

DP-M04

Auto Focus eScope

User Manual

Thank you for buying our professional digital microscope.

To guarantee the product function into fully play and prolong service life, please read the user manual carefully before installations. And the product should be well clean and maintenance when using it.

In line with the policy of continued development, if there are any amendments on the appearance, color or assemblies, please refer to the real object. Our company reserves the right to amend on the the specifications and the manual without prior notification.

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Warnings and Attentions

Warnings

Do not modify any accessories, or our company won't responsible for any malfunctions and calamities may cause.

Do not put the product into fire, or our company won't responsible for any malfunctions and calamities may cause.

Please follow the manual to operate the product, otherwise you have to bear all aftereffect.

Attentions

Always replace the lens cap to avoid dust and moisture when the device is not in use.

Please stop using the product if any abnormal phenomena.

Please use dry cloth to gently clean product. Do not use any chemicals to clean it.

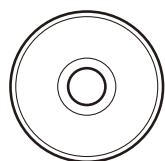
If the lens gets dirty, clean it with a blower brush or a soft cloth moistened with a little neutral detergent. Be careful not to scratch the lens surface.

Pack Lists

Please check and confirm all the accessories are available before using.



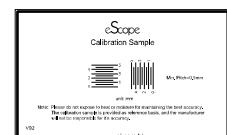
a. Auto Focus eScope x 1



b. CD-Rom Driver x 1



c. User Manual x 1



d. Dial for Calibration x 1

Product Overview

a. Snap Shot Button



b. Auto Focus Button

c. Slight Adjustment Button <Up>

d. Slight Adjustment Button <Down>

e. Magnification Switch

Specifications

CMOS Sensor	1/3 " CMOS
Image Sensor	2.0M
Video Capture Resolution	1600x1200, 1280x960, 800x600, 640x480
Video Capture Format	AVI
Still Image Capture Resolution	1600x1200, 1280x960, 800x600, 640x480
Still Image Format	BMP, JPEG
Light Frequency	50Hz / 60Hz
Frame Rate	30fps@VGA
Magnification Rate	65X, 225X
Shutter Speed	1 sec. to 1/1000 sec.
White Balance	Auto
Exposure	Auto
Auto Focus Function	Yes
Focus Fine Button	Yes <Up/Down>
Light Source	White LED x 8
PC Port	USB 2.0
Operated System	Windows XP / Vista / Win7
AP Language	English, Simplified Chinese
Power Supply	5V DC from USB Port
Size	132(L)x32(D)mm
Weight	105g

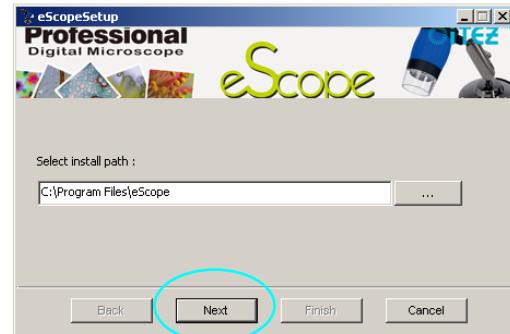
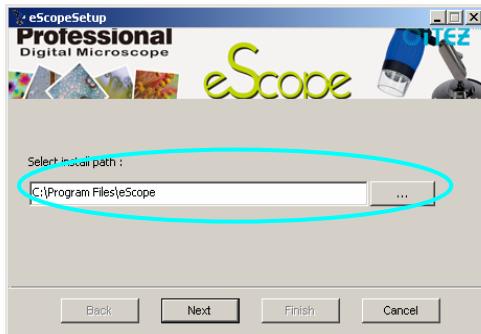
Installation Guide

Computer System Requirement

- * Microsoft Windows XP, Vista or Win7
- * Pentium 4 processor or higher
- * 200MB or higher hard disk space
- * 1GB RAM or more
- * USB 2.0 Port
- * CD or DVD Drive

eScope Software Installations

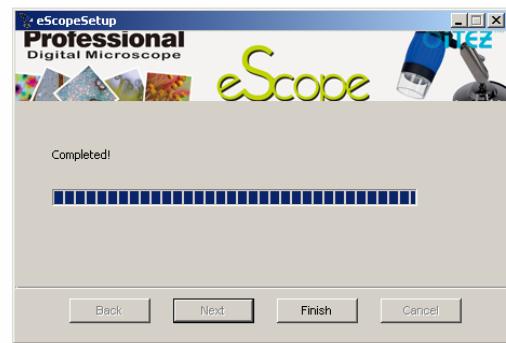
1. Insert enclosed CD into CD-ROM drive, the installation program will start automatically. If installation program doesn't start automatically, please browse your CD -ROM drive and execute the "eScopeSetup.exe" program
2. Select a path for the software.



3. Click 'Next' to install.

4. Click "finish" to complete the installation.

5. Now the "eScope"  shortcut Icon will show on the desktop automatically.



Auto Focus eScope Hardware Installations

After the software installation finish, connect Auto Focus eScope to computer by the USB port.



Auto Focus eScope Operations

To ensure the correct way in using the Auto Focus eScope, please follow below steps to operate.

1. Execute the eScope Software

Double click the shortcut icon eScope  on desktop, and then the real-time image will show up on screen.

2. Focus

Focus the clear cover of eScope on the object.

3. Choose a magnification rate.

Use the adjustable switch on the trail to choose a magnification rate. There are two magnification rates of 65X and 225X.



4. Auto Focus

Press the AF button to start auto focus.

- * Make sure the Auto Focus eScope is fixed on the object after pressing the AF button, or it can't focus well.
- * The auto focus accuracy rate can't reach to 100% for all the Auto Focus products. Some colors or objects may affect the focus. In this case, please use the Slight Adjustment Button to help to adjust.
- * The higher resolution you choose, the longer time it'll take to auto focus. We suggest use the resolution of 640 x 480 during auto focus and after the focus is ready, choose a higher resolution to capture photo so that you can get a photo with high resolution finally.

5. Capture Photo

Please press on Snap Shot Button to capture photo after the focus is ready.

* You can also use the eScope software to capture photo or video.

(Detail operations please refer to eScope software guide)



eScope Software Guide

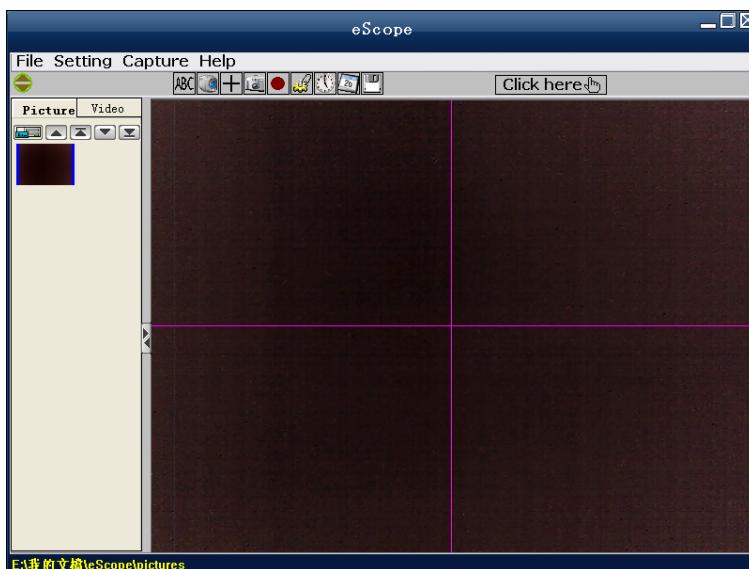
Execute Software

Remark: Before executing the software, please make sure the Auto Focus eScope is connected to the PC.

Double click the shortcut icon eScope  on desktop, and then the real-time image will show up on screen.

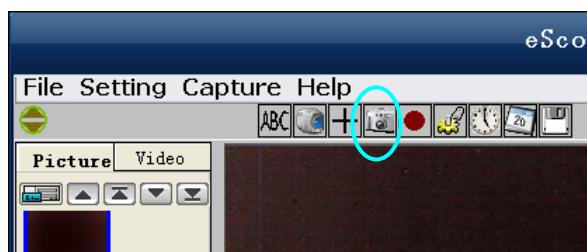
* Slide mouse to the short cut icons in the main manual bar to quickly know the uses.

(Please refer to eScope software interface instruction for more details.)



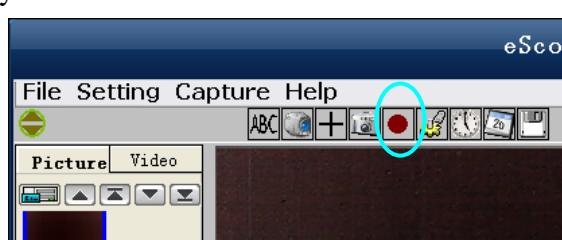
Capture Photo

- Click 'Capture Picture'  shortcut icon in the main menu bar.
- Click 'Capture > Photo F4'.
- Press the key F4 on keyboard.



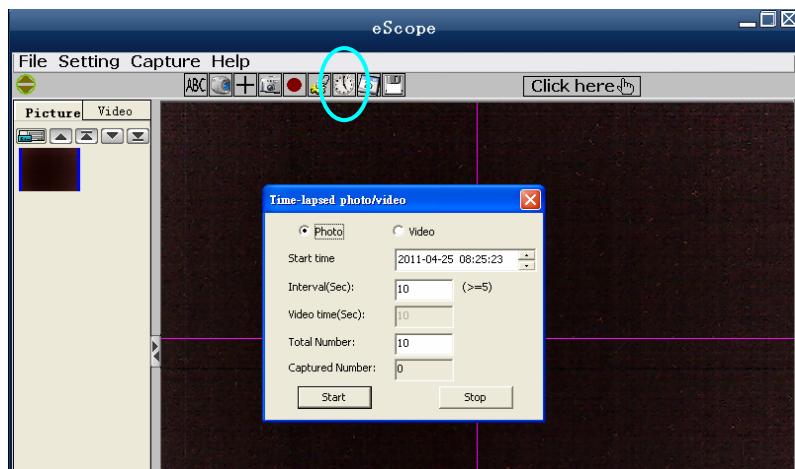
Capture Video

- Click 'Start/Stop Recoder Video'  shortcut icon in the main menu bar.
- Click 'Capture > Video F8'.
- Press the key F8 on keyboard.



Time-lapsed Picture / Video

- a. Click 'Time-lapsed Photo/Video'  shortcut icon in the main menu bar.
- b. Click 'Capture > Time-lapsed photo/video F5'.
- c. Press the key F5 on keyboard.

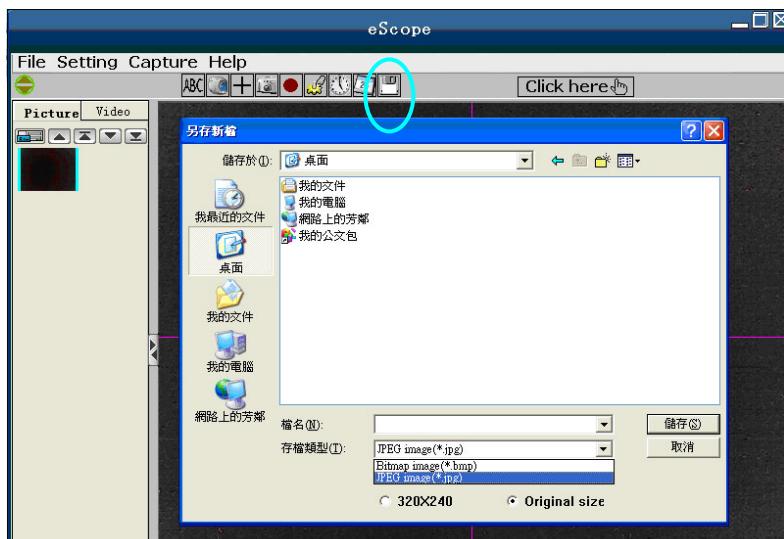


- * A new dialogue box appears in which you can enter desired setting data.
- * Under Time-lapsed photo, you can set the start time, interval time and total picture number.
- * Under Time-lapsed video, you can set the start time, interval time and total video number.

Save Picture or Video

All pictures and videos will be saved under the assigned folder, if need to change the path, there are three ways as below.

- a. Press the shortcut button  in the main menu bar
- b. Click on 'File > Select saving folder' to choose a new path.
- c. Right click on the photo/video > Save as to choose a new path.



- * All Pictures default format are BMP, you can select JPEG format as well. And all videos default format are AVI.

Calibration and Measurement

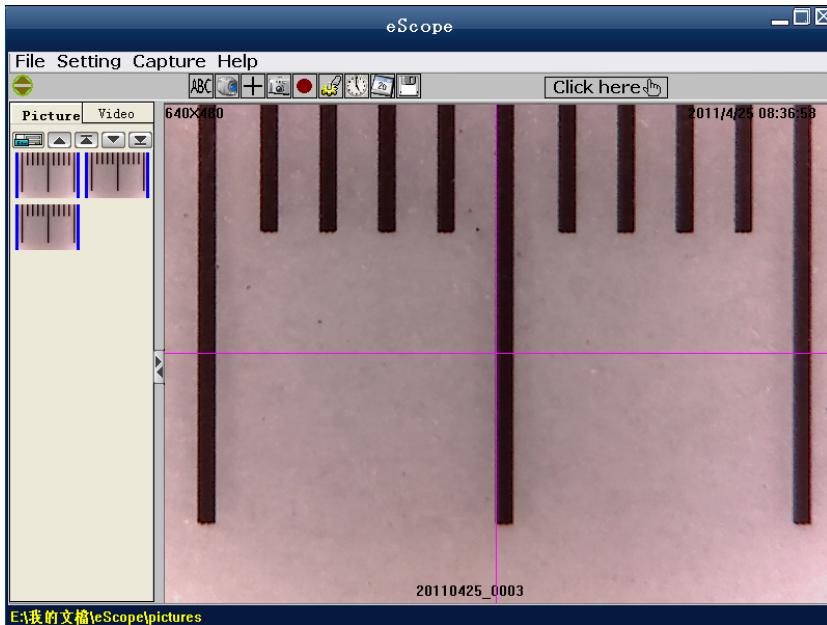
Please make calibration before measurement.

Calibration

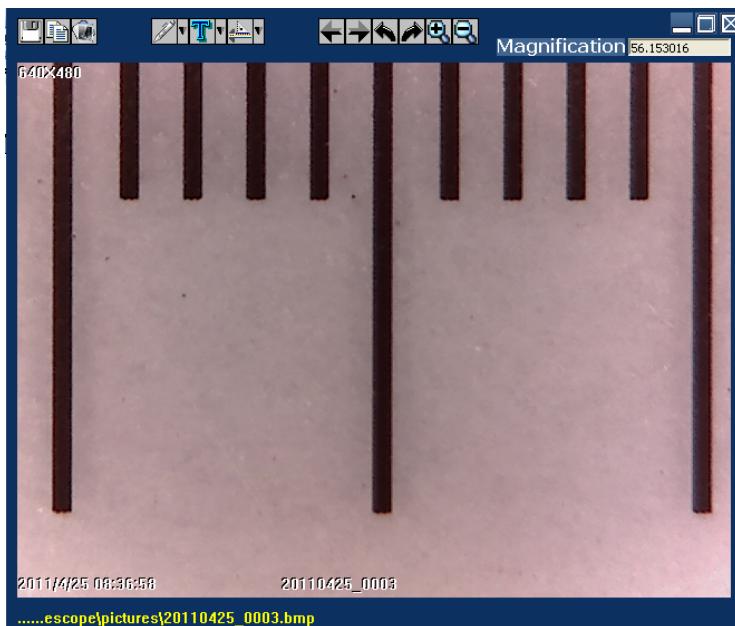
Click on the shortcut icon  or choose 'Display crossing' under 'Setting' option to display the crossing.

It's used to check the dial is parallel or not.

1. Focus eScope on the attached dial and then press on the AF button to adjust. Take a picture for the selected area when the dial is parallel to the crossing as below.

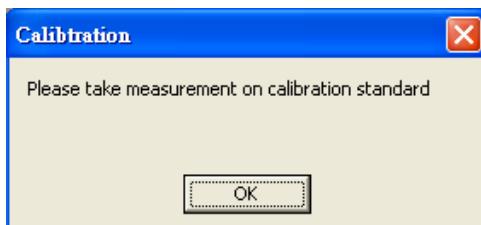


2. Double-click on the picture to enter into measurement interface as below.

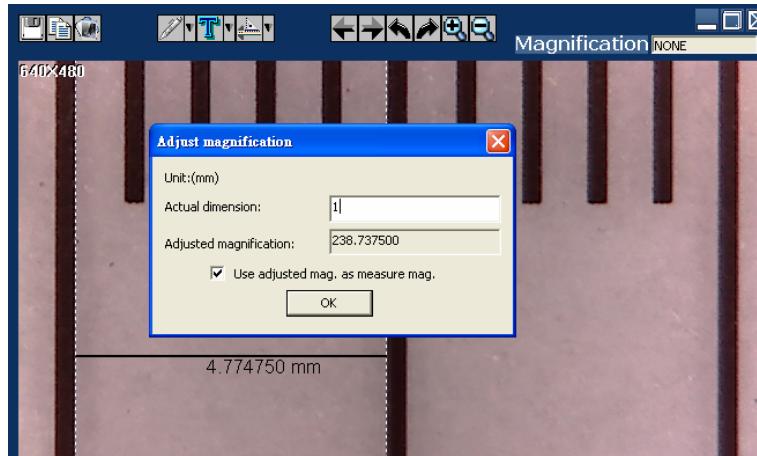


3. Click the calibration icon  in the toolbar,

and then a dialog will popup as below.

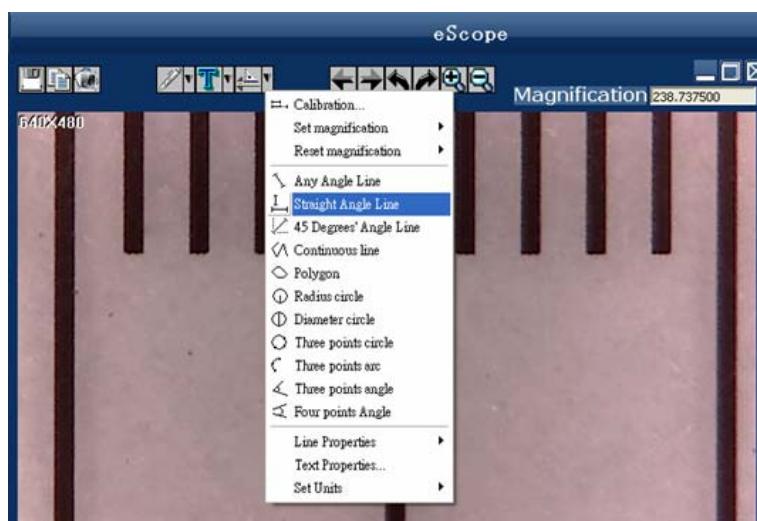


4. Click 'OK', the mouse will become a crossing on the screen. Click on the beginning and ending points across a known value (The default magnification rate and value will show up automatically). Now a dialog will popup as below and you need to enter the exact value of the measurement sample into the '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 broken line should be parallel to the dial during measurement.

5. Now you can through 'Calibration' > 'Straight angle line' 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.



* Base on the same magnification rate, click the icon  and a dialog will show up automatically. Click 'OK' and the adjusted magnification rate will show in the upper right corner.



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 click again to lock-in.

2. Straight Angle Line Measurement

The Line measurement allows you to measure from one point to the next. Simply click and drag to the desired length, and then click again to lock-in.

3. 45 Degrees' Angle Line measurement

This function is for any 45 Degrees' Angle Line angle measurement. Simply click and drag to extend out to the desired angle.

4. 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, click again to lock-in.

5. Polygon Measurement

The Polygon Measurement allows you to measure the side-length, interior angle degree, circumference and area of the polygon.

6. Radius Circle Measurement

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

7. Diameter Circle Measurement

Simply click and extend out to the desired diameter, the radius, circumference and area of the circle will show up accordingly.

8. Three Points Circle Measurement

Simply define any three points and click, the radius, circumference and area of a circle will show up accordingly.

9. Three Points Arc Measurement

Simply define any three points and click, the circumference of the arc as well as the radius and area of the sector will show up accordingly.

10. Three Points Angle Measurement

This function allows measurement of an angle. Simply click and drag to extend out to the desired angle.

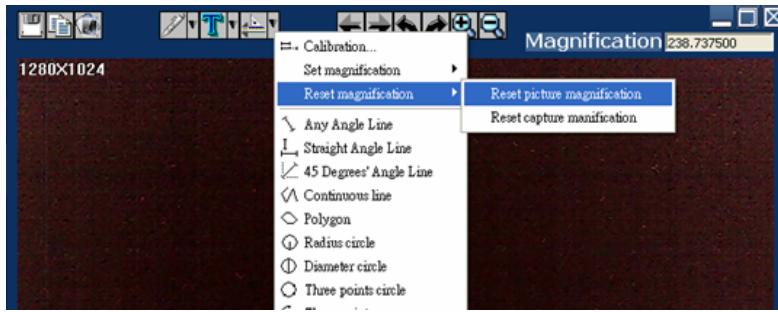
11. Four Points Angle Measurement

Simply define any two points and click for the first line, and repeat the action to create the second line, the angle degree between two lines show up accordingly.

Change the Calibration

If 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 page8, 9).

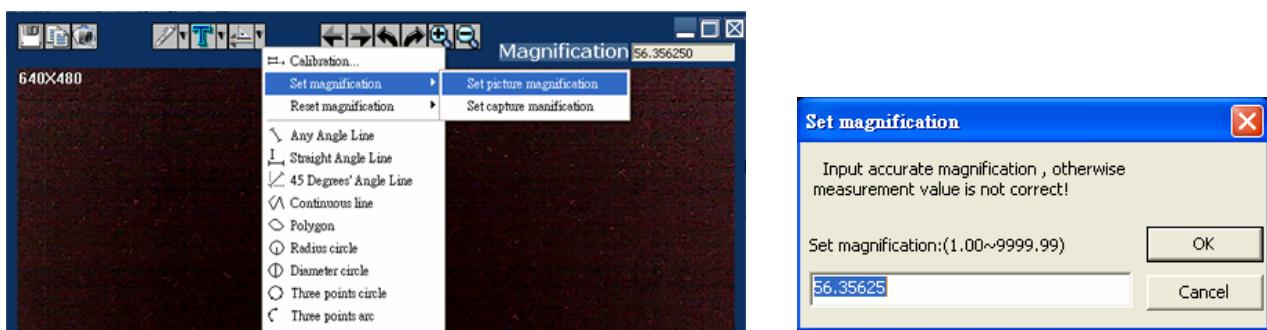


After clicking 'Reset picture magnification', the icon in the upper right corner is

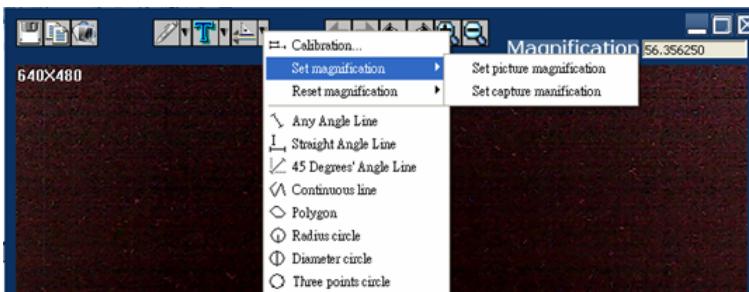
Magnification **NONE**

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'.



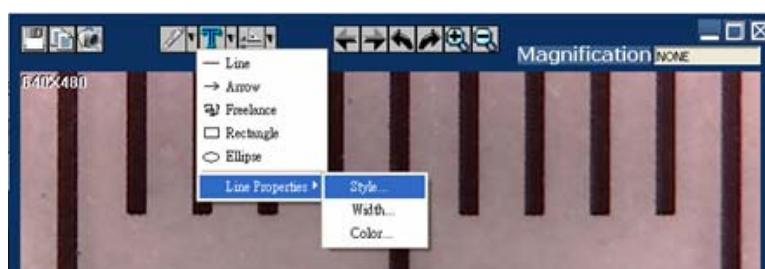
3. If you want to use the same magnification rate to capture pictures, just click ' Set magnification > Set capture magnification'. Now all pictures will use the same magnification rate and you can start measurement directly.



Draw and Text

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

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.



3. You can add any text on the picture after setting.

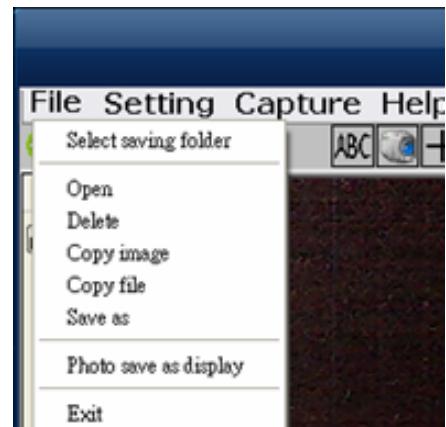
eScope Software Interface Instructions

Main Interface

Options instructions

File Option

Under 'File' option, there are select saving folder, open, delete, copy image, copy file, save as, photo save as display and exit.



Select saving folder --- Set the stored path for all the pictures and videos. Open --- Open the selected picture and video.

Photo save as display --- Choose to display the picture size, date & time, file name, magnification and the font size for picture saving.

The operations of delete, copy image, copy file, save as and exit are the same as normal.



Setting Option

Under 'Setting' option, there are resolution, real-time image setting, select device, display crossing, display date & time, sound effect and skin.

The functions of real-time image setting, display crossing and display

date & time are the same as the shortcut icons    in the main menu bar.

Resolution --- Set the size for picture and video.

Real time image setting --- Set the brightness, contrast, color, saturation, definition, color correction, white balance and backlight.

Display date & time --- Choose to display or not display the date and time for picture and video.

Skin --- Choose the color for skin.

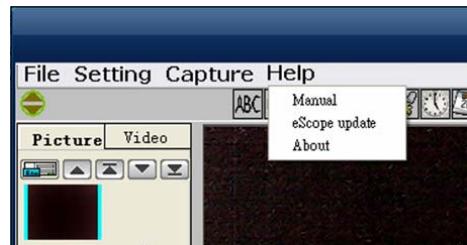
Capture Option

Under 'Capture' option, the functions of photo (F4), video (F8) and time-lapsed photo / video (F5) are the same as the shortcut icons of    in the main menu bar.



Help Option

Under 'Help' option, there are method, eScope update and about. Click the method into the eScope software instructions. And click eScope update to enter www.oi.com.hk/download to download the latest software.



Toolbar Instructions

-  Show or hide the title
-  Select language - Choose a desired language
-  Device setting - If there are more then one video devices, please choose the desired one.
-  Crossing – Display or hide the crossing, it helps to measure the dial is vertical and parallel when capturing the picture for calibration.
-  Capture picture – It's used to capture picture one by one.
-  Start / Stop recorder video.
-  Real-time image setting - Set the brightness, contrast, color, saturation, definition, color correction, white balance and backlight.
-  Time-lapsed photo / video – Set the start time, interval time and total photo/video number.
-  Display date & time – Choose to display or not display the date and time for picture / video.
-  Save as - Choose a new path to save picture /video.
- Click here**  Click here - Show the magnification rate.

Picture and Video Saving

On the left side of the main interface, there are two folders for saving picture and video. All the pictures and videos will save into the folders automatically after capture and show in thumbnails. The picture or video won't be deleted after closing the software. We suggest save the important picture or video to other assigned folder and delete the useless picture and video.



Show or hide the Picture and Video Saving



Setup picture / video folder – Save picture / video in the assigned folder



Up



First Page



Down



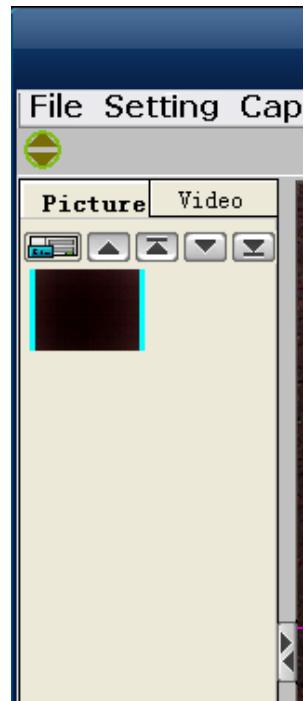
Last Page



Blue border means the picture/video is not selected.



Green border means the picture/video is selected.



Measurement interface instructions



Save as



Copy file



Copy to clipboard



Draw – Choose kinds of drawing under the pull-down manual.



Text -You can add any text on the picture.



Measure – There are different tools for measurement under the pull down menu.



Previous – Open a previous picture



Next – Open a next picture



Undo – Undo to last step



Redo – Redo to the step before undo



Zoon in – Zoon in the interface



Zoon out – Zoon out the interface

Magnification **NONE**

Display the magnification rate

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.

FCC NOTE:

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

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 a 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.