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Video {processing} for any scale

M mini+

Quick Start

- USB3.0 streaming output
- 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
- Logo Overlay
- Chroma Key
- PTZ control
- Control by PC or mobile phone (via APP)
- Compact design

CONTENTS

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Product Introduction

mini+ is a "mini" signal switcher and mixer which is able to 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 work with T-Bar to do transition switching. Along with seamless switching, 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+ adds advanced features including Chroma Key, Logo Overlay, PTZ Camera Control. mini+ devices are easy to operate either on board or remotely from mobile devices or laptops with XPOSE mini.

System Connection Diagram
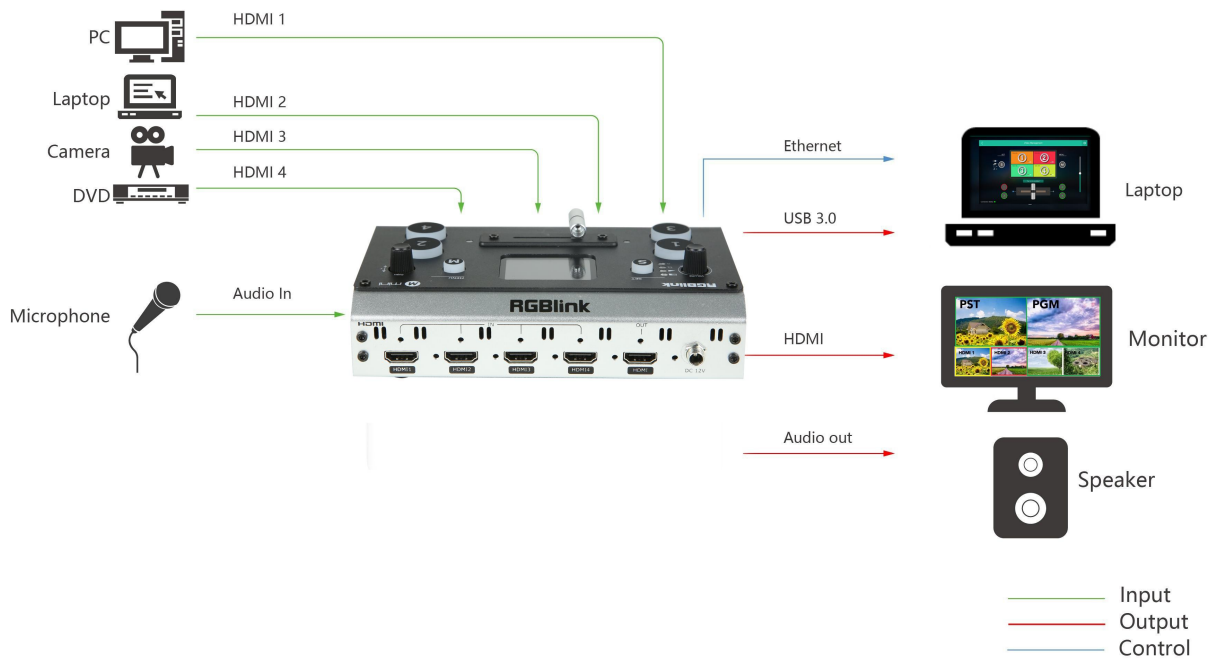
mini+ System Connection Diagram

Packing Configuration
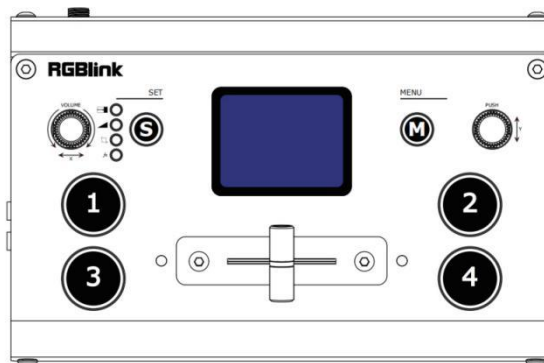
Power Adapter	USB3.0 Cable

Note:

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

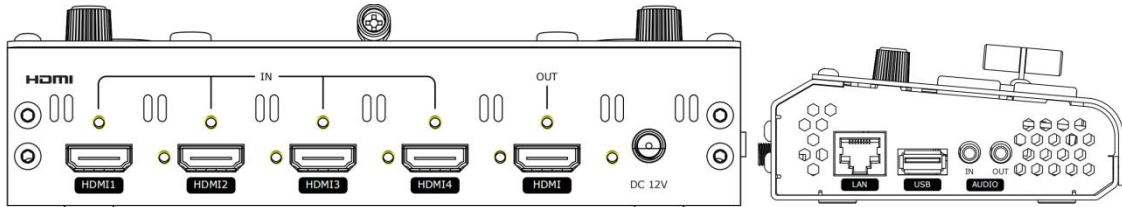## Front Panel

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(MODE:CUT ◢ 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.

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.

Use Your Product

MENU

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

Main Menu

MAIN		MAIN		MAIN	
INPUT	>	LOGO OVERLAY	>	INFO	>
HDMI	>	IP SETTING	>		
USB3.0	>	LANGUAGE	>		
AUDIO	>	RESET	>		

Input

Push 「M」 button(MENU) to enter main menu and select first menu item**<INPUT>,**push 「Y」 knob to enter <**INPUT**>menu.

The input menu displays the information of the input signal source.
If there is no input source, it displays: NO INPUT.

MAIN	INPUT
HDMI1:1920x1080x60	
HDMI2:1920x1080x60	
HDMI3:1920x1080x60	
HDMI4:NO INPUT	

HDMI

Push MENU and select the second menu item **<HDMI>**

Push 「Y」 knob to enter <HDMI> menu

HDMI means HDMI output, rotate 「Y」 knob to select PVW output and PGM output for HDMI.
Output：PVW or PGM
Format：1920×1080@60

MAIN	HDMI
OUTPUT	PREVIEW
FORMAT	1920x1080x60

USB3.0

Push MENU, rotate and push 「Y」 knob to enter the third menu item<USB3.0>

USB3.0 means USB3.0 output,rotate 「Y」knob to select **PVW output** and **PGM output** for HDMI.
Output：Choose PGM or PVW
Format：1920×1080@60

MAIN	USB3.0
OUTPUT	PREVIEW
FORMAT	1920x1080x60

Audio

Push MENU,rotate and push 「Y」 knob to enter the fourth menu item<AUDIO>

Rotate 「Y」 knob to select
Audio Source：**AFV** or **LINE IN**
Audio Bar：**ON/OFF**

MAIN	AUDIO
SOURCE	AFV
AUDIO BAR	ON

Note：The mini+ can realize any one of five audio channels as the main output. You can either fix one audio channel as the main output, so that the audio does not change when you switch the HDMI screen signal,or adjust it to follow the video, so that the audio signal follows the HDMI signal when you switch the HDMI signal. When external audio is selected, the main output is the audio signal from the microphone.

Push MENU, rotate and push 「Y」 knob to enter the sixth menu item<IP SETTING>

SET IP Address Manually
Select **each segment** with the 「Y」knob, then
press to enter and set the **value** of each segment by
pressing the knob again.
Note: After setting IP address manually, please restart the device.

MAIN	IP SETTING
192.168.255.255	
DHCP	OFF

Set IP Address Automatically
Use this setting if your network/router has a DHCP server
Select **DHCP** and set to **ON**,manual setting is disabled, and the IP A
ddress for mini is set from the network.

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LOGO Overlay

Push MENU,rotate and push 「Y」 knob to enter the fifth menu item<**LOGO OVERLAY**>
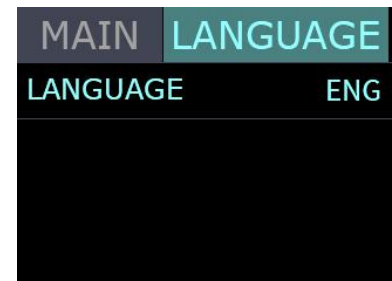
Rotate 「Y」 knob and select ON/OFF ENABLE and set the position of LOGO

If It is your **first time** to use the logo overlay function, please **refer to 3.4.2 Using XPOSE mini** first.
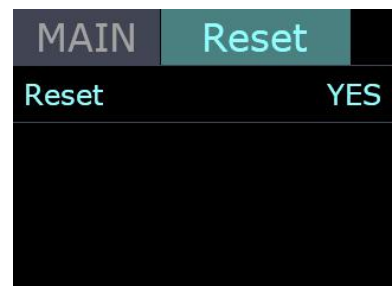
MAIN	LOGO OVERLAY
ENABLE	OFF
POS	X:1664 Y:950

LANGUAGE

Push MENU and rotate and push 「Y」knob to enter the seventh menu item<**LANGUAGE**>

MAIN	LANGUAGE
LANGUAGE	ENG

Factory Reset

Push MENU and rotate and push 「Y」 knob to enter the eighth menu item<**RESET>**

Rotate and push 「Y」 knob to select YES or NO

MAIN	Reset
Reset	YES

INFO

Push MENU and rotate and push「Y」knob to enter the ninth menu item<INFO>

INFO shows Device SN,IP address,MAC address,MAC address,MCU version,Video version.

MAIN	INFO
DEVICE SN:	
2020XXXXXXXXXX	
IP ADDRESS:	
192.168.0.100	

MAIN	INFO
MAC ADDRESS:	
18.20.40.96.0a.20	
MCU VER:	
0.30	

MAIN	INFO
VIDEO VER:	
1.10	

S Button

When you want to personalize your live show, you can use the mini+'s 14 built-in switching effects and control the timing of the switch via T-BAR.

Push S button to enter transition effect menu**<MIX>** and the LED indicator beside will light up;

Push S button **twice** to enter mode switch menu**<MODE>** and the LED indicator beside will light up;

Push S button **three times** to enter menu**<PIP>** and the LED indicator beside will light up;
Push S button **four times** to enter **PTZ camera control** menu and the LED indicator beside <FX> will light up;
Each time the menu is opened, the corresponding indicator light will be on, and then rotate the PUSH knob (" Y ") to select and confirm.

MIX

Press S button to enter transition effect menu<**MIX**>,there are 14 kinds of effects

To change the switching effect, proceed as follows.

1. Press the "S" button to stay in the effects screen.
2. turn the「Y」knob to select the effect
3. Press the「Y」knob to confirm.

In actual use, the hard cut is only available in **Quick Cut** mode, if you use **T-Bar** mode, it will automatically change to FADE.

Push S button **twice** to enter <MODE>menu,and rotate「Y」knob to select **FAST** or **T-BAR**

After selecting Quick Cut, you need to select the switching time: from **0.5s to 5.0s**.

The steps are as follows.
1. Press the "S" button until you enter the mode interface.
2. Press the「Y」knob and wait for the option to turn yellow.
3. Turn the 「Y」knob to change the parameters.
4. Press the 「Y」knob to confirm.

In **T-Bar** mode, you can directly control the progress of the T-Bar manually and customize the switching time of your effects.

PIP

Push S button three times to enter <PIP> menu and select PIP mode(9 PIP modes)

The steps are as follows：
1.Push "S" button, enter PIP setting page.
2.Rotate「Y」button to select layout you want and confirm by Pressing.
3.Select the signal you want for background. (When the letter is A, it means background signal)
4.Press「X」button to select signal for PIP layer. (The A will change to B)
5.Finally, push the T-Bar and the content you've set will be taken to PGM. (T-bar has to be totally left or right side to make sure the content has been taken.)
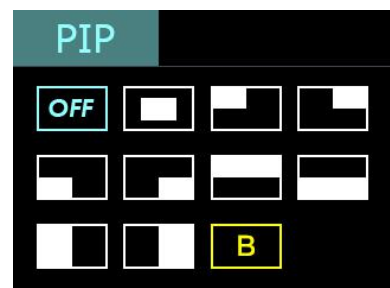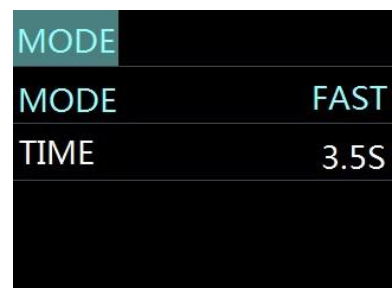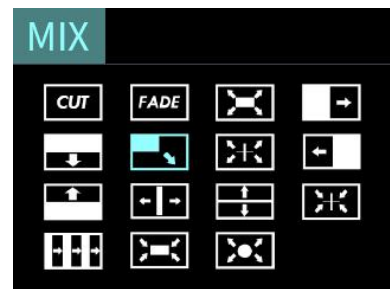
PTZ Camera Control

mini+ can control cameras which supports VISCA protocol.mini+ allows users to control camera to move,zoom and focus.Meanwhile, mini + also saves camera position and zoom information for quick retrieval the next time you use it.

1. Rotate「Y」knob to<IPSETTING>,and set the IP of the camera you want to control to the corresponding IP address.

When the **yellow font** is displayed, it is in the **editing** interface, and the modification is considered successful until the blue font is displayed on the interface.

Note：The IP address of mini + and PTZ should be **in the same network segment.**
2. Rotate 「Y」knob and turn on corresponding ENABLE

Note：mini+ can control up to 8 cameras.

3. Push MENU and back to **<CONTROL>** ,then you can control PTZ camera's position,zoom and focus.

Note: When operating the camera, mini+ needs to remain in the Control interface, otherwise the PTZ camera cannot be controlled.

Switch Sources

When you access the four source buttons, the lights on the source buttons will appear in four states:

green constant: the signal is recognized, no action is being taken;

green flashing: the currently selected,signal is being edited;

red constant: the signal is currently on the main output;

unlit: the source is not accessed or the resolution of the accessed source is not supported by the mini+

In FAST Mode:

Press a source button (1, 2, 3, or 4) that is green.

Selected source will be switched to the output with the set fade TIME and using the MIX

transition selected, with the pressed source button becoming red.
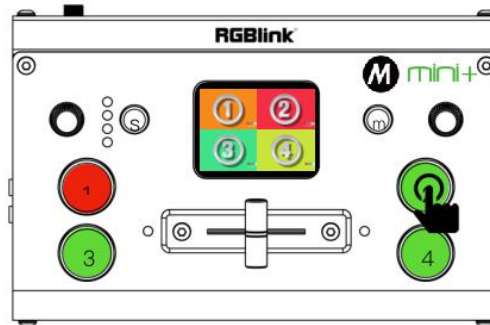
Switch Source via **Button**

In T-BAR Mode:

Press a green button to set the source as the PVW, the source button will blink green.

Slide the T-BAR to switch/mix from the current PGM source to the PVW source.Any MIX

transition effect will be applied as the T-BAR is moved. Once the T-BAR has been **fully** transitioned, the indicator

lights on sources buttons that are PGM and PVW will be swapped.

Note: Source selection is **locked** when T-BAR is **in transition** (not entirely docked at a left or right position)
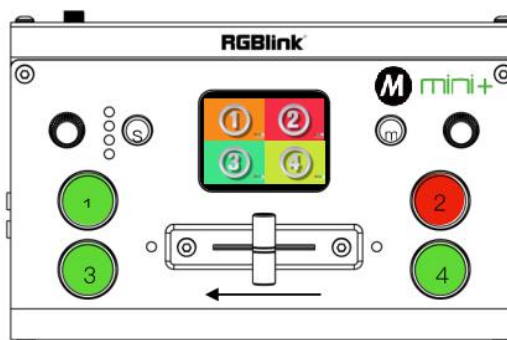
Switch Source via **T-BAR**

XPOSE mini Operation

Install dedicated software named XPOSE to control mini+.

Right click the setup exe file .

Choose *Run as administrator* to open the exe and install the software.
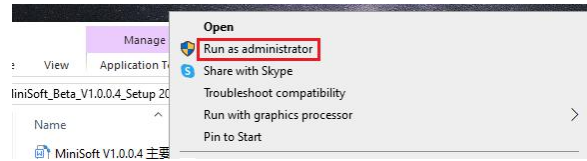
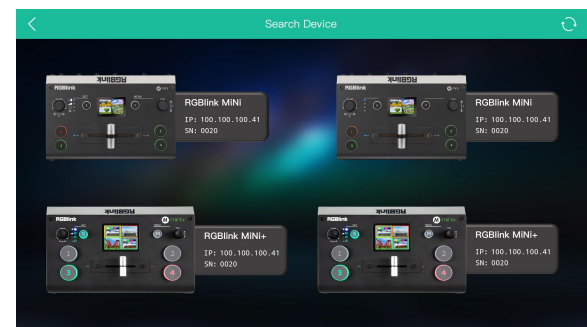After software is installed, click the icon XPOSE and login the software.
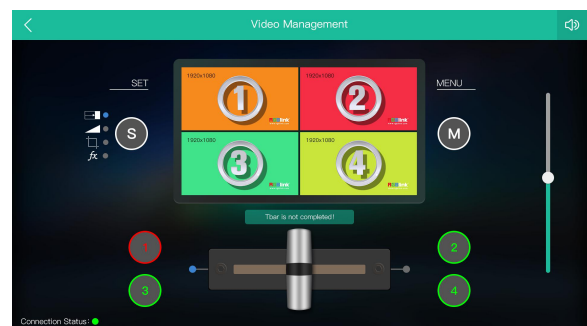
Click Search to search mini+ device.
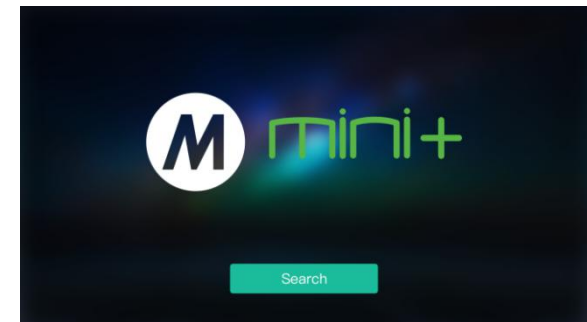
After searching, all available mini+ devices in the sub-net can be found, up to 128 devices can found if there are.

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 XPOSE mini, we suggest you watch our User Guide video.

Click the drop down arrow and click to play the User Guide video.
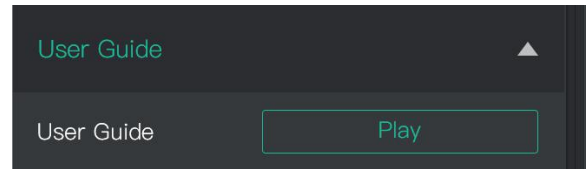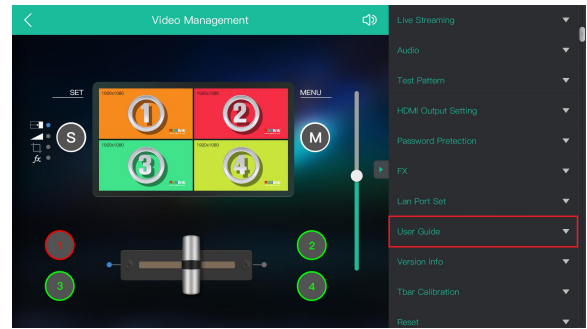
If you have used XPOSE mini before,you can direct click MENU to set as on mini+.
Following sections are dedicated to the additional features of XPOSE mini.

Live Streaming

Device Capture:choose RGBlink USB3.0 Capture
H.265: When it is ON, users can watch 4 inputs streaming back on XPOSE software.
Import the related OBS application if users need to do live streaming, click Relate to confirm.
OBS: slide ON to start streaming.

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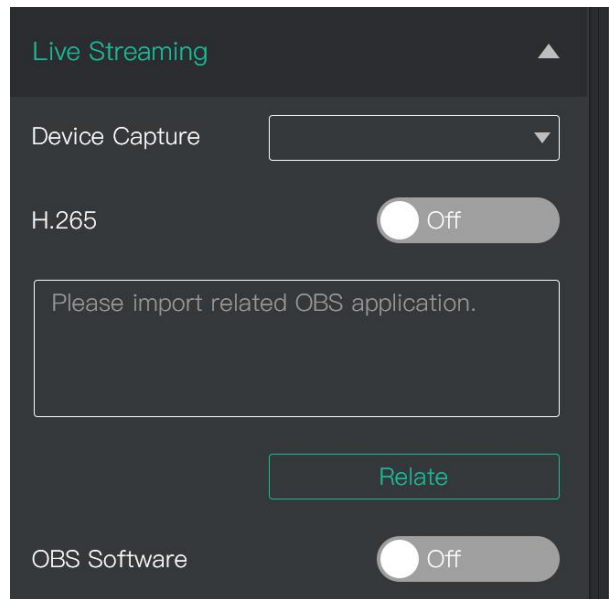
Test Pattern

To facilitate troubleshooting, XPOSE mini provides a test signal output, which can be used to troubleshoot the USB or HDMI output interface when there is no output signal from USB or HDMI.

1. Select the USB/HDMI interface to be tested.

2. Select the mode of the test pattern.

3.Adjust color.
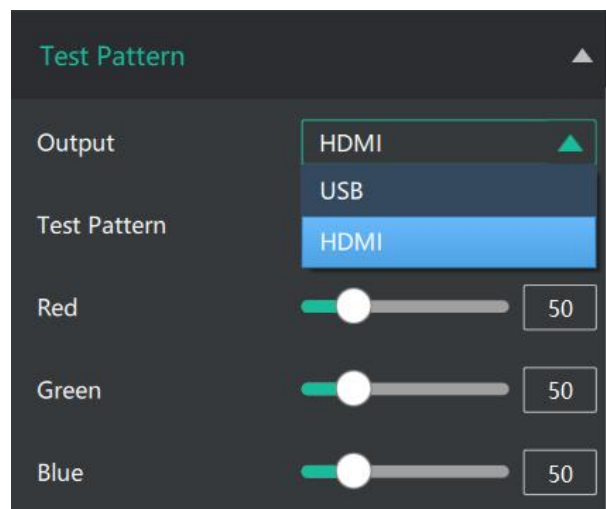
Password Protection

In order to solve the problem of control conflicts caused by different devices controlling the same mini+ in the same LAN, XPOSE mini provides a password protection function, as an administrator, you can set a password for the device controlling XPOSE mini, and when you control the interface again, you need to enter the password to control it.

Note: If you have forgotten your password, please restore the factory settings on the mini+.
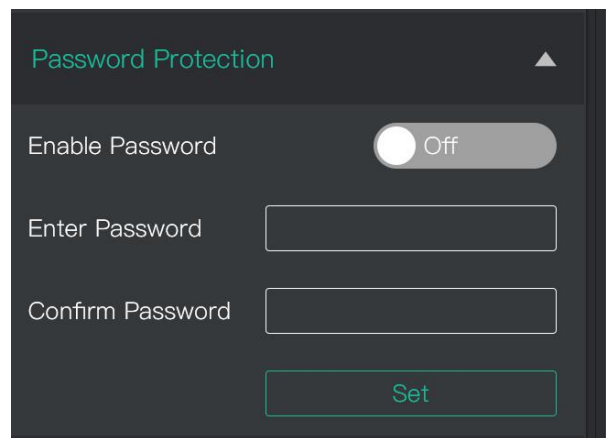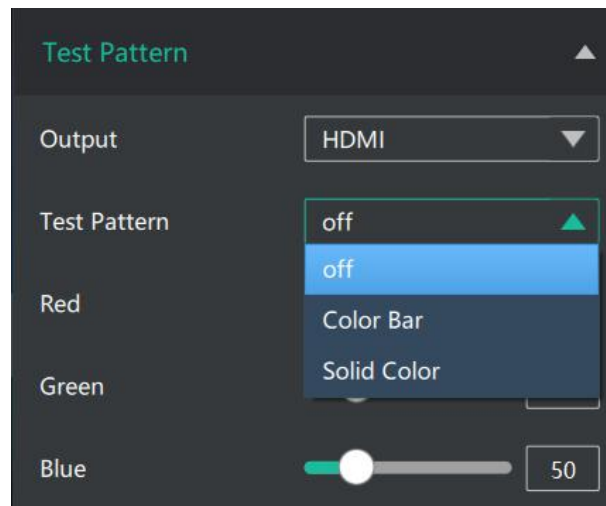
T-Bar Calibration

If the T-Bar is not in the correct position, no other operation is possible. t-Bar correction is available in XPOSE mini.

The steps are as follow：
1. Turn on the T-Bar Calibration switch.
2. Push the T-Bar to the **far right** on the mini+.
3. Turn on the "On" switch
4. Push the T-Bar to the **far left** on the mini+.
5. Turn on the "On" switch

FX

mini+ supports advanced functions,such as Chroma key,PTZ Camera Setting and Logo Overlay.

Chroma Key

mini+ also provides chroma keying of sub-screens. Sub-screen keying is possible with PIP turned on,which helps you to combine characters with the virtual background.
Make sure to use XPOSE mini V1.0.0.9 or higher before using the latest program, and make sure to use mini+ V1.23 and higher.

1.Select the base color you want to remove, there are 6 kinds of colors you can select: orange, yellow, green, cyan, blue and purple.
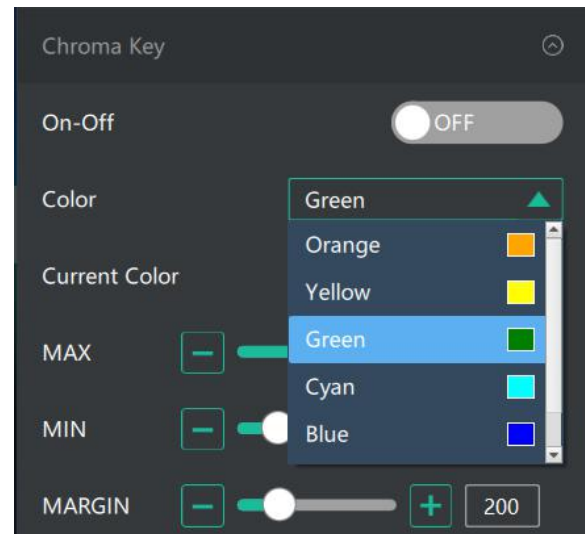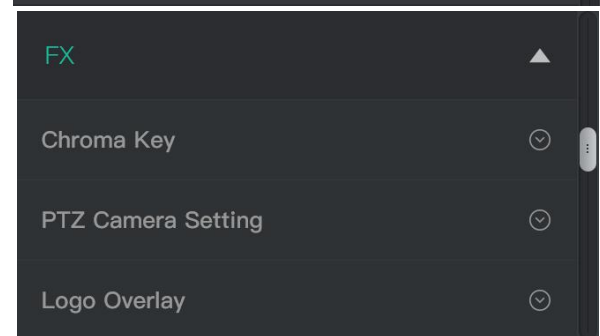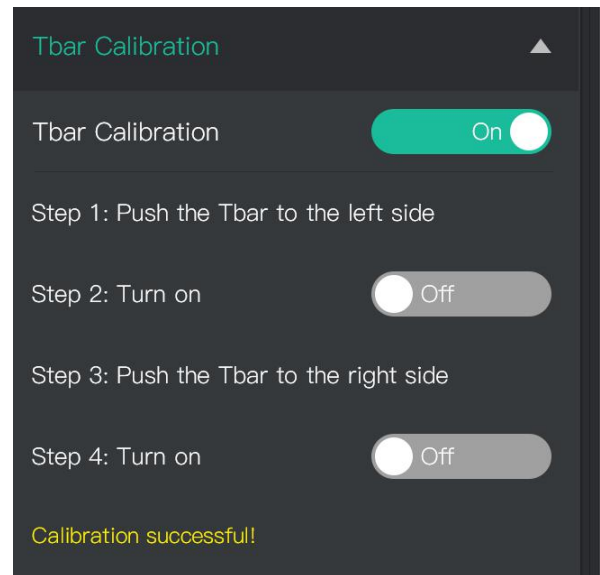
2.adjust color MAX, MIN and MARGIN. You can click in the MAX MIN MARGIN data input box to achieve a more precise keying effect.

Note: When using chroma key, make sure that the layer you want to edit is on the top layer, which is the B layer in the PIP setting, otherwise you may not see the chromakey effect.
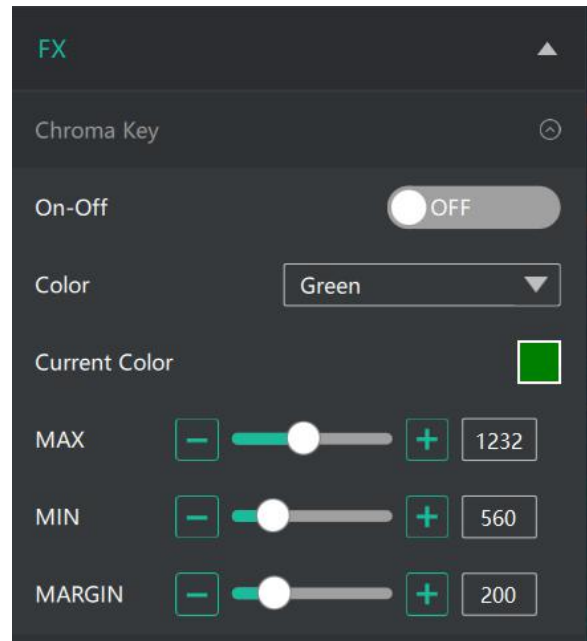
PTZ Camera Setting

When controlling the PTZ camera, the computer, mini + and PTZ camera should be in the same network segment.

1. Set the corresponding communication port on the PTZ camera, such as VISCA or UDP port 1259.
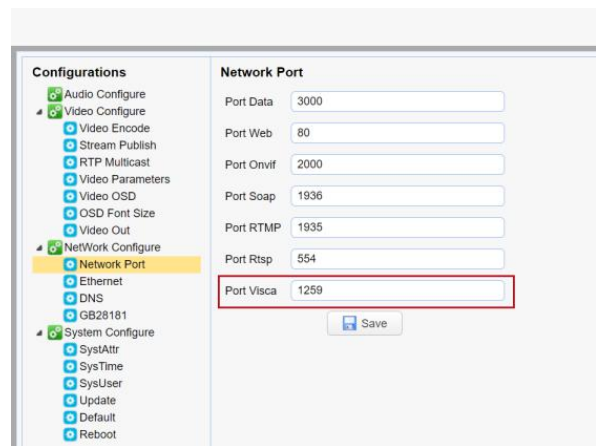
2. Set both old IP and new IP to the camera IP address you want to control,the corresponding communication port to 1259 on mini+, configuration path: M(Menu)→FX→PTZ Camera Setting Port on the control software of mini+.
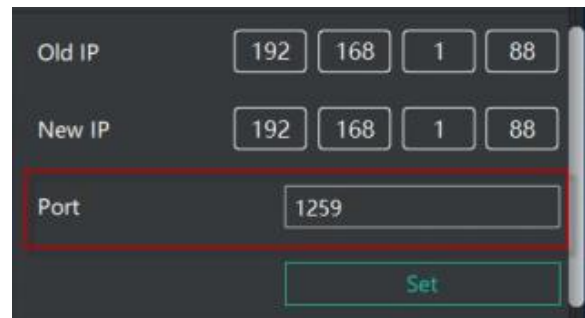
3. After IP address setting,turn on "Enable" and you can control PTZ camera.

You can click [+] and [–] to set camera to zoom and focus.Turn on "Auto",the camera will zoom and focus automatically.
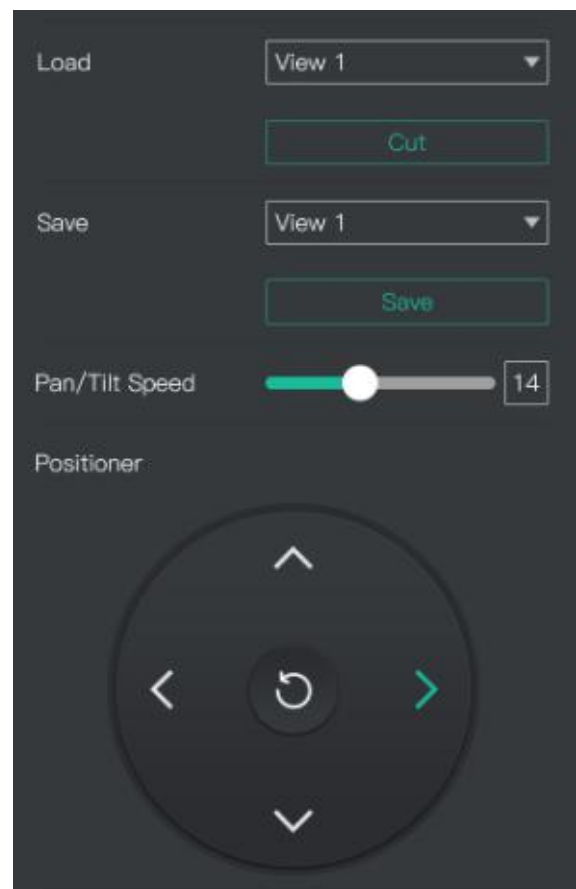
You can slide [   ] to set brightness.

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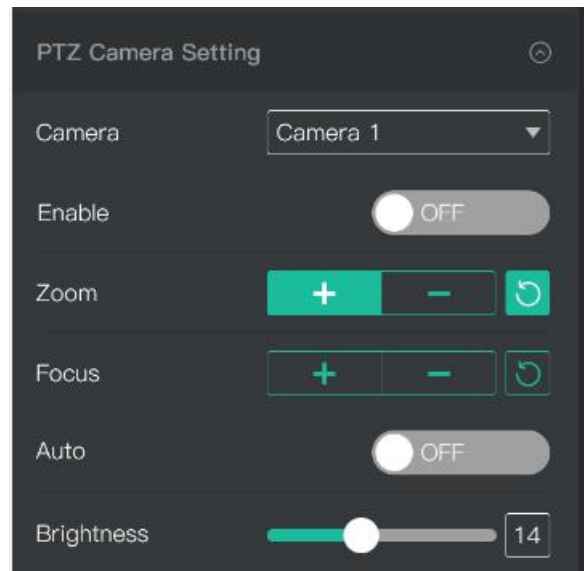
You can also slide to set Pan/Tilt speed of camera.

Click to set camera's rotation position.

Logo Overlay

If it is your first time to use Logo Over lay, please **connect mini+ to your computer**, and make sure that IP address of both are in the **same** network segment.

1. Select a picture as the Logo.

Note: The format of the LOGO image should be BMP 24 bits, and the image size should be within 256*128 pixels.

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2. Click "ColorPicker" and select color you want to **filter** in the LOGO picture,and current color can be seen below.

3. Turn on"Transparent Switch",the filtered color will disappear in the LOGO picture.

4. Click "Logo Generated","upgrading"will be seen in the TFT screen of mini+,and the Logo picture will be imported in.

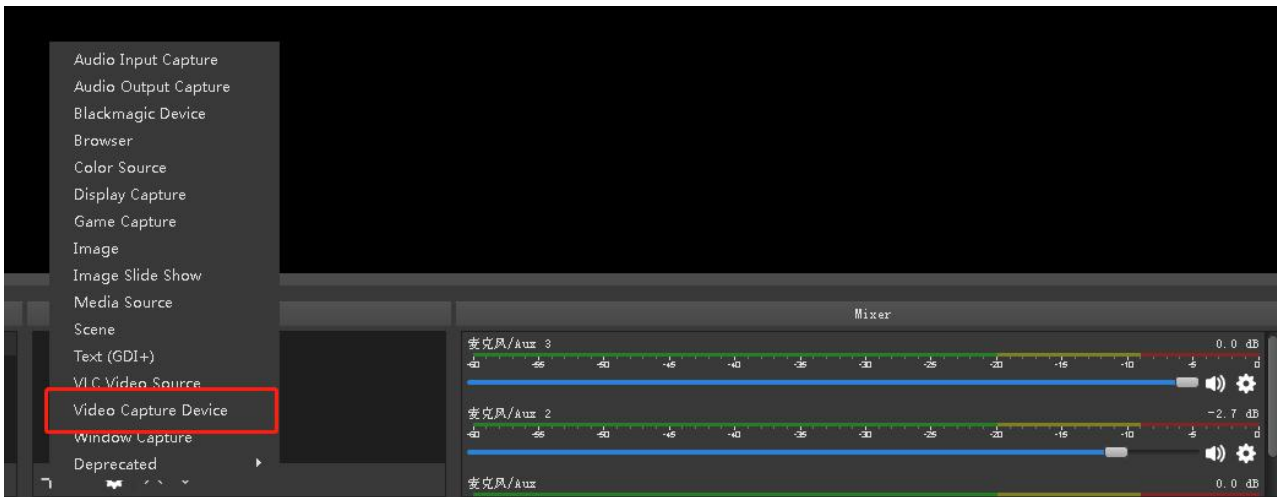5. Turn on"On-Off",and slide ▭▬○▬▭ to set camera "X" and "Y" position. Click Set and confirm.
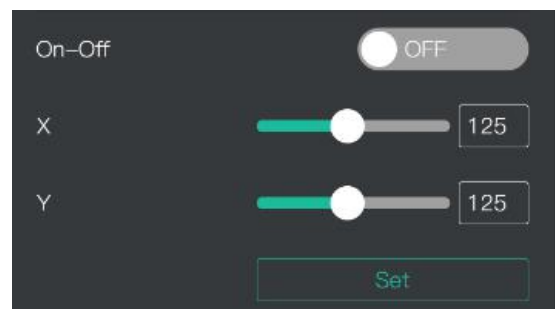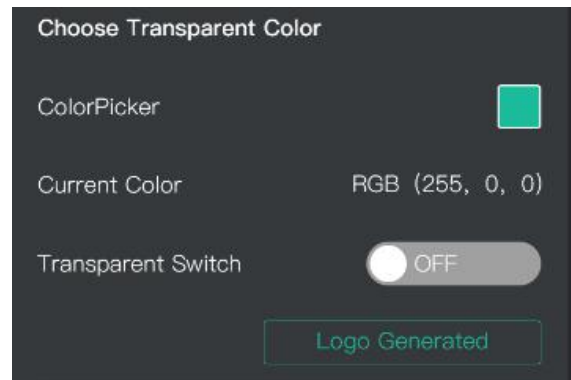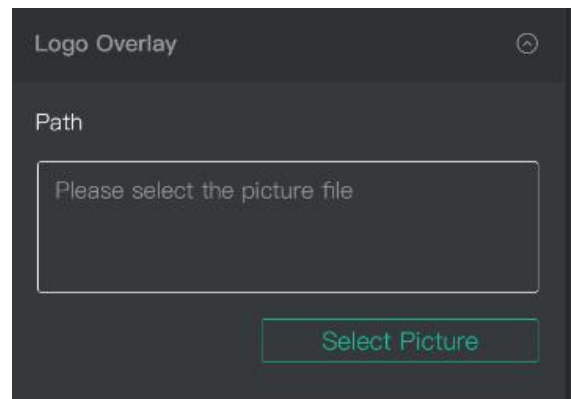
OBS Streaming

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.
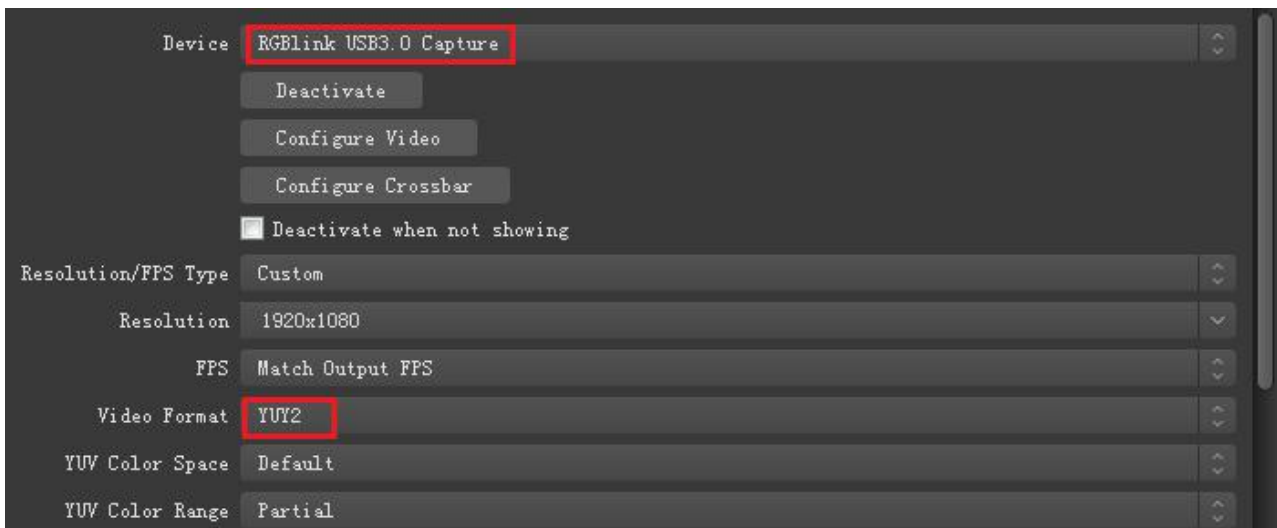
1.Click"+"icon

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

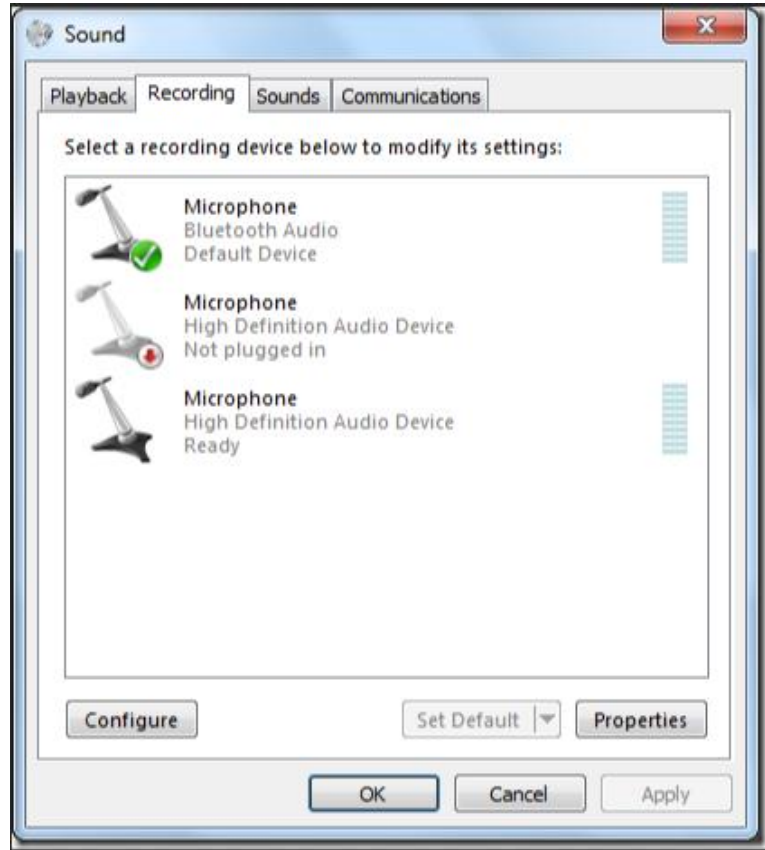linked to USB 3.0port on PC by USB 3.0 cable. (USB 3.0 cable or port is standard in blue while USB 2.0 is in black)

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

Audio Setting

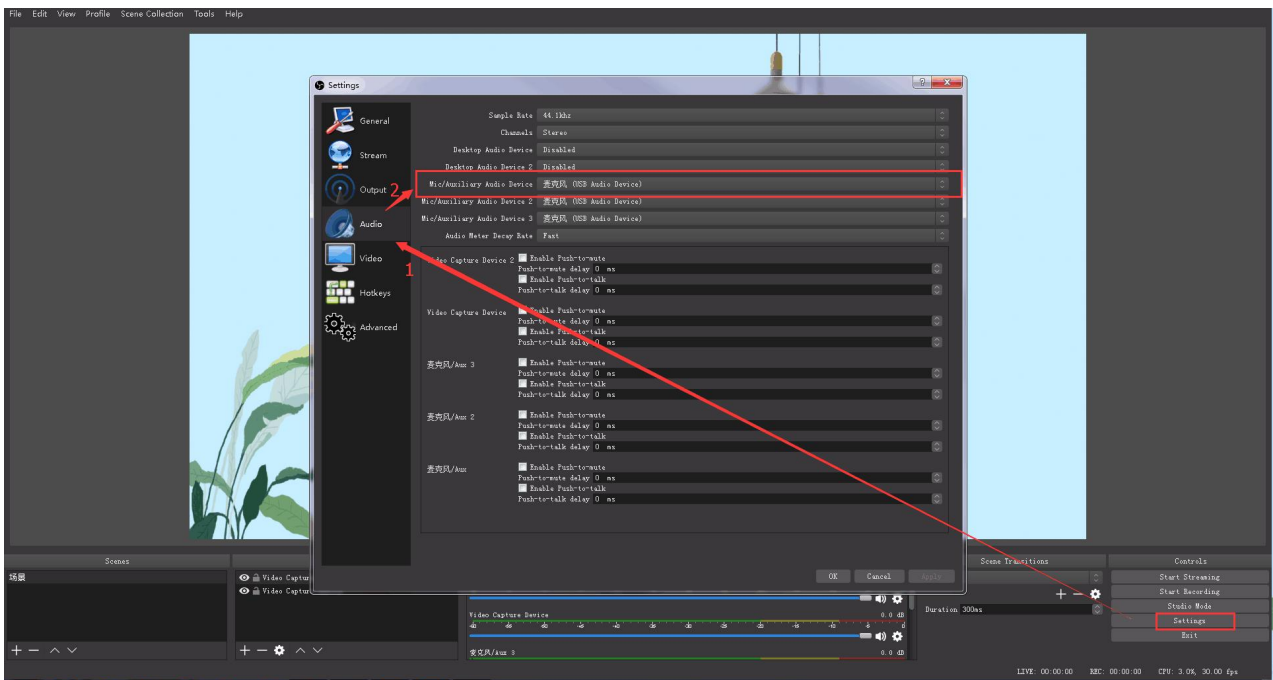When there is no audio playing first check the video source see if the it is set in default value and then check the

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.
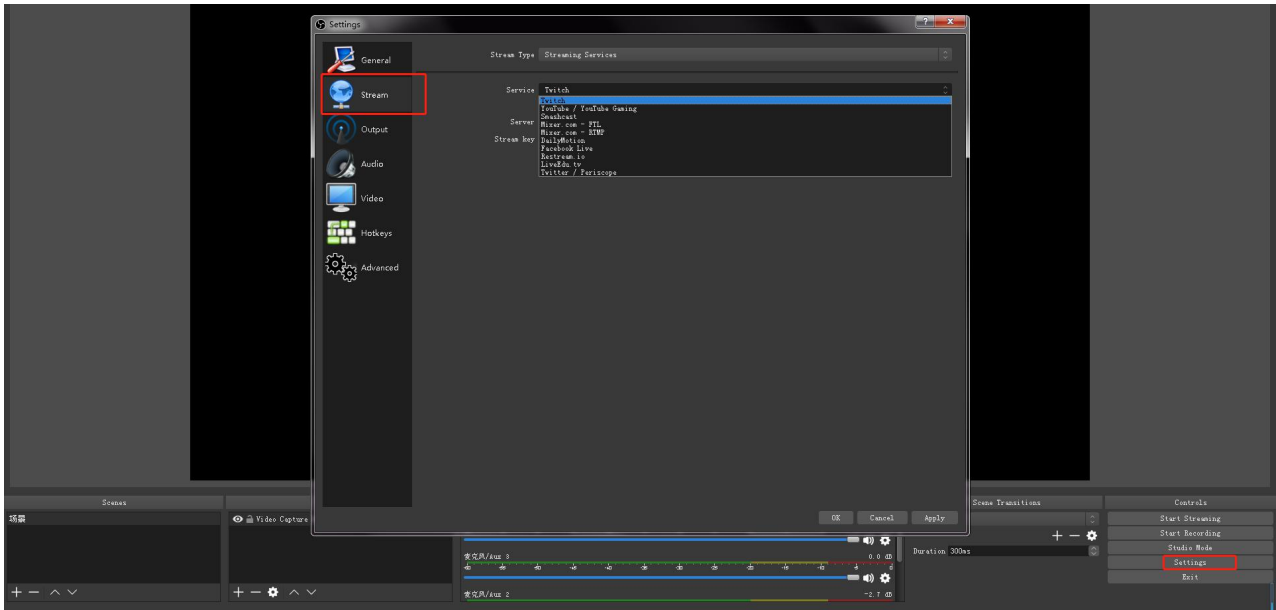
If choose Custom Service, just fill in URL and Stream Key.
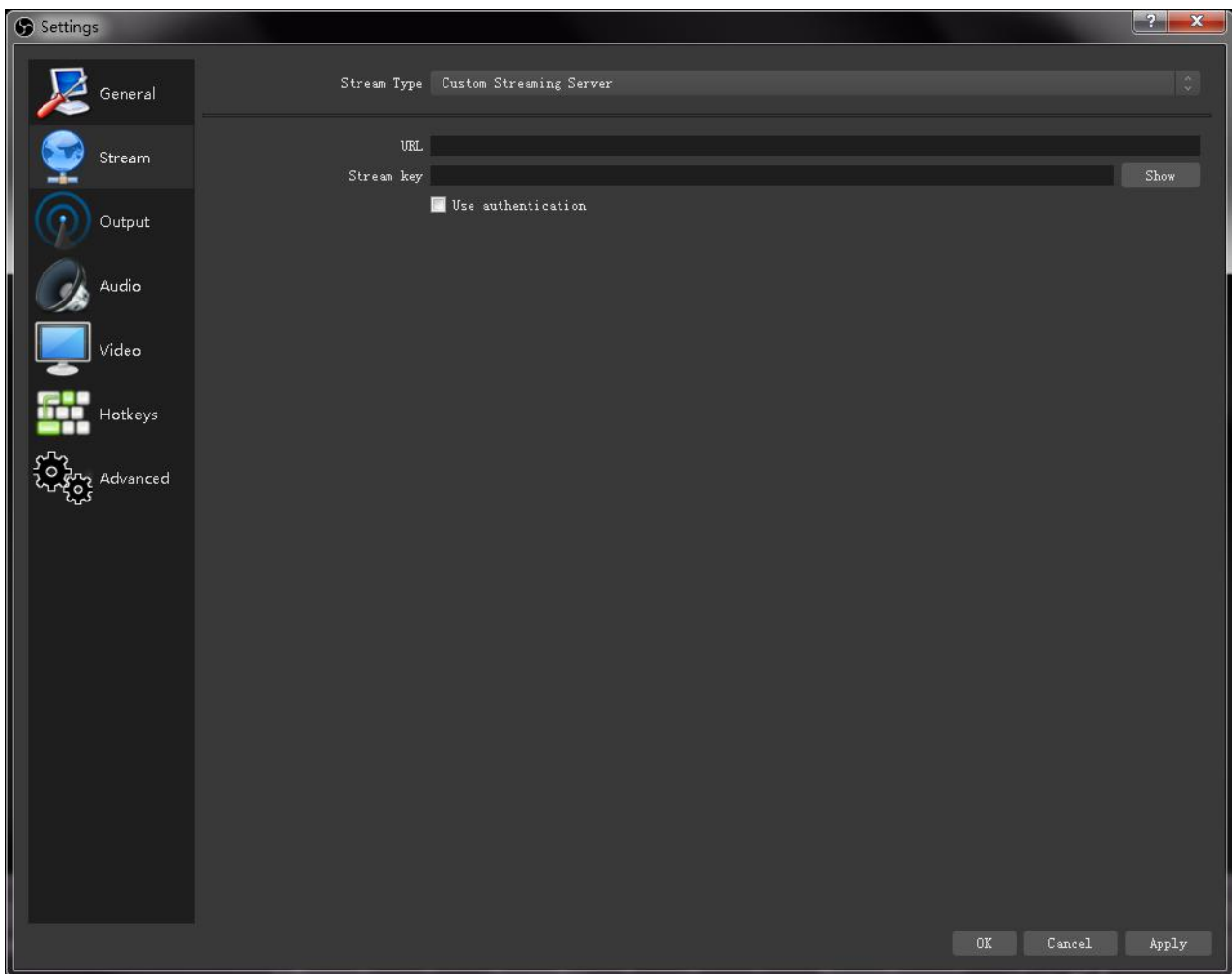
4. Paste the RMTP URL to Server or URL and Stream Key to Stream Key.
5. Click "Start Streaming".
6. Go back to live broadcast website and check the broadcasting.

Upgrade

1.Tools：

- Firmware ZIP upgrade package
- XTOOL (V1.0.1.10 or higher) -packaged in the ZIP

- Computer with network connection
  - Windows (minimum Win 7, Win 10 recommended)
 - macOS (minimum 10.13 High Sierra)

2.Upgrade

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

2.2 Ensure that your computer is on the same network as the mini. The default IP address of mini is 192.168.0.99, in which case your computers IP address should be in the range 192.168.0.xxx (xxx cannot be the same as mini or other device on the network) to enable connection between the mini and your computer.
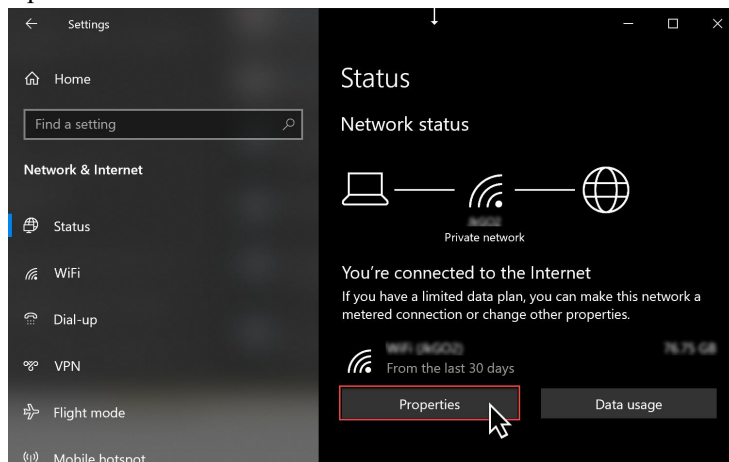
Check IP of PC：

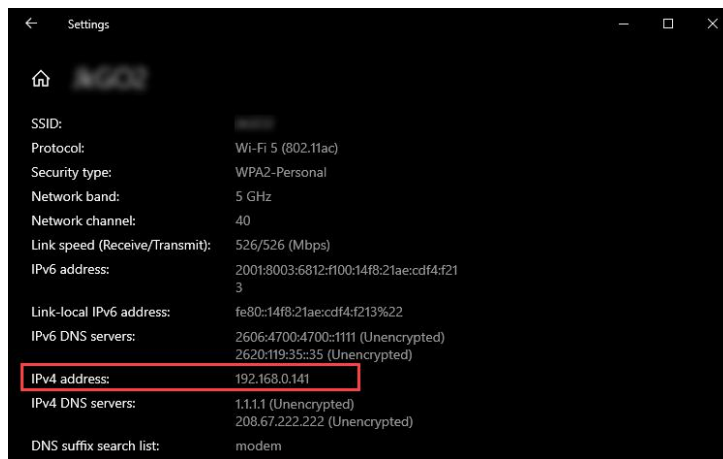Step 1. Press [⊞]＋[R] keys together to open the Command Prompt

Step 2. In the dialog type: ms-settings:network-status
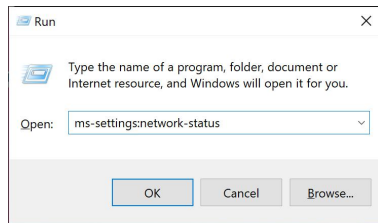
Step 3. Click on the Properties button

Step 4. Scroll down to find your IP address

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 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.

Install XTOOL App

Step 1. Extract the Firmware ZIP package into a folder

Step 2. Navigate to the **/Upgrade Tool/XTOOL** folder

Step 3. Right mouse-click the XTOOL Soft Setup and *Run as Administrator* [Windows]

Step 3. Follow the Setup Wizard to install all the components. There will be multiple Dialog windows pop-up for installing the necessary components (*refer XTOOL Installation Guide*)

If the XTOOL app has been installed previously, use the **Modify** option to complete the setup.

XTOOL is a universal updater application for RGBlink products, as such has a number of features in support of the full range of RGBlink devices that are not utilised for mini updates in this guide

1. Upgrade

   Open the XTOOL app with *Run as Administrator* [Windows]

   **Connect to mini**

   Step 1. Click on **Connection**
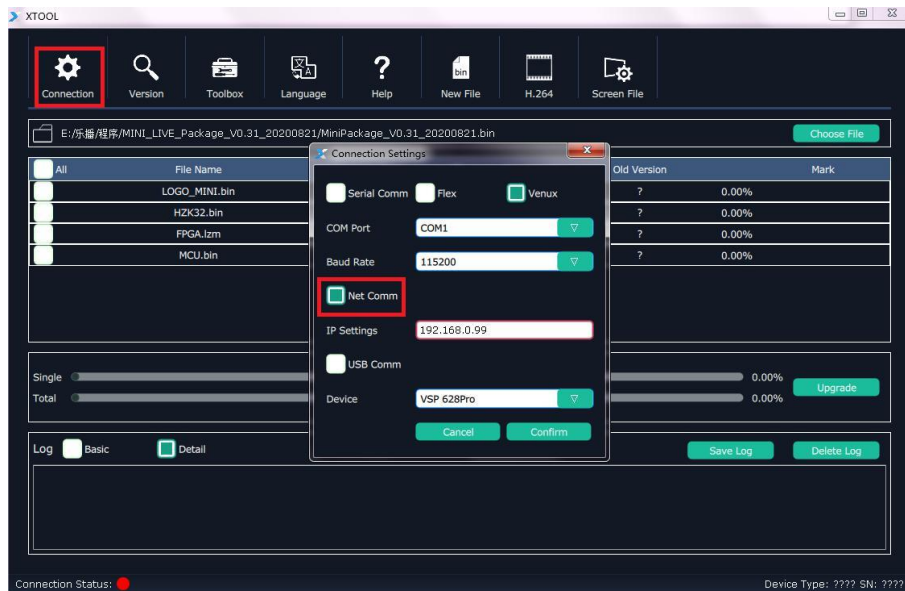
Step 2. check the **Net Comm** option box

Step 3. enter the IP Address of the mini (as example above, default mini IP is 192.168.0.99)

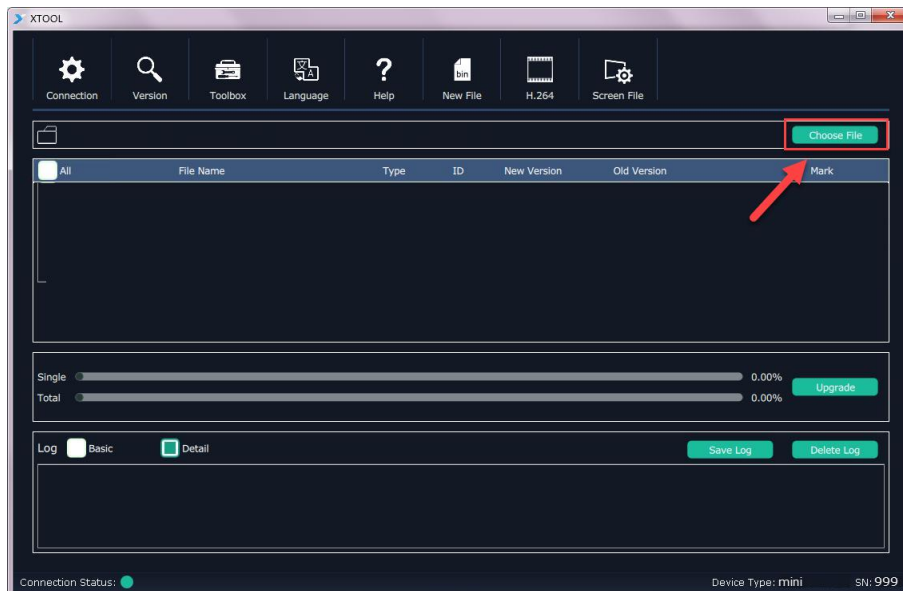remember computer and mini MUST be on the same subnet

Step 4. click **Confirm**

Step 5.Review Connection Status at bottom left, to confirm indicator light is green and there is device information showing at bottom right
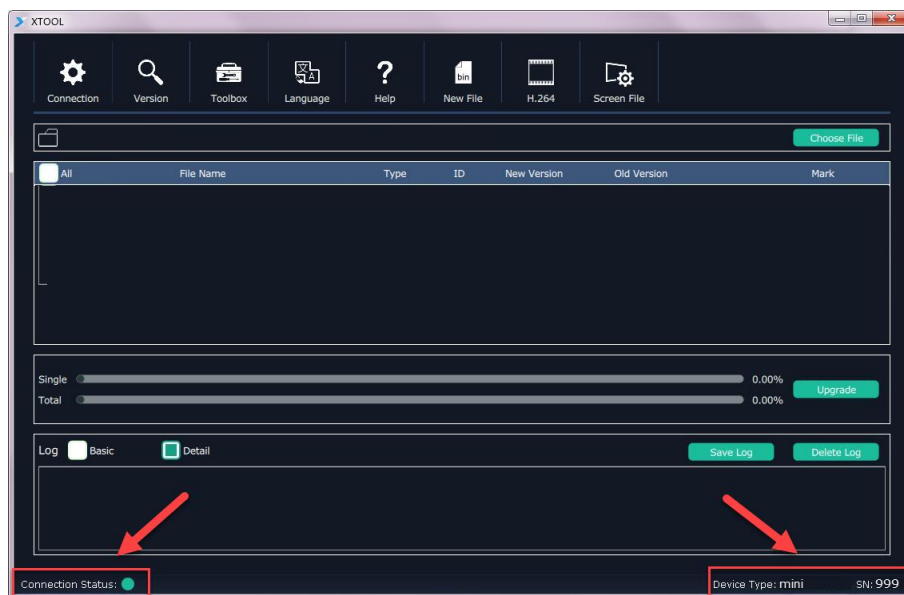
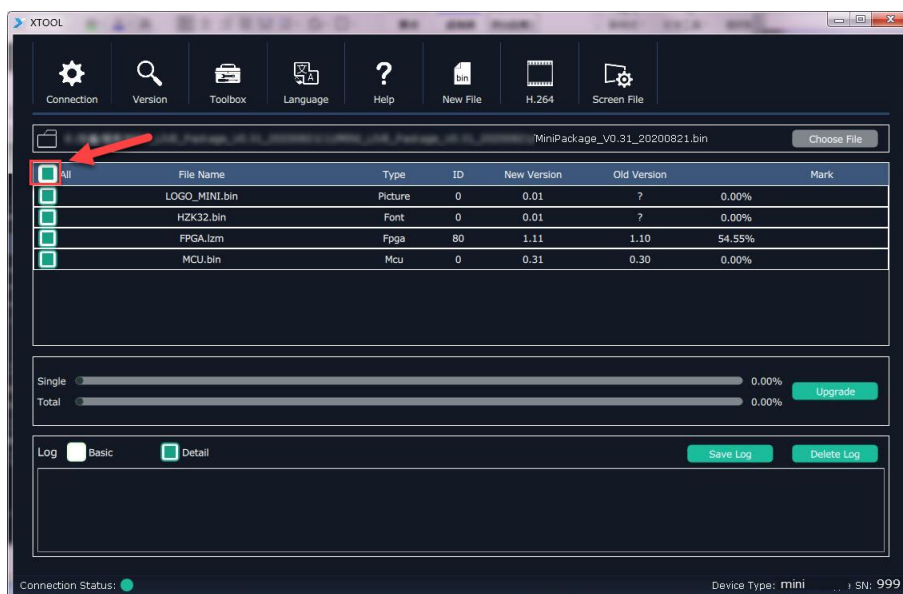**Load the Firmware Update File**

Step 1. Click Choose File

Step 2. Navigate to the package folder and select the MiniPackage .bin file
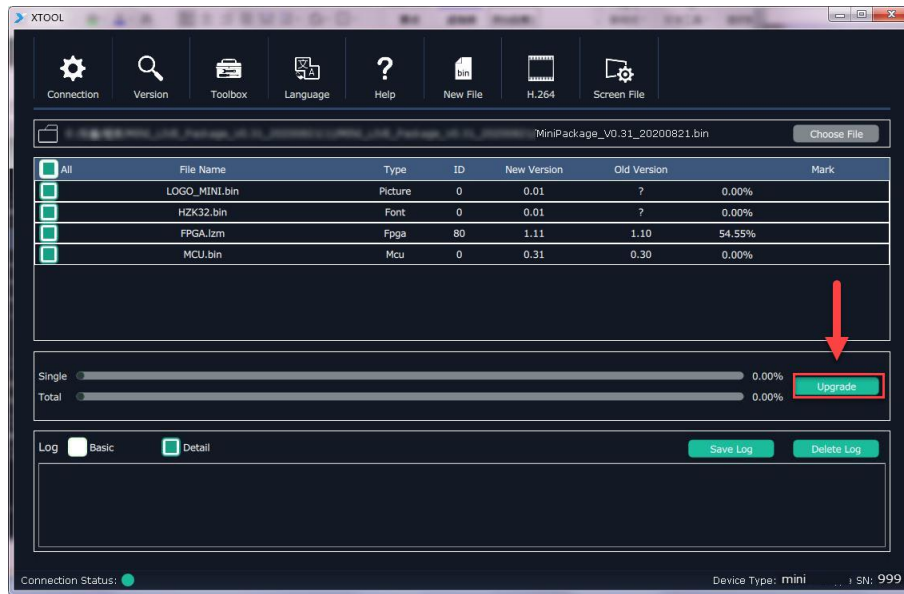
Set Components to Update

Click the Select All check box which will enable all components to be updated to the latest versions
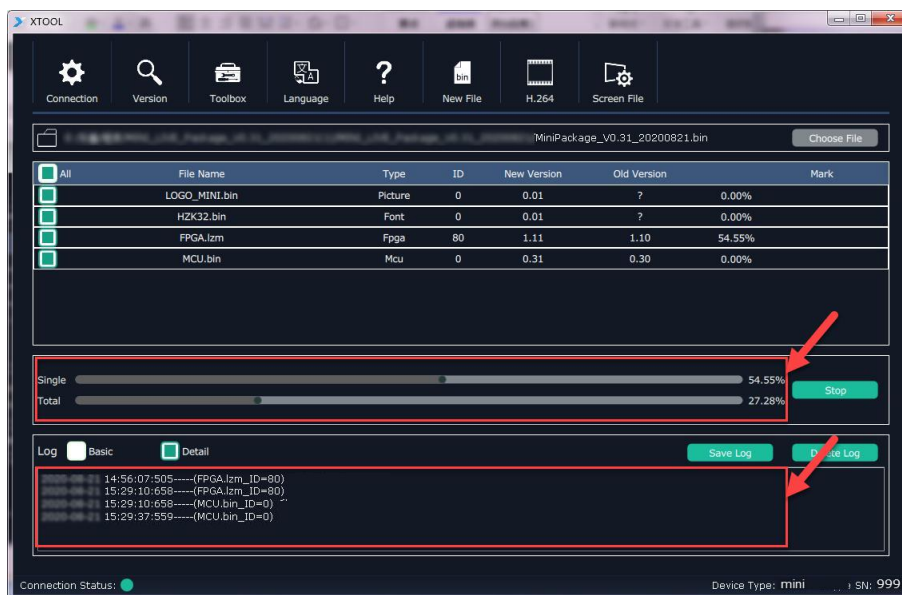
Advanced updating allows single component upgrading
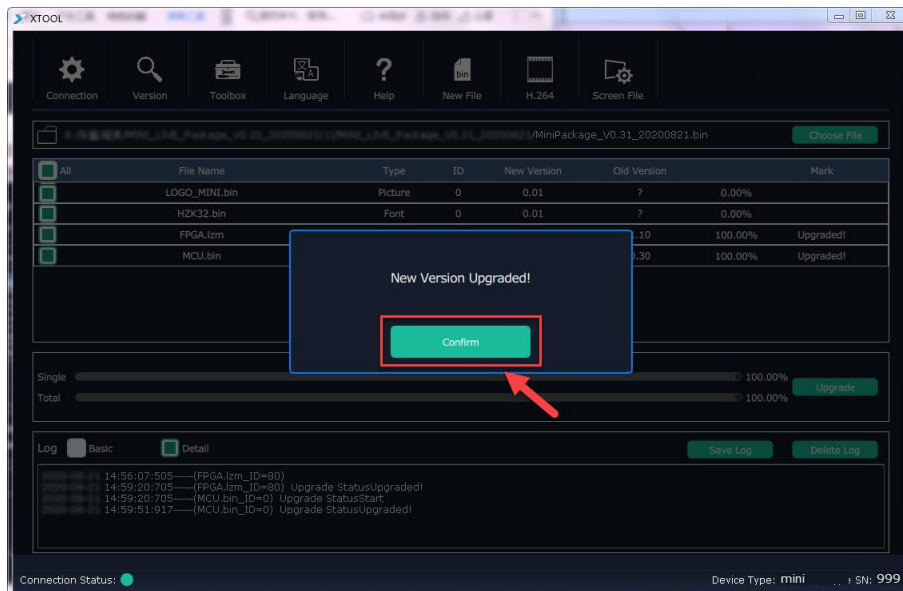

Upgrade

Step 1. Click **Upgrade**
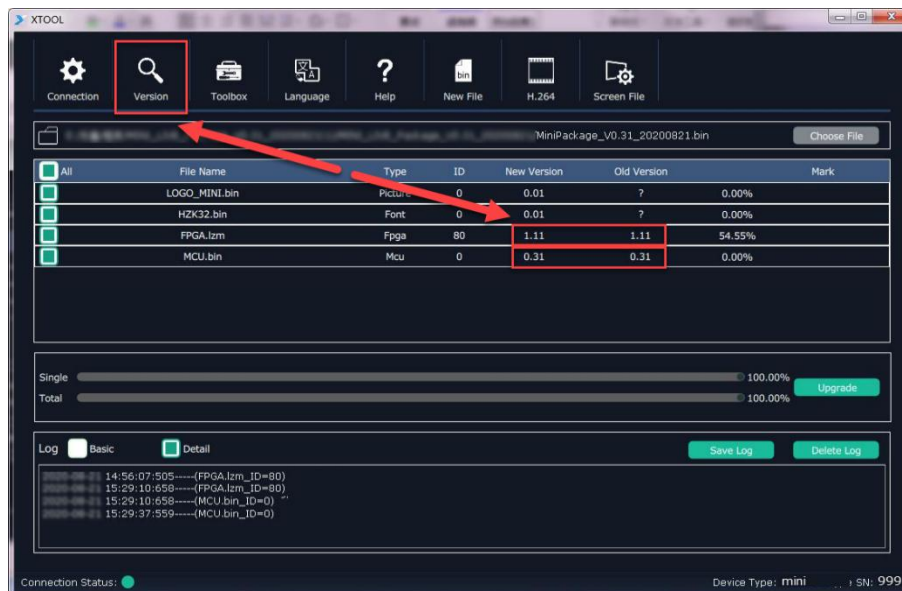

Step 2. Monitor the progress

DO NOT DISCONNECT OR POWER DOWN while updating

Step 2. Following update click **Confirm** in the pop-up window

Step 3. Click Version to refresh, then review the main window to confirm upgrade versions now match

<u>Finish</u>

Step 1. Close XTOOL

Step 2. Disconnect mini

Step 3. mini is now upgraded and ready to use

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.

Headquarter: S601~609 Weiye Building Torch Hi-Tech Industrial Development Zone Xiamen, Fujian Province, P.R.C

- **Tel:** +86-592-5771197
- **Fax:** +86-592-5788216
- **Customer Hotline:** 4008-592-315
- **Web:**
    - ~ http://www.rgblink.com
    - ~ http://www.rgblink.cn
- **E-mail:** support@rgblink.com