4.3-inch LCD Inspection Microscope

Standalone/Windows/Mac/Android

User's Manual

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Welcome

Thank you for purchasing the LCD Inspection Microscope. This digital microscope integrating LCD/USB/Android 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 manual. Its contents will help you to get the best use of the smart microscope.

1. Precaution

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

- 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.
- Use the Microscope only at -5℃ to 50℃.
- Sudden temperature change may form dew inside the Microscope like entering a warm room in cold

winter. Put it inside a handbag or plastic bag to slow down temperature changes.

- Do not point Microscope lens to the sun or strong light for a long time. Powerful light may hurt the light-sensitive electronics.
- Avoid touching the lens.
- The white LEDs which illuminate the Microscope target field are very bright. Do not stare directly into these LEDs as it may damage your eyes.
- The clear plastic distance shell sometimes picks up dirt or toxic material from a microscopically observed surface. Be careful that this doesn't get in contact with the human skin. Always wash carefully or disinfect as needed.

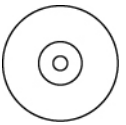
2. Preparation

■ Package Contents

Microscope

Stand

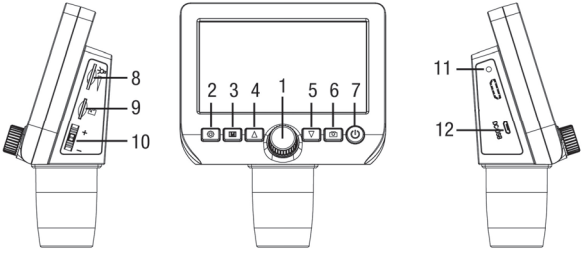
USB cable



CD

User's manual

■ Parts Names & Functions



1	Focus adjustment	8	LED Dimmer
2	Setup	9	Micro-SD slot
3	Photo/Video/Playback	10	Digital zoom
4	UP	11	Charging indicator
5	Down	12	DC: charge battery USB: output to PC as mass storage or preview
6	Capture		
7	Power on/off		

3. Specifications

LCD Size: 4.3-inch

Magnification Ratio: 10x-800x

Capture resolution: 2M, 1.3M, VGA

Focus Range: Manual focus from 5mm to 80mm

Video format: AVI

Photo format: JPEG

Battery: rechargeable Li-ion battery, working time-(6-7hrs), charging time-5hrs

DC input:5V

Storage: Micro-SD card (not included)

Bundle software: PortableCapture Plus with measurement TinyScope for Android

Operation system:

Windows 7/8/10, Mac OS X 10.14 or above,

Android 4.0 or above

Android Smartphone/Tablet (app: TinyScope from play.google.com)

Size: 116mm (L) x 95mm (W)

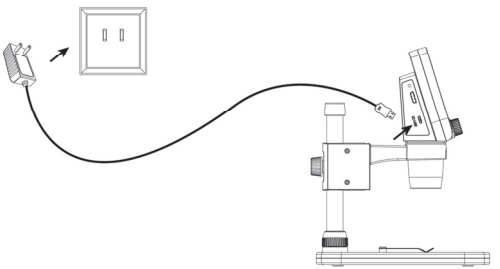
Weight: Microscope-220g; Stand-220g

4. Use the Microscope

4.1 Charge the Built-in Battery

Before using the microscope, you are suggested to charge the built-in battery by the USB port.

The required DC input is 5V/1A. Power adaptor is not included in the package. You can use common power adaptor that you use for charging your Smartphone or USB port of your PC.



After the microscope connected with charger by USB, please choose **Charge** by pressing Up and Down buttons. When charging, the indication LED will be in red; it will be off when charging finished, which means the battery is fully charged.

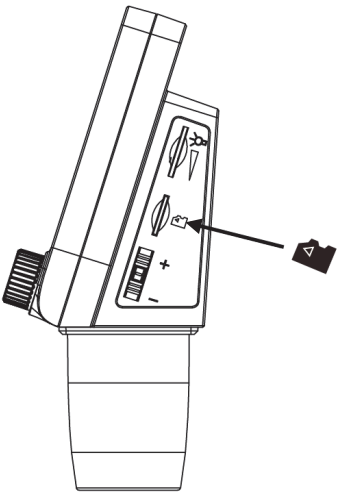
The charging time (from empty to full) is around 5hrs. After fully charged, the battery can last around 6-7hrs.

4.2 Insert a Micro-SD Card

1) Turn off the microscope

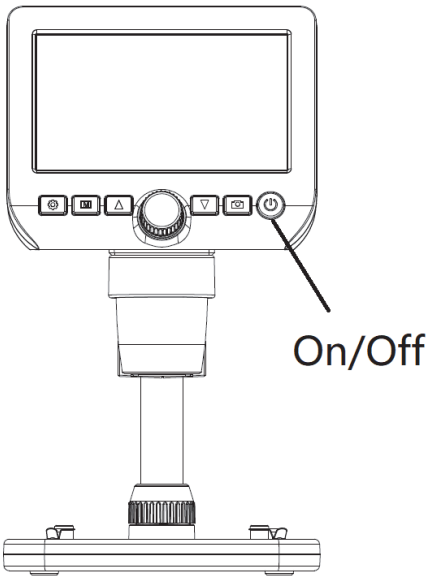
2) Insert a Micro-SD card into the Micro-SD card slot; gently press in until card is latched.

Note: Do not force the card into the slot; forcing may damage microscope 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.



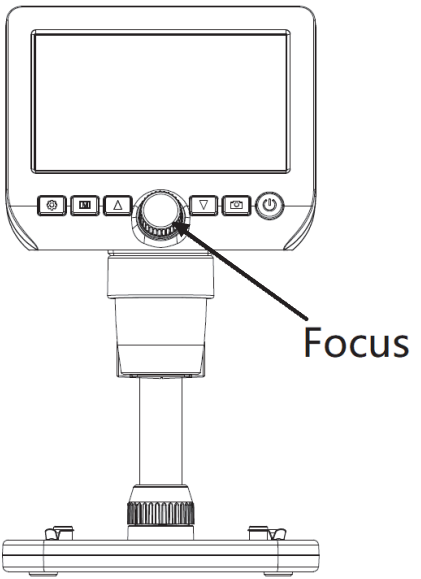
4.3 Turn On/Off the Microscope

Press the On/Off button to power on the microscope. Press again to turn it off.



4.4 Adjust focus

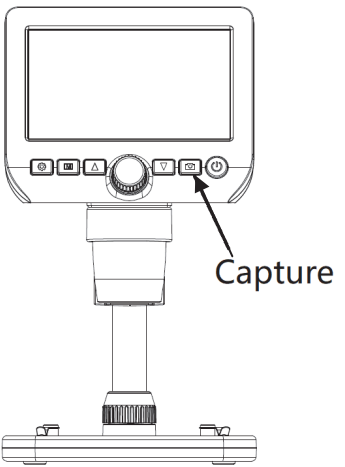
After putting object to be observed on the observation pad and under the lens tube, you can rotate the Focus wheel to get fine focus.



4.5 Capture

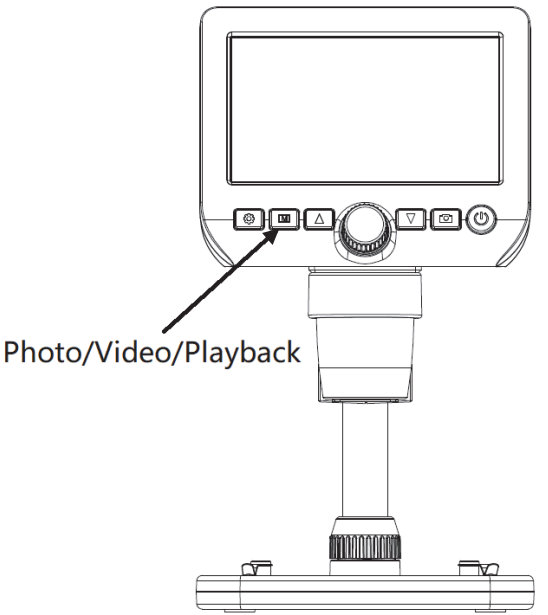
Turn on the microscope, put object to be observed under the nozzle, rotate the Focus wheel to get a fine focus, press button and a photo will be captured and saved on Micro-SD card.

By pressing M button, you can switch to video mode. Then you can press button to start video recording.



4.6 Playback

Press [M] button, you can switch to playback mode, and then you can press ▲ and ▼ to scroll the captured photos and videos.

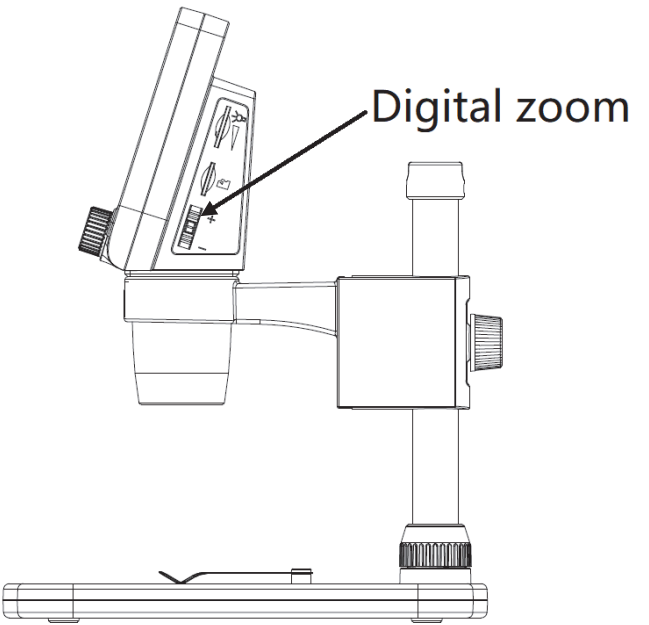


4.7 Delete

At playback status, press , you can choose to delete the current file or all files.

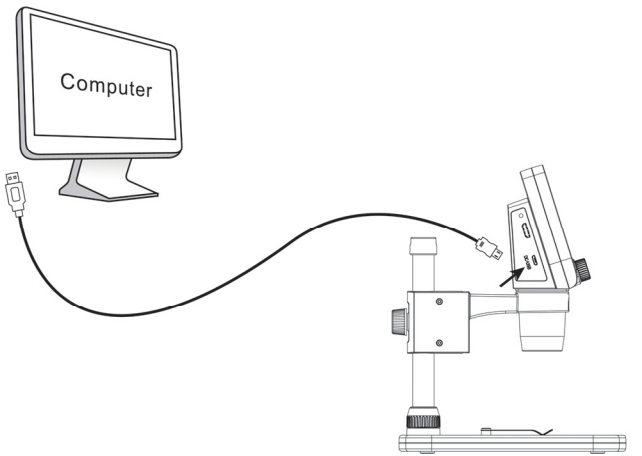
4.8 Zoom in/out

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



4.10 Download Files to Computer by USB

1) Connect the microscope to computer by USB cable.
2) Choose **Mass Storage** from the screen and then you can view stored photos & videos.



4.11 Works on Computer by USB Connection

1) Connect the microscope to computer by USB cable.

2) Choose **PC Camera** from the screen.

3) Start PortableCapture Plus software. Please refer to Part II on how to use the PortableCapture Plus software.

4.12 Works on Android

The microscope can work on Android Smartphone or Tablet.

Search and download app TinyScope from play.google.com; or download from www.cameradownload.net; or scan the following IR code.

Connect the microscope with Android Smartphone or Tablet by using the Micro USB (as follows).

Start the app, then you can live video on Smartphone or Tablet. You can capture photo and video with the app.

5. Troubleshooting

Problems	Solution
The unit does not turn on.	Charge the battery.
The screen is blank.	Ensure that the power is on. Charge the battery. Verify that the item you want to magnify is positioned correctly under the lens.
There are smudges or blemishes on the screen	Clean the screen and lens carefully with soft fabric
The battery indicator LED is not in red, even though the power adaptor is connected and plugged into a wall socket. -or- The battery is not charging.	Plugged into the Microscope's DC-in port. Ensure that the outlet has power and is not malfunctioning. If the outlet is connected to a wall switch, make sure that the switch is on.

■ PC Software Introduction

1. Install the Software on PC (Win/Mac)

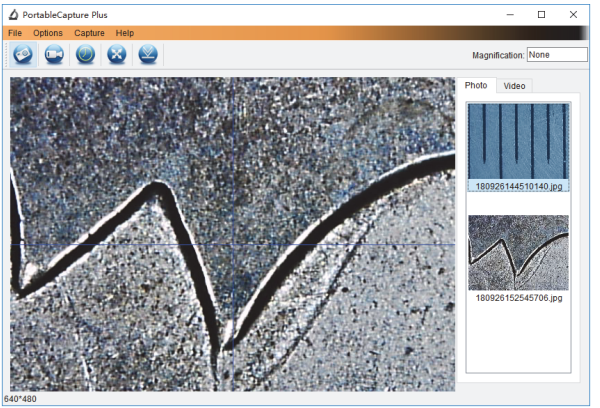
Software PortableCapture Plus is available on the included CD and www.cameradownload.net.

Insert the driver CD into CD-ROM Drive and then open the CD.

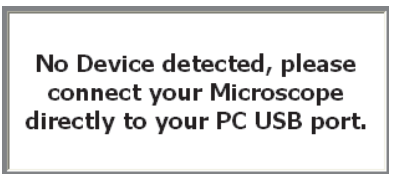
Double click to install **PortableCapture Plus** and the installation wizard will guide you through the whole process.

2. Start Microscope

Connect your Microscope to your PC USB port, start the software by clicking the  icon generated on the desktop after installation and you will see the following screen pop up.



When the Microscope is disconnected from your PC USB port, the following message will pop up.

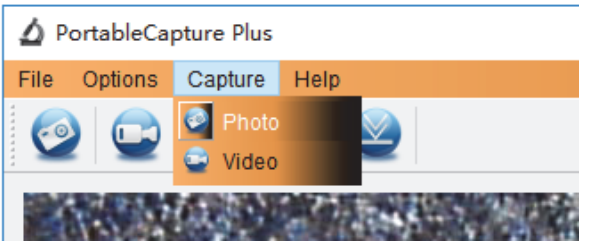


3. Software Functions

■ Capture Photo

a. Click ‘Photo’ shortcut icon  in the main menu bar.

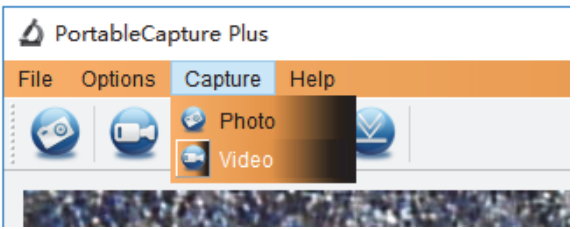
b. Click ‘Capture > Photo’.



■ Capture Video

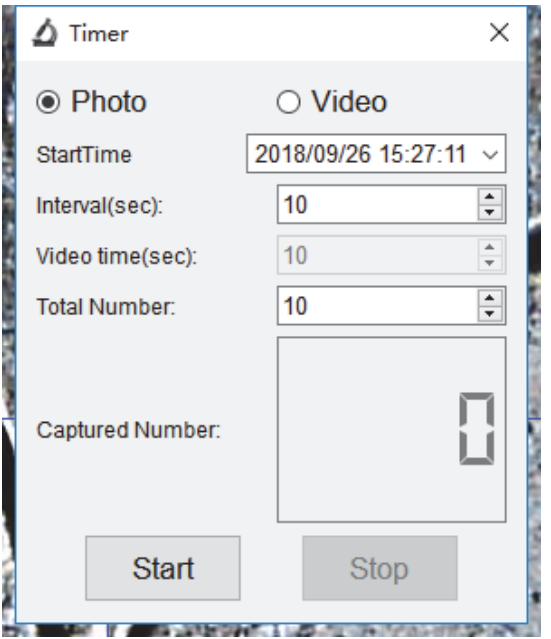
a. Click ‘Video’ shortcut icon  in the main menu bar.

b. Click ‘Capture > Video’.



■ 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 picture number.

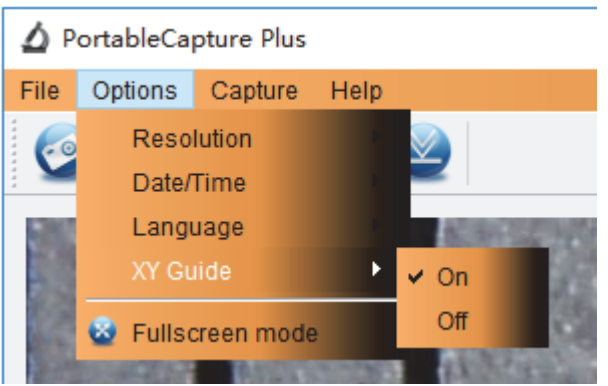
* Under Timer video, you can set the start time, interval time and total video number.

■ Calibration and Measurement

Please make calibration before measurement.

Calibration

Display Crossing from ‘Options>Crossing”.

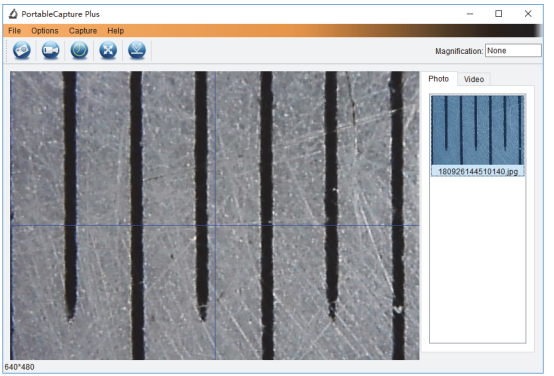


Microscope default at crossing “on”

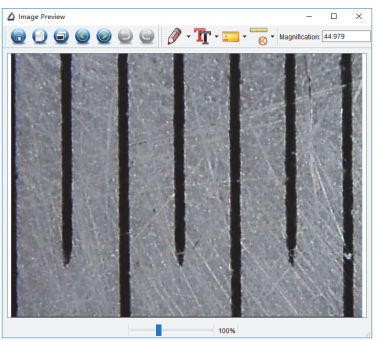
It’s used to check the dial on the calibration ruler.

1. Focus microscope on the attached calibration ruler

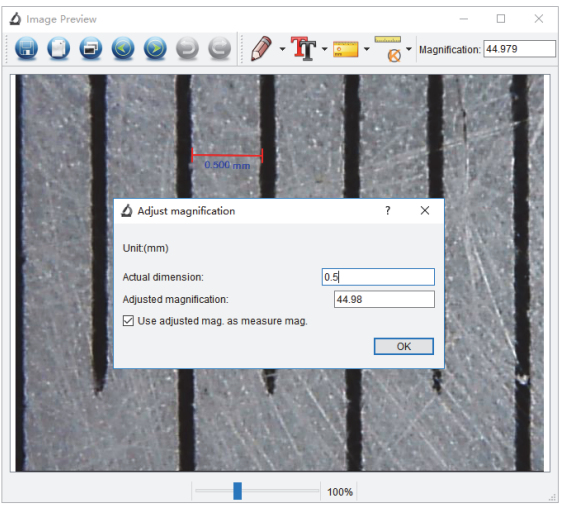
 and then adjust the magnification till the picture is clear. Take a picture for the selected area when the dial is parallel to the crossing as below.



2. Double-click on the picture to enter into measurement interface as below.

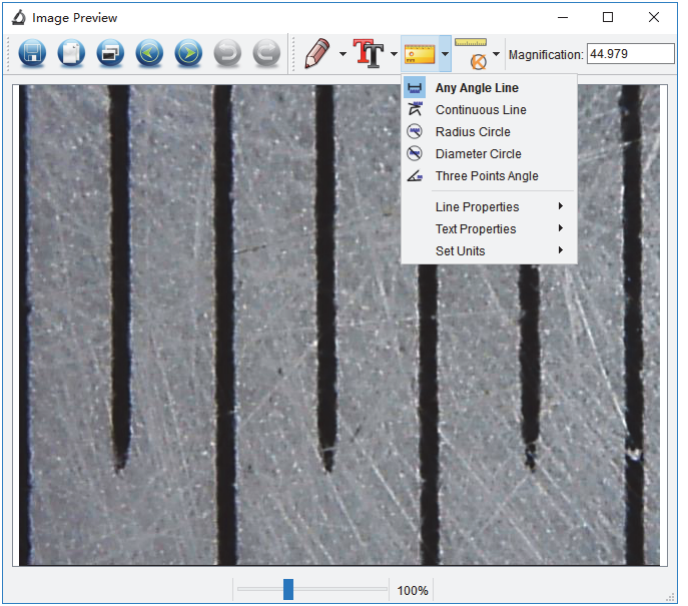


3. Click Calibration icon  , and then move mouse to the picture. Click on the beginning and ending points across a known value. Now a dialog will popup as below and you need to enter the exact value of the measurement sample into ‘Actual dimension’.
Then the software will automatically calibrate the magnification rate. Click ‘OK’ and the adjusted magnification rate will show in the upper right corner.



* Remark: The measured line should be paralleled.

4. Now you can use ‘Any angle Line’ under Measurement icon  to measure the value again. If the value you measure by software is nearly the same as the exact value of the dial means the calibration finish.



Measurement

Double-click on the picture to enter into measurement interface. Under the 'Measurement' icon  , you can choose any desired options to measure.

1. Any Angle Line Measurement
Simply click from one point and drag to the next point, and then release the click.

2. Continuous Line Measurement
The Continuous Line measurement allows you to measure any continuous desired length.
Simply click and drag from one point to other desired points, and then release the click.

3. Radius Circle Measurement
Simply click and extend out to the desired radius, the radius, circumference and area of the circle will show up accordingly.

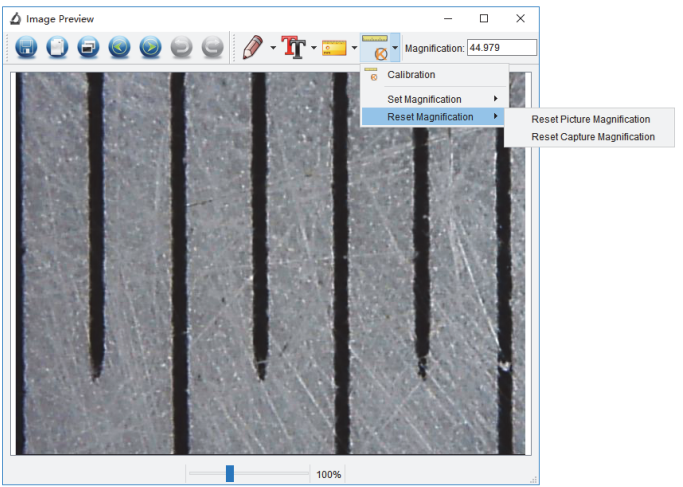
4. Diameter Circle Measurement
Simply click and extend out to the desired diameter, the diameter, circumference and area of the circle will show up accordingly.

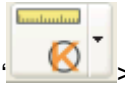
5. Three Points Angle Measurement
Simply define any three points angle and click, the angle value will then display.

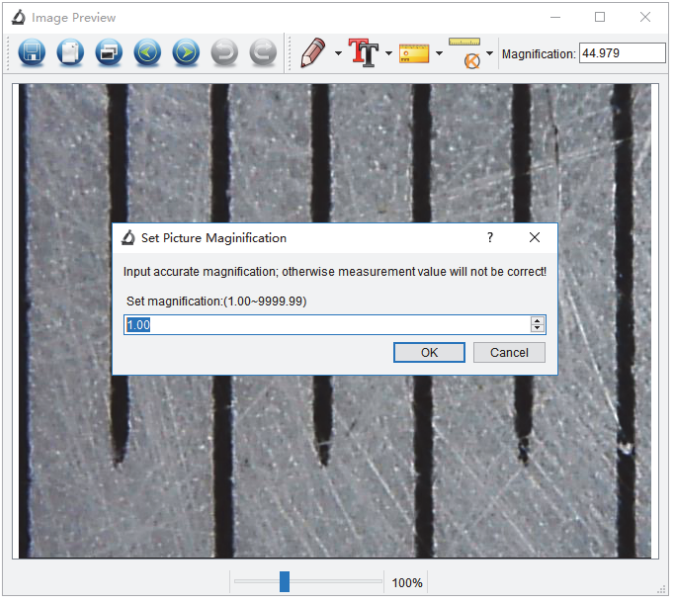
Change Calibration

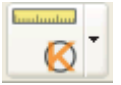
If you need to change the magnification rate and adjust focus to capture picture, please calibrate the magnification rate again.

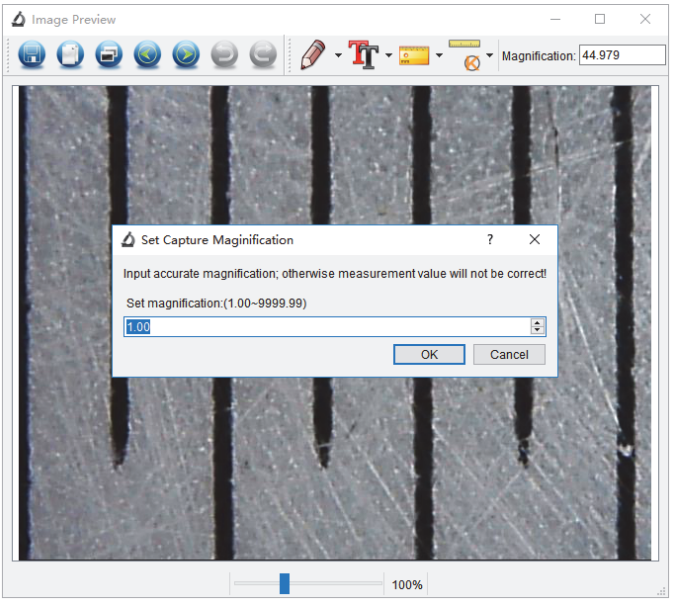
1. Double click to open the picture, Click ‘  > Reset magnification > Reset picture magnification’ as below. And then start calibration again (Calibration details please refer to page24).



2. Change the magnification rate and capture several pictures, click on the picture to enter into measurement interface. And click ‘  > Set magnification > Set picture magnification’, now a dialog will show up as below; enter the magnification rate into the dialog and click ‘OK’.



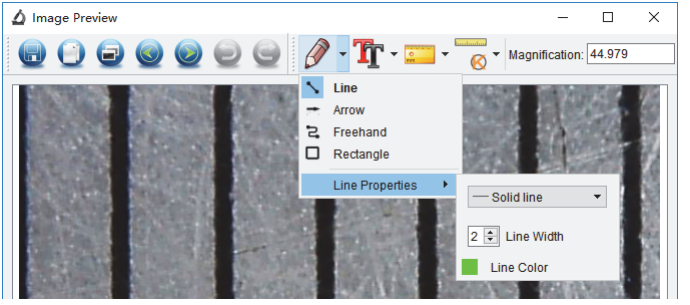
3. If you want to use the same magnification rate to capture pictures, just click ‘  > Set magnification >Set capture magnification’. Now all pictures will use the same magnification rate and you can start measurement directly.



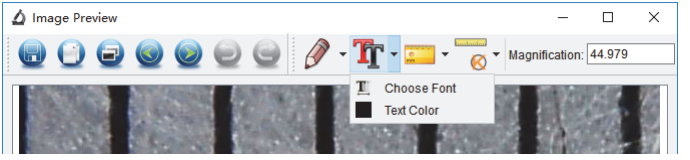
Draw and Text

You can draw or add a text on the picture and save for later analysis.

1. Click icon  to choose any kinds of drawing under the pull-down manual as below.



2. Click icon  and set the font for the text in the popup dialogue as below.



Software Interface Instructions

Main Interface Icons

Capture photo – It's used to capture photo one by one.

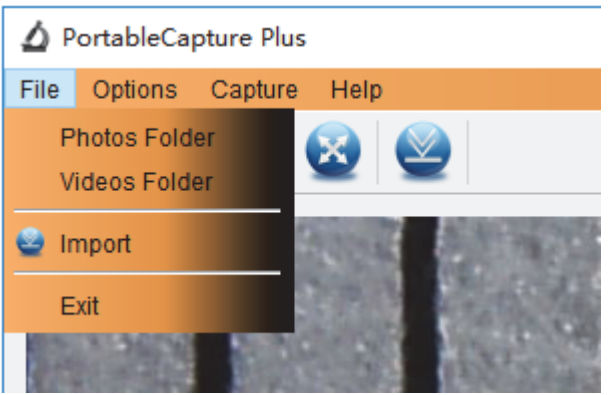
Start / Stop record video.

Timer for photo / video – Set the start time, interval time and total photo/video number.

Full screen mode,
Press ESC or double-click to exit.

Main Menu

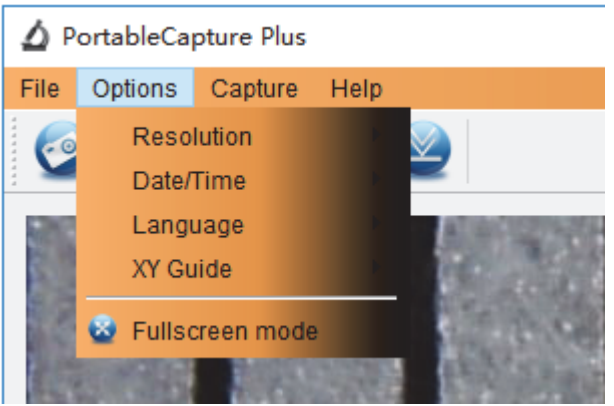
File



Photos Directory: set the directory to store photos taken;

Videos Directory: set the directory to store video taken;

Options



Resolution: change preview size

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

Language: choose different OSD language

Crossing: display cross on preview window

Full-screen mode: enter into full screen. Click ESC or double click to exit

Capture

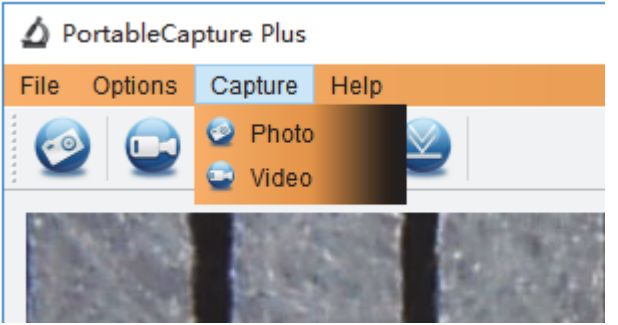


Photo: take a photo

Video: record a video clip

Measurement Interface Instructions


Save as


Redo


Copy to clipboard


Draw


Copy file


Text note


Previous


Measurement


Next


Calibration


Undo

This symbol on the product or in the instructions means that your electrical and electronic equipment should be disposed at the end of its life separately from your household waste. There are separate collection systems for recycling in the EU. For more information, please contact the local authority or your retailer where you purchased the product.