M1
Quick Start

*Pad not included

- Module based design for wide range in/out request
- Module hot swapable
- Preview 4 inputs
- Seamless switching between PST and PGM
- Support NDI decoding
- Multiple audio outputs available
- Streaming via USB 3.0 output module and mobile phone
- 2 video layers plus additional layers for OSD, LOGO, STILL
- Mask for foreground layer including support for user defined mask
- Compatible with all kinds of Digital Displays
- Genlock Y In
- Multiple Presets and savable to the external USB disk
- 14 Transition Effects on the T-bar and TAKE button
- PTZ VISCA control compatible

CONTENTS

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.
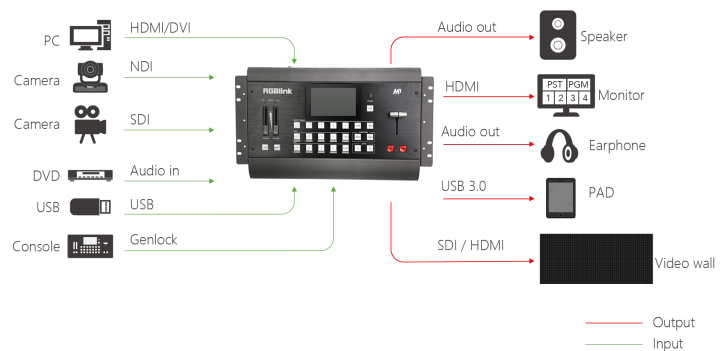
M1 System Connection Diagram

Packing Configuration

AC Power Cable	USB Cable	HDMI to DVI Cable	Network Cable

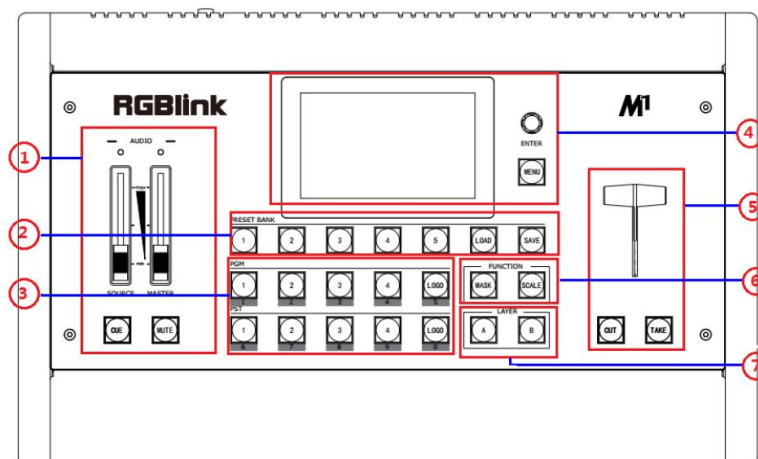| USB 3.0 Cable	Rack for M1

Note:

AC Power Cable supplied as standard according to destination market.

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

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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

1	**SOURCE FADER** Source fader adjust 4 input signals' voice separatly to same value, each signal request to save. Remark: adjustment may not work if push it quickly **MASTER FADER** MASTER FADER is an amplification-factor of all channel invoice, come true Source value multiply by current Master value Remark: adjustment may not work if push it quickly **CUE** CUE is to switch PST audio preview or PGM audio preview. **MUTE** MUTE is for single audio output/Mix audio output Note: Users can use CUE button and MUTE button for zoom in and out of PTZ.

Audio input area

2	**SAVE** To adjust M1 audio input and output. **LOAD** Press load button once to lock audio; press load button for 3 seconds to factory reset. **1/2/3/4/5** The button 1/2/3/4/5 is to select audio input.

PGM output area and Logo button

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

PST output area and Logo button

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	LED INDICATOR
4	The button 1/2/3/4/LOGO is lit when the signal or background input is selected for use.
	PST AREA
	For indicating, user can not change the channel or set the size or position in this area.
	LOGO
	For switching from PGM to test pattern.
	6/7/8/9/0
	Each button is numbered and can be used as direct number entry when values such as resolution and size.
	PST AREA
	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.

Menu and LCD Display Area

	MENU
5	Menu and exit reuse button.
	SELECT/ENTER
	Confirmation button.
	LCD DISPLAY
	Displays current status of the product, and for feature selections provides interactive choices in conjunction with buttons on the Rear Panel.

Switching Mode Area

	CUT
6	Zero delay switching.
	TAKE
	Seamless switching with transition effects.
	T-BAR
	WIPE and mix switching.

Function Area

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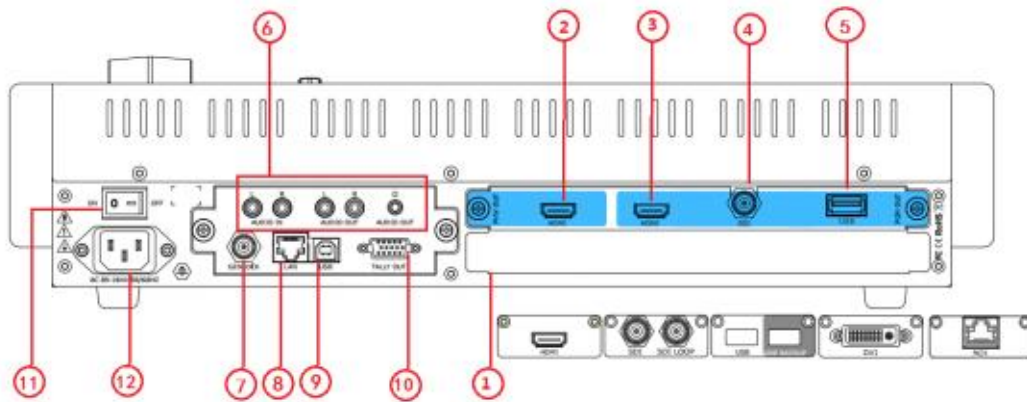|	
7	**MASK** Choose the button to full screen the selected layer **SCALE** Press this button to set PIP in PST window. Remar: Press the button to open PIP, select A/B layer to close PIP.

Layer Selection Area

8	**A/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.

Rear Panel

Input Interface

1	*Note: Standard with 2 NDI input modules; *With 2 input modules optional. Optional input modules include NDI, DVI, HDMI, USB, SDI. Each DVI module supports 1 DVI-I input and compatible CVBS, VGA,YPbPr. Each HDMI module supports 1 HDMI-A input Each USB module supports 1 USB-B input and 1 USB backup. Each SDI module supports 1 SDI input and 1 SDI loop out. Each NDI module supports 1 RJ45 input.

Output Interface

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

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

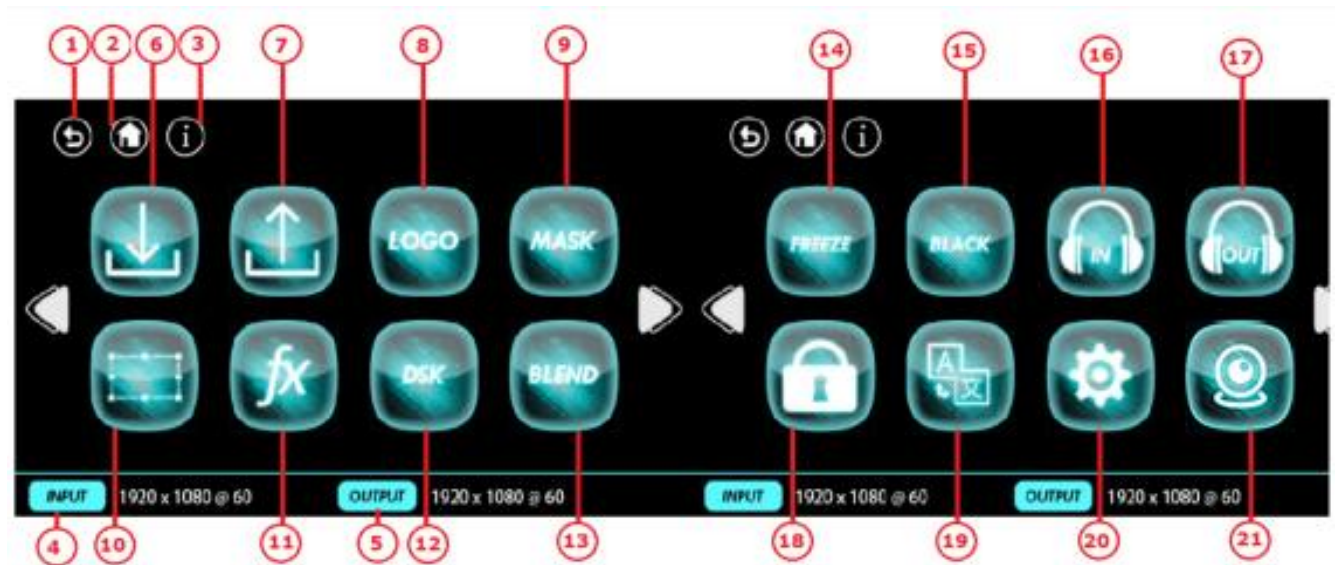### Power Connection

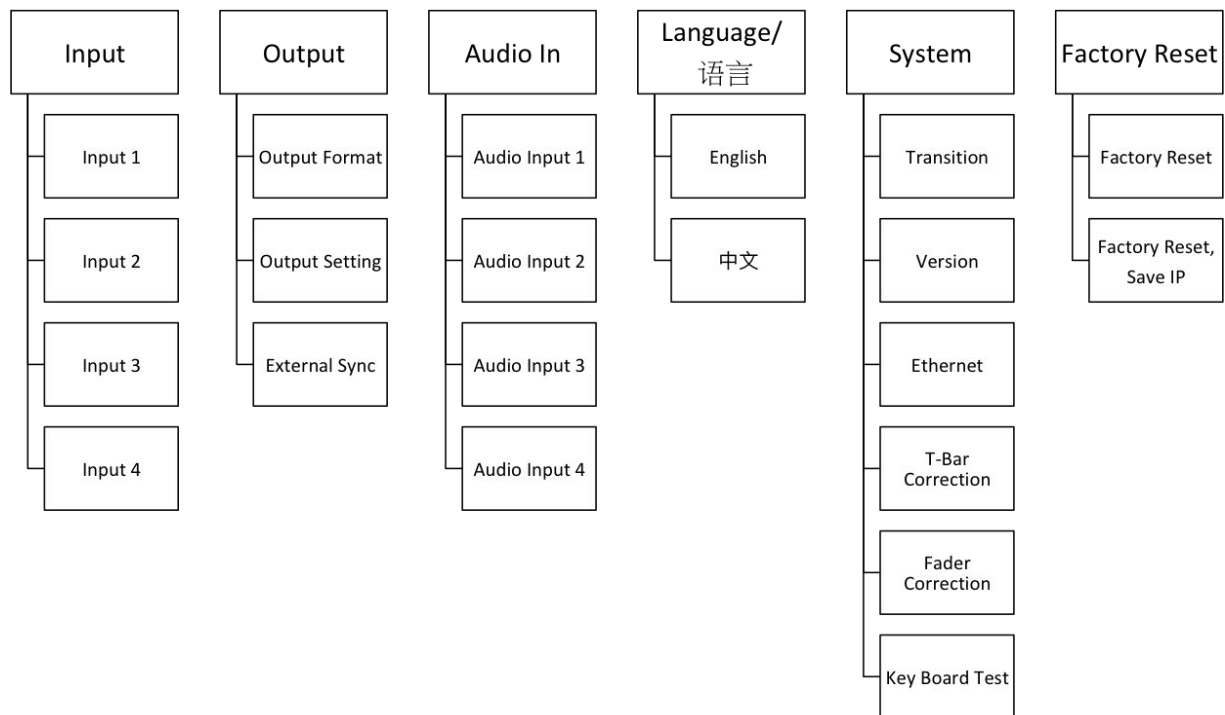| 11	Power Switch
12	AC 85-264V Max 65W, IEC-3

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	PTZ Control
11	Transition Effect		

Input	Output	Audio In	Language/ 语言	System	Factory Reset
Input 1	Output Format	Audio Input 1	English	Transition	Factory Reset
Input 2	Output Setting	Audio Input 2	中文	Version	Factory Reset, Save IP
Input 3	External Sync	Audio Input 3		Ethernet	
Input 4		Audio Input 4		T-Bar Correction	
				Fader Correction	
				Key Board Test	

Customized version for broadcasting

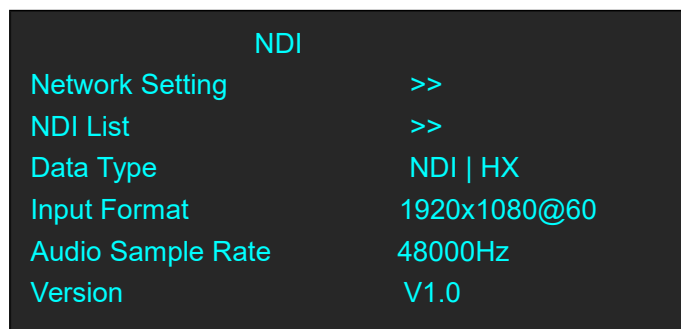| Input	Output	Advanced	System	Scale	Audio	Fx	Dsk	Logo/Still	Mask	Information
HDMI	Output Format	Freeze	Transition							
SDI	Output Setting DE Adjust	Black	Version							
DVI	External Sync	Blend	Ethernet							
USB	Test Pattern	Factory	T-Bar Correction							
		Lock panel	Fader Correction							
		Language	Key Board Test							

PST Mode

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.

NDI Setting

Select the input port with NDI module to enter the following page:

```
                    NDI
Network Setting              >>
NDI List                     >>
Data Type              NDI | HX
Input Format           1920x1080@60
Audio Sample Rate      48000Hz
Version                V1.0
```

Network Setting	Push the screen/knob to enter the network settings page
NDI List	Push the screen/knob to enter the network list page
Data Type	NDI|HX
Input Format	1920x1080@60 (frame rate adjustable ）
Audio Sample Rate	48000Hz
Version	Check the version of module

Network settings of NDI input module：

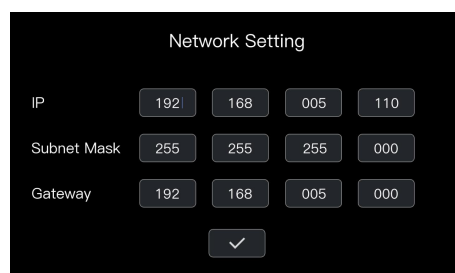Click network settings to enter network settings of NDI input module
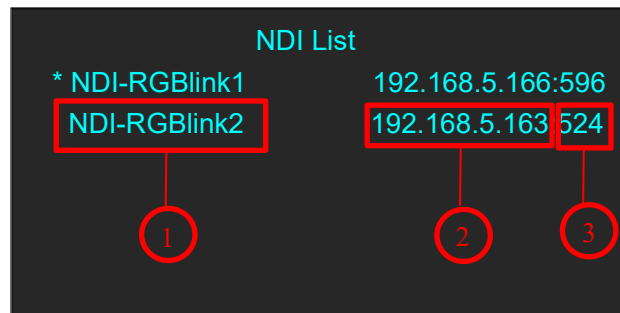
IP：Type in IP address of NDI input module.

Subnet Mask：Type in subnet mask of NDI input module.

Gateway：Type in gateway of NDI input module.

After setting, click [✓] to confirm. The interface will pop up a message for the successful setting.

```
              Network Setting

IP             192    168    005    110

Subnet Mask    255    255    255    000

Gateway        192    168    005    000

                      ✓
```

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Selection of NDI input signal source:

Click the NDI list to enter the interface:

1	Signal source
2	IP address of signal source
3	Serial number of signal source

Note: IP address of NDI signal source and NDI input module need to be in the same network segment.

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.

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 ![icon] 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 ![icon] 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

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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 15kinds of wipe modes:

Touch the transition button ![button], user can select ←[]→.

Touch the transition button ![button], can select L→R.

Touch the transition button ![button], user can select T→B.

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

Touch the transition button ![button], user can select LT→RB.

Touch the transition button ![button], user can select ←＋→.

Touch the transition button ![button], user can select L←R.

Touch the transition button ![button], user can select B→T.

Touch the transition button ![button], user can select L←M→R.

Touch the transition button ![button], user can select T←M→B.

Touch the transition button ![button], user can select →+←.

Touch the transition button ![button], user can select III→.

Touch the transition button ![button], user can select →[]←.

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Touch the transition button ![icon], user can select ←O→.

Touch the transition button ![icon], user can select →O←.

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 ![icon] 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 ![icon] 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

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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 [BLEND] 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 [MASK] directly to confirm.

Mask		
Mask	Mask Layer	Mask & PIC POS

2. Select the Mask for setting :

Mask	
Heart	0
Oval	0
Round	0
Crescent Left	0
Star	0
Diamond	0
Custom 1	0

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.

Logo

Capture Logo   Logo Present   Delete Logo
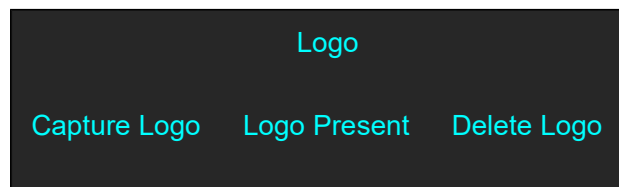
PGM Mode

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

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> or ![icon]:

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

G**reen:** The adjustment range is between 0~255

Blue: The adjustment range is between 0~255

Using Black Out

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:
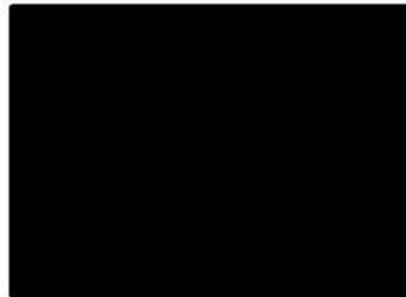
Lock Front Panel

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

<div style="background:#000; color:#0cf; text-align:center;">

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

</div>

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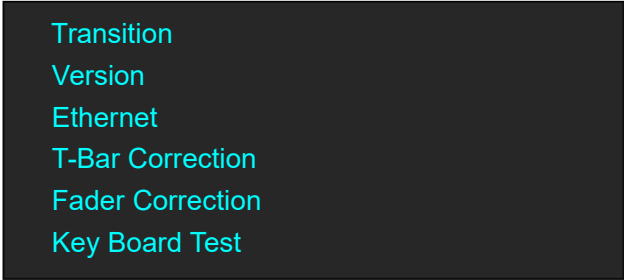
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Language/语言

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

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.

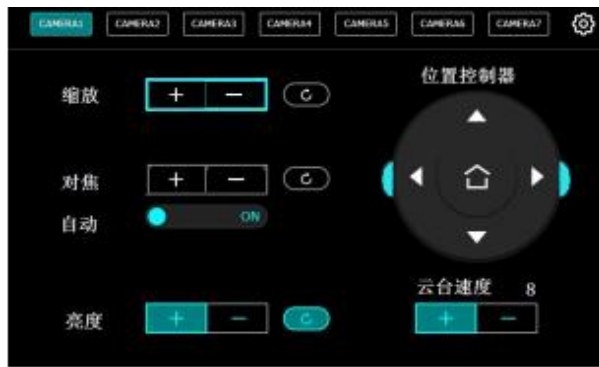Note: M1 IP address and PTZ camera need to be in a network segment.

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

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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.
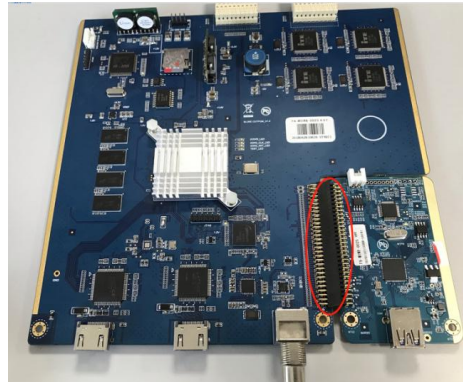
Factory Reset

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

USB 3.0 Streaming Module

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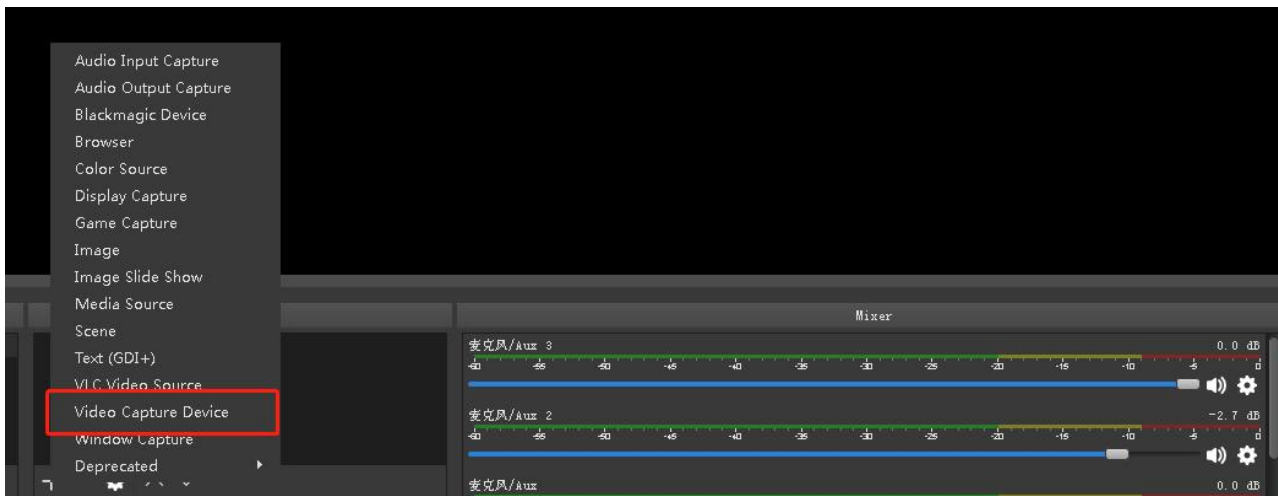

USB3.0 with built-in bus sockets

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.
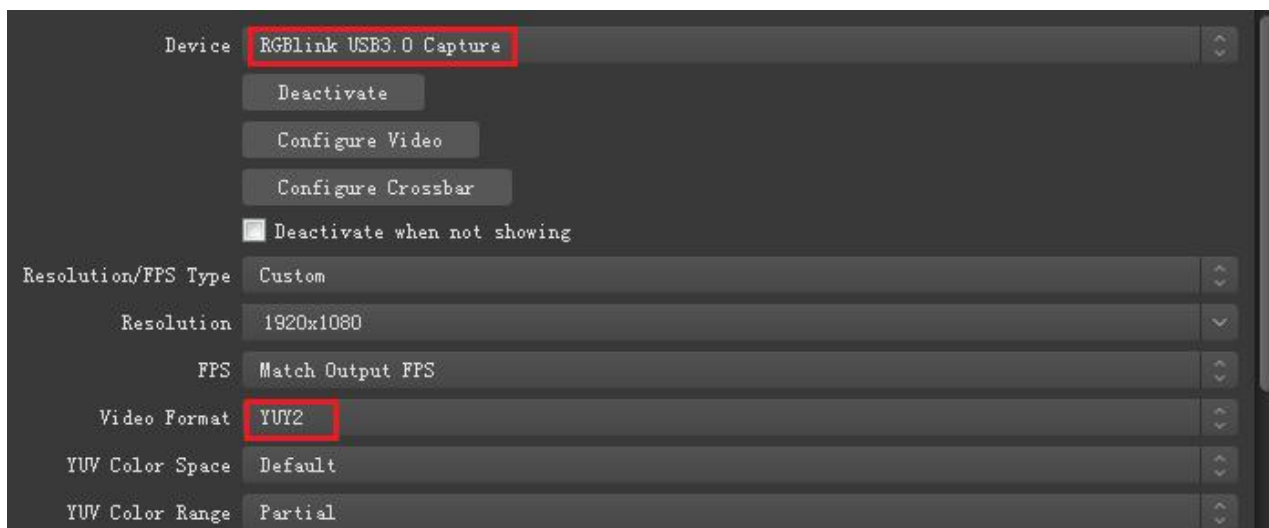
(1) Click"+"icon

(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 3.0port on PC by USB 3.0 cable. (USB 3.0 cable or port is standard in blue while USB 2.0 is in black
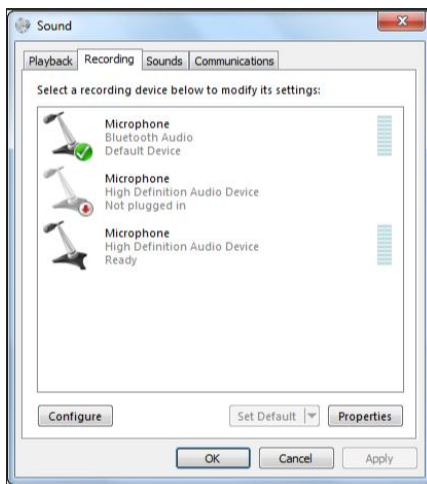
💡 If the captured video is showing mosaic, change the video format to YUY2.

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
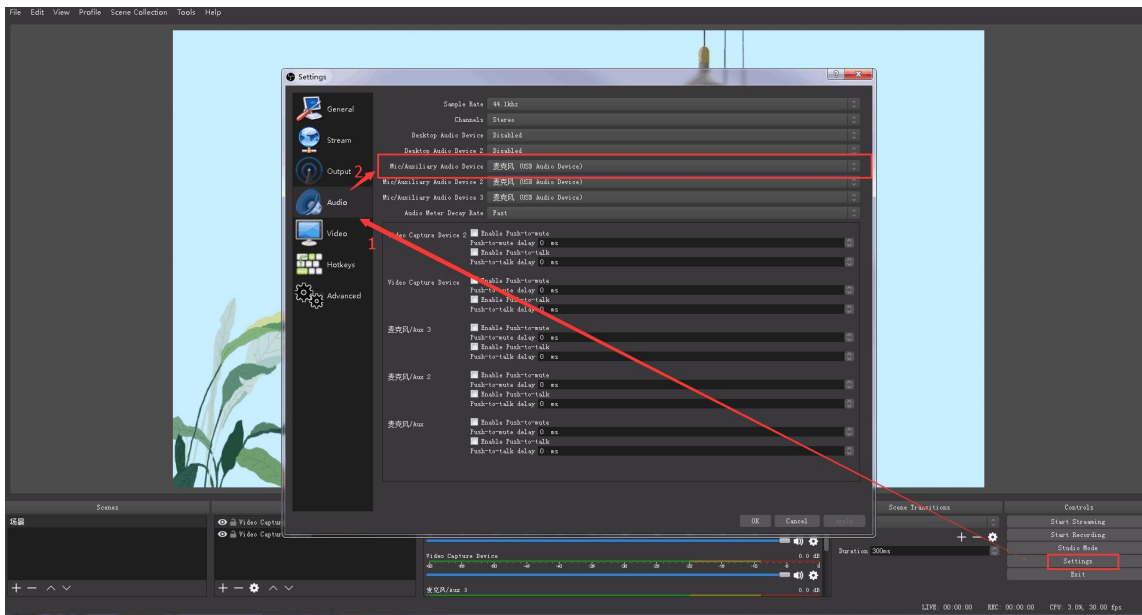
audio setting on OBS.

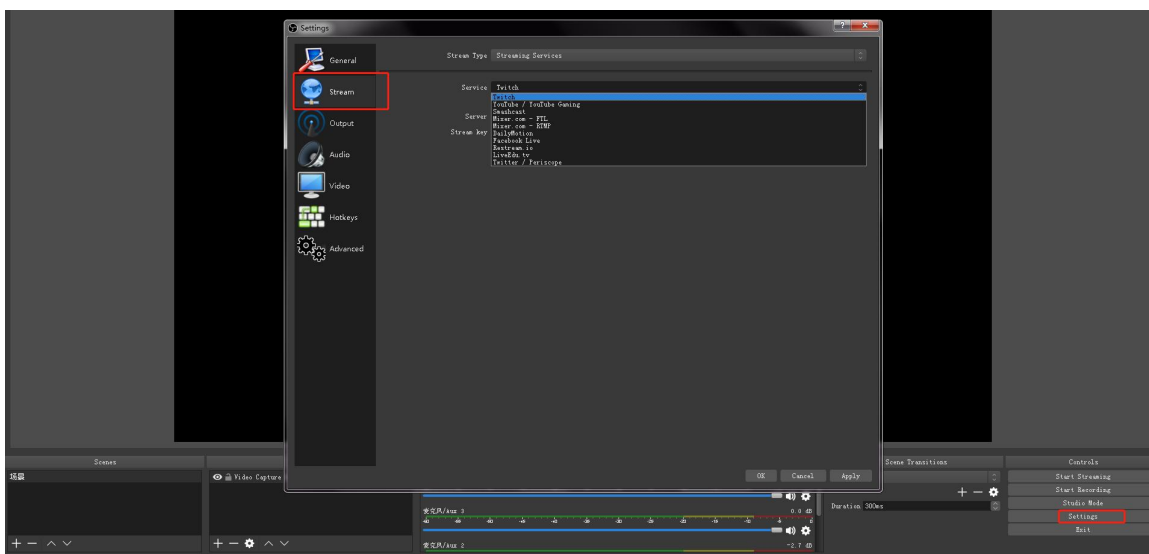(1) Set Default for the audio source.

(2) Audio setting on OBS.

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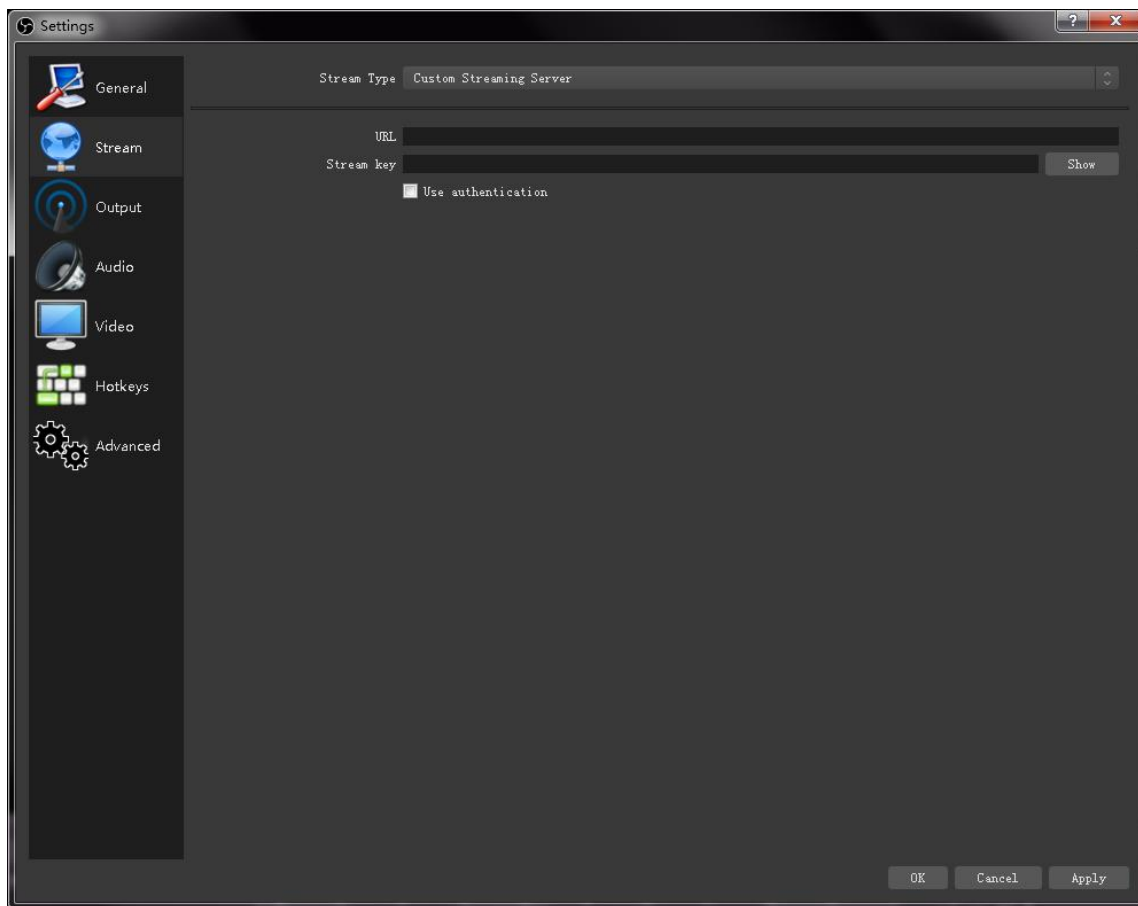
Streaming Setting

(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.

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(4) Paste the RMTP 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.

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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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