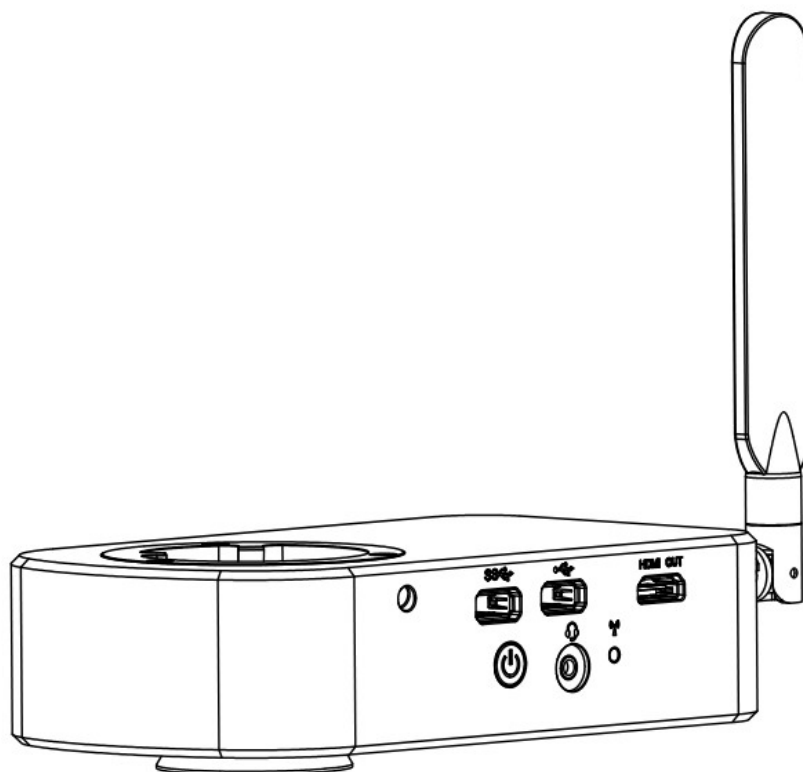

Intelligent All-In-One Machine

HW500/HW500(N)/HW500(L)
HW800/HW800(N)/HW800(L)
HW1200/HW1200(N)/HW1200(L)

User's Manual



GuangZhou Ostec Electronic Technology Co., Limited
<http://www.ostec.com.cn>

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Chapter 1 Notes and Safety Requirements

1.1 Cautions and Notes

- (1) To avoid danger or damage incurred to the lens, do not touch the lens or sensor directly with your fingers.
- (2) To avoid failure or electric shock hazard and so on, do not disassemble or modify the internal structure of the device.
- (3) Do not plug in or unplug the Power connection port when hands are wet.
- (4) Do not use alcohol and other organic solvents to clean.
- (5) If the lens or sensor is dirty or damp, you should better use dry and non-linen fabric or professional lens tissue to wipe them. To avoid scratches on the surface, do not touch the lens with your fingers. Wipe the lens or sensor lightly.
- (6) The products are not specifically designed for an outdoor use. Do not expose it to outdoor environment without any protection. Excessive temperature and humidity will damage the lens. Please avoid using the product under the following environment: high temperature or high humidity environment, places with direct sunlight, dirt or vibration and places near heat source.
- (7) Please use and store in the following environment:
Operating temperature : 0°C~ 40°C
Storage temperature: -20°C~ 60°C
Operating Humidity: 30~60%RH
Storage Humidity: 10~80%RH
- (8) If any foreign matter, water or liquid enter into the device by accident, disconnect the Power line immediately. Please send it to the maintenance center and do not use the hair dryer to dry it by yourself.
- (9) To prevent microscope from being tripped over or dropped, please put away the device's connect cable in use or standby.
- (10) To avoid electric shock by accident, please power off microscope before you move your computer or laptop.
- (11) The cleanliness of the device lens will directly affect clarity degree of contents from the computer screen during preview. Problems like various circles or spots on the screen may mostly be incurred by dirt on the lens. When cleaning, please use professional lens tissue or other professional detergent to clear the dirt on the lens.
- (12) Registered trademark and copyright: Copyright ownership of this product belongs to GuangZhou Ostec Electronic Technology Co., Limited Without written authorization of this company, any organizations or individuals shall not photocopy, print, or translation to another language to any part of this document.

Chapter 2 System Requirements

2.1 System Requirements for connection to PC Work Mode

- Windows 7(64 bits)、Windows 8(64 bits)、Windows8.1(64 bits)、Windows10(64 bits)
- Dual core 3.0 GHz or higher CPU
- 8G RAM or more
- At least 10 GB available hard-disk space
- 1000Mbps/100Mbps compatible with network cable interface

2.2 System requirements under HDMI working mode

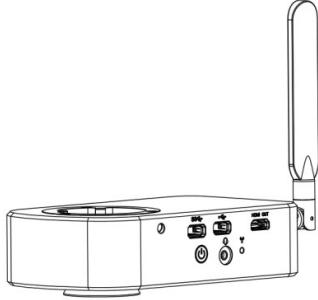
- The monitor has an HDMI TYPE A connector.
- Monitor supports up to 3840x2160 P60 output
- Monitor HDMI interface supports hot plug

2.3 System requirements under WiFi working mode

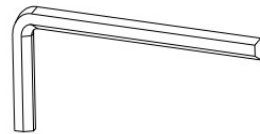
- 5.0 or later versions for Android system.
- 8.0 or later versions for iOS system.
- Wireless network hardware must support the IEEE 802.11n/ac protocol.

Chapter 3 Packing List

1、 Smart embeded camera body



2.Hexagon key



3、 Mouse



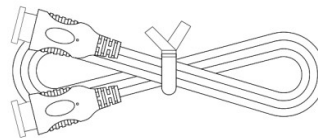
4、 Keyboard



5、 Reset pin



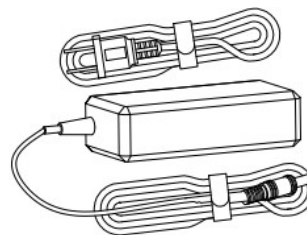
6、 HDMI cable



7、 Installation disk

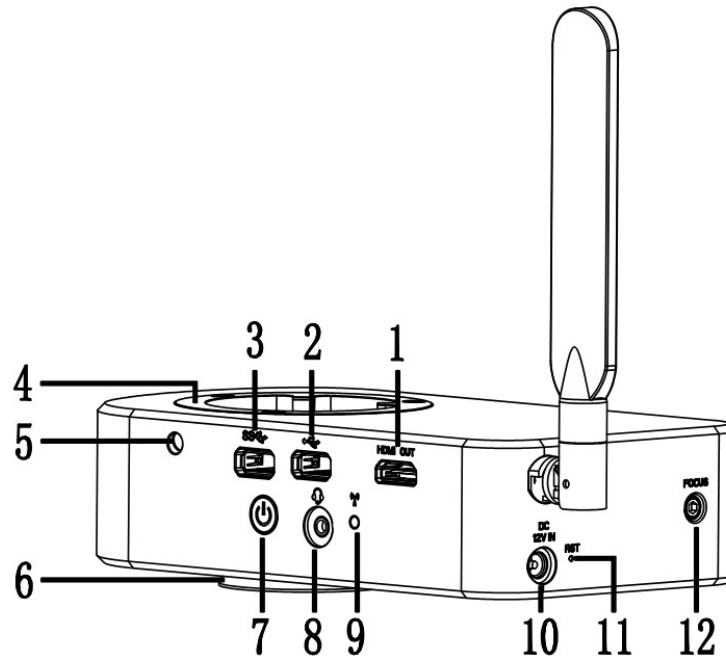


8、 12V AC adapter



Chapter 4 Function Introduction of Each Part

4.1 Name and function of each part of the smart embedded camera



1. HDMI interface: connect with the display device with HDMI interface through HDMI cable to realize video and signal transmission.
2. USB 2.0 interface: can be connected to a mouse, keyboard, USB flash disk. Convenient for using Application .
3. USB 3.0 interface: can be connected to a mouse, keyboard, USB flash disk. Convenient for using Application .
4. Female interface: connected with the eyepiece end of biological microscope.
5. Fastening screws: tighten the screws with the hexagon key to fix the eyepiece end of the biological microscope.
6. Male interface: it is connected with the objective lens end of biological microscope.
7. Power on/off:
 - 1) after being electrified, press for 3 seconds to start the camera.
 - 2) after the camera is started, long press for 3 seconds to prompt the "shutdown/restart" option.
 - 3) after starting the camera, press the button for 5 seconds to shut it down
8. Headset interface: connect with headset cable to realize the mutual transmission of audio signals.
9. Signal indicator light:
 - 1) When the camera is started: there is signal transmission, the indicator light flashes; When no mobile device is connected indicator light is always on.
 - 2) When the camera is off: the indicator light is not on.
10. Power input port: connect with the adapter in the accessories to supply power to the smart embeded eyepiece
11. Reset hole: press for 8 seconds to reset the system.
12. Focusing screw: turn the screw with hexagonal key to adjust the focal length.

Chapter 5 Product Assembly Guide

5.1 Smart embeded camera assembly

5.1.1 Smart embeded camera assembled with biological microscope

1. Separate eyepiece part from objective part as shown in figure 1

- 1) Loosen the fixing screw of the microscope.
- 2) Remove the eyepiece part of the microscope.

2. Smart embedded camera assembly

- 1) Place the smart embedded camera on the top of the microscope objective, as shown in figure 2;
- 2) Tighten the screw at the end of the microscope objective lens and fix the smart embedded camera on the microscope.

3. Microscope eyepiece end assembly, as shown in figure 3:

- 1) Place the microscope eyepiece end to the female interface end of the intelligent embedded camera;
 - 2) Tighten the fastening screw of the smart embedded camera and fix the eyepiece end of the microscope on the smart embedded camera
4. Please refer to "Chapter 6" for camera connection and use.

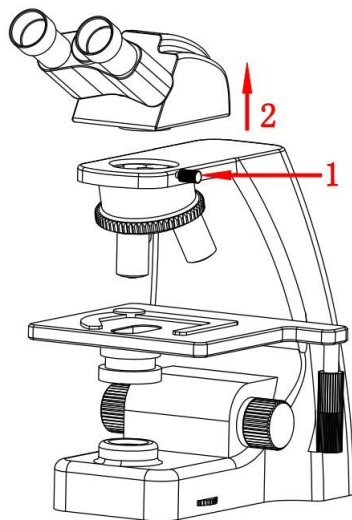


Figure 1

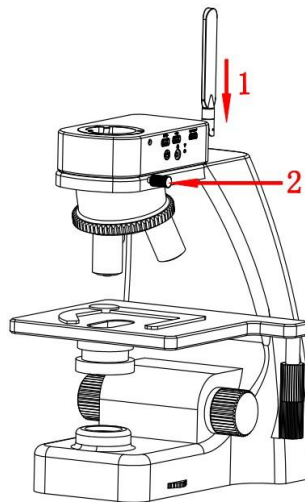


Figure 2

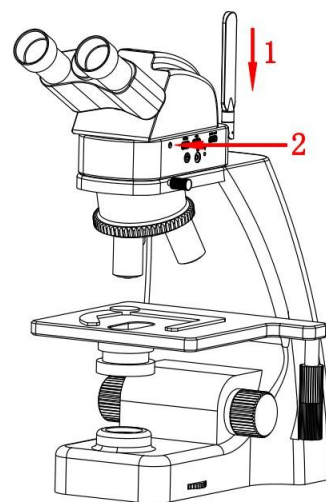


Figure 3

5.1.2 Smart embeded camera disassembly

1. Reverse the assembly sequence

Chapter 6 Instructions

6.1 Application installation for smart devices

1. Install the KoPa Capture software, put the attached CD into the DVD drive of the computer, click the KoPa Capture Install file, and install the software according to the prompts. Refer to [User Manual of KoPa Capture] for the specific installation steps.
2. Download and install the APP by using CD installation software (for android),
3. or Scan the APP QR code of the camera and follow the prompts. Please select the APP download entry according to the system type of the smart devices.



When the download is complete, press the prompt to allow the installation and allow all authorizations. Clicking "not allowed" will result in the failure of normal connection.

Android users who log on to the Google app store, please click one of the two buttons to download it.



iOS users please click the button  to download.

6.2 Device connection

6.2.1 WiFi working mode

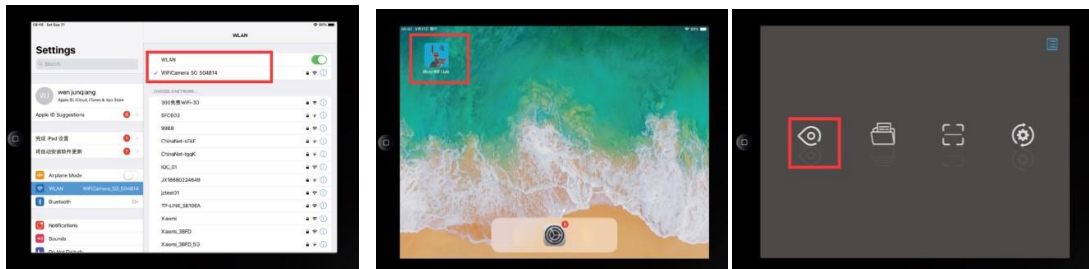
1. Automatic connection: scan connection QR code

- 1) Assembly the camera to a microscope: see Chapter 5
- 2) Power the camera
- 3) Run "KoPa WiFi Lab" application.
- 4) Click the "scan code" icon in the application and scan the connection code on the camera to automatic connection and preview image.
- 5) Please refer to [User Manual of KoPa WiFi Lab] for detailed operation.



2. Manual connection: manual input connection passwords

- 1) Assembly the camera to a microscope: see Chapter 5
- 2) Power the camera
- 3) Go to settings of mobile device, connect the WIFI signal WiFiCamera_5G_xxxxxx and input default passwords 12345678.
- 4) Run "KoPa WiFi Lab" application. Click the "Preview" icon in the application to preview image.
- 5) Please refer to [User Manual of KoPa WiFi Lab] for detailed operation.



6.2.2 HDMI working mode

1. Assembly the camera to a microscope: see chapter 5.
2. Connect the camera with the display device with HDMI interface by HDMI cable, and turn on the HDMI display device.
3. Power the camera.
4. Plug in a mouse to a USB port of the camera.
5. The application will run automatically and start to preview. Please refer to the [User Manual of KoPa WiFi Lab AO] for detailed operation.

6.3 Method of parfocalizing

- 1) Place a specimen on the microscope table and adjust the eyepiece diopter to the minimum value. Using a 10X objective lens, it is recommended to focus on any black spot/or the darkest spot on the section until it is most clear.
- 2) Use the hexagon key to finely turn the focusing screw(adjust the focus length), until live preview from the software is clear, parfocalizing is done now.

6.4 Start to use

1. The in Smart Embedded Camera Eyepiece is ready.

Chapter 7 Disclaimer

1. In order to protect the legitimate rights and interests of users, please carefully read the instructions, disclaimers and safety instructions provided with this product before using it. The company reserves the right to update the above documents. Please operate the product according to the instructions and safety instructions.

2. Once you begin to use the product, you shall be deemed to have read, understood, recognized and accepted all terms and contents of the product's instructions, disclaimers and safety instructions. Users undertake to be responsible for their actions and all consequences. User undertakes to use the product only for legitimate purposes and agrees to these terms and any relevant policies or guidelines that the company may establish.

3. In the process of using this product, please strictly abide by and execute the requirements including but not limited to the instructions and safety instructions. All personal injuries, accidents, property losses, legal disputes and other adverse events that cause conflicts of interest caused by violation of the safety instructions or irresistible factors shall be borne by users themselves, and the company shall not assume any responsibility.

4. Safety instructions:

- 1) Please do not use wet hands to plug and unplug the power supply of the equipment
- 2) Please be sure to use a regular brand power socket, and make sure the grounding is well grounded to prevent electric shock
- 3) Please be sure to make regular safety checks on sockets and plugs to avoid potential electrical safety hazards caused by aging and short circuit
- 4) Please be sure not to use the product in a humid or hot environment to ensure the safety of the product
- 5) Please be sure to loosen bundle cords of the power cable before using, to avoid electromagnetic induction and heating, thus increasing the heat dissipation speed
- 6) Please be sure not to use the product equipment or socket or other places in high or easy to fall, so as to avoid damage
- 7) Before opening the socket power supply, please be sure to turn off the load power switch of the product equipment
- 8) The company reserves the rights to improve product, upgrade technology and change parameters without prior notice.

FCC Statement

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.

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 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.

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

Radiation Exposure Statement

This device complies with RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.