DM023B User Guide

2 Mega Pixels WiFi Digital Microscope with with purple light (Purple light wavelength is 400nm)



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Welcome

Thank you for purchasing the WiFi Digital Microscope. This WiFi digital microscope is highly useful for students, teachers, collectors, hobbyists, and testers etc to explore the microscopic world.

Please take a moment to read through this user guide. It will help you to get the best use of the smart microscope.

1.Precaution

Before using the WiFi Digital Microscope, please ensure that you read and understand the safety precautions described below. Always ensure that the WiFi Digital Microscope is operated correctly.

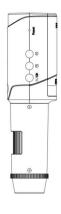
- Do not attempt to disassemble any part of this product.
- The Microscope is not waterproof, so keep it dry.
- Do not use it in a humid place like bathrooms. A dry environment will maintain its life to maximum.
- If the lens is dirty, please use a kens brush on soft cloth to wipe clean. Avoid touching it with your fingers. Exercise care to avoid scratching the lens.
- Sudden temperature change may fog inside the microscope like entering a warm room in the cold Winter. Put it inside a handbag or plastic bag to slow down temperature changes.
- Need to read digital microscope user guide before using and storing it.
- Use the Microscope only at -5°C to 50°C.

Notice:

The WiFi Digital Microscope has been tested for CE/FCC/RoHS certification.

2.Preparation

■ Package Contents



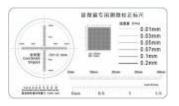
Microscope



Stand



USB cable



Calibration ruler



CD

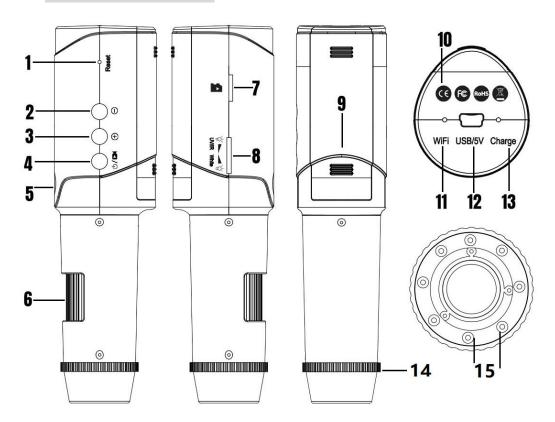


Lithium Battery



Quick Start Guide

■ Parts Names & Functions



1	Reset button	9	Battery cover
2	Digital zoom -	10	Certification mark
3	Digital zoom +	11	WiFi LED indicator
4	Turn On/Off / Video button	12	USB port(PC and Charge)
5	Capture Microtouch	13	Charging LED indicator
6	Focus wheel	14	Polarizer switch
7	TF card slot	15	4 pcs white light LED and 4 pcs UV light LED
8	UV/IR or white LED brightness dimmer		

3. Specifications

■ Image sensor : 2 Mega Pixels (True resolution)

■ Magnification Ratio: 10x-200x (Real magnification, based on 24 inch display)

■ Photo resolution: 864*480/ 1280*720/ 1920*1088

■ Video resolution: 864*480/ 1280*720/ 1920*1088

■ PC interface : USB2.0

■ Power source : 5V/1A DC from USB port

■ Light source : 8 LED (adjustable by LED brightness dimmer)

■ Object Distance: Manual focus from 0mm to 150mm

User Guide:user guide available from www.download-toproview.com

PC Software: DigiCapture Pro with measurement function and supports four display
concurrently

Software available from www.download-toproview.com

 Software language: Chinese, English, Traditional Chinese, French, Italian, Japanese, Korean, Russian, Deutsch, Spanish, Portuguese, Dutch, Polish, Ukrainian, Lithuanian, Hungarian

■ PC operation system: Windows 7/8/10

macOS 11.2.1 and later

Software supports to plug and play

■ iOS/ Android App: TopScope Pro

iOS 12.0 and later

Android 4.2 and later

App language :Chinese, English, Traditional Chinese, French,
Deutsch, Japanese. App language automatically changes

according to the system language of your cellphone.

■ Working time: 2.5hrs

■ Charging time: 2.5hrs (WiFi Digital Microscope power off)

■ Body dimension: 16.6cm (L) x 4.5cm (W) x 4cm (H)

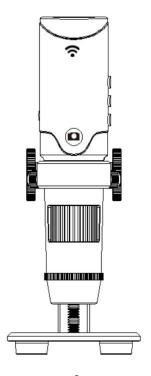
■ Product gross weight: 100g

4.Install the microscope into the stage

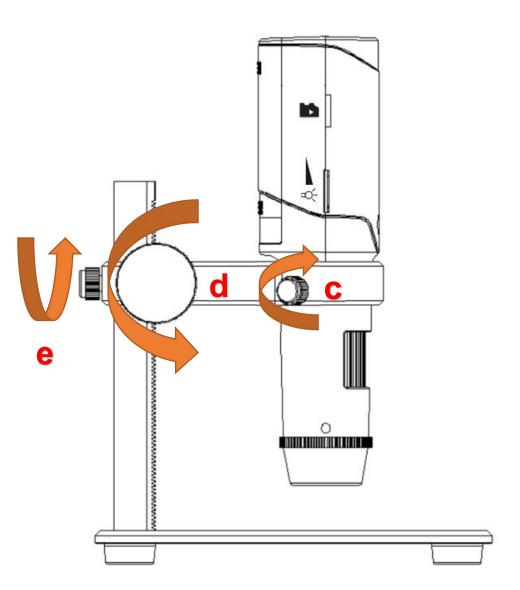
a. Install the metal pole upright into the base by the two screws(included in the package)



b. Put the microscope into the ring of the stand.



- c. Rotate the two knobs clockwise to tighten scope into the scope holder.
- d. Rotate the two knobs to Up/Down microscope focus.
- e. Rotate the knob to lock the Up/Down adjustment.

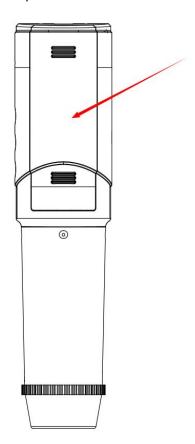


5. Works on iOS/Android Device by WiFi Connection

Start TopScope Pro App, Please refer to **Part I** on 'TopScope Pro App Introductions'.

5.1: Install battery

- a. Open the battery cover.
- **b.** Insert the Lithium Battery(The WiFi Digital Microscope mainboard with NTC function which will offer battery over temperature protection) into the built-in battery holder according to the picture shown as below.

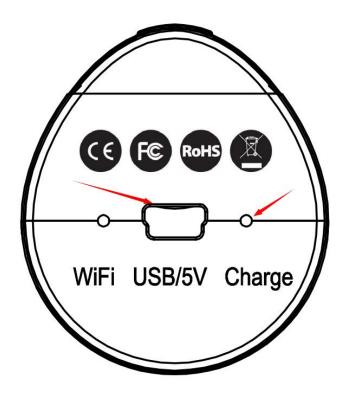


Note:

- 1:Please plug the microscope by USB connection to activate the battery when the first time to use.
- 2:Please make sure the battery is not out of battery before using the WiFi Digital microscope.

5.2: Charge the battery

- **a.** You are suggested to charge the battery full by the USB port before using the WiFi Digital Microscope.
- **b.** The required DC input is **DC 5V/1A**. Power adapter is not included in the package, please use the common power adapter with the smart phone.
- **c.** Insert the USB cable into the USB port for charging, the charging indicator on the top of the microscope will be in red when charging, and will be off when charging is finished.
- **d.** The charging time (from empty to full) is around 2.5hrs (WiFi Digital Microscope power off). After fully charged, the battery can last around 2.5hrs for WiFi Digital microscope continue working.



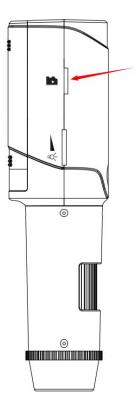
Note: Please plug the microscope by USB connection to activate the battery when the first time to use.

5.3: Insert a TF Card (not included in the package)

Insert a Micro-SD card into the TF card slot by gently pressing until card is latched.

Note:

- Works on iOS/Android Device by WiFi Connection, If the microscope is inserted and worked with the TF card, the taken photos and videos will be saved in the "TF" option, and you can only download the saved files by reading the TF card with your computer; if the microscope works without TF card, the taken photos and videos will be saved in the 'Photo' and 'Video' options, and you can download the save the files to iOS/Android Device.
- Do not force the card into the slot, forcing may damage microscope card slot and the TF card. Please align TF card position (as marked) and try again.
- The TF card must be formatted before capture.



5.4: Capture Microtouch

Touch 'Capture microtouch' on microscope body then a photo will be taken, as below:



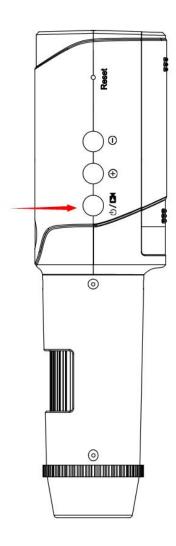
Note:

1: "Capture microtouch" function keys only work in WIFI connection situations. It is not supported to use when connecting to a computer for operation.

2: Please click the Take "Photo" button on your computer software to operate it when USB connection to a PC.

5.5: Video button

Press 'Video button' of microscope body then a video will be recorded, as below:

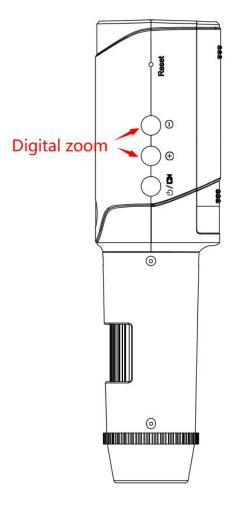


Note:

- 1: "Recording" function keys only work in WIFI connection situations. It is not supported to use when connecting to a computer for operation.
- 2: Please click the Take "Video" button on your computer software to operate it when USB connection to a PC.

5.6: Zoom in/out

At previewing status, you can press the digital zoom button to zoom in or out digitally.

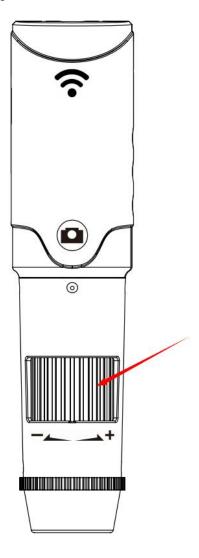


Note:

- 1: "Digital zoom in or out" function keys only work in WIFI connection situations. It is not supported to use when connecting to a computer for operation.
- 2: Digital zoom in/out function is different with optical zoom in/out, it's only to decrease the apparent angle of view of a digital video, image and make it easy for you to check the specific area for it in the viewing screen.

5.7: Adjust focus

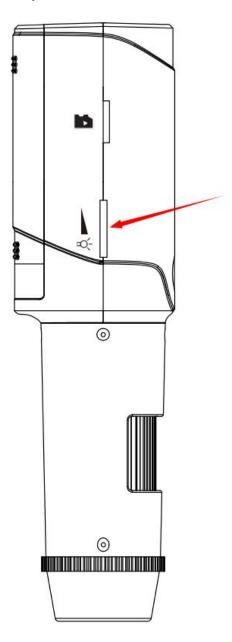
After putting object on the observation pad and under the lens tube, you can rotate the Focus wheel to get the fine focus.



Note: The closest distance of microscope and the object is 0mm, and the longest distance is 150mm. The magnifying time is the maximum when distance is 0mm, the magnifying time will be smaller as the distance increasing. Please adjust the appropriate height before focus adjustment.

5.8: LED Brightness Dimmer

You can rotate the LED Brightness Dimmer to adjust the brightness of LED lights while observe the object.

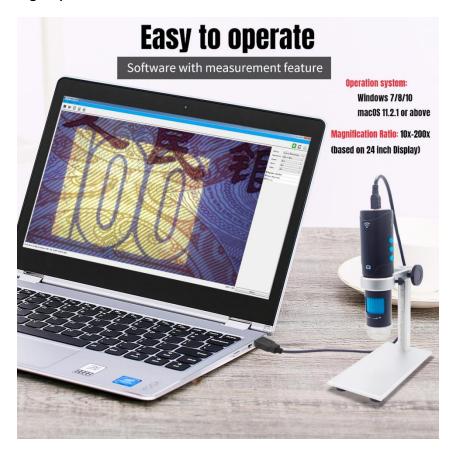


6. Works on Computer by USB Connection

a. U Turn on/off Button

Press for 5 seconds to turn on/press for 5 seconds again to turn off the WiFi Digital Microscope.

- b. Connect the WiFi Digital Microscope to computer by USB cable.
- **c.** The microscope doesn't with a TF card in. (This point is required if you need the microscope works with PC software directly)
 - d. Start the software "DigiCapture Pro", Please refer to Part II on 'DigiCapture Pro Software Introductions'.



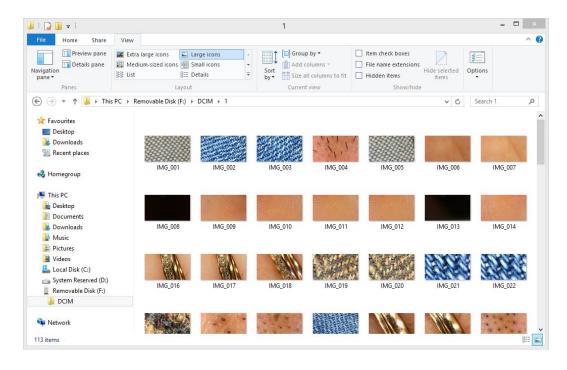
Note: 'Capture Microtouch', 'Video button' and 'digital zoom button' of microscope body unable to work when the WiFi Digital Microscope works on computer by usb connection.

7. Download Files to Computer by USB

a. U Turn on/off Button

Press for 5 seconds to turn on/press for 5 seconds again to turn off the WiFi Digital Microscope.

- **b.** Connect the WiFi Digital Microscope to computer by USB cable.
- **c.** You can view stored photos & videos if the microscope with a TF card in,as below:



Note: 'Capture Microtouch', 'Video button' and 'digital zoom button' of microscope body unable to work when the WiFi Digital Microscope works on computer by usb connection.

Part I TopScope Pro App Introductions

App name: TopScope Pro(iOS/Android)



1.Download App

iOS:

Search and install TopScope Pro from App Store.

Android:

Search TopScope Pro from <u>play.google.com/store</u> or <u>www.download-toproview.com</u> download and install it, or install TopScope Pro from the CD that comes with the package.



Below descriptions are taken iOS device as an example:

2. Connect the WiFi Microscope to iOS/Android device

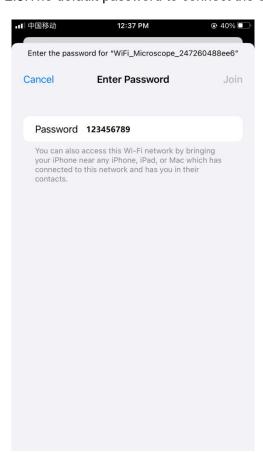
2.1: U Turn on/off Button

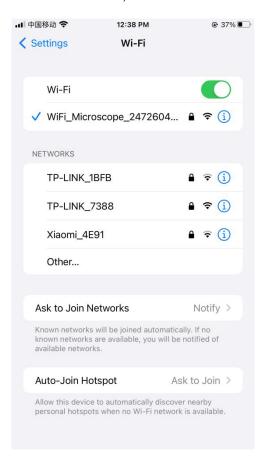
Press for 5 seconds to turn on/press for 5 seconds again to turn off the microscope.

2.2:Turn on the WiFi setting of your iOS/Android Device, search 'WiFi_Microscope_xxx' from the WiFi Device list.

Note: The WiFi Microscope name is WiFi_Microscope_xxx(xxx is a random number)

2.3:The default password to connect the device is 123456789, as follows:

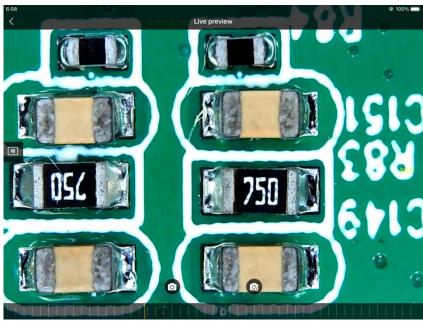




3.Start preview

Click and start to run App, live video will show as below:





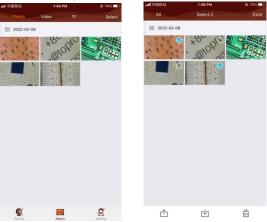
4. Take a photo/ Record the video



- 4.1: Click (SO\HD\FHD for VGA/720P/1080P) from App to change 'photo resolution' and 'video resolution', **if the microscope works without TF card.**
- 4.2: Click from App or **Touch camera button** of microscope body then a photo will be taken.
- 4.3: Click from App or **Video button** of microscope body then a video will be recorded.
- 4.4: Click from App to full screen preview.
- 4.5: For iOS devices, click 'Select' to select the photos or videos, and then click

shortcut icon in the menu bar, the selected files will be downloaded and saved

to your device's local photo album, as below:



Note: If the microscope is inserted and worked with the TF card, the taken photos and videos will be saved in the "TF" option, and you can only download the saved files by reading the TF card with your computer; if the microscope works without TF card, the taken photos and videos will be saved in the 'Photo' and 'Video' options, and you can download the save the files according to the above mentioned point '4.5'.

iOS storage

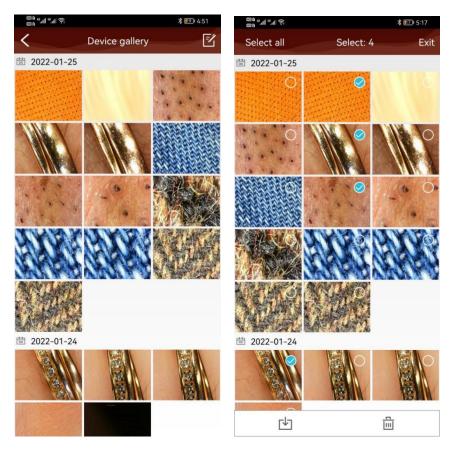
4.6: **For Android devices**, there are two situations to save the photos and videos, microscopes with TF card or microscope without TF card.

4.6.1: Microscope with TF card, click to select the photos, and then click

shortcut icon in the menu bar, the selected photo files will be downloaded and saved to the path as below:

Phone/Android/data/com.toproview.TopScope.Pro/files/TopScope Pro/f2dd3cd7-b026-40aa-aaf4-f6ea07376490/FMedia/Download

PS: Click to 'delete' pictures or videos.



4.6.2: Microscope with TF card, long press on the video file to download and save video files to the path as below:

Phone/Android/data/com.toproview.TopScope.Pro/files/TopScope Pro/f2dd3cd7-b026-40aa-aaf4-f6ea07376490/FMedia/Download

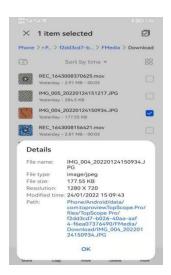


4.6.3: Microscope without TF card, you can see the 'photo' and 'video' options on the top of the APP, but the taken files could not be downloaded and saved by manually, all of them are saved into your device's local file automatically. The storage path as below:

Phone/Android/data/com.toproview.TopScope.Pro/files/TopScope Pro/f2dd3cd7-b026-40aa-aaf4-f6ea07376490/FMedia/Download



Taken Photos and Videos on App (Without TF card)

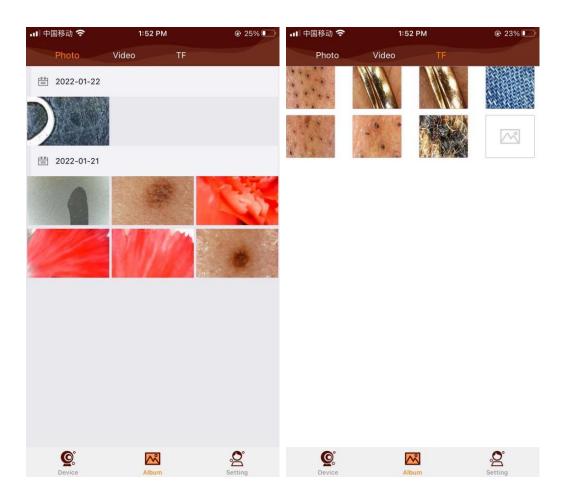


Android storage path (Without TF card)

5.Playback



Click Album to enter playback as below:



6.Settings



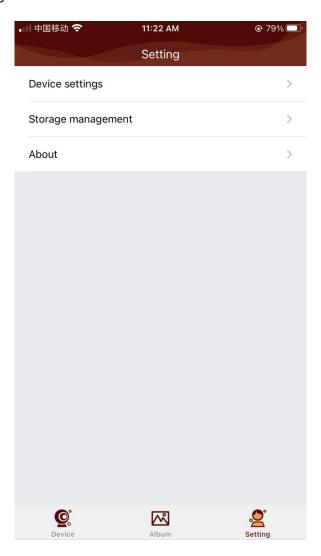
Click

you can enter into setting list, as below:

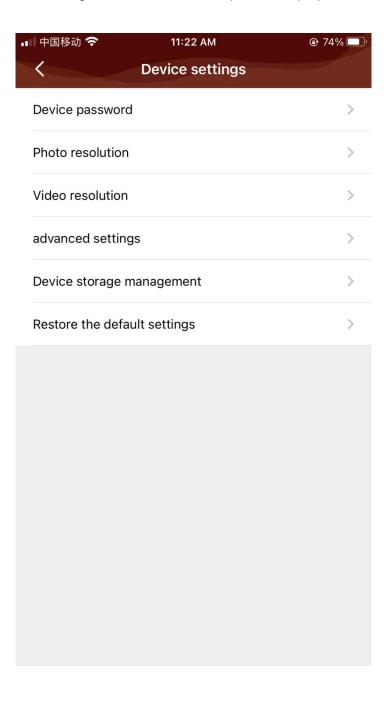
'Device settings': Microscope parameter settings

'Storage management': Smart phone storage management

'About': about us



6.1: Click 'Device settings' shortcut icon to set up Microscope parameter ,as below:

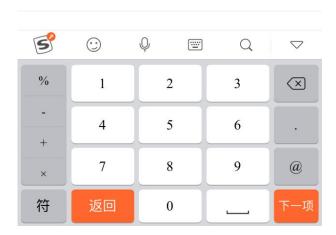


6.1.1: Click 'Device password' shortcut icon to set up Microscope WiFi password.

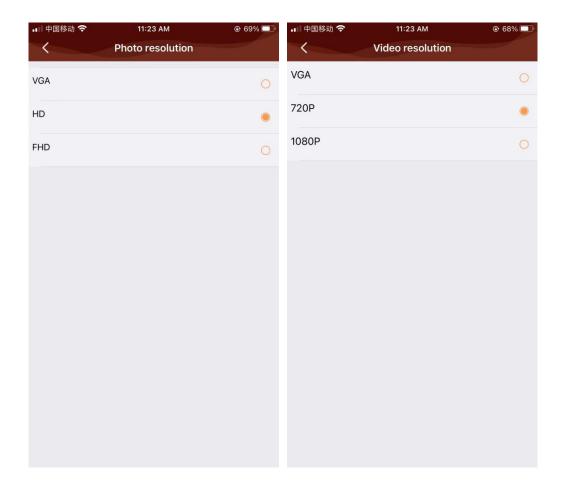
Change password: to change WiFi connection password (123456789 by default).

Note: Please press 'Reset' button of microscope body for 5 seconds to restore default setting if you forget your WiFi password.

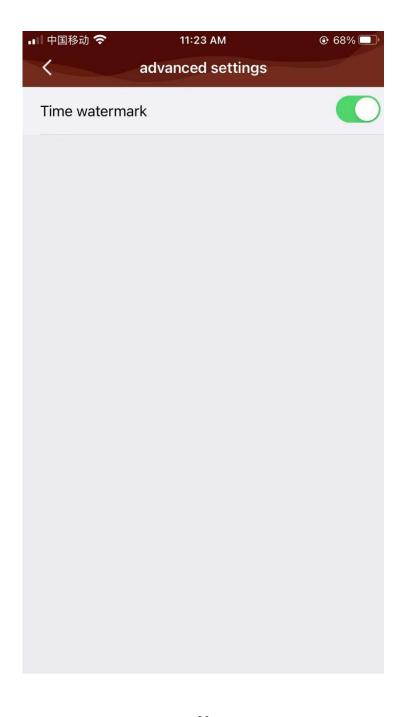




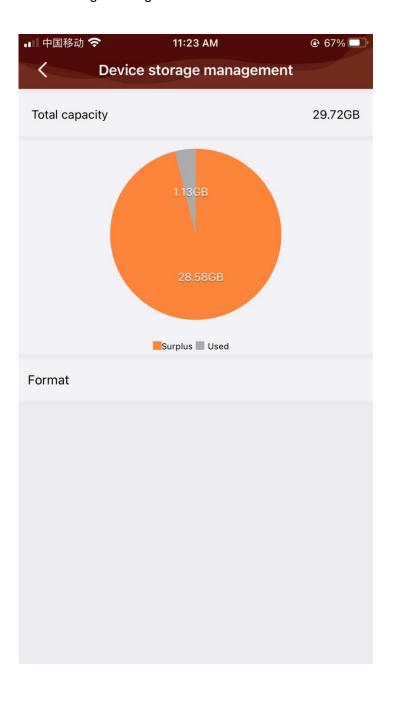
6.1.2: Click 'photo resolution' and 'video resolution' to change the photo size among VGA/HD/FHD, and change the video size among VGA/720P/1080P,if the microscope is inserted and worked with the TF card.



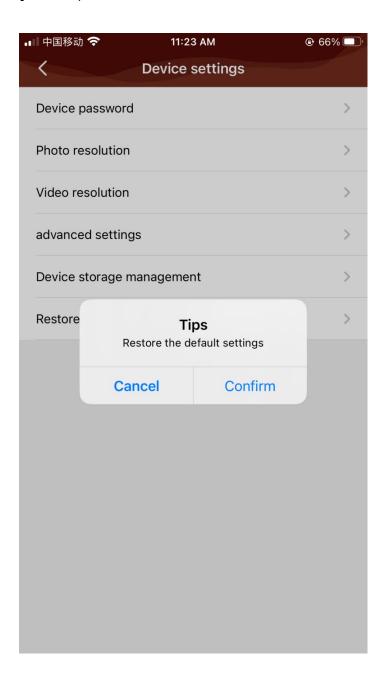
6.1.3: Click 'advanced settings' to set up on/off the date stamp of video.



6.1.4: Click 'Device storage management' to format TF card.

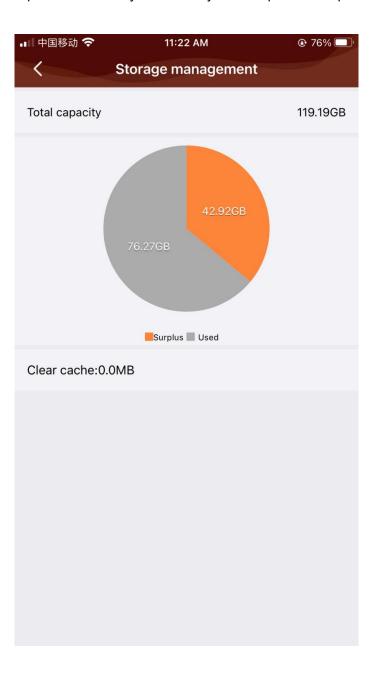


6.1.5: Click 'Restore the default settings' to restore default WiFi password (123456789 by default).

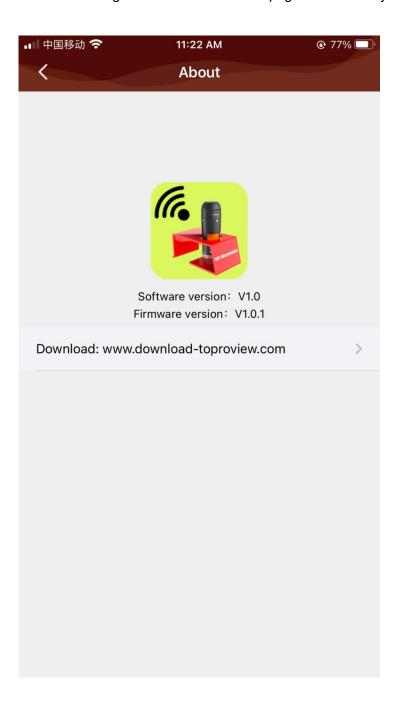


6.2: Storage management

Clear cache: helps to clear history redundancy and keep video frequent.

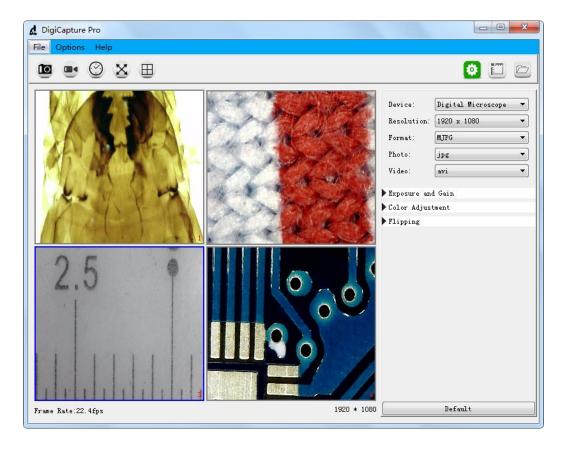


6.3: Please contact us through the information in this page if there is any necessary.



Part II DigiCapture Pro PC Software Introductions

Software name: DigiCapture Pro(With measurement)



1.Install the Software on PC (Win7/Win8/Win10)

After download the software, double click it to install DigiCapture Pro in your computer.

Note:

Please download the software from <u>www.download-toproview.com</u> or QR code as below:

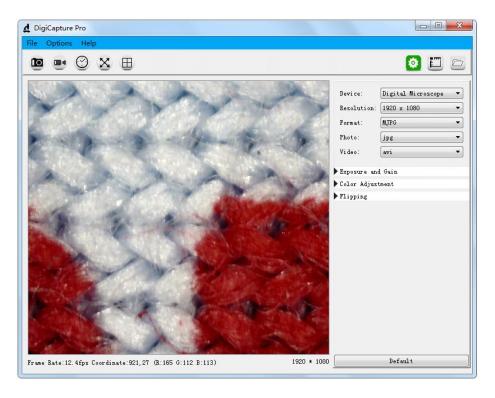


2.Run Digital Microscope

Connect your Digital Microscope to your PC USB port, and double click

DigiCapture Pro icon screen shown up.

to run the software and you will see the following

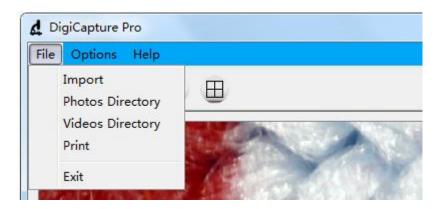


Note: When the Digital Microscope is disconnected from your PC USB port, the following message will shown up.

No device detectde, Please connect your microscope to your PC USB port directly!

3.Main Menu

3.1: File



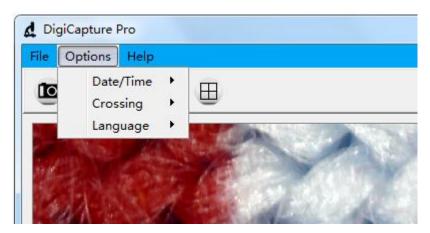
Import: Import photos or videos

Photos Directory:set the store directory for the photo you taken

Videos Directory: set the directory to store video taken

Print: Print current image **Exit:** Exit the software

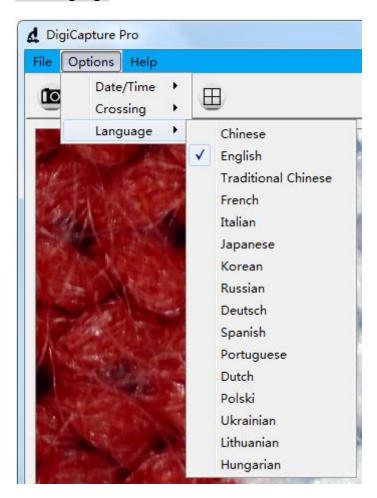
3.2: Options



Date/Time: set the display system date/time on preview window

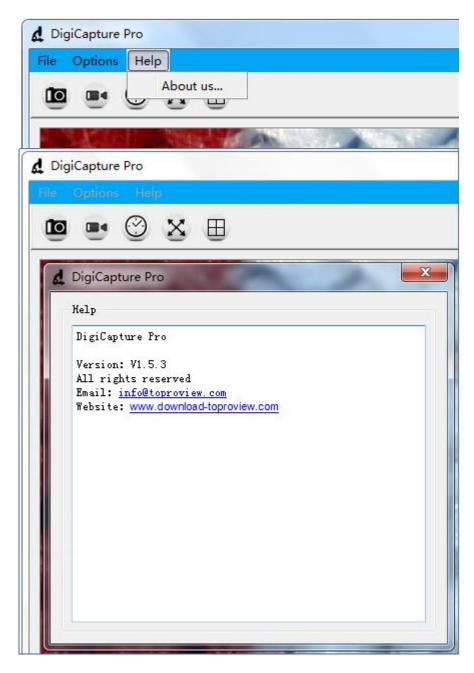
Crossing: display cross on preview window **Language:** choose different OSD language

3.3: Language



a. There are 16 languages built in the software.

3.4: Help



a. Please contact us through the information in this page if there is any necessary.

4. Software Functions

4.1: Capture Photo

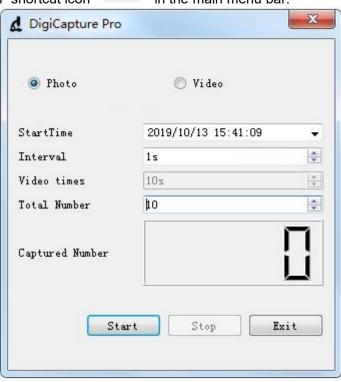
Click 'Photo' shortcut icon in the main menu bar.

4.2:Capture Video

Click 'Video' shortcut icon in the main menu bar.

4.3:Timer (Photo / Video)

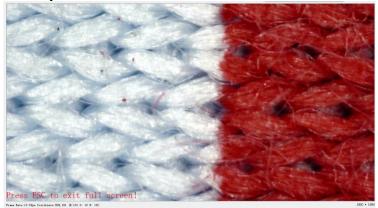
Click 'Timer' shortcut icon in the main menu bar.



- **a.** Under Timer photo, you can set the start time, interval time and total number of picture.
- **b.** Under Timer video, you can set the start time, interval time, video times and total number of video.
- **c.** After setting, you can choose "Start", "Stop" or "Exit" to the next process.

4.4: Fullscreen Mode

Click 'Fullscreen Mode' shortcut icon in the main menu bar to see the observation object in full screen.

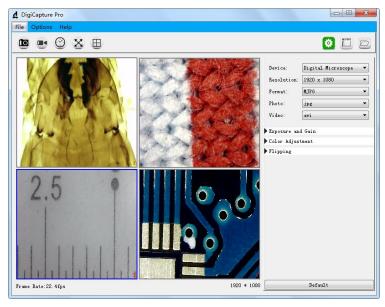


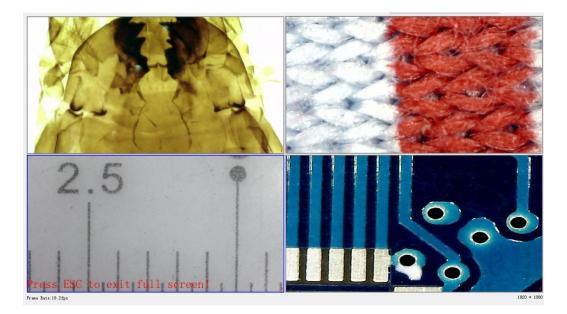
Note: press 'ESC' key or Double click the right mouse button to exit full screen mode.

4.5: Screen Switch

The software support one display or four display concurrently. Click 'Screen Switch'

shortcut icon in the main menu bar to switch it from one display into four display.





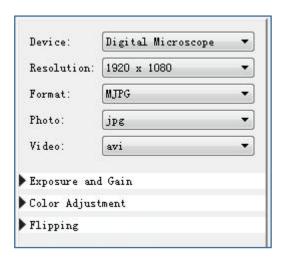
- **a.** Click the left mouse button to select window 1, window 2, window 3 or window 4, When selected, the window border will turn into blue.
- **b.** Select different devices in different Windows through the 'Device' option on the right.
- c. The software can work with up to four devices simultaneously to display images.
- d. You can click 'Screen Switch' shortcut icon again to exit four image display.

Note1: Check if the 4USB port in your PC could support the enough power dissipation for the microscope, if the USB port power dissipation is not strong enough, then the 4 preview windows can not work at the same time.

Note2: One USB 2.0 port could offer 500MA output current normally, and the power dissipation for one microscope is less than 500MA normally, but it depends on the actual situation, different microscope should be with different power dissipation.

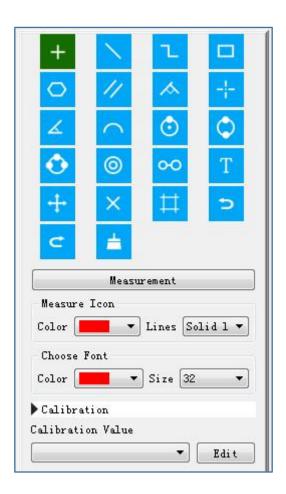
4.6: Setup

Click 'Setup' shortcut icon in the main menu bar and you will see the following screen shown up.



- a. Support different devices working by clicking the drop-down menu 'Device'.
- **b.** Choose different resolution working by clicking the drop-down menu 'Resolution'.
- **c.** Select different image parameter through 'Format', 'Photo format', 'Video format', 'Exposure and Gain', 'Color Adjustment', and 'Flipping'.

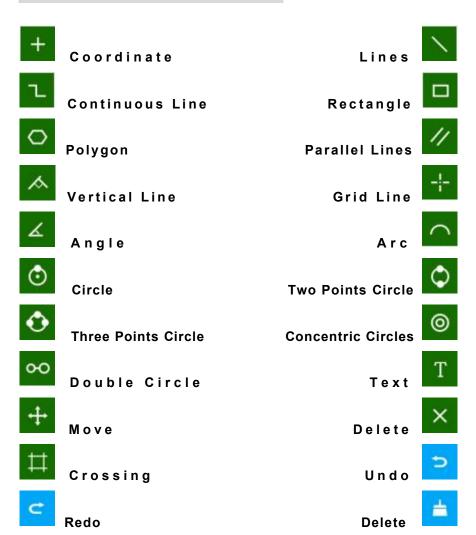
4.7: Measurement



- **a.** Choose different measurement functions through the menu. Different measurement function can be operated in the preview window or the store photos.
- **b.** Click the 'Edit' button to set Calibration.

Noted: Remember to follow this step, or the measurement will be inaccurate. **(More on that later)**.

4.8: Measurement Interface Instructions



4.9: Browse file

Click 'Browse file' shortcut icon in the main menu bar and you will see the following screen shown up.



- **a** .You can replay photo or video, and double click photo to measure.
- b. Photo taken by the software will be saved at: D:\DigiCapture Pro\save\image\Photo1 or \Photo2,\Photo3,\Photo4
- c. Video taken by the software will be saved at:D:\DigiCapture Pro\save\movie\Movie1 or \Movie2,\Movie3,\Movie4

Noted: Please note that do not install this software on the disk c of your computer, or may cause some computer permission issue.

If you have to install it on disck c, please change the save path for capture and video as below(due to Windows permission, can't take capture and video if the default location is disck c): File---Photos Directory---Add an new foler in disk C with whatever name---Choose this new folder as your capture save path; Same way for video recording.

5. Calibration

Please make calibration before measurement.

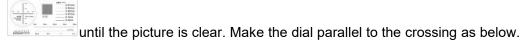
Calibration

Start Crossing from 'Options>Crossing>On'.



Noted: the usage of this crossing is checking the dial on the calibration ruler.

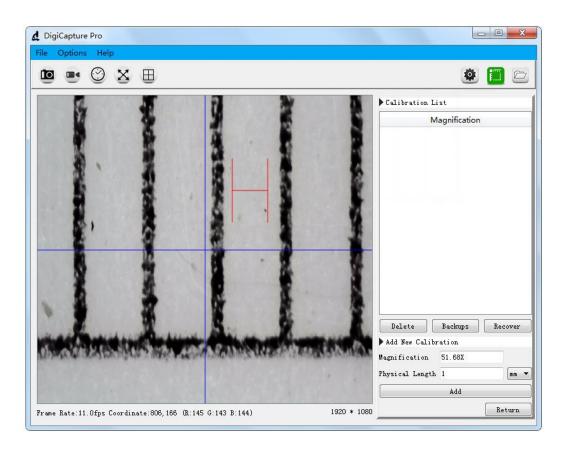
5.1: Focusing microscope by using the attached calibration ruler



DigiCapture Pro

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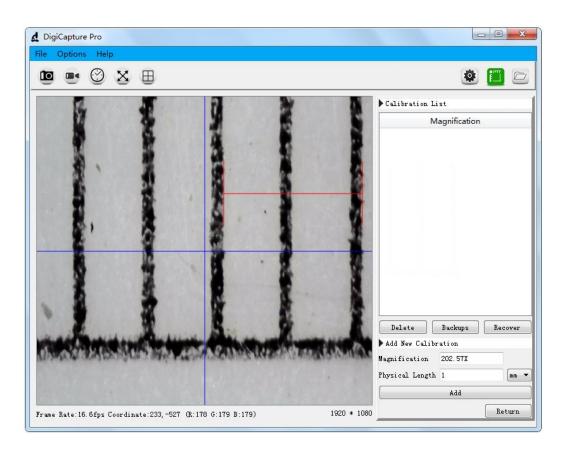
5.2: Click the 'Edit' button in the lower right and you will see the following screen shown up.



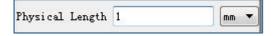
- **5.3:** Select physical length unit same as the calibration ruler.
- **E.g.**, If the calibration unit is mm, then select mm in the drop down menu.

Physical Length	1	mm 🔻
		11.

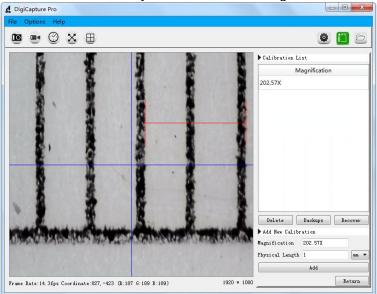
5.4: Move the H-shaped ruler in the preview window to a reasonable position



- * Remark: The measured line should be parallel.
 - **5.5:** Select the length of H-shape, the length number of H-shape is same as the corresponding calibration ruler dial, then fill the length number as following figure, such as '1'.



5.6: Click the 'Add' button and you will see the following screen shown up.



- **a.** You can see actual magnification under the 'Magnification' menu on the left of the window.e.g. '202.57X', means the image is magnified 202.57 times.
- **5.7:** Click the 'Return' button in the lower right and you will see the following screen shown up.

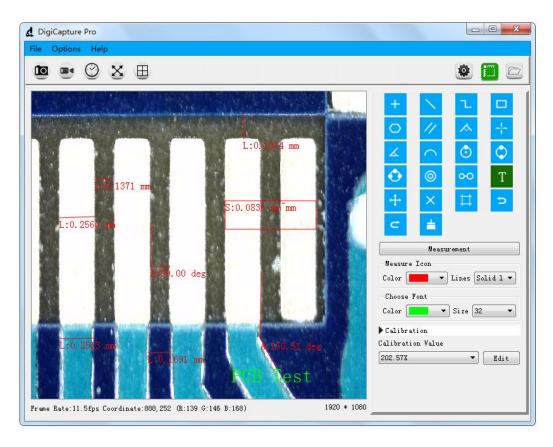


a. If the above 7 points $(5.1\sim5.7)$ are completed in sequence, the correction is completed.

6.Measurement

Please make calibration before measurement.

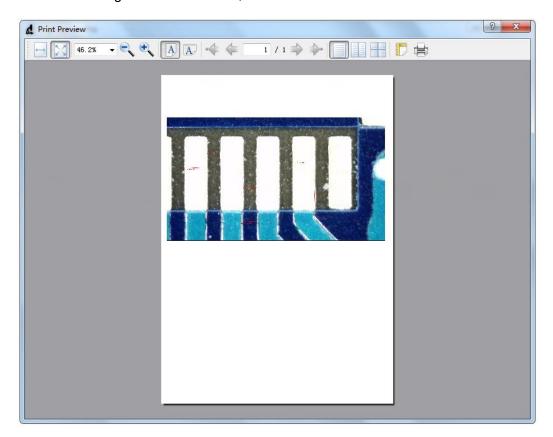
6.1: Use the corrected magnification to test the target object, as shown below:



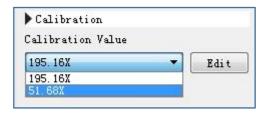
In order to ensure the accuracy of the measurement, please make sure he focal length and resolution are same as the correction value. Otherwise, the measured results will not be accurate.

Picture shown above is the result for the target object "PCB": PCB line width is 0.2513mm and distance of two PCB line is 0.1691mm.

6.2: Print images from 'File>Print', as shown below:



6.3: Choose other magnification to measure target object by clicking the drop-down menu 'Calibration Value'. Different magnification will lead to different measurement results.



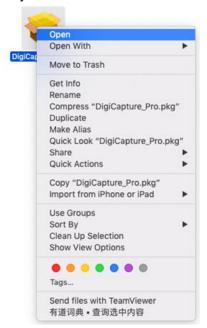
6.4: If you change the resolution or the focal length, please revise the calibration again and use the corrected magnification to go ahead the target object measurement, or the measurement result will not be accurate.

7.Install the Software on MacBook (11.2.1 and later)

7.1: Please download the software from www.download-toproview.com



7.2: After download, press 'control' and click the "pkg" file to install DigiCapture Pro in your MacBook



7.3: Please click 'Open' to allow the installation, as follow



7.4: Run the software as follow

