
The WECAM Series WiFi+Ethernet C-Mount CMOS Camera Help Manual



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The WECAM Series WiFi+Ethernet C-mount CMOS Camera

1 The Characteristic of WECAM Series Camera

The **WECAM** series camera is intended to be used for the acquisition of digital images from the stereo microscope, biological microscope or online interactive teaching. The basic characteristics are listed as below:

- Sony Exmor back illuminated CMOS sensor
- LAN, WLAN(AP/STA mode) multiple video outputs
- Powerful ISP functions
- ToupView/ToupLite software for PC
- iOS/Android app for smart phones or tablets

2 WECAM Series Camera Datasheet and Functions

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure (ms)
WECAM5MPA	5M/Sony IMX178(C) 1/1.8"(6.22x4.67)	2.4x2.4	425mv with 1/30s 0.15mv with 1/30s	30@2592*1944	1x1	0.03ms~918ms

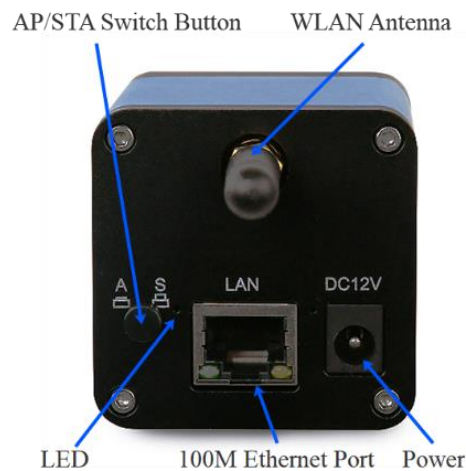


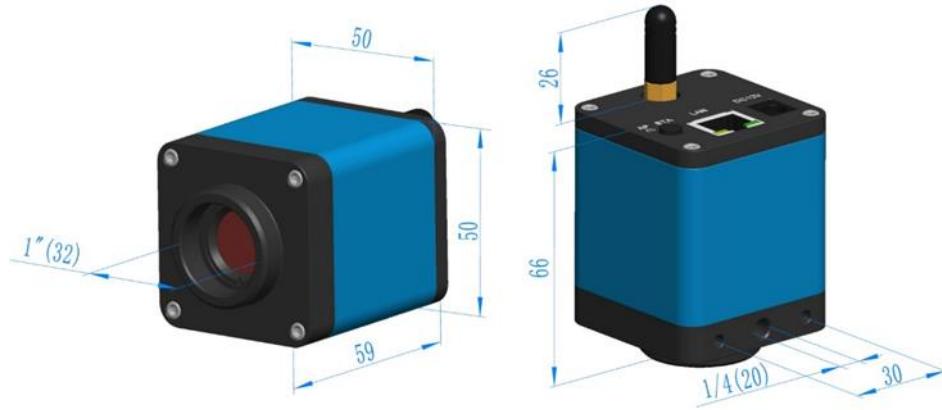
Figure 1 Available Ports on the Back Panel of the Camera Body

Interface	Function Description
WLAN Antenna	Antenna for the WLAN signal
LED	LED status indicator When the power adapter is inserted into the power slot, the LED light will be on and the starting process will last about 8 seconds; WLAN AP mode: the LED flashes fast; WLAN STA mode: the LED flashes slowly; LAN mode: the Ethernet indicator and the LED light will be on;
DC12V	Power jack (12V/1A).
AP/STA Switch Button	Press to switch between AP and STA mode;
LAN	100M Ethernet port to connect to the router or computer to transfer video. Video can be transmitted via LAN or WLAN. LAN and WLAN cannot be used at the same time. The priority of LAN connection is higher than WLAN;
Video Output Interface	Function Description
LAN Interface	30fps@2592*1944 H264 encoded video and Jpeg image capture
WLAN Interface	Support 802.11ac protocols in AP/STA mode; 30fps@2592*1944 H264 encoded video and Jpeg image capture
Software Environment under LAN/WLAN/Output	
White Balance	Auto White Balance
Color Technique	Ultra-Fine Color Engine
ISP	Exposure(Automatic/Manual Exposure)/ Gain, White Balance(Manual / One Push), Sharpening, 3D Denoise, Saturation Adjustment, Contrast Adjustment, Brightness Adjustment, Gamma Adjustment, 50HZ/60HZ Anti-flicker, Mirror/Flip, 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

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Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 8.1 /10(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
	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	DC 12V/1A Adapter

3 Dimension of WECAM Series Camera



Dimension of WECAM Series Camera

4 Packing Information for WECAM Series Camera



Packing Information for WECAM Series Camera

Standard Packing List			
A	Gift box : L:15cm W:15cm H:10cm (1pcs, 0.46kg/ box)		
B	One WECAM series camera		
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A American standard: Model: GS12U12-P1I 12W/12V/1A: UL/CUL/BSMI/CB/FCC European standard: Model:GS12E12-P1I 12W/12V/1A; TUV(GS)/CB/CE/ROHS EMI Standard:EN55022,EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338 EMS Standard:EN61000-4-2,3,4,5,6,8,11,EN61204-3,Class A Light Industry Standard		
D	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
E	Ethernet cable		
F	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
G	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 F and G 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;			
H	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube		
I	108016(Dia.23.2mm to 30.5mm ring)/ Adapter rings for 30.5mm eyepiece tube		
J	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 (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:

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

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

6 WECAM Camera Application Configurations

6.1 Camera working in WLAN AP mode



Figure 2 The PC or Mobile Device Connect to the Camera through WLAN 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 down the [AP/STA Switch Button](#), the LED will flash fast with about 2HZ frequency, which means the camera is in the [WLAN 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 [WECAM](#) 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.

6.2 Connecting multi-cameras to the router with WLAN STA mode for the network application

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

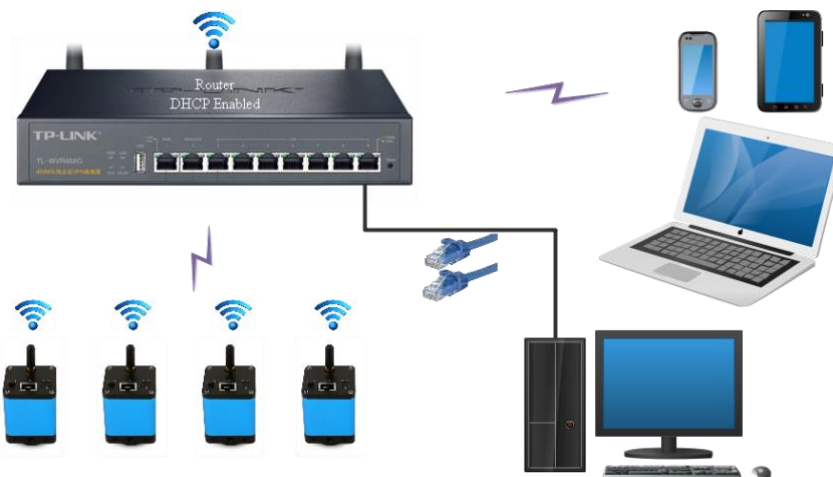


Figure 3 Multi WECAM Cameras Connecting to the Router through the WLAN STA Mode

- 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 WLAN STA mode](#): Pop up the [AP/STA Switch Button](#), the LED will flash slowly, this means the camera is in [WLAN 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 [WLAN](#)). Start the [ToupView/ToupLite](#) software or

[ToupView App](#) and check the configuration. Normally, active [WECAM](#) 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 through the LAN port for the network application

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

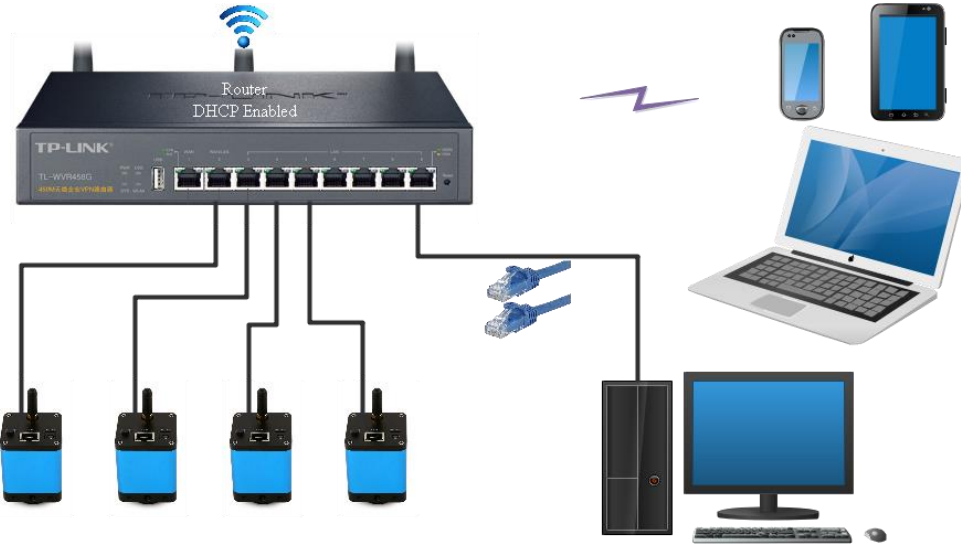


Figure 4 Multi WECAM Cameras Connecting to the Router through the LAN Style

- 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 slot;
- [Connect the camera to the router with LAN method](#): Connect the camera and the router by Ethernet cable; If the connection is successful, the LED light will be on and the network indicator will be light up;
- Make sure that your PC or your mobile device is connected to the (by [LAN](#) or [WLAN](#)); Start the [ToupView/ToupLite](#) software or [ToupView App](#) and check the configuration. Normally, active WECAM 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/WLAN STA mode for the network application

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

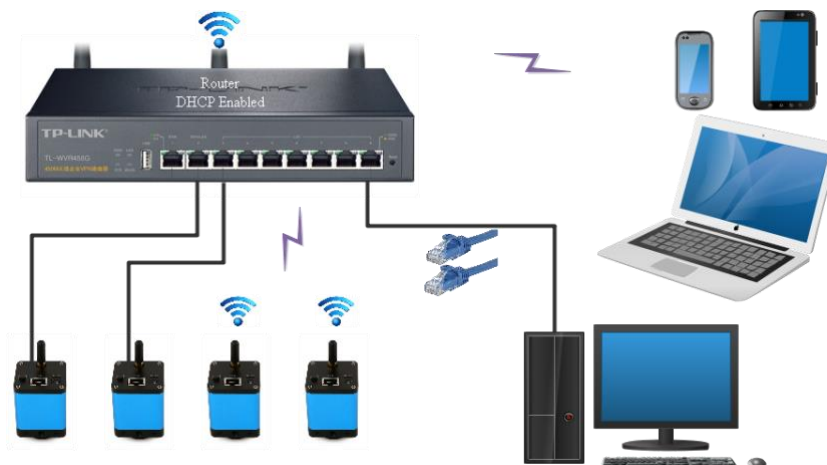


Figure 5 Multi WECAM Cameras Connecting to the Router through the LAN/WLAN Style

- 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 WLAN STA mode](#): Pop up the [AP/STA Switch Button](#), the LED will flash slowly, this means the camera is in WLAN 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 LED will light up steadily and the network indicator will be light up;
- Connect PC or mobile device to the router(by [LAN](#) or [WLAN](#)). Start the [ToupView/ToupLite](#) software or [ToupView App](#) and check the configuration. Normally, active [WECAM](#) 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

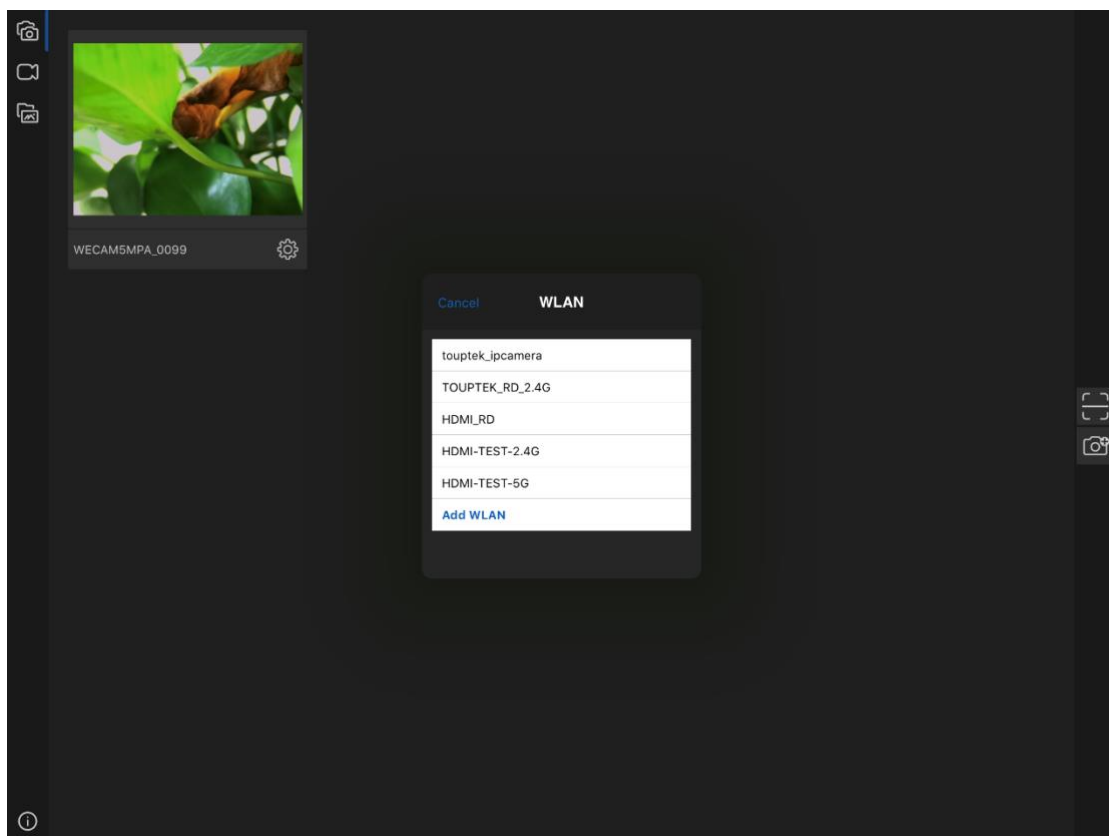
The data transfer of the [WECAM](#) camera in [LAN](#) or [WLAN](#) is not encrypted. Anyone who is connected to the network and has installed the [ToupView](#) software or [ToupView App](#), can see the live image of all active [WECAM](#) cameras.

About the routers/switches

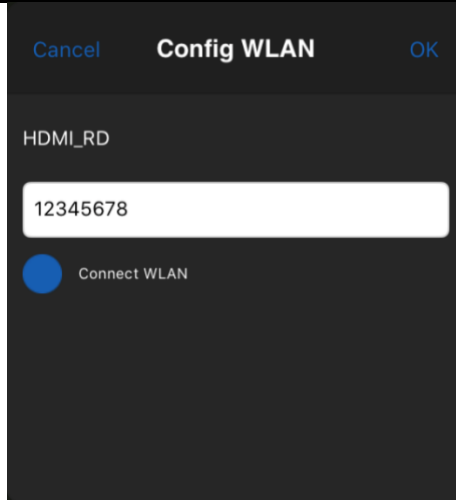
It is suggested that routers/switches supporting 802.11ac 5G segment should be selected to achieve better wireless connection experience.

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

- Connect the [WECAM](#) series camera in [WLAN AP](#) mode according to Sec 6.2;
- Press the [Setup](#) button at the bottom right corner, a [WiFi SSID](#) setup dialog will popup;



- 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 WLAN](#) item on the bottom and input [SSID](#) name and [Password](#) manually.

