

# M1

## Quick Start



- Modular design throughout
- Support hot swap modules
- Preview 4 inputs
- Seamless switching between PST and PGM
- Multiple audio outputs available
  - 2 video layers plus additional layers for OSD, LOGO, STILL
- Mask feature for foreground layer including support for user defined mask
- Compatible with all display types
- Genlock Y In
- Save Presets and settings on board and to USB
  - 14 Streaming PGM output via optional USB 3.0 output module
  - 14 Transition Effects on the T-bar and TAKE button

# CONTENTS

Product Introduction .....	3
Packing Configuration .....	4
Hardware Orientation .....	5
Front Panel .....	5
Rear Panel .....	9
Using Your Product .....	11
Menu Structure .....	11
PST Mode .....	13
PGM Mode .....	18
Switching Mode .....	19
Set the Output Parameter .....	20
Using Black Out .....	22
Lock Front Panel .....	23
Language/语言 .....	24
System Setting .....	25
PTZ Control .....	26
Factory Reset .....	28
USB3.0 Streaming Module .....	29
Contact Information .....	34

# Product Introduction

M1 is All-in-one scaling and vision mixing Tools.

M1 can be up-down and cross-convert any input signal to the output, support 2 layers seamless switching from preview to PGM. Supports Integrated audio also.

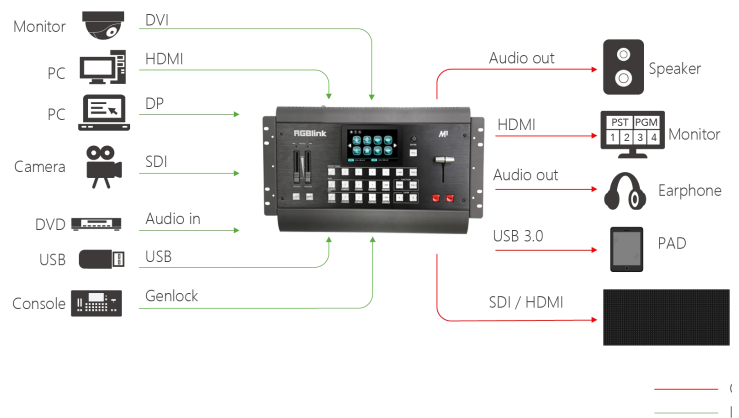
Operator can run M1 by its touch panel and its operations control panels, preview all the inputs and Preset by its PVW HDMI output ports, and seamless switching on its PGM program output port, with seamless transition efforts including Fade or Wipe.

M1 is not only a traditional video mixer, but also a video scaler by its integration pixel scale engine for the modern displays, including LED display, which user doesn't need to have a video scaler behind.

And M1 is fully modular base to meet different flexible configuration requirement.

## System Connection

RGBlink video processing solutions provide a range of flexible configuration options for professional applications.



M1 System Connection Diagram

# Packing Configuration

**AC Power Cable**



**USB Cable**



**HDMI to DVI Cable**



**Network Cable**



**USB 3.0 Cable**



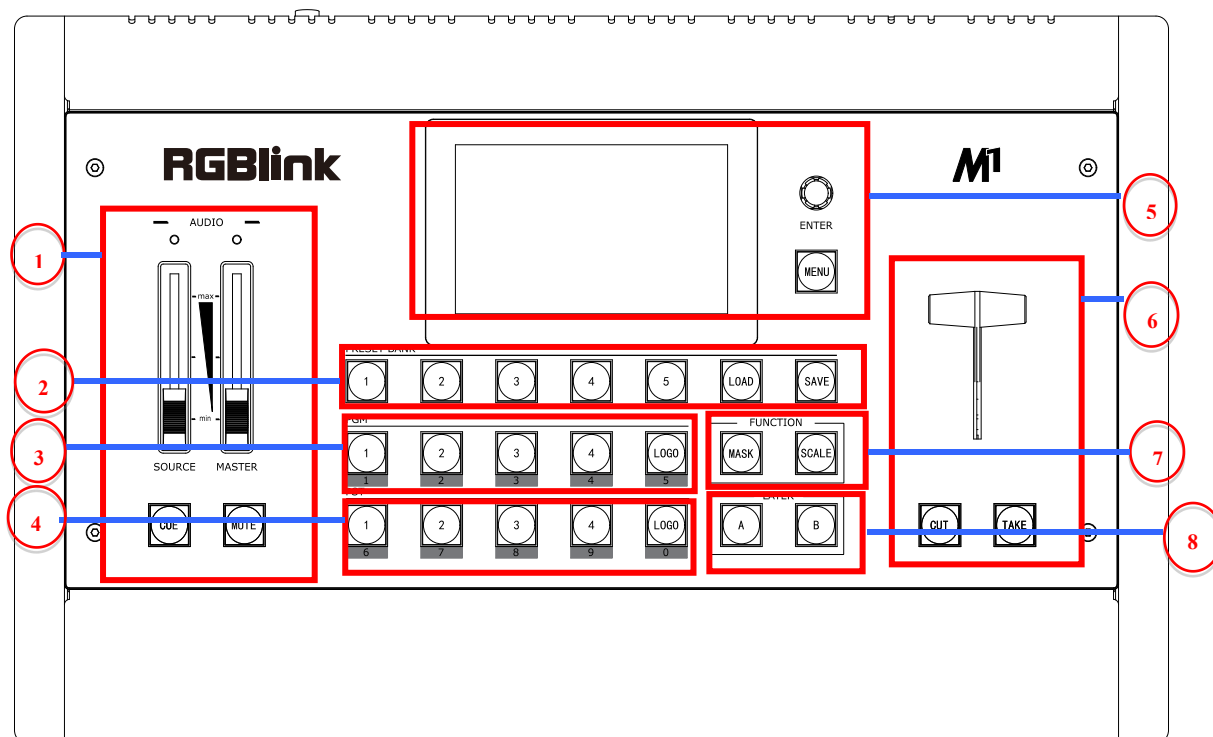
**Note:**

AC Power Cable supplied as standard according to destination market.

USB is contained on the Warranty/Registration Card. Please keep.

# Hardware Orientation

## Front Panel



Panel Instruction			
1	Audio adjust area	5	Menu and LCD display area
2	Audio input area	6	Switching mode area
3	PGM output area and Logo button	7	Function area
4	PST output area and Logo button	8	Layer selection area

## Audio adjust area

1	<p><b><u>SOURCE FADER</u></b></p> <p>Source fader adjust 4 input signals' voice separatly to same value, each signal request to save.</p> <p>Remark: adjustment may not work if push it quickly</p> <p><b><u>MASTER FADER</u></b></p> <p>MASTER FADER is an amplification-factor of all channel invoice, come true Source value multiply by current Master value</p> <p>Remark: adjustment may not work if push it quickly</p> <p><b><u>CUE</u></b></p> <p>CUE is to switch PST audio preview or PGM audio preview.</p> <p><b><u>MUTE</u></b></p> <p>MUTE is for single audio output/Mix audio output</p>
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## Audio input area

2	<p><b><u>SAVE</u></b></p> <p>To adjust M1 audio input and output.</p> <p><b><u>LOAD</u></b></p> <p>Press load button once to lock audio; press load button for 3 seconds to factory reset.</p> <p><b><u>1/2/3/4/5</u></b></p> <p>The button 1/2/3/4/5 is to select audio input.</p>
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## PGM output area and Logo button

3	<p><b><u>LED INDICATOR</u></b></p> <p>The button 1/2/3/4/LOGO is lit when the signal or background input is selected for use.</p> <p><b><u>PGM AREA</u></b></p> <p>For indicating, user can not change the channel or set the size or position in PGM area.</p> <p><b><u>LOGO</u></b></p> <p>For fade out to black softly</p> <p><b><u>1/2/3/4/5</u></b></p> <p>Each button is numbered and can be used as direct number entry when values such as resolution and size.</p>
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## PST output area and Logo button



4	<p><b><u>LED INDICATOR</u></b> The button 1/2/3/4/LOGO is lit when the signal or background input is selected for use.</p> <p><b><u>PST AREA</u></b> For indicating, user can not change the channel or set the size or position in this area.</p> <p><b><u>LOGO</u></b> For switching from PGM to test pattern.</p> <p><b><u>6/7/8/9/0</u></b> Each button is numbered and can be used as direct number entry when values such as resolution and size.</p> <p><b><u>PST AREA</u></b> For indicating, the button is lit when output the signal in PST channel. For selecting, push any button to switch the PST signal. For editing, (button light is lit -- the channel is used but can not be edited, button light is flashing -- the channel can be edited, button light is off -- the channel is not selected.</p>
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### Menu and LCD Display Area

5	<p><b><u>MENU</u></b> Menu and exit reuse button.</p> <p><b><u>SELECT/ENTER</u></b> Confirmation button.</p> <p><b><u>LCD DISPLAY</u></b> Displays current status of the product, and for feature selections provides interactive choices in conjunction with buttons on the Rear Panel.</p>
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### Switching Mode Area

6	<p><b><u>CUT</u></b> Zero delay switching.</p> <p><b><u>TAKE</u></b> Seamless switching with transition effects.</p> <p><b><u>T-BAR</u></b> WIPE and mix switching.</p>
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## Function Area

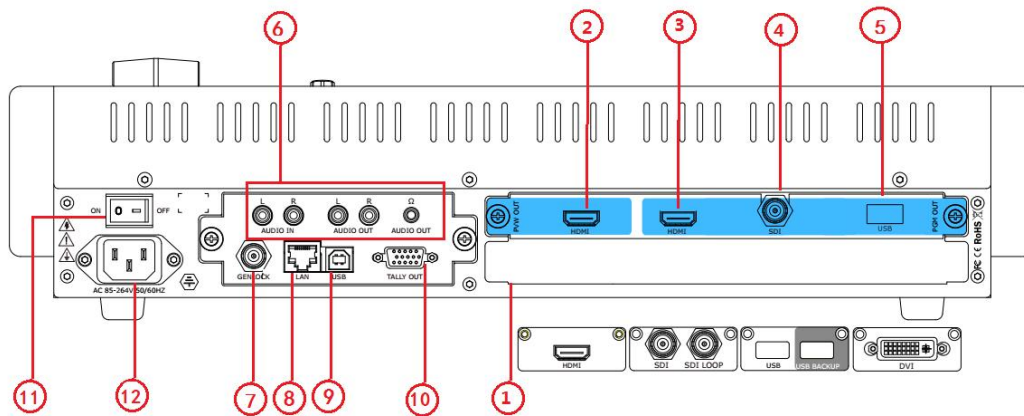
7	<p><b><u>MASK</u></b> Choose the button to full screen the selected layer</p> <p><b><u>SCALE</u></b> Press this button to set PIP in PST window. Remar: Press the button to open PIP, select A/B layer to close PIP.</p>
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## Layer Selection Area

8	<p><b><u>A/B</u></b> For adding or deleting the layer, the button light is lit when add the layer, off when delete the layer, and flash when select the layer.</p>
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# Rear Panel



## Input Interface

1	<p>Optional Input Module</p> <p>4 input card slots, supports input signals including DVI, HDMI, USB, SDI.</p> <p>Each DVI module supports 1 DVI-I input and compatible CVBS, VGA,YPbPr.</p> <p>Each HDMI module supports 1 HDMI-A input</p> <p>Each USB module supports 1 USB-B input and 1 USB backup.</p> <p>Each SDI module supports 1 SDI input and 1 SDI loop out.</p>
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## Output Interface

2	HDMI PVW Output
3	HDMI PGM Output
4	SDI PGM Output (Optional, not standard)
5	USB3.0 Output(Optional,not standard)

## Audio Area

6	Audio In
	Audio Out
	Audio Out (Earphone)

## Control Interface

7	Genlock input BNC port
8	LAN port RJ-45
9	USB port USB-A
10	TALLY Light

## Power Connection

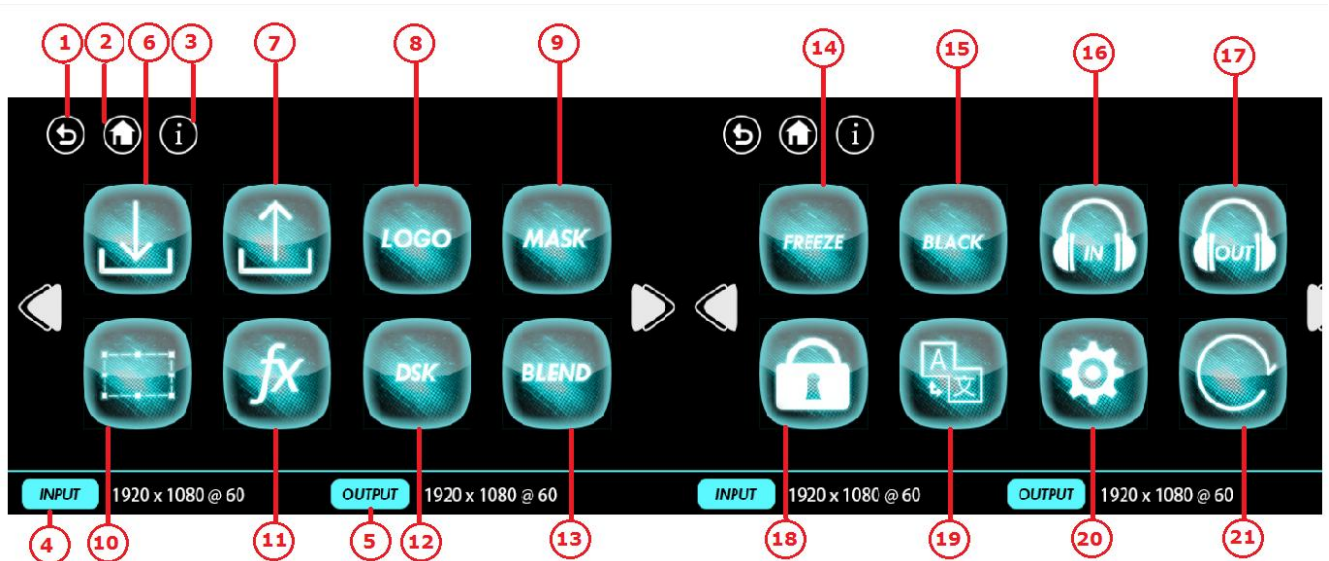


11	Power Switch
12	AC 85-264V Max 65W, IEC-3

# Using Your Product

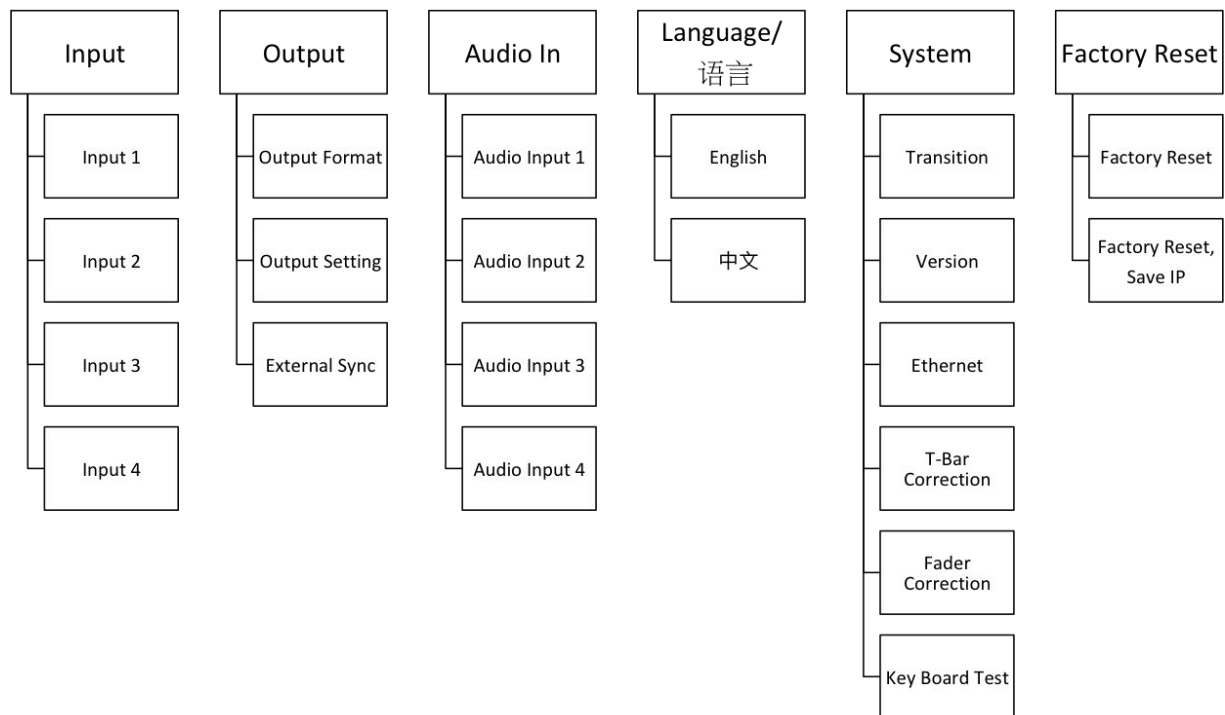
## Menu Structure

The menu structure is shown on the LCD Screen and in the figure below:



### LCD Touch Screen Menu Instruction

1	Return Button	12	DSK
2	Homepage	13	BLEND
3	Information Page	14	FREEZE
4	Input Resolution Display	15	BLACK
5	Output Resolution Display	16	Audio In
6	Input Menu	17	Audio Out
7	Output Menu	18	Lock Rear Panel
8	LOGO	19	Language/语言
9	MASK	20	System
10	Scale	21	Factory Reset
11	Transition Effect		



Customized version for broadcasting



# PST Mode

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M1 supports 1 HDMI preview output, and it supports the functions as below:

## Signal Selection

Push any button in PGM or PST output area, for example, push the button [5], the border of signal 5 will change to yellow, and the signal in PGM monitor will be changed to signal 5.

## Add or Delete Layer

Push any button of [A] to [B] in Layer Selection Area to add or delete the layer.

Add layer: The light is lit.

Select layer: The light is flashing.

Delete layer: The light is off.

## Freeze the Layer

Push the [FREEZE] button in LCD screen, Select as needed to freeze layer A, layer B or 2 layers, push the button<Live> , the layer is live.



FREEZE A FREEZE B FREEZE ALL LIVE

## 2 Layers Presets

1. Push A or B button in Layer selection Area to select 1 or 2 layouts, including 1P, PIP.
2. User can adjust the position, size for the selected layer, and set DSK, BLEND and MASK, some function coming soon.

## Set the Position

1. Push any button of [A] to [B] in Layer Selection Area, the light is red lit when the layer is selected.



2. Push the [SCALE] button in Layer Adjustment Area or on the LCD screen, and enter to the menus as follows:


->H Pos	465
V Pos	1248
H Size	956
V Size	540
Reset	>>

Use the rotary knob to adjust the position of the layer.

## Scale and Crop the Layer

1. Push any button of [A] to [B] in Layer Selection Area, the light is flashing when the layer is selected.



2. Touch  on LCD screen, and enter to the menus as follows:

Use the rotary knob to adjust the size of the layer.

If select <Crop>, it will enter to the menus as follows:

**Crop H Pos:** Crop the horizontal position.

**Crop V Pos:** Crop the vertical position.

**Crop H Size:** Crop the horizontal size.

**Crop V Size:** Crop the vertical size.

**Reset:** Reset crop if image quality distorts by improper operation.

-> Crop H Pos	0
Crop V Pos	0
Crop H Size	1920
Crop V Size	1080
Reset	>>

## DSK Setting

1. Firstly, enable the 2 layers function.
2. Push [MENU] button, and enter to the menu items. Turn the rotary knob, and select <DSK> option in LCD screen, rotary the knob or touch the <DSK> to confirm.

Preset	Black BlackGround
Mode	Key In
Alpha	128
Red Min	0
Red Max	208
Green Min	0
Green Max	208
Blue Min	0
Blue Max	208
DSK	ON

**Preset:** Can select user, black background, white background, red background, green background and blue background.

**Mode:** Select Key In or Key Out.

**Alpha:** The adjustment range is between 0~128.

**Red Min:** The adjustment range is between 0~255.

**Red max:** The adjustment range is between 0~255.

**Green Min:** The adjustment range is between 0~255.

**Green Max:** The adjustment range is between 0~255.

**Blue Min:** The adjustment range is between 0~255.

**Blue Max:** The adjustment range is between 0~255.

**DSK:** Can select enable or disable the DSK function.

## Transitions Setting

1. Touch the transition buttons in LCD screen, M1 supports 15 kinds of wipe modes:

Touch the transition button  , user can select  $\leftarrow [ ] \rightarrow$ .

Touch the transition button  , can select  $L \rightarrow R$ .

Touch the transition button  , user can select  $T \rightarrow B$ .

Touch the transition button **FADE**  , can select fade.


Touch the transition button  , user can select  $LT \rightarrow RB$ .

Touch the transition button  , user can select  $\leftarrow + \rightarrow$ .

Touch the transition button  , user can select  $L \leftarrow R$ .

Touch the transition button  , user can select  $B \rightarrow T$ .

Touch the transition button  , user can select  $L \leftarrow M \rightarrow R$ .

Touch the transition button  , user can select  $T \leftarrow M \rightarrow B$ .

Touch the transition button  , user can select  $\rightarrow + \leftarrow$ .

Touch the transition button  , user can select  $III \rightarrow$ .

Touch the transition button  , user can select  $\rightarrow [ ] \leftarrow$ .


Touch the transition button  , user can select  $\leftarrow O \rightarrow$ .

Touch the transition button  , user can select  $\rightarrow O \leftarrow$ .

2. Push the [TAKE] button, or use T-bar switcher to switch the image to program with selected wipe.

## Audio In Setting

1. Push [MENU] button, and enter to the menu items. Turn the rotary knob, select <Audio In> option in LCD

screen, rotary the knob or touch the  directly to confirm.

2. Select the Audio input 1-4 for setting :

Audio Source Sel	Embedded
Audio Gain	0
Audio Delay	0 ms

**Audio Source Sel:** Embedded or External

**Audio Gain:** The adjustment range is between 0~100

**Audio Delay:** The adjustment range is between 0~20ms

## Audio Out Setting

1. Push [MENU] button, and enter to the menu items. Turn the rotary knob, select <Audio Out> option in LCD



screen, rotary the knob or touch the directly to confirm.

2. Select the Audio Output for setting :

Audio Source Sel	Layer A
Audio Gain	0
Monitor Select	0
Mute	On

**Audio Source Sel:** Select Layer A or Layer B

**Audio Gain:** The adjustment range is between 0~100

**Monitor Select:** Select PST or PGM

**Mute:** Select On or Off

## BLEND Setting

1. Push [MENU] button, and enter to the menu items. Turn the rotary knob, select <BLEND>option in LCD



screen, rotary the knob or touch the directly to confirm.

Layer Select	Layer A
Blending Mode	3D Frame
Blending Width	0
On/off	On

**Layer Select:** Select Layer A or Layer B

**Blending Mode:** Including 3D Frame, Pure Color Frame, Outside, Inline 4 modes

**Blending Width:** The adjustment range is between 1~90

**On/Off:** Select On or Off

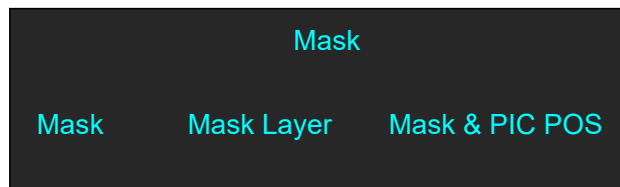


## Mask Setting

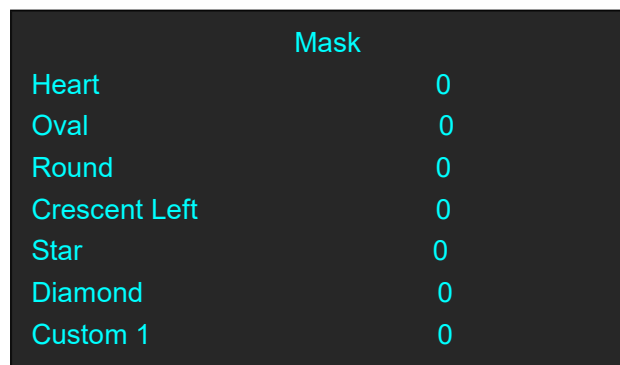
1. Push [MENU] button, and enter to the menu items. Turn the rotary knob, select <Mask>option on LCD screen,



rotary the knob or touch the directly to confirm.



2. Select the Mask for setting :



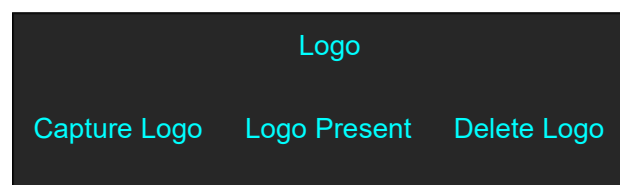
**Customs:** Coming soon

## Custom LOGO

1. Push [MENU] button, and enter to the menu items. Turn the rotary knob, select <LOGO>option in LCD screen,



rotary the knob or touch the directly to confirm.



# PGM Mode

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1. Switch the edited PST image to program by pushing the [CUT], [TAKE] button or T-bar, and then the PGM image will return to PST state, which can be edited.
2. There are 1 HDMI output and 1SDI output for program, and maximum realize 1920x1080 output.

# Switching Mode

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1. T-BAR switch: Switch the PST image to program with wipe and fade by T-bar.
2. CUT switch: Seamless switch the PST image to program by pushing [CUT] button.
3. TAKE switch: Switch the PST image to program with wipe and fade by pushing [TAKE] button.
4. CUE: Switch PST audio preview or PGM audio preview by pushing [CUE] button.
5. MUTE: Switch single audio output/Mix audio output.

# Set the Output Parameter

## 1. Select the Output Resolution



Push the [MENU] button, and enter to the menu items, turn the rotary knob and select <Output> on

Push the rotary knob to confirm, and enter to the menus as below:

```
Output Format
Output Setting
External Sync
Test Pattern
```

<Output Format> is the default option, push the rotary to confirm. Turn the rotary knob, select the output resolution according to actual need.

### Customs Output Resolution

Continue the above operation, setting the HActive, VActive, Freq, and select <Set>, confirm the Set setting to Yes. Then the LCD screen shown as below:

```
Standard          C_1024×768@60
Custom Format      On
HActive           1024
VActive           768
Freq              60
Set               >>
```

## 2. Output Setting

Push the rotary knob or touch the button <Output setting> to confirm, and enter to the menus as below:

```
PST              DVI
PGM              DVI
SDI Level        Level A
```

PST and PGM can be choose DVI or HDMI as output port, SDI Level choose Level A or Level B.



### 3. External Sync

External Sync	
External	Off
Input	No Input
Format	1920x1080 @60

External Including option Off and On,  
Input will shown as actual input resolution.  
Format support choose 2 default resolution: 1280x720 @60 & 1920x1080 @60.

### 4. Test Pattern

Test Pattern	
Output	PST
Test Pattern	Off
Red	0
Green	0
Blue	0

**Output:** Select PST or PGM

**Test Pattern:** Select Off, Color Bar, Solid Color

**Red:** The adjustment range is between 0~255

**Green:** The adjustment range is between 0~255

**Blue:** The adjustment range is between 0~255

# Using Black Out

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Black out description:

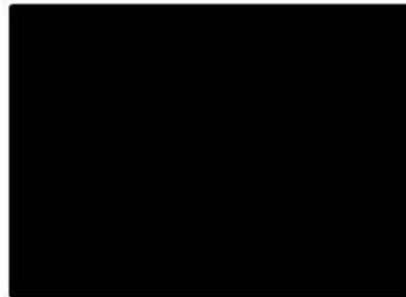
Black signal realizes one-key-touch to a black screen.

M1 provides black effect processing for program output and preview output, with cut black effect. Operation is as below:



Touch the [BLACK] button or key, then the program output is cut to black.

The effect is shown as below:



# Lock Front Panel

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1. Push the [MENU] button, and enter to the menu items, turn the rotary knob and select enter to the Lock Front Panel, if select “on”, then LCD screen shown follows:


Locked Panel!  
Press Menu key For 3 seconds to Unlock!

2. Push <Menu>over 3 seconds then unlock the panel.

# Language/语言

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1. Push the [MENU] button, and enter to the menu items, turn the rotary knob and select , enter to the language/语言 selection interface.
2. Select "ENGLISH"或"中文" as needed

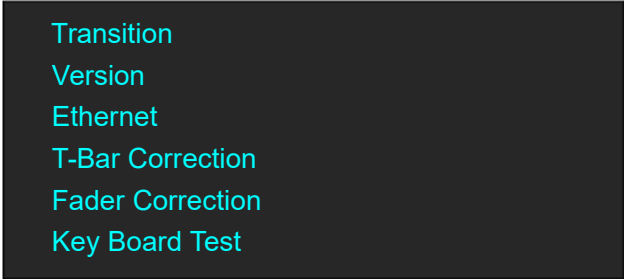


# System Setting

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1. Push the [MENU] button, and enter to the menu items, turn the rotary knob and select , enter to the system setting interface.



Transition  
Version  
Ethernet  
T-Bar Correction  
Fader Correction  
Key Board Test

2. Setting parameter as needed:

**Transition:** Trans Mode can be selected by “Stay” or “Swap”. Trans Times setting range between 0-10S.

**Version:** Shown Device version information for main control board.

**Ethernet:** Shown Ethernet Information.

**T-Bar Correction:** Shown T-Bar correction steps.

**Fader Correction:** Shown Fader Correction steps.

**Key Board Test:**

LED Light Test select “On”, LED light for each key on front panel will be lit one by one, and KEY Value shown “MENU”.

LED Light Test select “Off”, LED light for all keys will be off, and KEY Value shown “MENU”.

# PTZ Control

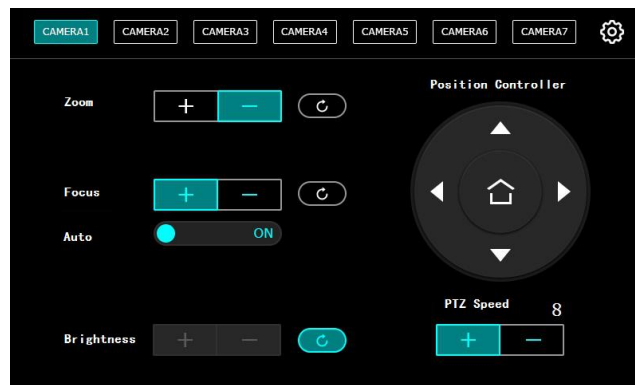
M1 V1.56 and later version began supporting PTZ camera control. Specific operations are as follows:

1. M1 and PTZ camera connection:

- (1) Network Communication: M1 is directly connected to the network port of PTZ camera through the network cable, or M1 is connected to the camera in the same LAN. M1 can control up to 7 cameras at the same time. To modify the camera IP for the first time, the old and new IP should be modified at the same time;
- (2) Input signal: THE PTZ camera SDI/HDMI input is connected to the M1 HDMI/SDI input port as the signal source.



2. Enter < system Settings > and click the camera icon



Click the Settings menu to enter the interface of M1 Camera IP Settings.

Note: IP Settings can only be modified on M1 using the PTZ camera specified by RGBlink.

Turn on the IP setting switch: "valid" is ON,

Old IP address: Input the current IP address of the camera.

New IP address: Input the actual new IP address according to the actual demand.

Note: M1 IP address and PTZ camera need to be in a network segment.

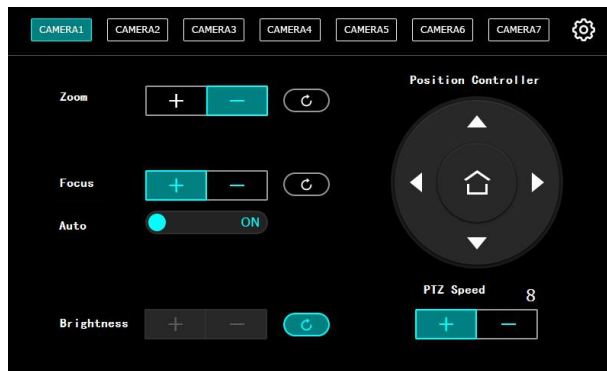


Set the camera IP address and click . After setting successfully, the M1 interface will prompt "Camera setting is successful".



3. Set camera parameters such as zoom, focus, position adjustment, preset save, screen brightness adjustment and speed adjustment





Zoom: Click [+] on the touch panel to zoom in the partial picture of the camera, and click [-] to zoom out

Focus: The system defaults to auto focus. If manual focus is needed, the auto focus function can be turned off

Brightness: Adjust the brightness of the camera

PTZ Speed: Controls the direction key induction speed of the position controller. The range is 1-13


Position controller: Click up, down, left and right to adjust the camera view Angle.

4. To SAVE camera setting,click the M1 panel, select < page 1>,< page 2>,< page 3> or < page 4> by turning the knob. Each page has 5 banks, each BANK corresponding to the 1-5 number keys on the presets.

# Factory Reset

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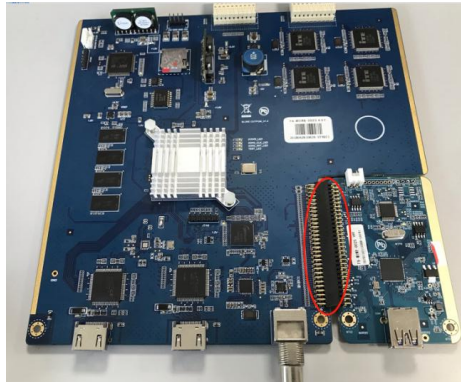


1. Push the [MENU] button, and enter to the menu items, turn the rotary knob and select , enter to the factory reset interface.
2. Select "Factory Reset" or "Factory Reset, Save IP" as needed, then will clean up the before setting, return to default setting.

# USB3.0 Streaming Module

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A single USB3.0 module is suitable for modules with built-in bus sockets.



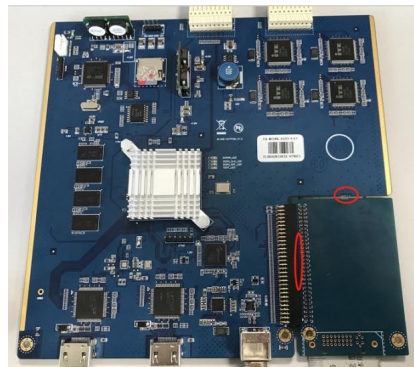
USB3.0 with built-in bus sockets

## USB3.0 Operation

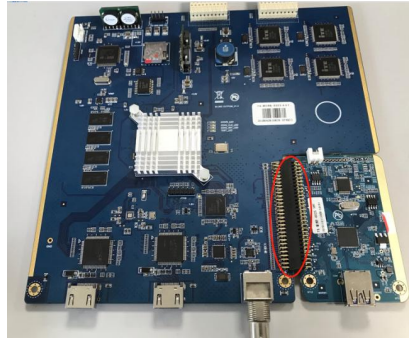
- (1) Remove the 4 cross screws with a cross screwdriver, as shown in the figure



- (2) Remove the old baffle and break off the old baffle in the lower right corner, as shown in the picture



- (3) Insert the USB 3.0 streaming module into the large board according to the pin position, as shown in the figure



(4) Replace the new baffle, as shown in the figure



(5) Then fix the module on the baffle with the screw removed in step 1, as shown in the figure



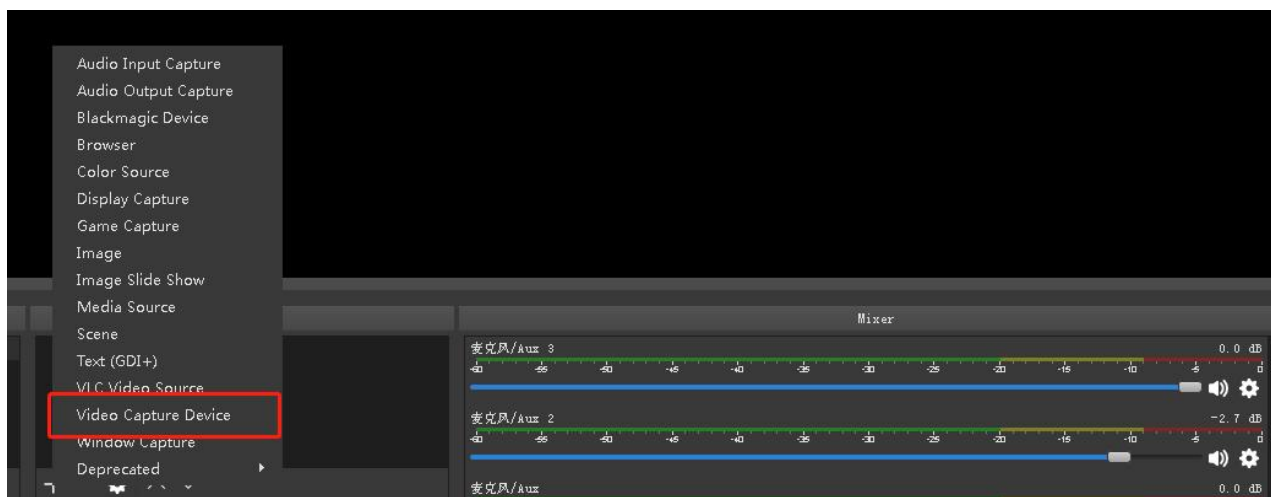
## USB3.0 Streaming

### OBS Setting

M1 is compatible with many third party steaming software, we recommend OBS, which is available to download on <https://obsproject.com/download>. Download the software and update to the latest version.

(1) Click "+" icon

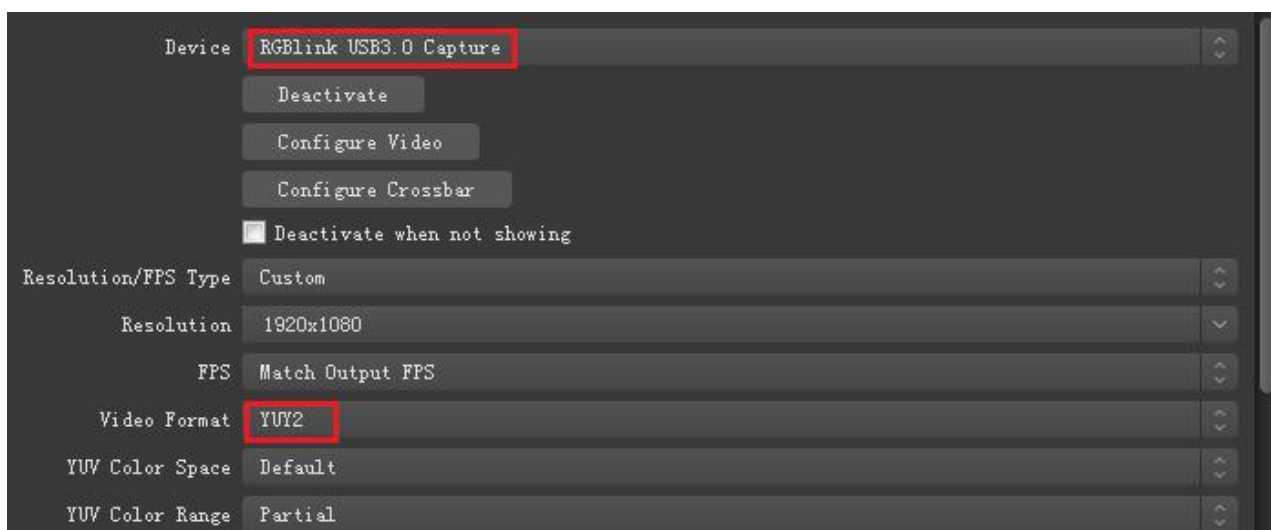
(2) choose video capture device



(3) Click video capture device to open up setting page

(4) Choose :RGBlink USB 3.0 Capture

(5) Choose Video Format YUY2



If there is no video format YUY 2 after setting above, check the USB 3.0 port connection. Make sure it is linked to USB 3.0 port on PC by USB 3.0 cable. (USB 3.0 cable or port is standard in blue while USB 2.0 is in black)

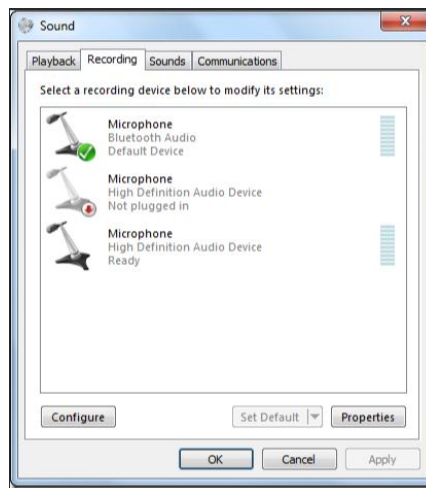


If the captured video is showing mosaic, change the video format to YUY2.

### Audio Setting

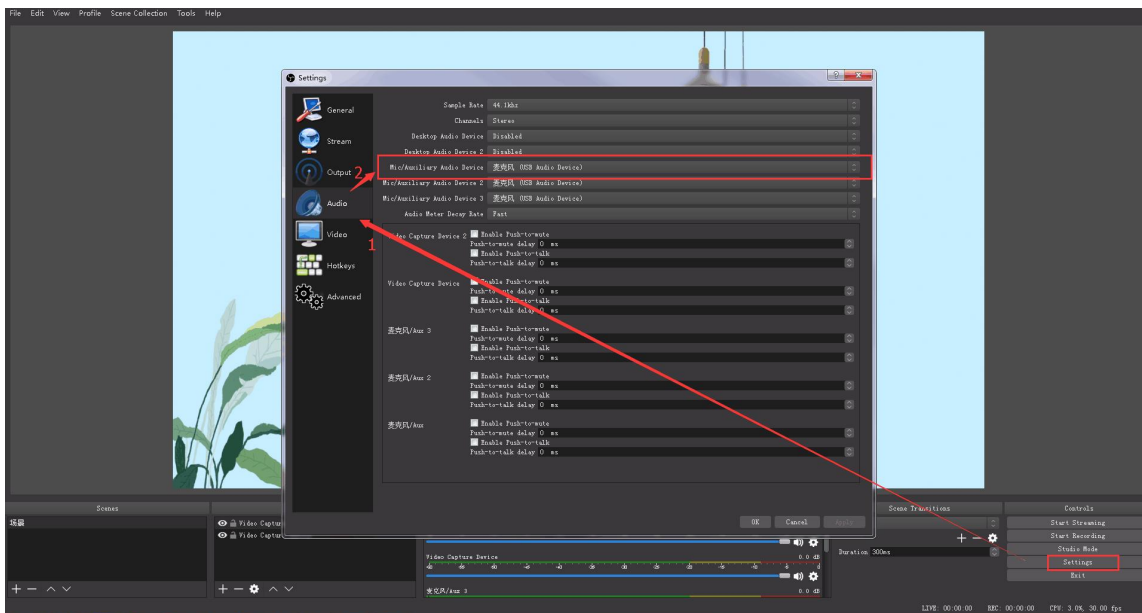
When there is no audio playing first check the video source see if the it is set in default value and then check the audio setting on OBS.

(1) Set Default for the audio source.



(2) Audio setting on OBS.

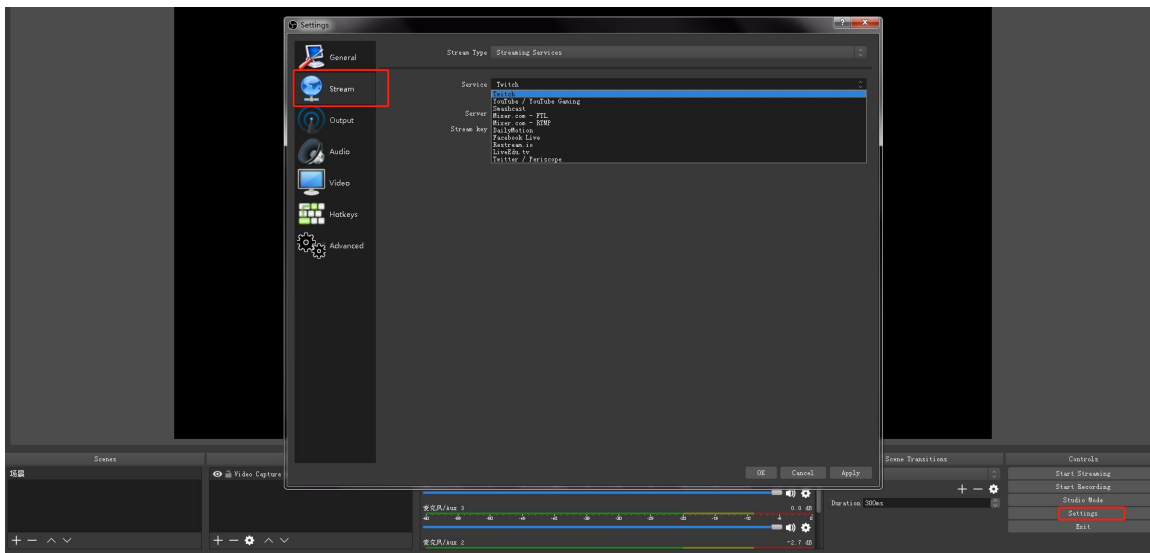
Choose Audio, click Setting and choose audio device (Mic/Auxiliary Audio Device)



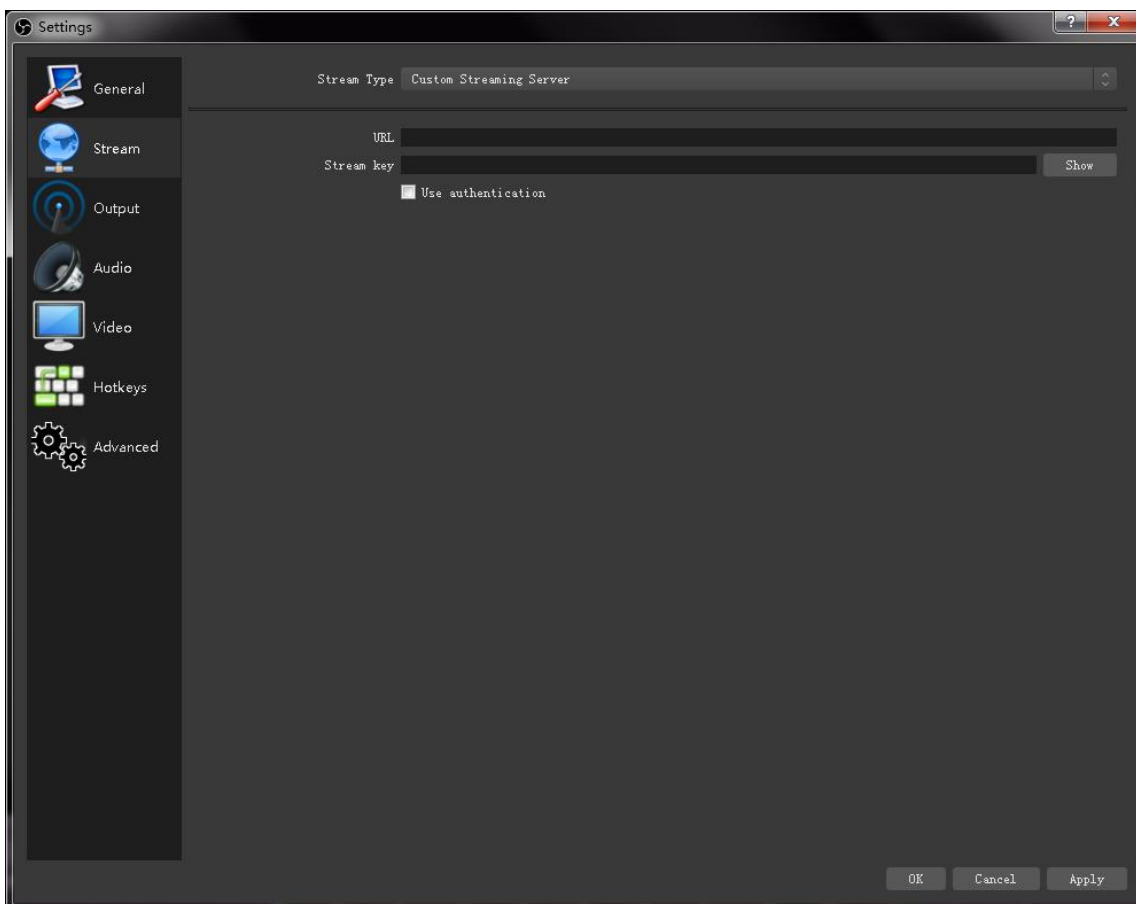
## Streaming Setting

- (1) Find the RTMP URL and Stream Key provided by streaming broadcast website.
- (2) Copy URL and Stream Key
- (3) Back to OBS, click Setting in the lower right corner and click "Stream". Choose Stream Type as "Streaming Service" or "Custom Streaming Server". If choose "Streaming Service", there is a list of streaming service name available in the drop down list of Service. If the streaming service is in the list, choose it from the list.





If choose Custom Service, just fill in URL and Stream Key.



- (4) Paste the RTMP URL to Server or URL and Stream Key to Stream Key.
- (5) Click "Start Streaming".
- (6) Go back to live broadcast website and check the broadcasting.

# Contact Information

## Warranty:

All video products are designed and tested to the highest quality standard and backed by full 3 years parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.

The customer shall pay shipping charges when unit is returned for repair.

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