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**ISM-WF200
WIFI DIGITAL MEASURING MICROSCOPE
OPERATION MANUAL**



Description

Thank you for choosing ISM-WF200 microscope!

The ISM-WF200 microscope is an exciting and dual-usage digital microscope; it can be used either with a WiFi connection or with a USB wired connection. The dual-usage microscope enables you to clearly study micro-objects, the WiFi connect not only gives you freedom to move away from a laptop/PC, it also enables you to share your study with others connected to the WiFi. The ISM-WF200 has a wide scope of applications, such as,

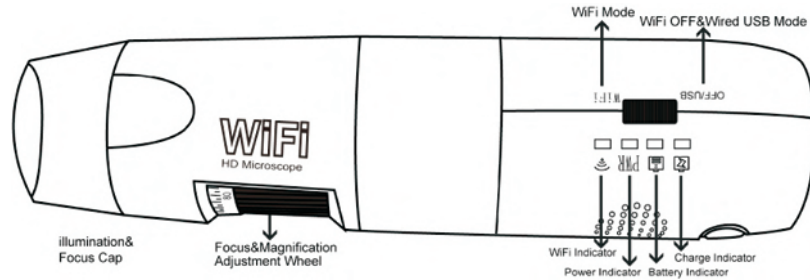
- Industrial Inspection
- Computer Parts inspection
- Telecom module inspection
- Scientific teaching tool
- Medical analysis
- School Research tool
- Insect dissection / examination
- Plant dissection / examination
- Skin examination
- Textile Inspection
- Collections / Coin/ Jewelry Inspection
- Printing Inspection
- And more.....

Please read this manual carefully before using ISM-WF200 microscope!!!

Attention

1. Avoid touching the lens.
2. Protect the product from electrostatic damage.
3. Do not attempt to disassembly any part of this product.
4. Do not attempt to service this product yourself. Opening the covers may expose you to dangerous voltage points or other risks.
5. Store and operate ISM-WF200 microscope at Temp: -20 ~ 45°C, Humidity: 45% ~ 85%, storing and operating outside these limits may reduce the life of the product.
6. Do not expose this product to water or other liquids. If water or other liquids enter the product, immediately power off the product. Continued use of the product may result in fire or an electrical shock.
7. Do not use any detergent or volatile solution, as this will damage the camera case, painted surfaces and lens. To clean the product uses only a soft cleaning cloth.
8. Do not place this product near a heat source or expose direct flame, avoid the lens damaged by high temperature or humidity
9. If the lens is dirty, please use a kens brush on soft cloth to wipe clean. Avoid touching it with your fingers. Exercise care to avoid scratching the lens.
10. Need to read ISM-WF200 microscope User's Manual before using and storing it.
11. To avoid electric shock, remove all electricity source before removing PC.

Structure



The Power “OFF/USB—WiFi” Switch:

WiFi: ISM-WF200 Microscope works in WiFi mode when switch is moved to “WiFi” side.

OFF/USB: Power-off WiFi Microscope when switch is moved to “OFF/USB” side; also, USB microscope works if connected to PC’s USB port via MiniUSB cable.

WiFi Indicator (Blue LED):

Flashing light indicates data transmission; Constant light indicates no data transmission.

Power Indicator (Blue LED):

Lights when power on WiFi or connected to PC or AC adaptor via MiniUSB cable.

Battery Indicator (Blue LED or Red LED):

Red LED lights when battery level low; Blue LED lights when battery charging full.

Charge Indicator (Red LED):

Lights when the battery is being charged; turn off when the battery is fully charged.

Charging Instructions:

Connect the DC Adapter (plug the AC adapter into an AC outlet) or PC’s USB cable, it charges whether the power switch is on WiFi or OFF/USB. (We DO NOT recommend charging WiFi Microscope while using)

Using with iPad

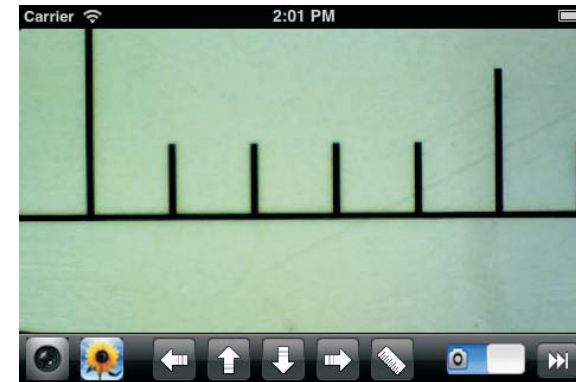
1. Download and install the “ISM-PAD” app from “App Store” or the Disc enclosed for your Windows or IOS device.


Note 1: Search “ISM-PAD” in App Store.


2. Slide the Power switch to the “WiFi” , and the power LED indicator will light, wait for ~20 seconds until the WiFi indicator and the illumination LEDs light, then the WiFi signal will be transmitting correctly.


3. Check the wireless connection on your Phone/Tablet or PC and a list of available networks will appear. Select the SSID “WiFi2SCOPE_xxxxxx” network from the list to connect; the network “WiFi2SCOPE_xxxxxx” requires a password: enter the password “12345678” and click Ok.


4. Once connected, open the “ISM-PAD” application to see your images. The WiFi indicator LED flashes and video stream signal should be displayed in the app. Video streaming can be broadcasted to many devices, but the frame rate of live video will decrease as the number of receiving devices increase.





 Capture photo or record video (You must set the pixel resolution to 640x480 when recording video).

 Photos folder or videos folder.


 Navigation icon—moving a dot left/up/down/right for calibration or measurement operation.

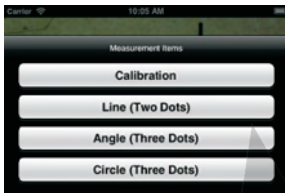
 Calibration and measurement icon.

 Switch between photo taking and video.

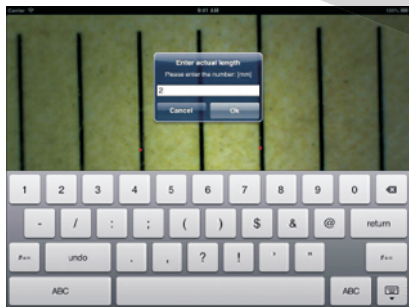
 Resolution Setting. (When changing the resolution, you must wait until the illumination LED is off and lights up again before clicking live video - it takes about 5 seconds).

Calibration and Measurement's Guide:

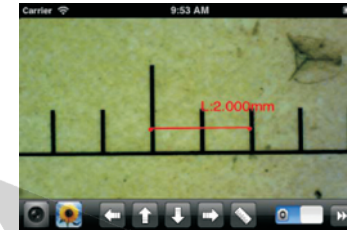
To obtain the accurate measurement data, please calibrate before any measurement function at each magnification. Use the enclosed calibration ruler as the to-be-observed object. Bring photo into focus by turning the "Focus & Magnification adjustment wheel"; Click  to pop - up this below screen:



Click "Calibration" to back the live video, click two dots (moving the dot by clicking navigation icons, which draw a your desired line, then click on the live video to pop-up this screen:



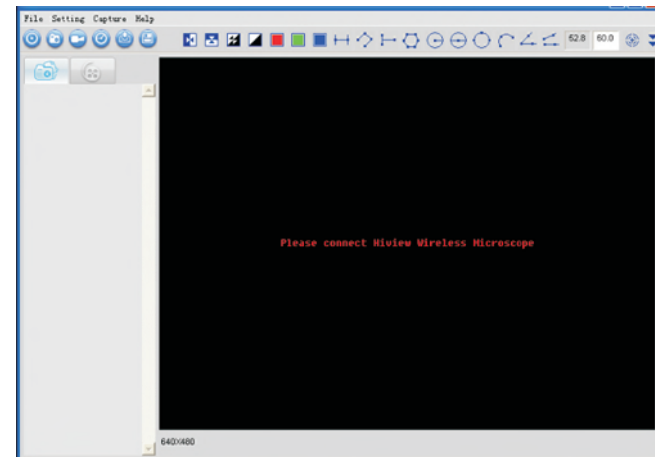
Input the actual length of the line; click "ok" and on the live video to pop-up this below screen:




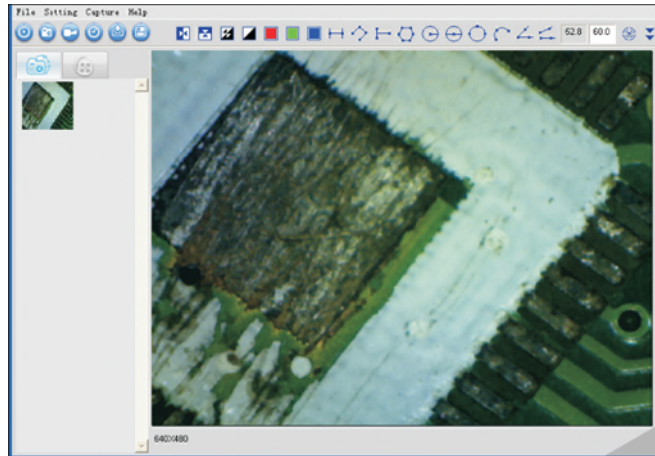
Now the calibration is completed, you can make measurement features accurately on the live video at this same focus. (Don't subsequently adjust the "Focus & Magnification adjustment wheel") If the new photo object is not in focus, please only adjust the distance between the microscope and the object till the photo is clear. This measurement data can be saved inside the taken photo.

Using with Windows in WiFi mode

Double - click ISM - WF Partner icon after completing installation to pop - up the below screen:



Click “Preview  ” icon and the ISM - WF200 main screen will display video as below: (it waits about 5 seconds to display video; if the frame rate of live video is slow, please click “Preview” icon once again to try.)



Menu:

File

Select a photo or video, click “File” on menu bar or right - key to pop - up the drop - down menu for operation.

Open: Open the selected photo or video to be viewed.

Save As: Save the selected photo or video file as the desired folder and file format.

Delete: Delete the selected photo or video.

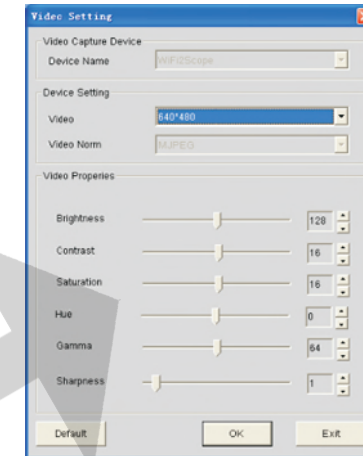
Delete All: Delete the all photos or videos in the photo or video folder.

E - Mail: Email the selected photos through your default email account.

Favorites: Open the folder which contains the captured photos and recorded videos.

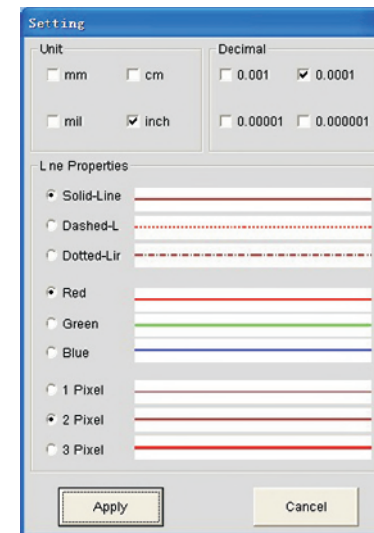
Setting

Device Setting: Select “Video setting” to pop - up the window below for video parameter setting:




When you change the resolution, you must wait until the illumination LED is off and lights up again before clicking OK-it takes about 5 seconds.


Setting: click to pop - up the pen setting: (If the “Line width” is 2 or 3 Pixel, the “Pen Type” must be Solid-Line)

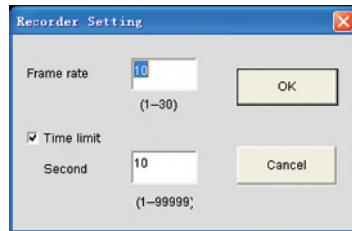


Language: The language selection allows you to select the ISM - WF200 interface language.

Capture

Take Picture: You can capture a photo by clicking the snapshot Button .

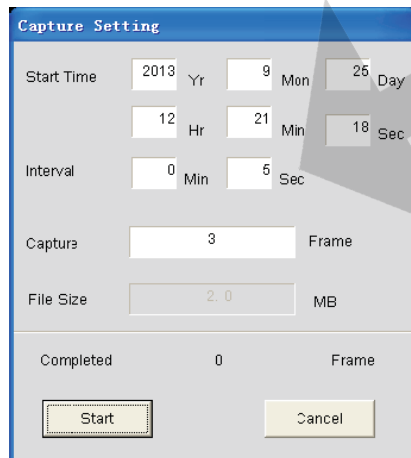
Take/Stop Video: In the active live video window, click  on to record a video.



1. Frame rate: is the number of frames or photos that are projected or displayed per second. The number range is 1~30.

2. Timer limit: is the time of video recording to avoid video file size exceeding the disk space. The number range is 1~99999.

Take time-lapsed pictures: Press the time-lapsed button  on the active preview window



Video Processing

Please click “Preview” to resume the live video after finished operation of video processing below.

- Horizontal Mirror
- Vertical Mirror
- Negative
- Binary Segmentation
- Monochrome display (Red)
- Monochrome display (Green)
- Monochrome display (Blue)

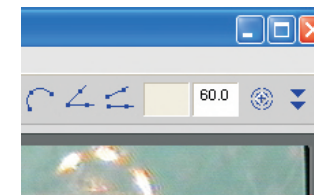
Calibration on Video:


It is strongly suggestion: To obtain the accurate measurement data, please calibrate before any measurement function at each magnification.

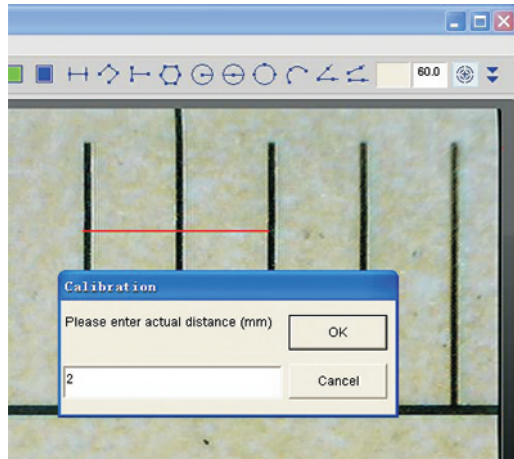
Select a known measurement standard as the to-be-observed object, such as a ruler, to be used for calibration. Bring photo of the selected ruler into focus by turning the “Focus & Magnification adjustment wheel”, determine the magnification by taking a reading from the scale on the focus dial as below:



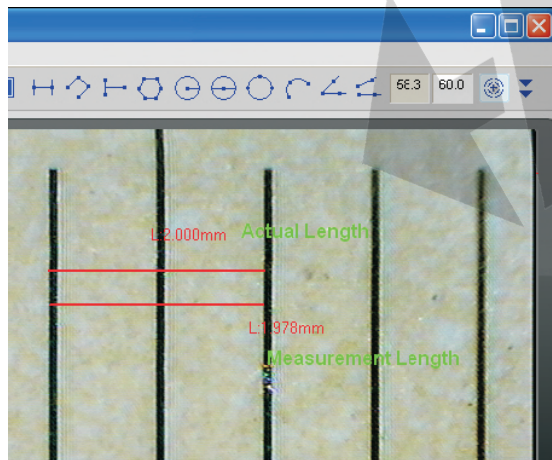
Enter the scale value in the “Scale” box in the right-hand scale box of the screen as below:



In the live video window click on the calibration button , and then click and drag to 2mm length, a small window pop up, enter the actual length(The example is 2mm) to click “OK” Button.



The software will automatically calibrate the scale of magnification and will show the calibrated scale of magnification at the right - hand box of calibration button as below :



Now the calibration is completed, you can make measurement features accurately on taken photos or real - time video at this focus point (Don't subsequently adjust the “Focus & Magnification adjustment wheel”). If the new photo object is not in focus, please only adjust the distance between the microscope and the object till the photo is clear, and then capture the photo to measure it.

 **Line measurement:**

This allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.

 **Point to Line Measurement**

This allows measurement of a line 90 degree from a certain line. Simply create a line to represent the base by clicking once to start, drag, and then click again to set the endpoint. Branch off from the base line to start measuring the line that is 90 degree from the base line and a final click to finish the measurement.

 **Continuous Line Measurement**

This allows measurement of the distance between multiple connecting lines. Simply click and drag to form one section of distance, click again to start another section. Continue until the total desired distance is measured. Double - click to finish.

 **Polygon Measurement**

This allows measurement of a polygon. Simply click and drag to form the desired length, and click again to start the next section, double - click to finish the polygon measurement.

 **Radius of Circle Measurement**

This allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.

 **Diameter of Circle Measurement**

This allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.

 **Three Point Circle Measurement**

This allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.

Three Point Arc Measurement

This allows a measurement of an arc. Click on three consecutive points on an arc to measure.

Three Point Angle Measurement

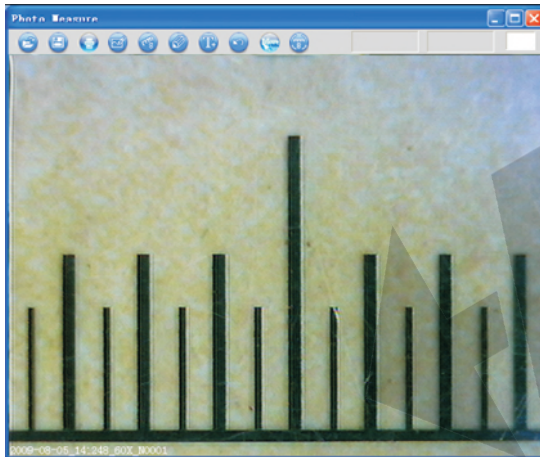
This allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

Four Points Angle Measurement

This allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.

Photo Viewing, Measure and Calibration

You can double - click the selected Photo to measure and view it as below shown:



For measure, please enter the magnification if there is not number. The number is the scale value of roller at the baseline of the captured photo.

Photo file name: yyyyymmddhhmmss_nnnx_Nxxxx is combined by date, time, magnification and serial number. For example, Still_2009 - 03 - 06_102949_060X_N0002 figures: Number is 0002, magnification is 60, date is Mar - 06 - 2009, time is AM10:29:49.

The program will auto load the magnification when you measured it if you put the scale before you capture the photo.

: Open a photo for measure from a folder.

: Save as

: Print this photo.

: Select one target.

: Measure function items.

: Pen setting.

: Add text into photo.

: Delete the selected target.

: Move the selected target.

: Calibration.