

**3D180VR**

**Controller User Manual**

# Table of Contents

## 1. Product Function Overview

### a) Function Description

## 2. Operating Environment

## 3. Page function introduction

### a) Page Structure

### b)Function list

## 4. Instructions for use

### a) Device connection

### b) Shooting Mode Selection

### c) Basic Settings

### d) Parameter Settings

### e) Picture Settings

### f) Shooting Preview

### g) Shooting Start/Stop

### h) Material Review

### i) Media Management

### j) Menu Functions

## 1. Product Function Overview

TECHE BinocularCenter is the companion software for the Teche 3D180VR camera. It allows users to control the 3D180VR camera for video recording, photo capturing, time-lapse photography, and live streaming wirelessly or through a wired connection. The software enables users to adjust technical parameters of the camera and manage the captured media. This facilitates users in capturing high-definition VR photos, videos, and live streams more conveniently and efficiently using the 3D180VR camera.

## 2. Operating Environment (can support no graphics card operation, does not support media playback function)

Hardware	System Requirements
CPU	Intel Core i7 or higher-tier CPU
Memory	8G
Graphics Card	GTX 1060
Graphics Memory	8G
Operating System	Windows10 64-bit operating system or higher

### **3. Page function introduction**

#### **a)Page Structure**

After connecting the camera, the system will navigate to the controller operation page, which consists of the following parts:

Menu bar - used to select the system language, IP address information, etc.

#### **b) Function list:**

Camera Information Area - Displays the basic information of the currently connected camera.

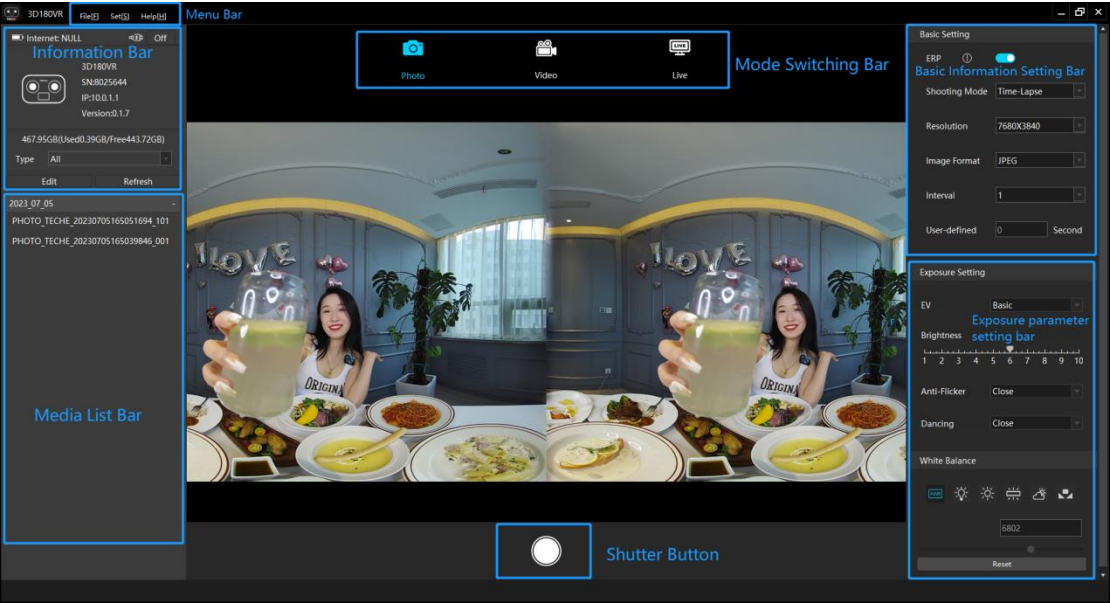
Media Management Area - Selects media for playback, downloads, or deletes media.

Mode Control Area - Switches between camera modes such as photo, video, and others.

Preview and Playback Area - Allows real-time preview of the current shooting environment and adjustment of parameter effects, it can also display a composite image of previously captured footage.

Shooting Control - Controls the start and stop of shooting.

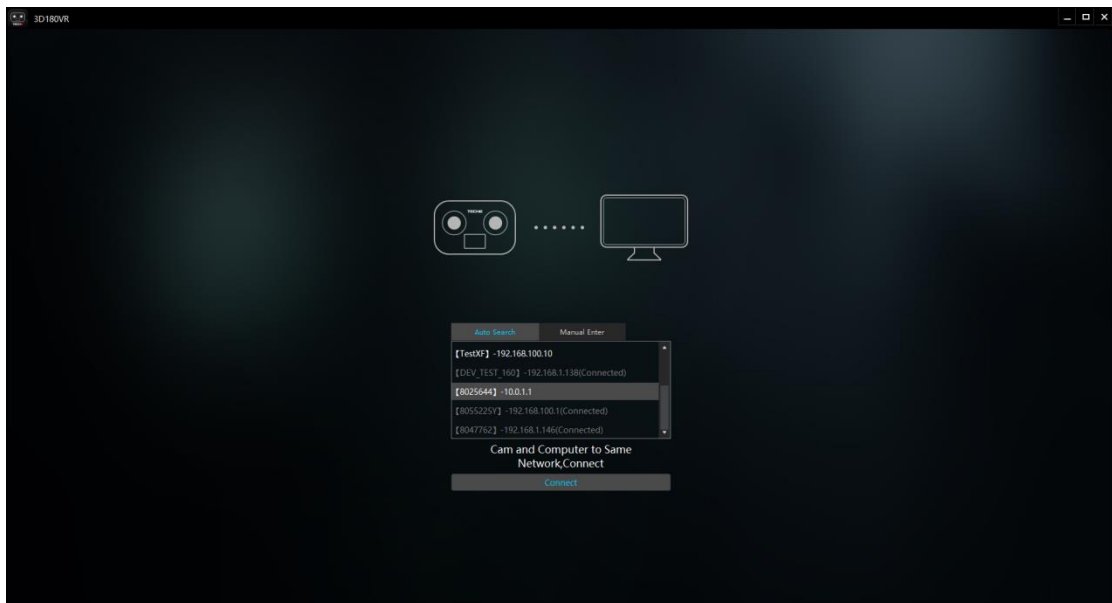
Parameter Settings - Adjusts camera settings such as shooting content resolution, exposure compensation, and other parameters.



## 4. Instructions for use

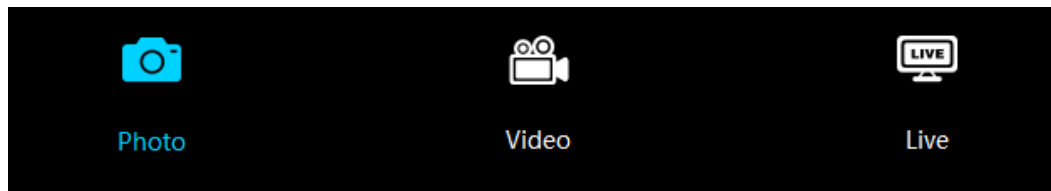
### a) Device connection:

- 1) When running the controller program, connect the camera and the computer running the program to the same network. The controller will now display the detected devices.
- 2) Select the device you want to connect and click the "Connect" button. After the system establishes a connection with the camera successfully, it will enter the main page.



### b) Shooting Mode Selection:

The camera supports three shooting modes: photo taking, video recording, and live streaming. For photo capture, you can choose between single shot or automatic burst. In the camera mode, you can choose single shooting or continuous shooting mode in the parameter settings. Users can adjust these settings according to their shooting needs.



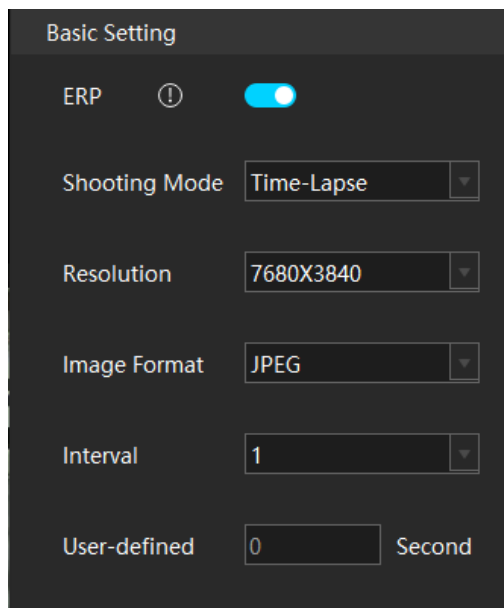
- 1) Camera Photo Mode: In this mode, you can use the camera to take pictures. When this mode is selected, the photo capture icon will turn blue and the settings area for photo capture will be activated. You can take a single shot or enable automatic burst shooting.
- 2) Video Recording Mode: In this mode, you can use the camera for HD video recording. When this mode is selected, the video recording icon will turn blue and the settings area for video recording will be activated.
- 3) Live Streaming Mode: In this mode, you can use the camera for high-definition video live broadcast. After selecting this mode, the live icon will turn blue and the live setting area will be activated.

### **c) BasicSettings:**

Users can configure photo, video and live broadcast parameters according to their specific needs. Certain settings will provide real-time feedback on the preview screen.

### **d) Parameter Settings:**

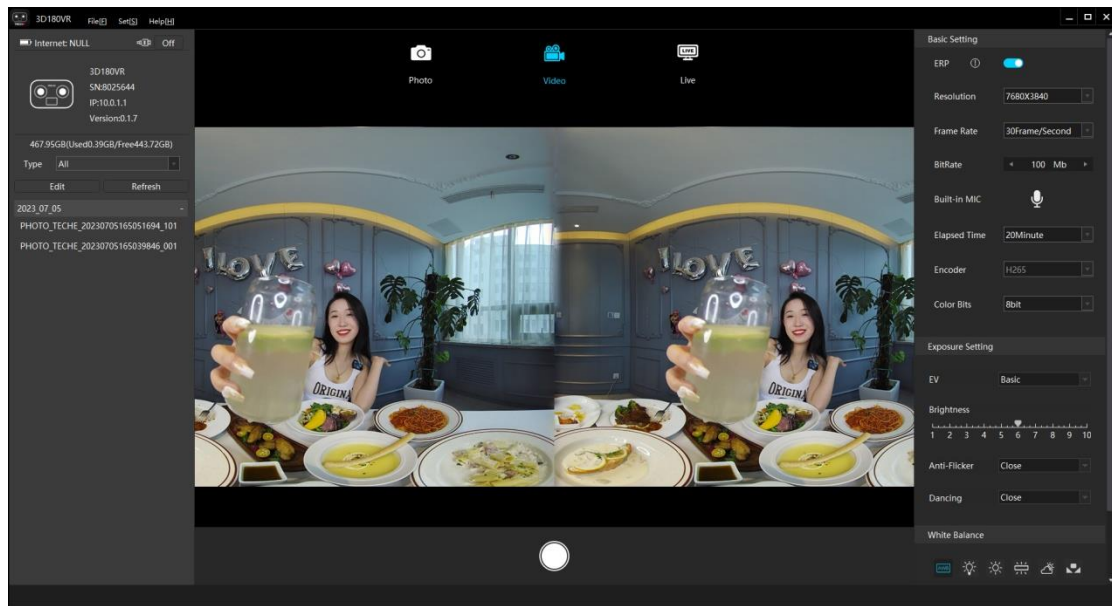
I ) Photo parameter settings



- 1) Shooting Mode: There are two modes available - Normal Mode and Burst Mode. In normal mode, users can manually select the timing of taking pictures according to their needs. In burst mode, the camera automatically takes photos at regular intervals according to the frequency selected by the user.
- 2) In-camera splicing extension: Set whether to perform ERP conversion on the captured material.
- 3) Image format: JPEG.
- 4) Resolution: Sets the resolution for capturing photos with the camera. External unfolding has only 8k resolution, while internal unfolding allows for selecting between 4k and 8k.  
Image (Internal ERP) Resolution: 7680x3840  
Image (Dual Fisheye) Resolution: 7296x3648
- 5) Capture Frequency: This setting is activated when the mode is set to Automatic Capture. Under Burst mode, options include 1s/shot, 3s/shot, 5s/shot, and custom time intervals with a maximum setting of 1200s/shot.

## II) Video Parameter Settings:





- 1) In-camera splicing extension: Set whether to perform ERP conversion on the captured material.
- 2) Resolution and frame rate: 8K 30FPS outside the camera, 4K 30FPS and 8K 30FPS inside the camera.  
Video (Internal ERP) Resolution: 7680x3840  
Video (Dual Fisheye) Resolution: 7296x3648
- 3) Bitrate: Can be set to 100 Mbps for the outer spread, selectable between 1 and 100 Mbps for the inner spread.
- 4) Volume: Can be set to mute or unmute.
- 5) Shooting segment time: set the time length of a single video file. Currently there are five options: 10 minutes, 20 minutes, 30 minutes, 60 minutes, no segment. Users can choose according to their needs.
- 6) Encoding Format: Both internal and external modes currently support only H.265.
- 7) Color Depth: 8-bit; 10-bit
- 8) Audio Encoding: AAC
- 9) Audio Sampling Rate: 48kHz

## Basic Setting

ERP



Resolution

7680X3840



Frame Rate

30Frame/Second



BitRate



100 Mb



Built-in MIC



Elapsed Time

20Minute



Encoder

H265

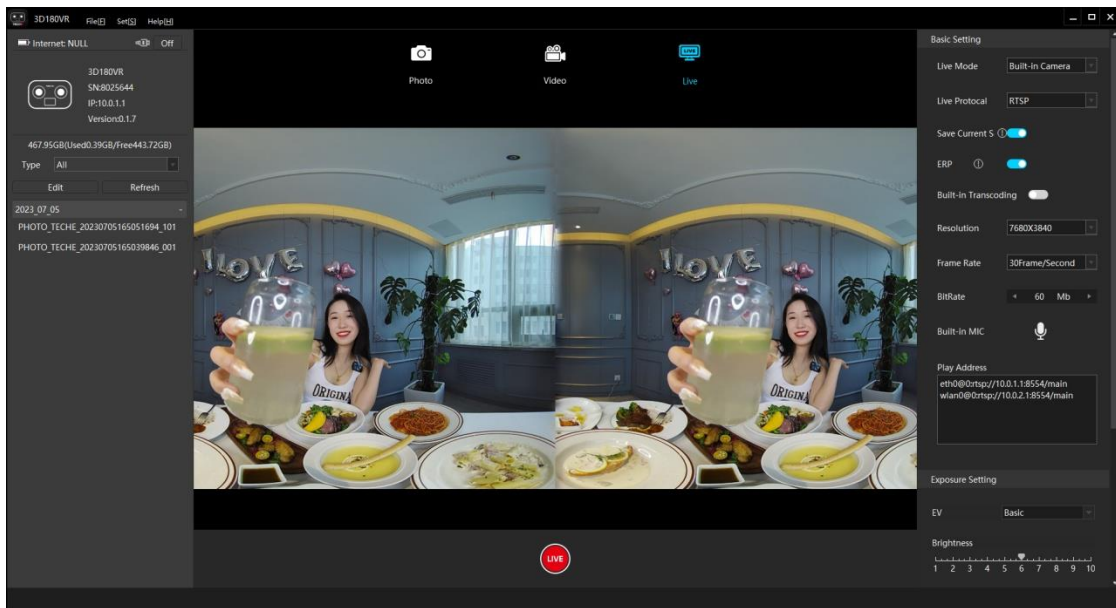


Color Bits

8bit



### III) Live Streaming Parameter Settings:



- 1) In-camera splicing extension: Set whether to perform ERP conversion on the captured material.
- 2) Live Streaming Protocol: Currently supports RTMP, RTSP, and SRT.
- 3) Save Live Streaming Status: Automatically save the original state settings.
- 4) Whether to enable in-camera transcoding: After enabling it, it can be divided into main stream and sub stream to realize dual stream live broadcast.
- 5) Live Streaming Mode: You can stream directly from the camera or use the controller for projection transformation before streaming (for future advanced feature support).

6) Resolution: 8K (20, 30FPS), 4K (30FPS)

Internal Live Streaming (ERP) Resolution, Frame Rate:

7680x3840, 20FPS/30FPS

Internal Live Streaming (Dual Fisheye) Resolution, Frame Rate:

7296x3648

- 7) Bitrate: Adjusts the output bitrate of the live streaming video, ranging from 1 to 100 Mbps. Choose an appropriate value based on the actual network bandwidth. (SRT: 40 Mbps)
- 8) Volume: Can be set to mute or unmute.
- 9) RTMP Streaming Address: Sets the RTMP server address. The controller will push the video stream from the camera to the configured server, and viewers can watch it using the playback address provided by the live streaming platform.
- 10) RTSP: When the live streaming protocol is set to RTSP, three playback addresses will be automatically obtained: the camera's fixed IP playback address, the camera's automatically obtained IP playback address, and the camera's WiFi IP playback address. You can input the corresponding address in the player to watch the live stream.
- 11) SRT: By setting the camera to use the SRT protocol, it is possible to reduce the latency to around 1 second. Input the standard SRT streaming protocol, and the controller will push the camera's video stream to the server. Viewers can then watch the live stream using the playback address provided by the live streaming platform.
- 12) HDMI: After switching the viewing device to HDMI, connect one end of the HDMI cable to the bottom of the camera and the other end to the terminal device. When the camera is in live streaming mode, you can preview 2K (2:1/16:9) and 4K (2:1/16:9) panoramic live streaming videos through HDMI.
- 13) Internal Transcoding: Enabling the transcoding feature allows simultaneous output of two live streaming streams. It provides settings for the sub-stream, such as resolution, bitrate, and streaming address.

14) Encoding Format: H.265 or H264

Basic Setting

Live Mode

Built-in Camera

Live Protocal

RTMP

Save Current S

ERP

Built-in Transcoding

Resolution

7680X3840

Frame Rate

30Frame/Second

BitRate

60

Mb

Encoder

H.264

Built-in MIC

Basic Setting

Live Mode

Built-in Camera

Live Protocal

HDMI

Save Current S

ERP

Resolution

1920X1080

3840X1920

3840X2160

1920X960

1920X1080

Frame Rate

Built-in MIC

15) SRT Protocol Settings: After switching the camera's live streaming mode to SRT, the entered live streaming address will be displayed below.

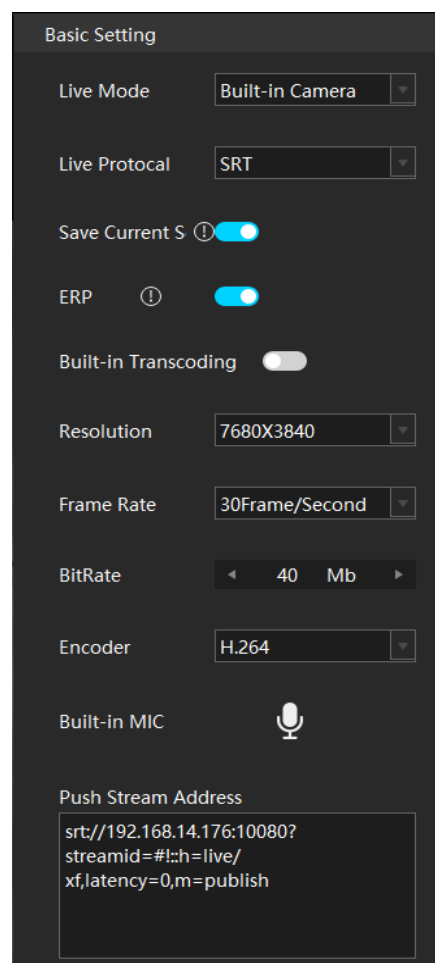
For end-to-end live streaming, you can enter the default address :

"srt://0.0.0.0:10000?mode=listener " IP remains unchanged, and the port can be freely changed to a valid port.

If you want to stream to an SRT server, the address format is as follows:

"srt://192.168.14.176:10080?streamid=#!::h=live/xf,latency=0,m=publish"

The address provided is for reference only. Please use the actual address based on your specific setup.



The image shows a 'Basic Setting' interface for configuring live streaming. It includes several settings: 'Live Mode' set to 'Built-in Camera', 'Live Protocol' set to 'SRT', 'Save Current S' and 'ERP' toggled on, 'Built-in Transcoding' toggled off, 'Resolution' set to '7680X3840', 'Frame Rate' set to '30Frame/Second', 'BitRate' set to '40 Mb', and 'Encoder' set to 'H.264'. There is also a 'Built-in MIC' icon. At the bottom, a 'Push Stream Address' field displays the SRT address: 'srt://192.168.14.176:10080?streamid=#!::h=live/xf,latency=0,m=publish'.

Basic Setting

Live Mode: Built-in Camera

Live Protocol: SRT

Save Current S: ☒

ERP: ☒


Built-in Transcoding: ☐

Resolution: 7680X3840

Frame Rate: 30Frame/Second

BitRate: 40 Mb

Encoder: H.264

Built-in MIC: 

Push Stream Address

srt://192.168.14.176:10080?  
streamid=#!::h=live/  
xf,latency=0,m=publish

## e) Picture Settings:

Exposure Settings: You can choose between Simple Mode and Advanced Mode.

### 1) Simple Mode:

Brightness Settings: Used to adjust the brightness of the camera, supporting 1-11 levels.

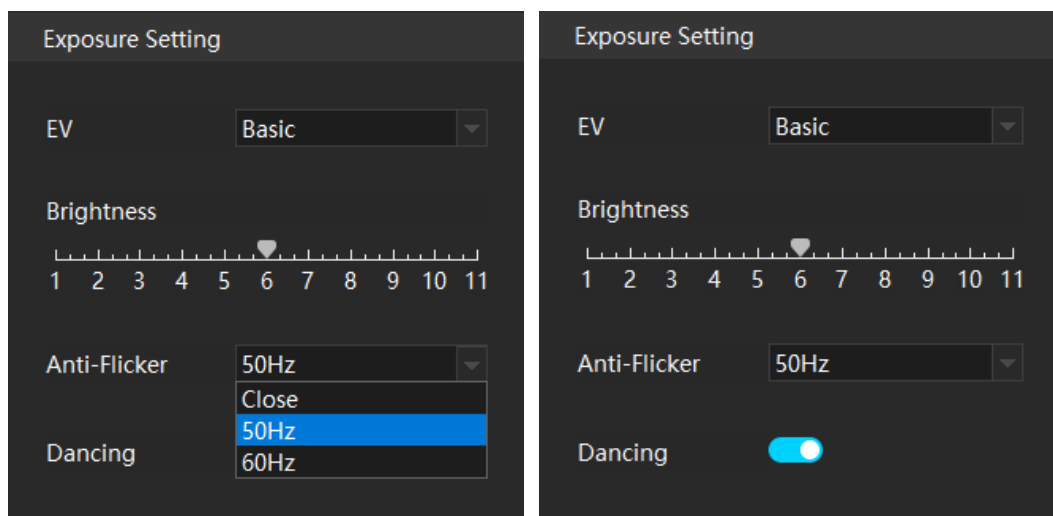
Anti-Flicker: Counteracts the shutter speed to improve shooting results in the presence of flickering lights.

①Close: Shutter speed is set to 1/30-1/8000

②50Hz: The shutter speed is set to 1/50-1/8000

③60Hz: The shutter speed is set to 1/60-1/8000

Dance Mode: on /off.Suitable for dynamic shooting to prevent motion blur caused by the subject's movement during the capture. (Similar to increasing the shutter speed).



### 2) Advanced Mode:

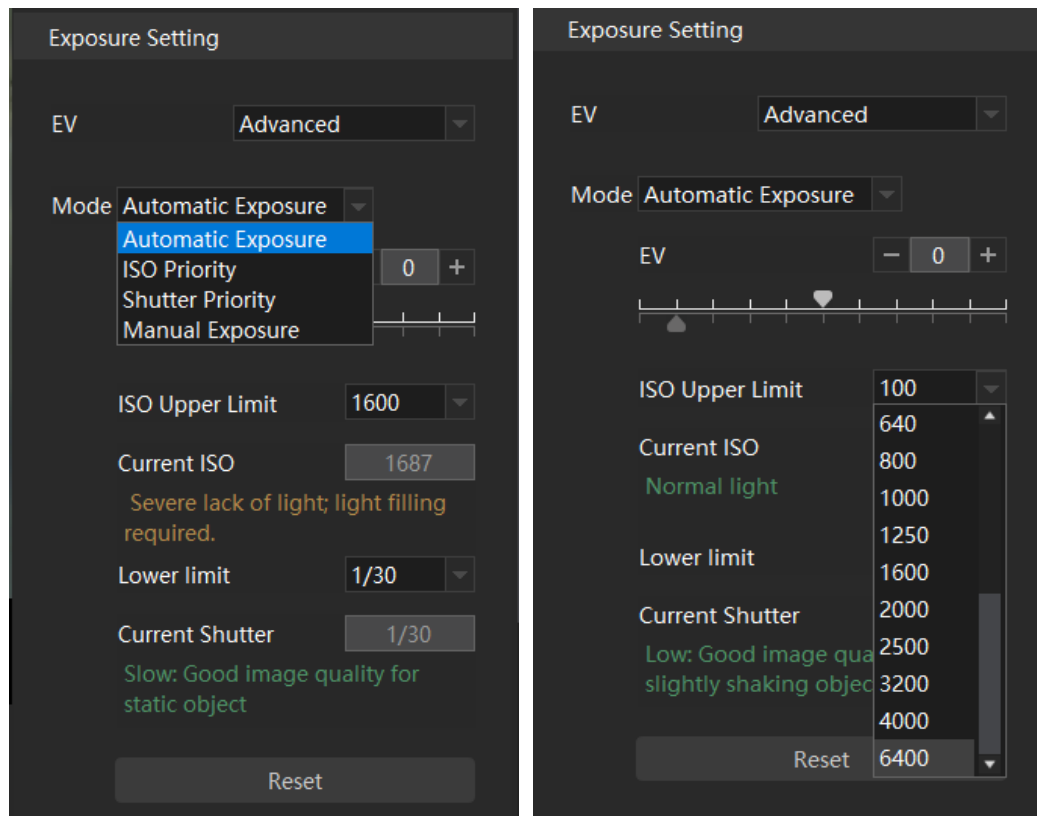
Exposure Mode: Auto Exposure / ISO Priority / Shutter Priority / Manual Exposure.

EV Value: -5 (Dark) to +5 (Bright). Adjusts the brightness

level of the image in real-time by adjusting the EV value.

ISO Upper Limit: 100 to 6400

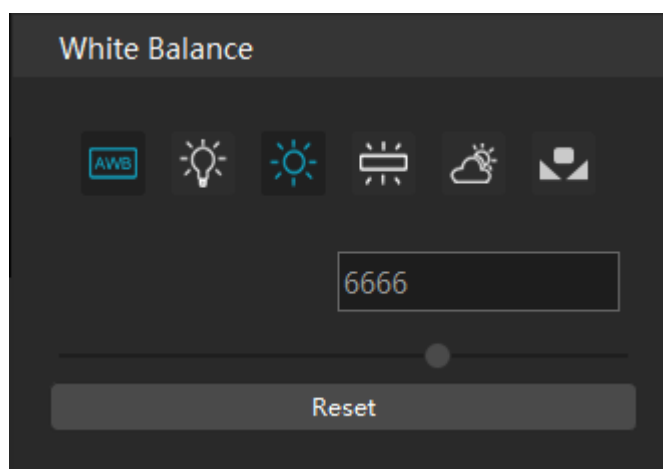
Shutter Speed: 1/30s (Slow) to 1/8000s (Fast)



### 3) White Balance Settings:

AWB Auto Mode / Incandescent Mode / Daylight Mode /

Fluorescent Mode / Cloudy Mode / Manual Mode





#### 4) Image quality adjustment:

Red gain: value range [0,100]

Green gain: value range [0,100]

Blue gain: value range [0,100]

Hue: value range [0,100]

Lightness: value range [0,100]

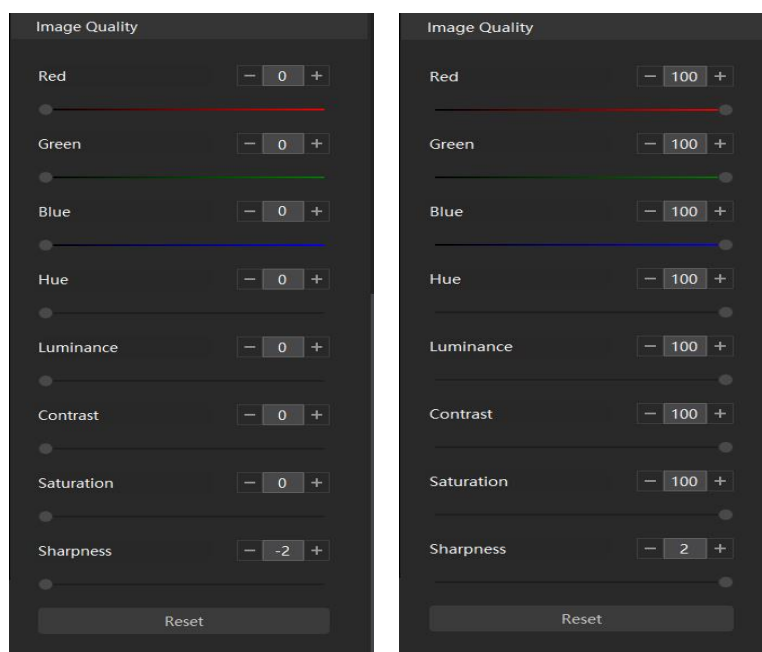
Contrast: value range [0,100]

Saturation: value range [0,100]

Noise reduction: value range [0,100]

Sharpness level: the parameter range is [-2,2]

Reset: Sets each value to default.



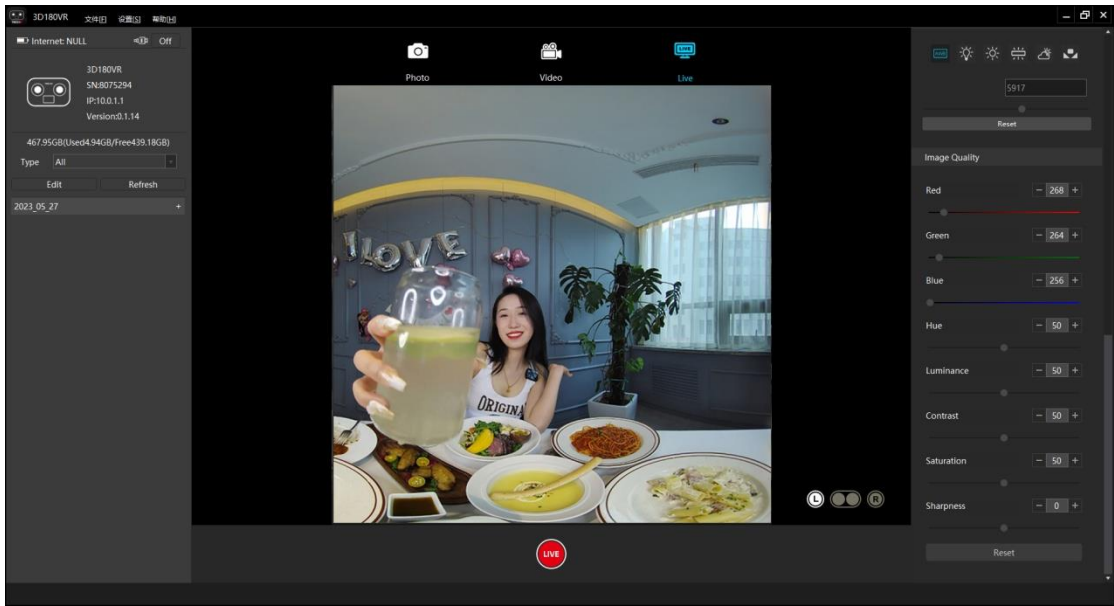
#### f) Shooting Preview:

This area displays the real-time unfolding effect of the camera's various lenses. Any modifications made to the camera's parameters are immediately reflected in this area. It allows users to conveniently adjust the camera's position, angle, and parameters with a "what you see is what you get" experience.

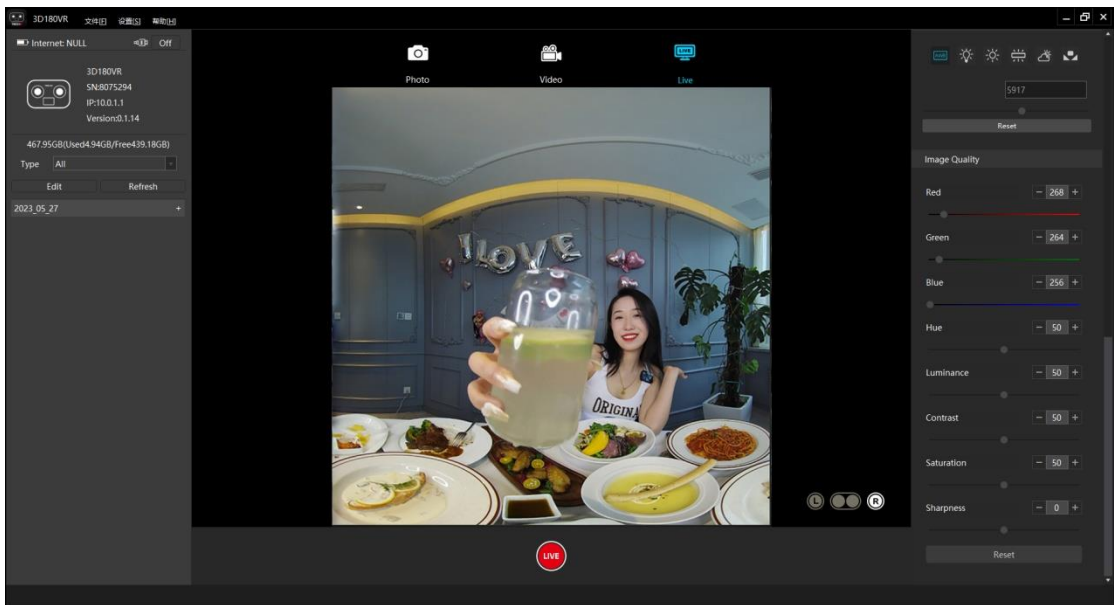
## I ) Preview effect:

- ① Add preview mode switch button on the controller page
- ② After clicking the button, the left lens, right lens and dual lens can be displayed
- ③ The controller records the customer's choice, and it will automatically be displayed according to the customer's choice when it is started next time (including mode and zoom ratio)
- ④ Support image dragging and zooming (mouse scrolling up to zoom in, scrolling down to zoom out), when switching the preview mode, the initial ratio is displayed
- ⑤ The effect picture is as follows, and the specific icon may be modified.

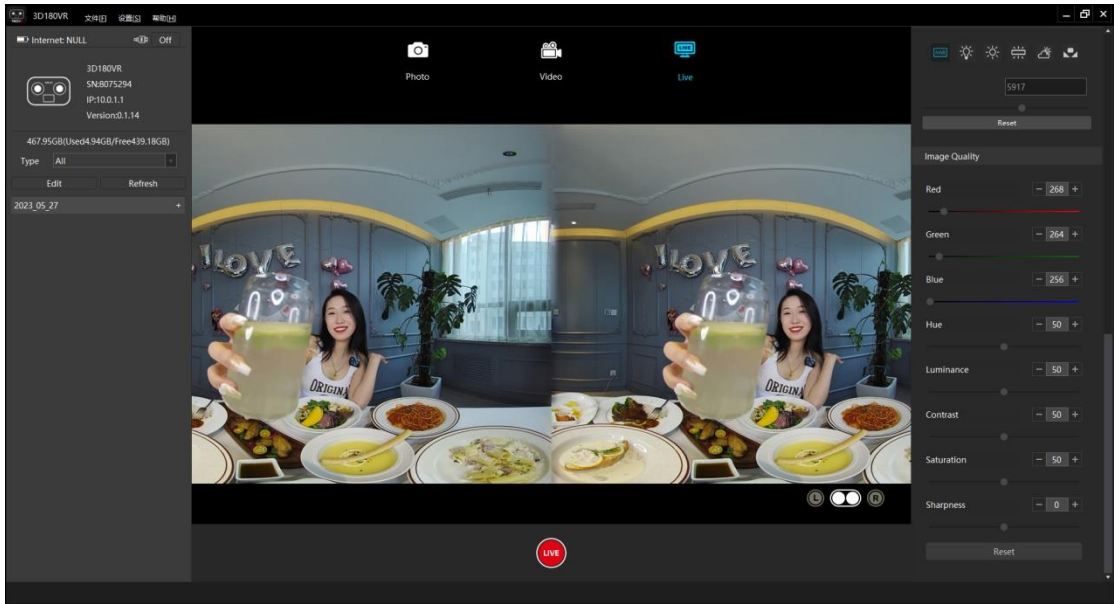
Left camera screen:



Right camera screen:



Dual camera picture:

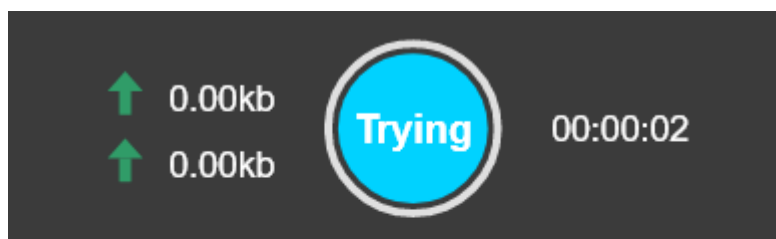
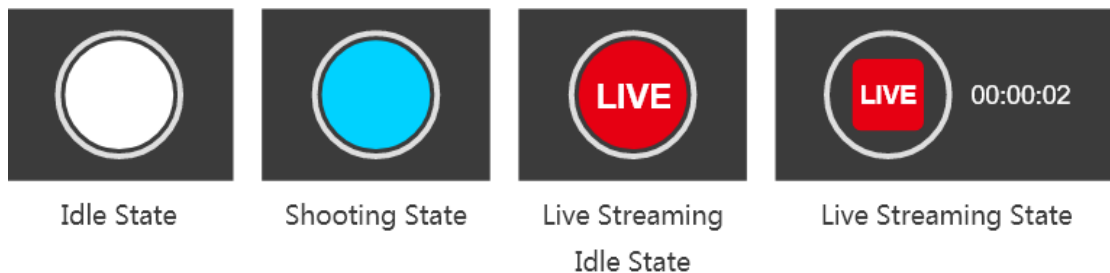


### g) Shooting Start/Stop:

Once the framing location has been determined and parameters adjusted, it's time to move on to the shoot.

1) Click the shoot/start button, and the camera will begin the shooting process according to the user's settings. When in continuous shooting, video shooting, or live streaming mode, the shoot button will be displayed in specific colors. The idle state is white, continuous shooting mode is blue, and video and live streaming modes are red.

2) For a camera in an ongoing shooting state, clicking the shoot button again will stop the shooting process. After the shooting is completed, the newly captured material will be added to the left-hand side of the system under the "素材" (Materials) section.



Attempting Live Streaming  
(Real-time Network Speed on the left,  
Live Streaming Time on the right)

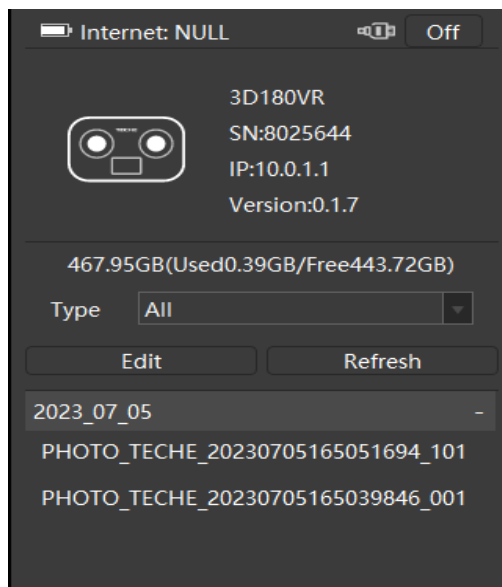
### h) Material Review:

I ) Introduction to Camera Information on the left side:  
Camera Battery Level (to be implemented), Network Status,

Camera Name, Serial Number, Current IP Address, Firmware Version, Camera Storage Capacity. Users can use the controller to view and browse the saved media files in the camera to ensure that the captured content meets their requirements. (PC compatibility will be available in the future).

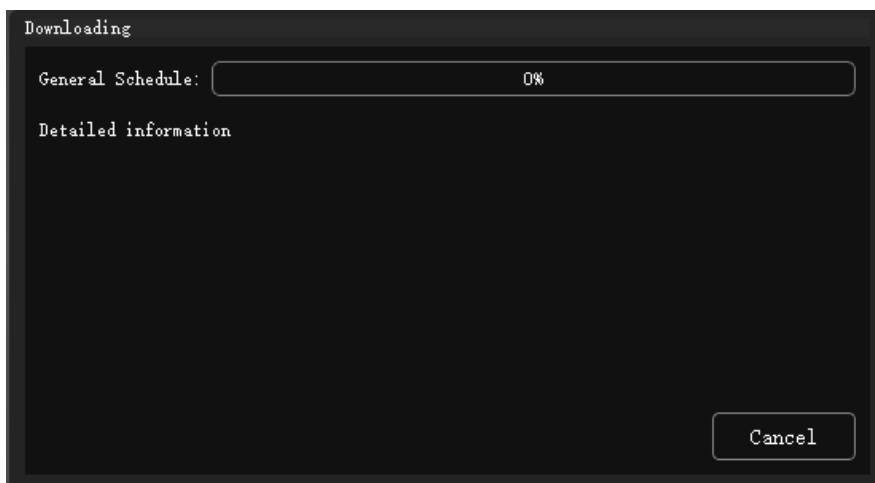
**i) Media Management:**

After shooting, the materials will be displayed in the list on the left side of the page. The photo material starts with Photo, the image format, combined with the shooting time, as the material name. Likewise, continuous shooting and video clips start with "Auto" and "Video," respectively. The Edit button allows footage to be downloaded to the local computer or deleted from camera storage.

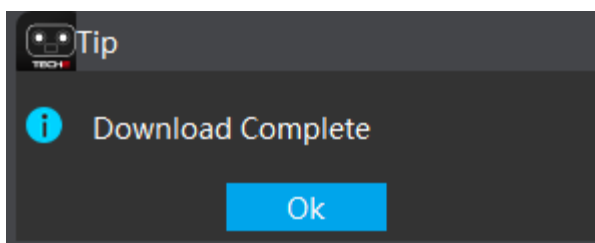


## j) Menu Functions:

- 1) Click the "Edit" button, check the media files you want to download, click the "Download" button, choose the desired output path, and start the download process.
- 2) The system will display the progress of the media download. The top progress bar represents the overall download progress, indicating how many sets have been downloaded so far. The bottom progress bar represents the sub-progress, indicating the completion progress of the currently downloading set of media.



- 3) After the download is completed, the system will provide the corresponding notification.



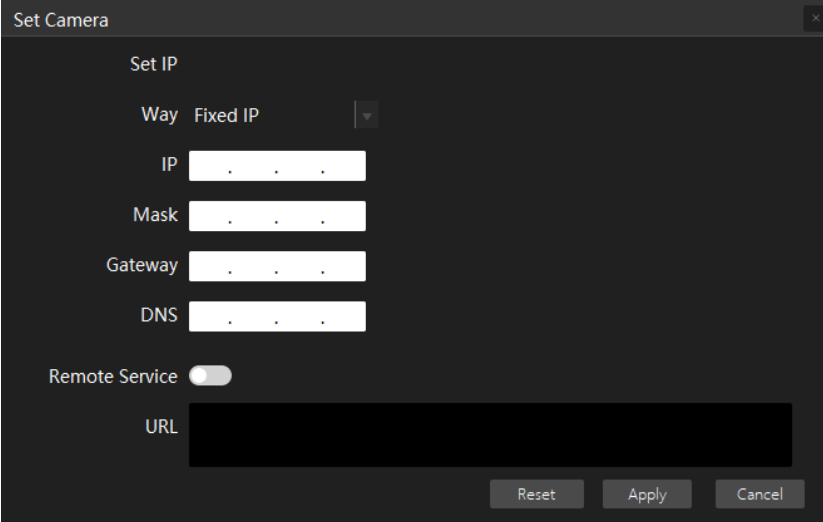
- 4) Delete: Click the "Edit" button, check the media files you want to delete, click the "Delete" button, and the system will remove the

selected media files.

5) Back: When in editing mode, click the "Back" button to exit the editing mode.

6) Click on the settings option in the upper left corner to switch the language. Currently, it supports switching between Chinese and English (Note: After switching, you need to close the software and reopen it for the changes to take effect)

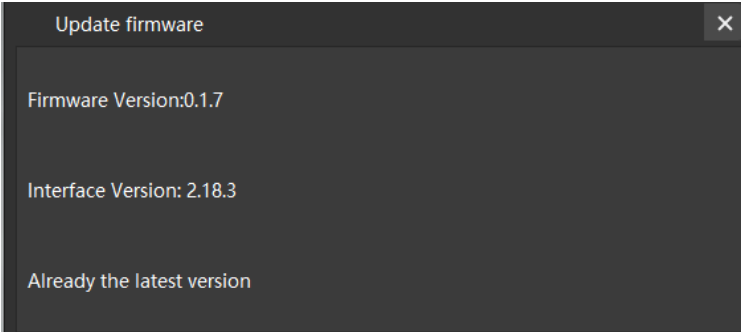
7) Click on the settings option in the upper left corner to configure the camera's fixed IP address.



The image shows a 'Set Camera' configuration window with a dark theme. It contains the following elements:

- Set IP**: A section header.
- Way**: A dropdown menu currently set to 'Fixed IP'.
- IP**: A text input field with a placeholder '. . . '.
- Mask**: A text input field with a placeholder '. . . '.
- Gateway**: A text input field with a placeholder '. . . '.
- DNS**: A text input field with a placeholder '. . . '.
- Remote Service**: A toggle switch that is currently turned off.
- URL**: A large text input field.
- Buttons**: 'Reset', 'Apply', and 'Cancel' buttons at the bottom right.

8) Click on the Help button in the upper left corner to perform a firmware upgrade for the device.

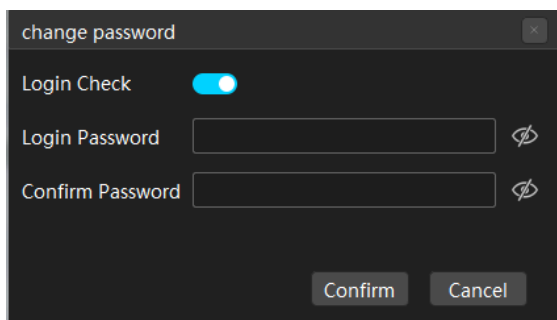


The image shows an 'Update firmware' window with a dark theme. It contains the following text:

- Firmware Version:0.1.7**
- Interface Version: 2.18.3**
- Already the latest version**

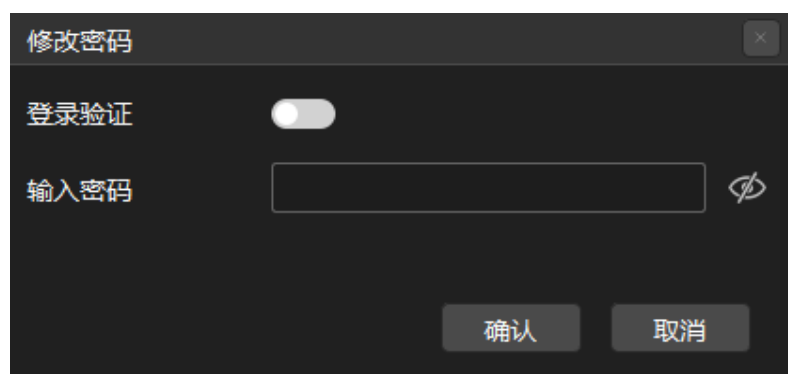


9) Click on "Password Change" to enable password login protection for this camera. For the initial use, you need to set an initial password and confirm it. After successful setup, return to the password selection screen and enter the password to access the control system as shown in the figure.



A screenshot of a 'change password' dialog box. The title bar says 'change password' with a close button. Inside, there is a 'Login Check' toggle switch that is turned on (blue). Below it are two text input fields: 'Login Password' and 'Confirm Password', each with a password icon (a circle with a diagonal line) to its right. At the bottom are two buttons: 'Confirm' and 'Cancel'.

10) If a password has already been set for the camera, you can modify the previous password by clicking on "Change Password". After that, you can return to the login screen, select the camera, and enter the new password to log in, as shown in the figure.




A screenshot of a '修改密码' (Change Password) dialog box. The title bar says '修改密码' with a close button. Inside, there is a '登录验证' (Login Verification) toggle switch that is turned off (grey). Below it is a text input field labeled '输入密码' (Enter Password) with a password icon (a circle with a diagonal line) to its right. At the bottom are two buttons: '确认' (Confirm) and '取消' (Cancel).


11) To cancel the password that has been set for the camera, you can uncheck the login verification option. Then, enter the previously set password and click on "Confirm" to proceed,

as shown in the figure.

change password

Login Check ☐

Login Password  

Confirm Password  

Confirm Cancel

**FCC Caution:**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirements. The device can be used in portable exposure conditions without restriction.

## Contact information

Shenyang Taikeyi Technology Co., Ltd

Email: support@te720.com

Official website: <https://www.teche720.com>

Address: Room 2302, Changfeng Building, No. 26-2,  
Pangjiang Street, Dadong District, Shenyang, Liaoning  
After sales.

support: 13252879046