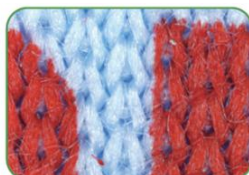


# DM041 User Guide

4.3-inch LCD Digital Microscope with polarizer



**Pappter Detection**



**Textile Detection**



**Skin Detection**



**PCB Board Detection**

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# Welcome

Thank you for purchasing the LCD Digital Microscope. This digital microscope integrating LCD/USB functions 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 LCD Digital Microscope, please ensure that you read and understand the safety precautions described below. Always ensure that the 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 lens 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  $-5^{\circ}\text{C}$  to  $50^{\circ}\text{C}$ .

### Notice:

The LCD Digital Microscope have been tested for CE/FCC/RoHS certification.

# 2.Preparation

## ■ Package Contents



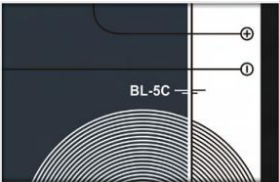
Microscope



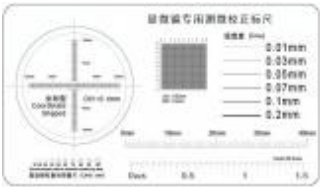
Stand



USB cable



Battery-BL-5C with NTC

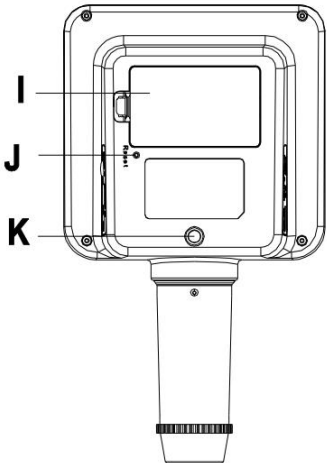
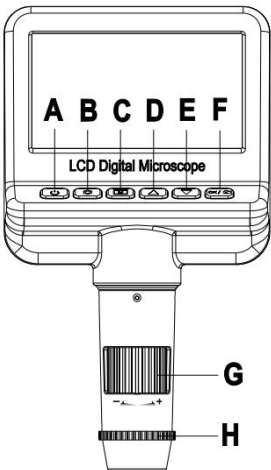


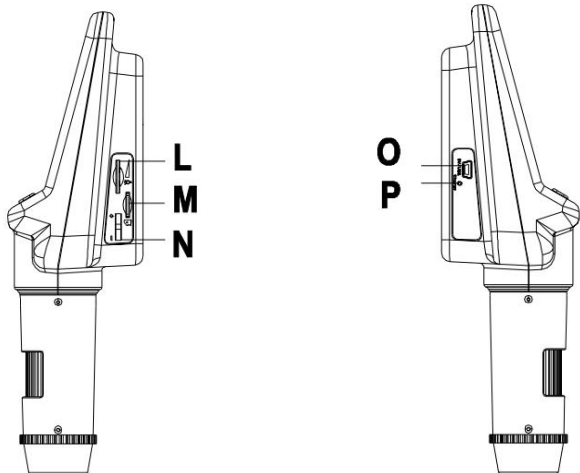
Calibration ruler



Quick Start Guide

## ■ Parts Names & Functions





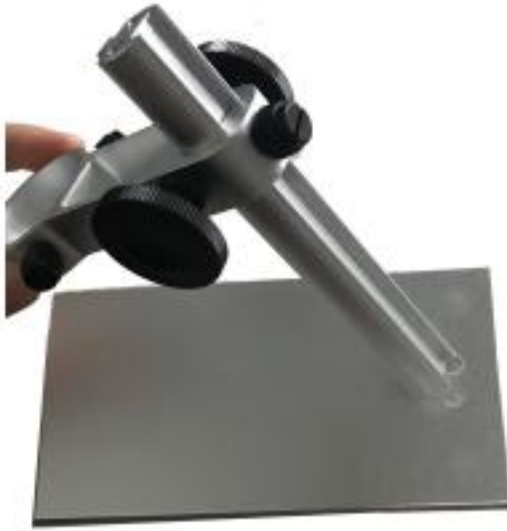
A	Power on/off	B	Setup
C	Photo/Video/Playback	D	UP
E	Down	F	OK/Capture
G	Focus adjustment	H	Polarizer switch
I	Battery-BL-5C with NTC	J	Reset
K	1/4 inch nut	L	LED Dimmer
M	Micro-SD slot	N	Digital zoom
O	USB output/DC in	P	Charge lamp

### 3.Specifications

- LCD Size: 4.3-inch
- Magnification Ratio: 10x-150x, up to 500x by 2M
- Languages OSD : Simplified Chinese, Traditional Chinese, English, Русский,  
한국어, Japanese, Español, Türkiye, עברית, Polski,  
Français, Italiano, português, čeština, Deutsche
- Photo resolution: 2M / 1.3M / VGA
- Video resolution: 720p / VGA / QVGA
- Photo format: JPEG
- Video format: AVI
- Storage: Micro-SD card (Not included)
- Object Distance: Manual focus from 0mm to 55mm
- Battery: Removable lithium battery with NTC
- Continuous working time-(2hours)
- Continuous charging time-3hours
- DC input: Mini USB 5V/1A
- User Guide:user guide available [www.download-toproview.com](http://www.download-toproview.com)
- Software: DigiCapture Pro with measurement and Four display concurrently  
Software available [www.download-toproview.com](http://www.download-toproview.com)
- Operation system: Windows 7/8/10  
macOS 10.14 and later  
The software support plug and play
- Size: 271mm (L) x 181mm (W) x 102mm (H)
- Weight: 750g

## 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.How to Use the Digital Microscope

### ■ Main Buttons for the LCD Digital Microscope



#### 5.1 Turn on/off Button

Press for 3 seconds to turn on/press for 3 seconds again to turn off the microscope.

#### 5.2 Set up Button

Press “” to set main functions for the microscope:

Language selecting, video resolution, photo resolution, fast view, cyclic record, time setting, date tag, auto power-off, format, reset system, check software version.

Selecting by pressing “” and “” button.

Language selecting: 16 kinds of languages options available.

Video resolution: 720P, VGA, QVGA options available.

Photo resolution: 2M, 1.3M, VGA options available.

Fast view: off, 2S, 5S options available.

Cyclic record: off /3 minutes /5 minutes /10 minutes options available.

In the memory card is full, it will delete the first video and save the new video automatically.

Time Setting: set the current time and it will be shown in the home screen when microscope working.

Date tag: choose On or Off to make the date shown in the home screen or not shown in the home screen.



Auto Power-Off : set the time to auto power off the microscope when there is without operation on it. One minute, three minutes and off options available.




Format : select to format SD Card when need.

Reset System : reset the microscope to the default setting.


Version : check the microscope software version.

#### 5.3 Mode Button

Taking Photos mode: Press icon  and when the camera icon shown in the top left corner of the screen then press icon  to take the photo( 2M / 1.3M / VGA) .

Recording Video mode :Press icon  and when the video icon shown in the top left corner of the screen then press icon  to record the video, press icon  again to stop take video.

Playback mode: Press icon **M** and when the OK: icon shown in the top left bottom of the screen then you can check the photos and videos you took.

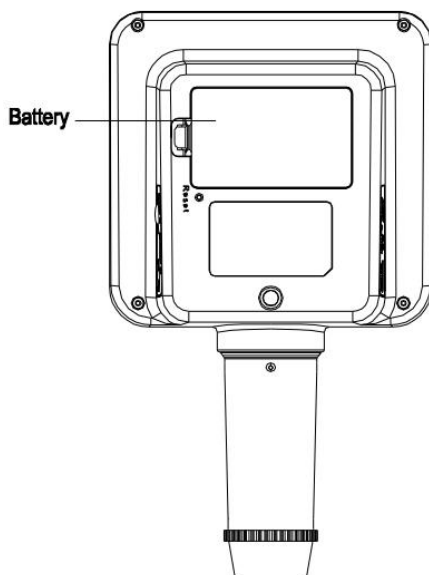
At playback mode, you can press  button to delete the current file or all files.

5.4 ▲ Up Button, ▼ Down Button and OK Button for selecting.

## ■ Install battery

a. Open the battery holder door .

b. Insert the lithium battery(with NTC) into the built-in battery holder according to the picture shown as below.



**Note:** Please make sure the battery already charged before using the microscope.

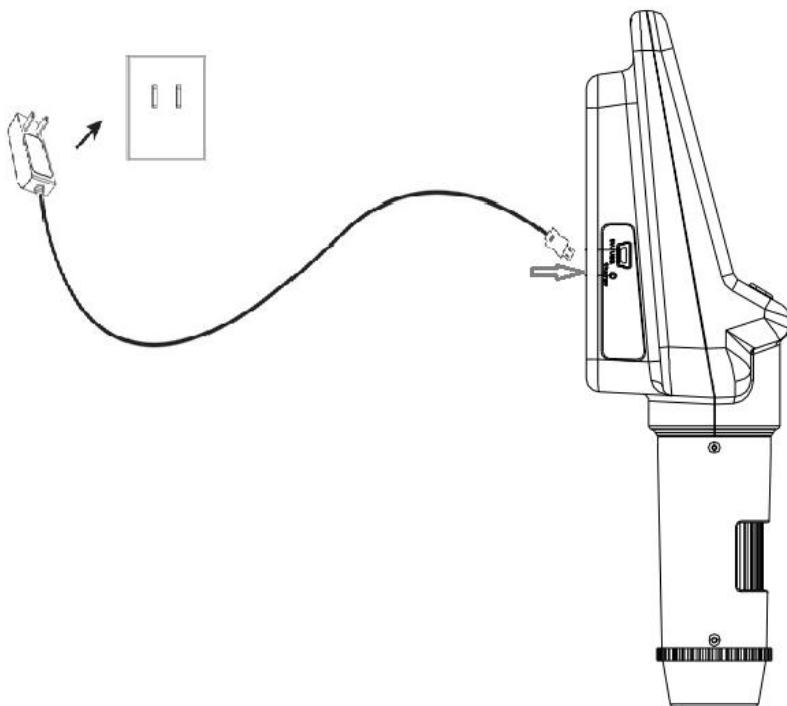
## ■ Charge the build-in battery

You are suggested to charge the built-in battery full by the USB port before using the microscope.

The required DC input is 5V/1A. Power adapter is not included in the package, please use the common power adapter with the smart phone.

Insert the USB cable into the USB port for charging, the charging indicator on the left rear of the microscope will be in red when charging, and will be off when charging is finished.

The charging time (from empty to full) is around 3hrs. After fully charged, the battery can last around 2hrs for microscope continue working.



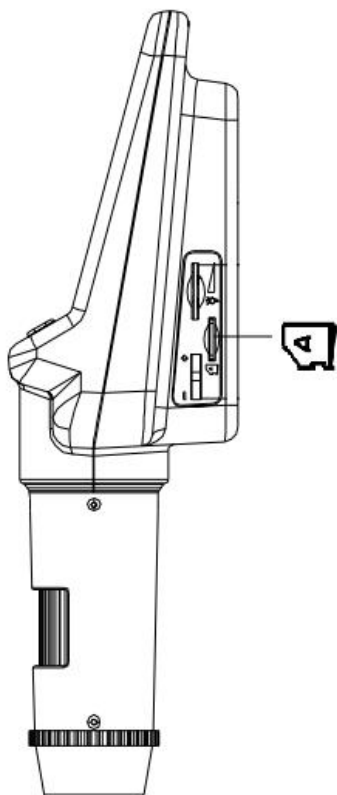
## ■ Insert a Micro-SD Card (not included in the package)

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

Note:

Do not force the card into the slot, forcing may damage microscope card slot and the Micro-SD memory card. Align Micro-SD card position (as marked) and try again.

The Micro-SD memory card must be formatted before capture.



## ■ Adjust focus

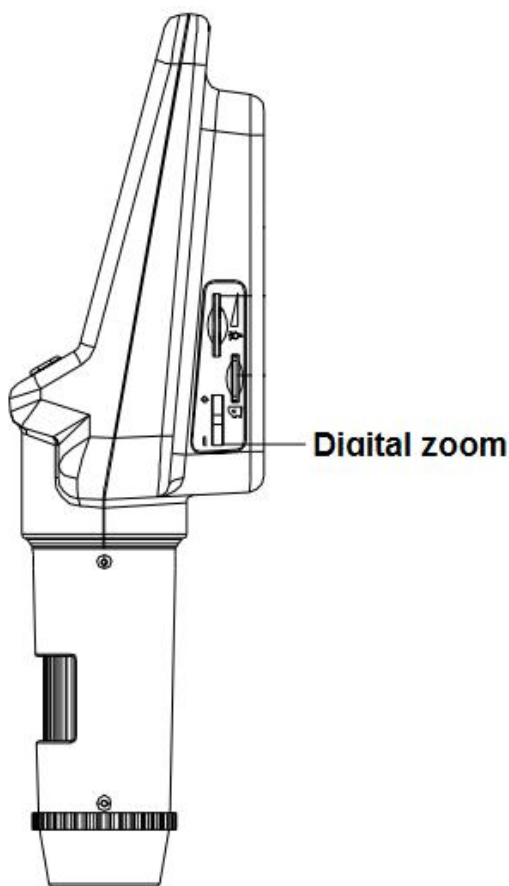
After putting object on the observation pad and under the lens tube, you can rotate the Focus wheel to get fine focus.



**Note:** The closest distance of microscope and the object is 0mm, and the distance is 55mm. 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.

## ■ Zoom in/out

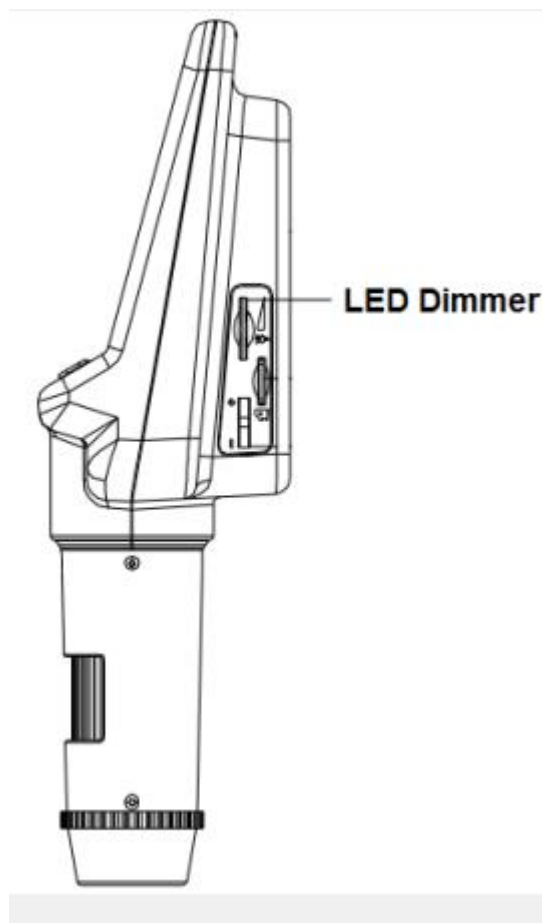
At previewing status, you can rotate the digital zoom button to zoom in or out digitally.



**Note:** Digital zoom in/out function is different with optical zoom in/out, it's only to decreasing 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 microscope screen.

## ■ LED Dimmer

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



## ■ Polarized light adjust

This is the hot and new feature for this microscope.

For some light reflecting object, like PCB, diamond, metal etc., you can rotate the polarizer switch while observing to reduce the light reflecting effect, and make the object more clear.

The polarizer switch can be adjust from left to right for 90-degree, when you rotate it from left to right, the reflecting light effect for the object will be increasingly smaller.





## 6.Download Files to Computer by USB

- a. Connect the microscope to computer by USB cable.
- b. you can view stored photos & videos if the microscope has a TF card in.

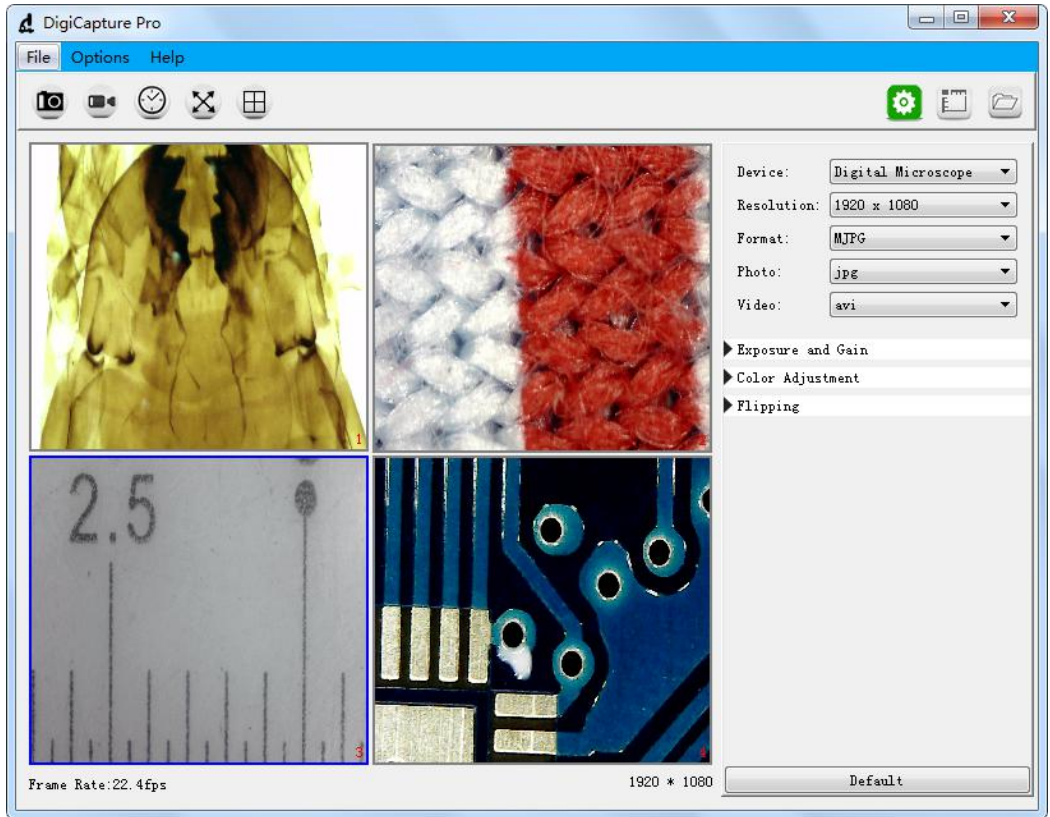
## 7.Works on Computer by USB Connection

- a. Connect the microscope to computer by USB cable.
- b. The microscope has not a TF card in.
- c. Start DigiCapture Pro software, Please refer to [Part II](#) on 'DigiCapture Pro Software Introductions' .



## Part II DigiCapture Pro Software Introductions

Software name: DigiCapture Pro



## 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 [www.download-topreview.com](http://www.download-topreview.com) or QR code as below:

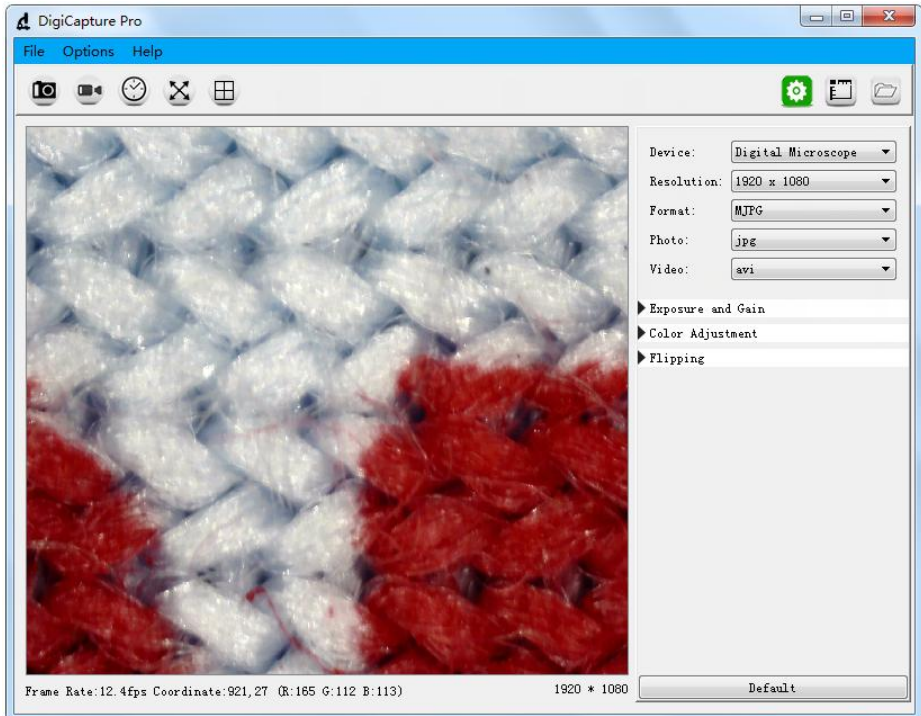


## 2. Run Digital Microscope

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



DigiCapture Pro icon to run the software and you will see the following screen shown up.

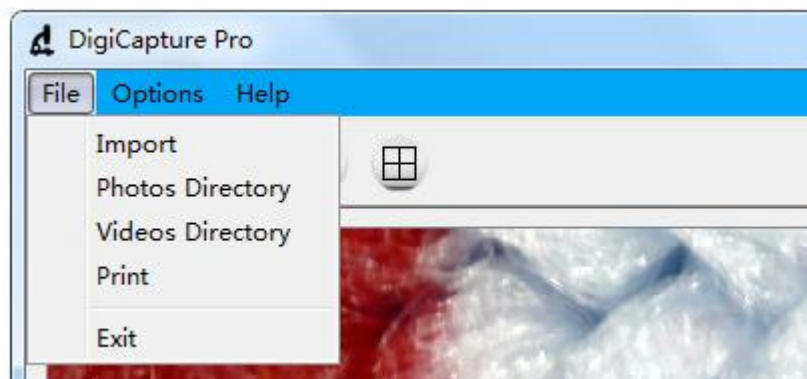


**Note:** When the Digital Microscope is disconnected from your PC USB port, the following message will shown up.

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

## 3. Main Menu

### 3.1: File



**Import:** Import photos or videos

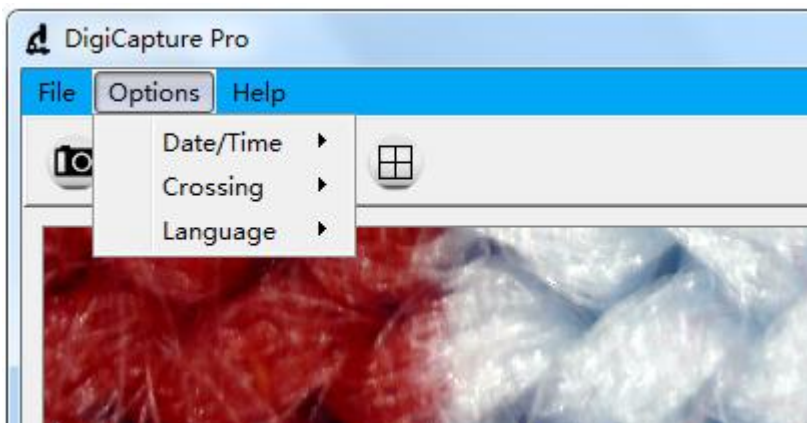
**Photos Directory:** set the store directory for the photo you taken

**Videos Directory:** set the directory to store video taken

**Print:** Print current image

**Exit:** Exit the software

### 3.2: Options

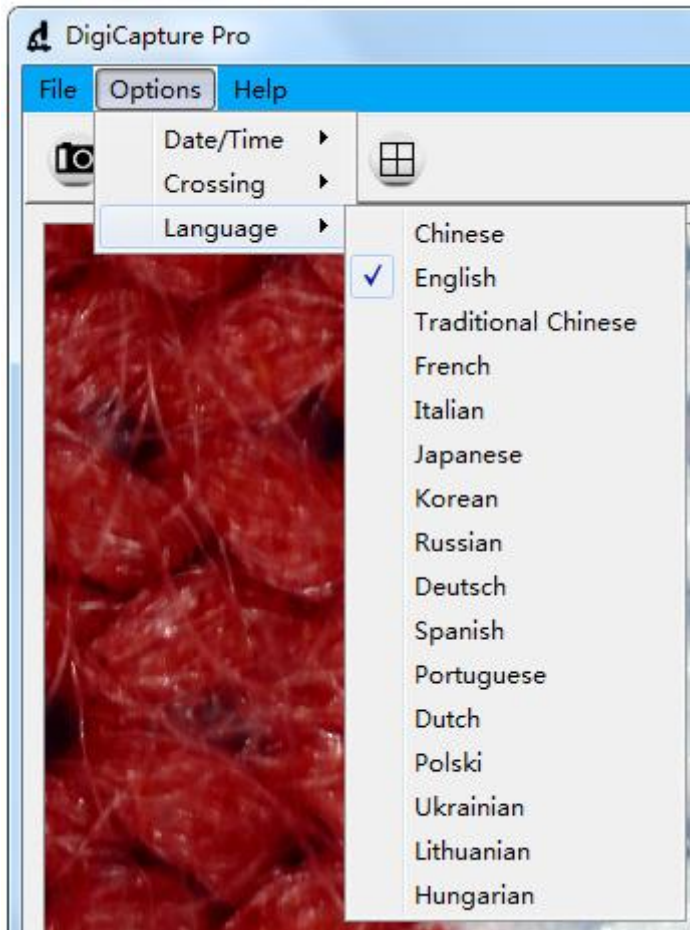


**Date/Time:** set the display system date/time on preview window

**Crossing:** display cross on preview window

**Language:** choose different OSD language

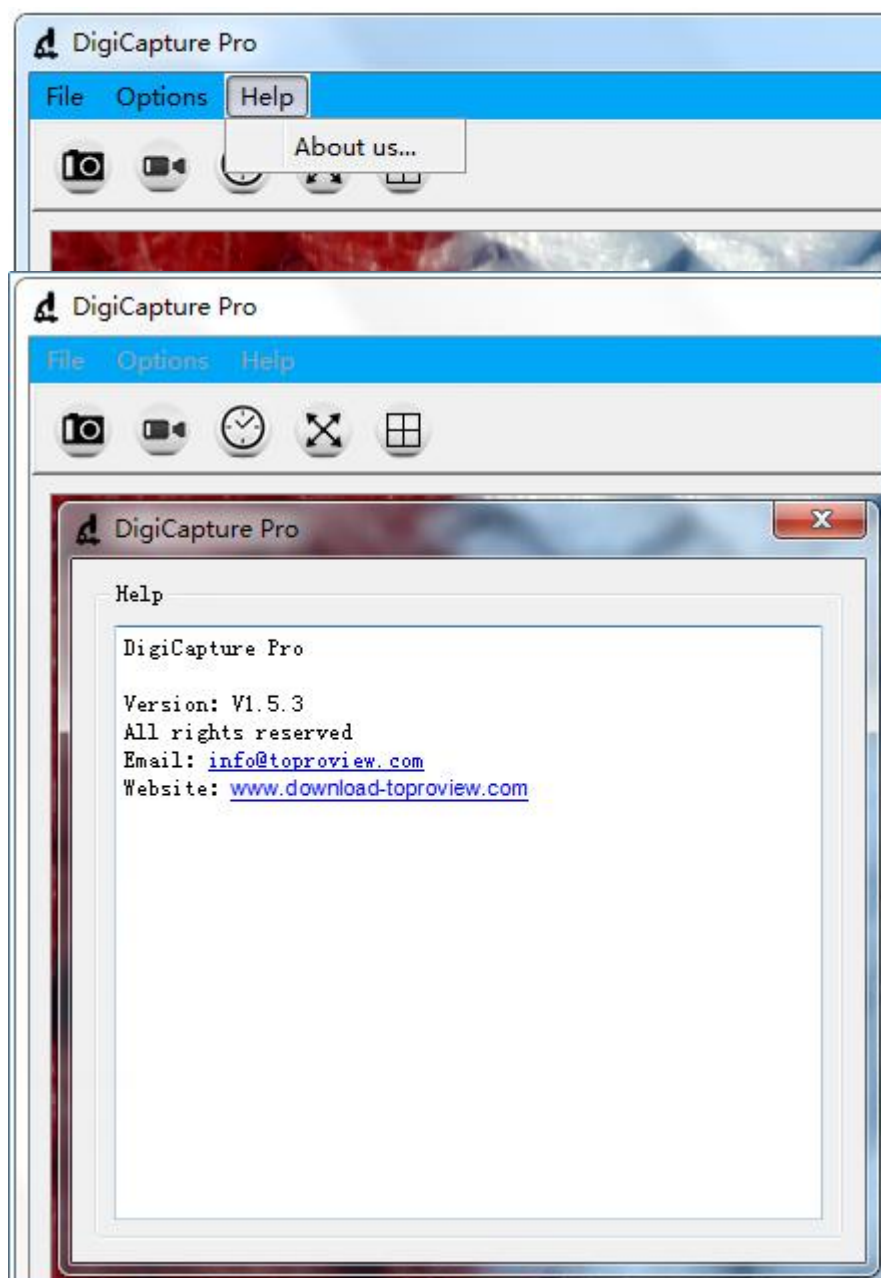
### 3.3: Language



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



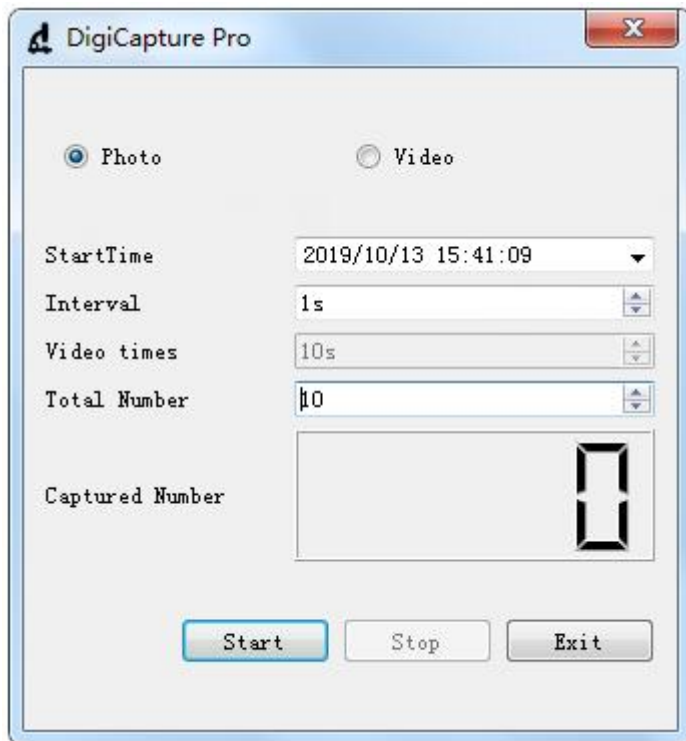
in the main menu bar.

### 4.3: Timer (Photo / Video)

Click 'Timer' shortcut icon



in the main menu bar.



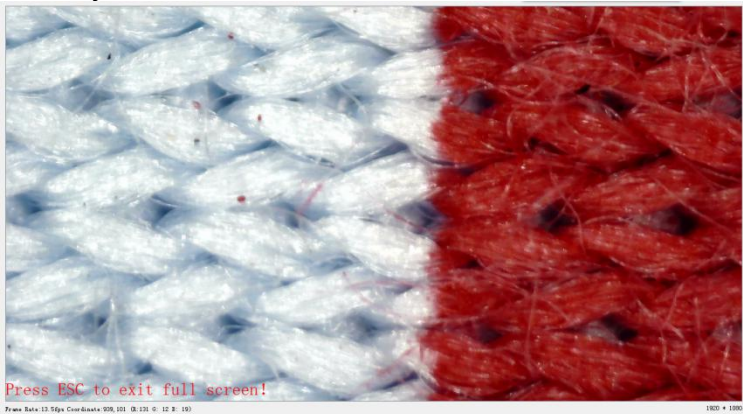
- Under Timer photo, you can set the start time, interval time and total number of picture.
- Under Timer video, you can set the start time, interval time, video times and total number of video.
- After setting, you can choose "Start", "Stop" or "Exit" to the next process.



## 4.4: Fullscreen Mode



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



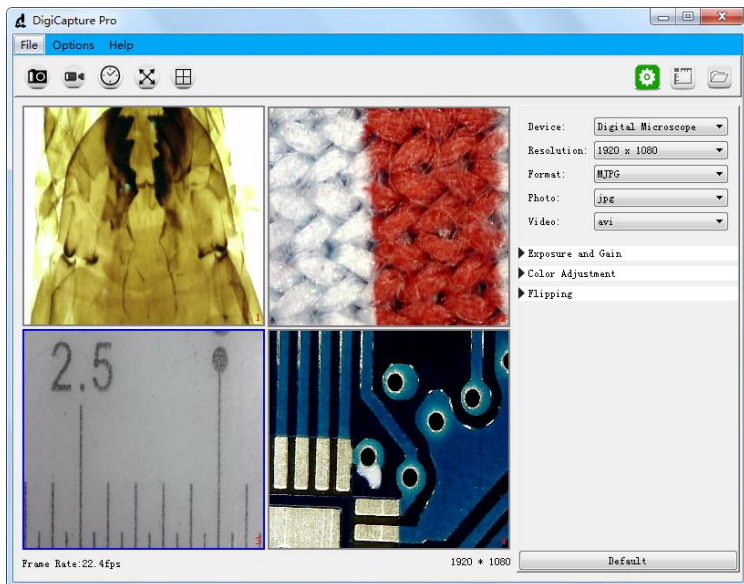
**Note:** press 'ESC' key or Double click the right mouse button to exit full screen mode.

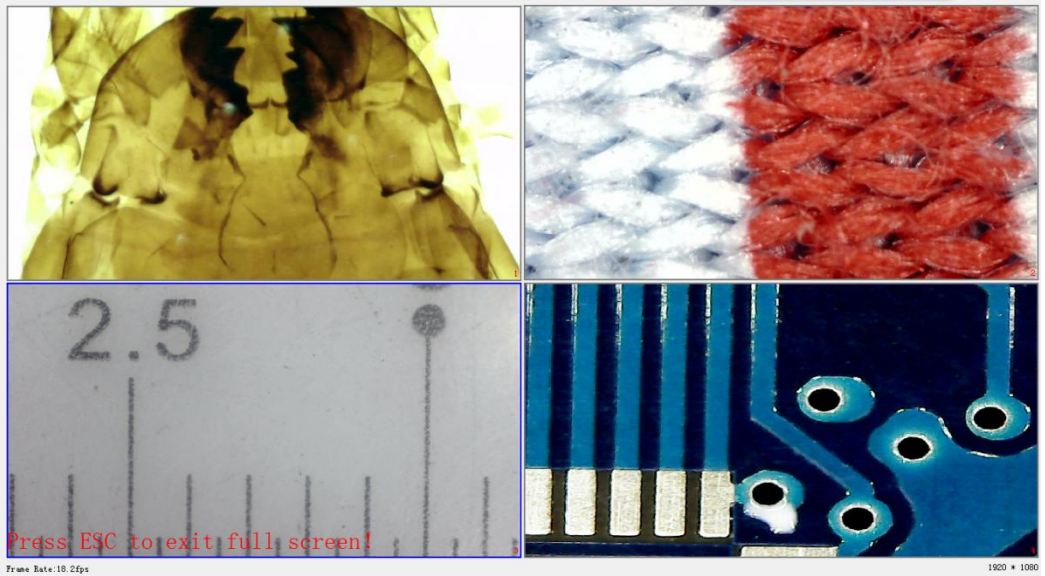
## 4.5: Screen Switch

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



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.

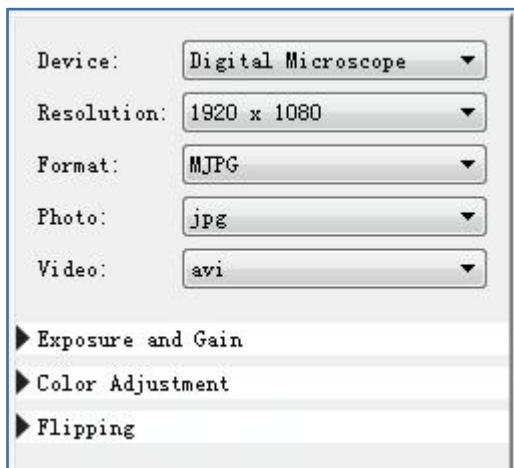
**Note1:** Check if the 4USB port in your PC could support the enough power dissipation for the microscope, if the USB port power dissipation is not strong enough, then the 4 preview windows can not work at the same time.

**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



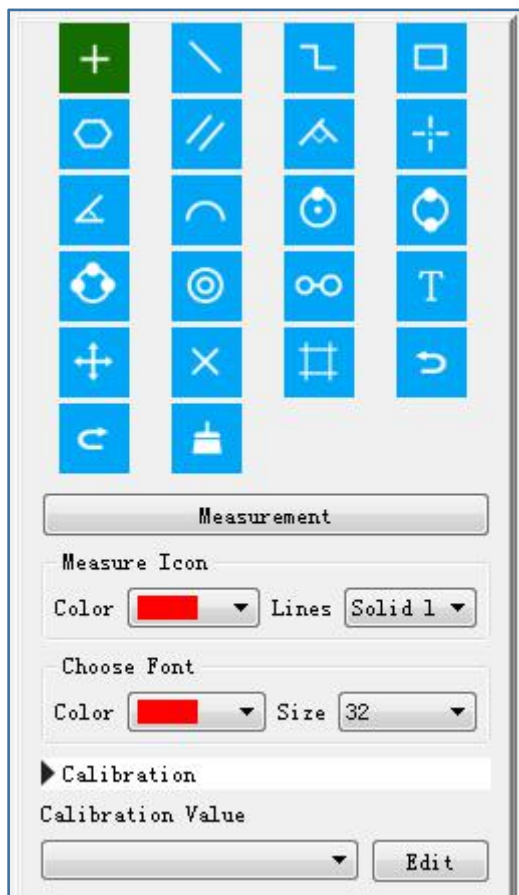
Click 'Setup' shortcut icon in the main menu bar and you will see the following screen shown up.



Device:	Digital Microscope ▼
Resolution:	1920 x 1080 ▼
Format:	MJPG ▼
Photo:	jpg ▼
Video:	avi ▼
▶ Exposure and Gain	
▶ Color Adjustment	
▶ Flipping	

- Support different devices working by clicking the drop-down menu 'Device'.
- Choose different resolution working by clicking the drop-down menu 'Resolution'.
- 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**

	<b>Coordinate</b>	<b>Lines</b>	
	<b>Continuous Line</b>	<b>Rectangle</b>	
	<b>Polygon</b>	<b>Parallel Lines</b>	
	<b>Vertical Line</b>	<b>Grid Line</b>	
	<b>Angle</b>	<b>Arc</b>	
	<b>Circle</b>	<b>Two Points Circle</b>	
	<b>Three Points Circle</b>	<b>Concentric Circles</b>	
	<b>Double Circle</b>	<b>Text</b>	
	<b>Move</b>	<b>Delete</b>	
	<b>Crossing</b>	<b>Undo</b>	
	<b>Redo</b>	<b>Delete</b>	

## 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 disk 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.

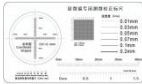
## Calibration

Start Crossing from 'Options>Crossing>On'.

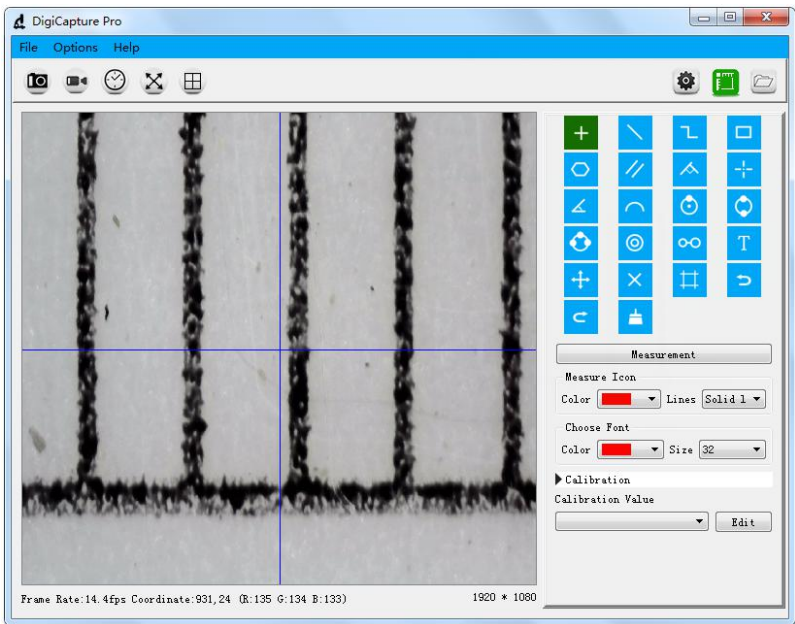


**Noted:** the usage of this crossing is checking the dial on the calibration ruler.

### 5.1: Focusing microscope by using the attached calibration ruler

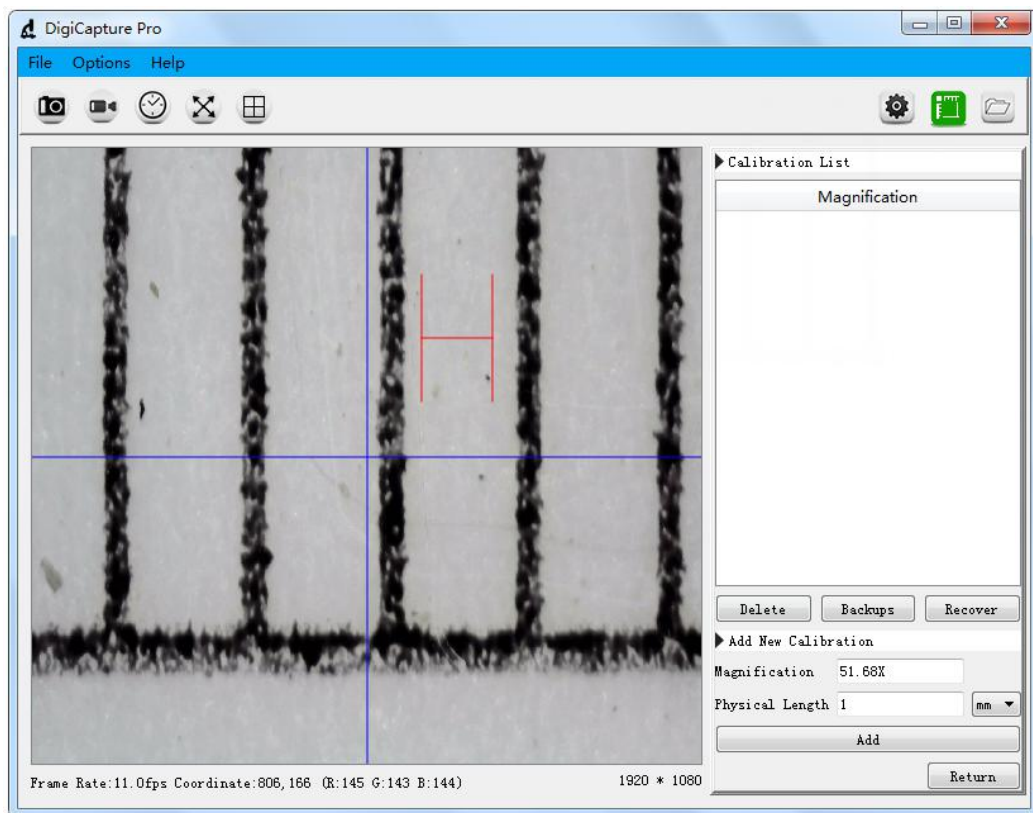


until the picture is clear. Make the dial parallel to the crossing as below.

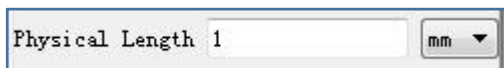




**5.2:** Click the 'Edit' button in the lower right and you will see the following screen shown up.

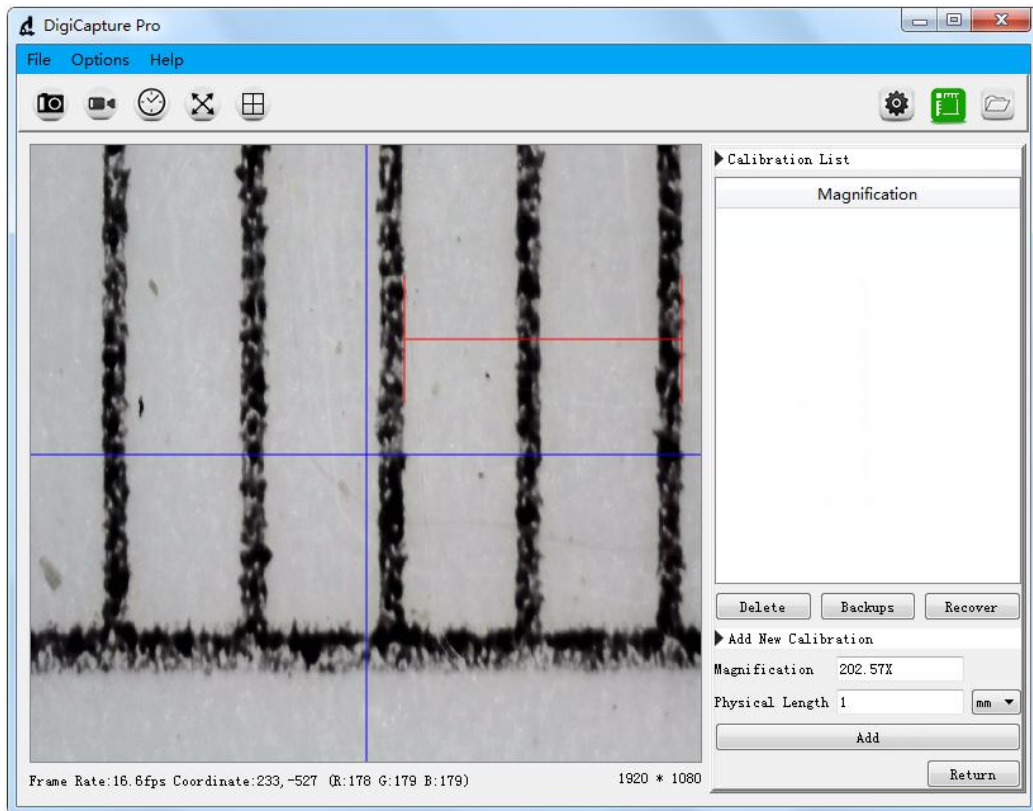


**5.3:** Select physical length unit same as the calibration ruler.  
**E.g.,** If the calibration unit is mm, then select mm in the drop down menu.





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

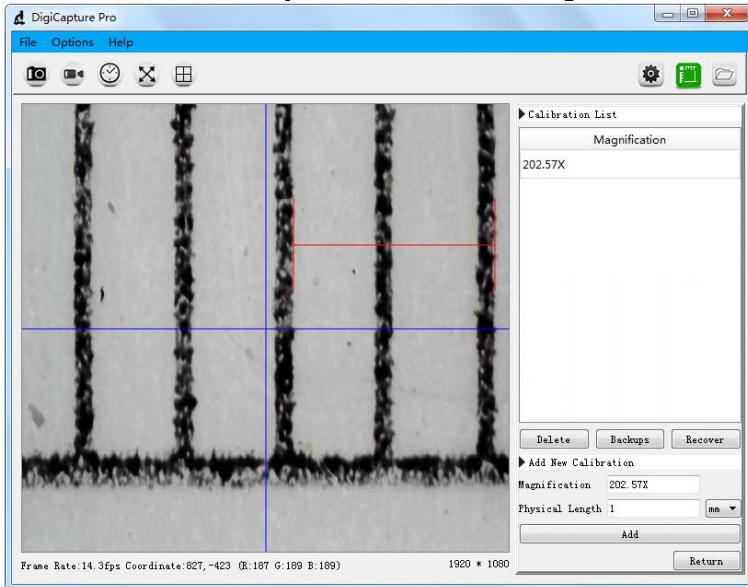


\* **Remark:** The measured line should be parallel.

**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'.

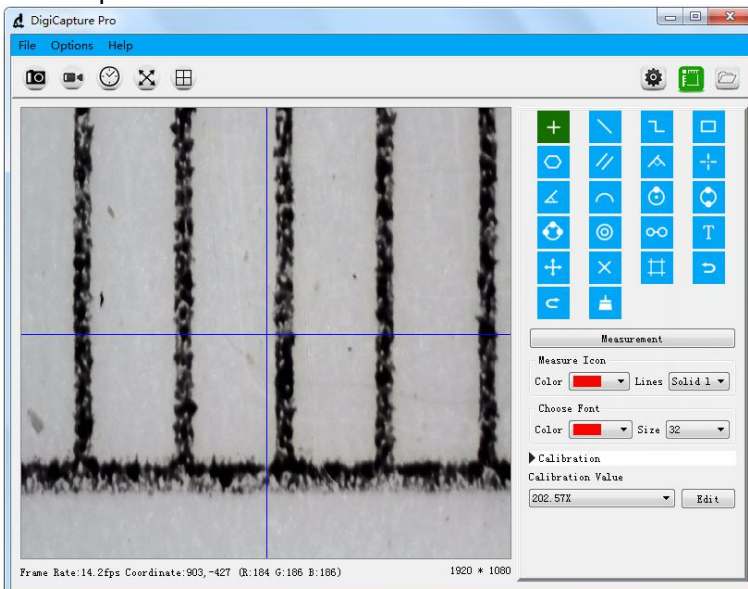


**5.6:** Click the 'Add' button and you will see the following screen shown up.



**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.

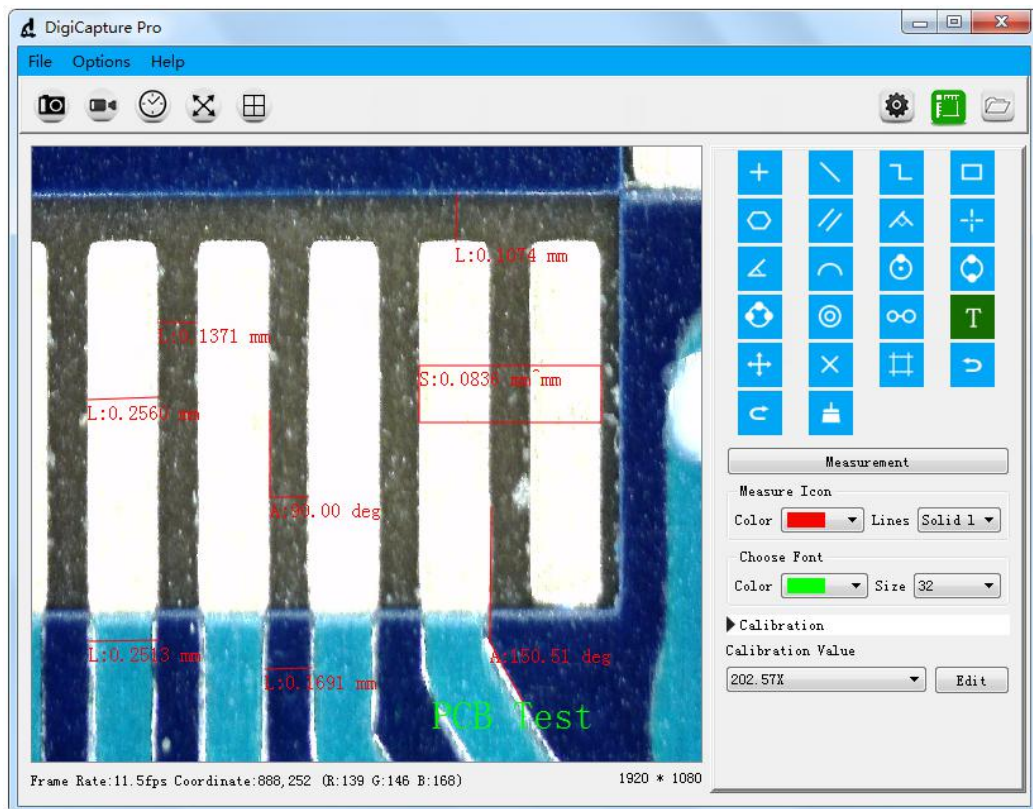


**a.** If the above 7 points(5.1~5.7) are completed in sequence, the correction is completed.

## 6. Measurement

Please make calibration before measurement.

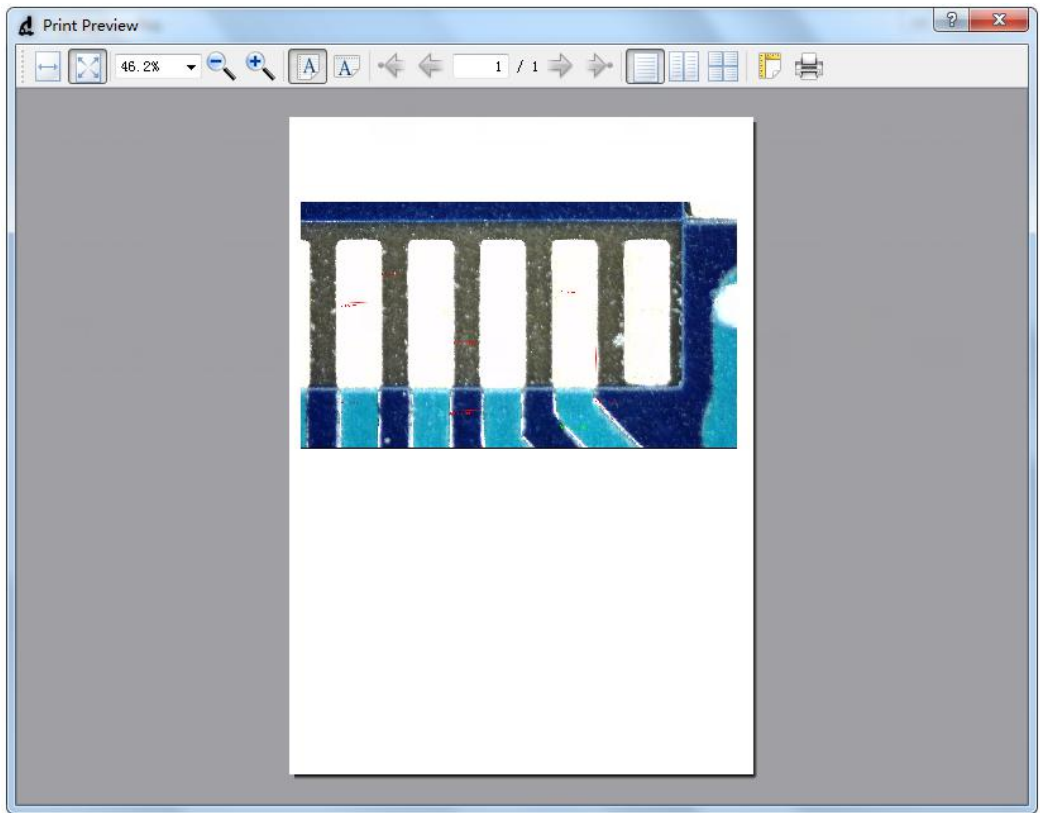
**6.1:** Use the corrected magnification to test the target object, as shown below:



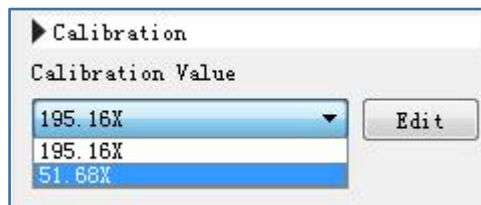
In order to ensure the accuracy of the measurement, please make sure the focal length and resolution are the same as the correction value. Otherwise, the measured results will not be accurate.

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



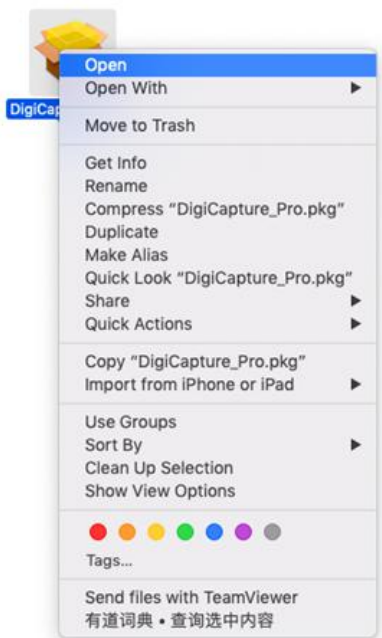
**6.4:** If you change the resolution or the focal length, please revise the calibration again and use the corrected magnification to go ahead the target object measurement, or the measurement result will not be accurate.

## 7. Install the Software on MacBook (10.14 and later)

7.1: Please download the software from [www.download-topreview.com](http://www.download-topreview.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

