
The WEUCAM Series USB+LAN+WiFi C-Mount CMOS Camera Help Manual



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1 The Characteristic of WEUCAM Series Camera

The WEUCAM series cameras can be connected to smart devices or computers through USB/LAN/WiFi. It can be used for video and image acquisition of stereo microscope or biomicroscope, and can also be used for interactive microscope teaching system, which is convenient for teachers to teach and students to learn. The main features are as follows:

- Sony Exmor back illuminated large-sized CMOS sensor with lower noise and better photosensitive characteristics
- USB/LAN/WiFi multiple video outputs, WiFi adopts 802.11AC chip, with higher transmission bandwidth
- Powerful ISP functions, real-time video transmission can reach up to 30fps/4M
- ToupView/ToupLite software for PC, fully applicable for biological and stereological observations
- iOS/Android app for smart phones or tablets

2 WEUCAM Series Camera Datasheet and Functions

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure (ms)
WEUCAM4MPA	4M/Sony IMX347(C) 1/1.8"(7.8x4.38)	2.9x2.9	921mv with 1/30s 0.15mv with 1/30s	30@2688*1512(USB) 30@2688*1512(NETWORK)	1x1	0.021ms~1000ms



Figure 1 Available Ports on the Back Panel of the Camera Body

Interface	Function Description
LAN	100M Ethernet port to connect to the router or computer to transfer video. Video can be transmitted via LAN or WiFi. LAN and WiFi cannot be used at the same time. The priority of LAN connection is higher than WiFi.
USB	Connect the Micro USB 5V/1A power supply to power the camera, at this time the camera provides LAN or WiFi connection mode. Connect the Micro USB cable to the USB port of the computer to achieve video image output.
AP/STA Switch Button	Press to switch between AP and STA mode. Connecting 2~3 clients for a single camera is recommended
Video Output Interface	Function Description
LAN Interface	30fps@2688*1512 H264 encoded video and Jpeg image capture.
USB Interface	Connect to PC via Micro USB cable to transfer MJPEG/H264 real-time images, support 30fps@2688*1512 and 30fps@1920*1080.
WiFi Interface	Support 802.11ac protocols in AP/STA mode; 30fps@2688*1512 H264 encoded video and Jpeg image capture.
Software Environment under LAN/WLAN/Output	
White Balance	Auto, Manual and ROI White Balance
Color Technique	Ultra-Fine Color Engine
ISP	Exposure(Automatic/Manual Exposure)/ Gain, White Balance(Auto, Manual and ROI White Balance), Sharpening, 3D Denoise, Saturation Adjustment, Contrast Adjustment, Brightness Adjustment, Gamma Adjustment, 50HZ/60HZ Anti-flicker, Mirror/Flip, color to grey, Network Bandwidth Adjustment
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)
Recording System	Still Picture or Movie
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 8.1 / 10 / 11(32 & 64 bit) OSx(Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 4GB or More
	Ethernet RJ45 Interface: 100M bps or more
	WiFi Adaptor: Support 802.11 b/g/n/ac
	Display:19" or Larger

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	CD-ROM
Operating Environment	
Operating Temperature (in Centidegree)	-10°~ 50°
Storage Temperature (in Centidegree)	-20°~ 60°
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	Micro USB DC 5V/1A Adapter
Camera Size	
Length x Width x Height	50 mm x 50mm x 112mm
Shipping Weight	0.19 kg

3 Dimension of WEUCAM Series Camera

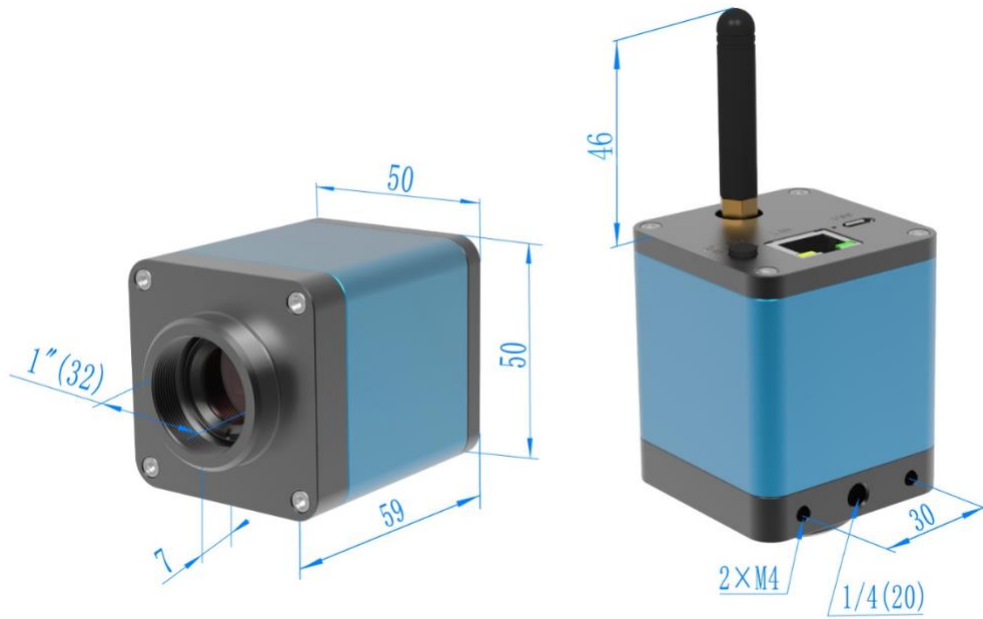


Figure 2 Dimension of WEUCAM Series Camera

4 Packing Information for WEUCAM Series Camera



Figure 3 Packing Information for WEUCAM Series Camera

Standard Packing List			
A	Gift box : L:15cm W:15cm H:10cm (1pcs, 0.5kg/ box)		
B	One WEUCAM series camera		
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 5V 1A American standard: Model: POWER-U-5V1A(SK12G-0500100U): UL/CE/FCC European standard: Model: POWER-E-5V1A(SK12G-0500100V): UL/CE/FCC		
D	Micro USB cable 1.5 meters		
E	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
F	Ethernet cable		
G	Adjustable lens adapter	C-Mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108001/AMA037 108002/AMA050 108003/AMA075
H	Fixed lens adapter	C-Mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108005/FMA037 108006/FMA050 108007/FMA075
Note: For G and H optional items, please specify your camera type(C-mount, microscope camera or telescope camera), ToupTek engineer will help you to determine the right microscope or telescope camera adapter for your application;			
I	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube		
J	108016(Dia.23.2mm to 30.5mm ring)/ Adapter rings for 30.5mm eyepiece tube		
K	Calibration kit	106011/TS-M1(X=0.01mm/100Div.); 106012/TS-M2(X,Y=0.01mm/100Div.); 106013/TS-M7(X=0.01mm/100Div., 0.10mm/100Div.)	

5 Software and App

For Windows user (Windows XP (32bit), Windows 7/8/10/11 (32/64 bit)), please use [ToupView](#).

For macOS and Linux user (macOS 10.10 or above or Linux distributions with kernel 2.6.27 or higher), please use [ToupLite](#). When connecting the camera with a mobile device, the free [ToupView App](#) is required. Just make sure that the mobile device uses iOS 11 or higher/Android 5.1 or higher operating systems.

The software or the [App](#) can be downloaded from the following link:

Windows: <https://www.touptekphotonics.com/download/>

Linux & macOS: <https://www.touptekphotonics.com/download/>

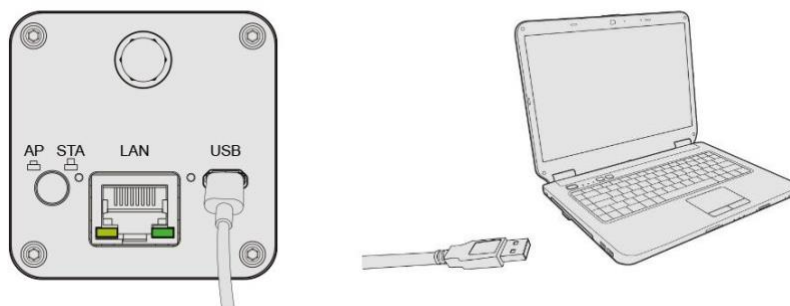
iOS: <https://itunes.apple.com/us/app/toupview/id911644970>

Android: <https://play.google.com/store/apps/details?id=com.touptek.tpview>

Note: The device must be WiFi enabled to support WiFi connection.

6 WEUCAM Camera Application Configurations

6.1 WEUCAM series camera is used by connecting it to a computer via a Micro USB cable



The setup steps are as follows:

- Install the ToupView/ToupLite software on the PC;
- Connect the Micro USB cable to the PC and wait for the camera to start;
- Start the ToupView/ToupLite software, usually the software on the PC will automatically recognise the WEUCAM series camera. In the ToupView/ToupLite software, select the corresponding WEUCAM series camera by clicking the camera name in the camera list;

6.2 Camera working in WiFi AP mode



Figure 4 The PC or Mobile Device Connect to the Camera through WiFi AP Mode

The steps to start the camera are listed below:

- Install the [ToupView/ToupLite](#) on your PC or install the [ToupView App](#) on the mobile device;
- Insert the power adapter to the camera's power jack;
- Press the [AP/STA](#) switch button to set the camera to AP mode and observe that the network indication LED turns green, indicating that the camera is in [WiFi AP](#) mode;
- Connect the PC or mobile device to the camera;
- Start the [ToupView/ToupLite](#) software or [ToupView App](#) and check the configuration. Normally, active [WEUCAM](#) cameras are automatically recognized. The connected cameras will be listed in the [Camera List](#) group of the [Camera Control Bar](#) of [ToupView/ToupLite](#) on PC. On mobile device, connected cameras will be listed in the [Camera Thumbnail](#) page of [ToupView App](#). Click the corresponding camera to start the stream.

6.3 Connecting multi-cameras to the router with WiFi STA mode for the network application

In [WiFi STA](#) mode, the camera is supposed to connect to router.

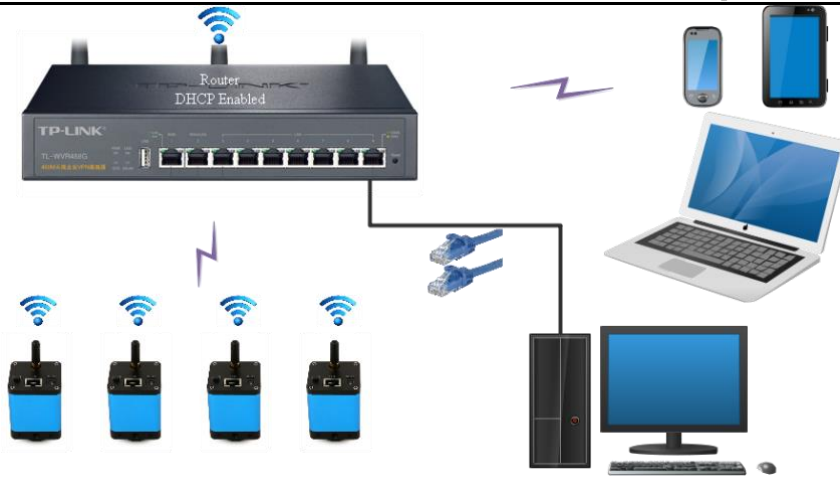


Figure 5 Multi WEUCAM Cameras Connecting to the Router through the WiFi STA Mode

- Install the [ToupView /ToupLite](#) software on your PC. Alternatively, install the free [ToupView App](#) on the mobile device;
- Insert the power adapter to the camera's power jack;
- **Connect the camera to the router with WiFi STA mode:** Pop up the [AP/STA Switch Button](#), the network indication LED turns blue, this means the camera is in [WiFi STA](#) mode and has connected to the router(See Sec. 7 on how to set the router's name and password in the camera);
- Connect PC or mobile device to router(by [LAN](#) or [WiFi](#)). Start the [ToupView/ToupLite](#) software or [ToupView App](#) and check the configuration. Normally, active [WEUCAM](#) cameras are automatically recognized. The connected cameras will be listed in the [Camera List](#) group of the [Camera Control Bar](#) of [ToupView/ToupLite](#) on PC. On mobile device, connected cameras will be listed in the [Camera Thumbnail](#) page of [ToupView App](#). Click the corresponding camera to start the stream.

6.4 Connecting multi-cameras to the router through the LAN port for the network application

In LAN mode, the camera connects to router by [Ethernet](#) cable.

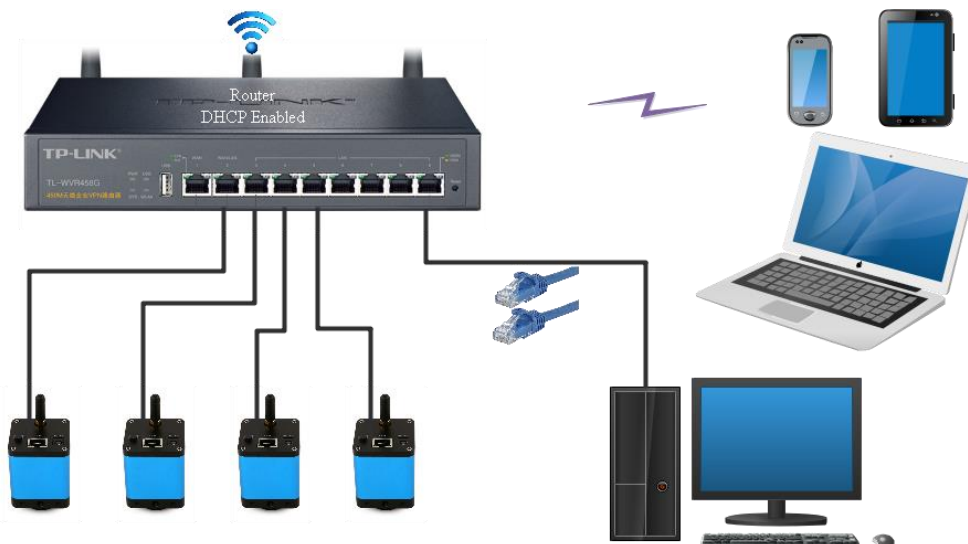


Figure 6 Multi WEUCAM Cameras Connecting to the Router through the LAN Style

- Install the [ToupView /ToupLite](#) software on your PC. Alternatively, install the free [ToupView App](#) on the mobile device;
- Insert the power adapter to the camera's power jack;
- **Connect the camera to the router with LAN method:** Connect the camera and the router by Ethernet cable; If the connection is successful, the network indication LED will be off and the LAN indicator will be light up;
- Make sure that your PC or your mobile device is connected to the router(by [LAN](#) or [WiFi](#)); Start the [ToupView/ToupLite](#) software or [ToupView App](#) and check the configuration. Normally, active [WEUCAM](#)

cameras are automatically recognized. The connected cameras will be listed in the [Camera List](#) group of the [Camera Control Bar](#) of [ToupView/ToupLite](#) on PC. On mobile device, connected cameras will be listed in the [Camera Thumbnail](#) page of [ToupView App](#). Click the corresponding camera to start the stream.

6.5 Connecting multi-cameras to the router through the LAN port/WiFi STA mode for the network application

In [LAN/ WiFi STA](#) mode, the camera connects to router by [Ethernet](#) cable or with [WiFi STA](#) mode

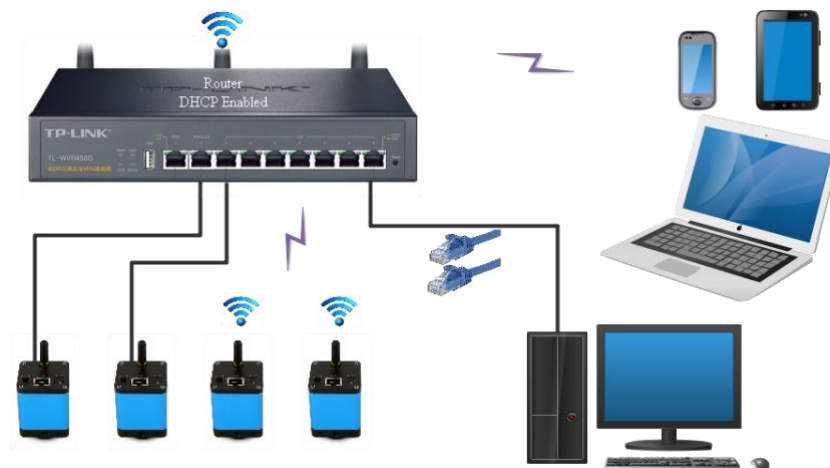


Figure 7 Multi WEUCAM Cameras Connecting to the Router through the LAN/ WiFi STA Style

- Install the [ToupView /ToupLite](#) software on your PC. Alternatively, install the free [ToupView App](#) on the mobile device;
- Insert the power adapter to the camera's power jack;
- [Connect the camera to the router with WiFi STA mode](#): Pop up the [AP/STA Switch Button](#), the network indication LED turns blue, this means the camera is in [WiFi STA](#) mode and has connected to the router(See Sec. 7 on how to set the router's name and password in the camera);
- [Connect the camera to the router with LAN method](#): Connect the camera and the router by [Ethernet](#) cable; If the connection is successful, the camera network LED indicator will go out and the indicator of the LAN network port will light up;
- Connect PC or mobile device to the router(by [LAN](#) or [WiFi](#)). Start the [ToupView/ToupLite](#) software or [ToupView App](#) and check the configuration. Normally, active [WEUCAM](#) cameras are automatically recognized. The connected cameras will be listed in the [Camera List group](#) of the [Camera Control Bar](#) of [ToupView/ToupLite](#) on PC. On mobile device, connected cameras will be listed in the [Camera Thumbnail](#) page of [ToupView App](#). Click the corresponding camera to start the stream.

Note on data security

The data transfer of the [WEUCAM](#) camera in [LAN](#) or [WiFi](#) is not encrypted. Anyone who is connected to the network and has installed the [ToupView](#) software or [ToupView App](#), can see the live image of all active [WEUCAM](#) cameras.

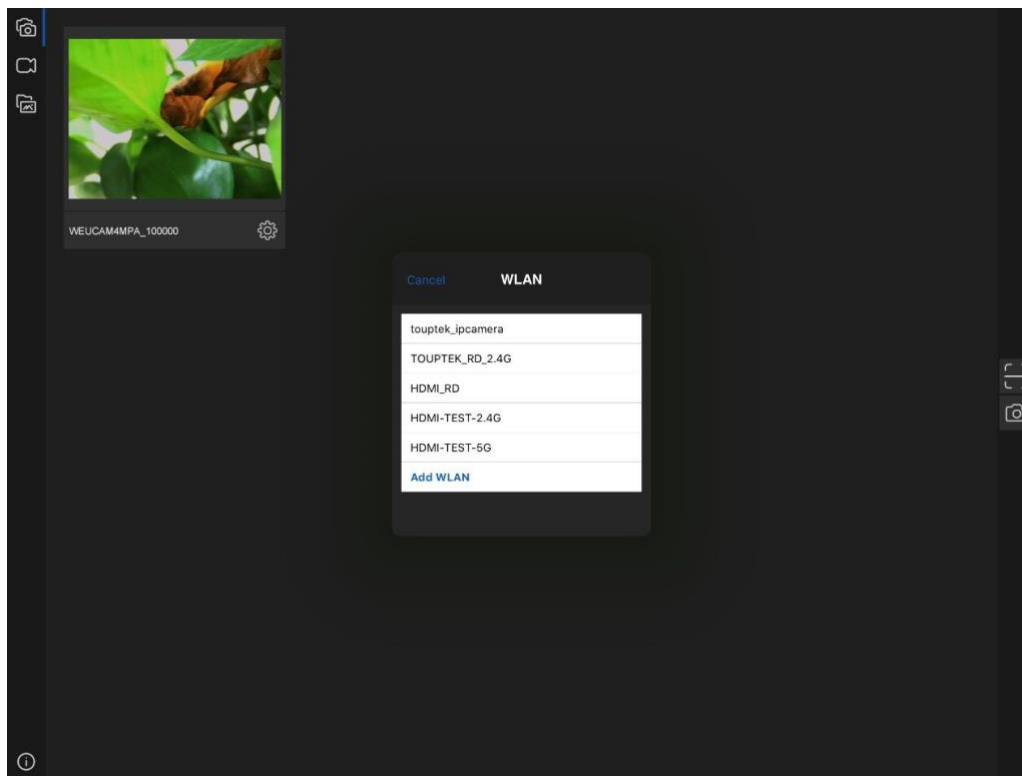
About the routers/switches

It is suggested that routers/switches supporting 802.11ac 5G segment should be selected to achieve better wireless connection experience.

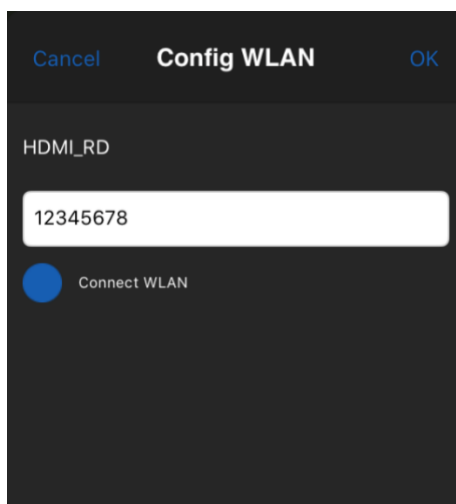
7 Configure the Camera's WiFi STA Mode's SSID and Password

Referring to Section 6.2 Process, the detailed steps are as follows:

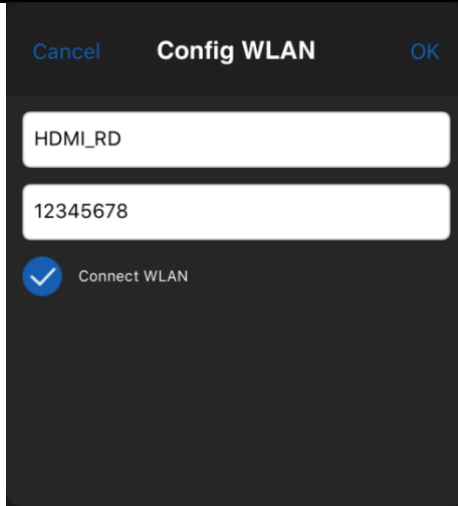
- Connect the **WEUCAM** series camera working in **WiFi AP** mode using iOS or Android devices;



- Press the configuration button in the camera thumbnail above to pop up the interface for selecting **WiFi SSID**;
- Select the **SSID** to be connected and input the **Password**, press **OK** to finish the **SSID** and **Password** setup process;



- If the pop-up UI does not have the desired **SSID**, press the **Add WiFi** item on the bottom and input **SSID** name and **Password** manually(The current **SSID** is **HDMI_RD** and the password is **12345678**).



- After completion, press the button to switch to [STA](#) mode. The camera [WiFi](#) will be connected to the designated router in [STA](#) mode for operation, and the camera network LED indicator will turn blue.

8 Contacting Customer Service

Please contact your local distributor if you have any questions about the product.