RGBlink® Video {processing} for any scale

mini mini+

Quick Start

- USB capture video complying with UVC for live streaming
- 4CH HDMI inputs
- 2’’TFT display on board to Live preview four inputs
- Auto cut and manual switch (T-Bar)
- 14 transition effects on T-Bar
- Support PIP （Picture-In-Picture)
- Audio offers embedded or external source to select
- Support switch between 6-Picture PVW and PGM to HDMI Out
- Advanced features on mini+
  - ◎ Logo
  - ◎ Chroma Key
  - ◎ PTZ control
- Control by PC or mobile phone (via APP)
- Compact design

CONTENTS

Product Introduction 2
Packing Configuration 3
Hardware Orientation 4
Front Panel 4
Interface Panel 5
Use Your Product 6
MENU 6
Input 6
HDMI 7
USB3.0 7
Audio 7
IP Setting 8
LANGUAGE 8
Factory Reset 8
INFO 9
Button S 9
MIX 9
MODE 10
PIP 10
FX 10
Switch Input Source 11
PIP (Picture-In-Picture or Picture by Picture) Operation 11
Software Operation 12
OBS Streaming 24
OBS Setting 24
Streaming Setting 26
Upgrade 29
Contact Information ..... 错误！未定义书签。

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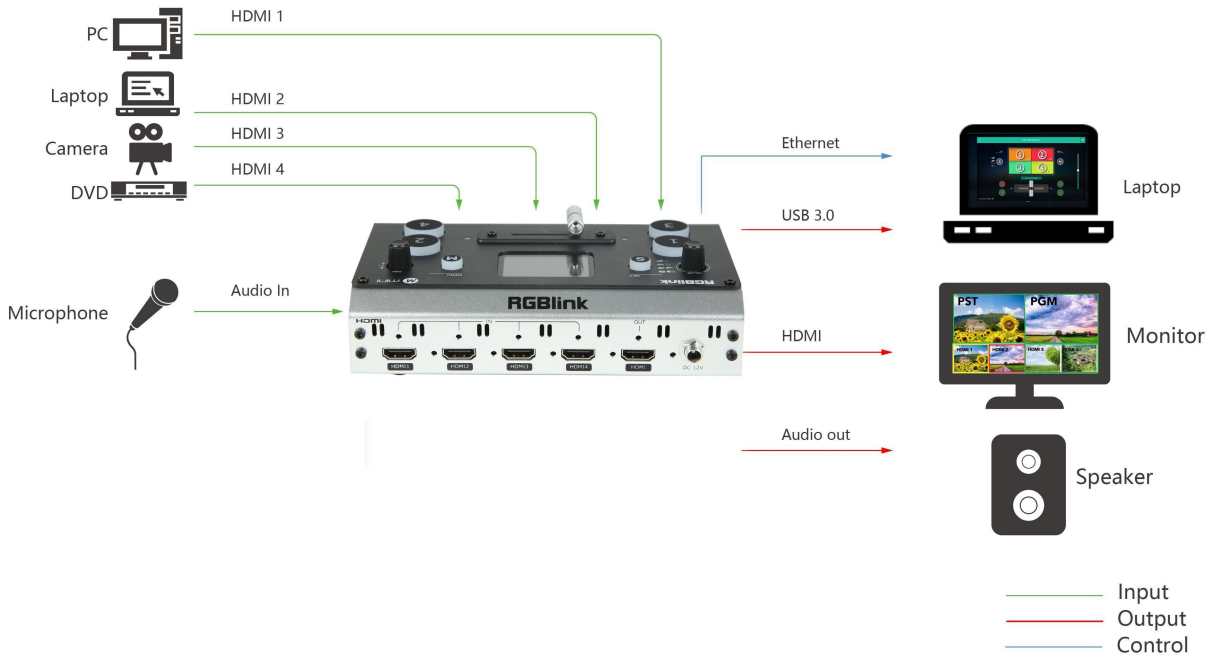
Product Introduction

mini/mini+ is a “mini” signal switcher and mixer which is able stream 6-picture PVW or PGM from any one out of the 4 HDMI inputs to any live broadcasting platform via third party live streaming software such as OBS. It adopts compact design, equipped with a 2 inch TFT screen to preview the 4 inputs in real time. 14 transition effects on board to collaborate with T-Bar to do transition switching. Along with feature of seamless switch, there are other outstanding features such as audio embedding, de-embedding, and automatically identifying color depth of RGB4:4:4, YUV4:4:4, YUV4:2:2,YUV4:2:0. mini+ is based on mini but with advanced features including Chroma Key, Logo, PTZ camera control. It is also easy to operate either on board or on dedicated app XPOSE on PC.

System Connection Diagram



mini /mini+System Connection Diagram

Packing Configuration

Power Adapter

USB3.0 Cable

Note:

Power adapter of US/EU standard supplied as standard accessory.

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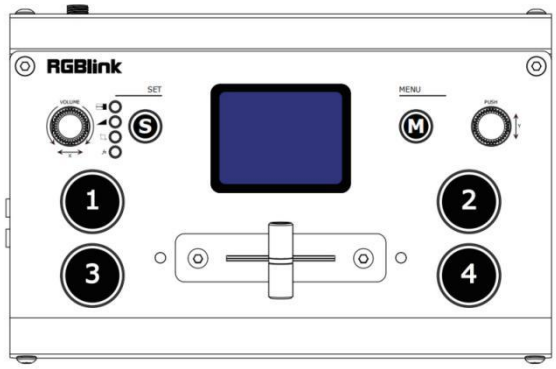
Hardware Orientation

Front Panel



TFT display	To display 4 inputs and menu
PUSH/Y	1. Knob, turn to select menu item, push to confirm 2. Work as a quick button to switch HDMI Out between 6-Picture PVW and PGM when TFT is under the state of previewing 4 inputs. 3. On mini+, control camera lens position, moving up and down under PTZ control menu-Pos. 4. On mini+, control camera lens zoom in and out under PTZ control menu-Zoom.
M(menu)	Menu and Back Button
S	Function Select button, to select Transition effect, Switch Mode (Fast or T-Bar), PIP and FX (reserved licensed feature for future)
VOLUME/X	1. Turn to adjust volume of PGM 2. On mini+, control camera lens move left and right under PTZ control menu.
1,2,3,4	4 inputs, red is on air (PGM), static green is signal standing by to switch, flash green is the ready to be switched
T-Bar	Manual switch, push to left end or right end to switch signal to PGM.

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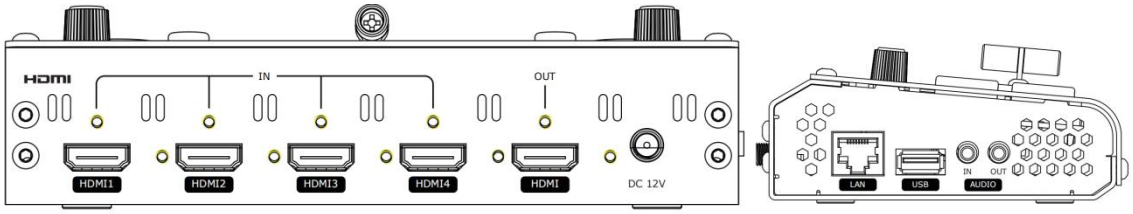
Interface Panel



HDMI OUT	1 HDMI Output port, connect to display to show Preview (6 pictures) or PGM.
HDMI IN	4 HDMI Inputs, connect to input source from HD camera or PC
DC 12V	1 DC Jack for power input, connect to 12V/4A power adapter.
LAN	Communication port to link dedicated software for control
USB	USB3.0 output, capture signal via third party streaming software and push to live broadcasting websites
AUDIO IN/OUT	AUDIO In, analog audio input port, connect to microphone AUDIO OUT, analog audio output port, connect to loudspeaker.

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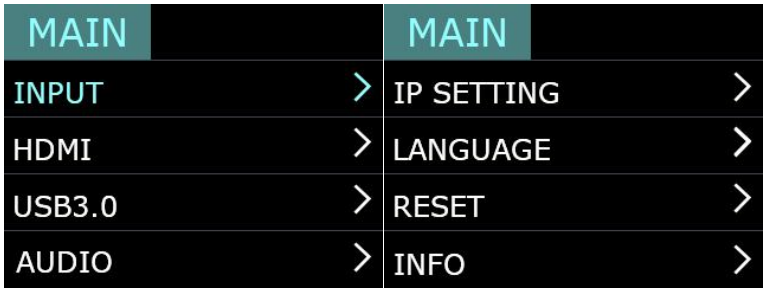
Use Your Product

MENU

When mini is power on, the native TFT display show starting up page.

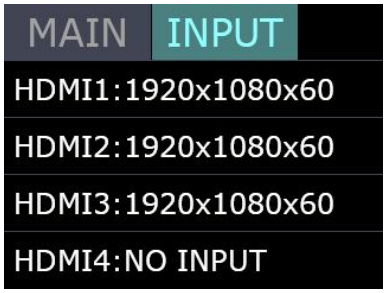
Main Menu



Input

Push MENU and select the first menu item <Input>

Push knob to enter <Input> menu



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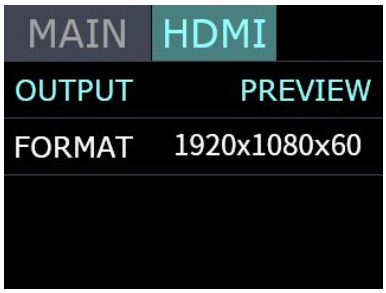
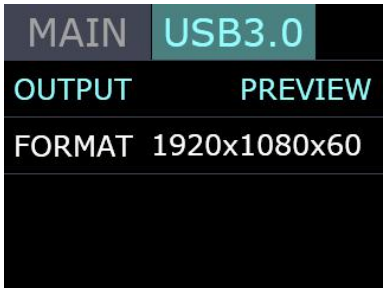
HDMI

Push MENU and select the second menu item <HDMI>
Push knob to enter <HDMI> menu
HDMI means HDMI output, select Preview output or PGM output for HDMI.
Output：Preview or PGM
Format：1920×1080@60



USB3.0

Push MENU and select the third menu item<USB3.0>
USB3.0 means USB3.0 output，push knob to enter <USB3.0>menu，select Preview output or PGM output for HDMI.
Output：Choose PGM or Preview
Format：1920×1080@60



Audio

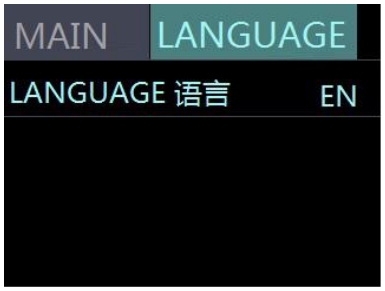
Choose <AUDIO>
SOURCE：EMBEDED or EXTREANAL
AUDIO BAR：ON/OFF

IP Setting

Manually set IP address

LANGUAGE

LANGUGE, select Chinese or English

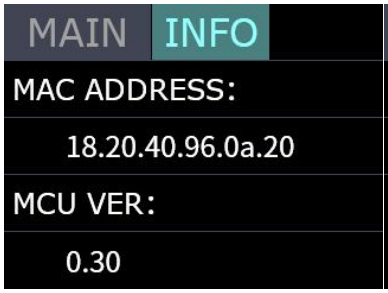


Factory Reset

Factory Reset: Yes or No

INFO

INFO:show the SN, IP, MAC,MCU version and VIDEO version.

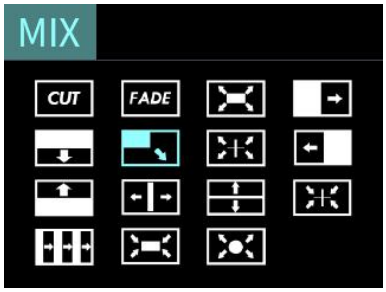


Button S

On mini push button S, the TFT will show the transition effect menu <MIX>.The <MIX> led indicator beside will light up. Push again, it will skip to next menu MODE, and again to PIP and again back to MIX . On mini+, pushing S button is also to open up <MIX>, <MODE>, <PIP> one by one before FX but keep pushing S button, there is PTZ control menu available on mini+. The led indicators beside light up meaning the corresponding feature menu is open. Use knob to select and confirm the desired items after it enters the menu.

MIX

Push button S once to open up the transition effect menu, Use knob to select the desired transition effect icon and push the knob to confirm.



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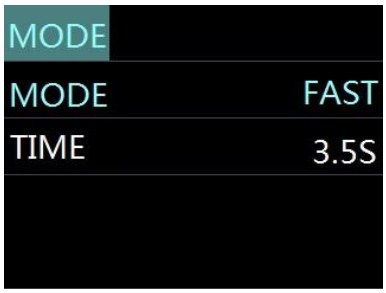
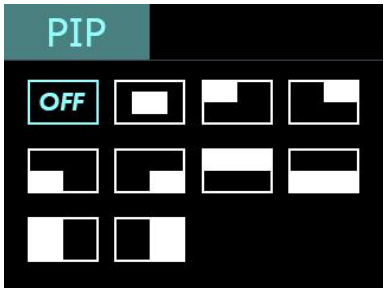
MODE

Push the button S twice to open up MODE menu.
MODE:FAST or T-Bar
TIME:0.5~5.0S
Choose FAST, the switching will be with transition effect in set time.
Choose T-Bar, the switching will be with selected transition effect by pushing T-Bar



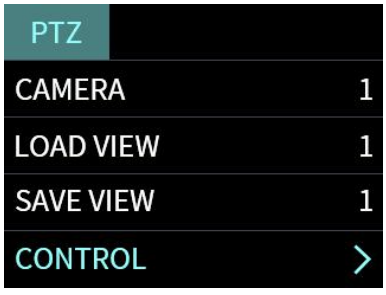
PIP

Push Button S three time to open PIP menu.
PIP menu offers 9 layouts for main picture and sub picture.



FX

FX only works on mini+ and it leads to PTZ control menu on device.
Camera：choose the desired camera from index 1~8， or ALL. One mini+ is able to connect up to 8 PTZ cameras.
Load View：from View index 1~11，
Save View：to View index 1~11，
In terms of “View” it means lens position and zoom setting on PTZ control.
Control：POS（position）and ZOOM（Zoom in/out）
Position control: use X knob to control camera lens move left and right, Y knob to move camera lens up and down.
Zoom control:use Y knob to zoom in and out.
Enable：Enable or disable the LAN communication of Camera 1~8
IP Setting：Match the IP address of those PTZ cameras connecting to mini+



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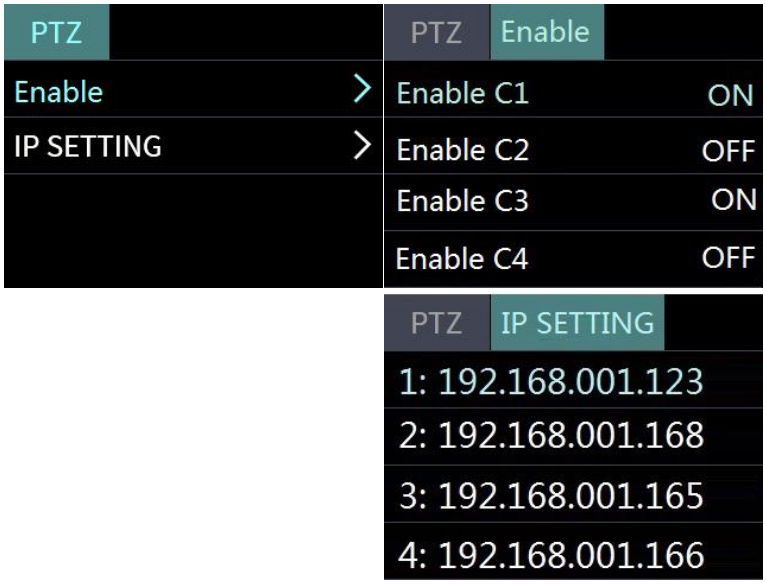


Switch Input Source

After selecting transition effect and switch mode

1.Under Fast+Time mode, pushing green button will switch the input source in the selected time with set transition effect. After switching , green turns to red.

2.Under T-Bar mode, pushing green button, it will flash and push T-bar to the end (left or right), the source will be switched with selected transition effect. After switching , green turns to red.

Note: when T-Bar is not in the end position, users can not select any source .

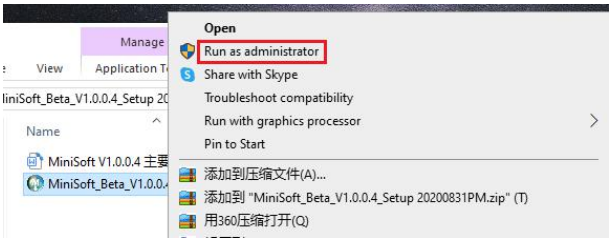
PIP (Picture-In-Picture or Picture by Picture) Operation

1. Decide which source to be the main picture, select and switch it to PGM when PIP is OFF
2. Select the PIP layout mode in PIP menu
3. Select the input source and switch it to sub-picture on PGM
4. After switching, the selected green button turns to red.

after PIP mode is selected, the background can not be changed unless turn off the PIP mode and restart the above steps.

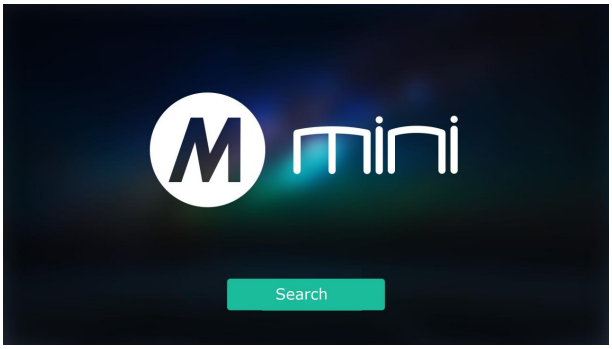
Software Operation

Install dedicated software named XPOSE to control mini or mini+.
Right click the setup exe file .
Choose Run as administrator to open the exe and install the software.

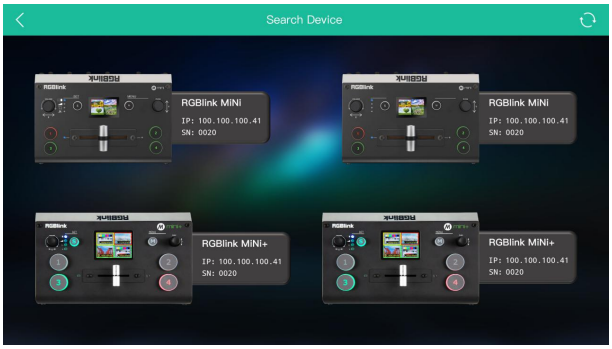


After software is installed, click the icon XPOSE and login the software.

Click Search to search mini device.



After searching, all available mini devices in the sub-net can be found, up to 128 devices can found if there are.



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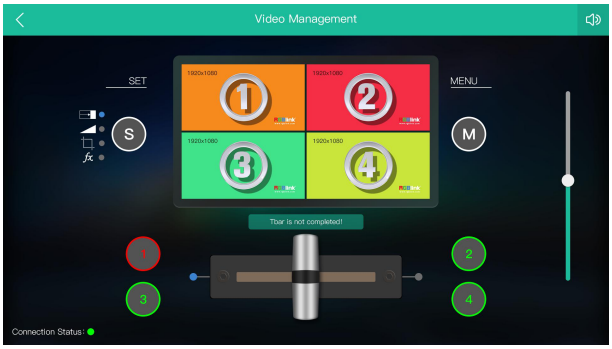
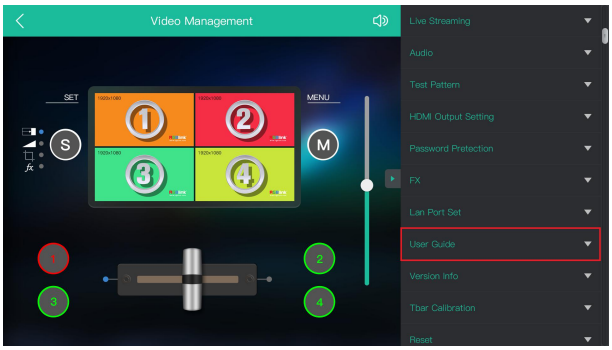
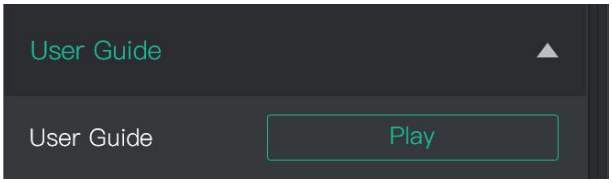
Select the desired device by SN and IP and enter the management interface. The software interface is a simulation of operation panel on real mini device.

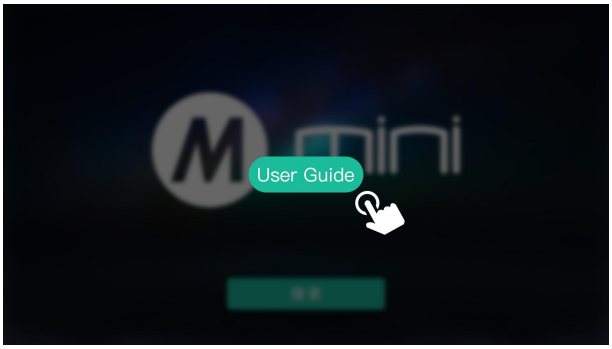


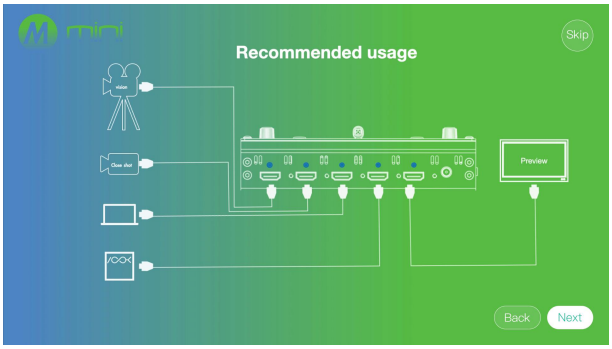
For example, clicking Button M can open up menu as on the device. If it is the first time for you to use mini/mini+ we suggest you watch our User Guide video.

Click the drop down arrow and click to play the user guide video.

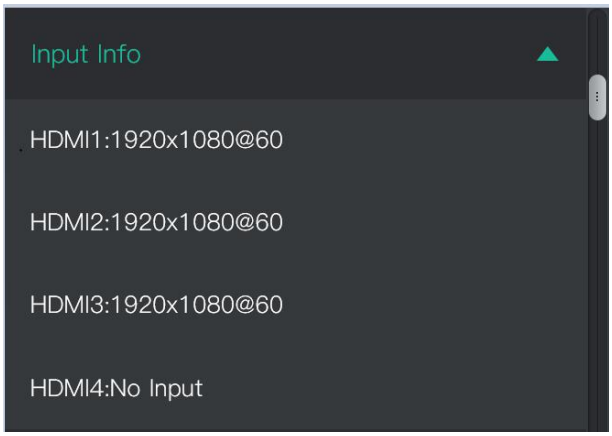




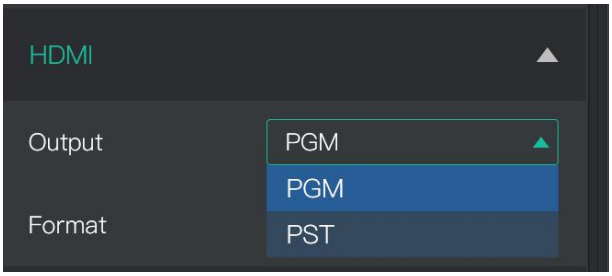




INPUT INFO



HDMI Output



USB3.0 Output

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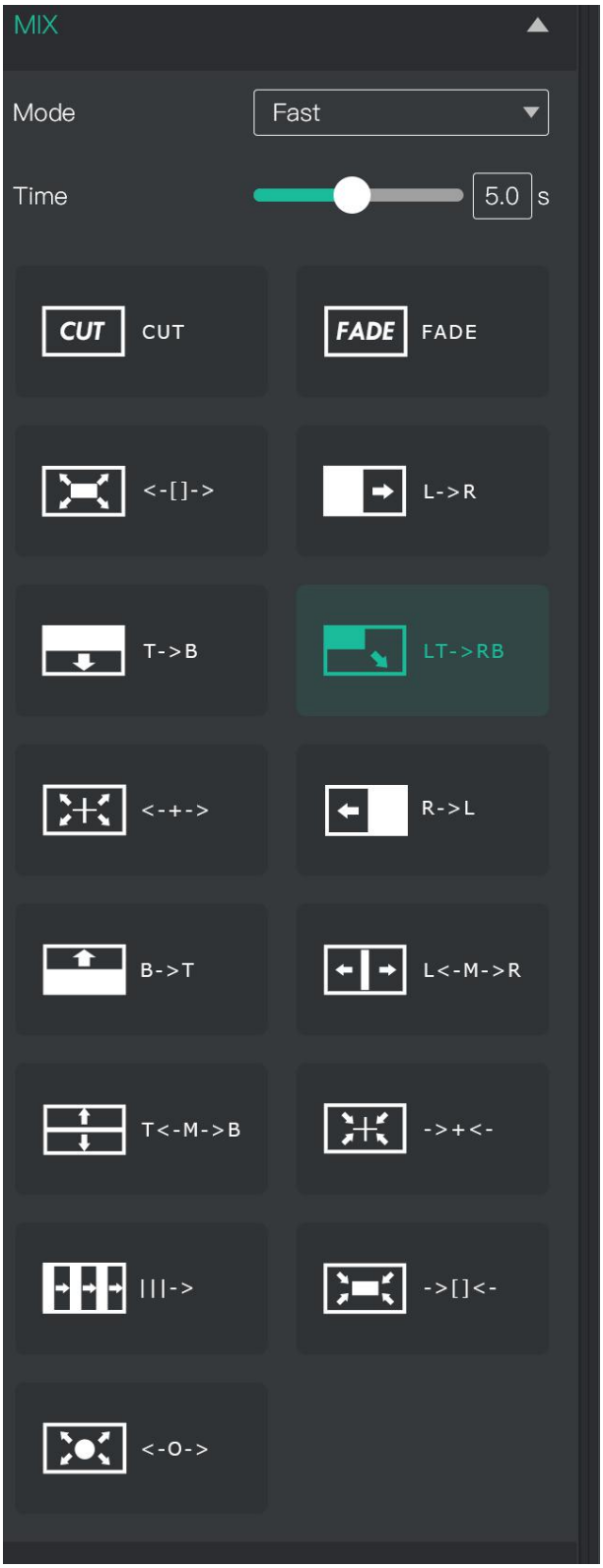
MIX

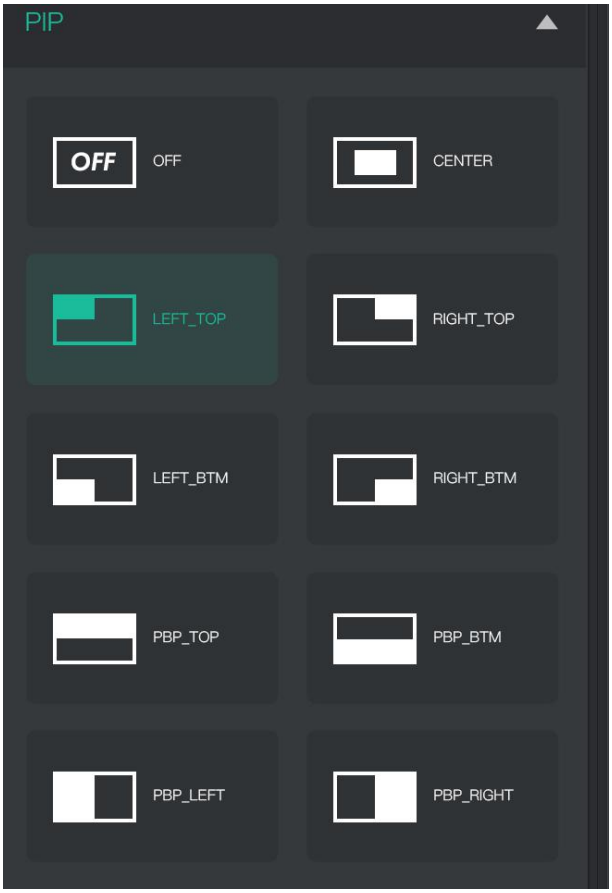
Choose switch time and transition effect.

When Mix Mode set as Fast, transiton Time range 0~5, switch input source by mouse on XPOSE software, PST is switched to PGM automatically and PST and PGM display the same input source.



PIP

Choose layout mode for PIP



Live Streaming

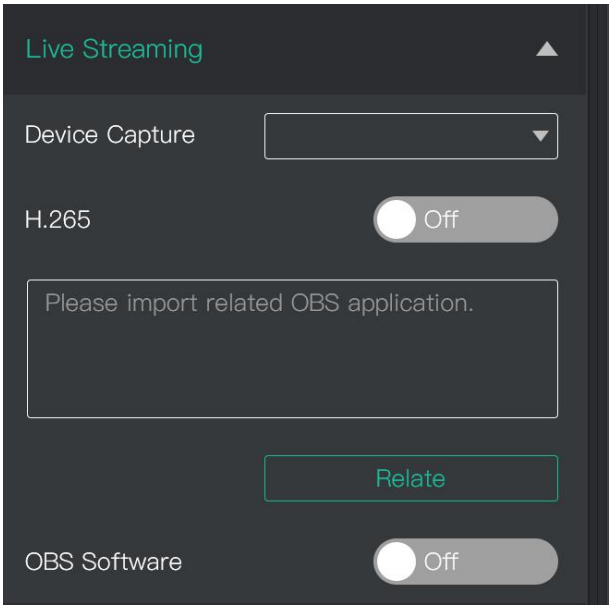
Capture Device:choose RGBlink USB3.0 Capture

H.265: When it is ON, users can watch Preview or PGM streaming back on XPOSE software. The streaming back content is subject to USB 3.0 output setting.

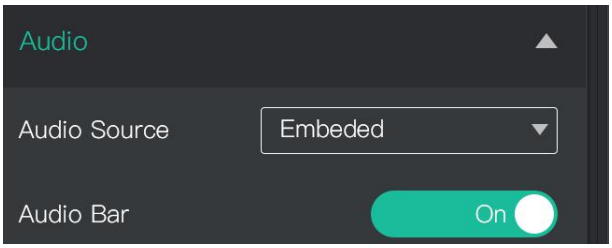
Import the file path of the related OBS application if users need to do live streaming, click Relate to confirm.

OBS: slide on to turn on the related OBS software .

Note: H.265 and OBS cannot work at the same time. User choose either H.265 or OBS, not both.

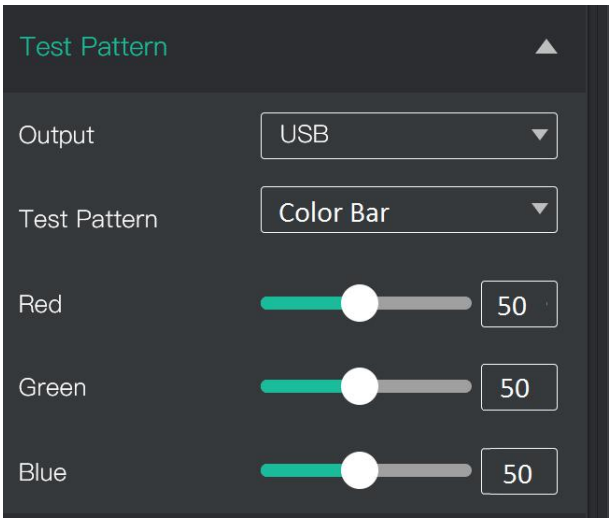


AUDIO

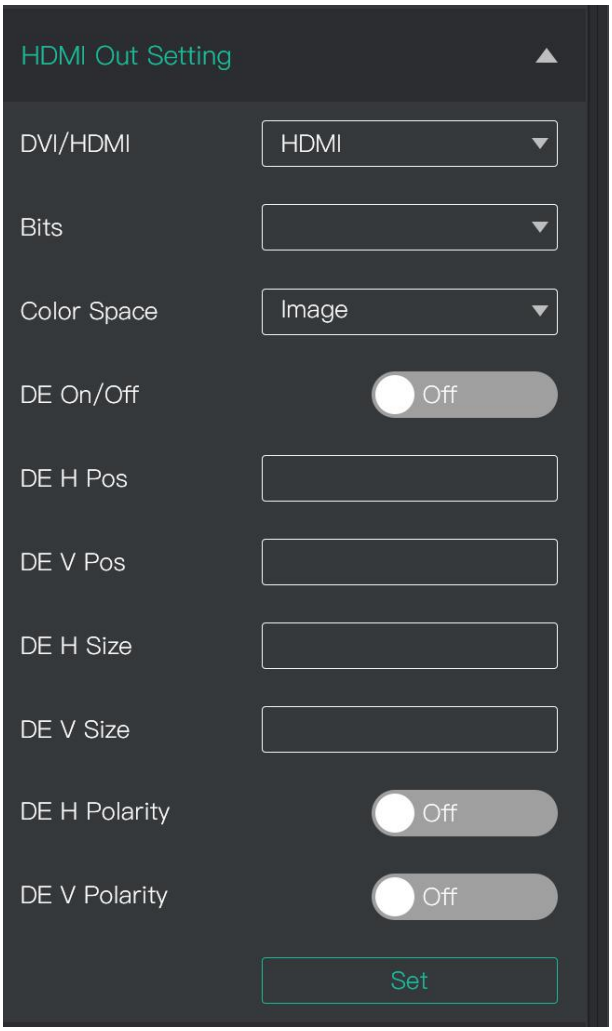


TEST PATTERN

Output：HDMI/USB
Test Pattern： Off/Color Bar/Pure Color
When Test Pattern is Pure Color the value of Red/Green/Blue is from 0~255.

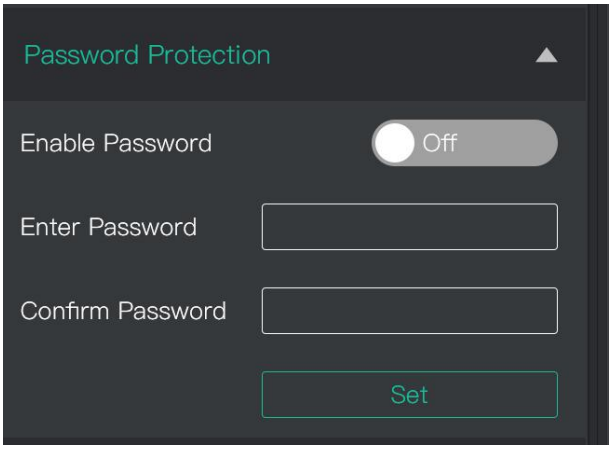


HDMI Output Setting



DVI/HDMI: Choose output type as DVI or HDMI, default is HDMI.
Bits：8bit/10bit/12bit, default is 8bit.
Color Space：Video or Image, default is image.
DE On/Off：On/Off
DE H Pos：input value to adjust output horizontal position
DE V Pos：input value to adjust output vertical position
DE H Size：input value to adjust output horizontal size
DE V Size：input value to adjust output vertical size
DE H/V Polarity：ON/OFF

Password Protection



Set password for the device. After password is set, password will be required when enter the software operation interface.

Enable Password：Slide to On
Enter Password: Enter 4-digit number
Confirm Password:Enter the 4-digit number again
Set: click Set to take effect

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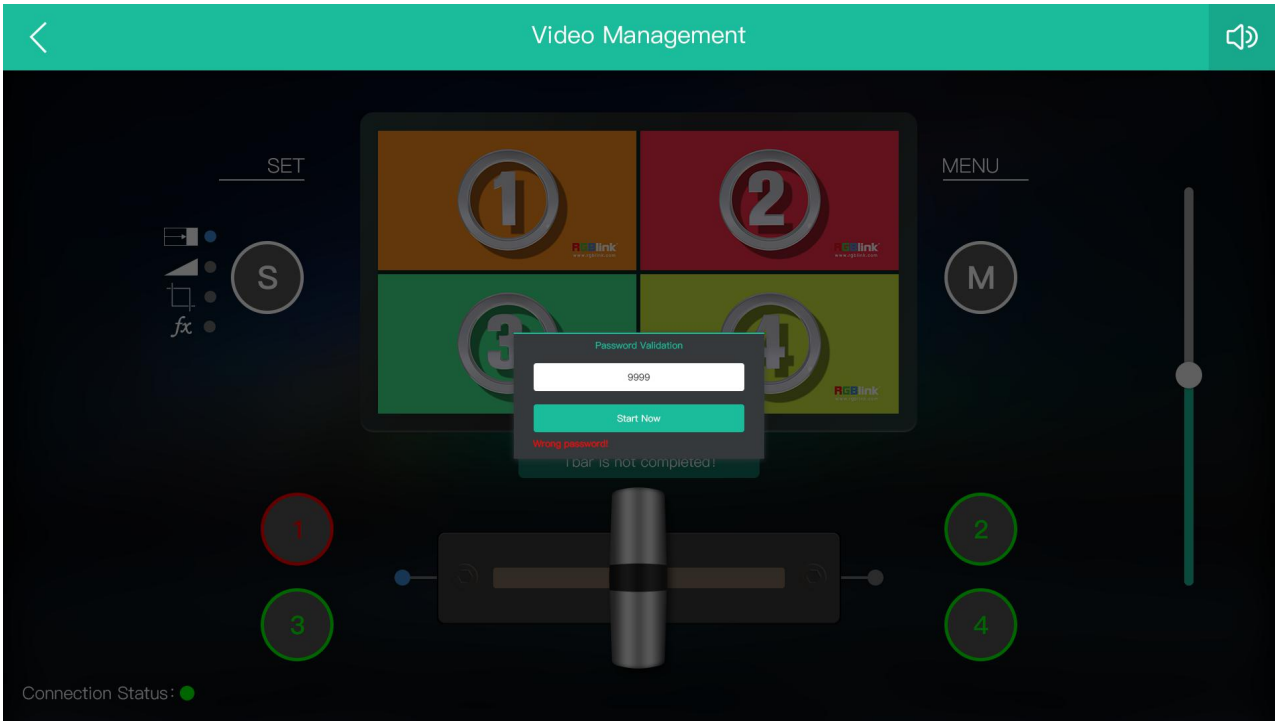
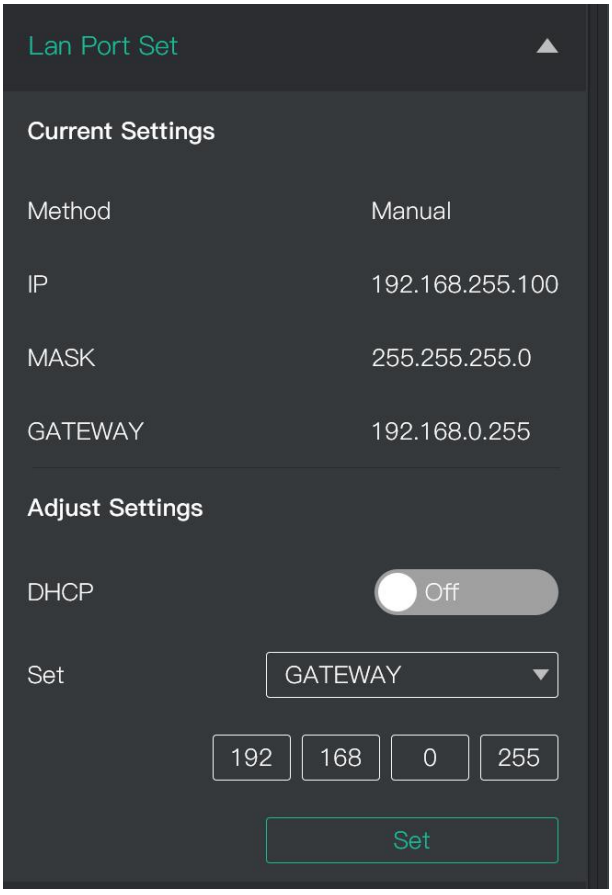


IP Setting

Manually set Gateway, MASK and IP for the device.

Adjust Settings
DHCP: When it is ON, IP, Mask, Gataway will be automatically allocated.
OFF DHCP,
Set IP, Mask and Gateway manually.



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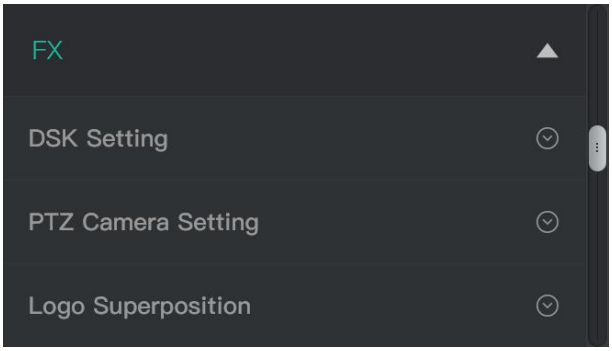
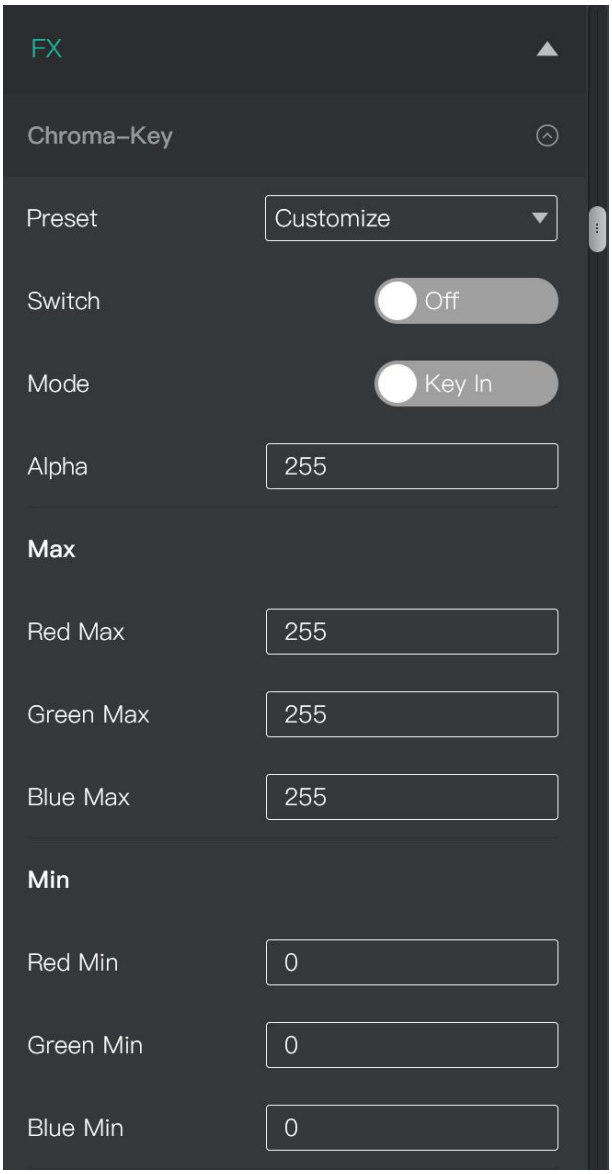
FX

On mini+, FX contains 3 features: DSK Setting, PTZ Camera Control and Logo



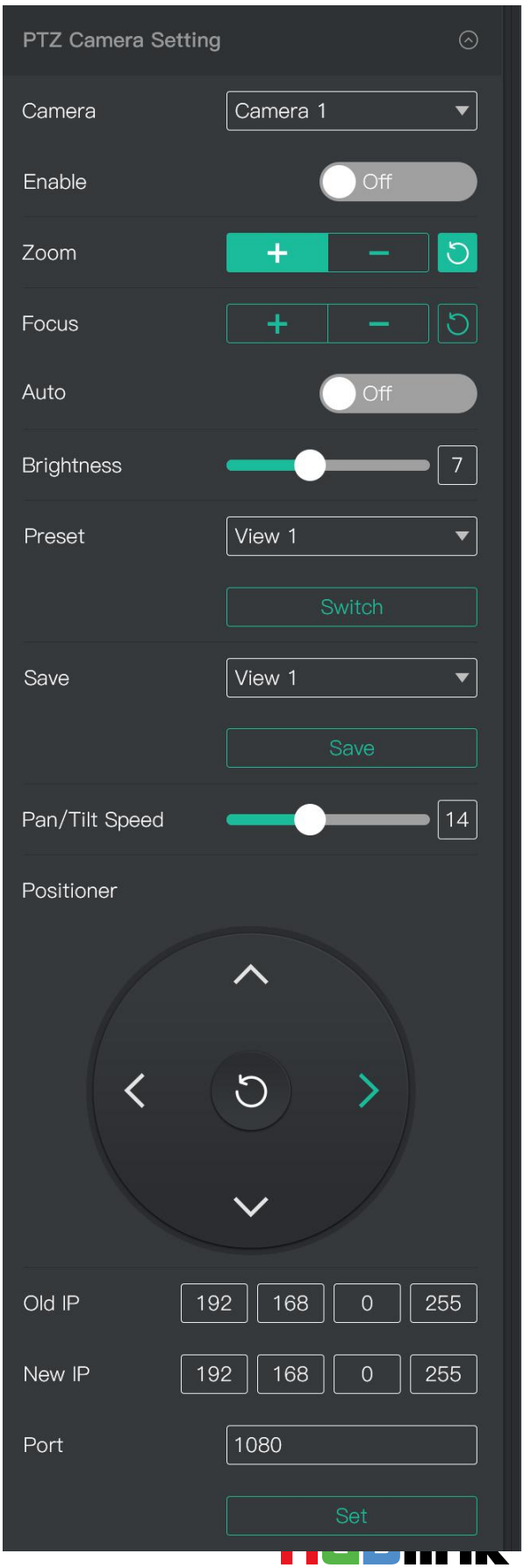
Chroma Key

Preset: Customize, black background, red background, blue background, green background , and white background .
Switch: On/Off
Mode: Select Key In or Key Out.
Alpha: The adjustment range is between 0~255.
The color space is R,G,B by default.
The value range of R,G,B is from 0~255
0 means pure white, 255 means pure black.
Max (Red,Green,Blue):if users choose any preset mode except customize, the **Max** value of R,G,B is automatically set by system. If users choose customize as Preset, then R,G,B maximum value shall be adjusted manually.
Min (Red,Green,Blue):if users choose any preset mode except customize, the **Min** value of R,G,B is automatically set by system. If users choose customize as Preset, then R,G,B minimum value shall be adjusted manually.



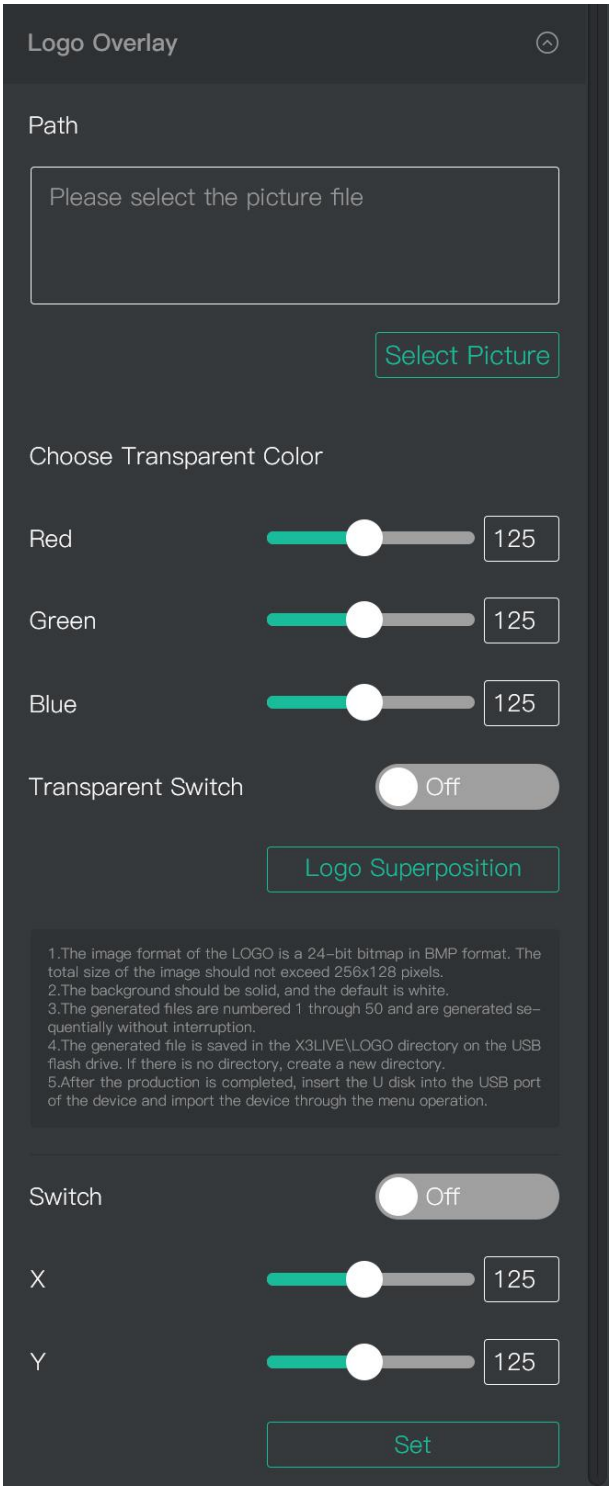
PTZ Camera Setting

Camera：choose camera 1~8
Enable：choose On to enable the LAN communication of the chosen camera.
Zoom：Click + - to Zoom in and out
Focus：Slide Auto to On usually
Brightness：Click + - to adjust
Preset：Load position and zoom setting of camera lens from View 1~20
Save: Save position and zoom setting of camera lens to View 1~20
Pan/Tilt Speed：Adjust the lens moving speed.
Positioner：to adjust the lens left right up down position
OLD IP：the current IP address of the camera
New IP：the new IP address just typed in.
Port: Set port number for PTZ camera. PTZ control support Visca protocol, port number is 1259 by default. mini+ support control PTZ cameras in same IP address with different port number.
Note: Not all cameras can be set IP and port number on XPOSE, for those cameras, IP and port number set can be done on web.



Logo

Path：choose logo bin from local computer or U disk.
Color： Adjust Red Green Blue value
Transparent Switch： On/Off
X，Y：adjust logo position



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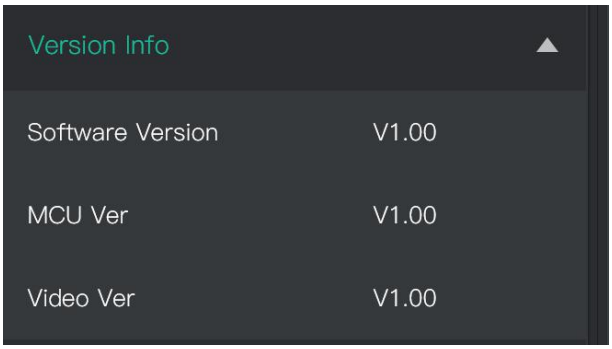
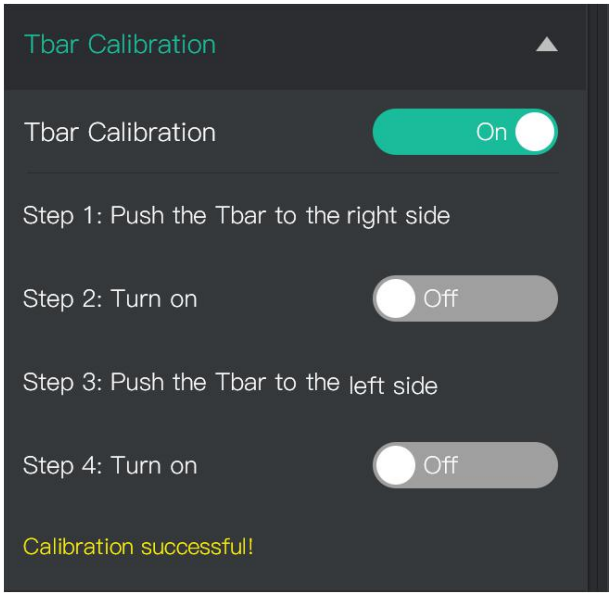
Version Info



T-Bar Calibration

Slide on Tbar Calibration,
Push the Tbar to the right side .
Silde on step 2,
Push the Tbar to the left side .
Slide on step 4,
Calibration sucessful will show up ,
indicating calibration is finished.



Factory Reset

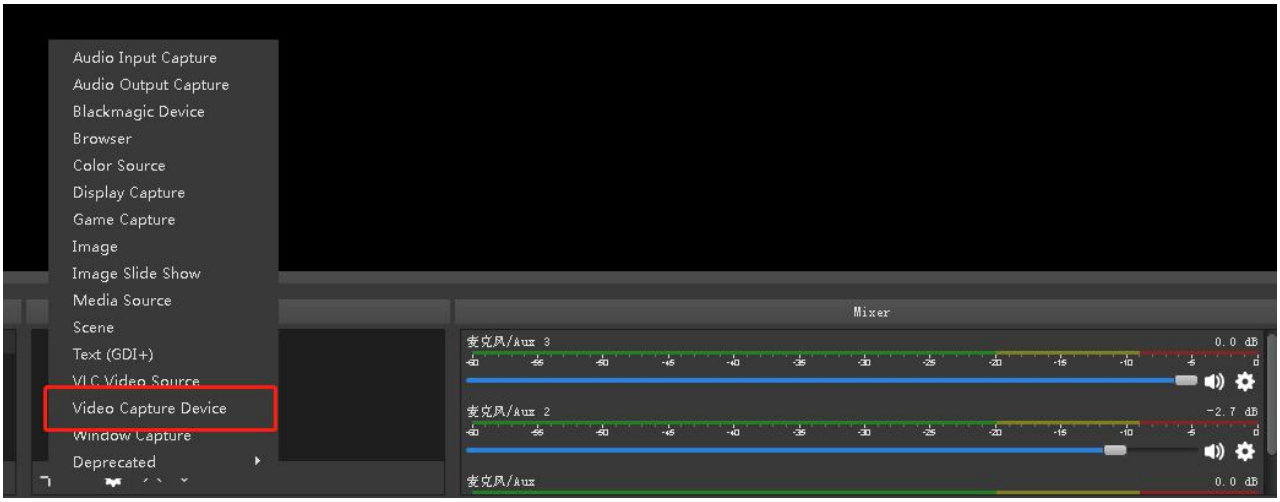
OBS Streaming

OBS Setting

mini 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

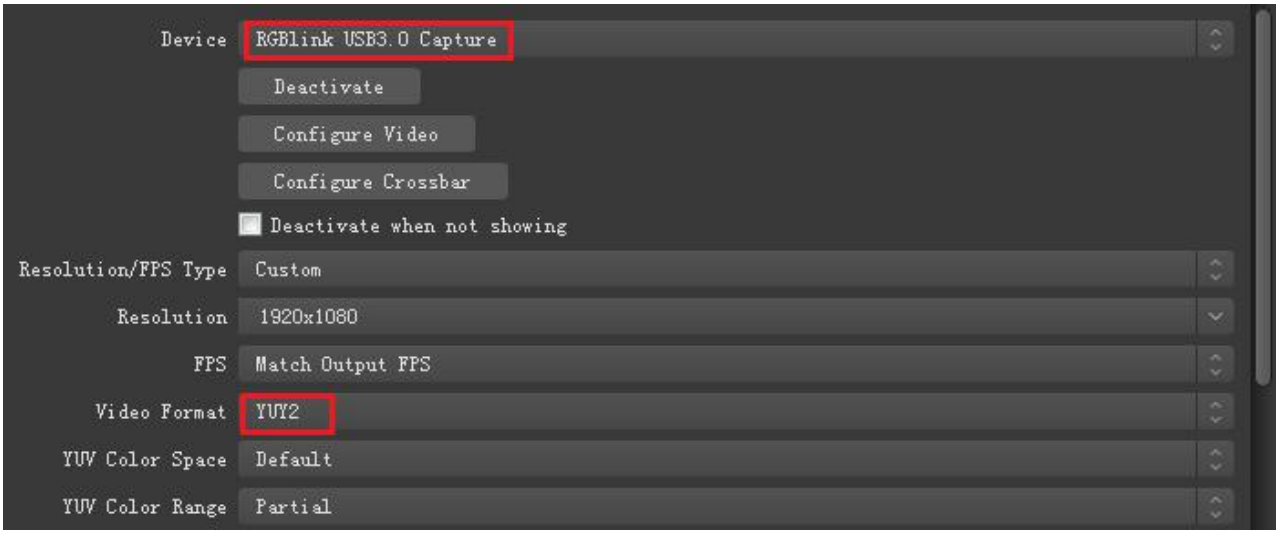
2.choose video capture device



3.Click video capture device to open up setting page

4.Choose :RGBlink USB 3.0 Capture

5.Choose Video Format YUY2



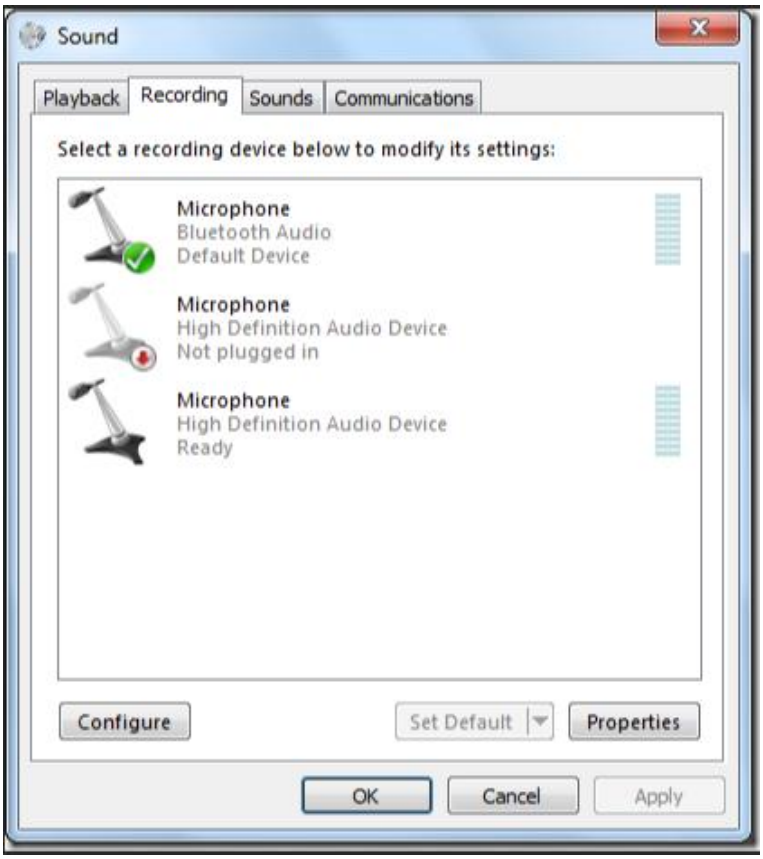
If there is no video format YUY 2 after setting above, check the USB 3.0 port connection. Make sure it is linked to USB 3.0port on PC by USB 3.0 cable. (USB 3.0 cable or port is standard in blue while USB 2.0 is in black)

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

Audio Setting

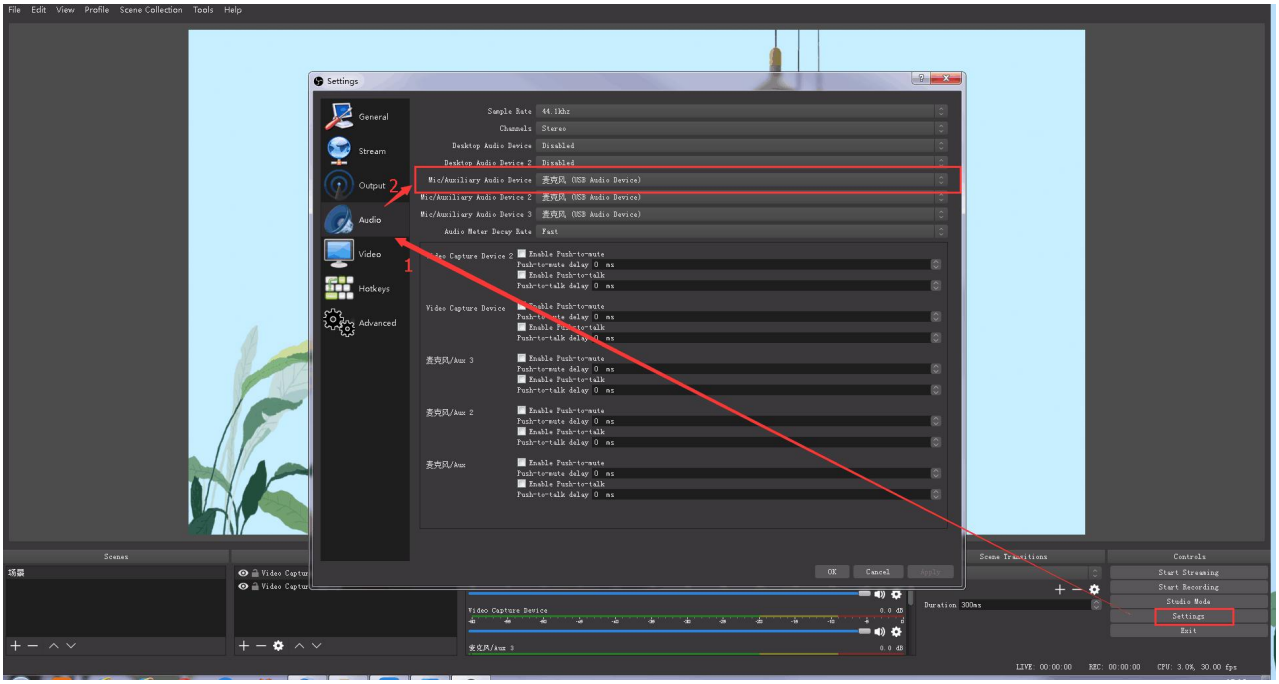
When there is no audio playing first check the video source see if the it is set in default value and then check the audio setting on OBS.

1.Set Default for the audio source.



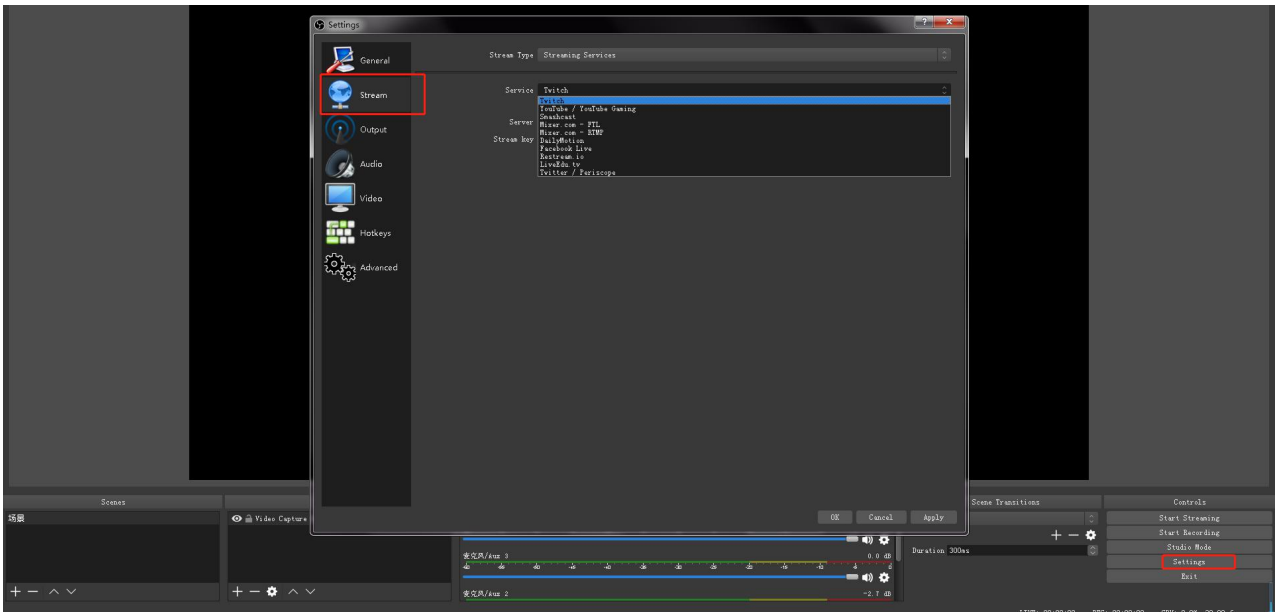
2. Audio setting on OBS.

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

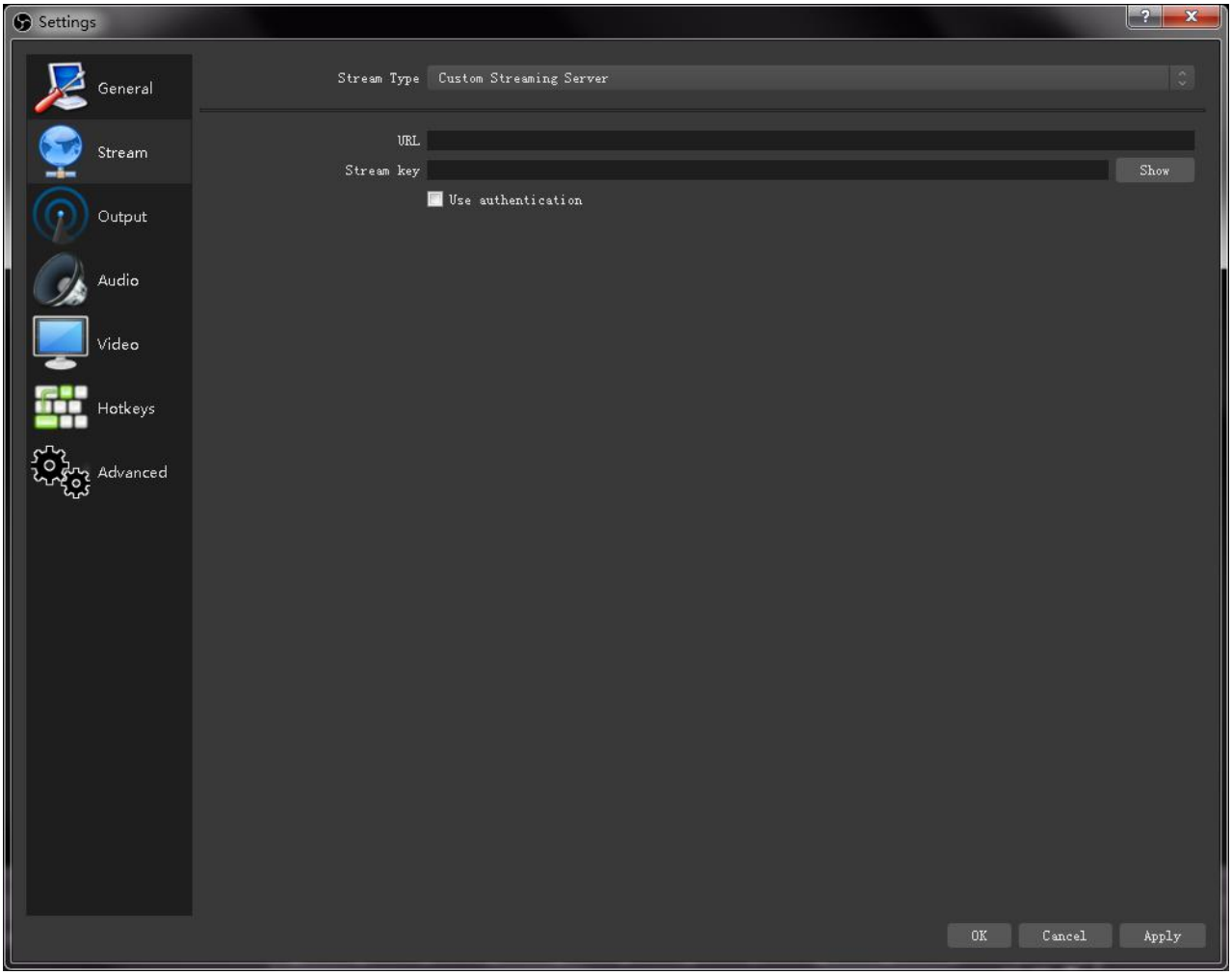


Streaming Setting

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.



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.

Upgrade

1.Tools：

Upgrade package, XTOOL V1.0.1.6, Cat6 cable

2. **Upgrade by LAN port**

2.1 Power on the device connect LAN ports between PC and device by Cat6 cable；

2.2 RGBLink device default IP address is 192.168.0.99， to make sure the LAN communication, IP of PC must be under the same IP section, which means the IP of PC must be 192.168.0.XXX (but must not be completely same as the device).

Check IP of PC：

Step 1. Press Windows + X keys together and open Windows PowerShell

(or Command Prompt).

Step 2. Type ipconfig and hit Enter, then the information will be displayed in the window.

If the IP address is not in the same section, manual change of IP address is required. Here are the steps:

- Step 1. Click Start menu, click “Setting”
- Step 2. Open **Network and Internet** > **Network and Sharing Center**.
- Step 3. On the left pane of the new window, click **Change adapter settings**.
- Step 4. You will be displayed with **Network Connections** of the PC.
  Important note: Right click on “Ethernet” or “Local Area Connection” if you want to change IP of any

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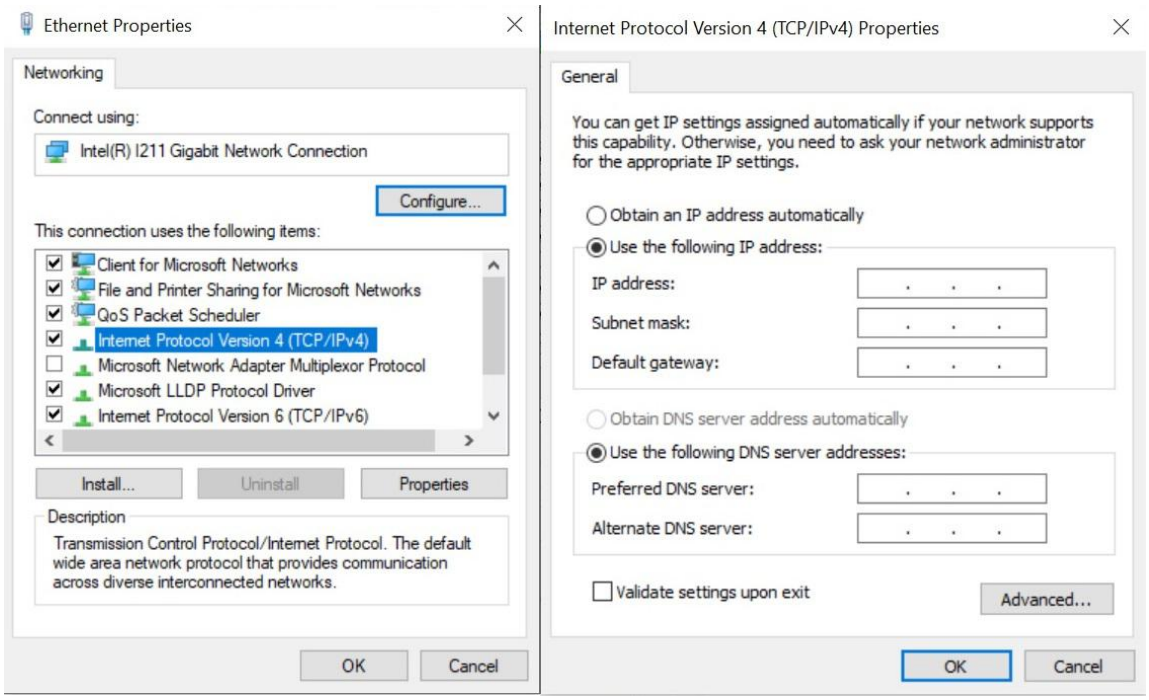
physical connection. And right click on “WLAN” in case you wish to change IP of any wireless connections.

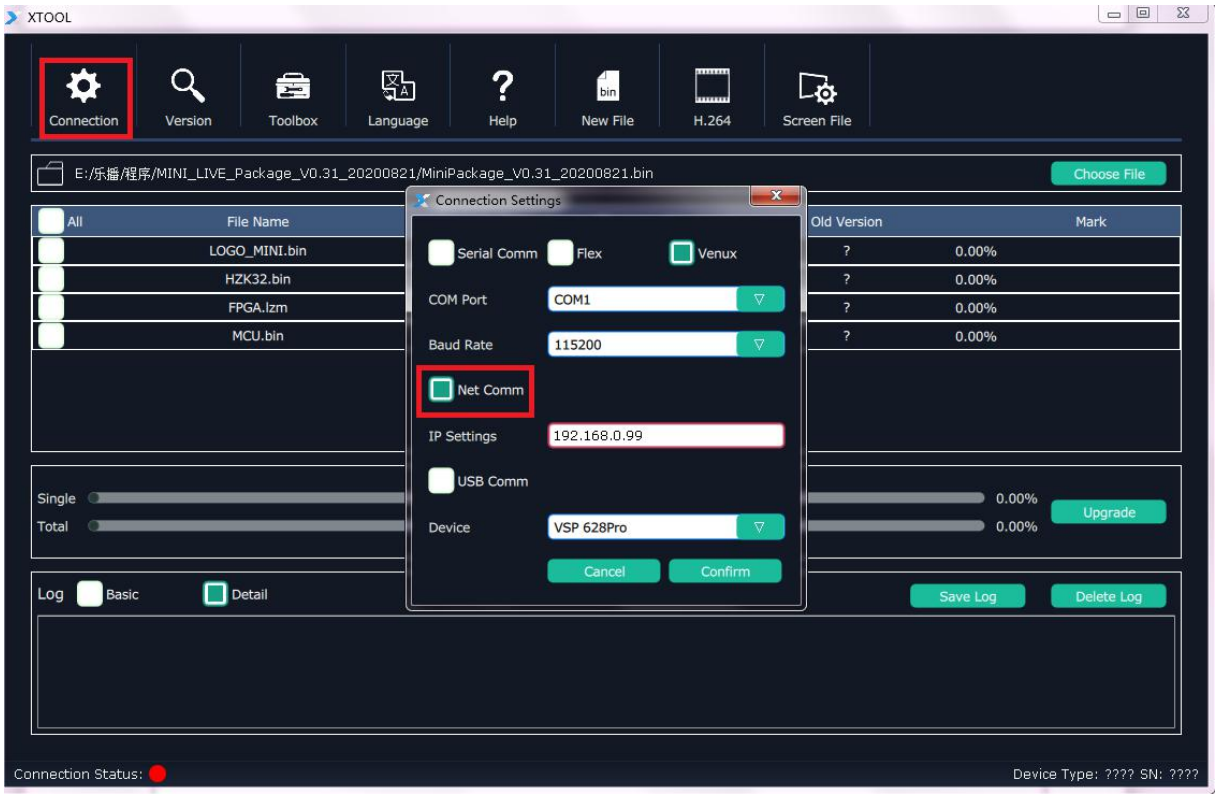
- Step 5. Choose **Properties** after right clicking on the network name.
- Step 6. Select the **Internet Protocol Version 4 (TCP/IPv4)**, then click **Properties**.
- Step 7. **Obtain an IP Address automatically** should be selected by default, but please choose the **Use the Following IP Address**.
- Step 8. Now put your desired IP Address according to your wish its correct format. Change **Subnet mask and default gateway** if you want to.



2.3 Open XTOOL

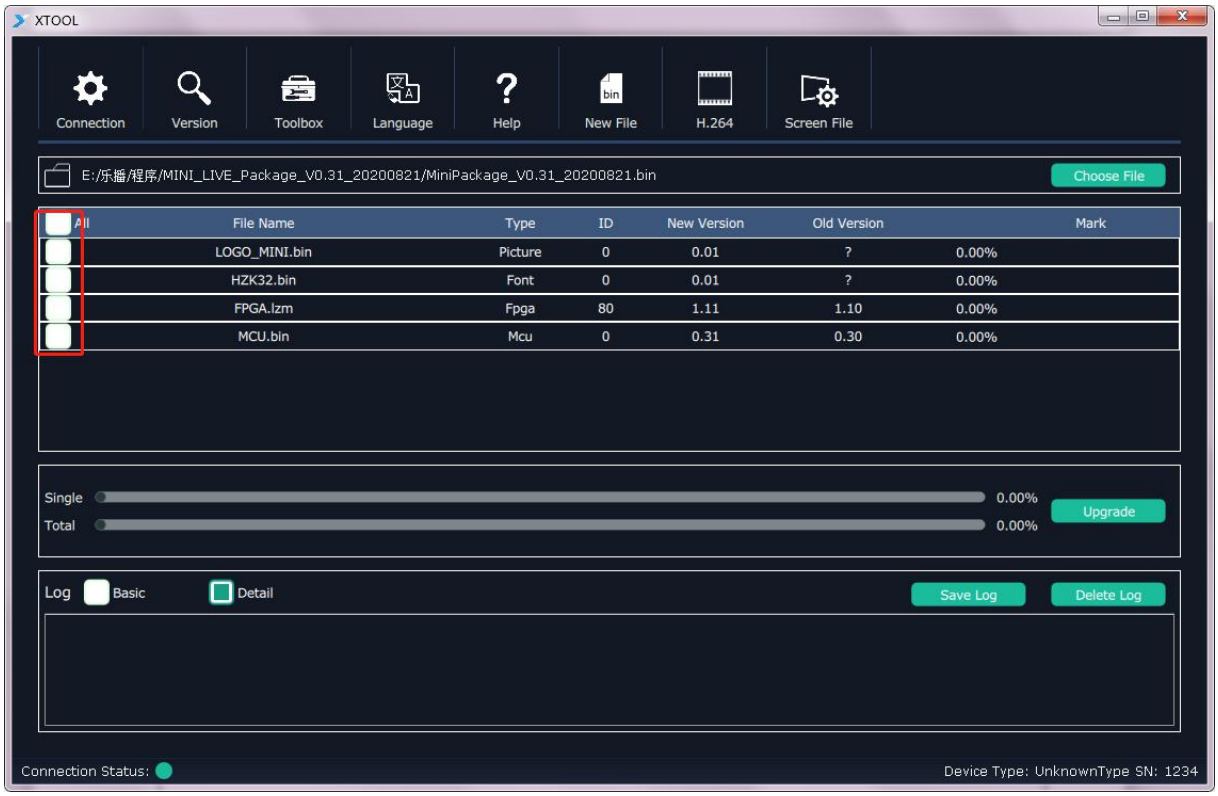
on PC， Click Communication

2.4 Choose Net Comm in pop up window and confirm

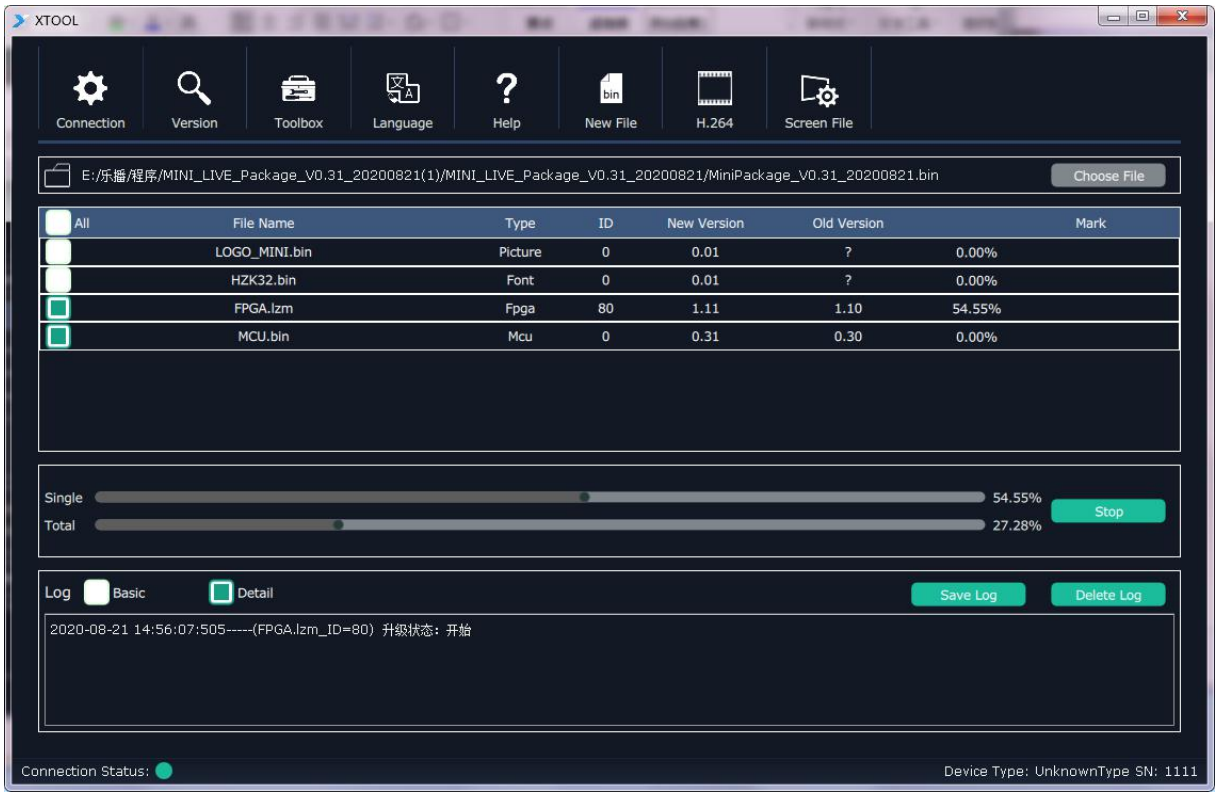


2.5 Upgrade Program

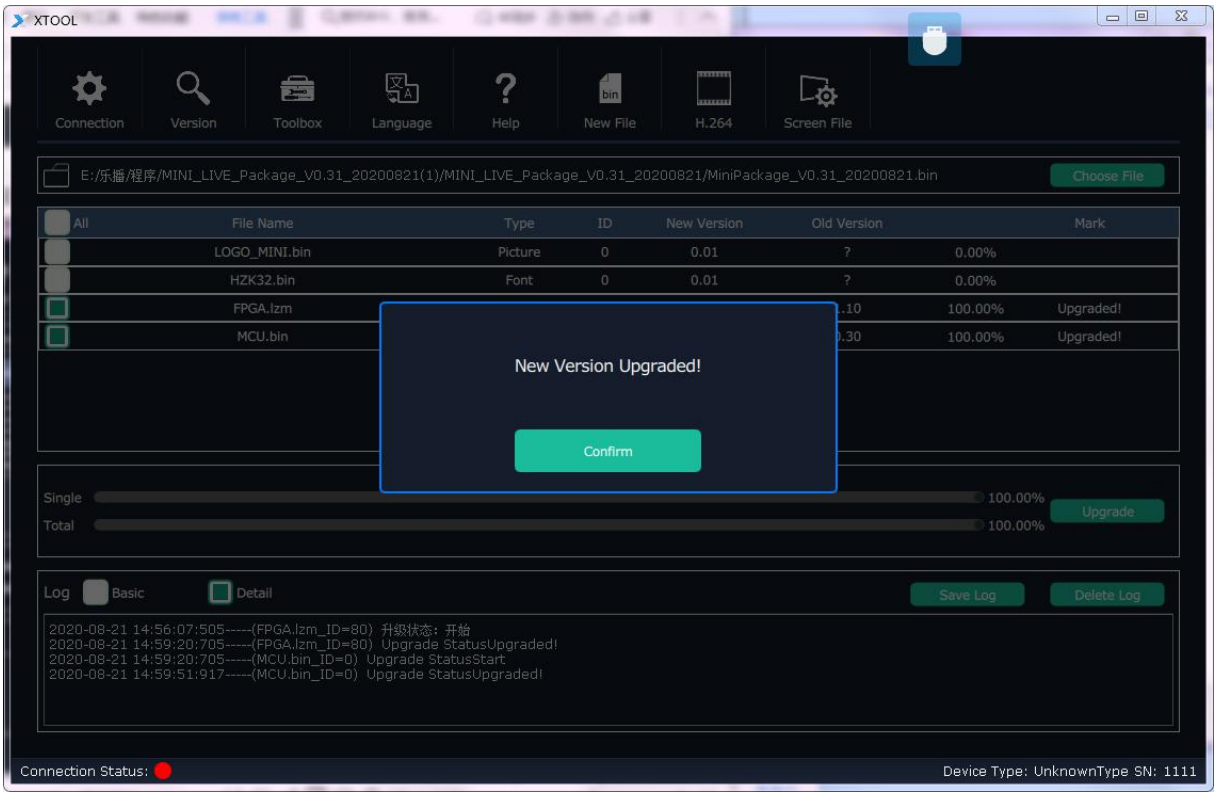
After communication setting is done, the status light in bottom left turns green. Choose ALL and XTOOL will automatically select the all latest programs version even when there are other old files in list. User can also manually choose MCU or FPGA bin file to upgrade. After selecting, click upgrade.



2.5.1 During the process of upgrading, each upgrading status and upgrade result of each program file is showing.



2.5.2 After upgrade is done, there will pop up a window showing “New Version Upgraded” then then users need to reboot the device to let the new version take effect.



2.5.3 Click “Version” XTOOL will show the latest version info of the device so that users can check if the upgrade is successful or not.

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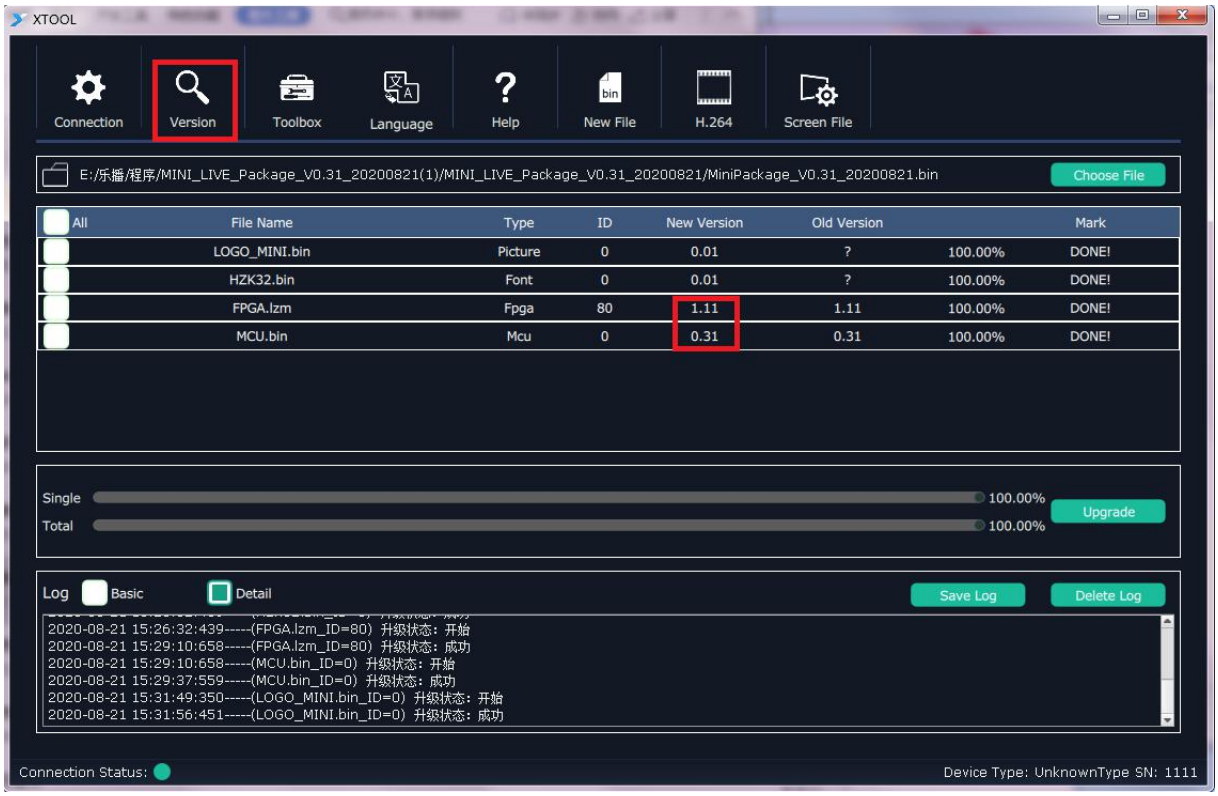

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Contact Information

Warranty:

All video products are designed and tested to the highest quality standard and backed by full 1 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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