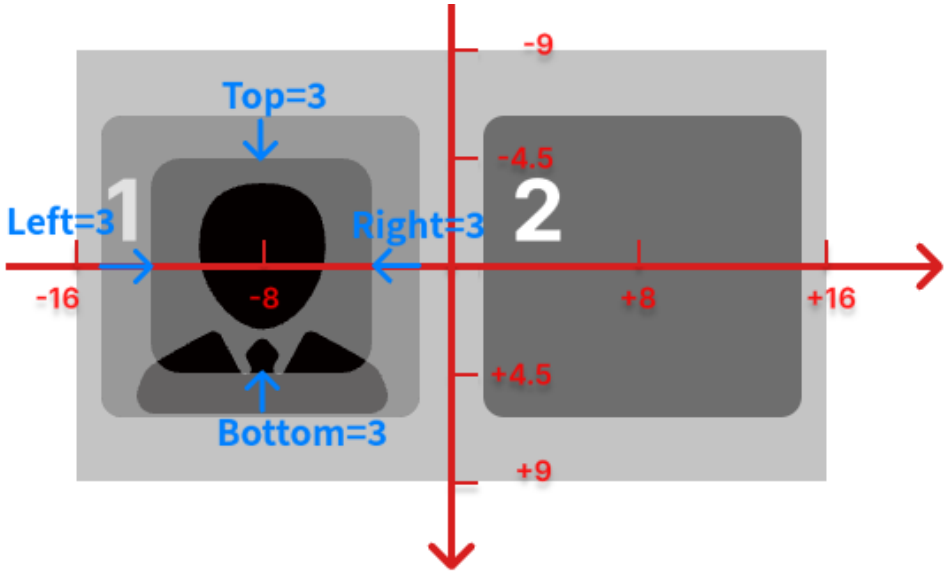


Figure 4.1-48 Crop Window1 Example

Tips

- Refer to "5.1.2 MultiSource Settings" for details about MultiSource parameters.

4.1.3.3 Switching Sources Using a Cut

Using a cut will instantly change from one source to another, you can perform cut by switching to the target input source button on the program bus directly, or pressing the **CUT** button in transition area.

- **Cut Methods**
  - **Method 1**: by program bus

Switching to the target input source button on the program bus directly.

On the program bus, select the next signal source on the Program Bus directly, it will switch this input on air immediately.

Tips

- When using the program bus to cut, it will only change the background signal, meanwhile the upstream key and downstream key will maintain status quo.

☐ **Method 2**: by CUT button

First, choose a target program source on preview bus, this will not change the current program output. Then, press the **CUT** button, it will switch the program and preview outputs immediately.

■ **Relative buttons**: **CUT** button and signal sources buttons

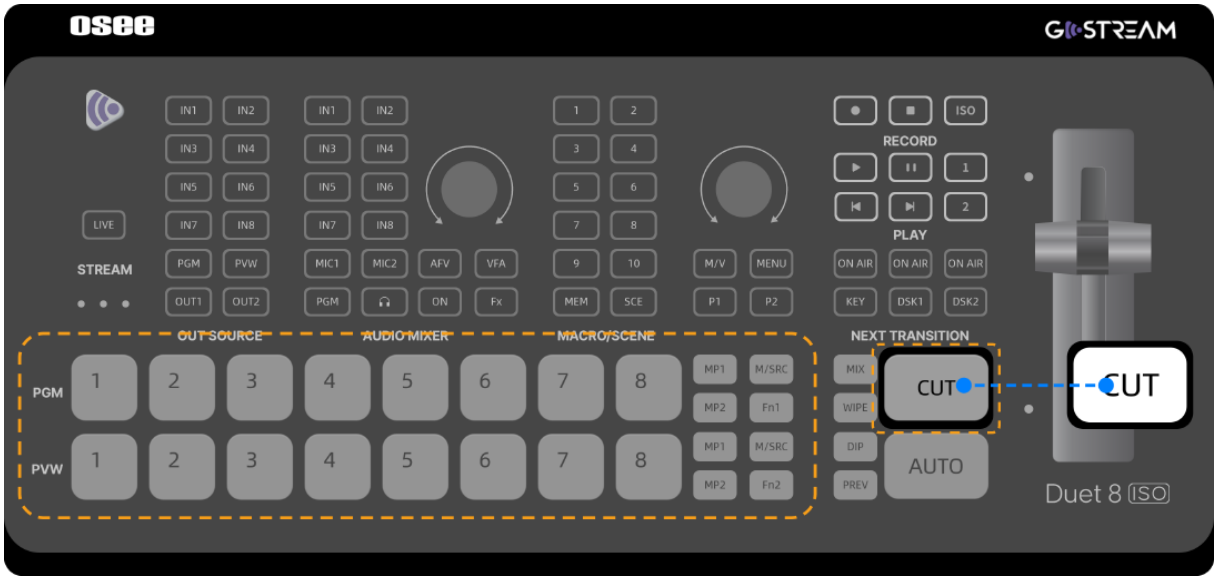


Figure 4.1-49 Buttons for Cut Operation

For example: use **CUT** button to cut from **IN1** to **IN2**. Currently, **IN1** button in program bus is highlighted in red, that is **IN1** is on air right now, and **IN4** is currently the preview signal which is highlighted in green in preview bus, as shown in Figure 4.1-50:

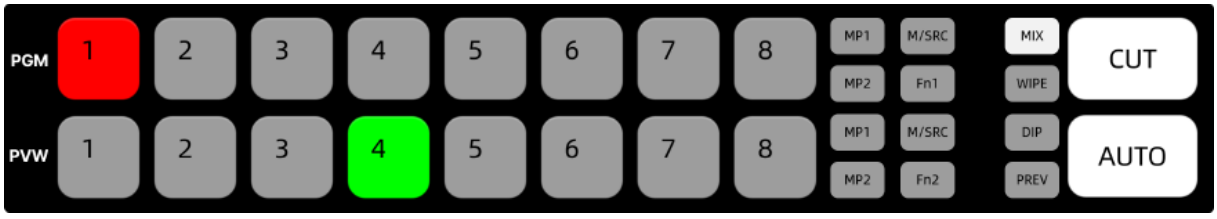


Figure 4.1-50 Bus Buttons in Default Status

Here's how to perform a cut, the instructions are as below:

Step 1 Select the target preview source on preview bus

Press **IN2** on preview bus to choose **IN2** as the preview output, that you want **IN2** to be the later program output after cut transition in the future. **IN2** will change from gray to highlight green, the **CUT** button is highlighted in white by default. The current program output IN1 will remain unchanged.

Step 2 Execute Cut

Press **CUT** button to execute a cut transition. The current input source (**IN1**) and target signal source (**IN2**) buttons both light up red, and the **CUT** button remains highlighted in white.

Step 3 Complete Cut

After completer the cut, **IN2** on program bus and **IN1** on preview bus are exchanged, **IN2** is highlighted in red, and **IN1** is highlighted in green, **CUT** button keeps highlighted in white.

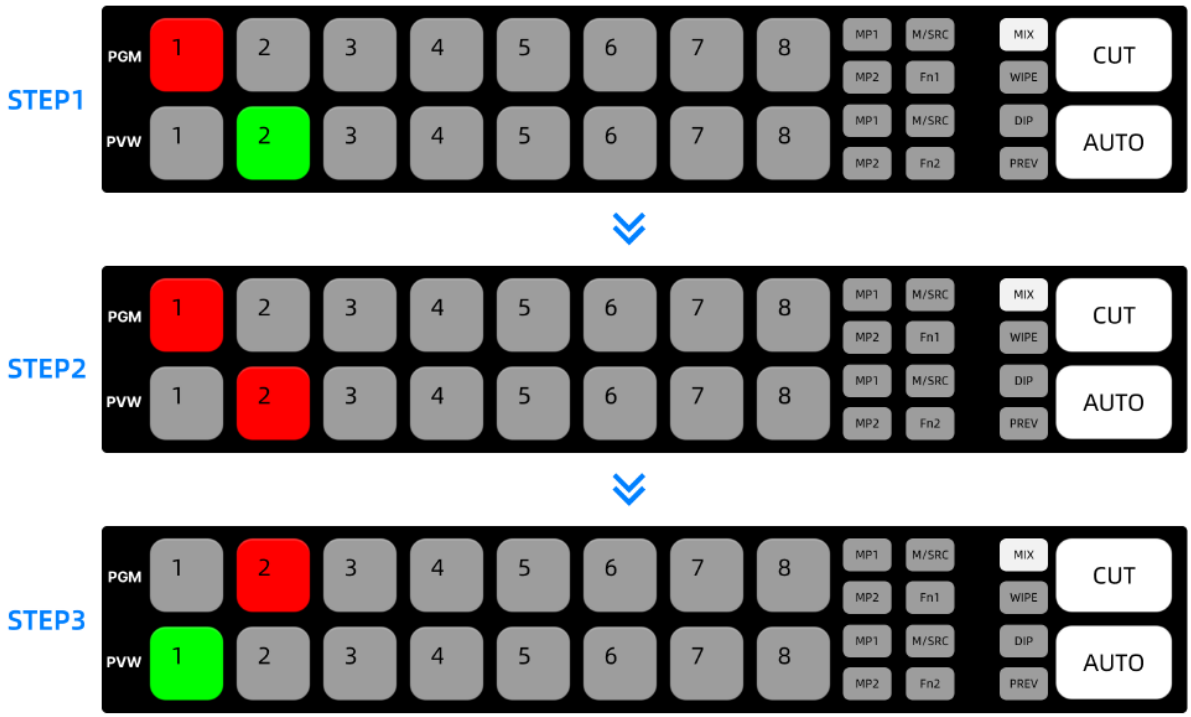


Figure 4.1-51 Cut Steps

Tips

- To secure the broadcast reliability, we recommend using the **CUT** button to

perform transitions because it provides the opportunity to verify the video content on the preview output before sending it to the program output.

4.1.3.4 Switching Sources Using an Auto Transition

The **AUTO** button will perform the selected transition with a specified effect.

The transition style buttons allow the operator to choose one of three types of transitions: **MIX**, **DIP** and **WIPE**. The current selected transition style button is highlighted in white.

Press to select one of these transition style buttons and then press **AUTO** button, an effect transition will change sources over a defined duration.

- Relative buttons: **AUTO** button, signal sources and transition style buttons

Tips

- MIX, DIP and WIPE are mutual exclusive styles for effect transition, you can use only one at a time. You can set "rate" and other parameters for different transition style, refer to "5.1.6 Transition Settings" for the details.

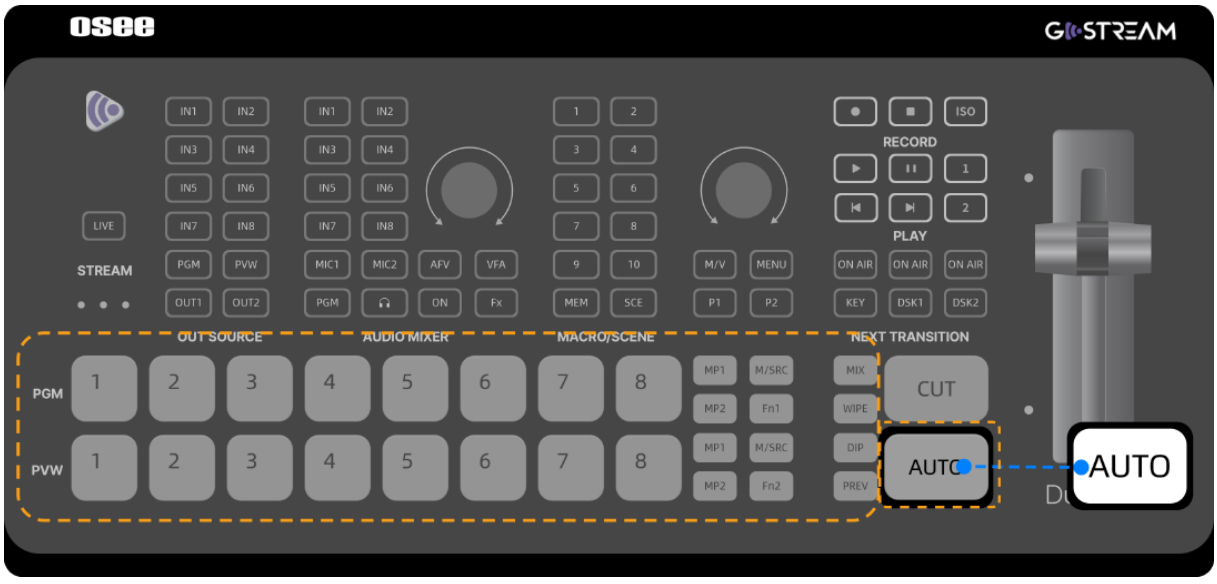


Figure 4.1-52 Buttons for Auto Transition

For example, use **AUTO** button to wipe transition from **IN1** to **IN2**. Currently, **IN1** button in program bus is highlighted in red, that is **IN1** is on air right now, and **IN4** is the preview signal which is highlighted in green in preview bus, the default transition style is mix, as shown in Figure 4.1-53:

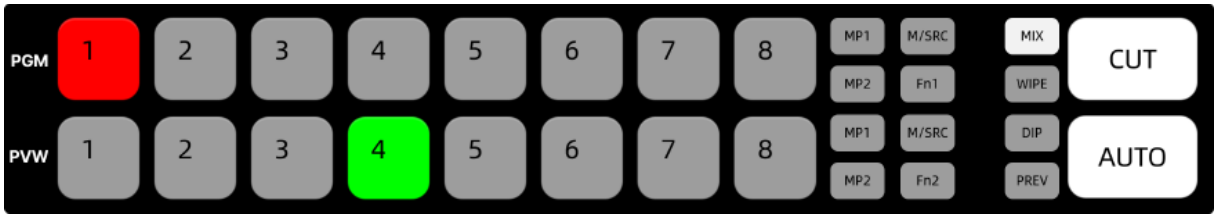


Figure 4.1-53 Buttons for Auto Transition in Default Status

Here's how to perform an auto dip transition, the instructions are as below:

Step 1 Select the target preview source on preview bus

Press **IN2** on preview bus that you want **IN2** to be the program output after transition, **IN2** will change from gray to highlight green, the **AUTO** button and **MIX** button are highlighted in white by default.

Step 2 Select a transition style and perform auto transition

Press the **WIPE** button to switch to the wipe transition style, then press the **AUTO** button to execute the automatic transition.

The **WIPE** button lights up white, while the **MIX** button turns gray. The current input source (**IN1**), target signal source (**IN2**), and **AUTO** button all light up red.

Step 3 Complete Auto Transition

After completer auto transition, **IN2** on program bus and **IN1** on preview bus are exchanged, **IN2** is highlighted in red, and **IN1** is highlighted in green, **AUTO** restores to highlight white.

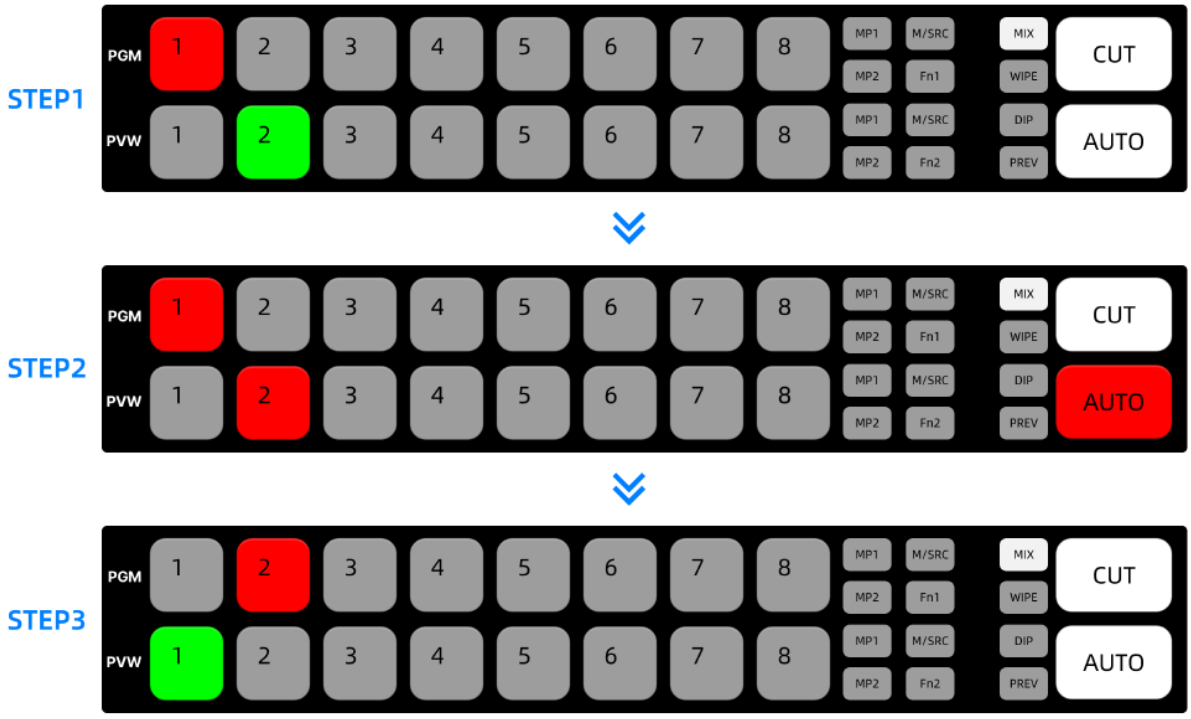


Figure 4.1-54 Auto Transition Steps

Tips

- You will see the current and target buttons and AUTO button illuminated red while you are in the middle of the transition process.

4.1.3.5 Perform Manual Transition

Use T bar to perform manual transition which is as the same as an auto transition using the AUTO button.

- **Relative buttons**: **T** bar, signal sources and transition style buttons
- **Operation**: push **T** bar from one end to the other end with a manual controlled rate.

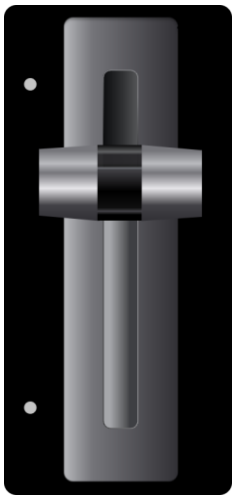


Figure 4.1-55 T Bar for Manual Transition

Tips

- The AUTO button illuminates red for the duration of manual transition, and the two indicators beside T bar also indicate the manual transition progress.

4.1.3.6 Perform Preview Transition

You can supervise the preview transition process only in preview output view of multiview, allowing the operator to verify a MIX, DIP, WIPE or PIP transition using T bar or AUTO button to avoid mistakes on air!

- **Relative buttons**: **AUTO** button, **T** bar, signal sources, transition style buttons

and **PREV** button.

■ **Operation**: Press the **PREV** button to enable the preview transition mode. The **PREV** button lights up bright red. The PVW view of the multiview switches to display the program source. Press the **AUTO** button or push the T bar to preview the transition effect in the PVW window.

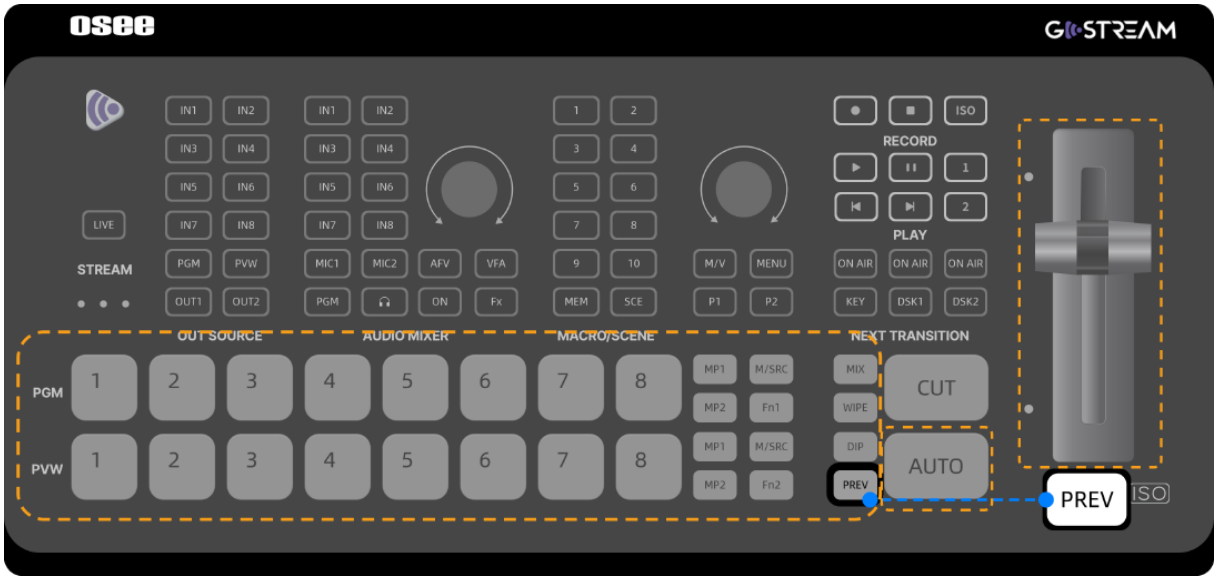


Figure 4.1-56 Buttons for Preview Transition

Tips

- Neither the source buttons, nor AUTO button will change during preview transition.

For example, use **AUTO** button to wipe transition from IN1 to IN2. Currently, IN1 button in program bus is highlighted in red, that is IN1 is on air right now, and IN4 is the preview signal which is highlighted in green in preview bus, the default transition style is **MIX**, as shown in Figure 4.1-53:

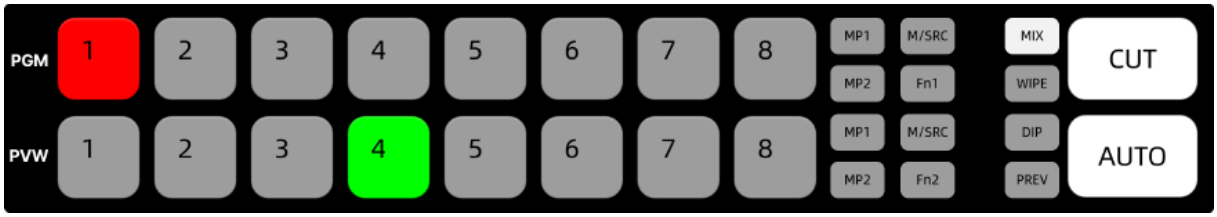


Figure 4.1-57 Buttons for Preview Transition in Default Status

Here's how to perform a wipe transition as preview transition, the instructions are as below:

Step 1 Select IN2 on preview bus

Press IN2 on preview bus that you want IN2 to be the program output after transition, IN2 will change from gray to highlight green, the **AUTO** button is highlighted in white by default.

Step 2 Enable Preview transition mode

Press the **PREV** button to activate preview transition. The **PREV** button will be highlighted in red, as shown in Figure 4.1-58, and the preview output matches the program output in preview output view, that is the picture of **IN1** will be displayed in preview output view as the same as in program output view.

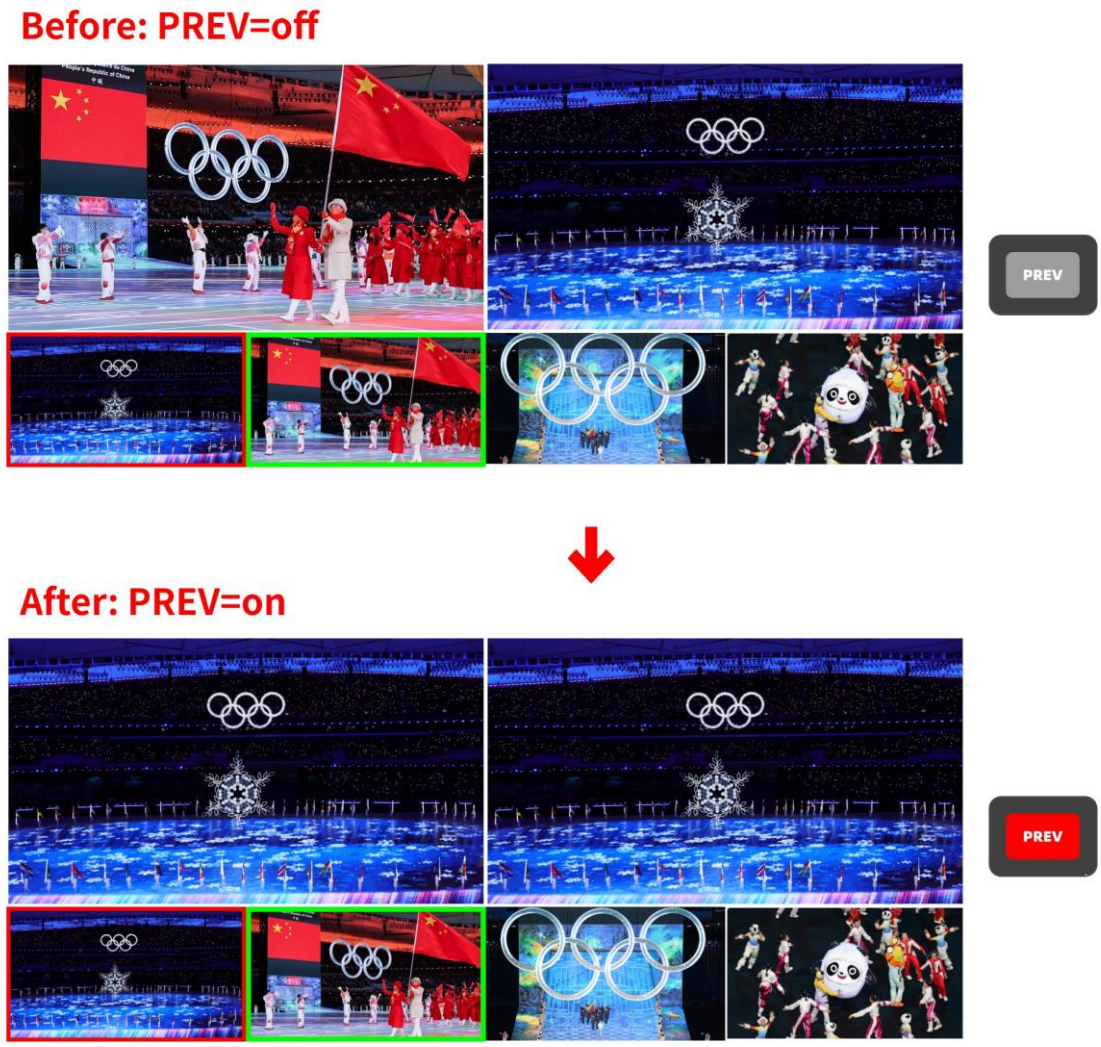


Figure 4.1-58 Enable/Disable PREV Button Before and After

Step 3 Select transition style and perform auto transition

Press the **WIPE** button to select a transition style, then press the **AUTO** button to tell the switcher you want to use an automated transition. **IN1**, **IN2** and **AUTO** buttons will keep their original status during preview transition process.

Step 4 Complete preview Transition

Supervise the preview transition process in preview output view.

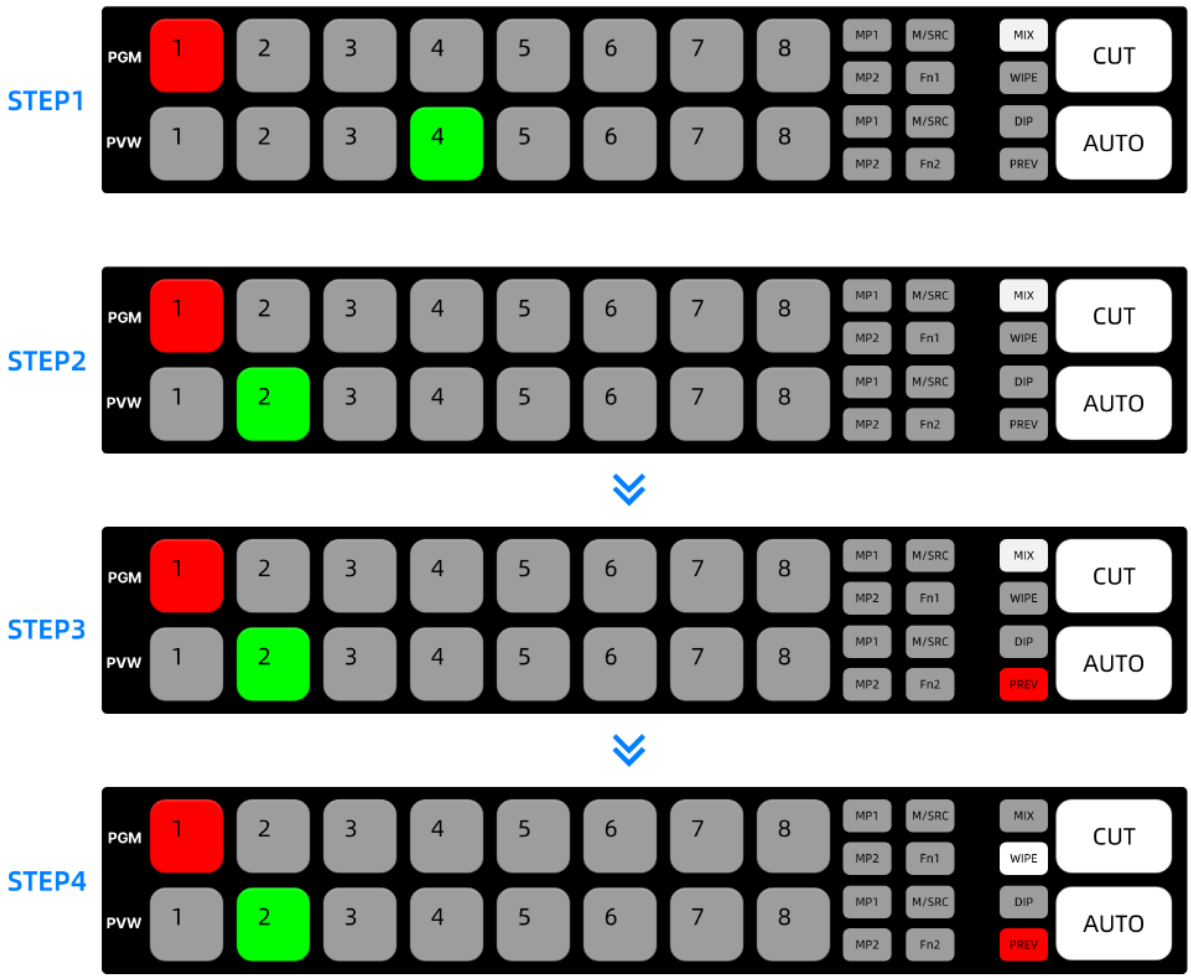


Figure 4.1-59 Preview Transition Steps

Tips

- You can select AUTO button or T bar to practice your selected transition to confirm you are going to get what you want by preview transition. After that, release the PREV button to perform your transition on air.

4.1.3.7 Set Transition Rate

Set the rate settings respectively in Transition menu so you can switch smoothly.

■ **MIX**: Set **Transition→mix→Rate** item for mix transition, as shown in Figure 4.1-60;

- **DIP**: Set **Transition →dip→Rate** item for dip transition;
- **WIPE**: Set **Transition →wipe→Rate** item for wipe transition;

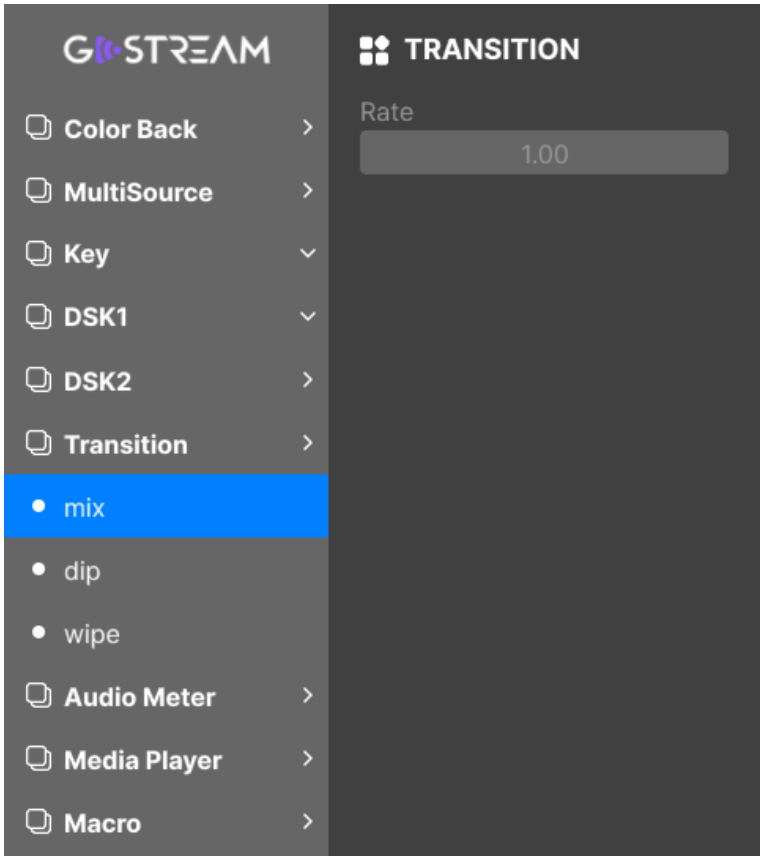


Figure 4.1-60 Transition Rate for MIX

The AUTO button is flashing in red during the automatic transition process, and the indicators for T Bar could be also highlighted to indicate the manual transition process.

4.1.3.8 Classifying- Key Control

The key control enables precise overlay of visual elements (such as graphics, subtitles, and logos) from multiple video signals onto a single frame, achieving multi-layer content compositing. This process is commonly referred to as 'keying' in video switcher image processing.

- **Key Buttons**

There are two types of key buttons available on the switcher, upstream key and downstream key, that **KEY** button is assigned as upstream key, while **DSK (DSK1, DSK2)** button is assigned as downstream key, as shown in Figure 4.1-61.

When performing keying operations, multiple layers of video or graphic content will be superimposed over the background source signal (current program bus

signal), while supporting precise adjustment of parameters such as the key layer's transparency, position, and dimensions, thereby achieving controllable reveal effects of the background source layer.

Take downstream key for example, push DSK on air in next transition, when the background source signal changes, elements controlled by DSK (such as the caption, Logo or other accessory images) will not disappear with the background.

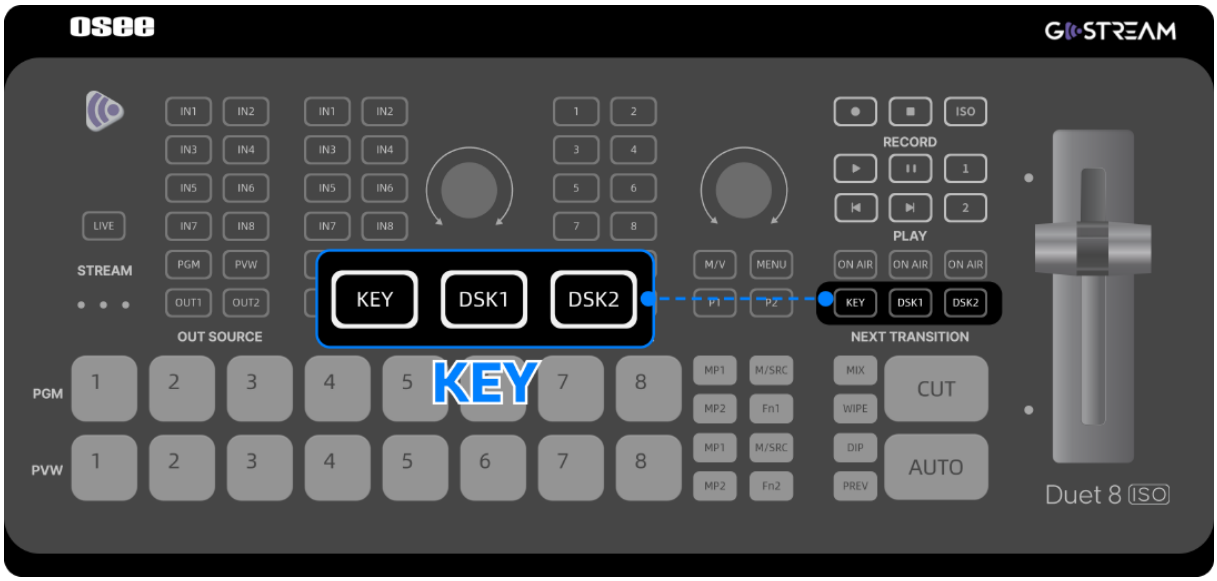


Figure 4.1-61 Key Buttons

■ Multiple Layers in Key Control

The layers relationship from up to down is downstream key, upstream key and background source, as shown in Figure 4.1-62:

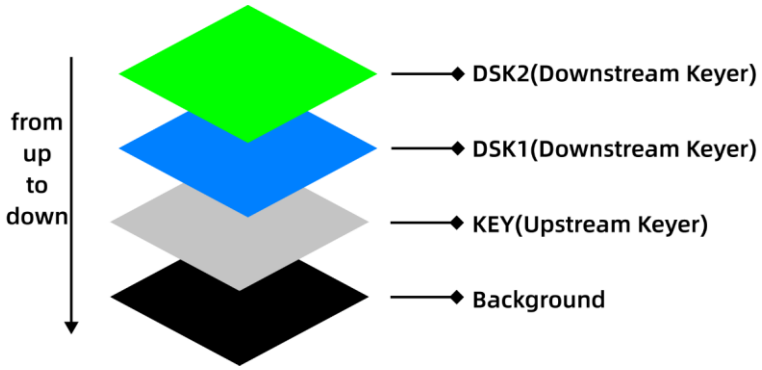


Figure 4.1-62 Position Relationship of Layers

Press **KEY** button on or off to switch upstream key on or off air in next transition, while press **DSK** button on or off to switch downstream key on or off air in next transition.

■ KEYING

The core principle of keying for image extraction is to identify and separate target areas from background areas in the frame through specific algorithms, ultimately generating a composite image with an alpha channel (transparency channel).

A key requires two video sources: the fill signal and key signal. The fill signal contains a video image which is used to be stacked on top of the background, while the key signal is used to make the selection regions where the fill signal will be made transparent.

Both the fill signal and key signal can be selected from any of the switcher's external inputs or internal sources, either still or dynamic images. Refer to "**4.1.3.9 Set Fill Source or Key Source**" for details.

Set the fill signal and key signal in the key menus, including:

- ☐ **LUMA Key**: refer to "5.1.3.1 Luma KEY Settings";
- ☐ **Chrome Key**: refer to "5.1.3.2 Chroma KEY Settings";
- ☐ **Key Pattern**: refer to "5.1.3.3 Pattern Settings";
- ☐ **PIP**: refer to "5.1.3.4 PIP Settings";
- ☐ **DSK**: refer to "5.1.4 DSK1 Settings".

■ **Key Types**

According to various techniques used to create selective part, it provides different types of key on the switcher, including luma(linear), chroma, pattern and PIP key. Upstream key can be set as luma, linear, chroma, pattern and PIP key. Downstream key can be set as luma(linear) key, as shown in the following table:

Key Type	Button	Key Type	Menu
Upstream key	KEY	Luma Key (or linear key)	Luma Key
		Chroma key	Chroma key
		Pattern key	Key Pattern
		PIP key	PIP
Downstream key	DSK1/DSK2	Luma Key (or linear key)	DSK

Tips

- You can assign a type for upstream key by setting **Key Type→Type** menu item.

4.1.3.9 Set Fill Source or Key Source

You need to set source as fill source or key source for upstream key or downstream key. The source items for these keyers are different, as shown in Table 4.1-5:

Table 4.1-5 Key and Fill Source Item for Upstream or Downstream key

Key Type	Button	Menu	Fill Source	Key Source
Upstream key	KEY	Luma Key	✓	✓
		Chroma key	✓	
		Key Pattern	✓	
		PIP	✓	
Downstream key	DSK1 DSK2	DSK	✓	✓

Fill source is the graphic that you plan to display on top of your background video, and Key source defines the region in the image that will be removed so that the fill signal can be correctly stacked on top of the background.

The key and fill source could be selected from external inputs or internal sources. The details about the fill source and key source for each type of keys are list as the table below:

Key Type	Fill Source	Key Source
Luma Key	In1/In2/In3/In4/In5/In6/In7/In8/ MP1/MP1 Key/MP2/MP2 Key/ Color 1/Color 2/ Color Bar/Black	In1/In2/In3/In4/In5/In6/In7/In8// MP1/MP1 Key/MP2/MP2 Key/ Color Bar/Black
Chroma key	In1/In2/In3/In4/ In5/In6/In7/In8/	---
Key Pattern	In1/In2/In3/In4/In5/In6/In7/In8/ MP1/MP1 Key/MP2/MP2 Key/ Color 1/Color 2/ Color Bar/Black	---
PIP	In1/In2/In3/In4/In5/In6/In7/In8/ MP1/MP1 Key/MP2/MP2 Key/ Color 1/Color 2/ Color Bar/Black	---
DSK	MP1/MP2/ Color 1/Color 2/ Color Bar/Black	MP1 Key/ MP2 Key

.

Tips

- Select Fill source by setting **source→Fill**, and Key source by setting **source→Key**.

The menus for the key and fill source are as shown in the following table:

Table 4.1-6 Key Source and Fill Source List

Item	Description	Comments
IN1	IN1(HDMI/SDI)	**Input Settings→ src selection→ IN1**
IN2	IN2(HDMI/SDI)	**Input Settings→ src selection→ IN2**
IN3	IN3(HDMI/SDI)	**Input Settings→ src selection→ IN3**
IN4	IN4(HDMI/SDI)	**Input Settings→ src selection→ IN4**
IN5	IN5(NDI HX 3, SRT/RTMP, Player1)	**Input Settings→ src selection→ IN5**
IN6	IN6(NDI HX 3, SRT/RTMP, Player2)	**Input Settings→ src selection→ IN6**
IN7	IN7(NDI HX 3, SRT/RTMP, USB1 CAM)	**Input Settings→ src selection→ IN7**
IN8	IN8(NDI HX 3, SRT/RTMP, USB2 CAM)	**Input Settings→ src selection→ IN8**
MP1	Media Player1	**Media Player → MP1 selection**
MP1 Key	Media Player1 Key	---
MP2	Media Player2	**Media Player → MP2 selection**
MP2 Key	Media Player2 Key	---
Color1	Color generator 1	**Color Back→color1**
Color2	Color generator 2	**Color Back→color2**
Color Bar	Color bar	Internal signal
BLACK	Black signal	Internal signal

Tips

- When pushing an upstream key or downstream key on air to PGM or PVW, any

one of the sources in the multiview which is used as the upstream key or downstream key will be labeled as a colorful frame in the corresponding color of PGM or PVW.

4.1.3.10 Set Luma Key or Linear key

Luma Key and Linear Key both generate selection areas by detecting transparency information and share the same parameter adjustment system, thus both are configured through the LUMA Key menu.

The main distinction lies in their signal source selection methods:

Uses the same signal source for both Fill and Key signals for LUMA Key. It creates transparent regions by analyzing the luminance information of the image (e.g., extracting white text from a black background).

While, Linear Key requires different signal sources for Fill and Key signals. It controls the transparency of the Fill signal via a grayscale matte provided by the Key signal (e.g., dynamic mask compositing)

The differences for luma key and linear key are described as below.

- **Luma Key**

A luma key is also called as self-key, it consists of one video source, that is, the fill source and key source are the same one. Luma key contains the video image that will be stacked on top of the background, that is, all the black areas defined by the fill source will be made transparent so that the background source can be revealed underneath.

The following images are an example of what background, luma key signals and the resulting combined image might look like, as shown in Figure 4.1-63.



Figure 4.1-63 Luma Key Illustration

The above example is illustrated as below:

- **Background Source**: A full screen image, the program output source in the switcher, here is a landscape of the Great Wall;

- **Fill Source/Key Source**: they are the same for luma key, the black area will

be made transparent to reveal the background.

Tips

- The background used in the illustrations in the following sections is also directed to the program output source, and the combined is the result of background and keyer. No further description below.

Linear Key

A linear key consists of two video sources, which are the fill source and key source. The fill source contains the video image that will be stacked on top of the background, and the key source defines the black areas where will be made transparent so that the background source can be revealed underneath.

The following images are an example of what background, linera key signals and the resulting combined image might look like, as shown in Figure 4.1-64:

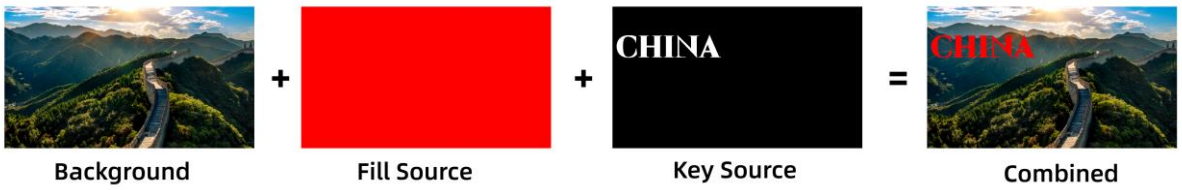


Figure 4.1-64 Linear Key Illustration

Here's how to generate the above linear key:

- **Background Source**: a full screen image, the program output source in the switcher, here is a landscape of the Great Wall;
- **Fill Source**: the image to be stacked on top of your background video, and the selection area is defined by key source;
- **Key Source**: the area defined in black which is set as key source will be removed from the fill source, and the left area of fill source will leave as the stacked part on top of background.

Tips

- Select fill source and key source for luma key by setting **Luma Key →Source** menu item, and adjust the mask area by **Luma Key→Mask**, adjust the Pre multiplied Key parameters by **Luma Key→ Key Control**. Refer to "5.1.4 LUMA

Key" for the details about luma key parameters.

4.1.3.11 Set Chroma Key

Chrome key usually selects a specified color sampled in the fill source to form a selection area which will be removed, and you can see the black area of the chrome key is the keying result, as shown in the following illustration. The background signal in range of this selection will be visible. This is often used as green screen matting.

The default sample color of the switcher is green (0,255,0)(RGB) which is often used for chroma key. You can enable a sample cursor to define a custom sample color by setting **Sample**, **SMP X Position** and **SMP Y** in **Chroma Key→Control** submenu.

To refine the selection, use the parameters in **Chroma Key→Control** menu to set **Foreground**, **Background** and **KeyEdge** to make the selection more qualified and cleanly.

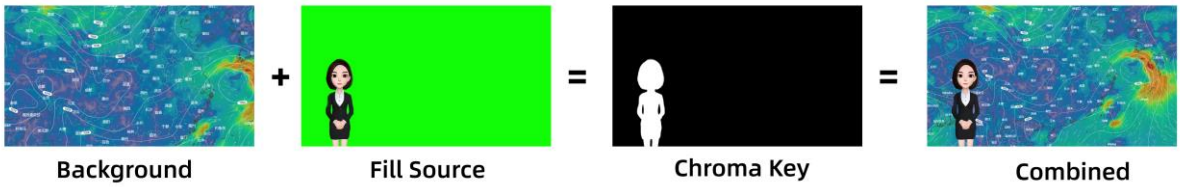


Figure 4.1-65 Chroma Key Illustration

Here's how to generate the above chroma key:

- **Background Source**: a full screen image, the program output source in the switcher, here is a weather map;

- **Fill Source**: the image to be displayed on top of your background video, and in the case of a chroma key, this is video of the meteorologist in front of the green screen; set the fill source by **Chroma Key→source →Fill** item, and you can sample a color to be removed from the fill source by **Chroma Key→Control** settings.

- **Chroma Key**: the area defined in black is generated from the settings of **Fill** and **Control** items, and this black area will be removed from the fill source, and the left area of fill source will leave stacked on top of background.

Step 1 Assign Chrome Key to KEY button as upstream key

The chrome key belongs to the upstream key, so set it as "Chrome Key" through the "Key Type" menu.

Press MENU button to display the menu panel, then scroll the knob above the MENU button, move the cursor to the menu item to "Key Type" and then set "Key Type→ Type" item to " Chrome Key". Press the knob downward to confirm the

selection, then scroll the knob to the left to quit the main menu.

Step 2 Set Chrome Key Parameters

When the cursor is on the main menu list, scroll the knob to the right to move the cursor downward to the "Chrome Key" menu item. Press the knob downward to confirm the selection, and enter the chrome key menu panel, continue to operate with the knob to set various chrome parameters with "Source, Mask, Resize and Control" options. Eg: the fill signal, color sampling, the display range and relative size controller parameters.

Step 3 Activate Chrome Key

Press the ON AIR button above the KEY button to activate the chrome key function, superimpose it onto the current PGM screen.

Tips

- Select fill source for chroma key by setting **Chroma Key →Source→Fill Source**, and to refine the selection area for chroma key **Chroma Key→Control** menu item. Refer to "5.1.3.2 Chrome Key " for the details about chroma key parameters.
- When sampling on screen, we recommend sampling the darkest area first to give you a more accurate key.
- **About sample color:** When sampling on screen, you should set **Chroma Key→control→Sample** as **Enable**. After getting your sample color, make sure you will set **Chroma Key→control→Sample** as **Disable** to shut down the color sampling in order to close the sample image which is on the top layer.

4.1.3.12 Set Pattern Key

A pattern key is used to display a geometric cut out of one image on top of another image. In a pattern key, the key or cut signal is generated using the switcher's internal pattern generator. The internal pattern generator can create 11 shapes that can be sized and positioned to produce the desired key signal.

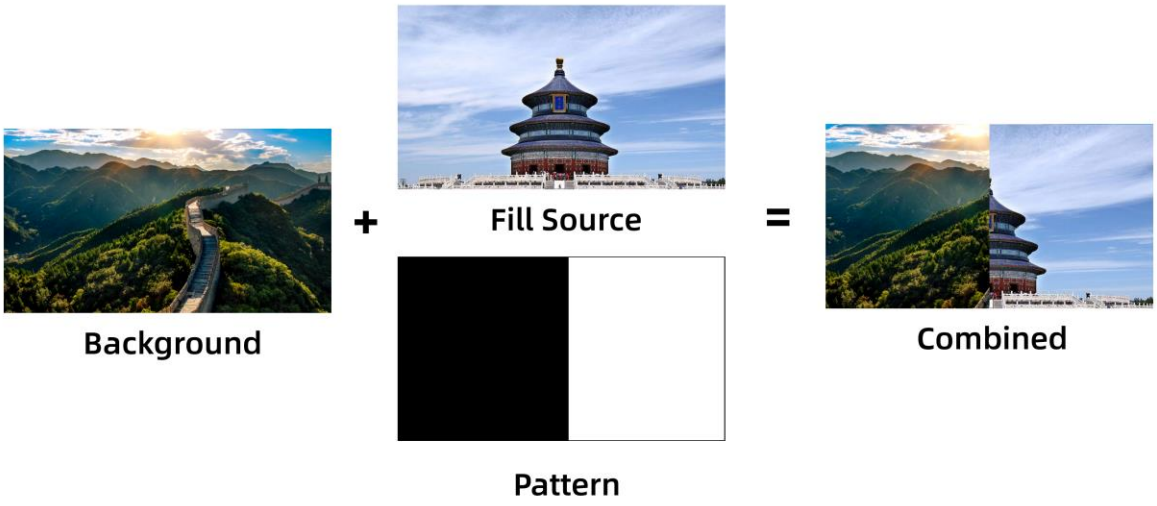


Figure 4.1-66 Pattern Transition Illustration

Here's how to generate a circle pattern key:

- **Background Source**: a full screen image, the program output source in the switcher;
- **Fill Source**: another full screen image you wish to overlay on top of the background;
- **Pattern**: an internal pattern generator, set it as a circle;

The area of fill source defined in black by the selected internal pattern will be removed from the fill source, and the left area of fill source will leave stacked on top of background.

As shown in Table 4.1-7, you can choose various transition patterns:

Table 4.1-7 Transition Patterns

Icon	Description	Icon	Description
	Horizontal Wipe-left to right		Surround Wipe
	Vertical Wipe-up to down		Horizontal Wipe- right to left
	Rectangle Wipe-from top left		Vertical Wipe- down to up
	Rectangle Wipe-from top right		Diagonal Wipe

Icon	Description	Icon	Description
	Rectangle Wipe-from bottom right		Diagonal Wipe
	Rectangle Wipe-from bottom left		

Tips

- We recommend that adjust a low softness before setting the size for the pattern, in order to see a clear edge of the selected pattern shape.
- Refer to "5.1.3.3 Pattern Settings" for details about **Key Pattern** settings.

4.1.3.13 Set PIP Key

Picture in picture, usually called PIP, superimposes a second source over your background video source in a small frame you can position and customize. This feature is commonly used to simultaneously display the main content and auxiliary content, such as showing a host in a news broadcast while inserting live footage or presentation materials. As shown in Figure 4.1-67, for example, you will see the picture in picture source appear on the screen.



Figure 4.1-67 PIP Keyer

■ **Setting Up the PIP Key**

When configuring the PIP key, you can set the following parameters for the sub-picture: signal source, size, position, border width and border color.

☐ Set **KEY** button as PIP: Navigate to the menu **Key Type →type** as PIP to associate the PIP function with the **KEY** button.

☐ Set signal source for PIP: select **PIP→source→PIP** item to set the video source displayed in the sub-window.

- ☐ Set frame size of PIP: select **PIP→size/position→PIP size** item to adjust the size of the sub-window.
- ☐ Set frame position of PIP: select **PIP→size/position→X Position/Y Position** item to set the position of the sub-window.
- ☐ Set frame width of PIP: select **PIP→border→Width** item to configure the border width of the sub-window.
- ☐ Set frame color: select **PIP→color→Hue/Saturation/Brightness** items to set the border color of the sub-window.

■ **Operations**

Here's how to generate the above PIP key:

Step 1 Associate PIP Key with Upstream Key (KEY)

Press MENU to display the main menu, and scroll the menu knob to select **Key Type→type→Type** as **PIP**, **KEY** button will be assigned as PIP.

Step 2 Select PIP Key Signal Source

Then set PIP source. Press MENU to display the main menu, and scroll the menu knob to select **PIP→source→PIP** as **In 1** for example**.**

Step 3 Set PIP Parameters

To refine the PIP key, adjust parameters for PIP, such as position, size, mask settings, border color, etc.

Step 4 Preview and Confirm

Press **KEY** button to preview the PIP effect in the PVW (Preview) window. Ensure the position, size, and content of the PIP meet expectations.

Step 5 Cut on AIR

Once confirmed, press the **ON AIR** button corresponding to the PIP key to cut the PIP effect into the program output (PGM).

To remove the PIP, press the **ON AIR** button again.

Tips

- Refer to "5.1.3.4 PIP Settings" for more details about PIP parameters.

4.1.3.14 Set and Adjust Mask

Masking can be used as a creative setting to build rectangular cut outs on screen.

Luma Key, linear key, Chroma key, Pattern key and PIP key menus all have a mask menu that can be used to crop edges in the designed video signal. The mask menu is an auxiliary function used to control the display range of the key signal. You can remove unwanted parts of the key signal or confine it to a specific display area.

The mask submenu consists of left, right, top and bottom crop controls. Refer to the corresponding menu settings for more details about mask parameters.

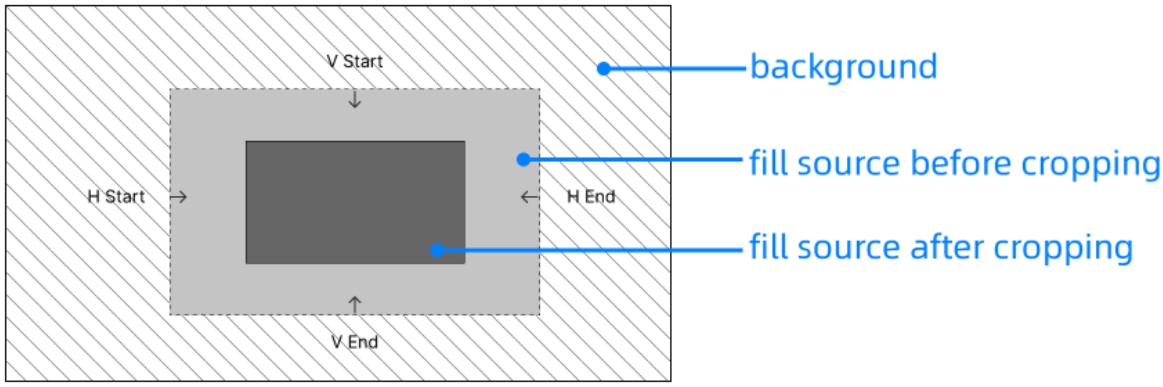


Figure 4.1-68 Cropping Mask

Tips

- Both upstream and downstream keys have an adjustable rectangular mask.

4.1.3.15 Perform Upstream/Downstream key Transition

The buttons in next transition area are used to control the cutting in or out of key signals to PGM individually. It provides one upstream key and two downstream keys. The key signal can be previewed through the preview window (PVW in the multiview window) before being cut in or out of broadcast.

On the control panel, the upstream key (KEY) and downstream keys (DSK1, DSK2) in the Next Transition area are positioned as shown in Figure 4.1-69. The content defined by the KEY, DSK1, and DSK2 buttons can all be superimposed on the Program Output (PGM) picture.

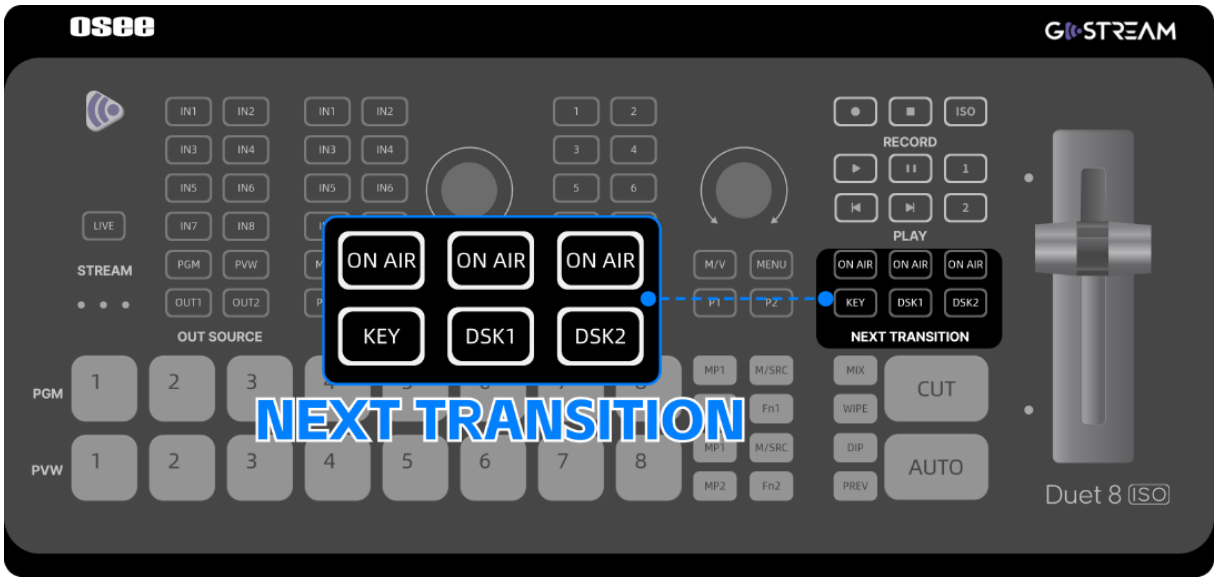


Figure 4.1-69 Next Transition Buttons

Two Operation Modes for Key Control Buttons:

- ☐ **Method 1: Loading Key Signals via Transition**
- ☐ **Method 2: Direct On-Air Toggle with ON AIR Button**

This section demonstrates how to insert/remove upstream keys from program output using the **KEY** button as an example. Configuring key functionality involves the following steps:

Configure the upstream key type via **Key Type→Type** menu.

Associate the **KEY** button with one of four key types:

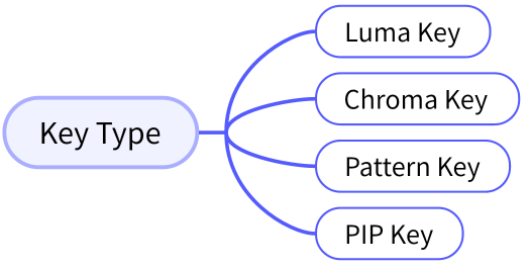


Figure 4.1-70 Key Types

Perform Key Control:

Both **ON AIR** and **KEY** buttons can control upstream key insertion/removal from program output, with distinct operational logic:

- **KEY button**: Controls whether to load the upstream key for the next transition's program output. Requires transition execution (CUT/AUTO/T-bar).
- **ON AIR button**: Controls whether to load the upstream key for the current program output, functioning as a direct-cut mode (bypass transition).

Operation Steps:

Preloading Upstream Key for Next Transition

First, press the **KEY** button – The button lights up bright white, indicating the upstream key will take effect in the next transition's program output.

- Preview (PVW) window: Displays the key effect in real time.
- Program output (PGM): Remains unchanged (no key applied).

Then, execute the transition – Press a transition button (CUT, AUTO or T-bar) to confirm the change.

- Program output (PGM): Now includes the upstream key.
- Preview (PVW) window: Returns to a no-key state.

Canceling Preloaded Changes

Press the **KEY** button again – The button turns gray, canceling the upstream key change for the next transition.

Result: The program output (PGM) retains its current state (no key change occurs).



Figure 4.1-71 Upstream Keys

Tips

- KEY Button: Pre-sets the upstream key state for the next transition. Ideal for scenarios requiring pre-planned key effects (e.g., scheduled graphics, titles, or pre-designed overlays).
- ON AIR Button: Instantly controls the key state in the current program output.

Designed for real-time adjustments (e.g., emergency updates, breaking news, or immediate on-air corrections).

Upstream Key Examples

For example, take upstream key for example, use **KEY** and **CUT** button to observer the changes of upstream key in PGM and PVW views.

Here's how to perform upstream key transition:

1. **Example 1: Removing an Upstream Key from Program Output**

The process is shown in Figure 4.1-72.

Step 1 Initial Activation

Press **ON AIR** button of the upstream key. Upstream key content loads into **Program Output (PGM)** and **Preview Output (PVW)**.

Both PGM and PVW display the key.

ON AIR button is highlighted in red, and **KEY** button is gray.

Step 2 Modify Preview State

Press **KEY** button of the upstream key to remove the key in the next transition. PVW updates in real time to show no key.

ON AIR button is highlighted in red, and **KEY** button is highlighted in white.

PGM still contains the key. PVW now displays a clean feed (no key).

Step 3 Perform Cut Transition

Press **CUT** button to perform cut transition.

PGM switches to PVW's key-free state. PVW resets for the next transition.

ON AIR button is highlighted in red, and **KEY** button is highlighted in white.

Transition Comparison:

Output	Before Transition	After Transition
PGM	Contains Key	No Key
PVW	No Key	Contains Key

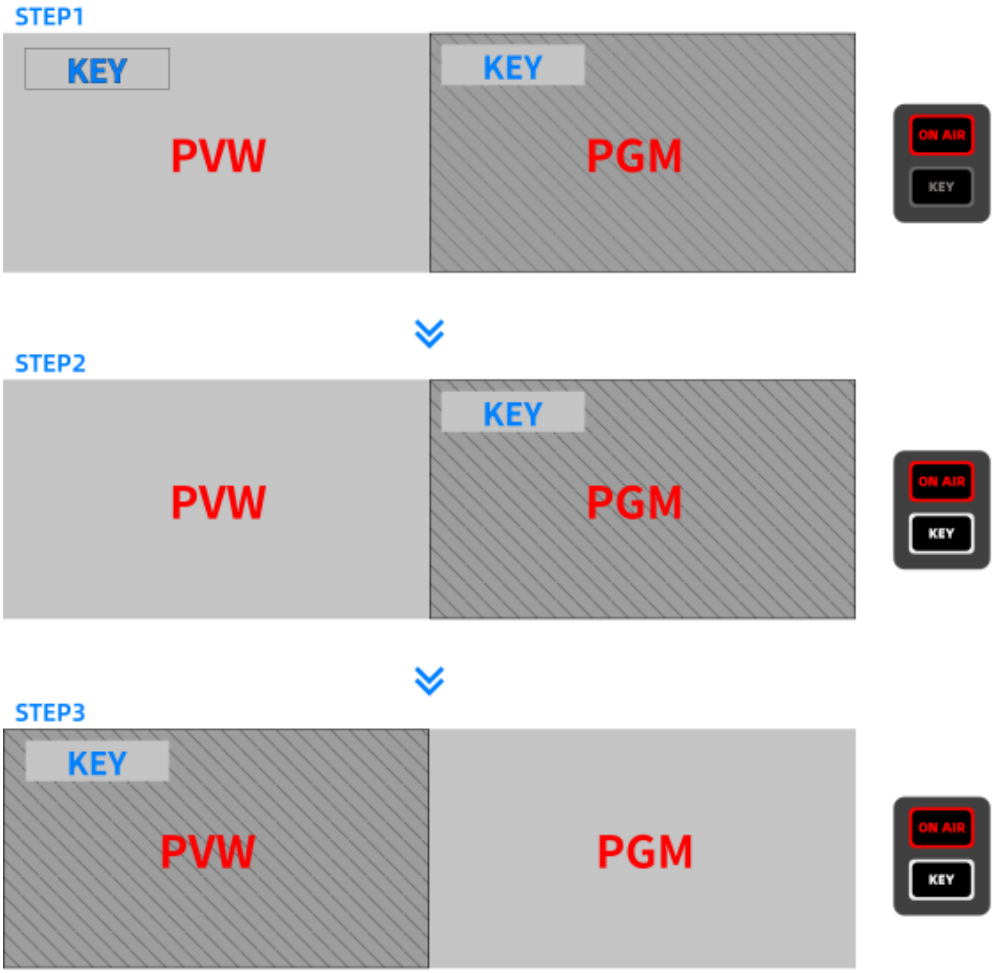


Figure 4.1-72 Before and After Upstream Key Transition-Example1

2. Example 2: Adding an Upstream Key to Program Output (PGM)

The process is shown in Figure 4.1-73.

Step 1 Reset Initial state

Ensure the **ON AIR** button is **not** activated (gray indicator). Both **PGM** and **PVW** display **no upstream key**.

You can see the **ON AIR** and **KEY** button are all gray.

Step 2 Load Key in Preview

Press **KEY** button of the upstream key. PVW loads the upstream key (visible in preview). PGM remains key-free (no change to live output).

ON AIR button is still in gray, and **KEY** button is highlighted in white.

Step 3 Perform Cut Transition

Press **CUT** button. PGM switches to PVW's keyed state (key now appears in program output). PVW resets for the next transition.

ON AIR status automatically updates to reflect PGM's new state.

Transition Comparison:

Output	Before Transition	After Transition
PGM	No Key	Key Added
PVW	Key Active	No Key

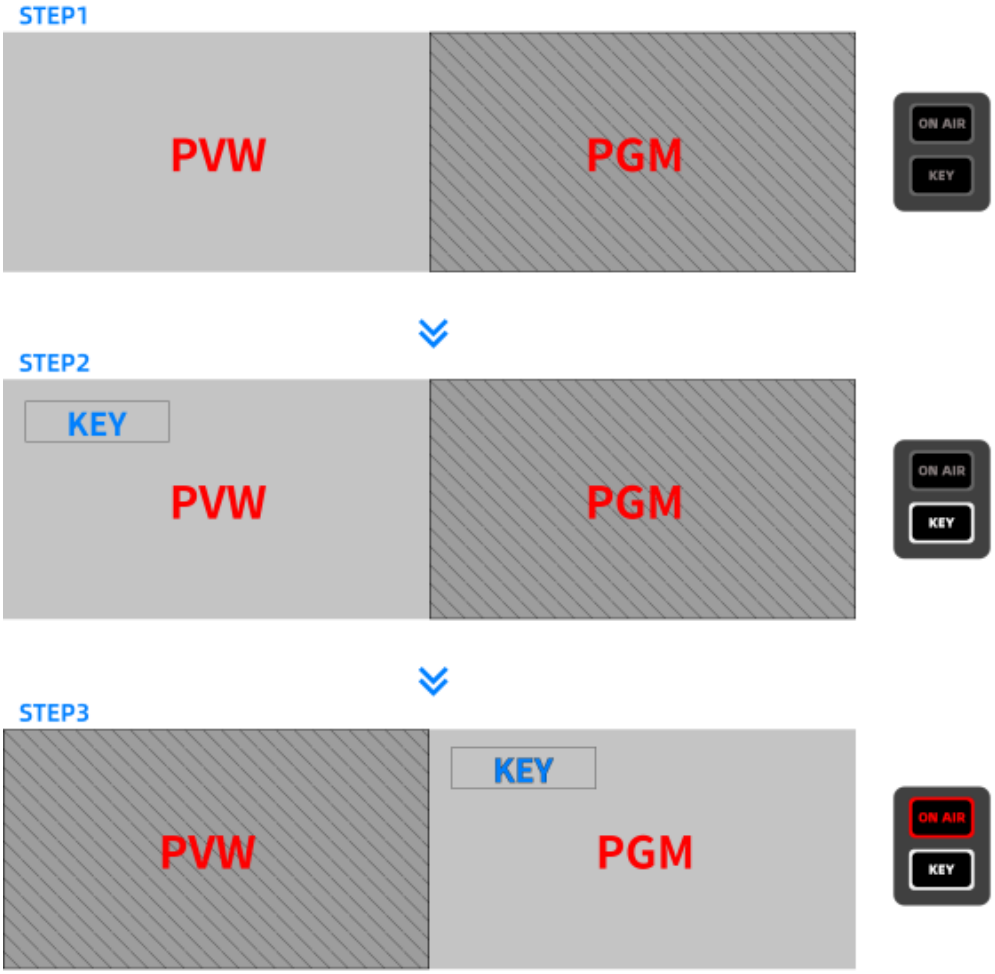


Figure 4.1-73 Before and After Upstream Key Transition-Example2

3. Example 3: Direct Key Control (Bypass Transition)

The process is shown in Figure 4.1-74.

Step 1 Force Key ON

Press **ON AIR** button of the upstream key.

Upstream key **instantly appears** in **PGM** (no transition delay). PGM contains the key

ON AIR button is highlighted in red, indicating live key.

Step 2 Force Key OFF

Press **ON AIR** button again.

Upstream key **immediately disappears** from **PGM**. Key is removed from **PGM**.

ON AIR button turns gray (inactive).

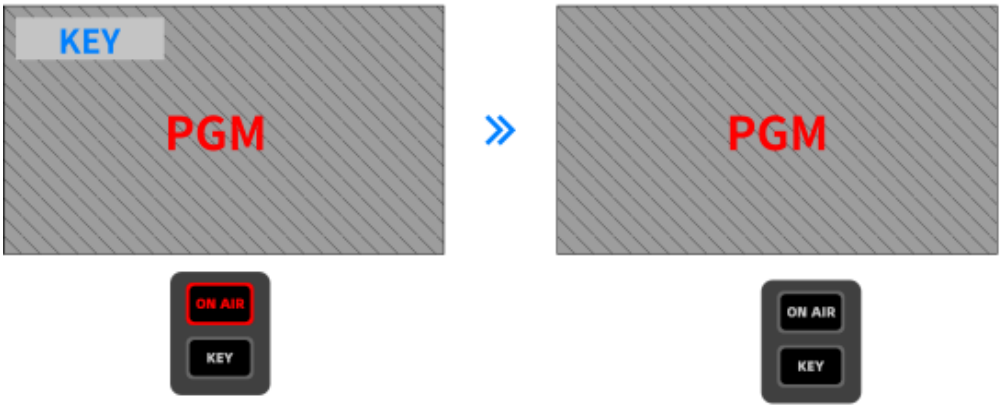


Figure 4.1-74 Before and After Upstream Key Transition-Example3

■ DSK button

You can perform downstream key transition by ON AIR button or KEY button, as shown in labeled in red rectangle.



Figure 4.1-75 Downstream Keys

Similarly, the ON AIR button operation for DSK follows the same logic and will not be elaborated here.

The DSK buttons (DSK1/DSK2) are used to configure associated content to be inserted into or removed from the program output during the next transition. Their operation principle is identical to that of the KEY button and thus will not be reiterated.

Tips

- Each ON AIR button is corresponding to the keyer button in the same vertical column.
- Refer to "5.1.3.1 LUMA Key " for details about Luma Key parameter settings.
- Refer to "5.1.3.2 Chrome Key " for details about Chroma Key parameter settings.
- Refer to "5.1.3.3 Key Pattern " for details about Pattern Key parameter settings.
- Refer to "5.1.3.4 PIP " for details about PIP Key parameter settings.

4.1.3.16 Applying Audio Meter

GoStream provides a multiple-channel of audio level meter at the bottom right corner of the multiview display. It includes the audio level meter for IN1~IN8, MIC1, MIC2 and PGM. You can monitor the audio inputs and the program output all simultaneously.

1. **Audio Meter**

The audio meter is an important tool to monitor your levels for each source so you can make sure your audio always sounds great. Available or not, you can adjust each channel by the audio knobs in Audio Mixer area or settings in Audio Mixer menu.

For example: to turn on IN1 into the Audio Mixer, set **Audio Mixer →in1→ Enable** as **On**, or you can press IN1 button in Audio Mixer area and then press ON button as well.



Figure 4.1-76 Audio Meter Area

- **Real-time Level Metering**

In the audio meter view, you can visually monitor real-time changes of the audio signals. The audio channel level meters display dynamic data with visual indicators:

- Green Zone (-60 to -20 dB): Safe operating range
- Yellow Zone (-20 to -6 dB): Warning threshold (transient peaks acceptable)
- Red Zone (-6 to 0 dB): Overload level (clipping risk)

■ Input Source Identification

Displays the input source types for IN1–IN8 and MIC1/MIC2.

Each audio meter column's header shows visual indicators, including: Source Type (e.g., HDMI/SDI/NDI) and Channel ID (e.g., IN1, MIC2).

Example: An "HDMI" label on IN1 indicates embedded HDMI audio.

Input Channel Configuration Reference as the table below:

Input Channel	Configuration Path	Typical Label Examples
IN1–IN8	Inputs→src selection → IN1~IN8	HDMI / SDI / NDI / SRT / USB
MIC1/MIC2	Audio Mixer→MIC1/MIC2→MIC Type	MIC(3.5) / 48V(XLR)

■ Tally for Indicating Channel Status

A Tally indicator is displayed atop each audio meter column, with the following color-coding system:

Tally State	Visual Indicator	System Status
Active	Solid Red	Channel ON-Signal routed to PGM bus
AFV Mode	Solid Green	Audio-Follow-Video enabled
VFA Mode	---	Video-Follow-Audio triggered
Standby	Gray	Channel muted/disabled

2. Microphone Interface Configuration

Critical note on level matching. Proper level matching is essential. Connecting a microphone to a line-level input may fail to capture usable signals due to insufficient gain (-60dB to -40dB mic-level vs. -10dB/+4dB line-level). Connecting a line-level source to a mic-level input will cause severe distortion from over-amplification.

First, navigate to **Audio Mixer→ mic1/mic2→ Port** to set interface type as XLR (microphone) or 3.5mm (line-level audio).

Then, set **Mic Type**. Refer to the following configuration table:

Mode	Interface	Gain	Power	Use Case
Line	3.5mm	-1dB	None	Mobile/PC line outputs
Mic	3.5mm	+20dB	5V T-power	Lavalier microphone
Dynamic	XLR	+10dB	None	Dynamic microphone
Condenser	XLR	+10dB	48V Phantom	Condenser microphone

Navigate to **Audio Mixer→ mic1/mic2→ Mic Type** menu, as shown in Figure 4.1-77.

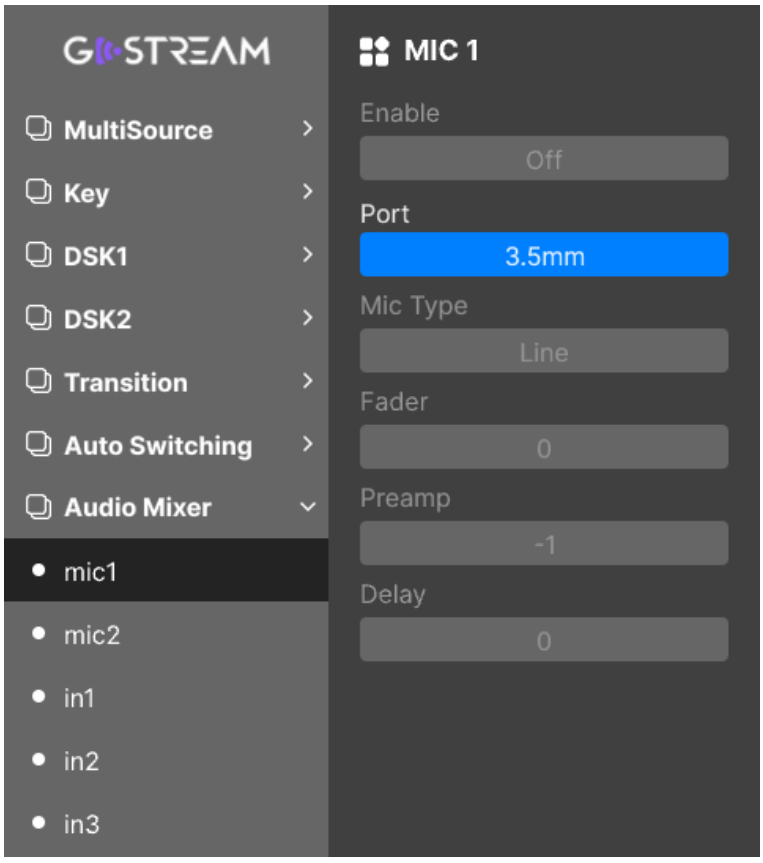


Figure 4.1-77 Mic Type Setting

3. Set Audio Input Level

Set the audio level fader to set the gain on the audio level for each audio source in case of audio distortion.

A green number represents low to medium audio level, and the red number represents high close to maximum 0dB. Once the level reaches 0dB, the audio will clip. Clipping means the audio will distort, thus you should reduce the audio level to avoid audio distortion.

The input level can be adjusted through:

- **Audio menu**: Set it by selecting **Audio Mixer→*audio channel→Fader**.
- **Control Panel**: Set it by Audio Channel button + rotary knob.

Tips

- MIC1 and MIC2 have no AFV function.
- You can adjust the audio level by the audio knob in AUDIO MIXER area, or set the audio menu item.
- Refer to "5.1.8 Audio Mixer Settings" for more details about the audio settings.

4.1.3.17 How to Use Audio Mixer

GoStream provides an integrated Audio Mixer, including volume knob and buttons to control the monitoring audio output behavior. It uses the embedded audio from your cameras, media servers and other inputs without the need for an external Audio Mixer. This saves space and makes low cost as you don't need separate audio connections for each video source.

The audio source buttons are **MIC1**, **MIC2**, **IN1**~ **IN8**, as shown in Figure 4.1-78.

The mixed audio output is monitored available on PGM or via headphone.



Figure 4.1-78 Buttons in Audio Mixer Area

■ **Audio Source Selection (IN1~IN8, MIC1, MIC2)**

☐ **Manual Selection**:

Function: Manually select audio input sources (IN1~IN8, MIC1, MIC2).

Operation:

Press the target audio button (e.g., IN1, MIC1).

Press the **ON** button to activate the audio source.

Menu Operation:

Set the target audio channel's switch to "**ON**" via **Audio Mixer** → **In1→enable** (using IN1 as an example).

☐ **Automatic Selection (Audio Follow Video - AFV)**

Function: Automatically synchronize audio source switching with video switching.

Operation:

Press the target audio button (e.g., IN1, IN4).

Press the **AFV** button to bind the video and audio sources.

Menu Operation:

Set the target audio channel's switch to "**AFV**" via **Audio Mixer** → **In1→enable** (using IN1 as an example).

Tips

- The cooperation of ON, AFV and audio sources buttons determines whether audio is always available for mixing or only when the corresponding video source is on air.
- Selecting ON option automatically disables AFV, and selecting AFV option automatically disables the direct mix ON setting.

The cooperation relationship of button ON and AFV are list in the following table:

AUDIO BUTTON	ON	AFV
MIC1	✓	×
MIC2	✓	×
IN1	✓	✓
IN2	✓	✓
IN3	✓	✓

AUDIO BUTTON	ON	AFV
IN4	✓	✓
IN5	✓	✓
IN6	✓	✓
IN7	✓	✓
IN8	✓	✓
PGM	×	×
🎧	×	×

■ **Audio Level**

You will want to control audio levels if the sound is too quiet or too loud. Then, you can adjust the audio levels by knob in AUDIO MIXER area, or fader item in menu control.

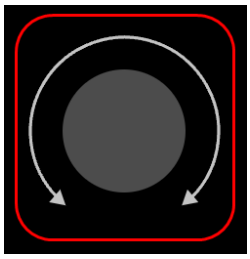


Figure 4.1-79 Audio Knob in Audio Mixer Area

Rotate the audio knob in clockwise or counterclockwise to increase or decrease audio level for the respective source or output, and you can monitor the changes in Audio Meter at the right corner of the multiview display.

For example, if the presenter's voice is too loud and risks clipping, you can decrease the audio level by pressing the down button incrementally until the level is safe.

Tips

- Refer to "5.1.8 Audio Mixer Settings" for more details about the fader settings.

  - **Output audio level**: the audio knob is used to increase or decrease the audio level for the PGM when no audio source is selected currently, that is all the input audio sources are not pressed down. Besides, press the PGM

button to explicitly select the program output, then use the audio knob to adjust its volume.

- **Audio source level**: the audio knob is used to increase or decrease the audio level for the respective source when only one audio source is selected, that is the corresponding audio source is pressed down.

- **Mute**

Rotate the volume knob to set the volume to minimum.

- **Audio Delay**

Sometimes when using analog audio via MIC inputs, there may be a slight difference in the sync between analog audio and video. Setting the audio delay by setting **Audio Mixer→ MIC1/ MIC2→ delay** item will ensure the analog audio input is perfectly synced with the video inputs.

- **Headphone Monitoring**

The mixer's audio output can be monitored via the headphone connector🎧.

- Set Monitoring Source: Navigate to **Audio Mixer → headphone →source** menu to select from: In1, In2, In3, In4, In5, In6, In7, In8, Mic1, Mic2, PGM, Out1, Out2, Out3, or USB Out.
- Set Monitoring Volume: Adjust via: **Audio Mixer → headphone → level** menu, or using physical control by pressing headphone button + audio knob.

4.1.3.18 How to Use Auto-Switching

The auto-switching feature intelligently toggles between close-up and wide shots, making it particularly suitable for video podcasts, panel shows, and live discussions scenarios, significantly enhancing program dynamism. It's useful for in-studio live production or remote guest interviews.

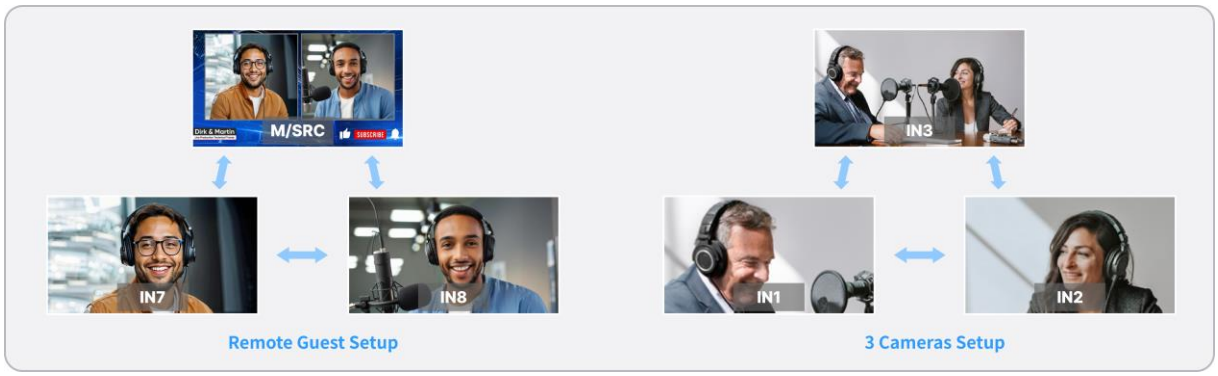


Figure 4.1-80 Auto-Switching

Step 1 Enable Auto-Switching Function

Activate the auto-switching function.

Navigate to menu: **Auto Switching→ enable→ enable**, set to "On" status.

Step 2 Designate Audio Sources

Primary microphone (audio A) and secondary microphone (audio B) signal sources must be configured.

- **Set Audio Source A**: Navigate to **Auto Switching→ audio A→ Audio Source**, and set it to In1, In2, In3, In4, In5, In6, In7, In8, MIC1 or MIC2.

- **Set Audio Source B**: Navigate to **Auto Switching→ audio B→ Audio Source**, and set it to In1, In2, In3, In4, In5, In6, In7, In8, MIC1 or MIC2.

CHANNEL	audio A									
AUDIO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	MIC1	MIC2
CHANNEL	audio B									
AUDIO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	MIC1	MIC2

Figure 4.1-81 Audio Sources for Auto Switching

- **Parameter Optimization**

Threshold: Set trigger sensitivity based on ambient noise. When configuring thresholds for Audio A and B sources, values should be: Higher than microphone crosstalk level (environmental noise floor), lower than normal speech level.

Recommendation: Monitor audio levels using the audio meter during adjustment.

Step 3 Configure Video Mappings

Establish video source correspondence for Audio A and B channels. Typical mapping:

- **Audio A** →Close-up shot (e.g., Host Camera A)
- **Audio B** → Close-up shot (e.g., Host Camera B)
- **A+B** →Wide shot (e.g., Host wide-angle or MultiSource composite)

Tips

- The close-up camera can come from a camera or NDI source, the wide-shot camera can be another camera or a MultiSource.

- **Set A Mapping**: Set Video Mapping for A, navigate to **Auto Switching→ video Mapping→ A Mapping**, and set it to In1, In2, In3, In4, In5, In6, In7 or In8.

- **Set B Mapping**: Set Video Mapping for B, navigate to **Auto Switching→ video Mapping→ B Mapping**, and set it to In1, In2, In3, In4, In5, In6, In7 or In8.

- **Set A+B Mapping**: Set Video Mapping for A+B, navigate to **Auto Switching→ video Mapping→ A+B Mapping**, and set it to In1, In2, In3, In4, In5, In6, In7, In8 or MultiSource.

CHANNEL	A								
VIDEO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	---
CHANNEL	B								
VIDEO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	---
CHANNEL	A+B								
VIDEO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	MultiSource

Figure 4.1-82 Video Sources for Mapping

- **Parameter Optimization**

- **Switching Period**: Adjustable **Fast/Normal/Slow** presets for shot duration control. Navigate to **Auto Switching→ video Mapping→ Switching Period.**
- **AB Priority**: Controls wide-shot intervention frequency. Navigate to **Auto Switching→ video Mapping→ AB Priority,** set it to **Low/Balance/High**.

Tips

- In Osee's auto-switching algorithm, the audio level is used to detect the existence. Please correctly set up the threshold: there's crosstalk between the two

microphones. Please pay attention to the polar pattern of a microphone and try to reduce the crosstalk of two microphones used for auto-switching. The threshold should be set to a level higher than the background crosstalk and lower than normal speaking. Please use the audio level meter to check the settings.

- The Switching Period controls the overall duration of a camera angle, and the AB priority controls the overall possibility of the wide-angle camera.
- Refer to "5.1.7 Auto Switching Settings" for auto switching menu.

4.1.3.19 How to Record and Run a Macro

A macro is an easy way to automate a sequence of switcher actions so you can repeat the sequence at the press of a button. GoStream provides up to 10 macro buttons **1**~**10**, as shown in Figure 4.1-83:

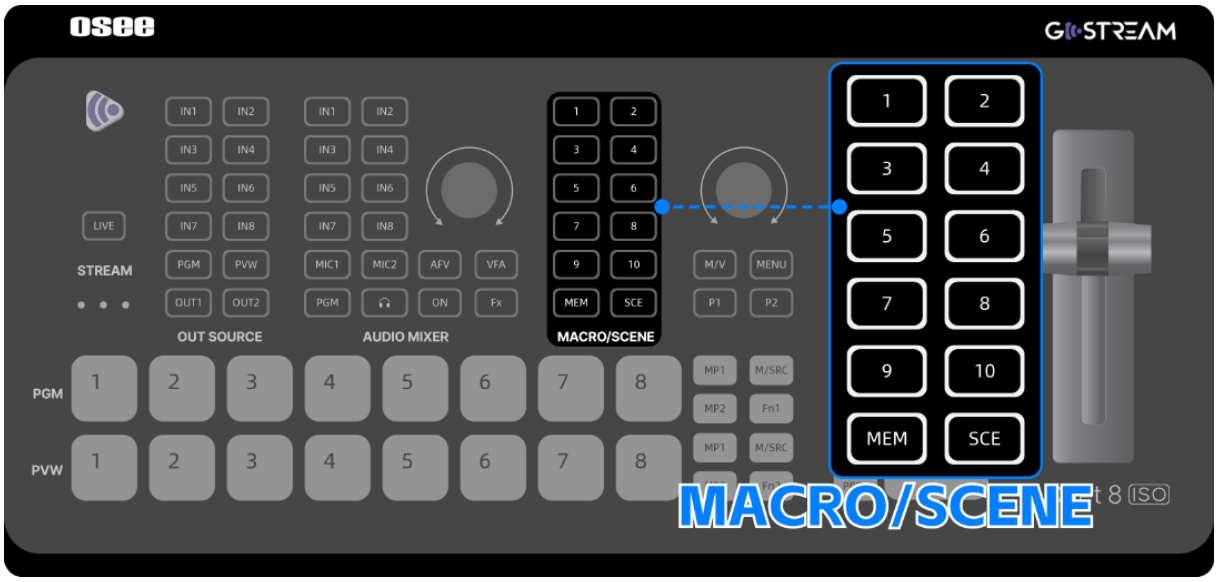


Figure 4.1-83 Macro Buttons

■ Record Macro

Macro commands are used to record a series of operations, including button presses and menu settings. The recording rule is: only operations that result in actual changes are recorded. For example, even if a menu parameter is already set to the target value by default, during macro recording, the parameter must be manually changed once to ensure the setting process is captured. Operations that merely view parameters without changes will not be recorded.

During the recording process, the numerical macro command button will

continuously light in red until the recording is completed.

Example: Record a transition operation from IN1 to Still Frame 1. The specific operations include: selecting IN1, pausing for 2 seconds, and then using the WIPE transition effect with a duration of 2 seconds.

By default, the current PGM input is IN1, and the preview is IN4, and the transition style is WIPE.

The instructions are as below:

Step 1 Select macro command mode

Press the **MEM** button to activate your macro mode. The **MEM** button is highlighted in white, the recording has started.

Step 2 Select the macro command button

Long press **1** button that you want to create your macro, here, the button is highlighted in red, the recording has started.

Step 3 Set the target program output

Now start preforming the switching actions. Press **IN2** button on PGM bus or any other button except **IN1** in order to record the final selection of target program output. Then press **IN1**, the real target program output before switching.

Step 4 Set a sleep time

Press **MENU** button on the panel to load the main menu, then set the sleep time through scrolling the menu knob to select **macro→macro→sleep** menu item, and set it to be 2000ms, as shown in Figure 4.1-84:

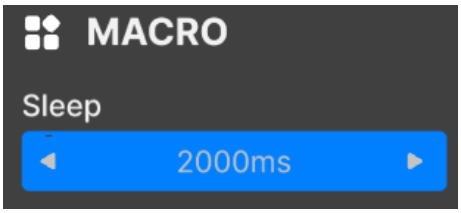


Figure 4.1-84 Sleep Time

Step 5 Set the target signal source

Press **MP1**(Media Player1), the real target preview output after switching.

Step 6 Set a transition duration

Press **MENU** button on the panel to load the main menu, then select **transition→ wipe → rate** to set the transition duration to 3s.

Step 7 Select a transition style

The default transition effect is **WIPE**. To record the transition type, first switch to another transition type (e.g., **MIX**) and then switch back to **WIPE**. For example:

click **MIX** button, then click **WIPE** button.

Step 8 Perform transition operation

Press **AUTO** button to complete the transition with the selected effect.

Step 9 Complete recording

After completing all actions, short press **1** button again to stop recording this macro. The **MEM1** button lights up in solid white, indicating that the macro recording has been done.

■ Run macro

Select Macro Command Mode. Press the **MEM** button to activate the macro command mode. The **MEM** button lights up in white, indicating that the macro command mode is active.

Run macro. Press the target macro command button (e.g., macro **1**). The macro command will automatically execute all stored instructions and lights up in green when the commands are executing, and the macro command button returns to white after macro execution completes.

Tips

- Refer to "5.1.10 Macro Settings" for details about macro parameters.
- Macro commands record actual operational steps, not states or viewing actions.

  By ensuring that every step is explicitly executed, users can create precise and repeatable macros to enhance workflow efficiency.

4.1.3.20 How to Record and Run a Scene

A Scene saves switcher snapshots, storing all current parameters (inputs, transitions, audio, etc.). It is designed to allow you to quickly switch between several different parameters for complex workflows. GoStream provides up to 10 scene buttons **SCE** and **1**~**10**, as shown in Figure 4.1-85:

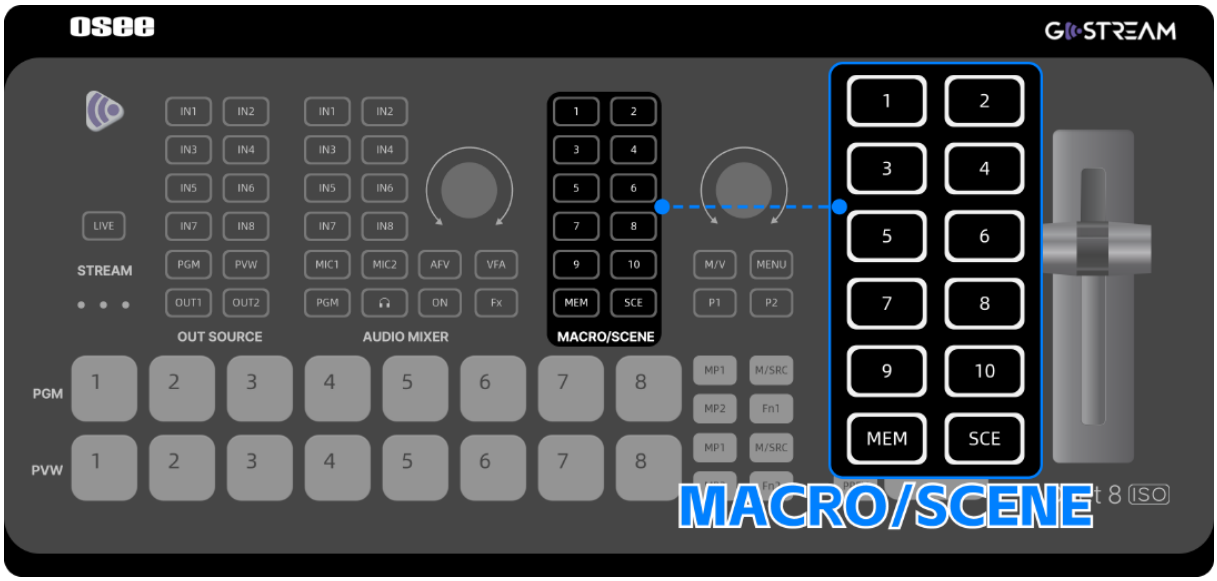


Figure 4.1-85 Scene Buttons

Step 1 Scene Recording Preparation - State Presets

Since a scene records the current state of the switcher, please configure the switcher to your desired state before recording. The switcher's scene function can save the following parameters:

Parameter Type	Specific Content
Video Input	Currently selected program (PGM) and preview (PVW) signal sources
Video Output	Current signal sources for all outputs
Screen Layout	MultiSource screen layouts
Transition Effects	Parameters for transition effects (MIX, DIP, WIPE), including duration and direction
Audio Settings	Channel volumes, audio channel states, AFV (Audio Follow Video) switch
Titles/Graphics/Solid Colors	Overlaid titles, logos, motion graphics, Color 1, Color 2
Keying	Next transition's chroma key (Chroma Key), luma key (Luma Key), pattern key, PIP, DSK1 and DSK2
Tally Indicators	Tally states for each camera (e.g., recording/live indicators)

Step 2 Recording a Scene

Use the scene menu to record scenes:

Navigate to **Scene → Scene → Scene *** (e.g., select Scene 1).

Press the knob, the system will prompt to confirm recording. Select "Record" to

complete the current switcher state recording.

Tips

- First-time recording prompts for confirmation, as shown in Figure 4.1-86.
- Existing scenes prompt whether to clear and re-record, as shown in Figure 4.1-87. Confirming will overwrite existing scene data.

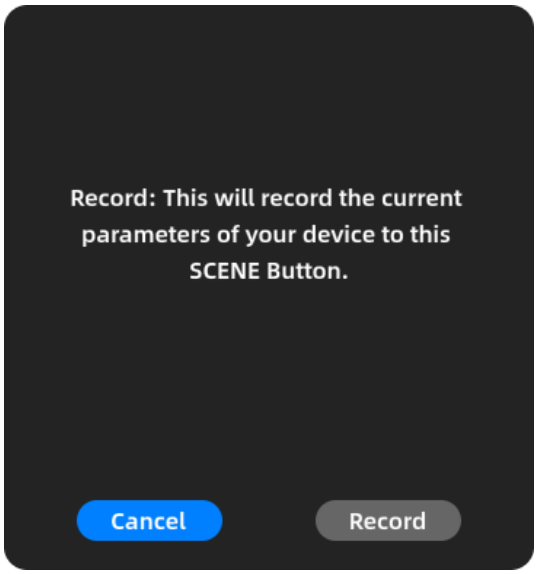


Figure 4.1-86 Prompt for Scene Recording

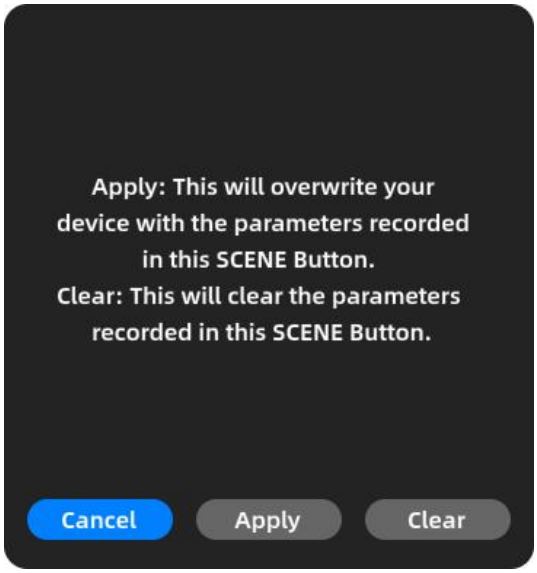


Figure 4.1-87 Prompt for Scene Recorded

After recording, the corresponding numeric key on the control panel lights up

white in scene mode, indicating a successfully recorded scene.

Step 3 Recalling Stored Scenes

First, select scene mode:

Press the **SCE** button to activate scene mode, flashing in white indicates active scene mode.

Then, recall the scene command:

Press the target scene button (e.g., Button 1). The switcher automatically switches to the scene state.

During execution, the scene button glows white. Upon completion, it returns to white illumination, and returns to **SCE** button lighted. That is after executing a scene command, it will return to the state of MEM.

Tips

- Refer to "5.1.11Scene Settings" for details about scene menu.
- When press the **SCE** button, the button will flash. If there is no scene command executed, it will return to the **MEM** state after 8 seconds.

4.1.3.21 Upload and Set Still Graph and Browser Sources

MP1 and MP2 are commonly used media sources in the switcher, each corresponding to different media content inputs. These media sources can come from the switcher's built-in media pool (such as still frames and graphics) or external network addresses (such as browser sources). The following descriptions are for MP1 and MP2 media sources in detail.

MP1 and MP2 support the following two types of media sources:

- **Built-in Media Pool**

  The media source comes from the switcher's built-in media pool, supporting still frames, graphics, and other content. Users need to upload the required still frames or graphic files to the media pool in advance and call them through MP1 or MP2.

- **Network Browser Source**

  The media source comes from a specified network address (URL) and is loaded through the built-in browser. It is called through MP2 and is suitable for displaying real-time web content, such as weather forecasts, social media updates, or online data dashboards.

Button **MP1** and **MP2** are as shown in Figure 4.1-88:

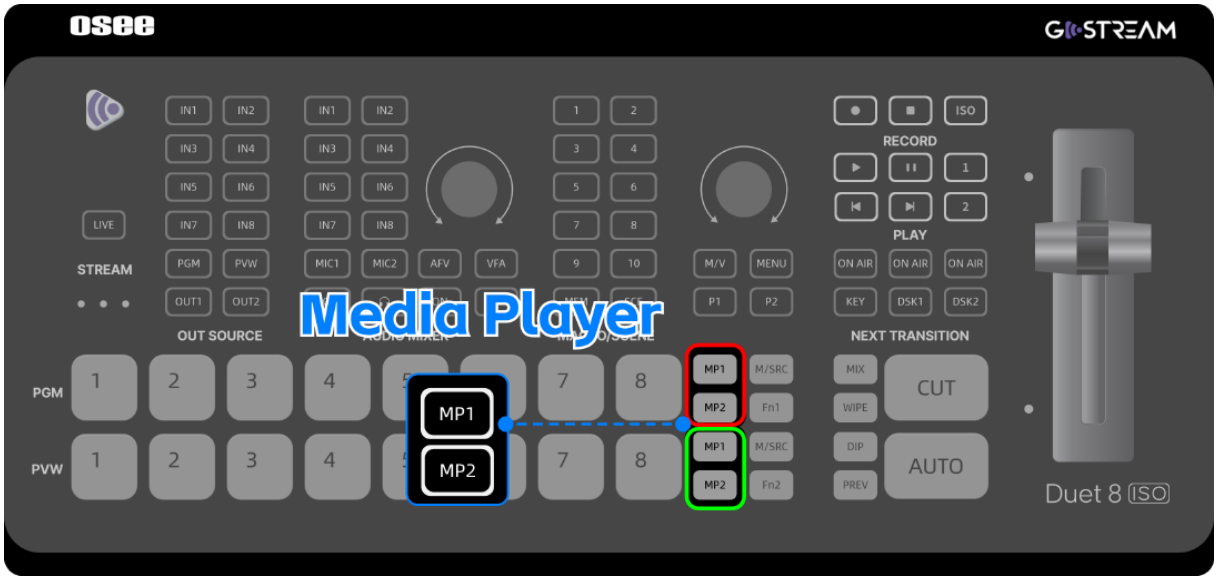


Figure 4.1-88 Media Player Source Buttons

1. Setting Up Built-in Media Pool Sources

The following example demonstrates how to upload a still (IMAGE01.png) from an SD card to the built-in media pool and associate it with the MP1 media source button through menu settings. The specific steps are as follows:

Step 1 Select Upload Location

The switcher's built-in media pool supports up to 32 media sources (such as still frames and graphics), with index numbers ranging from 0 to 31. Navigate to **Media Player → Still Upload → Still Index** menu item and set the location to 0 in this example.

Step 2 Upload the Still

Upload the media file to the specified location in the built-in media pool. Navigate to **Media Player → Still Upload → Still Upload**, open the file list, and select the target still file from the SD card (path: "\images..."). Currently, only PNG and JPG format (*.png, *.jpg) is supported. Use the menu knob to confirm the upload operation and complete the still image loading.

During the upload process, the image content can be previewed, as shown in Figure 4.1-89.

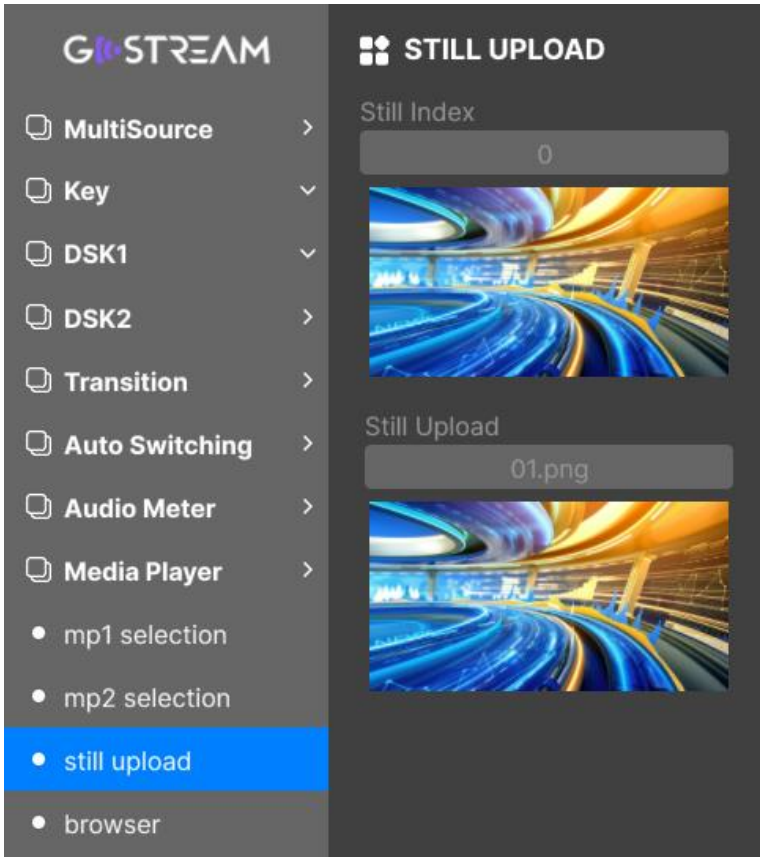


Figure 4.1-89 Load Still Graph

The graph for each loaded still is displayed underneath the slot so you can easily keep track of files you have loaded.

Step 3 Assign Media Source

Resources in the built-in media pool can be assigned to MP1 and MP2. In this example, MP1 is selected.

Set the media source type: Navigate to **Media Player → MP1 selection → Still** to call resources from the built-in media pool (such as still frames and graphics).

Set the media pool location: Navigate to **Media Player → MP1 selection → Index** to set the location to 0, as shown in Figure 4.1.84.

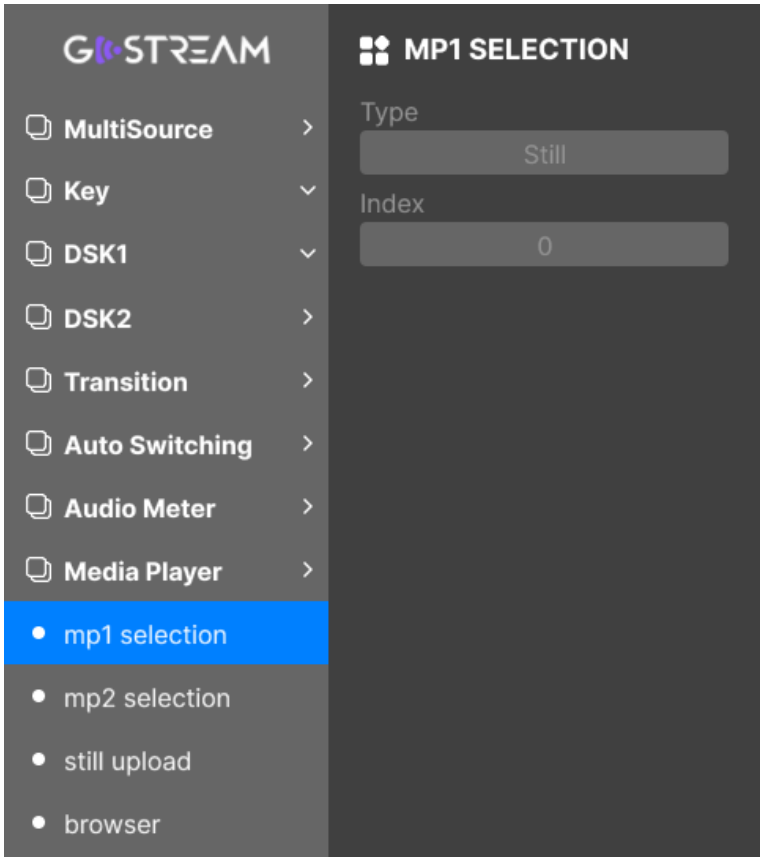


Figure 4.1-90 Select Still Frame Index

2. Setting Up Network Browser Source

The following example demonstrates how to associate a browser source with the MP2 button through menu settings. The specific steps are as follows:

Step 1 Enter Network Address

Set the target webpage's URL address. Navigate **Media Player** → **Browser** → **URL Upload** and enter the target webpage's URL address, for example: https://osee-tech.com/products.

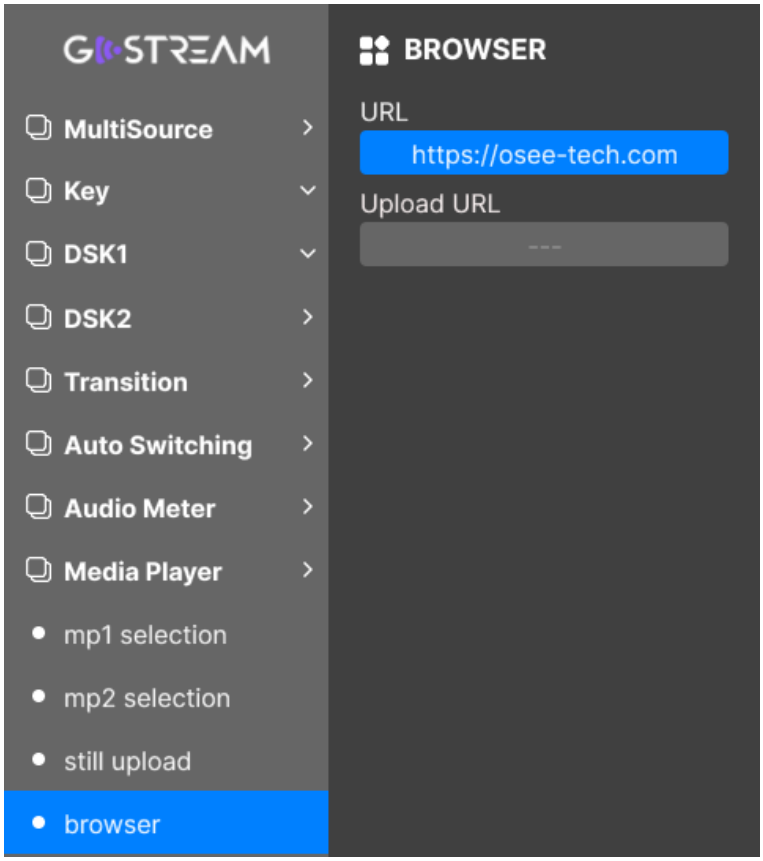


Figure 4.1-91 Associating Browser Address

Step 2 Assign Media Source

The browser source can only be assigned to MP2.

Set the media source type: Navigate to **Media Player** → **MP1 selection** → **Browser** to call the browser resource and retrieve network content.

Tips

- The switcher has two built-in media players: MP1 (Media Player 1) and MP2 (Media Player 2), each corresponding to different media content inputs.
- Still frame images must be stored in the root directory of a folder named "images" on the SD card, and currently, only PNG and JPG format image files are supported.
- When using a network browser source, ensure that the switcher is connected to a stable network to avoid loading delays or interruptions.

4.1.3.22 How to Record and Playback

The video recording and playback functions of the switcher help users efficiently record and replay video content, ensuring smooth and professional program production. Below is a detailed introduction to the video recording and playback functions.

1. **Storage Space Selection and Setup**

In the video recording and playback functions of the switcher, the selection and setup of storage space are critical steps. You can choose between a built-in SD card or an external SSD disk as the storage device. Here's a guide on how to set up and select storage space.

- **Storage Devices Types**

The switcher supports two types of storage devices as follows:

- **SD Card**: Connected via the built-in SD card slot, suitable for short-term recording.
- **SSD disk**: Connected via the USB interface, suitable for long-term and high-resolution video recording and playback.

- **Set Up Storage Devices**

Step 1 Insert the Storage Device

Insert the SD card into the switcher's built-in SD card slot, or connect the SSD disk to the switcher via the USB1 or USB2 interface.

Step 2 Format the Storage Device

For first-time use, it is recommended to format the storage device to ensure compatibility. Currently, the **Exfat** format is supported.

The storage medium can be formatted on a PC or through the switcher's built-in format menu.

Here is the way using the format menu. Navigate to **Settings → Advanced → Format**, select the target storage device (e.g., SD card or SSD disk), and confirm the formatting process.

Once the format is completed, the SSD drive or SD card is named **GoStream** automatically.

Please note, once you insert a storage device to the switcher for the first time, or complete formatting the storage device, the system automatically creates the following folders in the storage device to categorize and store switcher-related content, as shown in Figure 4.1-92.

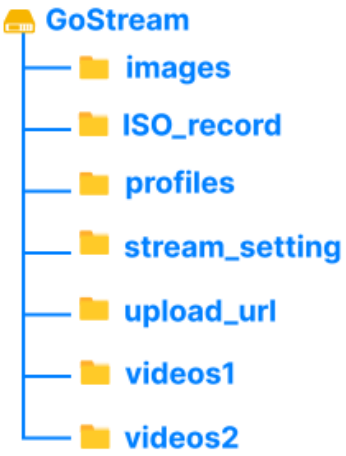


Figure 4.1-92 Buttons for Recording and Playing

Step 3 Set Default Storage Locations

- **ISO Recording**

Navigate to **Settings → Disk Select→ ISO Record** and select the target storage device for ISO recording. The recorded file will be saved to the following path: **"[Storage Device Name]\ISO_record"**.

- **Other Recordings**

Navigate to **Settings → Disk Select→ Other** and select the target storage device for smaller video files. The recorded content will be saved to the following path: **"[Storage Device Name]\videos1"**.

Tips

- Device Name After Formatting: SSD Disk - Automatically named **GoStream** for all external SSDs connected via USB. SD Cards - Automatically named **GoStream** for all SD cards inserted into the switcher's built-in SD card slot.

2. How to Record

The video recording function allows users to record the program output (PGM) or specified input signals in real time to a storage device for subsequent editing, archiving, or playback.

The steps for recording operations are as follows:

Step 1 Set Up the Storage Device

Before recording, select the appropriate storage device based on the content category, either the built-in SD card or an external SSD. For detailed setup steps, refer to the description in the "Storage Space Selection and Setup" section above.

Tips

- The ISO recording feature is only available when an SSD disk is connected. If ISO recording is attempted without an SSD storage, the system will display a prompt "Recording unavailable. Please connect an SSD".

Step 2 About the Recording File Name

Recording file names are composed of three elements: "File Name", "Source", and "Sequence Number", generated automatically.

To check the "File Name": Navigate to **Record → record→ File Name**. The default is GoStream. Example file name formats: GoStream_pgm.mp4, GoStream_pgm_02.mp4.

The "Source" and "Sequence Number" components are automatically generated by the system based on recording parameters.

GoStream uses the H.264 format with optimized compression to record streaming content, providing high-quality, small-sized video files. The recording file format is MP4.

Step 3 Select the Recording Source

Using the control panel, select the recording source as either the program output (PGM) or ISO recording. The recording control buttons are shown in Figure 4.1-93.

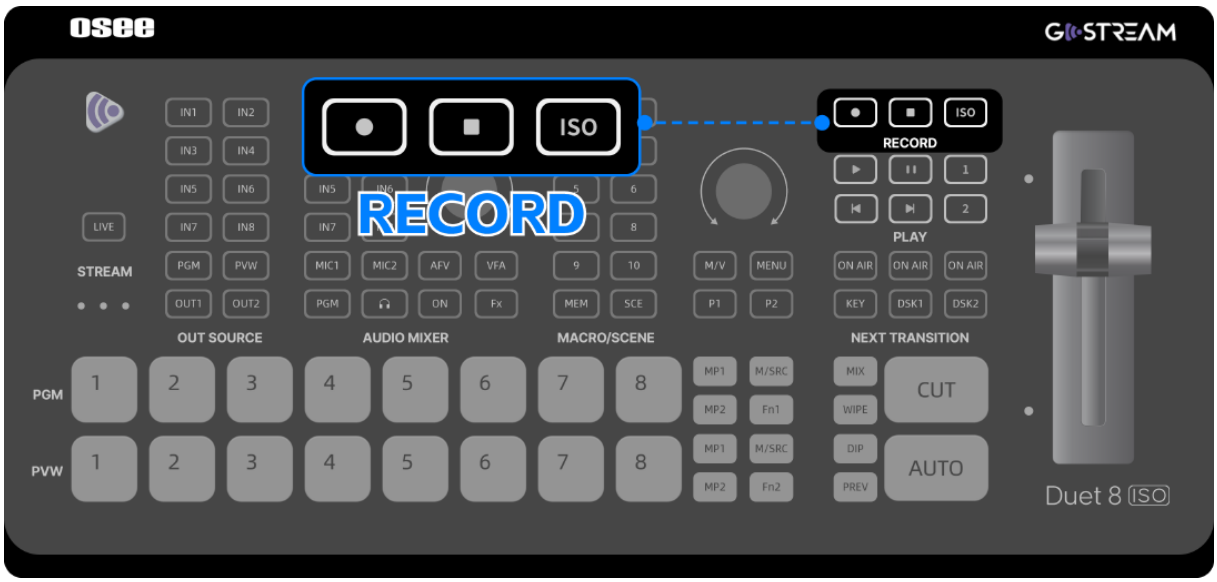


Figure 4.1-93 Record Buttons

ISO Recording

ISO recording allows users to simultaneously record multiple video and audio channels as separate files. This functionality is particularly useful for post-production editing, as it provides greater flexibility and control over the final output.

Press **ISO** button to enable ISO recording, then press the start and stop buttons to control the recording progress.

The ISO recording files include: PGM video, video from each signal channel. You can specify the signal channels to record during ISO recording.

Navigate to **Record → ISO Channel** to enable or disable specific input channels from IN1 to IN8 as needed, as shown in Figure 4.1-94.

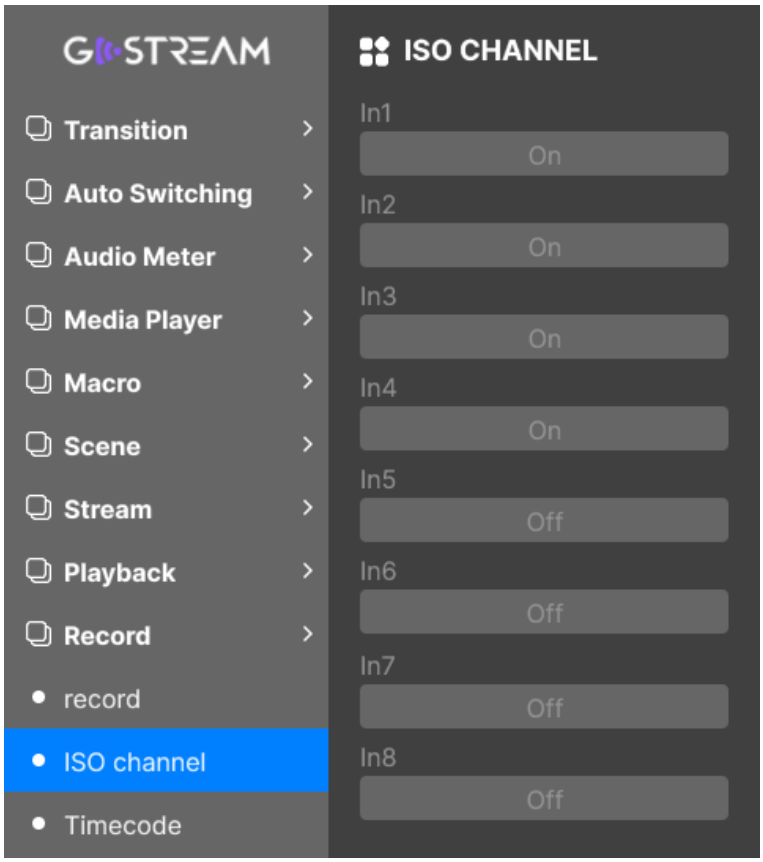


Figure 4.1-94 Set ISO Channel Menu

PGM Recording

Simply click the start and stop buttons to record the PGM video.

Step 4 Start Recording

Press the start button in the RECORD area to begin video recording. The button will light up in bright red, indicating that recording is in progress.

During recording, the program output or input signals are captured in real time. The recording status (e.g., recording duration, remaining storage space) can be monitored through the window in the lower-right corner of the multiview display.

The RECORD and SPACE(TIME) button will be highlighted in red, and the counter of duration and free space of SD card will start running. Furthermore, the free space will also be converted to a theoretical spare time as suggested.

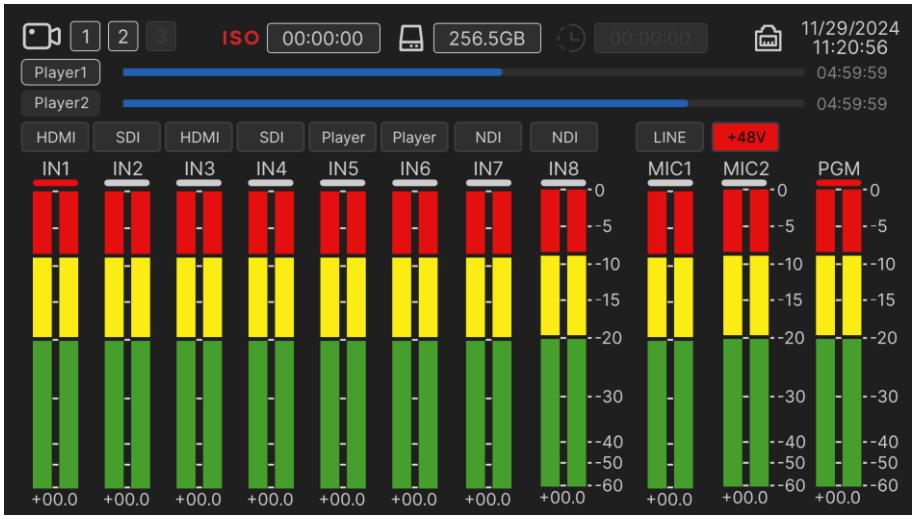


Figure 4.1-95 Recording Status

Step 5 Stop Recording

Press the stop button in **RECORD** area to end recording, the start button will turn to gray after stopped, and the recorded file will be saved to the designated storage device automatically.

Tips

- Refer to "5.1.14 Record Settings" for details about Recording File Name, ISO channel settings.

3. How to Playback

The video playback function allows users to load recorded video files or external media files into the switcher as signal sources for program production or live streaming. The playback content is set using the P1 and P2 buttons in the menu area, while the PLAY area buttons control playback start, stop, and video file switching.

Step 1 Display Playback Source List and Set Playback Content

The switcher provides two players, **Player1** and **Player2**, which correspond to the **videos1** and **videos2** folders on the storage device. These folders contain video clips from switcher recordings or user-copied video files.

The operations for both playlists are the same.

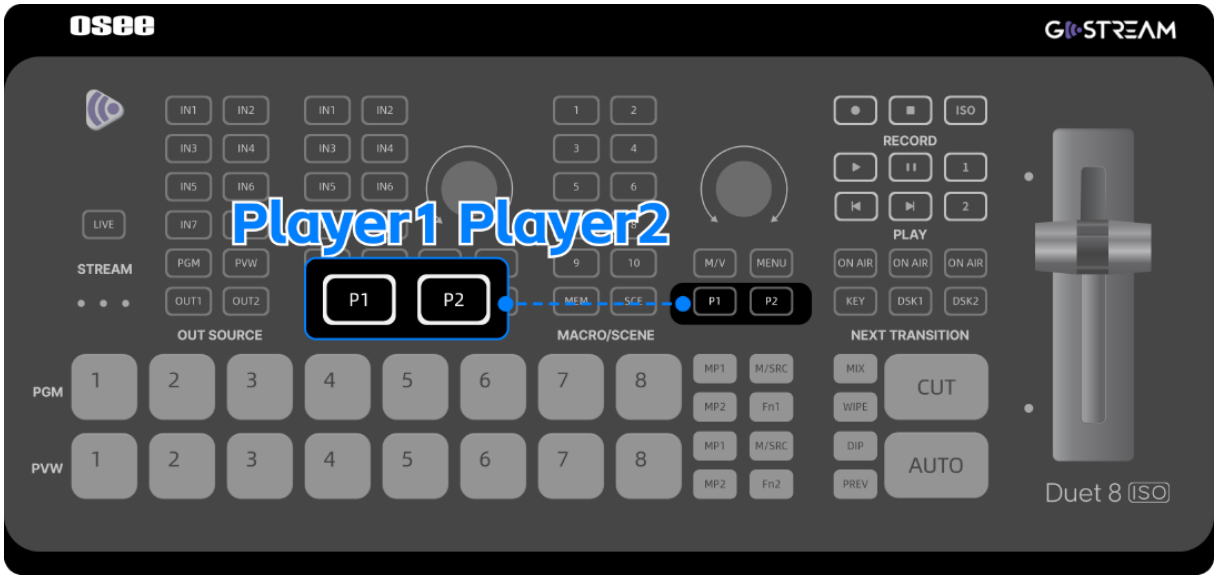


Figure 4.1-96 Player Playlist Buttons

- **Display Playlists**

  - **Player1 List**: Press the **P1** button in the menu control area to display the Player1 playlist, showing the list of video files in the videos1 folder.
  - **Player2 List**: Press the **P2** button in the menu control area to display the Player2 playlist, showing the list of video files in the videos2 folder.

- **Playlist Grouping Explanation (Player1 Example)**

The video files in the videos1 folder are grouped as follows, as shown in Figure 4.1.92:

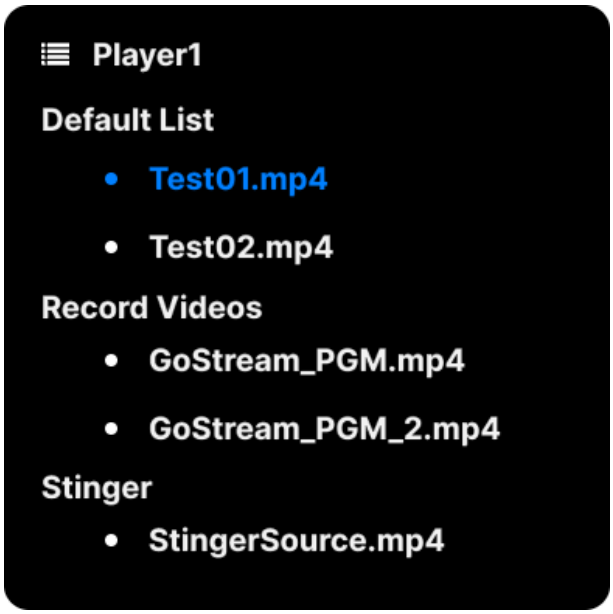


Figure 4.1-97 Video Select List

- **Default List**: Displays custom video files which are manually copied to the root directory of the videos1 folder.
- **Record Videos**: Displays video files recorded by the switcher.
- **Stinger**: Displays StingerSource video file used for transition effects.

■ **Select Playback Video**

Scroll the menu knob clockwise or counterclockwise to choose a clip from the playlist and select the target video file. Press the knob straight down to confirm the selection.

For example: Select the file Gostream_PGM.mp4.

Tips

- Video files must be stored in the videos1 or videos2 folders, otherwise, they cannot be recognized by the players.
- Manually copy user-defined video files to the root directory of the videos1 or videos2 folder.

Step 2 Set Playback Parameters

Navigate to **Playback → player1→ Playback Mode** to set it to **Single Play**, **Single Loop**, **Group Play**, or **Cross-Group Play**.

Navigate to **Playback → player2→ When Playback is Over** to set the video stop position after playback ends in different play modes.

Take single loop as example: Set **Playback → player1→ Playback Mode** to **Single Loop**.

Tips

- The switcher supports single-file playback and group playback. For detailed streaming media playback settings, refer to "5.1.13 PlayBack Settings".

Step 3 Set Preview Windows for Playback Video

In the multiview layout, the switcher provides two windows to display the playback of Player1 and Player2, as shown in Figure 4.1-98. By assigning the player sources to IN5 and IN6, users can monitor two video signals simultaneously.

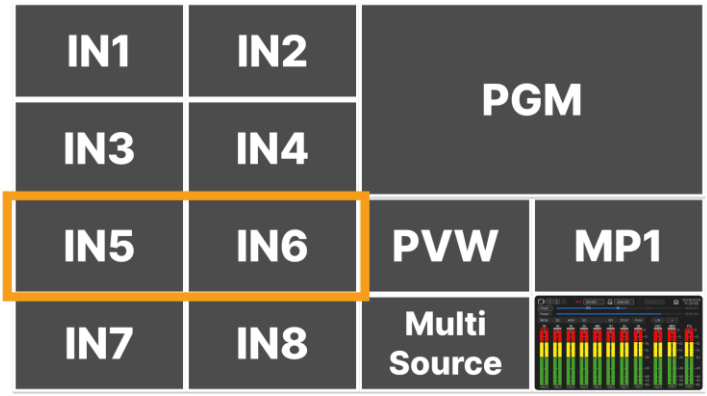


Figure 4.1-98 Player1 and Player2 Window Positions in MultiView Layout

■ **Input Channel Settings**

Set IN5 Channel: Navigate to **Input Settings→ src selection→ IN5**, and set it to **Player1**.

Set IN6 Channel: Navigate to **Input Settings→ src selection→ IN6**, and set it to **Player2**.

Step 4 Select Player

Switch the playback source to select either Player1 or Player2:

Press the button 1 in the PLAY area to switch to Player1, controlling video files in the videos1 folder.

Press the button 2 in the PLAY area to switch to Player2, controlling video files in the videos2 folder.

Example: Select Player1 by pressing the 1 button.

Step 5 Start and Pause Playback

Control playback progress using these buttons: **PREV**, **NEXT**, **PLAY** and **PAUSE**.

Press **Play** button to start playback. The button lights up in bright green, indicating playback is in progress.

Press **Pause** button to pause playback.

Press **PREV** button to skip to the previous segment or video file.

Press **NEXT** button to skip to the next segment or video file.

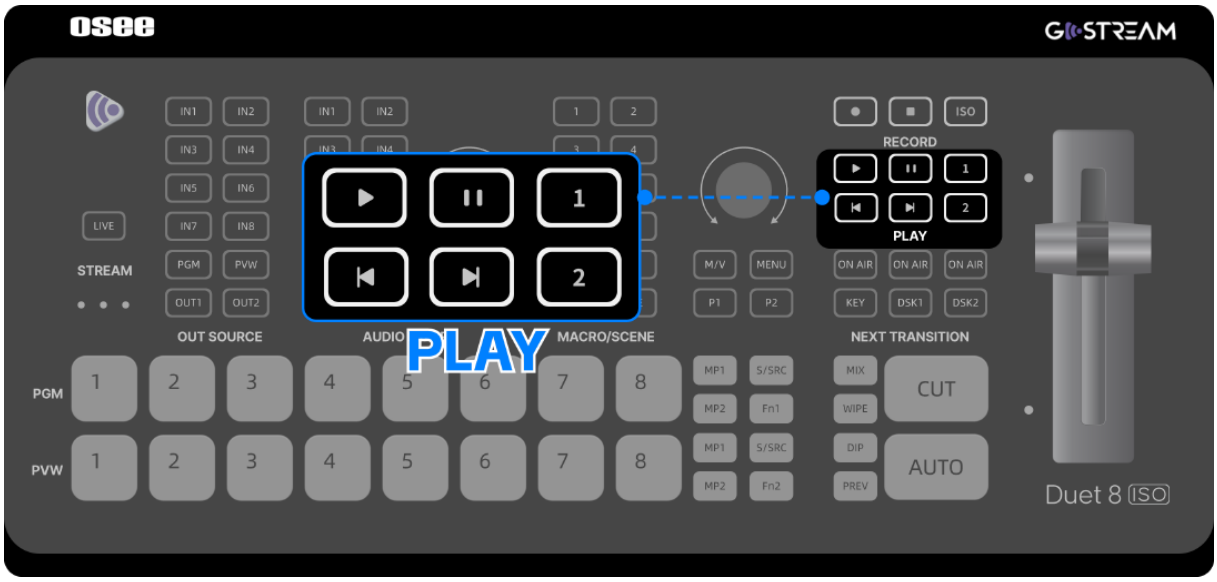


Figure 4.1-99 Playback Control Buttons

Tips

- In single loop mode, the previous/next buttons are unresponsive.
- In single play mode, the previous/next buttons reopen the video and pause at the first frame.

■ Playback Progress

A playback progress bar is displayed in the middle of the audio meter window at the lower-right corner of the multiview window (for both Player1 and Player2). The played progress is highlighted in blue, indicating the playback progress of the

current video in the media player.

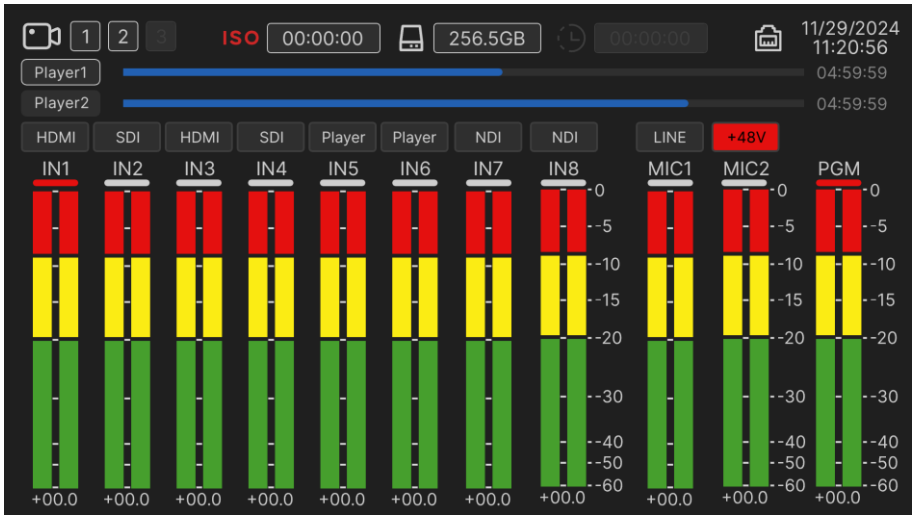


Figure 4.1-100 Playback Progress Bar

Tips

- For detailed settings on playback modes, refer to "5.1.13 PlayBack Settings".
- By categorizing and storing video files in the videos1 and videos2 folders, you can quickly locate and play back the desired videos.

4.1.3.23 Streaming and Broadcasting

GoStream supports two streaming methods:

- **Ethernet Streaming**

  Use the built-in streaming function for quick live broadcasting. Without the need for a computer, so you don’t need to use any complicated software to get started.

- **USB Webcam Streaming**

  Stream through third-party software (e.g., OBS, Zoom).

  The switcher will be recognized as a webcam via the streaming software which is installed in your external broadcast computer, and you must choose the switcher as webcam in the streaming software such as Open Broadcaster for streaming, that will broadcast your switcher's video and audio.

Here's how to stream:

1. **Method 1: Ethernet Streaming**

To stream via Ethernet, connect the switcher to the network via the Ethernet port, select your preferred streaming platform through the switcher menu, and enter the stream key. You can simply press **LIVE** button to start/stop streaming.

Step 1 Network Connection

Connect GoStream to the network via Ethernet connector using a network cable. It may take a moment for DHCP to find the unit and assign an IP address.

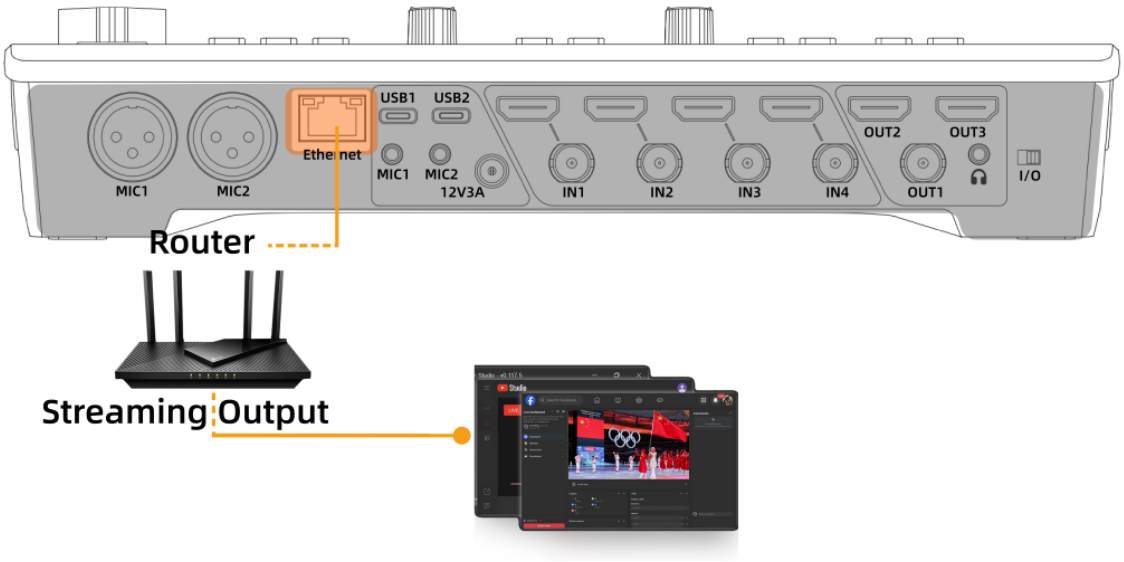


Figure 4.1-101 Ethernet Connection

Step 2 Obtain Streaming Key

Retrieve the stream key from your streaming platform.

Save the key as a TXT file on an SD card.

Step 3 Parameter Configuration

Press **MENU** on the switcher to access parameter settings. Set streaming key, platform and network parameters in **Stream** and **Settings** menu individually.

☐ Navigate to **Stream→ Stream***:

- Select streaming platform
- Enter/load the stream key
- Enable streaming channels (supports 3 simultaneous streams)

GoStream provides up to 3 Stream channels that you can broadcast to three streaming applications simultaneously.

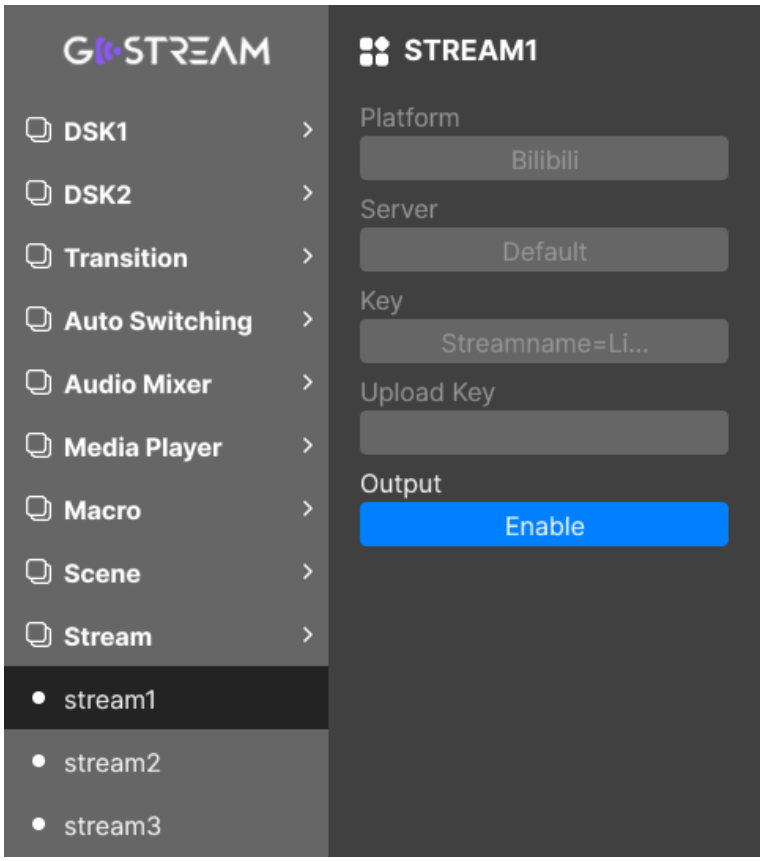


Figure 4.1-102 Stream Menu

☐ **Settings→ network:**

Select DHCP for automatic network configuration, and the switcher will get its IP address automatically.

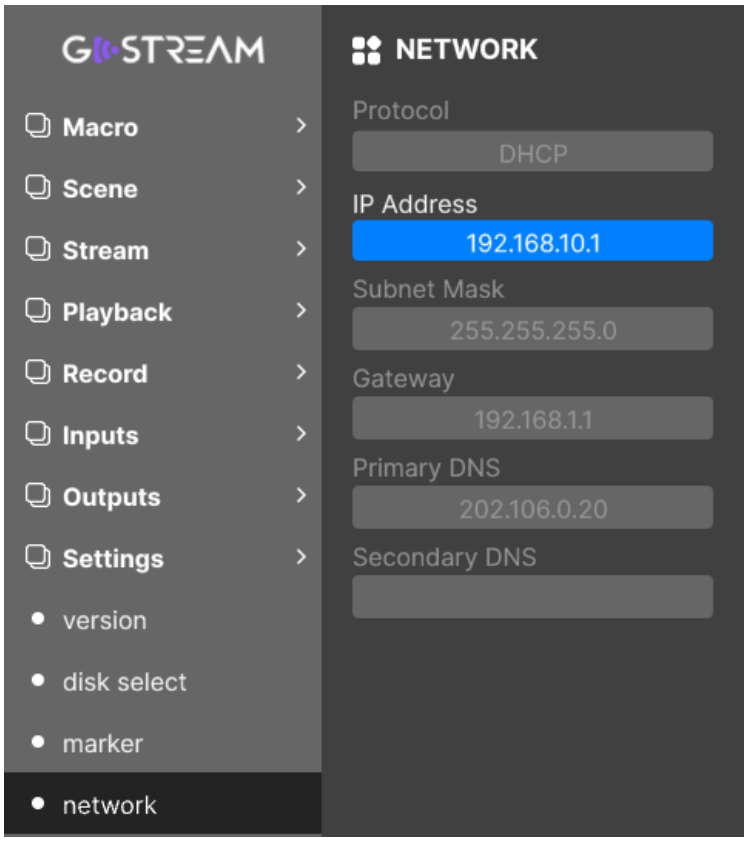


Figure 4.1-103 Network Menu

Tips

- These settings will be stored in your switcher and you can then plug into any internet connection at any time and broadcast directly from the unit.

Step 4 Live and Quit live

Once you have completed the all the relevant settings for your stream, you can simply press **LIVE** button to go live! You are now broadcasting!

When your broadcast has finished, press **LIVE** button again on the switcher, and your stream is stopped.



Figure 4.1-104 Streaming Control Button

Step 5 Monitor Streaming Status

Check streaming status (Stream 1~Stream3) in the top-left corner of the audio meter window at the right corner of Multiview. Active channels are indicated in red, as shown in Figure 4.1-105:

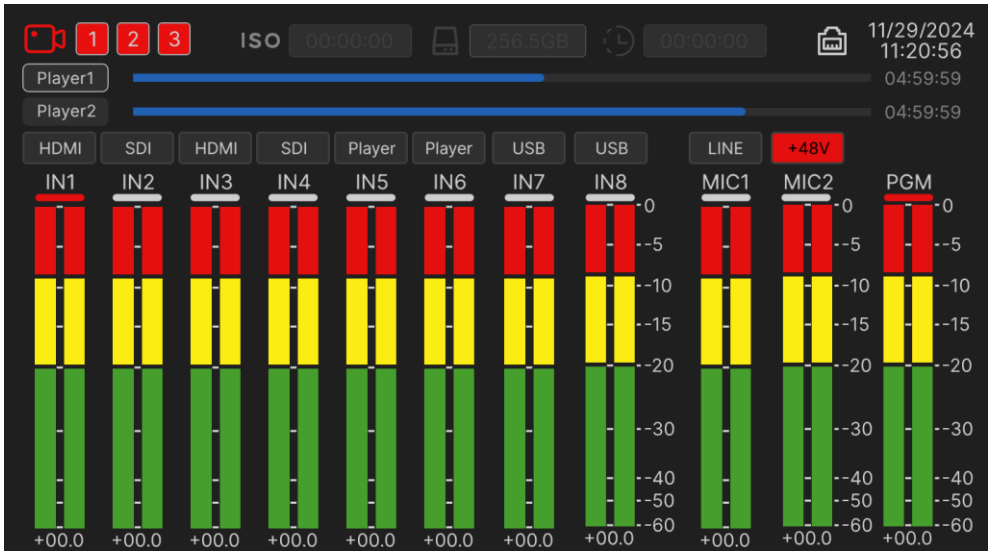


Figure 4.1-105 Streaming View

Tips

- Set **Stream→stream*→Output** as **Enable** to tick the "**stream***" checkbox, this will activate this stream channel.

2. Method 2: USB Webcam Mode

Connect the switcher to a computer via USB1 or USB2 port.

The switcher will be recognized as a webcam.

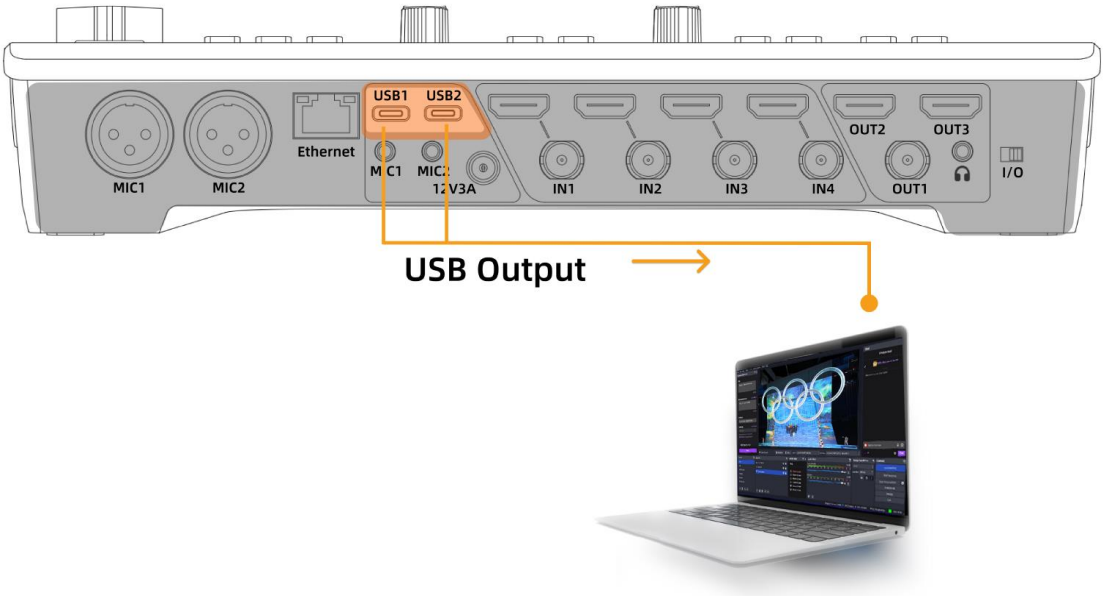


Figure 4.1-106 USB Connection

Device Recognition Verification: Once you have connected GoStream, the switcher will be recognized as a webcam, you can check this in your device management list, as shown in Figure 4.1-107:

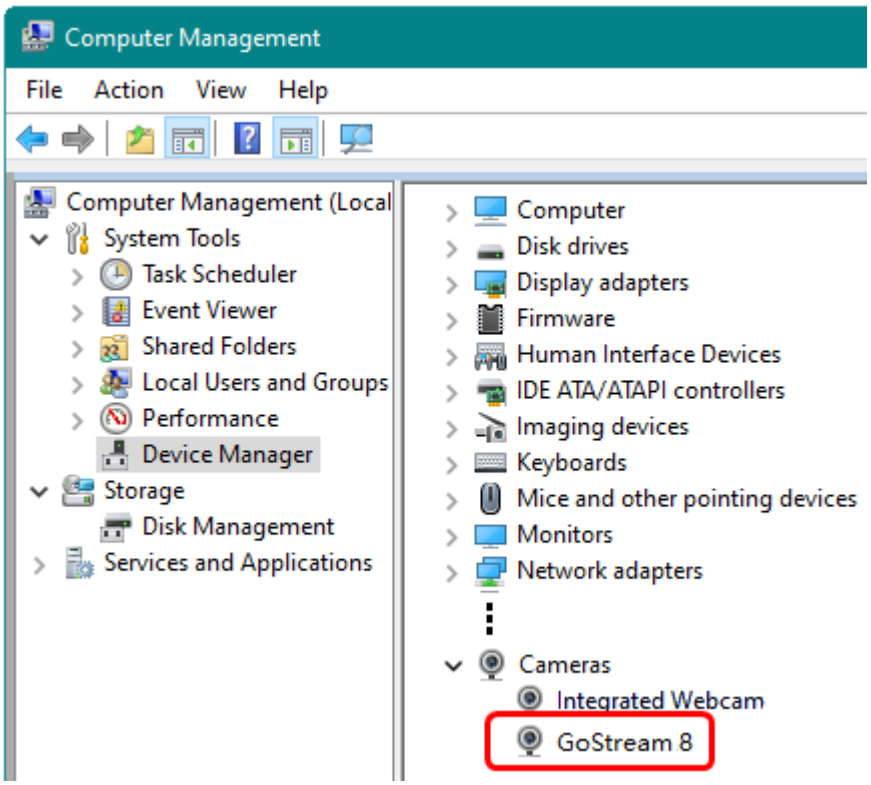


Figure 4.1-107 Device Manager Showing Recognized Switcher

Software Configuration: Lauch streaming software on the computer (e.g., Skype, Zoom, OBS Studio), and select "**GoStream 8**" as the video source.

Take Tencent VooV Meeting for example. After sign up and log in to VooV Meeting, you can create or join a meeting, then click "Start Video" tab to select GoStream as the video input source, confirm the configuration as shown in Figure 4.1-108:

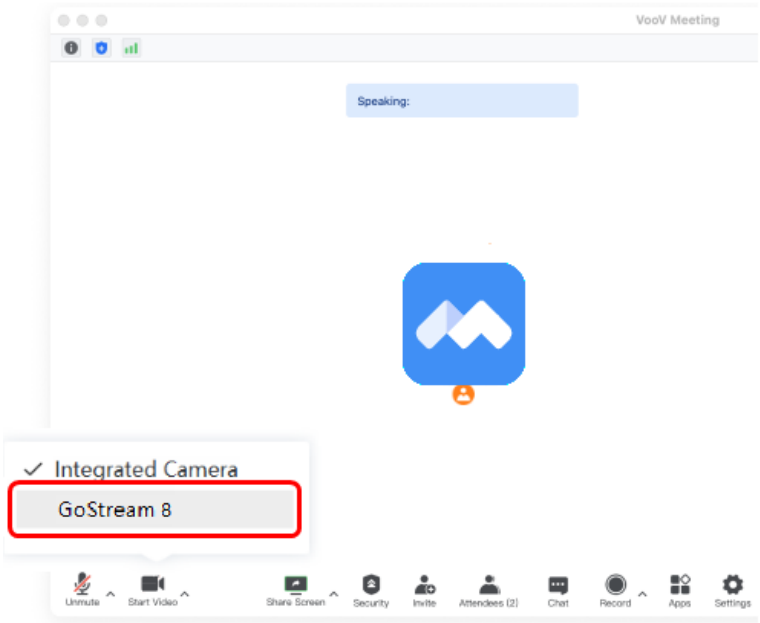


Figure 4.1-108 Recognized as Webcam

Tips

- Make sure GoStream and the computer on which the streaming program will recognize the switcher as Webcam should be at the same network segment.
- Refer to "5.1.12Stream" for details about **Streaming Key** setting.
- As you're setting up your broadcast, it's worth loading a testing graphic into switcher and switching it to the program output so you can perform a quick test broadcast before actually going live.
- In case of bad video streaming, please take notice to your network connection or internet speed when the stream button's status is yellow.

4.1.3.24 Obtain Stream Key

Before setting up your stream, you will need to get a stream key first.

When configuring streaming settings, you'll need to input a stream key. This unique identifier is provided by platforms like YouTube Live or bilibili Live to authorize your broadcast.

This is assigned to your broadcast by your streaming platform, such as YouTube Live, Bilibili, Facebook Live or Twitch, etc. That is, the platform will generate a stream key for your broadcasting.

In the following example you can see how to generate a stream key using YouTube Live software.

Step 1 Account Login

Sign in to your YouTube account.

Step 2 Create Stream Key

Navigate to the 'video/live' option and click 'get started', then select 'stream' options, enter your broadcast details and click 'create stream'. An auto generated stream key will appear.

Step 3 Copy Stream Key

Click 'copy' to copy the stream key.

Step 4 Paste Stream Key

Then, all you need to do is copy the stream key and paste it into the ‘key’ setting in your switcher's stream options. You have two methods, by manual input or uploading from a key file of SD card.

Refer to "5.1.12 Stream Settings" for details.

4.2 CONNECTORS

It will introduce the arrangement and operations of the connectors in the rear panel as follows.

4.2.1 Rear Connectors Arrangement

The rear connectors of GoStream are as shown in Figure 4.2-1:

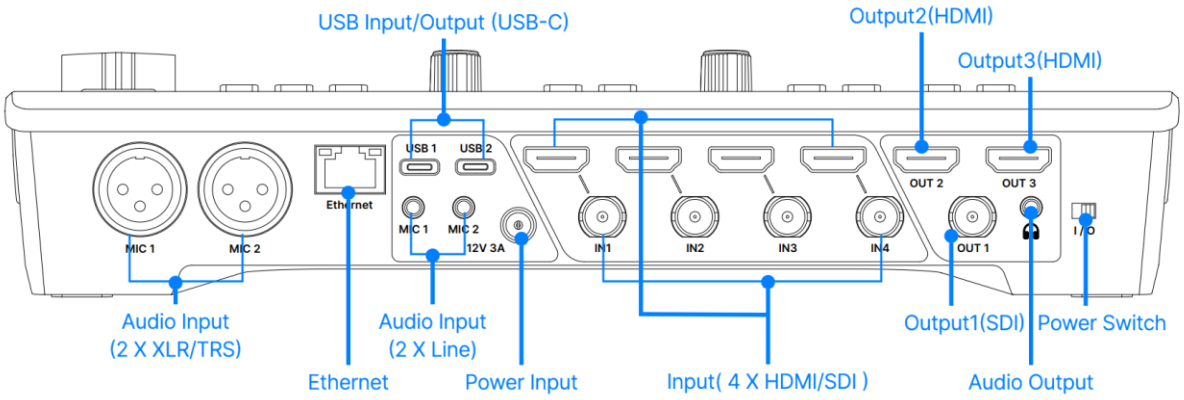


Figure 4.2-1 Connectors on the Rear

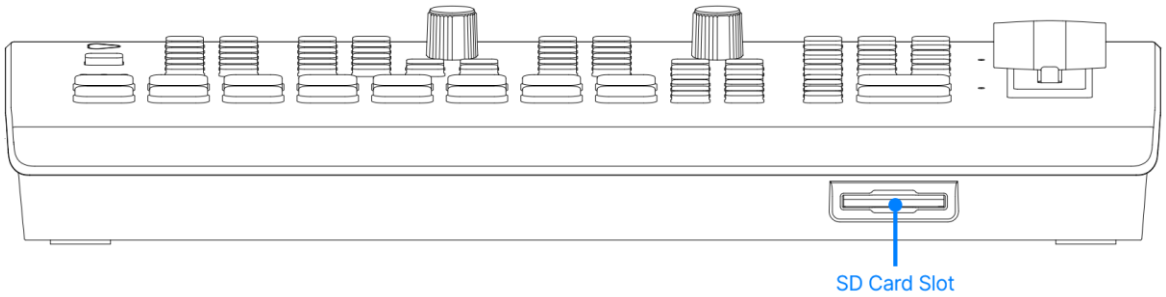


Figure 4.2-2 Connectors on the Rear

No.	Label	Description
1	MIC1	MIC1 Input(XLR)
2	MIC2	MIC2 Input(XLR)

No.	Label	Description
3	MIC1	MIC1 Input (LINE, 3.5mm)
4	MIC2	MIC1 Input (LINE, 3.5mm)
4	IN1	In1 Input (SDI/HDMI)
5	IN2	In2 Input (SDI/HDMI)
6	IN3	In3 Input (SDI/HDMI)
7	IN4	In4 Input (SDI/HDMI)
8	USB1	USB Input/Output(Type-C)
9	USB2	USB Input/Output(Type-C)
10	OUT1	Output 1(SDI)
11	OUT2	Output 2 (HDMI)
12	OUT3	Output 3 (HDMI, Multiview)
13	Ethernet	Ethernet
14	POWER	Power Input(12VDC 3A)
15	I/O	Power Switch. Switch to the “I” position to power on the device. Switch to the “O” position to power off the device.
16	Earphone	Earphone, 3.5mm Stereo Jack
17	SD	SD Slot. An SD card is used to record video outputs, store preloaded media files for playback, and perform firmware upgrades on the switcher.

Tips

- GoStream features four HDMI/SDI inputs so you can connect external signal sources, labeled as HDMI1~HDMI4, SDI1~SDI4 separately.

4.2.2 Rear Connectors Operations

The details of these connectors at the rear panel are described as follows:

1. **MIC(audio input)**

The switcher supports 2 independent audio inputs, labeled as MIC1 and MIC2, typically provided by external microphones or audio devices. Depending on the audio source type, these inputs can be connected via XLR or 3.5mm interfaces. Audio system supports 2 selectable from 4 inputs (XLR/3.5mm combo).

XLR Interface, a professional-grade balanced audio interface with strong anti-interference capabilities. Commonly used to connect condenser microphones, dynamic microphones, and professional audio equipment.

3.5mm Interface, a consumer-grade unbalanced audio interface, portable and easy to use. Typically used for lavalier microphones and consumer audio devices (e.g., smartphones, tablets, MP3 players).

The common audio inputs connection to the switcher, are shown in Figure 4.2-3.

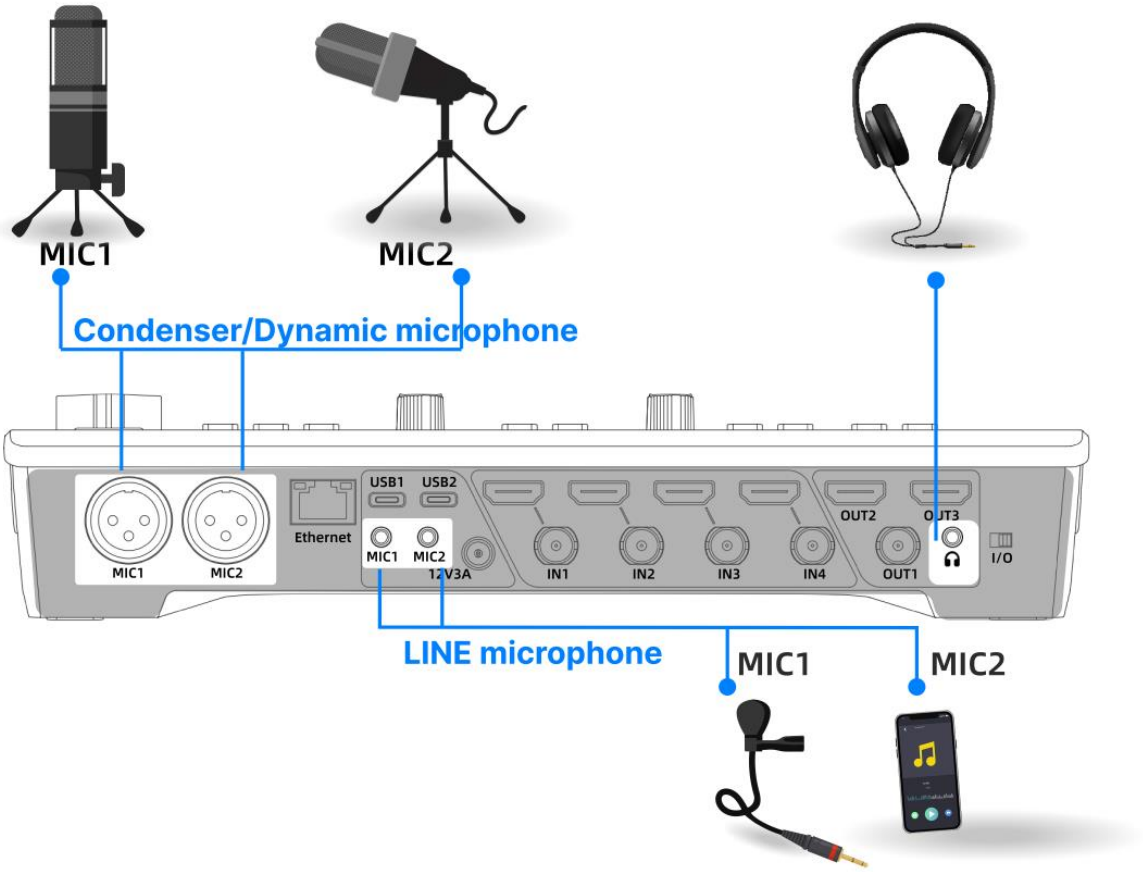


Figure 4.2-3 MIC Inputs

To avoid signal distortion or overload, ensure the input signal level matches the interface type and correctly set the corresponding audio source type (e.g., Line, Mic, XLR) in the switcher. The switcher will automatically allocate appropriate parameters (e.g., gain range, phantom power status) based on the settings to ensure clear and stable signal transmission.

Configure the MIC1 and MIC2 audio channels through the following menu:
For MIC1:

Set audio channel MIC1:

Enter **Audio Mixer → Mic1 → Port,** set as 3.5mm or XLR;

Enter **Audio Mixer → Mic1→ Mic Type,** set as Line, Mic, Dynamic or Condenser;

For MIC2:

Set audio channel MIC2:

Enter **Audio Mixer → Mic2 → Port,** set as 3.5mm or XLR;

Enter **Audio Mixer → Mic2→ Mic Type,** set as Line, Mic, Dynamic or Condenser.

The types of audio input signals are described in detail in the following table:

Table 4.2-1 Types for MIC Inputs

Port	MIC **Type**	**Description**
3.5mm	Line	A line-level unbalanced signal input via a 3.5mm interface, typically from consumer devices (e.g., smartphones, tablets, MP3 players).
	Mic	A microphone-level signal input via a 3.5mm interface, commonly used for portable microphones (e.g., lavalier mics).
XLR	Dynamic	A microphone-level signal input via an XLR interface, no phantom power required, typically used for dynamic microphones.
	Condenser	A microphone-level signal input via an XLR interface, 48V phantom power required, typically used for condenser microphones.

Tips

- Set audio channel parameters by **Audio Mixer→ MIC1/MIC2**, refer to "5.1.8 Audio Mixer Settings" for details.
- The two audio channels can be independently configured, supporting simultaneous use of XLR and 3.5mm input combinations (requires setting different input sources in the menu).

2. PHONE

It provides one audio output interface for monitoring the program output, labeled as **PHONE**. The output channel is specified by the parameter setting by **Audio**

Mixer→headphone→Source item.

Tips

- Set the phone parameters by **Audio Mixer→ headphone** item, refer to "5.1.8 Audio Mixer Settings" for details.

3. IN1~IN4

It supports four HDMI HDMI/SDI inputs, labeled as IN1, IN2, IN3, IN4.

Plug your HDMI/SDI cameras and other HDMI/SDI sources into the switcher's inputs.

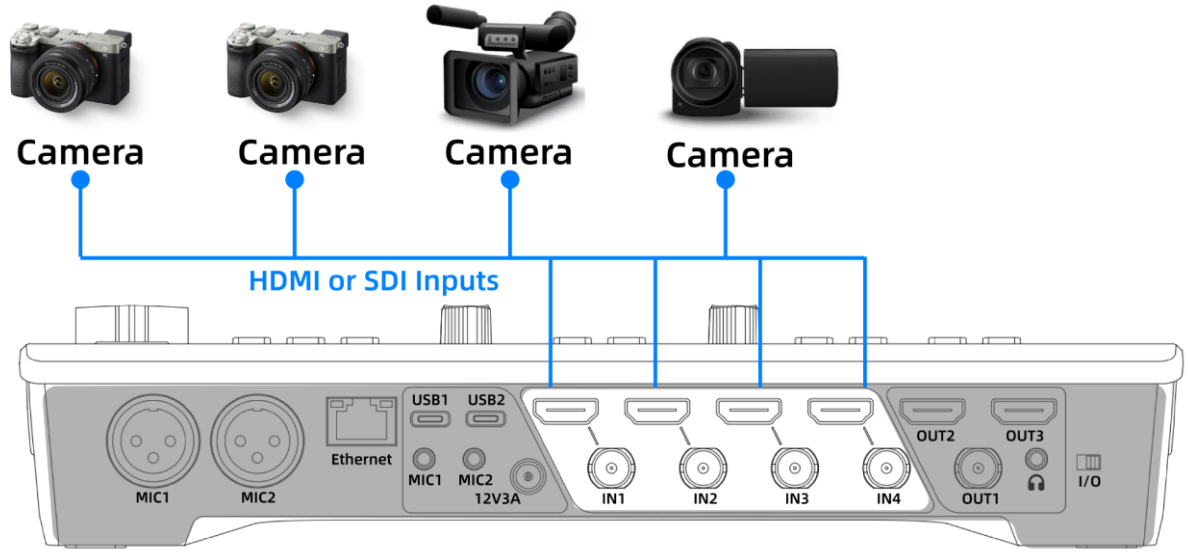


Figure 4.2-4 IN1~IN4 Inputs

Configure the IN1~IN4 input channels through the following menu。

Input Type Settings (as shown in Figure 4.2-5):

Set IN1 Channel: Navigate to **Input Settings→ src selection→ IN1**, and set it to SDI or HDMI.

Set IN2 Channel: Navigate to **Input Settings→ src selection→ IN2**, and set it to SDI or HDMI.

Set IN3 Channel: Navigate to **Input Settings→ src selection→ IN3**, and set it to SDI or HDMI.

Set IN4 Channel: Navigate to **Input Settings→ src selection→ IN4**, and set it to SDI or HDMI.

CHANNEL	1	2	3	4
SOURCE	HDMI/ SDI	HDMI/ SDI	HDMI/ SDI	HDMI/ SDI

Figure 4.2-5 IN1~IN4 Inputs Settings

4. OUT1/OUT2: program output

It supports one program output, labeled as OUT1.

The switcher provides 2 output signal interfaces, labeled as OUT1 (SDI) and OUT2 (HDMI). By default, these outputs carry the PGM (Program) signal.

Connect a monitor with a matching interface type to your switcher's OUT1 (SDI) and OUT2 (HDMI) to monitor the output signal and verify the source status.

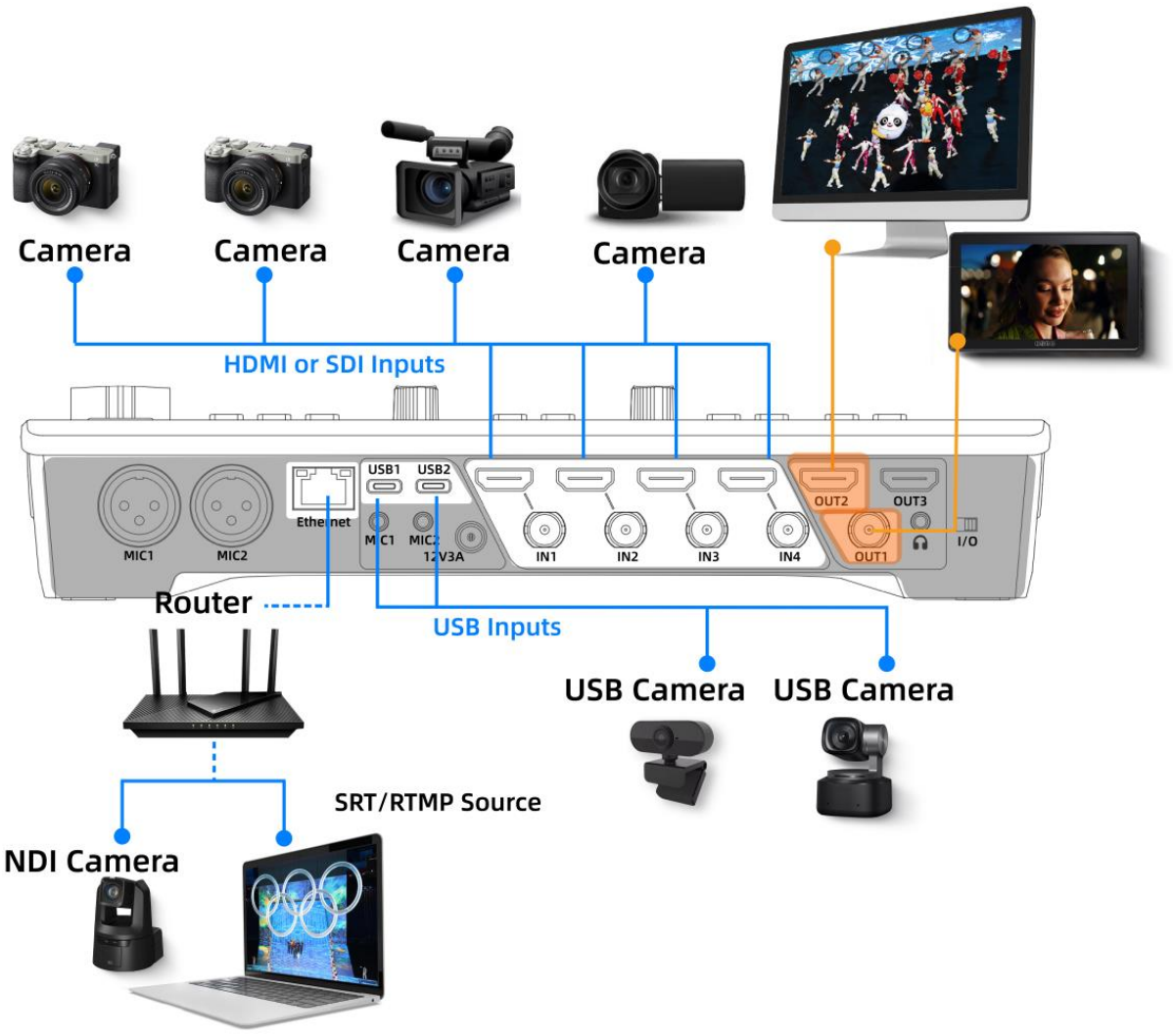


Figure 4.2-6 Connection for OUT1/OUT2 Interfaces

Configure the output parameters through the following menu:

Output Format Settings:

Navigate to **Outputs→ out format,** and set the output format, for example, 1080p60.

Output Content Settings (as shown in Figure 4.2-7):

For OUT1:

Navigate to **Outputs→ video source → Out1.** Select the video source from Input 1~8, Program (PGM), Preview (PVW). The default output is Program (PGM).

Navigate to **Outputs→ audio source→ Out1.** Select the audio source from Input 1~8, Program (PGM), MIC1, MIC2. The default output is Program (PGM).

For OUT2:

Navigate to **Outputs→ out source→ Out2.** Select the output source from Input 1~8, Program (PGM), Preview (PVW). The default output is Program (PGM).

Navigate to **Outputs→ audio source→ Out2.** Select the audio source from Input 1~8, Program (PGM), MIC1, MIC2. The default output is Program (PGM).

CHANNEL	OUT1(SDI)										
VIDEO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	PVW	---
AUDIO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	MIC1	MIC2
CHANNEL	OUT2(HDMI)										
VIDEO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	PVW	---
AUDIO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	MIC1	MIC2

Figure 4.2-7 OUT1/OUT2 Output Channel Settings

Tips

- The other parameters for output settings, refer to "5.1.16 Outputs Settings" for details.

5. OUT3：Multiview output

It supports one multiview output, labeled as OUT3.

Plug an HDMI television or monitor into your switcher’s HDMI output3.

This output supports monitoring the Program Output (PGM), Preview Output (PVW), and a combination of all HDMI/SDI inputs on a single screen. It can also

display the media player, streaming status, audio levels, and equalizer. By default, this output is set to the MultiView signal.

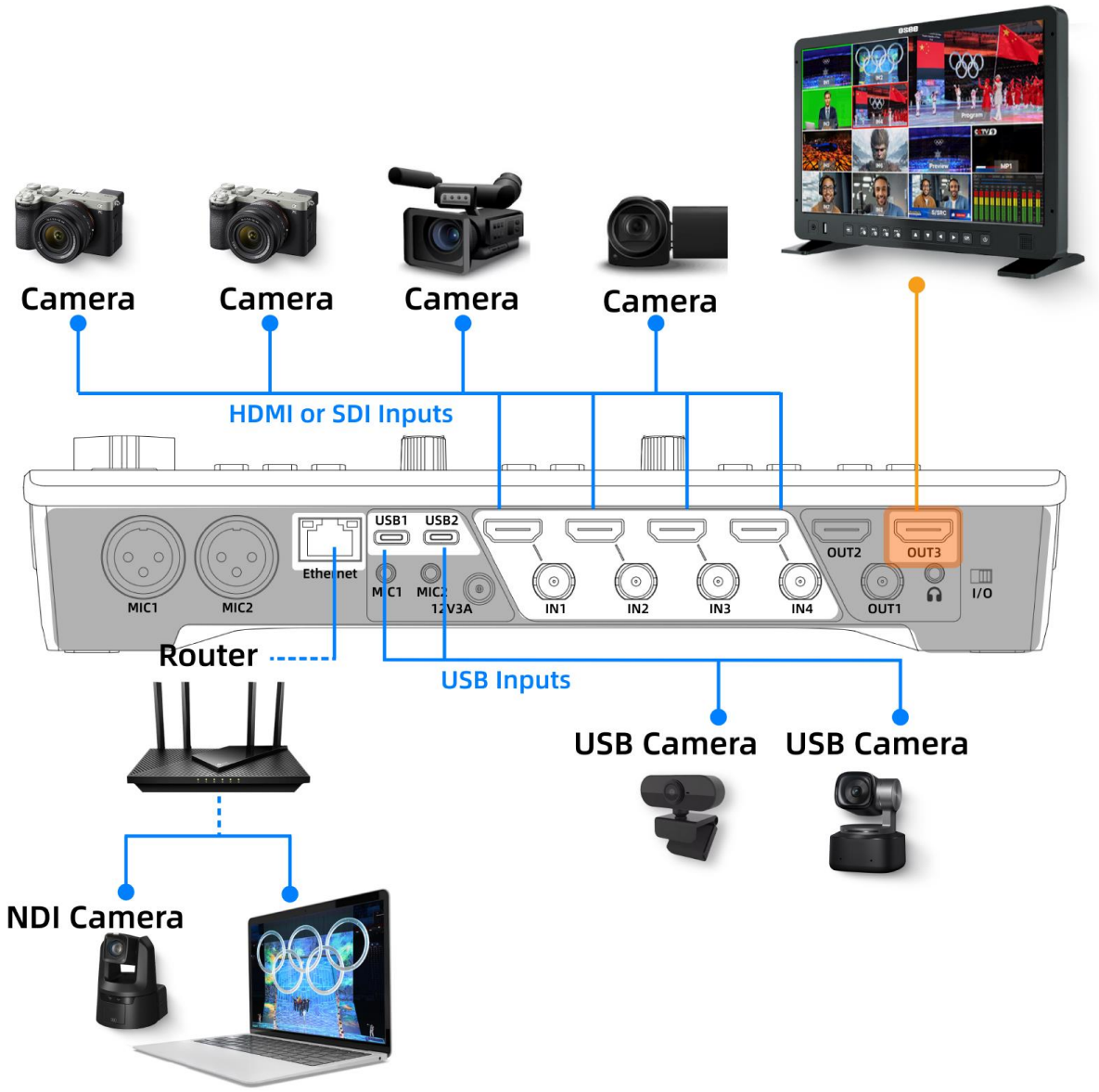


Figure 4.2-8 Multiview Display

Tips

- The output source for OUT3 is set to multiview by default, and unchangable in device settings.

6. USB

The switcher provides 2 USB signal interfaces, labeled as USB1 and USB2. The

USB interfaces support bidirectional transmission, functioning as both input and output interfaces, offering high flexibility and scalability for video production.

■ Input Interface

When used as an input channel, the USB interface can connect external devices (e.g., camera devices) to import video signals into the switcher as input sources, as shown in Figure 4.2-9. These signals can be directly used for live streaming or recording.

Signals from the USB interface are assigned to input channels **IN7** and **IN8**. Configure the input parameters through the following menu:

Input Channel Settings (as shown in Figure 4.2-10):

Set USB1 Channel: Navigate to **Input Settings→ src selection→ IN7**, and set it to **USB1 CAM**.

Set USB2 Channel: Navigate to **Input Settings→ src selection→ IN8**, and set it to **USB2 CAM**.

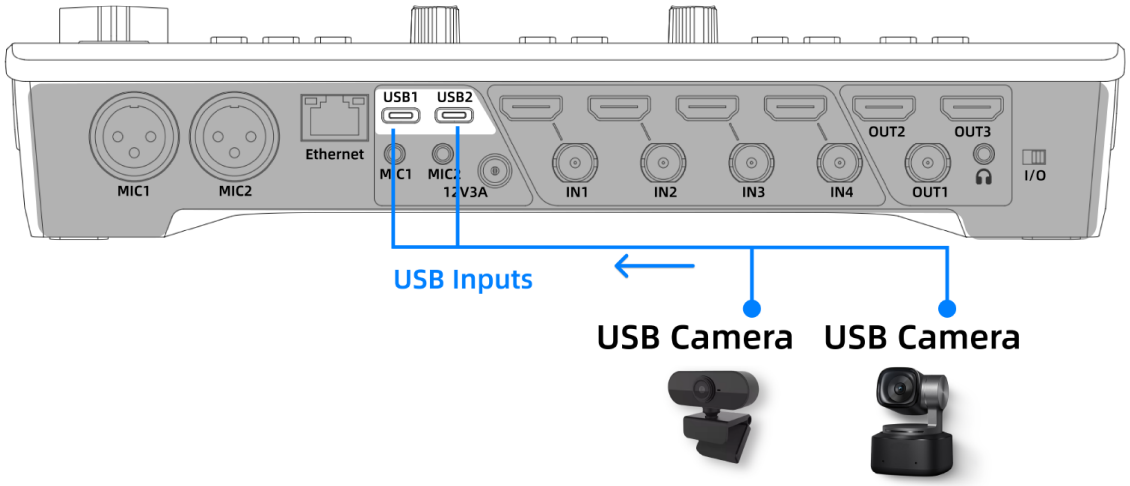


Figure 4.2-9 USB Inputs through USB

CHANNEL	7	8
SOURCE	USB1 CAM	USB2 CAM

Figure 4.2-10 USB Inputs Channels

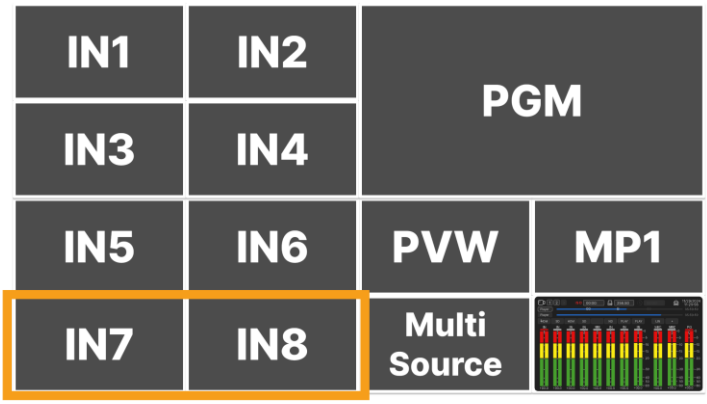


Figure 4.2-11 IN7 and IN8 Position on Multiview

■ Output Interface

When used as an output channel, the USB interface can transmit the Program Output (PGM) signal to a computer via the USB-C interface, as shown in Figure 4.2-12. In this mode, the switcher is recognized as a virtual camera device named "**GoStream 8**", and can be directly accessed by software such as OBS, Zoom, and Teams.

Configure the output parameters through the following menu:

Output Format Settings:

Navigate to **Outputs→ out format,** and set the output format, for example, 1080p60.

Output Source Settings:

Navigate to **Outputs→ video source→ USB Output.**, and select the output source from Input 1~8, or Program (PGM). The default output is Program (PGM), as shown in Figure 4.2-13.

Navigate to **Outputs→ audio source→ USB Output.**, and select the output source from Input 1~8, Program (PGM), MIC1 or MIC2. The default output is Program (PGM).

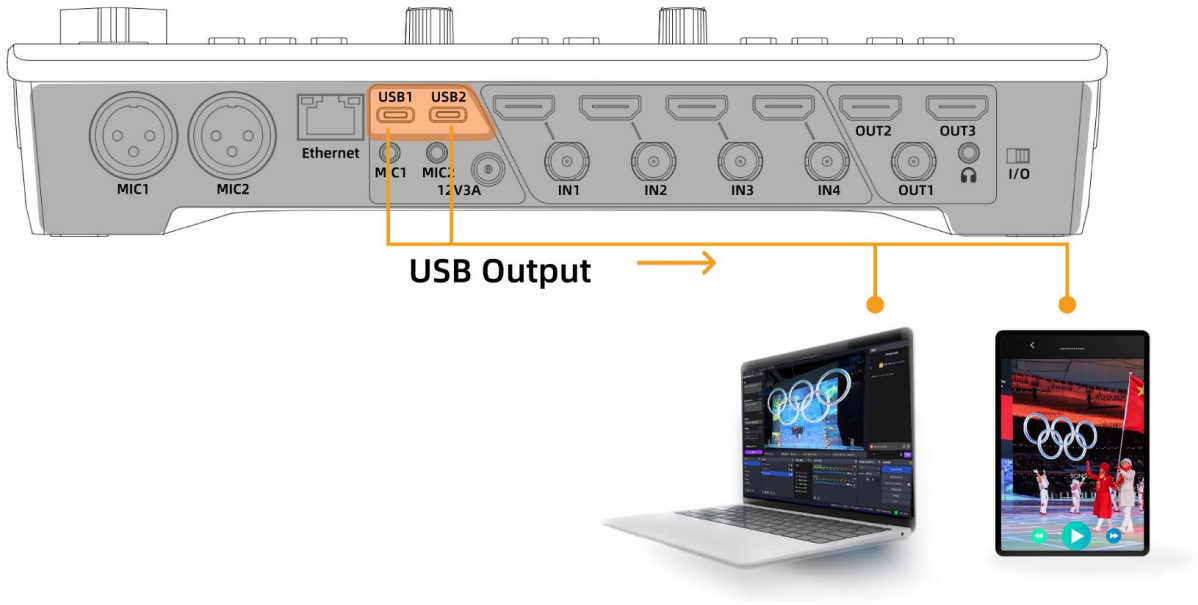


Figure 4.2-12 USB Outputs through USB

CHANNEL	USB OUT(USB1/USB2)										
VIDEO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	---	---
AUDIO SOURCE	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	PGM	MIC1	MIC2

Figure 4.2-13 USB Outputs Channels

7. Ethernet(RJ-45)

The Ethernet (RJ45) interface is a crucial network expansion port for the switcher, supporting a variety of application scenarios.

Interface Type: RJ45, supporting 10/100/1000 Mbps auto-negotiation.

Protocol Support: NDI|HX3, SRT/RTMP, TCP/IP, UDP, HTTP, and more.

Application Scenarios Enabled by Ethernet:

- **Device Interconnection**

The switcher can connect to devices supporting network protocols (e.g., NDI, SRT/RTMP) via the Ethernet interface, including NDI cameras and virtual studio software on PCs.

Example: Receive NDI signal sources (e.g., NDI cameras) as input sources. The device connection is shown in Figure 4.2-14. All devices must be on the same local network segment.

Signals from the network interface (NDI/SRT/RTMP) are assigned to input channels IN5~IN8 by default. Each channel can be independently configured as

an NDI or SRT/RTMP input source.

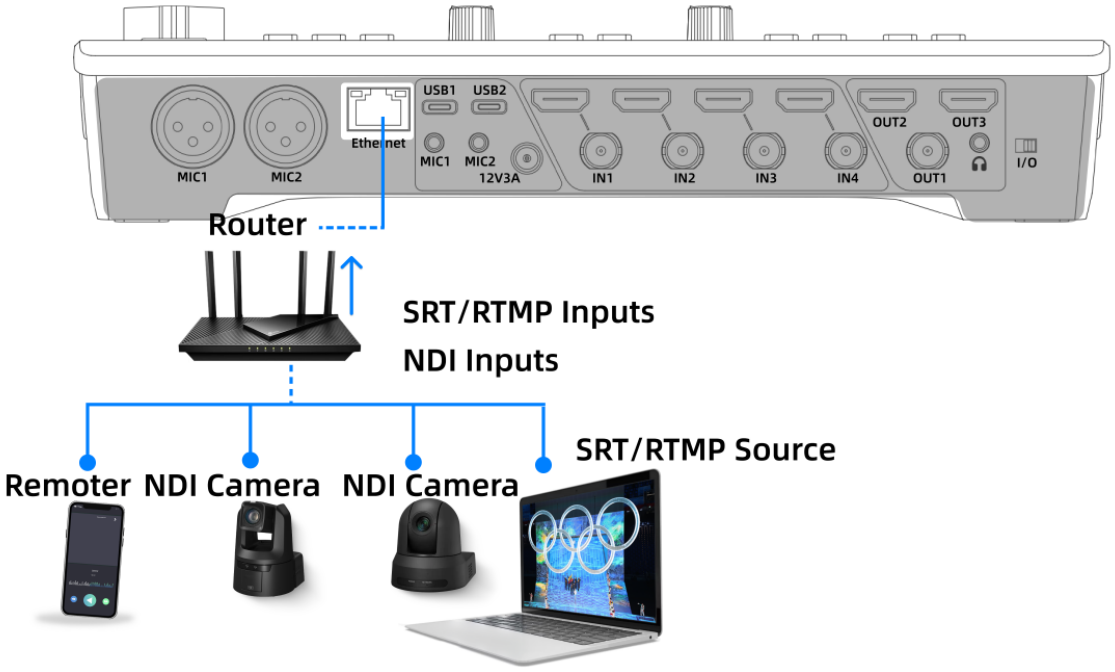


Figure 4.2-14 Ethernet Inputs

Input Channel Settings:

Example: IN5 is used as an example to demonstrate how to configure it as an NDI input or SRT/RTMP input. The settings for IN6~IN8 are similar and will not be repeated here.

☐ **Configuring NDI Channels**

Set Input Channel Type:

Navigate to **Input Settings→ src selection→ IN5**, and set it to **NDI**.

Select NDI Device:

Navigate to **Input Settings→ NDI → IN5**, and select the device (e.g., XXX NDI PTZ Camera).

☐ **Configuring SRT/RTMP Channels**

Set Input Channel Type:

Navigate to **Input Settings→ src selection→ IN5**, and set it to **SRT/RTMP**.

Set SRT/RTMP Address:

Navigate to **Input Settings→ SRT/RTMP → IN5 URL/Upload URL**, and enter the address (e.g., srt://192.168.1.20:10000).

■ **Streaming Transmission**

The switcher supports protocols such as NDI, SRT, and RTMP, enabling direct streaming to platforms like YouTube and Facebook. It also supports synchronous multi-stream output, with up to 3 independent streams (STREAM1, STREAM2, STREAM3).

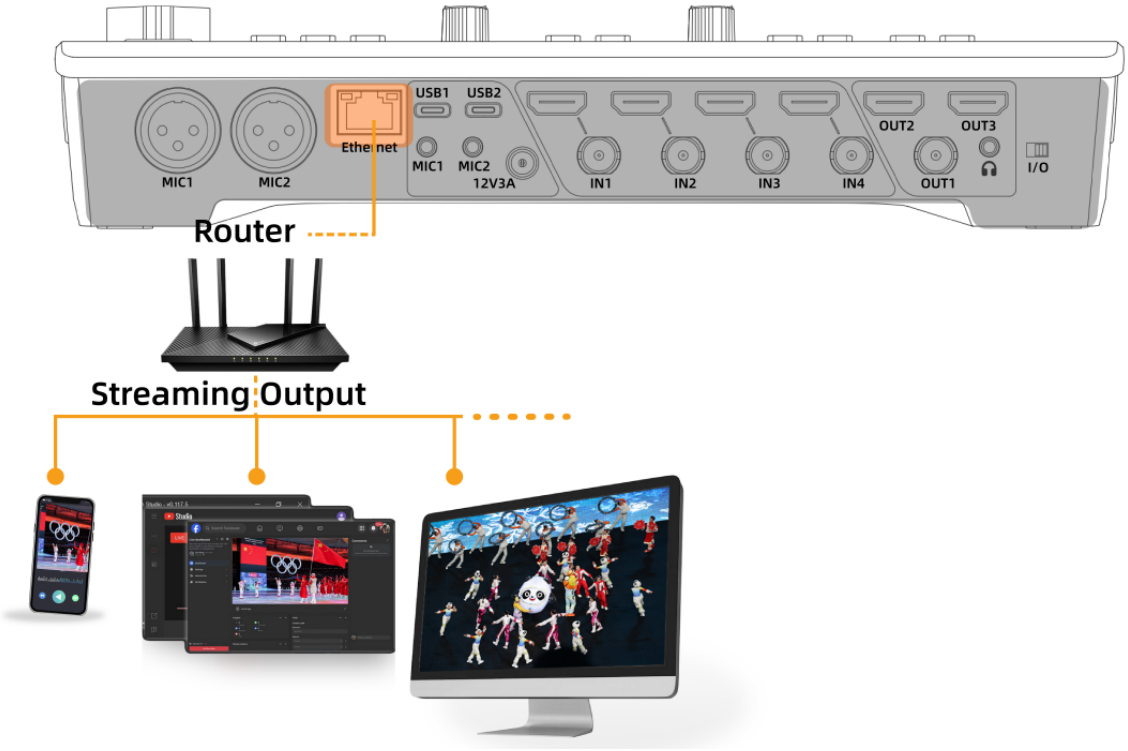


Figure 4.2-15 Ethernet for Streaming Output

Configure the output parameters through the following menu:

Output Source Settings:

Navigate to **Outputs → audio source→ Streaming Out**. Select the audio output source from Input 1~8, Program (PGM), MIC1 or MIC2. The default video output is Program (PGM).

Streaming Platform Settings:

Navigate to **Stream→ Stream1/ Stream2/ Stream3,** configure the streaming platform addresses (e.g., RTMP URLs) for each stream.

- **Remote Control**

Use TCP/IP protocol to connect to control software (e.g., GoStream Control Software) for remote operation of the switcher via a computer or tablet.

- **Firmware Updates and File Transfers**

Quickly update the switcher's firmware or transfer configuration files (e.g., user presets, macros) via Ethernet.

Network Basic Settings:

Navigate to **System Settings → Network**. Choose DHCP or manually assign an IP address to ensure the switcher is on the same subnet as other LAN devices.

Tips

- For detailed instructions on streaming operations, please refer to "4.1.3.23 Streaming and Broadcasting".

8. Power

It provides one DC power connector, 12V3A DC.

Plug in power supply using the supplied power adapter. Tighten the connector to the unit with the locking ring to secure the connection to the switcher. This locks the power cable to the device preventing it from being accidentally removed.

Warning

- Only use the adapter and the power cord specified by the manufacture for your safety！

9. SD card: Signal Source, Recording and Storage Medium

The SD card serves as a multifunctional storage medium, acting both as a signal source to provide video files and as a recording storage device to save the switcher's recordings (e.g., PGM signals, ISO files) to system-specified folders. Through the menu and control panel, users can effectively control recording and playback operations.

■ Providing Signal Sources

The switcher supports reading video files from the videos1 and videos2 folders on the SD card, providing two input source signals assigned to IN5 and IN6, respectively. The relative window positions in the multiview display are shown in Figure 4.2-16.

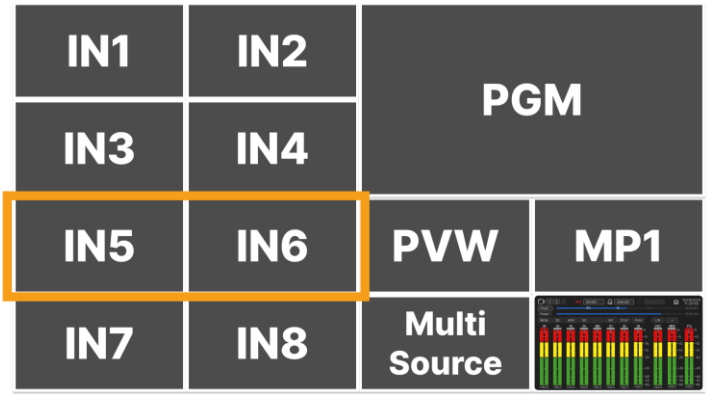


Figure 4.2-16 IN5 and IN6 Position on Multiview

Input sources read from the SD card are assigned to input channels IN5 and IN6. Configure the input parameters through the following menu paths:

Input Channel Settings (as shown in Figure 4.2-17):

Set IN5 Channel: Navigate to **Input Settings→ src selection→ IN5**, and set it to **Player1**.

Set IN6 Channel: Navigate to **Input Settings→ src selection→ IN6**, and set it to **Player2**.

CHANNEL	5	6
SOURCE	Player1	Player2

Figure 4.2-17 Player1 as IN5 and Player2 as IN6

Selecting Playlists:

When IN5 or IN6 is linked to an input source from the SD card, the **P1** and **P2** buttons in the control panel's menu area are used to open the corresponding playlists. The button locations are shown in Figure 4.2-18. Using the **MENU** button and menu knob, users can browse and select video files to play. The **PLAY** area buttons allow operations such as play and pause, ensuring seamless integration of video resources into the production workflow.

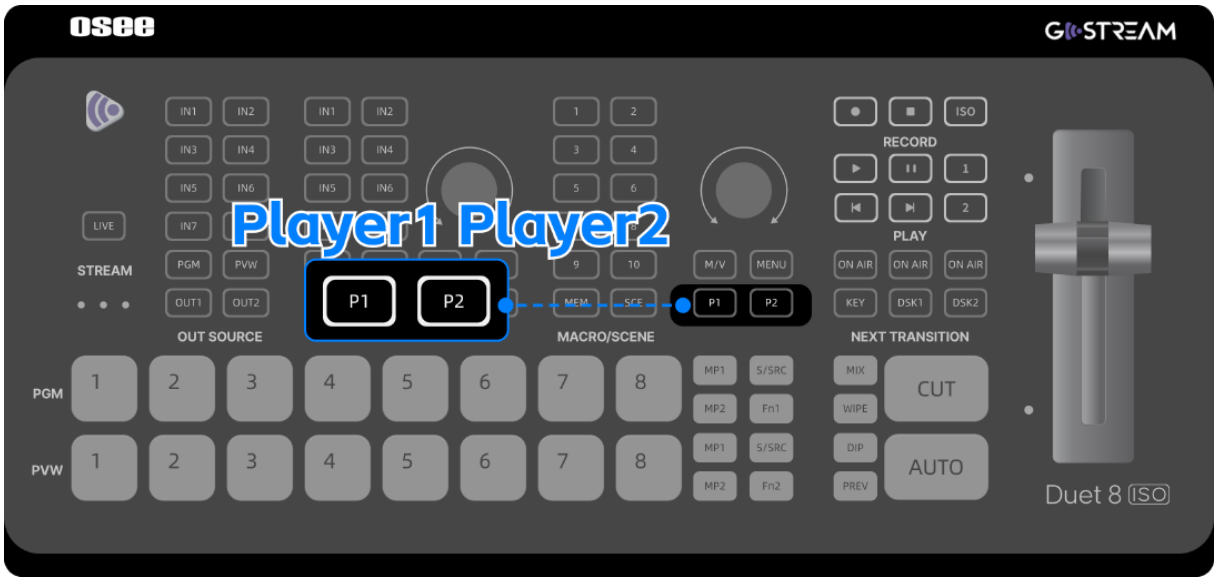


Figure 4.2-18 Play List Buttons for Player1 and Player2

Tips

- Configure playback modes through the **Playback** menu, and control the playback process using the **Play** area buttons on the control panel. For detailed instructions, please refer to “4.1.3.22 How to Record and Play”.

■ As Recording and Storage Medium

The SD card is used to store recorded videos and is operated in conjunction with the start and stop button in **RECORD** area.

The switcher’s recordings (**PGM** signals) are saved to the system-specified folder “**videos1**”.

If **ISO** recordings are enabled, they are saved to the system’s dedicated **ISO** folder (“**ISO_record***”).

As a storage medium, the SD card can also store system settings, commands, still images, macros, streaming keys, and upgrade files. The file tree structure on the SD card is as shown Figure 4.2-19:

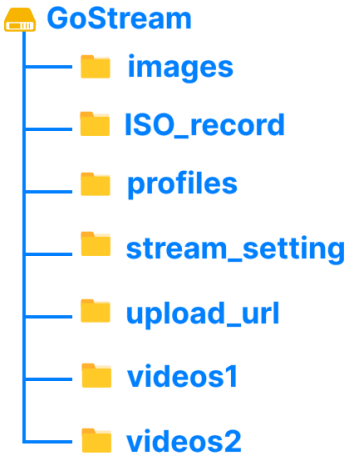


Figure 4.2-19 Directory Tree in SD Card

The videos in the videos folder of SD card will be labeled by three tags: **Default List**, **Recorded Videos** and **Stinger**. The directory tree in this video select list is as shown in Figure 4.2-20.

- **Default List**: Displays custom video files which are manually copied to the root directory of the videos1 folder.
- **Record Videos**: Displays video files recorded by the switcher.
- **Stinger**: Displays StingerSource video file used for transition effects.

You can playback these videos in one group or cross groups, set this by using the menu item **PlayBack→player*→ PlayBack Mode.**

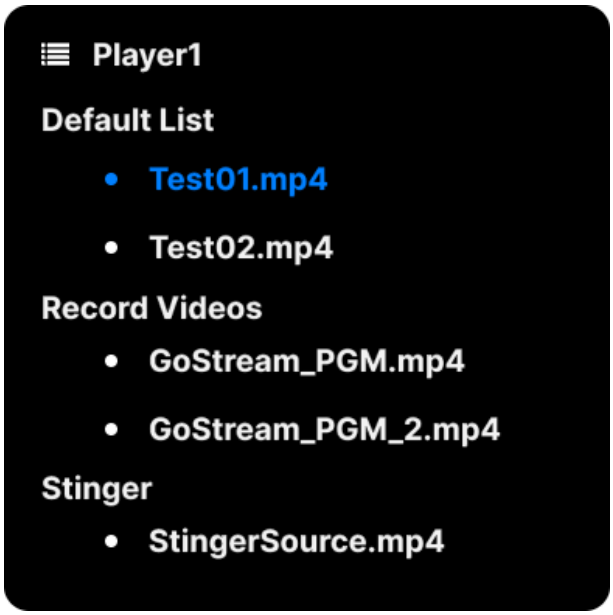


Figure 4.2-20 Video Select List

Tips

- Automatic folder creation. Upon first insertion, the SD card will automatically generate the complete file tree structure (including all preset subfolders) as shown in Figure 4.2.19. User-imported files must be manually stored in their corresponding subfolders. Do not save files directly to the SD card root directory.
- Refer to "5.1.17 System Settings" for details about **SD card** setting.
- Refer to "4.1.3.22 How to Record and Playback" for details about **recording & playback operations**.
- When the DIP transition effect is enabled: The system automatically detects the stingersource.mp4 file in the videos1 folder. This video will be used as the dynamic transition overlay.

4.3 Support Format

Table 4.3-1 Output Signal Format

Signal Format		HDMI IN	SDI IN	USB IN	OUT	Stream/ Record
2160P	2160P60/59.94	√				
	2160P50	√				
	2160P30/29.97	√				
	2160P25	√				
	2160P24/23.98	√				
1080P	1080P60/59.94	√	√	√	√	√
	1080P50	√	√	√	√	√
	1080P30/29.97	√	√	√	√	√
	1080P25	√	√	√	√	√
	1080P24/23.98	√	√	√	√	√
1080I	1080I60/59.94	√	√			
	1080I50	√	√			
720P	720P60/59.94	√	√			

Signal Format		HDMI IN	SDI IN	USB IN	OUT	Stream/ Record
	720P50	√	√			
	720P30/29.97	√	√			
	720P25	√	√			
	720P24/23.98	√	√			

Chapter 5 MENU OPERATIONS

The **Main** Menu allows you to configure the switcher, press **MENU** button to show the main menu, including the following menus: **Color Back**, **MultiSource**, **Key**, **DSK1**, **DSK2**, **Transition**, **Auto Switching**, **Audio Mixer**, **Media Player**, **Macro**, **Scene**, **Stream**, **Playback**, **Record**, **Inputs**, **Outputs** and **Settings**.

5.1 Main Menu

Press **MENU** button on the panel, and it will pop up the main menu pane at the right corner of multiview interface, as shown in Figure 5.1-1:

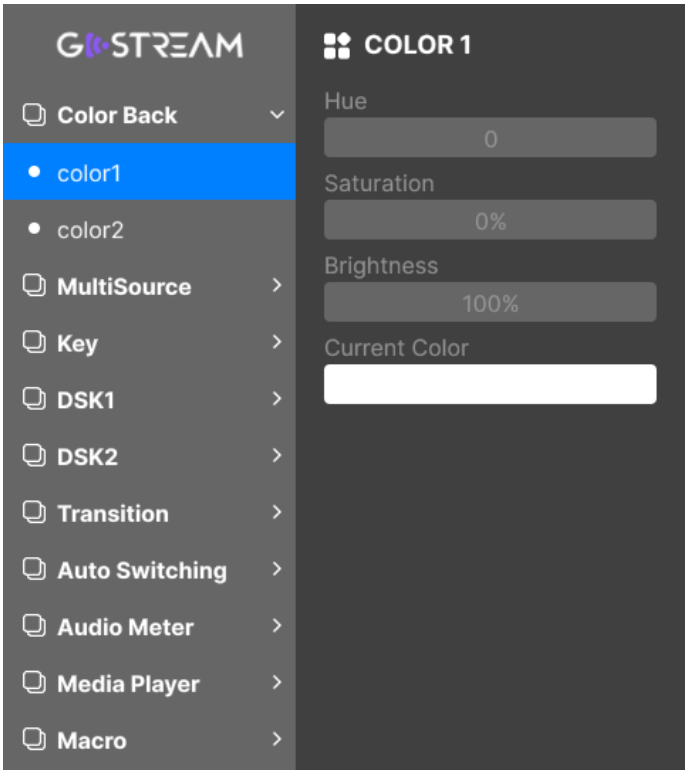


Figure 5.1-1 Main Menu

The menu pane is divided into two parts: the left list and the right list. Follow the instructions below:

1. **Menu List**

   It will display the menu list at the left part of the main menu pane**.** Scroll the menu knob clockwise or counterclockwise to navigate the items, then press the knob straight down to show the submenu list below the menu item, the selected item will be highlighted in bright blue.

2. **Parameter List**

The details of the selected menu item are located just at the right part of menu pane. You can check the parameters of the current selected menu item.

Press the knob straight down to enter the parameter list. Scroll the menu knob clockwise or counterclockwise continuously to switch among its options. Press the knob straight down to set values, scroll left to decrease the item value or select the previous item, while scroll right to increase its value or select the next item.

Tips

- There is a highlighted control icon when you select the menu or its value in the sub-menu list.

The following will introduce the contents and functionality of these menu items.

5.1.1 Color Back Settings

The switcher has two color generators which can be configured in Color Back menu by setting hue, saturation, and brightness, as shown in Figure 5.1-2:

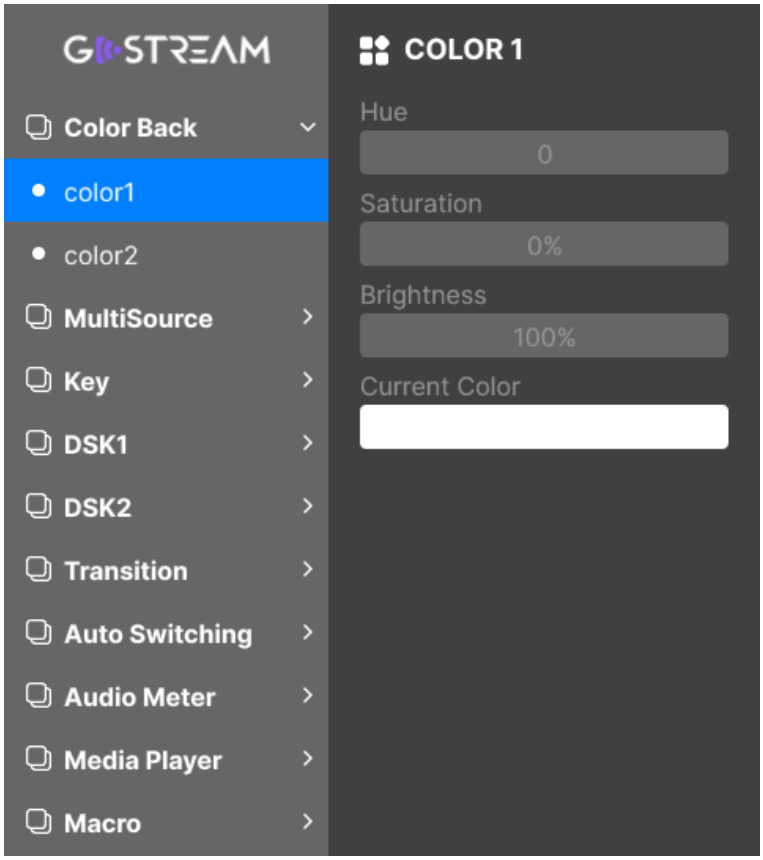


Figure 5.1-2 Color Back Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-1:

Table 5.1-1 Description of Color Back Menu Items

Items	Default	Domain Range	Description
color1			
Hue	0	0~359, 1 step	Set hue for color1
Saturation	0	0%~100%, 1% step	Set saturation for color1
Brightness	100	0%~100%, 1% step	Set brightness for color1
Current Color	---	---	Display color1 sample. Use this indicator to verify the color that you selected
color2			
Hue	45	0~359, 1 step	Set hue for color2
Saturation	100	0%~100%, 1% step	Set saturation for color21
Brightness	100	0%~100%, 1% step	Set brightness for color2
Current Color	---	---	Display color2 sample. Use this indicator to verify the color that you selected

- **Color Wheel**

As shown in Figure 5.1-3, hue is the degree on the color wheel, and the range is from 0 to 360. You can set a color in terms of hue, saturation and brightness.

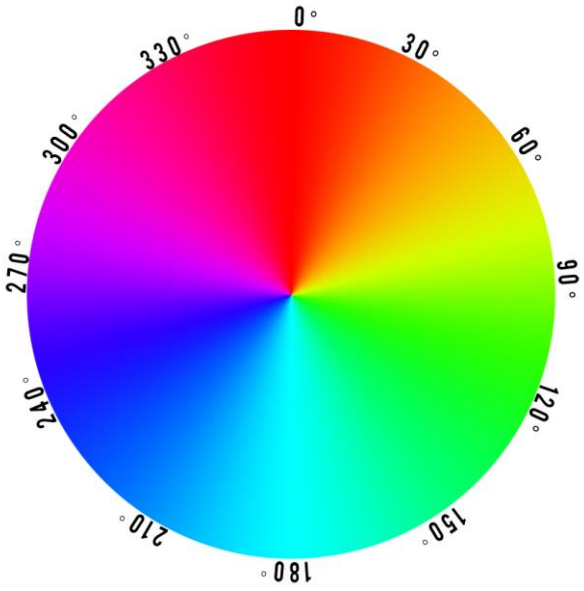


Figure 5.1-3 Color Wheel Reference

Tips

- You can set color1 and color2 in Luma Key, Chroma Key, Key Pattern, PIP, DSK menu as Fill source or Key source in the following section.

5.1.2 MultiSource Settings

Use MultiSource menu to set a splicing display which will allow you to arrange multiple sources on the monitor at one time as an input for the switcher, the menu items are as shown in Figure 5.1-4:

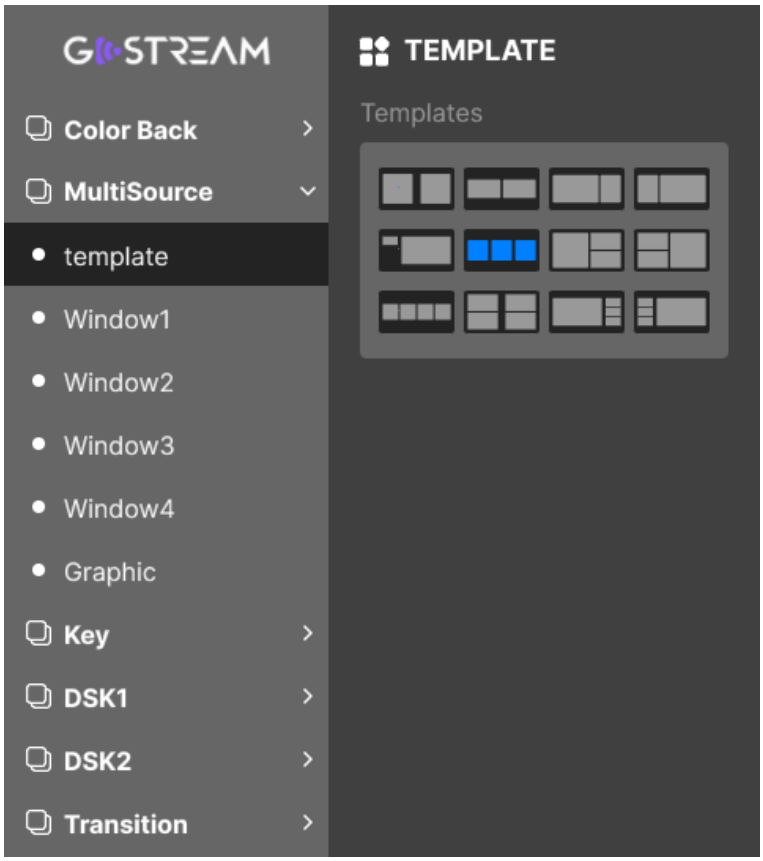


Figure 5.1-4 MultiSource Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-16:Table 5.1-2

Table 5.1-2 Description of MultiSource Menu Items

Items	Default	Domain Range	Description
template			

Items	Default	Domain Range	Description
template			Set a template for MultiSource display, including 12 layouts.
Window1			
Enable	Off	On/Off	Enable/Disable MultiSource. Enable MultiSource, the button M/SRC will be assigned as a splicing input source, otherwise button M/SRC will only provide an internal black signal.
Source	In 1	In 1/In 2/In 3/In 4/ In 5/In 6/In 7/In 8/ MP 1/MP 2/ Color Bar	Set Source for window1
X Position	-8	-32.0~32.0	Set the relative horizontal center position for splicing display. Decrease its value to move leftward, and increase to move rightward.
Y Position	-4.5	-18.0~18.0	Set the relative vertical center position for splicing display. Decrease its value to move upward, and increase to move downward.
Size	33	15~100%	Set the relative size for window1
Crop-Left	0%	0%~100%	Set the crop size from left side
Crop-Top	0%	0%~100%	Set the crop size from top side
Crop-Right	0%	0%~100%	Set the crop size from right side
Crop-Bottom	0%	0%~100%	Set the crop size from bottom
Window2(Same as window1 above; omitted here)			
Window3(Same as window1 above; omitted here)			
Window4(Same as window1 above; omitted here)			
Graphic			
Fill Source	MP1	MP1/MP1 Key/ MP2/MP 2 Key/ Color1/Color2/ Color Bar/Black	Set the fill source
Place In	Background	Background,	Display this image as

Items	Default	Domain Range	Description
		Foreground	background or foreground

■ MultiSource Templates

The system comes pre-configured with 12 templates, supporting flexible distribution of 1 to 4 windows. The versatile layouts are as shown in Figure 5.1-5.

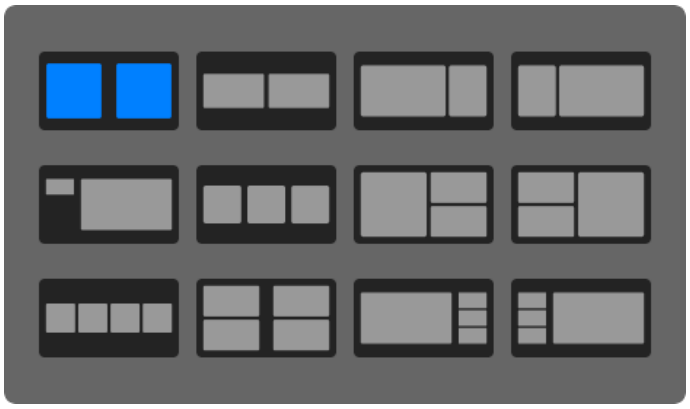


Figure 5.1-5 MultiSource Templates

Depending on the number of signal sources, the template styles can be categorized as follows. Users can flexibly choose according to their actual needs.

- ☐ **Dual Signal Sources**: Utilizes a side-by-side or top-bottom split-screen layout, ideal for simultaneously displaying two related signal sources, such as both parties in a video conference or front and rear views in surveillance.

- ☐ **Triple Signal Sources**: Commonly features a layout with one large and two small screens, where the main screen occupies a larger area and the two secondary screens are arranged side by side or vertically. This is suitable for scenarios requiring emphasis on the main signal source while monitoring two auxiliary sources.

- ☐ **Quad Signal Sources**: Employs a grid layout with each signal source evenly distributed, perfect for situations requiring simultaneous monitoring of multiple signal sources, such as security surveillance centers or multi-screen live broadcasts

Table 5.1-3 MultiSource Templates

Numeric	Layouts
2	

Numeric	Layouts			
				
3				
4				

Based on the preset templates, users can further adjust the size and position of each sub-window to create a personalized window layout.

Tips

- You can set the layout for MultiSource view by selecting **MultiSource→template** item, refer to "4.1.3.2Display " for more details.

5.1.3 Key Type Settings

You can assign an upstream key type for button **KEY** in this menu, including luma key, chroma key, pattern key or PIP key, the menu items are as shown in Figure 5.1-6:

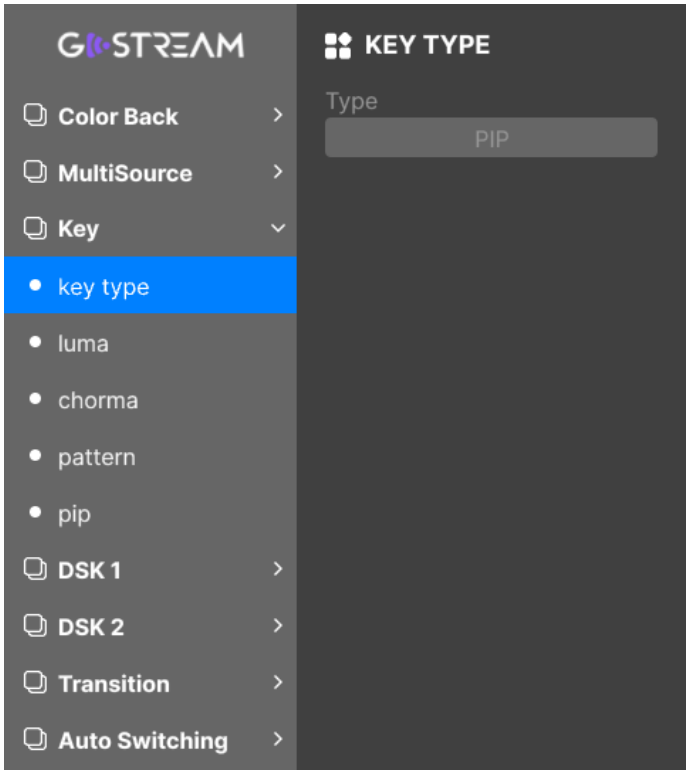


Figure 5.1-6 Key Type Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-4:

Table 5.1-4 Description of Key Type Menu Items

Items	Default	Domain Range	Description
key type			
Type	PIP	• Luma • Chroma • Pattern • PIP	Set the pattern type for button KEY
luma	Refer to Table 5.1-5 for details		
Chroma	Refer to Table 5.1-6 for details		
Pattern	Refer to Table 5.1-7 for details		
PIP	Refer to Table 5.1-9 for details		

Tips

- Set the upstream key type for button KEY in this menu.
- Refer to "5.1.3.1 LUMA Key " for details about Luma Key parameter settings.
- Refer to "5.1.3.2 Chrome Key " for details about Chroma Key parameter settings.
- Refer to "5.1.3.3 Key Pattern " for details about Pattern Key parameter settings.
- Refer to "5.1.3.4 PIP " for details about PIP Key parameter settings.

5.1.3.1 Luma KEY Settings

Set luma key as an upstream key to button **KEY**, and set its parameters in this menu, the menu items are as shown in Figure 5.1-7:

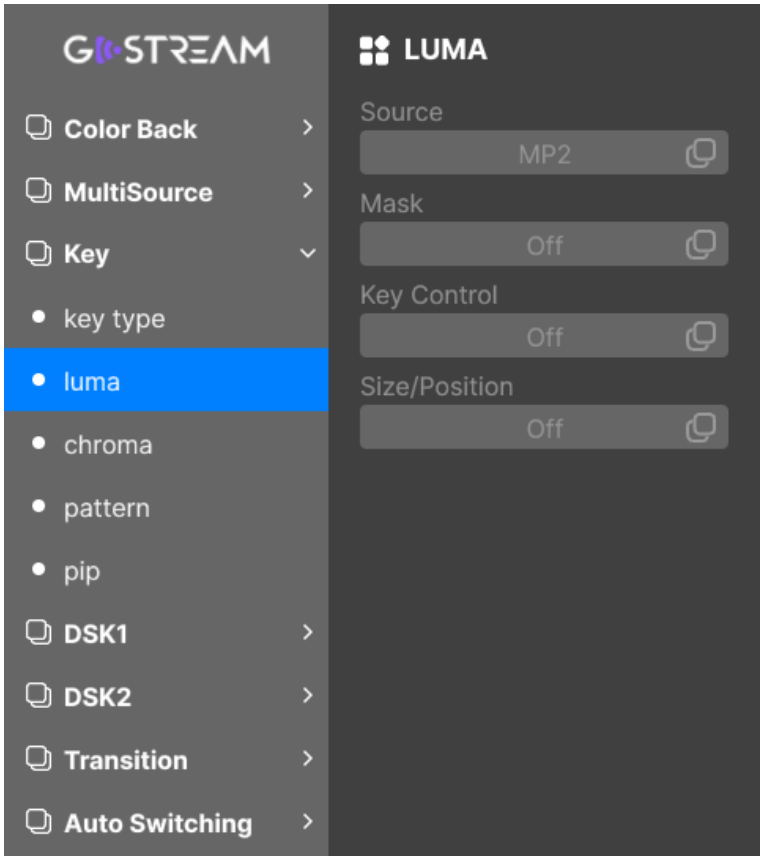


Figure 5.1-7 Luma Key Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-5:

Table 5.1-5 Description of Luma Key Menu Items

Items	Default	Domain Range	Description
Source			
Fill Source	MP 2	In1/In2/In3/In4/ In5/In6/In7/In8// MP1/MP1 Key/ MP2/MP2 Key/ Color 1/Color 2/ Color Bar/Black	Set the fill source
Key Source	MP 2 Key	In1/In2/In3/In4/ In5/In6/In7/In8// MP1/MP1 Key/ MP2/MP2 Key/ Color Bar/Black	Set the key source
Mask			

Items	Default	Domain Range	Description
Enable	Off	On/Off	Enable/Disable mask
Left	0	0%~100%	Set the crop size from left side
Top	0	0%~100%	Set the crop size from top side
Right	100	0%~100%	Set the crop size from right side
Bottom	100	0%~100%	Set the crop size from bottom
Key Control			
Pre Multiplied Key	Off	On/Off	Enable/Disable the key signal as a pre-multiplied key
Clip	15	0%~100%	Clip level adjusts the threshold at which the key cuts its hole. Decreasing the clip level reveals more of the background. If the background video is completely black then the clip value is too low.
Gain	50	0%~100%	Gain modifies the softness of the key edge. Adjust the gain value until the edge softness is desirable but the background video luminance or brightness is not affected.
Invert	Off	On/Off	Enable/Disable the inverse to key source.
Size/Position			
Enable	Off	On/Off	Enable/Disable luma keyer resize
Size	33	7~100%	Set the relative size for luma keyer
X Position	10.6	-16.0~16.0	Set the central X-coordinate
Y Position	6.0	-9.0~9.0	Set the central Y-coordinate

Tips

- Select fill source and key source for luma key by setting **Luma →Source** menu item, and adjust the mask area by **Luma →Mask**, adjust the Pre multiplied Key parameters by **Luma →Control**.
- If performing a luma key, select the same source for both fill and key source.
- Refer to "4.1.3.10 Set Luma Key or Linear key" for the description about luma key and linear key.

5.1.3.2 Chroma KEY Settings

Set chroma key as an upstream key to button **KEY**, and set its parameters in this menu, the menu items are as shown in Figure 5.1-8:

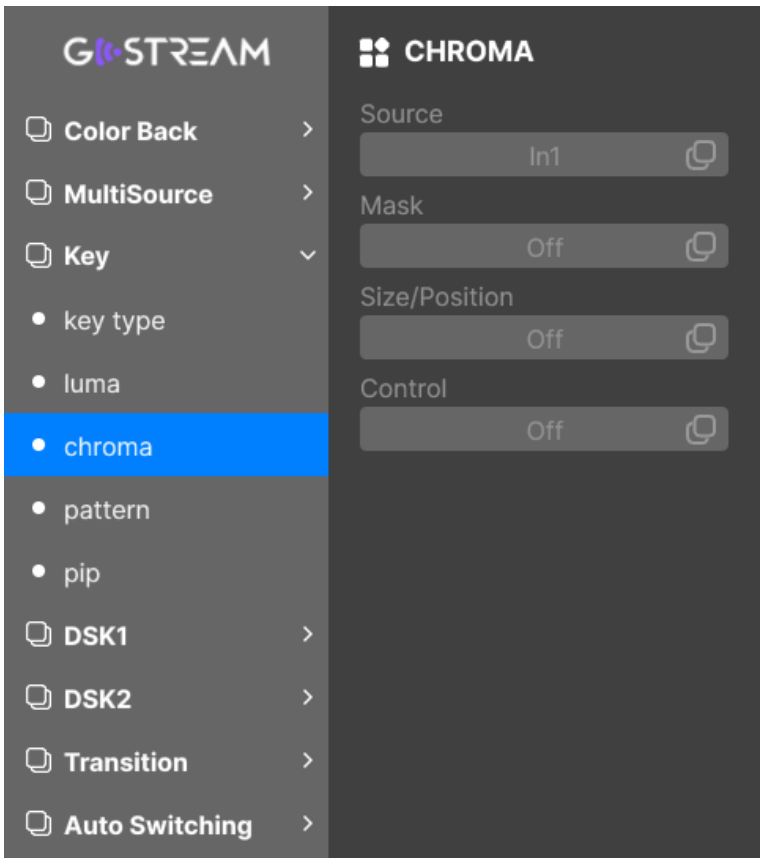


Figure 5.1-8 Chrome Key Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-6:

Table 5.1-6 Description of Chrome Menu Items

Items	Default	Domain Range	Description
Source			
Fill source	In1	In1/In2/In3/In4/ In5/In6/In7/In8	Set the fill source
Mask			
Mask	Off	On/Off	Enable/Disable mask

Items	Default	Domain Range	Description
Left	0	0%~100%	Set the crop size from left side
Top	0	0%~100%	Set the crop size from top side
Right	100	0%~100%	Set the crop size from right side
Bottom	100	0%~100%	Set the crop size from bottom
Size/Position			
Resize	Off	On/Off	Enable/Disable chrome keyer resize
Size	33	7~100%	Set the relative size for chrome keyer
X position	10.6	-16.0~16.0	Set the central X-coordinate
Y position	6.0	-9.0~9.0	Set the central Y-coordinate
Control			
SMP X Position	-14.0	-16.0~16.0	Set the X-coordinate for the sample cursor
SMP Y Position	-7.0	-9.0~9.0	Set the Y-coordinate for the sample cursor
Sample	Off	On/Off	Enable/Disable custom sample. Enable this item, you'll see a box cursor. This cursor will indicate the sample area on the fill source.
Current Color	---	---	Display the color sample
Foreground	0	0~100%	Set the transparency of the foreground layer
Background	0	0~100%	Set the transparency of the background layer
KeyEdge	0	0~100%	Set the transparency of the chroma key's edge

- **Sample Cursor**

To assign a sample color, enable the sample cursor at first, then set the X-coordinate and Y-coordinate to move the cursor to your desired position where you will get your sample color.

Select **Chroma Key→Control →Sample** item as **On**, then the fill source will display in PVW window, and it will display a sample box as the sample cursor on the key source, as shown in Figure 5.1-9, to refine the selection area for chroma key, you can adjust **SMP X Position** and **SMP Y Position** items to move the sample cursor. Then set **Foreground**, **Background** and **KeyEdge** items to refine the blended selection area, your foreground elements should be cleanly separated from the background.

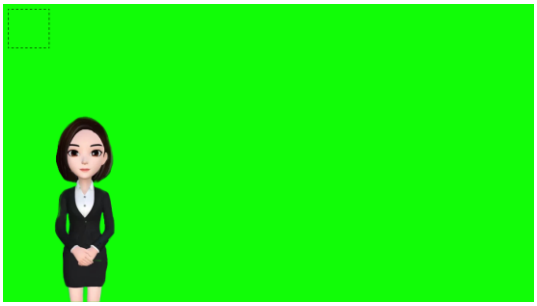


Figure 5.1-9 Sample Cursor

Tips

- Refer to "4.1.3.11 Set Chroma Key" for more details about the chroma keyer.
- When sampling on screen, we recommend sampling the darkest area first to give you a more accurate key.
- **About sample color:** When sampling on screen, you should set **Chroma Key→control→Sample** as **Enable**. After getting your sample color, make sure you will set **Chroma Key→control→Sample** as **Disable** to shut down the color sampling in order to close the sample image which is on the top layer. The default sample color is green (0,255,0)(RGB).

5.1.3.3 Pattern Settings

Set pattern key as an upstream key to button **KEY**, and set its parameters in this menu, the menu items are as shown in Figure 5.1-10:

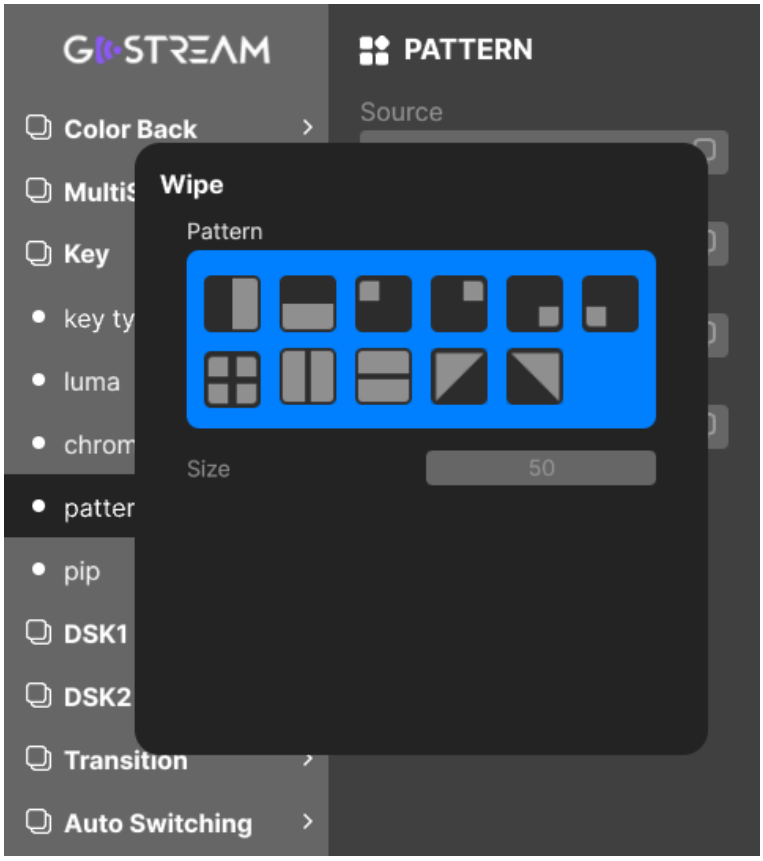


Figure 5.1-10 Key Pattern Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-7:

Table 5.1-7 Description of Key Pattern Menu Items

Items	Default	Domain Range	Description
Source			
Fill source	MP 2	In1/In2/In3/In4/ In5/In6/In7/In8// MP1/MP1 Key/ MP2/MP2 Key/ Color 1/Color 2/ Color Bar/Black	Set fill source for pattern
Wipe			
Pattern	--	As shown in Table 5.1-8	Set the pattern style
Size	50	1%~100%	Set the size for the selected pattern
Mask			

Items	Default	Domain Range	Description
Enable	Off	On/Off	Enable/Disable mask
Left	0	0%~100%	Set the crop size from left side
Top	0	0%~100%	Set the crop size from top side
Right	100	0%~100%	Set the crop size from right side
Bottom	100	0%~100%	Set the crop size from bottom
Size/Position			
Resize	Off	On/Off	Enable/Disable pattern resize
Size	33	7~100%	Set the relative size for pattern, this setting will decrease the selected pattern to a desired size.
X Position	10.6	-16.0~16.0	Set the central X-coordinate for pattern
Y Position	6.0	-9.0~9.0	Set the central Y-coordinate for pattern

■ **Pattern**:

We provide 11 shapes by the internal pattern generator, as shown in Table 5.1-8.

Table 5.1-8 Pattern Icons for Wipe

Icon	Description	Icon	Description
	Horizontal Wipe-left to right		Surround Wipe
	Vertical Wipe-up to down		Horizontal Wipe- right to left
	Rectangle Wipe-from top left		Vertical Wipe- down to up
	Rectangle Wipe-from top right		Diagonal Wipe
	Rectangle Wipe-from bottom right		Diagonal Wipe
	Rectangle Wipe-from bottom left		

Tips

- Refer to "5.1.3 Key Type Settings" to assign Key Pattern as upstream key on KEY button.

- Refer to "4.1.3.12 Set Pattern Key" for more details about Key Pattern operation.

5.1.3.4 PIP Settings

Set PIP key as an upstream key to button **KEY**, this menu is used to create picture-in-picture box with borders. Set its parameters in this menu, the menu items are as shown in Figure 5.1-11:

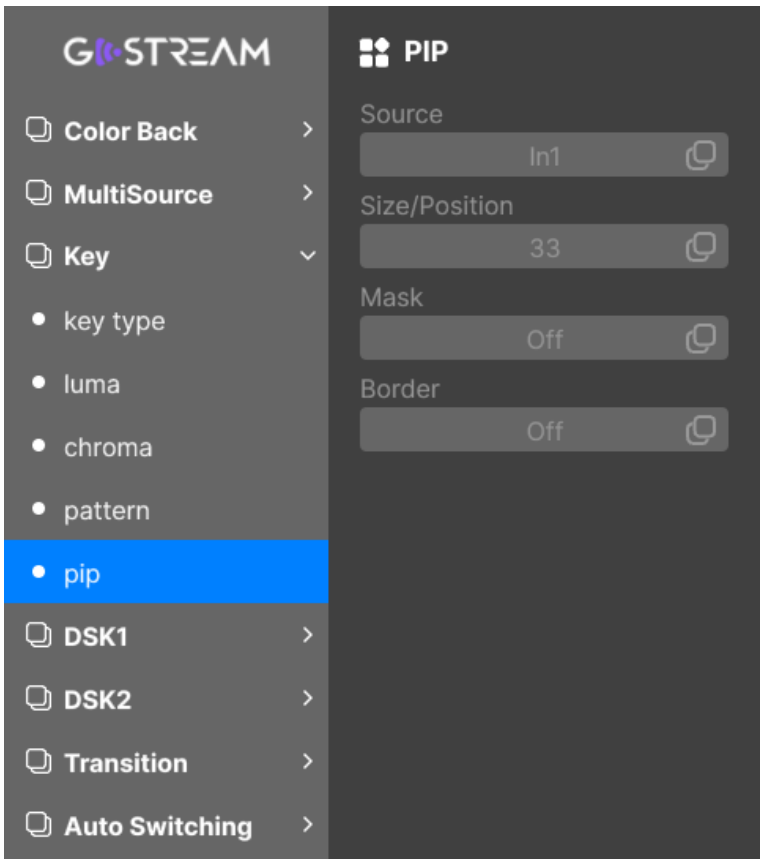


Figure 5.1-11 PIP Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-9:

Table 5.1-9 Description of PIP Menu Items

Items	Default	Domain Range	Description
Source			
Fill Source	In1	In1/In2/In3/In4/ In5/In6/In7/In8// MP1/MP1 Key/	Set PIP source

Items	Default	Domain Range	Description
		MP2/MP2 Key/ Color 1/Color 2/ Color Bar/Black	
Size/Position			
Size	33	7~100%	Set the size for the PIP subview
X Position	10.6	-16.0~16.0	Set the cental X-coordinate for PIP view
Y Position	6.0	-9.0~9.0	Set the cental Y-coordinate for PIP view
Mask			
Enable	Off	On, Off	Enable/Disable mask
Left	0	0%~100%	Set the crop size from left side
Top	0	0%~100%	Set the crop size from top side
Right	100	0%~100%	Set the crop size from right side
Bottom	100	0%~100%	Set the crop size from bottom
Border			
Enable	Off	On, Off	Enable/Disable the border display for PIP view
Width	0	0~31	Set the width for the border
Hue	0	0~359	Set the hue for border color
Saturation	100	0%~100%	Set the saturation for border color
Brightness	100	0%~100%	Set the brightness for border color
Current Color	---	---	Display the color sample

- **PIP Key**

Use this menu to create picture-in-picture box with borders, the layer relationship of the fill source and background source are as shown in Figure 5.1-12:



Figure 5.1-12 PIP Illustration

- **PIP size**

  Set the size for the subview window by **PIP→ size/position →Size**;

- **PIP Position**

  Set the position for the subview window by **PIP→ size/position → X position/ Y position**.

Tips

- Refer to "5.1.3 Key Type Settings" to assign PIP as upstream key on KEY button.
- Refer to "4.1.3.13 Set PIP Key" for more details about PIP operation.

5.1.4 DSK1 Settings

You can configure the parameters of downstream key DSK1, including source, mask, control and rate, the menu items are as shown in Figure 5.1-13:

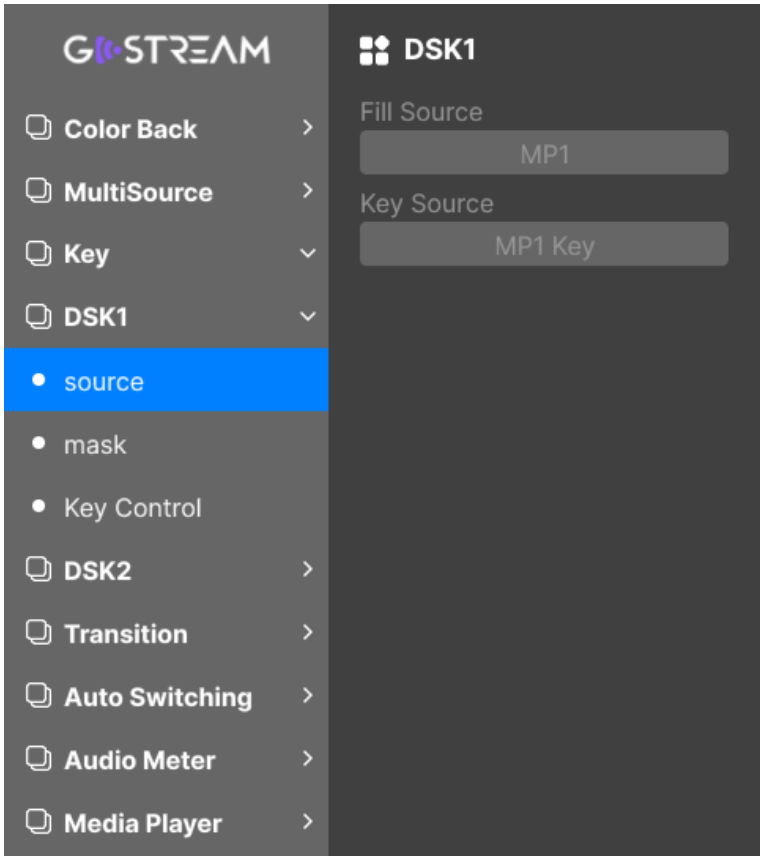


Figure 5.1-13 DSK1 Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-10:

Table 5.1-10 Description of DSK1 Menu Items

Items	Default	Domain Range	Description
source			
Fill Source	MP1	In1/In2/In3/In4/ In5/In6/In7/In8/ MP1/MP2/ Color 1/Color 2/ Color Bar/Black	Set the fill source
Key Source	MP1 Key	In1/In2/In3/In4/ In5/In6/In7/In8/ MP1 Key/ MP2 Key	Set the key source
mask			
Enable	Off	On/Off	Enable/Disable mask
Left	0	0%~100%	Set the crop size from left side
Top	0	0%~100%	Set the crop size from top side
Right	100	0%~100%	Set the crop size from right side
Bottom	100	0%~100%	Set the crop size from bottom
key control			
Pre Multiplied Key	Off	On/Off	Enable/Disable the key signal as a pre-multiplied key
Clip	15	0%~100%	Clip level adjusts the threshold at which the key cuts its hole. Decreasing the clip level reveals more of the background. If the background video is completely black then the clip value is too low.
Gain	50	0%~100%	Gain modifies the softness of the key edge. Adjust the gain value until the edge softness is desirable but the background video luminance or brightness is not affected.
Invert	Off	On/Off	Enable/Disable the inverse to key source.
size/position			
Enable	Off	On/Off	Enable/Disable key resize
Size	33	7~100%	Set the relative size for key

Items	Default	Domain Range	Description
X Position	10.6	-16.0~16.0	Set the central X-coordinate
Y Position	6.0	-9.0~9.0	Set the central Y-coordinate

Tips

- Refer to "4.1.2.10 Next Transition" about more details about downstream key.
- Refer to "4.1.3.15 Perform Upstream/Downstream key Transition" for more details about the downstream key operation.

5.1.5 DSK2 Settings

You can configure the parameters of downstream key DSK2, including source, mask, control and rate, the menu items are as shown in Figure 5.1-14:

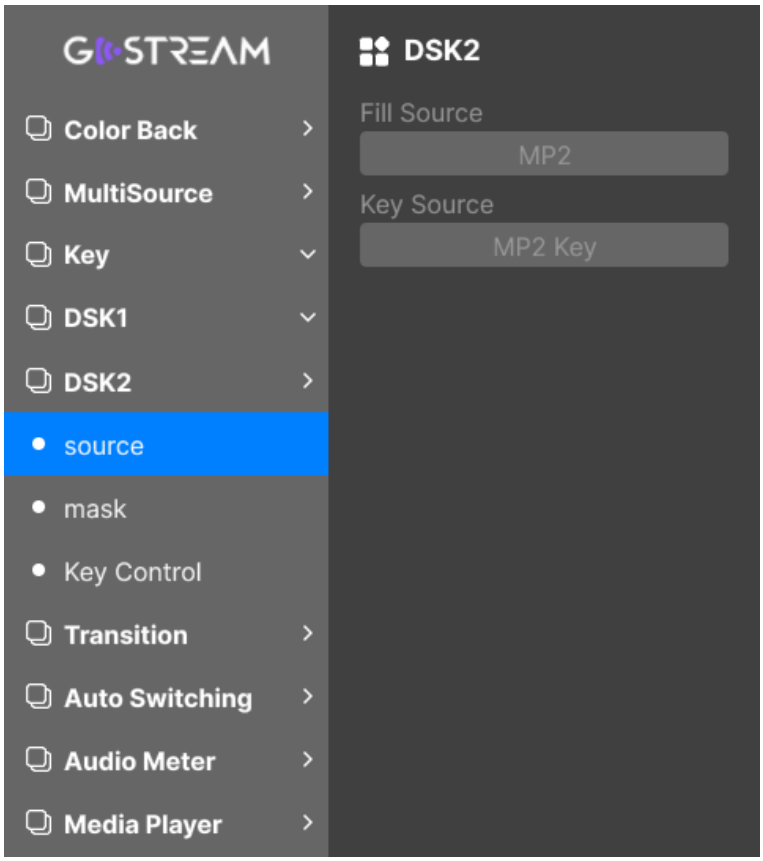


Figure 5.1-14 DSK2 Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-11:

Table 5.1-11 Description of DSK2Menu Items

Items	Default	Domain Range	Description
source			
Fill Source	MP2	In1/In2/In3/In4/ In5/In6/In7/In8/ MP1/MP2/ Color 1/Color 2/ Color Bar/Black	Set the fill source
Key Source	MP2 Key	In1/In2/In3/In4/ In5/In6/In7/In8/ MP1 Key/ MP2 Key	Set the key source
mask			
Enable	Off	On/Off	Enable/Disable mask
Left	0	0%~100%	Set the crop size from left side
Top	0	0%~100%	Set the crop size from top side
Right	100	0%~100%	Set the crop size from right side
Bottom	100	0%~100%	Set the crop size from bottom
key control			
Pre Multiplied Key	Off	On/Off	Enable/Disable the key signal as a pre-multiplied key
Clip	15	0%~100%	Clip level adjusts the threshold at which the key cuts its hole. Decreasing the clip level reveals more of the background. If the background video is completely black then the clip value is too low.
Gain	50	0%~100%	Gain modifies the softness of the key edge. Adjust the gain value until the edge softness is desirable but the background video luminance or brightness is not affected.
Invert	Off	On/Off	Enable/Disable the inverse to key source.
size/position			
Enable	Off	On/Off	Enable/Disable key resize
Size	33	7~100%	Set the relative size for key
X Position	10.6	-16.0~16.0	Set the central X-coordinate
Y Position	6.0	-9.0~9.0	Set the central Y-coordinate

5.1.6 Transition Settings

You can configure the parameters of each transition style, including MIX, DIP and WIPE, the menu items are as shown in Figure 5.1-15:

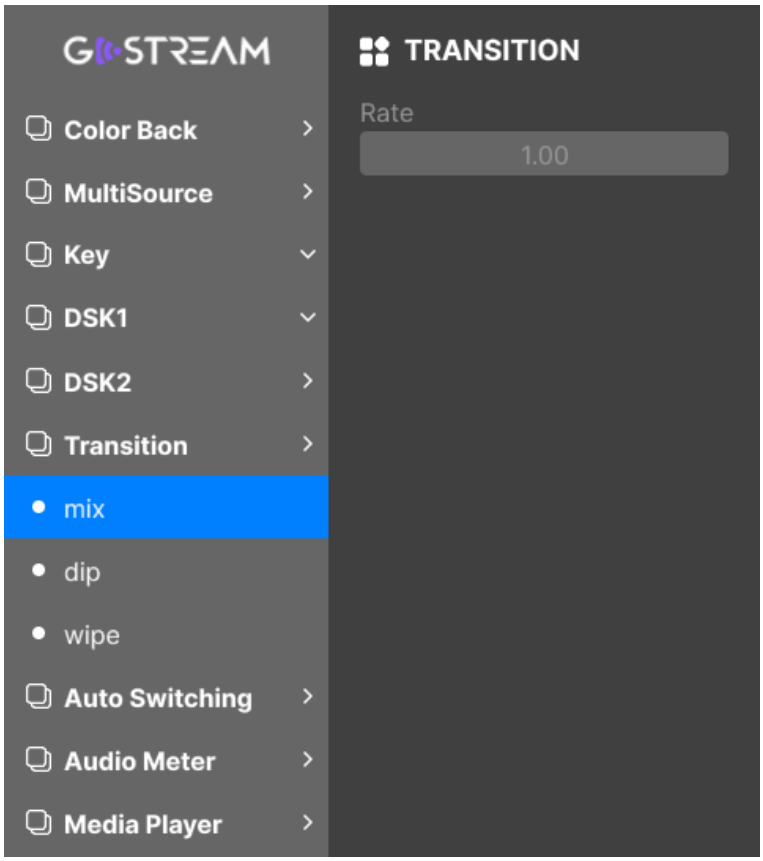


Figure 5.1-15 Transition Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-12:

Table 5.1-12 Description of Transition Menu Items

Items	Default	Domain Range	Description
mix			
Rate	1.00	0.50~8.00s	Set the duration for mix transition
dip			
Fill Source	Color 1	In 1/In 2/In 3/In 4/ In 5/In 6/In 7/In 8/ MP 1/MP 2/ Color 1/Color 2/ Color Bar/Black	Set the dip source, that is the third source during the dip gradual transition.

Items	Default	Domain Range	Description
Rate	1.00	0.50~8.00s	Set the duration for dip transition
wipe			
Pattern	--	As shown in Table 5.1-8	Set wipe pattern
Rate	1.00	0.50~8.00	Set the duration for wipe transition
Direction	Normal	Normal: from center to edge Inverse: from edge to center	Set the direction for wipe transition

Tips

- Refer to "4.1.2.9 Transition Control" about more details about effect transition.
- Take a dip transition for example, refer to "4.1.3.4 Switching Sources Using an Auto Transition" for more details about the operations.
- If you select the DIP transition (Press **DIP** button down), and you have saved a stinger file named as **stingersource.mp4** to the videos folder in SD card, this unit will load this video in the dip transition.

5.1.7 Auto Switching Settings

Auto switching supports switching to the close-up and wide-shot cameras automatically, it is ideal for video podcasts, panel shows, and live discussions, keeping your production dynamic. You should designate audio A and audio B sources, and set proper threshold, video mapping, switching period and priority for this function, the menu items are as shown in Figure 5.1-16:

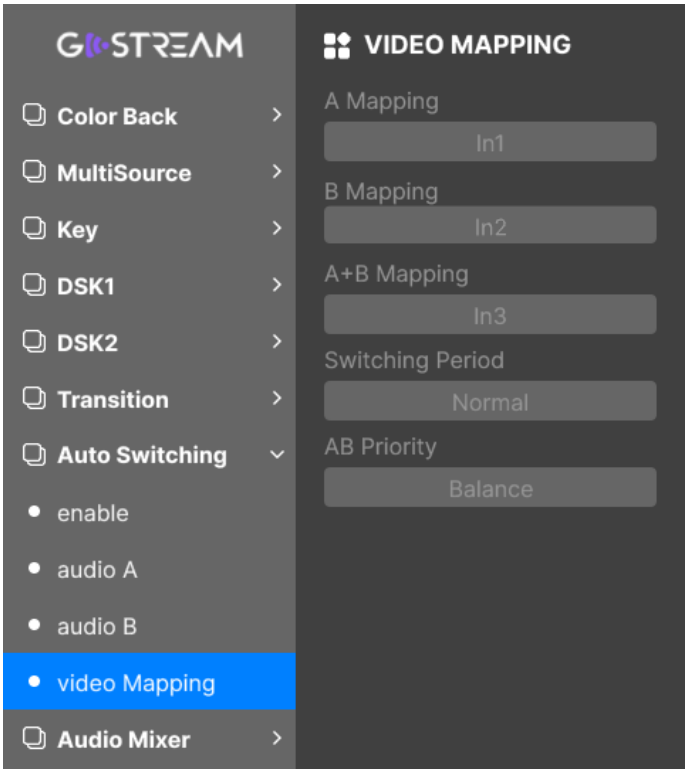


Figure 5.1-16 Auto Switching Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-13:

Table 5.1-13 Description of Auto Switching Menu Items

Items	Default	Domain Range	Description
enable			
Enable	Off	On/Off	Enable/Disable auto switching
audio A			
Audio Source	MIC1	In1/In2/In3/In4/ In5/In6/In7/In8/ MIC1/MIC2	Select the source for audio A
Threshold	0	-50~0	Set the threshold for audio A. The threshold should be set to a level higher than the background crosstalk and lower than normal speaking.
audio B			
Audio Source	MIC2	In1/In2/In3/In4/ In5/In6/In7/In8/ MIC1/MIC2	Select the source for audio B
Threshold	0	-50~0	Set the threshold for audio B.

Items	Default	Domain Range	Description
			The threshold should be set to a level higher than the background crosstalk and lower than normal speaking.
video Mapping			
A Mapping	In1	In1/In2/In3/In4/ In5/In6/In7/In8	Set the video source for mapping to audio A (close-up camera)
B Mapping	In2	In1/In2/In3/In4/ In5/In6/In7/In8	Set the video source for mapping to audio B (close-up camera)
A+B Mapping	In3	In1/In2/In3/In4/ In5/In6/In7/In8/ MultiSource	Set the video source for mapping to audio A&B (wide shot camera)
Switching Period	Normal	Fast/Normal/Slow	This item controls the overall duration of a camera angle.
AB Priority	Balance	Low/Balance/High	This item controls the overall possibility of the wide-angle camera.

Tips

- Refer to "4.1.3.18 How to Use Auto-Switching" about more details about Auto Switching.
- In Osee's auto-switching algorithm, the audio level is used to detect the existence. Please correctly set up the threshold: there's crosstalk between the two microphones. Please pay attention to the polar pattern of a microphone and try to reduce the crosstalk of two microphones used for auto-switching. The threshold should be set to a level higher than the background crosstalk and lower than normal speaking. Please use the audio level meter to check the settings.

5.1.8 Audio Mixer Settings

This menu let you enhance and refine the quality of sound on each input and program output, including input level controls, equalizer and dynamics settings and so on. It provides the following audio channels, including **MIC1**, **MIC2**, **IN1~IN8**, **PGM** and **Headphone**, the menu items are as shown in Figure 5.1-17:

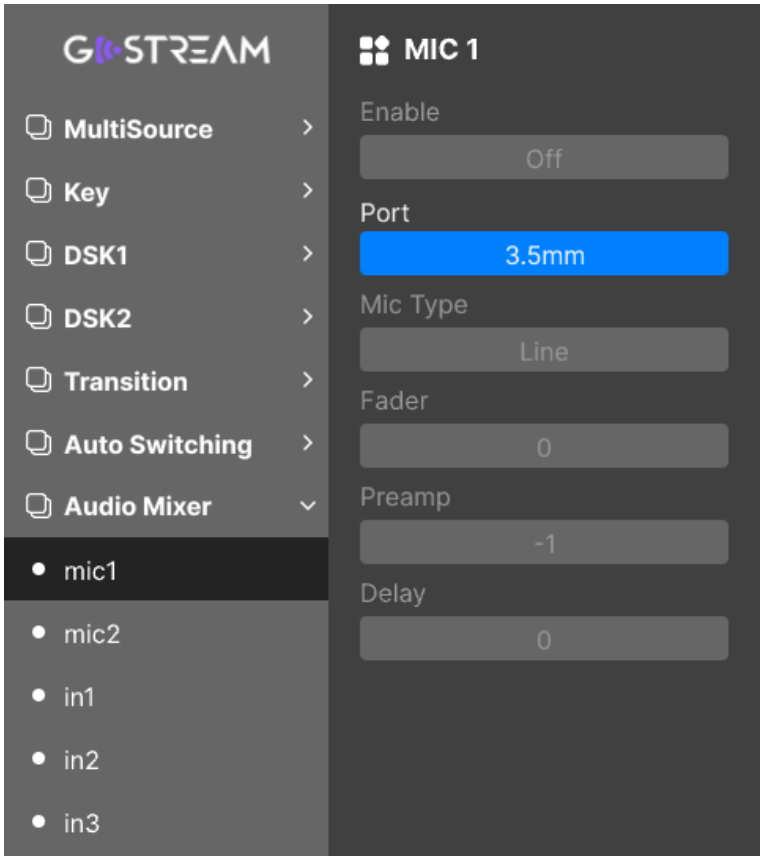


Figure 5.1-17 Audio Meter Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-14:

Table 5.1-14 Description of Audio Meter Menu Items

Items	Default	Domain Range	Description
mic1			
Enable	Off	Off/On	Enable/Disable MIC1 audio channel
Port	3.5mm	3.5mm/XLR	Set port type for audio signal from MIC1
Mic Type	Line	3.5mm: Line, Mic; XLR: Dynamic, Condenser	Set mic type
	Dynamic		
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
Preamp	-1	Line(3.5): -1~20dB Mic(3.5): -1~30dB	Set the audio input level to bring up to a common signal strength
	20		

Items	Default	Domain Range	Description
	10 10	0v(XLR): -1~20dB +48v(XLR):-1~ 25dB	
Delay	0	0~500ms	Set the audio delay to ensure synced to the video input.
mic2			
Enable	Off	Off/On	Enable/Disable MIC1 audio channel
Port	3.5mm	3.5mm/XLR	Set port type for audio signal from MIC1
Mic Type	Line Dynamic	3.5mm: Line, Mic; XLR: Dynamic, Condenser	Set mic type
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
Preamp	-1 20 10 10	Line(3.5): -1~20dB Mic(3.5): -1~30dB 0v(XLR): -1~20dB +48v(XLR):-1~ 25dB	Set the audio input level to bring up to a common signal strength
Delay	0	0~500ms	Set the audio delay to ensure synced to the video input.
in1			
Enable	Off	Off/On/AFV	Enable/Disable In1 audio channel, or audio follow video for in1
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
in2			
Enable	Off	Off/On/AFV	Enable/Disable In2 audio channel, or audio follow video for in2
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
in3			
Enable	Off	Off/On/AFV	Enable/Disable In3 audio channel, or audio follow video for in3
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal

Items	Default	Domain Range	Description
in4			
Enable	Off	Off/On/AFV	Enable/Disable In4 audio channel, or audio follow video for in4
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
in5			
Enable	Off	Off/On/AFV	Enable/Disable In5 audio channel, or audio follow video for in5
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
in6			
Enable	Off	Off/On/AFV	Enable/Disable In6 audio channel, or audio follow video for in6
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
in7			
Enable	Off	Off/On/AFV	Enable/Disable In7 audio channel, or audio follow video for in7
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
in8			
Enable	Off	Off/On/AFV	Enable/Disable In8 audio channel, or audio follow video for in8
Fader	0.0	-75.0~10.0 dB	Set the volume of audio signal
pgm			
Fader	0.0	-75.0~10.0 dB	Set the volume of PGM signal
headphone			
Level	6	-31~0 dB	Set the volume of headphone
Source	program	In1/In2/In3/In4/ In5/In6/In7/In8/ MIC1/MIC2/program/ Out1/Out2/Out3/ USB Out	Select the source for headphone
crossfade			

Items	Default	Domain Range	Description
Audio Switching	Hard Cut	Hard Cut/Switch with effect	Set the audio switching mode. Only available in AFV mode.

- **Pre-Amplifier-Set Input Level for MIC1/MIC2**

Preamp item is used to adjust the input level for each microphone audio source.

Generally, when setting up Audio Mixer, the first step is to normalize all your inputs. This means adjusting the input level for each input so you can optimize all the levels to their highest strength without clipping.

After setting the input level, all the inputs will have a common signal strength so they are all at their strongest without clipping.

After normalized all your input levels, you can use balance item to optimize and shape the quality for each audio input.

- **Enable/Disable Audio Source**

You can control the audio source whether to mix into the audio output by setting the **Enable** item. Any one of the 7 audio sources has its own Enable switcher, the value range is as below:

- ☐ Enable=ON: turn on this audio channel. This channel will be mixed into the mixed audio output although its video is not the program output.
- ☐ Enable=OFF: turn off this audio channel.
- ☐ Enable=AFV, audio follow video. Set the Audio Mixer to fade the audio with your video fade to black by selecting this value.

- **Delay**

Delay item is used for analog audio via MIC1 and MIC2 to synchronize with video.

When using analog audio via MIC inputs, there may be a slight difference in the sync between analog audio and video.

Setting the audio delay by setting **Audio Mixer→ MIC1**/ **MIC2→ delay** item will ensure the analog audio input is perfectly synced with the video inputs.

Tips

- MIC1 and MIC2 have no AFV option.
- You can monitor the program audio output or other sources by **PHONE** interface,

set this by selecting **Audio Mixer→headphone→Source** item, and adjust its level by **Audio Mixer→ headphone →level** item.

- Refer to "4.1.3.17 How to Use Audio Mixer" for details about Audio Mixer.
- The **Audio Mixer→crossfade→Audio switching** item is only available in AFV mode.

5.1.9 Media Player Settings

The media player is used to select still images and network graphics stored in the built-in media pool of the switcher.
The menu list is used to select the still that will be played or made available on the media player input to the switcher.
The Media Player (Media Player) menu is used to select the still frames associated with the MP1 and MP2 buttons. The still frame content can be sourced from either built-in images on the local SD card or network images. When using network images, a specified URL is required. The menu items of Media Player menu are as shown in Figure 5.1-18:

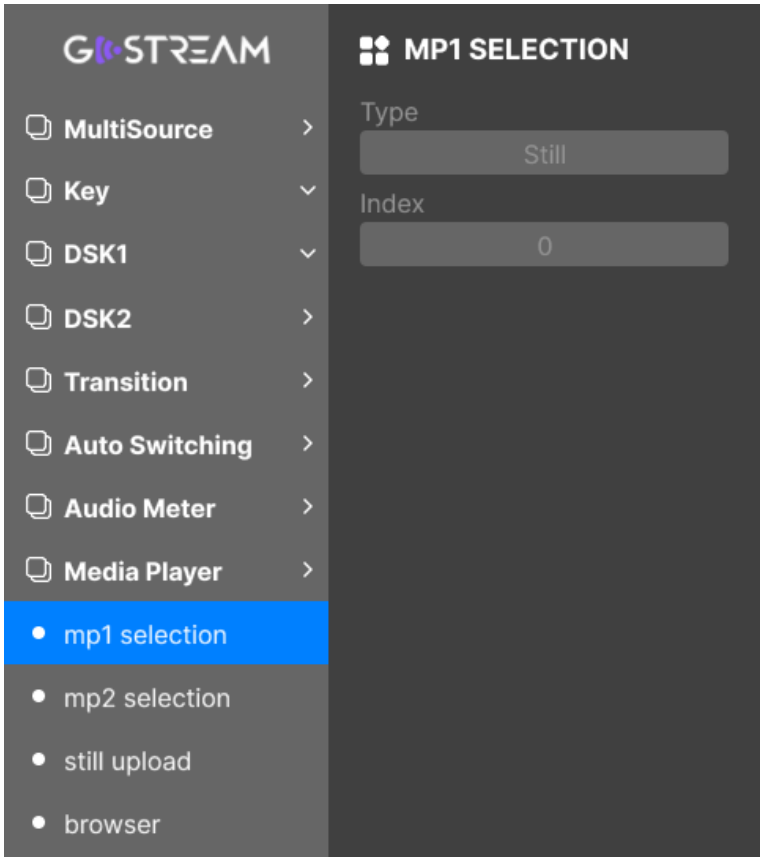


Figure 5.1-18 Media Player Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-15:

Table 5.1-15 Description of Media Player Generator Menu Items

Items	Default	Domain Range	Description
MP1 selection			
Type	Still	Still	Set MP1 source
Index	0	0~31	Select a location ID for MP1
MP2 selection			
Type	Browser	Still/Browser	Set MP2 source (local still image or network image. When using a network image, the URL parameter of the image needs to be configured in **Browser** item below).
Index	1	0~31	Select a location ID for MP2
still upload			
Still Index	0	0~31	Select a location ID for uploading a still image
Still Upload	--	Select a file	Select an image from SD card in "images" folder, and the file's suffix should be "*.png" or "*.jpg"
Browser			
URL	--	Show the URL	The URL is displayed, with the system retaining the previous address and sustaining the connection
Upload URL	--	Select a file	Click the button to set the URL of the network image.

Tips

- MP1 & MP2 supported media source types, including built-in Media Pool (Still Images & Graphics), and web browser source. For detailed operations, refer to "4.1.3.21 Upload and Set Still Graph and Browser Sources".

5.1.10 Macro Settings

You can set the sleep time between every two macro commands, the menu item is as shown in Figure 5.1-19:

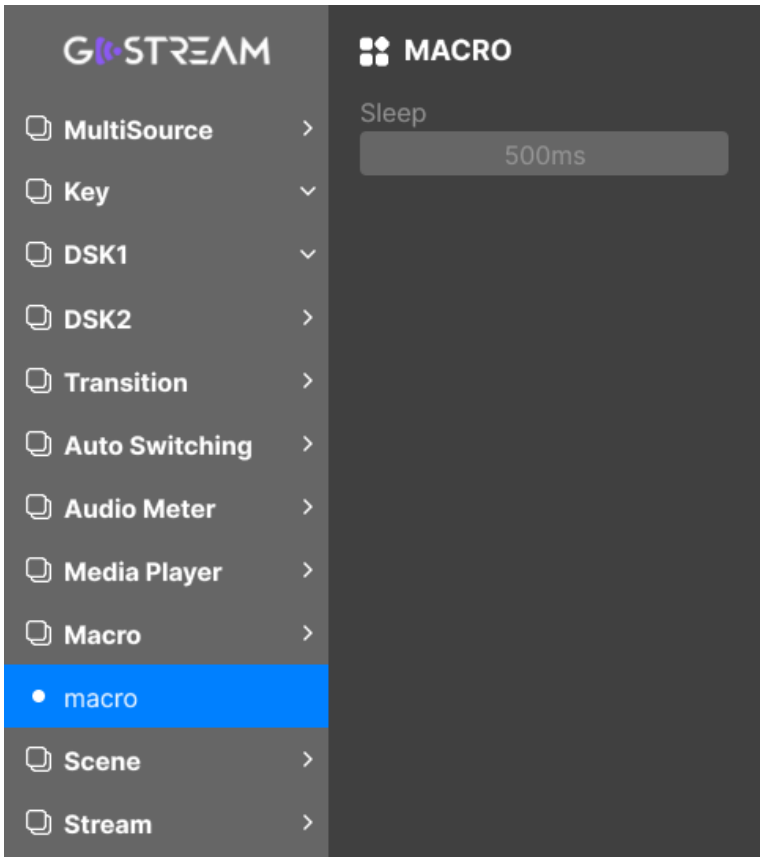


Figure 5.1-19 Macro Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-16:

Table 5.1-16 Description of Macro Menu Items

Items	Default	Domain Range	Description
macro			
Sleep	500ms	0~10000ms	Set sleep time between every two macro commands.

Tips

- Refer to "4.1.3.19 How to Record and Run" for details about macro.
- The macro commands are saved in the profile.xml file in SD card.

5.1.11 Scene Settings

A Scene saves switcher snapshots, storing all current parameters (inputs, transitions, audio, etc.). It is designed to allow you to quickly switch between several different parameters for complex workflows. For example, you can configure multiple different forms of MultiSource windows and quickly switching between them. You can define up to 10 scenes in this menu, and the menu item is as shown in Figure 5.1-19:

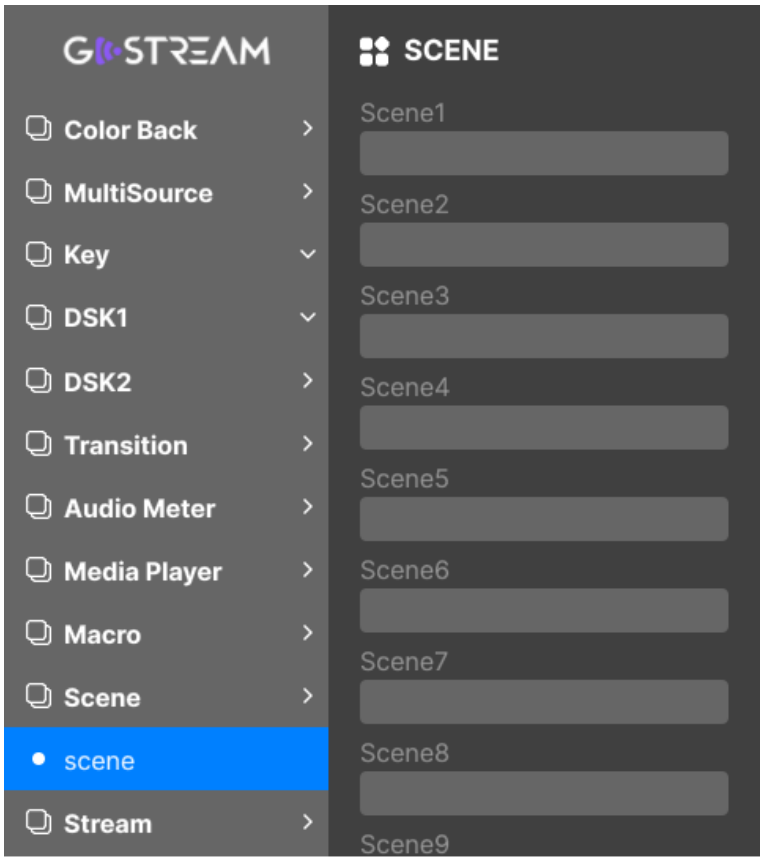


Figure 5.1-20 Scene Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-16:

Table 5.1-17 Description of Scene Menu Items

Items	Default	Domain Range	Description
scene			
Scene1	---	---	Record Scene1.
Scene2	---	---	Record Scene2.

Items	Default	Domain Range	Description
Scene3	---	---	Record Scene3.
Scene4	---	---	Record Scene4.
Scene5	---	---	Record Scene5.
Scene6	---	---	Record Scene6.
Scene7	---	---	Record Scene7.
Scene8	---	---	Record Scene8.

Tips

- Refer to "4.1.3.20 How to Record and Run a Scene" for details about Scene.

5.1.12 Stream Settings

Stream settings help you to select what streaming service you intend to use, activate the selected stream channel and enter in the streaming key to completed the setup, you can simply press LIVE button to go live. The menu items are as shown in Figure 5.1-21.

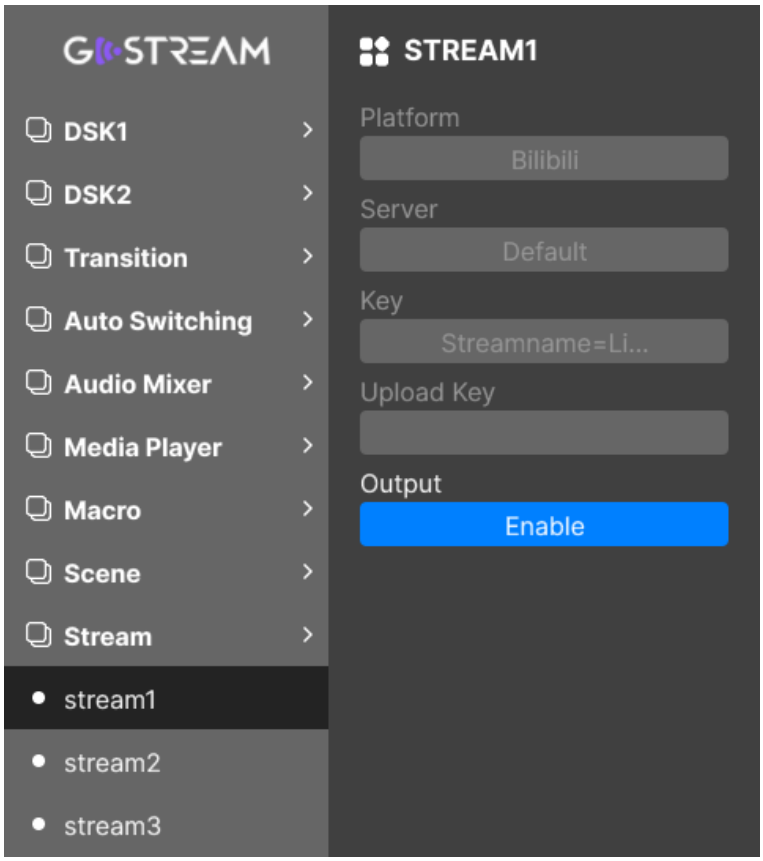


Figure 5.1-21 Stream Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-18:

Table 5.1-18 Description of Stream Menu Items

Items	Default	Domain Range	Description
stream1			
Platform	FaceBook	AfreecaTV/Bilibili/ BoxCast/Castr/ Custom URL 1 H.264/ DouYu/FaceBook/ Restream.IO/ Twitch/Vimeo/ Weibo/X(Twitter)/ YouTube RTMP/	Select a streaming platform to stream1
Server	Default	Default /---	Select a server
Key	---	---	Enter a streaming key
Upload Key	---	---	Select a file to upload a key. You should copy your key characters to a "*. txt " file in SD card. This will be very helpful when you have lots of keys, and you can save every key into a independent INI file.
Output	On	On/Off	Enable/Disable stream1
stream2			
Platform	FaceBook	AfreecaTV/Bilibili/ BoxCast/Castr/ Custom URL 1 H.264/ DouYu/FaceBook/ Restream.IO/ Twitch/Vimeo/ Weibo/X(Twitter)/ YouTube RTMP/	Select a streaming platform to stream2
Server	---	---	Select a server
Key	---	---	Enter a streaming key
Upload Key	---	---	Select a file to upload a key. You should copy your key characters to a "*.txt" file in SD card. This will be very helpful when you have lots of keys, and you can save every key

Items	Default	Domain Range	Description
			into an independent INI file.
Output	On	On/Off	Enable/Disable stream2
stream3			
Platform	FaceBook	AfreecaTV/Bilibili/ BoxCast/Castr/ Custom URL 1 H.264/ DouYu/FaceBook/ Restream.IO/ Twitch/Vimeo/ Weibo/X(Twitter)/ YouTube RTMP/	Select a streaming platform to stream3
Server	---	---	Select a server
Key	---	---	Enter a streaming key
Upload Key	---	---	Select a file to upload a key. You should copy your key characters to a "*. txt " file in SD card. This will be very helpful when you have lots of keys, and you can save every key into an independent INI file.
Output	On	On/Off	Enable/Disable stream3
load setting			
Load	---	---	Load a customized live stream platform information to the switcher.
Restore Defaults	---	---	Restore the default settings for streaming platform.

Prepare a SD Card and format it with GoStream device and make sure your network configuration is correct.

1. **Upload Custom Streaming Platform Configuration File**

You can select one of the included platforms, or customize a platform by add the corresponding segment to the streaming.xml file in SD card.

Step 1 Edit Configuration File(Using SD Card as Example)

Locate the **streaming.xml** file in the **stream_setting** folder on the SD card.

Open the file with a text editor and add custom streaming information (e.g., streaming platform name and RTMP URL).

Refer to the comments in **streaming.xml** for guidance, then save the changes.

Step 2 Load Configuration File

Insert the SD card into the switcher.

Navigate to **Stream→ load setting→Load** to read the custom streaming platform settings.

Select the newly added customized platform from the streaming platform parameters.

2. Obtain Live Stream Key

The stream key is required for streaming and is provided by platforms like YouTube Live or bilibili Live. Go to the website of the designated platform you want to streaming to.

Example: bilibili Live Stream Key Setup

Step 1 Logo into Streaming Platform.

Log in to your bilibili account.

Step 2 Enter Live Studio

Click the **Live** tab and enter the live studio settings page.

Step 3 Copy Stream Key

In **My Live Studio**, locate the **Stream Key** and click **Copy**.

Step 4 Save Stream Key

Create a TXT file on your computer, paste the copied key, and save it to the **upload_url** folder on the SD card(do not put it in the root directory).

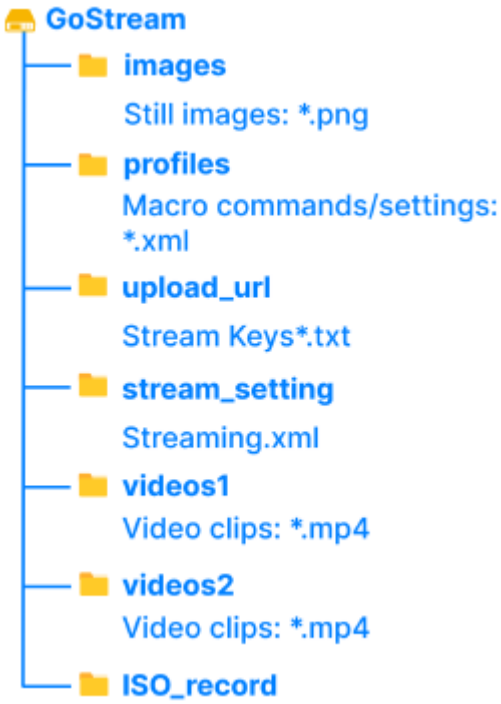


Figure 5.1-22 Directory Tree in SD Card

Tips

- Please make sure that the stream key file is located in the " **upload_url** " folder of SD card, not in the root directory! Refer to "4.2.2 Rear Connectors Operations" for details about **SD** card used in your GoStream.

3. Input Stream Key & Configure Streaming Parameters

After getting the stream key provided by platform, load the key into the switcher from SD card.

■ **Load from SD Card**

Save the key as an "**.txt**" file on the SD card (file suffix must be .txt).

Insert the SD card, select **Stream→ Stream*→Upload Key** item, and choose the key file.

Set the **Platform Name** and **Server Address**. The system auto-configures the server based on the platform.

4. Ethernet Connection Setup

Connect the switcher to a computer via **Ethernet**.

Navigate to **Settings→ Network** and select Auto-Obtain for IP configuration.

5. Start/Stop Streaming

Press the **LIVE** button to go live, the button lights up in highlight red.

Press the **LIVE** button again to stop streaming, the button turns gray.

The LIVE button is located as shown in Figure 5.1-23:



Figure 5.1-23 LIVE Button Location

3. Streaming Status Monitoring

Indicator Locations:

- **Control Panel**: Below the **LIVE** button (Figure 5.1-24).
- **MultiView Window**: Top-left corner of the audio meter (Figure 5.1-25).

They indicate the three streaming channels' status individually.

The streaming indicator provides real-time feedback on the current video stream status, with four possible states.

Table 5.1-19 Indicator States

Indicator State	Description
Solid Red	Streaming active, connection normal.
Solid Yellow	Connection normal, but data abnormal.
Flashing Yellow	No connection (e.g., network issues/buffering problems)
Gray	No active streaming.

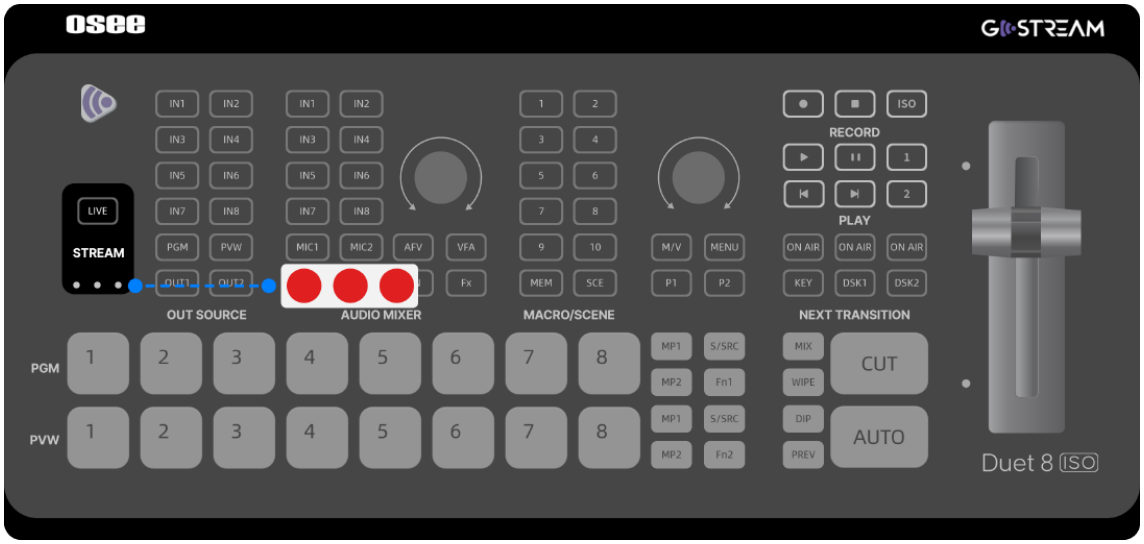


Figure 5.1-24 Streaming Indicators on Control Panel



Figure 5.1-25 Streaming Indicators on Audio Meter Window

4. Streaming Rate Control

The data rate for streaming varies depending on the switcher's output video format and quality settings.

Streaming Quality: Set via **Output→quality→Streaming** item **(Low**, **Medium** or **High).**

Output Format: Set via **Output →output format →Format** item (resolution & frame rate).

Tips

- Refer to "5.1.16 Outputs Settings" for details about **Streaming Rate** and **output format** setting.

5.1.13 PlayBack Settings

You can set the playback parameters for the streaming players, the menu item is as shown in Figure 5.1-26:

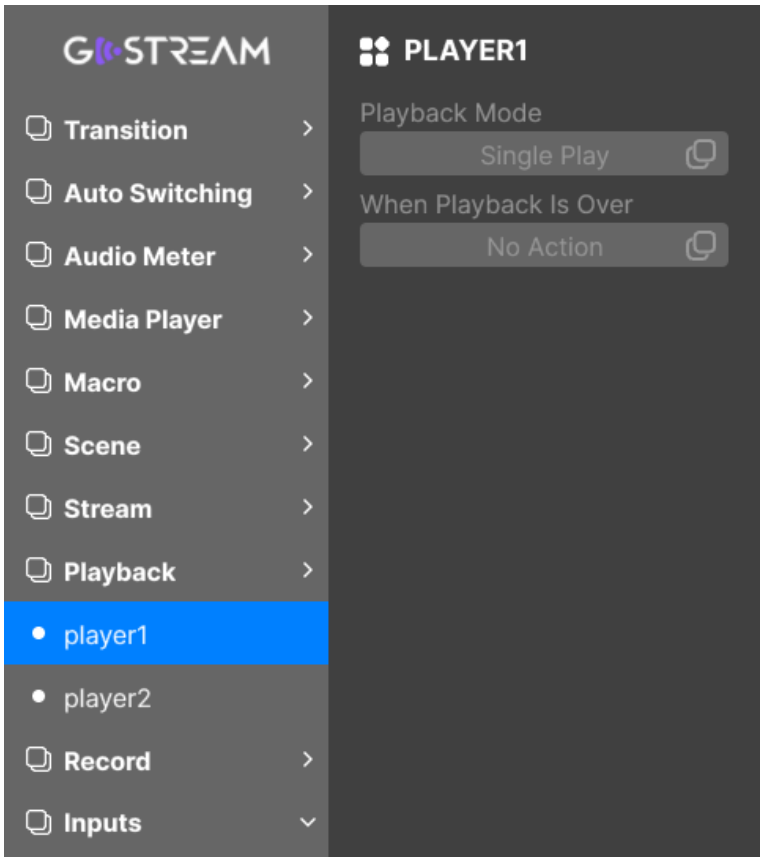


Figure 5.1-26 PlayBack Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-20:

Table 5.1-20 Description of PlayBack Menu Items

Items	Default	Domain Range	Description
Player1			
Playback Mode	Single Play	Single Play, Single Loop, Group Loop, Cross-group Loop	Set the play mode for the videos recorded in videos1 folder of your SD card.

Items	Default	Domain Range	Description
When playback is over	No Action	Single Switch/ Group Switch/ No Action	Set the play logic when playback is over
Player2			
Playback Mode	Single Play	Single Play, Single Loop, Group Loop, Cross-group Loop	Set the play mode for the videos recorded in videos1 folder of your SD card.
When playback is over	No Action	Single Switch/ Group Switch/ No Action	Set the play logic

Table 5.1-21 Playback Modes and Corresponding Actions After Stopping

Playback Mode	Range	Post-Stop Action Description
Single Play	Switch	After playback completes, perform a CUT transition and return to the first frame of the video (only applies to videos playing in PGM, i.e., switching from PGM to PVW).
	No Action	No special action; return to the first frame of the video after playback completes.
Single Loop	No Action	In this mode, the video loops continuously without any stop action.
Group Play	Single Switch	After a single video finishes playing, perform a transition and jump to the first frame of the next video in the group.
	Group Switch	After all videos in the group finish playing, perform a transition and return to the first frame of the first video in the group.
	No Action	After a video finishes playing, automatically play the next video in the group until all videos are played, then return to the first frame of the first video in the group.
Cross-group Play	Single Switch	After a single video finishes playing, perform a transition and jump to the first frame of the next video.

Playback Mode	Range	Post-Stop Action Description
	Group Switch	After all videos finish playing, perform a transition and return to the first frame of the first video.
	No Action	After a video finishes playing, automatically play the next video until all videos are played, then return to the first frame of the first video.

Tips

- You can choose a record file from the playback files list, refer to "4.1.3.22 How to Record and Play" for details about recorded video files saved in your SD card, playback mode and progress bar and so on.

5.1.14 Record Settings

You can set the parameters for the recording process. The menu is as shown in Figure 5.1-27:

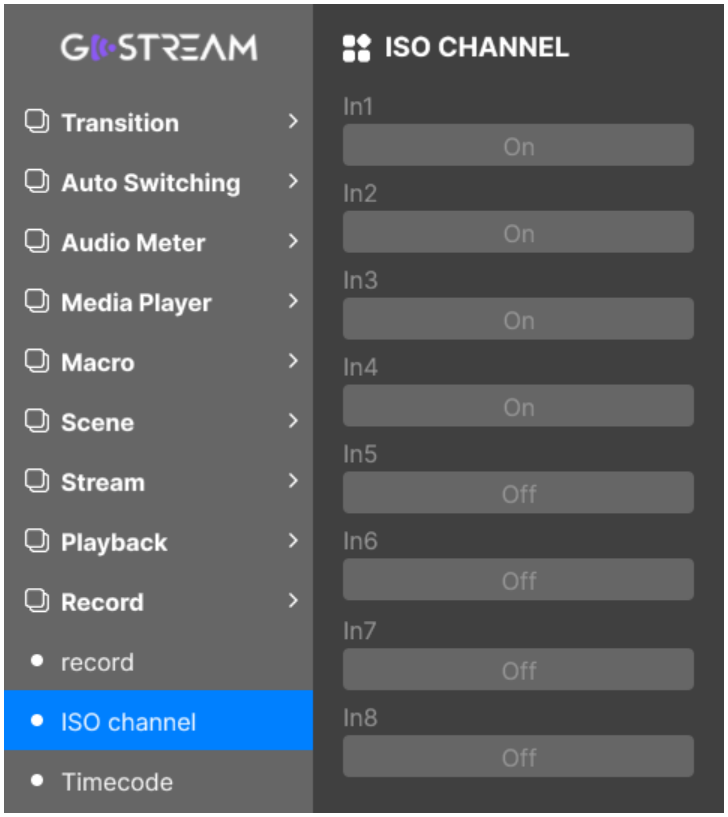


Figure 5.1-27 Record Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-22:

Table 5.1-22 Description of Record Menu Items

Items	Default	Domain Range	Description
record			
File Name	GoStream	--	Display the default prefix GoStream_Source_SN.mp4 E.g.:GoStream _pgm.mp4; GoStrea_pgm_02.mp4
ISO Channel			
In1	On	On/Off	Enable/Disable In1
In2	On	On/Off	Enable/Disable In2
In3	On	On/Off	Enable/Disable In3
In4	On	On/Off	Enable/Disable In4
In5	On	On/Off	Enable/Disable In5
In6	On	On/Off	Enable/Disable In6
In7	On	On/Off	Enable/Disable In7
In8	On	On/Off	Enable/Disable In8
Timecode			
time	--	--	Display the current time
Mode	Free Run	Free Run/ Time of Day	Set time's display mode
Set Time	--	--	Set time

1. Set Recording Sources

When ISO recording is not enabled, all standard recording content corresponds to the program output (PGM).

Enabling ISO isolated signal recording triggers the system to activate parallel recording of both PGM and ISO isolated signals.

Press ISO button to activate ISO recording, the recording control buttons are shown in Figure 5.1-28.



Figure 5.1-28 Record Buttons

- **ISO Recording Content**: The recorded content includes PGM video, video from each signal source.
- **Specify ISO Channels**: Navigate to **Record → ISO Channel** menu to enable or disable IN1~IN8.

2. Set the Recording File Name

Recording file names are composed of three elements: "File Name", "Source", and "Sequence Number".

- To check the "File Name ": Navigate to **Record → record→ File Name**. The default is GoStream. Example file name formats: GoStream_pgm.mp4, GoStream_pgm_02.mp4.
- The "Source" and "Sequence Number" components are automatically generated by the system based on recording parameters.

GoStream uses the H.264 format with optimized compression to record streaming content, providing high-quality, small-sized video files. The recording file format is MP4.

Tips

- The ISO recording feature is only available when an SSD disk is connected. If ISO recording is attempted without an SSD storage, the system will display a prompt "Recording unavailable. Please connect an SSD".

5.1.15 Inputs Settings

The input settings menu is used to configure the video signal sources from In1 to In8 and the color space for HDMI signal sources. The menu items are as shown in Figure 5.1-29.

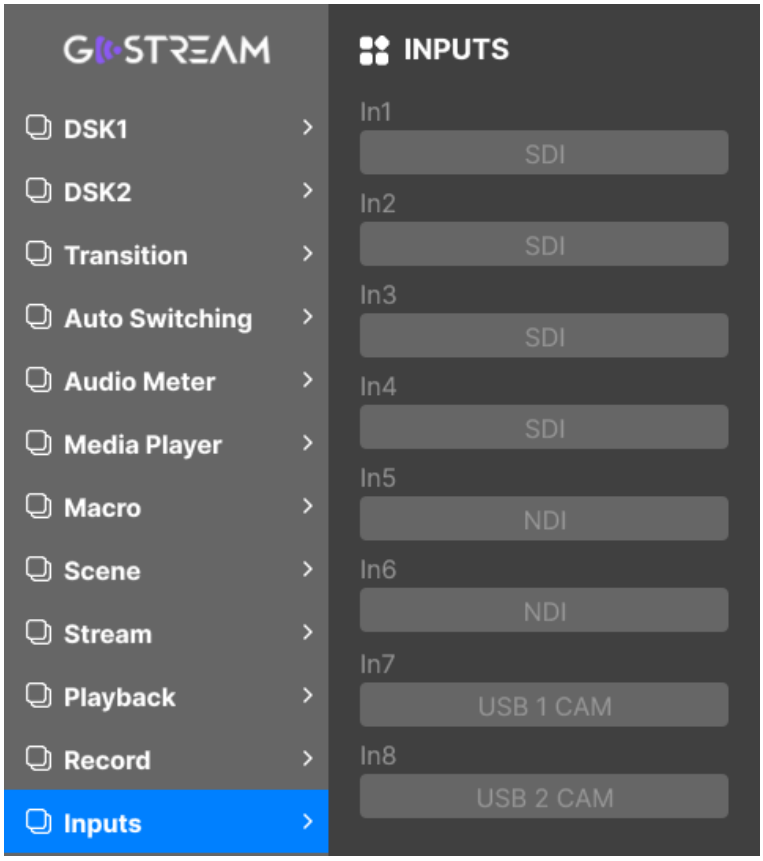


Figure 5.1-29 Inputs Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-23:

Table 5.1-23 Description of Inputs Menu Items

Items	Default	Domain Range	Description
src selection			
In1	SDI	SDI, HDMI	Set In1 source as SDI1 or HDMI1.
In2	SDI	SDI, HDMI	Set In2 source as SDI2 or HDMI2
In3	SDI	SDI, HDMI	Set In3 source as SDI3 or HDMI3
In4	SDI	SDI, HDMI	Set In4 source as SDI4 or HDMI4
In5	Player1	NDI, SRT/RTMP, Player1	Set In5 source as NDI, SRT/RTMP or Player1(See the options below)
In6	Player2	NDI, SRT/RTMP, Player2	Set In6 source as NDI, SRT/RTMP or Player2(See the options below)

Items	Default	Domain Range	Description
In7	USB1 CAM	NDI, SRT/RTMP, USB1 CAM	Set In7 source as NDI, SRT/RTMP or USB1 CAM(See the options below)
In8	USB2 CAM	NDI, SRT/RTMP, USB2 CAM	Set In8 source as NDI, SRT/RTMP or USB2 CAM(See the options below)
SRT/RTMP			
In 5 URL	--	Show the URL	The URL is displayed, with the system retaining the previous address and sustaining the connection
Upload URL	--	Type in URL	Type in the URL
In 6 URL	--	Show the URL	The URL is displayed, with the system retaining the previous address and sustaining the connection
Upload URL	--	Type in URL	Type in the URL
In 7 URL	--	Show the URL	The URL is displayed, with the system retaining the previous address and sustaining the connection
Upload URL	--	Type in URL	Type in the URL
In 8 URL	--	Show the URL	The URL is displayed, with the system retaining the previous address and sustaining the connection
Upload URL	--	Type in URL	Type in the URL
NDI			
In 5	--	--	Select an NDI device from the button list. The currently connected device is displayed, with the system retaining the previous device and sustaining the connection.
In 6	--	--	Select an NDI device from the button list. The currently connected device is displayed, with the system retaining the previous device and sustaining the connection.
In 7	--	--	Select an NDI device from the button list. The currently connected device is

Items	Default	Domain Range	Description
			displayed, with the system retaining the previous device and sustaining the connection.
In 8	--	--	Select an NDI device from the button list. The currently connected device is displayed, with the system retaining the previous device and sustaining the connection.
Color Space			
In1	Auto	Auto, RGB Full, RGB Limit, YC422 Full, YC422 Limit, YC444 Full, YC444 Limit	Set color space for HDMI1(Auto for SDI signal type)
In2	Auto	Auto, RGB Full, RGB Limit, YC422 Full, YC422 Limit, YC444 Full, YC444 Limit	Set color space for HDMI2(Auto for SDI signal type)
In3	Auto	Auto, RGB Full, RGB Limit, YC422 Full, YC422 Limit, YC444 Full, YC444 Limit	Set color space for HDMI3(Auto for SDI signal type)
In4	Auto	Auto, RGB Full, RGB Limit, YC422 Full, YC422 Limit, YC444 Full, YC444 Limit	Set color space for HDMI4(Auto for SDI signal type)

5.1.15.1 Mapping IN1~IN4 Signal Sources

Configure the IN1~IN4 input channels through the following menu:

Available Signal Source Types:

- **SDI**: Devices connected via SDI interface (e.g., cameras, recorders).
- **HDMI**: Devices connected via HDMI interface (e.g., cameras, players).

■ **Set Input Type**

Set IN1 Channel: Navigate to **Input Settings→ src selection→ IN1**, and set it to SDI or HDMI.

Set IN2 Channel: Navigate to **Input Settings→ src selection→ IN2**, and set it to SDI or HDMI.

Set IN3 Channel: Navigate to **Input Settings→ src selection→ IN3**, and set it to SDI or HDMI.

Set IN4 Channel: Navigate to **Input Settings→ src selection→ IN4**, and set it to SDI or HDMI.

5.1.15.2 Mapping IN5~IN6 Signal Sources

Configure the IN5~IN6 input channels through the following menu:

Available Signal Source Types:

- **NDI WEBCAM**: Cameras connected via the Network Device Interface (NDI).
- **SRT/RTMP**: Streaming media signals received via the SRT or RTMP protocols.
- **Player 1/Player 2**: Video content from the switcher's built-in players (Player1 or Player2).

■ **Set Input Type**

Set IN5 Channel: Navigate to **Input Settings→ src selection→ IN5**, and set it to NDI, SRT/RTMP, or Player 1.

Set IN6 Channel: Navigate to **Input Settings→ src selection→ IN6**, and set it to NDI, SRT/RTMP, or Player 2.

Example: Set IN5 to NDI input. Set IN6 to Player 2. Other types of settings are similar and will not be repeated here.

■ **Setting Up NDI Channel**

After setting the input type to NDI, you need to specify the NDI device.

Set Input Channel Type: Navigate to **Input Settings→ src selection→ IN5**, and set it to NDI.

Select Target NDI Device: Navigate to **Input Settings→ NDI→ IN5**, and set it to "XXX NDI PTZ Camera".

- **Setting Up Player2 Channel**

Set Input Channel Type: Navigate to **Input Settings→ src selection→ IN6**, and set it to Player2.

Select Playback File: Press the **P2** button in the menu area to display the Player2 playlist, showing the list of video files in the **videos2** folder. Select the file or group to play from the playlist.

Set Playback Parameters: Navigate to **Playback → player2** menu, and configure the "**Playback Mode**" and "**When playback is over**" parameters.

Execute Playback: Select the player, press the button "2" in the PLAY area, and use the playback control buttons in the PLAY area to manage playback progress.

5.1.15.3 Mapping IN7~IN8 Signal Sources

Configure the IN7~IN8 input channels through the following menu:

Available Signal Source Types:

- **NDI WEBCAM**: Cameras connected via the Network Device Interface (NDI).
- **SRT/RTMP**: Streaming media signals received via the SRT or RTMP protocols.
- **USB 1 CAM/USB 2 CAM:** Cameras or PCs connected via USB interfaces

- **Set Input Type**

Set IN7 Channel: Navigate to **Input Settings→ src selection→ IN7**, and set it to NDI, SRT/RTMP, or USB 1 CAM.

Set IN8 Channel: Navigate to **Input Settings→ src selection→ IN8**, and set it to NDI, SRT/RTMP, or USB 2 CAM.

Example: Set IN7 to SRT/RTMP input. Set IN8 to USB 2 CAM. Other types of settings are similar and will not be repeated here. input.

- **Setting Up SRT/RTMP Channel**

After setting the input type to SRT/RTMP, you need to specify the SRT/RTMP device.

Set Input Channel Type: Navigate to **Input Settings→ src selection→ IN7**, and set it to SRT/RTMP.

Select SRT/RTMP Target Address: Navigate to **Input Settings→ In 7 URL→ IN7**, and set it to "srt://192.168.1.20:10000".

- **Setting Up Player2 Channel**

Set Input Channel Type: Navigate to **Input Settings→ src selection→ IN8**, and set it to USB 2 CAM.

Tips

- When the PGM indicator signal flashes green abnormally, please check whether the output video format matches the input video format settings, or check if the signal cable is connected properly.

5.1.16 Outputs Settings

The output settings menu is used to configure the output signal source, output format, and the color space for HDMI output. The menu items are as shown in Figure 5.1-30.

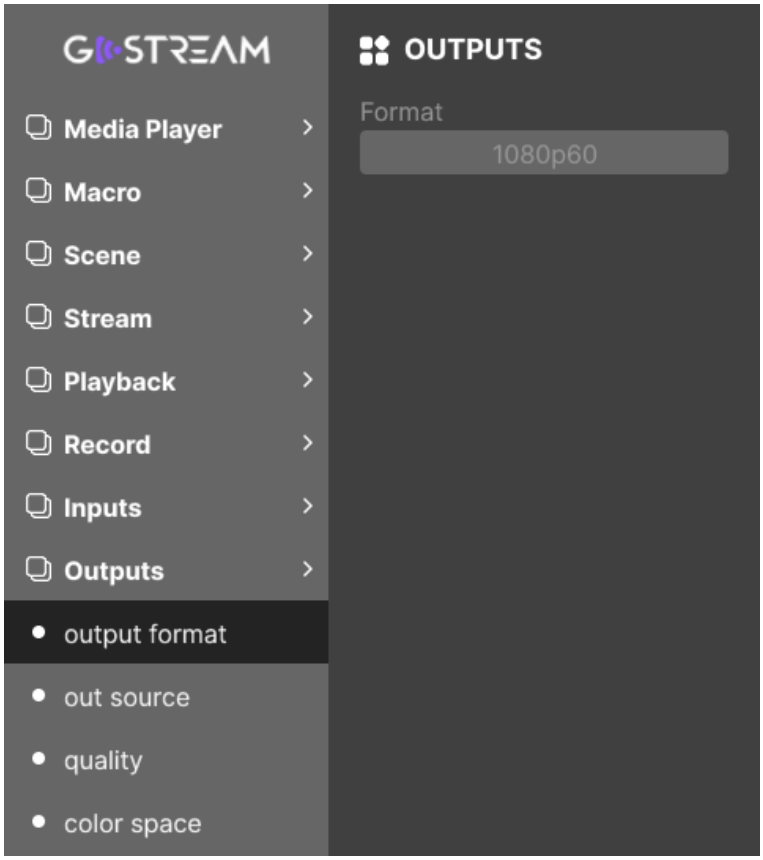


Figure 5.1-30 Outputs Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-24:

Table 5.1-24 Description of Outputs Menu Items

Items	Default	Domain Range	Description
out format			
Format	1080p30	1080p23.98/ 1080p24/ 1080p25/ 1080p29.97/ 1080p30/ 1080p50/ 1080p59.94/ 1080p60	Set output resolution
video source			
Out 1	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Program/Preview	Set video source for SDI output (for Out1)
Out 2	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Program/Preview	Set video source for HDMI output (for Out2)
USB Out	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Program	Set video source for UVC output (USB video class)
audio source			
Out 1	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Mic1/Mic2/ Program	Set audio source for SDI output (for Out1)
Out 2	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Mic1/Mic2/ Program	Set audio source for HDMI output (for Out2)
USB Out	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Mic1/Mic2/ Program	Set audio source for UVC output (USB video class)
Streaming Out	Program	In1/In2/In3/In4/ In5/In6/In7/In8/ Mic1/Mic2/ Program	Set audio source for streaming output
color space			

Items	Default	Domain Range	Description
Out 2 Color Space	Auto	Auto, RGB Full, RGB Limit, YC422 Full, YC422 Limit, YC444 Full, YC444 Limit	Set color space for HDMI output(for Out2)
Out 3 Color Space	Auto	Auto, RGB Full, RGB Limit, YC422 Full, YC422 Limit, YC444 Full, YC444 Limit	Set color space for HDMI output(for Out3)
quality			
Recording	Low	High/Medium/ Good/Low	Set the quality for recording
Streaming	Low	High/Medium/Low	Set the quality for streaming on live

5.1.16.1 Set Output Format

The switcher supports the following output format: 1080p24, 1080p25, 1080p30, 1080p50, 1080p60, 1080P23.98, 1080P29.97, 1080P59.94.

Select the output format by **Outputs→out format→ Format** item.

Tips

- The USB video output supports YUYV and NV12 formats at up to 1080p30 resolution, while also supporting MJPG format at up to 1080p60 resolution.

5.1.16.2 Set Video Output Source and Audio Output Source

1. **Video Output Source**

The video output source for the output interfaces OUT1, OUT2, and USB, which can be set through the **Outputs→video source** menu.

Available Signal Source Types:

- **PGM** (Default): Program output signal, including all switched signals, keying effects, and transitions.
- **PVW**: Preview signal, displaying the signal to be cut into PGM. (This option is not applicable for USB output).
- **IN1~IN8** (Specified Input Source): Directly outputs a specific input signal (e.g., camera, player).

2. **Audio Output Source**

The audio output source for the output interfaces OUT1, OUT2, USB and streaming signal, which can be modified through the **Outputs→audio source** menu.

Available Signal Source Types:

- **PGM** (Default): Program mixed signal, including the mixed output of all audio tracks.
- **IN1~IN8** (Specified Input Source): Directly outputs the audio from a specific input signal (e.g., camera microphone).
- **Mic1, Mic2**: External audio input, outputs the signal from an external audio device.

Tips

- Video Output Source: Default is PGM.
- Audio Output Source: Default is PGM.

5.1.16.3 Set Recording & Streaming Quality

In the switcher, the settings for streaming quality and streaming recording quality affect the data rate and image quality of the video stream. The data rate dynamically adjusts based on the switcher's output video format (e.g., resolution, frame rate).

Relationship Between Quality Settings and Data Rate:

- **Streaming Quality**: Affects the image quality and data rate of real-time streaming.

- **Streaming Recording Quality**: Affects the image quality and data rate of recorded files.

Each quality setting involves two data rates, which can be set to low frame rate (30p) or high frame rate (60p). Higher resolution results in a higher data rate, and higher frame rate also results in a higher data rate.

The table below shows the relationship between streaming quality, streaming recording quality, and data rate for different video resolutions.

■ **Recording**

Table 5.1-25 Resolution, Recording Quality, and Data Rate Comparison Table

Resolution	Frame	Low	Medium	Good	High
720p	30p	1.5 Mbps	3 Mbps	---	4 Mbps
720p	60p	2.25 Mbps	4.5 Mbps	---	6 Mbps
1080p	30p	3 Mbps	8 Mbps	16 Mbps	30 Mbps
1080p	60p	4.5 Mbps	12 Mbps	24 Mbps	50 Mbps

Item	Resolution	Bitrate (Mb/s)	Audio-bitrate
Low	720p30	1.5	128000
	720p60	2.25	128000
	1080p30	3	128000
	1080p60	4.5	128000
Medium	720p30	3	128000
	720p60	4.5	128000
	1080p30	8	128000
	1080p60	12	128000
Good	1080p30	16	128000
	1080p60	24	128000
High	720p30	4	128000
	720p60	6	128000
	1080p30	30	128000
	1080p60	50	128000

■ **Streaming**

For example, if you select Streaming High quality and are running at 1080p24 then it would use the 6 Mb/s data rate.

Table 5.1-26 Resolution, Streaming Quality, and Data Rate Comparison Table

Resolution	Frame	Low	Medium	High
720p	30p	1.5 Mbps	3 Mbps	4 Mbps
720p	60p	2.25 Mbps	4.5 Mbps	6 Mbps
1080p	30p	3 Mbps	4.5 Mbps	6 Mbps
1080p	60p	4.5 Mbps	6 Mbps	9 Mbps

Item	Resolution	Bitrate (Mb/s)	Audio-bitrate
Low	720p30	1.5	128000
	720p60	2.25	128000
	1080p30	3	128000
	1080p60	4.5	128000
Medium	720p30	3	128000
	720p60	4.5	128000
	1080p30	4.5	128000
	1080p60	6	128000
High	720p30	4	128000
	720p60	6	128000
	1080p30	6	128000
	1080p60	9	128000

5.1.17 System Settings

Set system settings, including device information, src name, mv meter, disk selection, marker, button backlight, etc. The menu items are as shown in Figure 5.1-31.

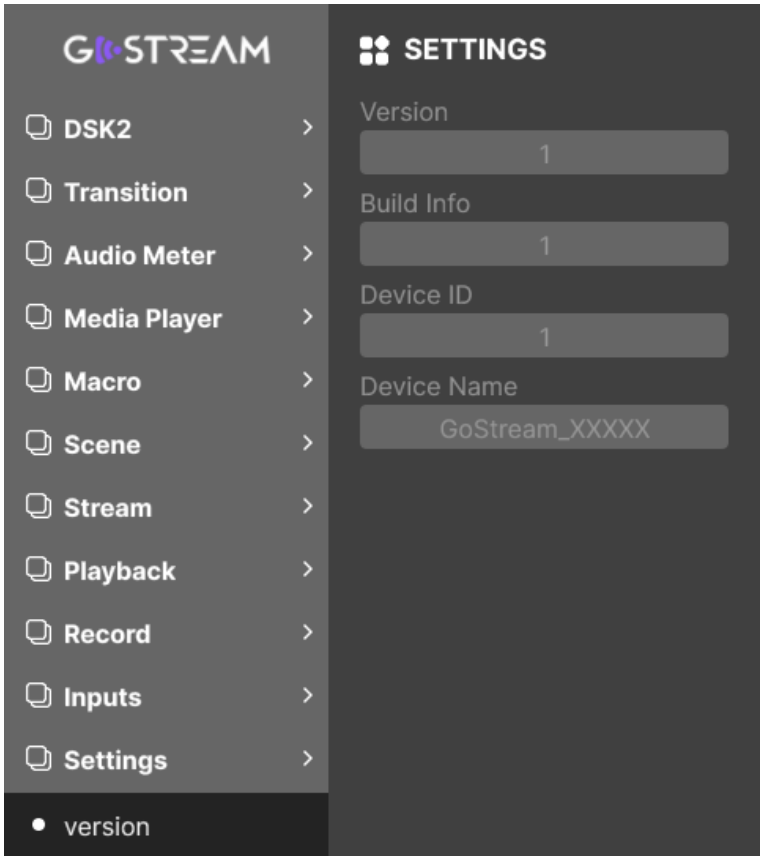


Figure 5.1-31 Setting Menu

The relationship of Items, Default Value, Domain Range and Description of the sub-item is shown in Table 5.1-27:

Table 5.1-27 Description of Setting Menu Items

Items	Default	Domain Range	Description
version			
Version	---	---	Show version
Build info	---	---	Show build info
Device ID	---	---	Show device ID
Device Name	GoStream	---	Show device name
Disk Select			
ISO record	---	---	Select the disk for ISO recording
Others	---	---	Select the disk for video recording
marker			
PVW	Off	On/Off	Enable/Disable the safe area marker inside the preview view.

Items	Default	Domain Range	Description
			The outer marker represents the 16:9 safe area and the inner represents the 4:3 safe area.
network			
Protocol	DHCP	DHCP/Static IP	Set network protocol
IP Address	--	172.20.2.212	Set IP address
Subnet Mask	--	255.255.255.0	Set subnet mask
Gateway	--	255.255.255.0	Set gateway
Primary DNS	--	8.8.8.8	Set the primary DNS
Secondary DNS	--	8.8.4.4	Set the secondary DNS
Button			
Button Brightness	1	0~15	Set the brightness for panel buttons
profile			
Import	--	--	Import the configurations from the selected profile file in SD card. The default name of the corresponding file is profile***.xml.
Export	--	--	Export current settings to the Profile***.xml in SD card.
language			
Language	English	English/ Japanese	Set the system language
Advanced			
Factory Reset	--	--	Restore the factory settings
Format	--	--	Format SD card(Exfat format)
user guide			
User Guide	--	--	Scan the QR code to access the User Guide

5.1.17.1 Set Storage Device for Recording

Select the storage device (e.g., SD card or SSD drive) for recording and playback.

SD Card: Read and write via the built-in SD card slot, suitable for short-term recording.
SSD Drive: Connect via USB interface, suitable for long-term, high-resolution video

recording and playback.

- **ISO Recording**

  Navigate to **Settings → Disk Select→ ISO Record** and select the target storage device. The recorded file will be saved under the **ISO_record** folder.

- **Other Recordings**

  Navigate to **Settings → Disk Select→ Other** and select the target storage device for smaller video files. The recorded file will be saved under the **videos1** folder.

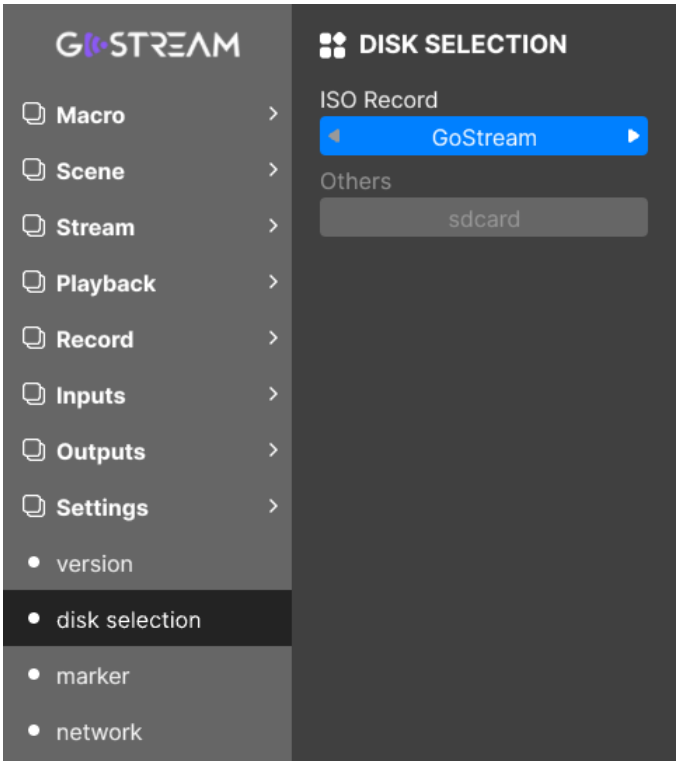


Figure 5.1-32 Set Storage Device

5.1.17.2 Formatting Storage Devices

For first-time use, it is recommended to format the storage device to ensure compatibility. Currently, the Exfat format is supported. Use the switcher's built-in formatting menu to format the disk.
Navigate to **Settings→ Advanced→ Format** for the formatting process, select the target storage device (e.g., SD card or SSD drive) and confirm.

After formatting, the SSD drive or SD card is automatically named **GoStream**.
After inserting or formatting the storage device, the system will automatically create default folders on the storage device to categorize and store switcher-related content.

5.1.17.3 Restoring your Settings

Here's how to restore your factory reset:

- Go to the menu bar and select **Settings→ Advanced →Factory Reset**.
- A prompt will ask whether you will make sure for this operation. Click ‘restore’ to confirm this operation.

This can be useful if you want all parameters to be set back to the defaults.

5.2 Menu Settings

When checking or modifying the value of the menu item, cooperating with the following buttons: MENU button and Adjust knob.

1. **Operations to the Main menu**

■ **Display the Main Menu**

Press the **MENU** button to access the main menu, which appears in the bottom right corner of the Multiview display.

■ **Switch menu items**

After displaying the main menu, scroll the knob clockwise or counterclockwise to choose a menu item, the menu item selected is in highlight.

■ **Back to the Main menu**

After entering to a sub-menu item or a sub-menu item value, press **MENU** button to back to the upper level menu area.

■ **Close the Main menu**

Press **MENU** button to close the Main menu.

2. **Operations to sub-menu item**

■ **Display the sub-menu item**

After display the Main menu, scroll the knob clockwise or counterclockwise to select a menu item, and the right part displays its sub-menu items according to the current selected menu item.

■ **Switch sub-menu items**

After displaying the sub-menu items list, press **MENU** button to enter into the sub-menu items list, scroll the knob clockwise or counterclockwise to choose a sub-menu item.

- **Back to menu item**

After entering to the sub-menu item value, press **MENU** button to back to menu items, the control icon is back to the corresponding sub-menu item.

3. Operations to sub-menu item value

- **Switch sub-menu item value**

When the control icon is in sub-menu item value, scroll the knob clockwise or counterclockwise to switch among its value list.

- **Confirm the modification to sub-menu item value**

Press the knob straight down to confirm the selection of a value, and the control icon is back to the corresponding sub-menu item.

- **Abandon the modification to sub-menu item value**

Press **MENU** button to give up the modification to sub-menu item value.

Chapter 6 Specifications

1. Product detailed information

Specification	Values	
Model	GoStream Duet 8 ISO Switcher	
Video Input Interface	HDMI×4	HDMI/SDI Input(In1~In4)
	SDI×4	
	USB×2	USB1, USB2, Webcam Input
	Ethernet X1	Ethernet(NDI, SRT/RTMP, In5~In8)
Video Output Interface	SDI×1	OUT1, SDI Output
	HDMI×1	OUT2, HDMI Output
	HDMI×1	OUT3, HDMI Output (Multiview)
	USB X1	USB1/ USB2, Webcam Output
Audio Input Interface	MIC×2	MIC1, MIC2, XRL/3.5mm
Audio Output Interface	LINE×1	PHONE, 3.5mm Jack(Headphone)
Control Interface	Ethernet X1	Streaming on live (Stream1~3) NDI HX SRT/RTMP
Signal Output Formats	HDMI	1080p24, 1080p25, 1080p30, 1080p50, 1080p60, 1080P23.98, 1080P29.97, 1080P59.94
Video Specifics	Upstream key	1
	Downstream key	2
	Color Generators	2
	Pattern Generator	11
Audio Mixer	2 channel analog audio inputs 4 channel HDMI embedded audio inputs 1 channel AUX embedded audio input 1 channel PGM monitoring	
Dimension (W x H x D, mm)	279.2*57.4*132.6(W x H x D, mm)	
Weight	862g	
Power Consumption	35W(Max)	

Specification	Values
Input Power	12VDC
Work Environment	Temperature: 0~70℃
	Humidity: 10%~90% (no condense)
	Height: below 1000 feet (3048 meter) above sea level

2. Dimensions

The description of the product dimensions is shown as in the following figures:

- GoStream Duet 8 ISO Switcher

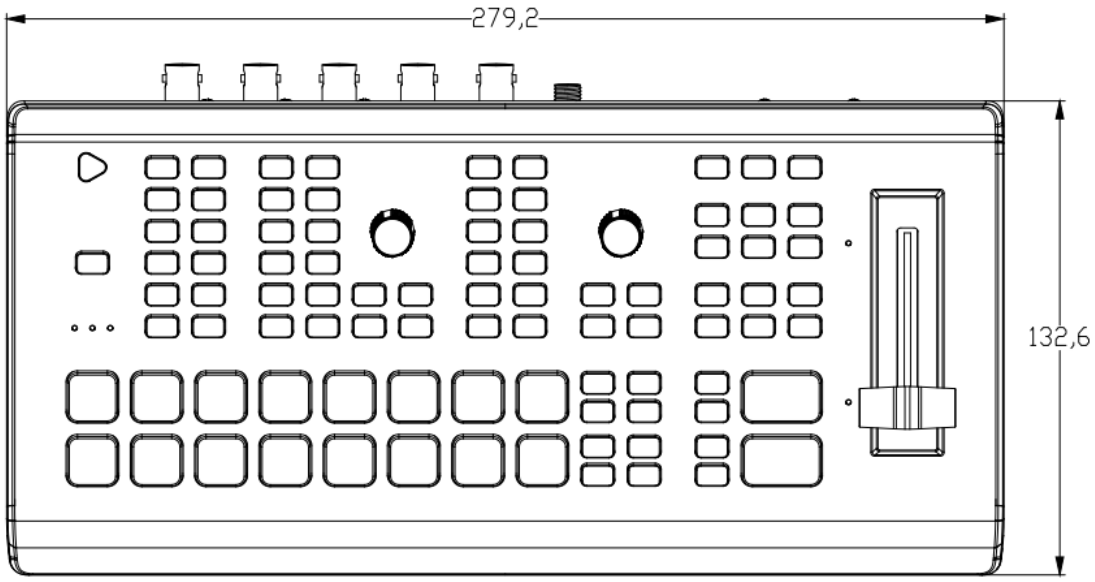


Figure 6-1 Front Panel(Unit: mm)

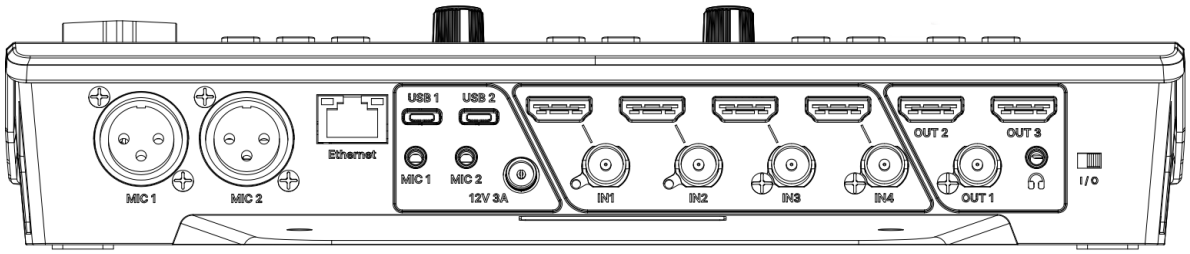


Figure 6-2 Rear Panel(Unit: mm)

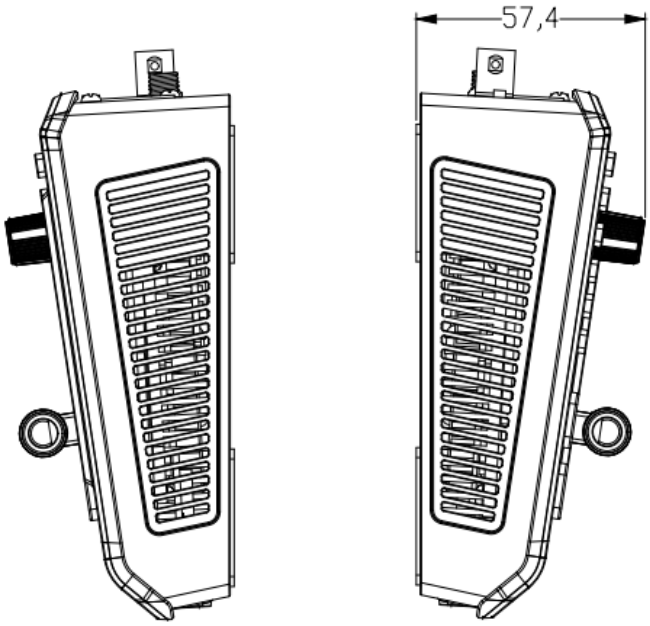


Figure 6-3 Side View(Unit: mm)

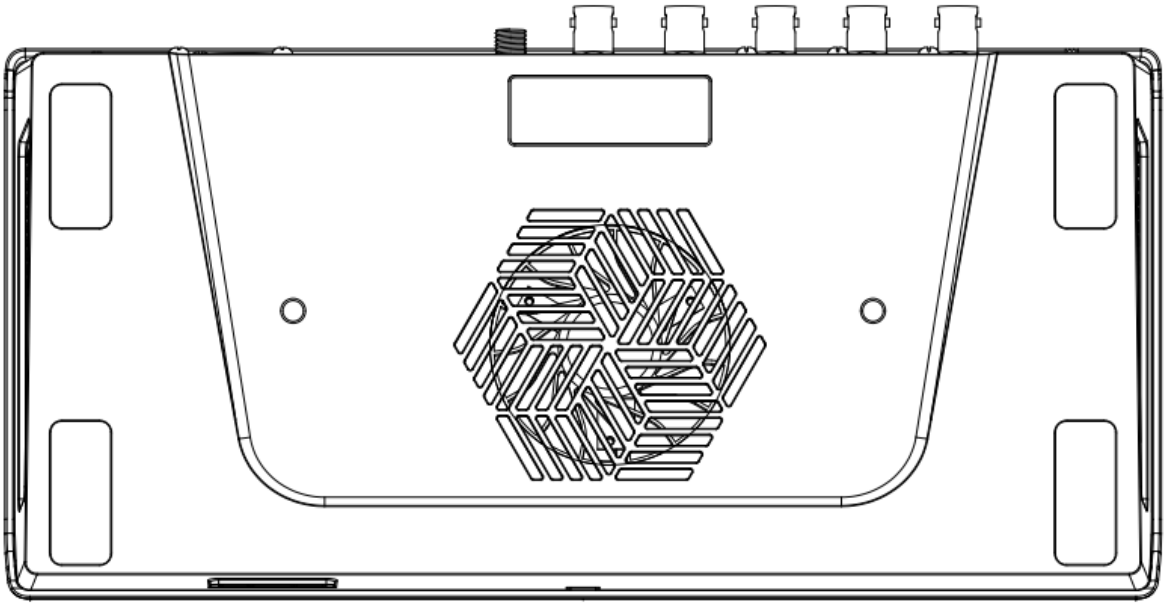


Figure 6-4 Back View(Unit: mm)

Tips

- Specifications are subject to change without notice.

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OSEE TECHNOLOGY LTD.
No.22 Building, No.68 zone, Beiqing Road, Haidian District, Beijing, China
Tel: (+86) 010-62434168, Fax: (+86) 010-62434169
E-mail: sales@osee-dig.com