



Pixit Hub

Pixit Hub Software **User's Manual**



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Chapter 1 Software Installation

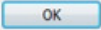
1.1 Environmental Requirements for Software Installation

CPU type: i5 10th Generation or later version;
Memory capacity \geq 16GB or more;
Hard drive capacity \geq 512GB or more;
System: Genuine Microsoft Windows 10 (64 bit) or later version;
Graphics card: Core display or discrete graphics card.

Note: Some functions in the software require the computer with
Microsoft Word 2003 or later version (for output measurement results to Microsoft Word function)
Microsoft Excel 2003 or later version (for output measurement results to Microsoft Excel function)
Microsoft Outlook 2003 or later version (for sending pictures via email function)

1.2. Installation

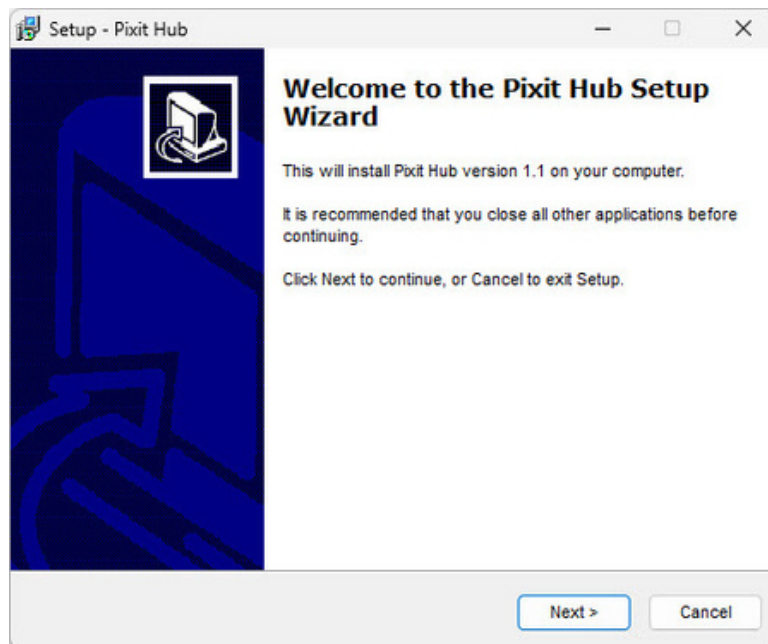
Step 1. Activate the computer and insert the installation disk into the DVD. If there is no CD in the package, you can download a software installation file from our website:
<https://www.lanoptik.com/download>

Step2. Double click the file“Pixit Hub for Windows Install” under the disk catalogue. When the following window pops up, please select the installation guide language and press the button 

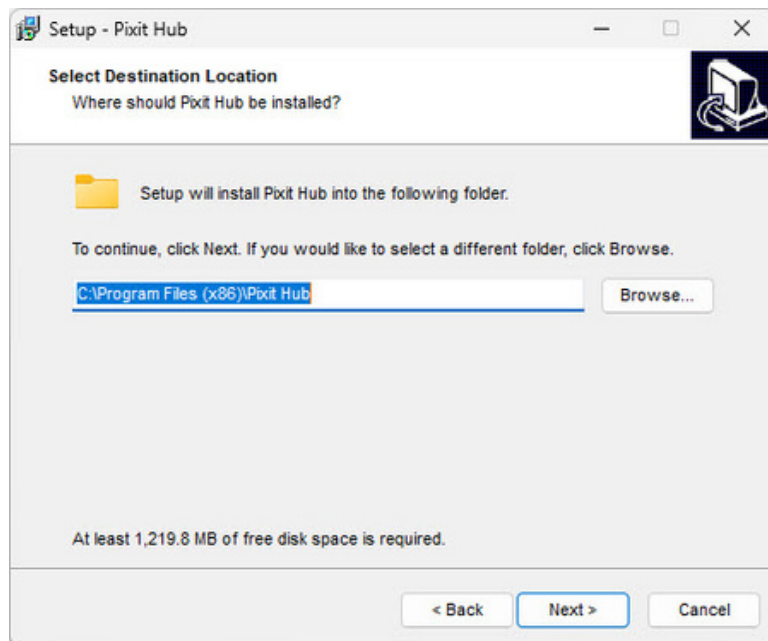


Note: The installation guide language is independent of the software interface language. If you need to change the software interface language, please refer to 2.8 - Software Settings.

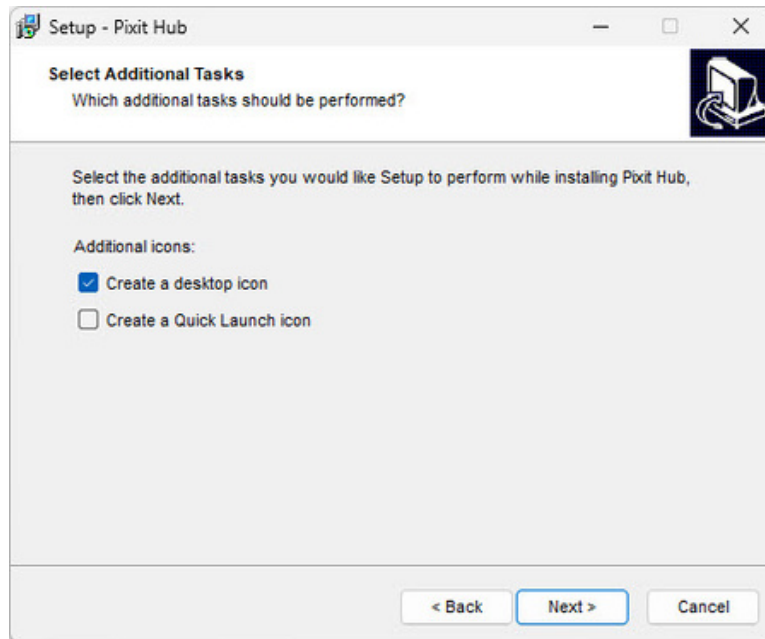
Step 3. When the window “Welcome to use Pixit Hub Installation Guide” pops up, please click the “NEXT” button.



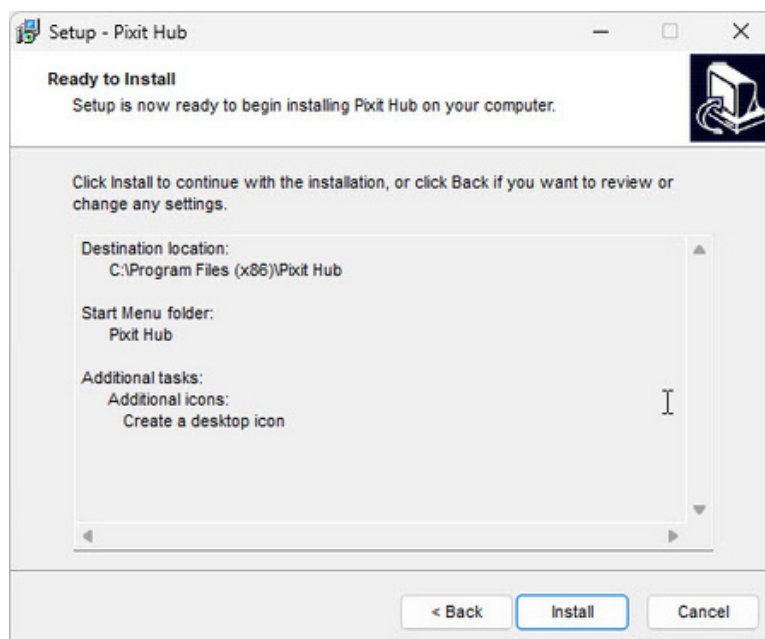
Step 4. When the window “Please select the target location” pops up, click “Browse” to choose the file path for installation (usually default), and then click “NEXT” button to continue.



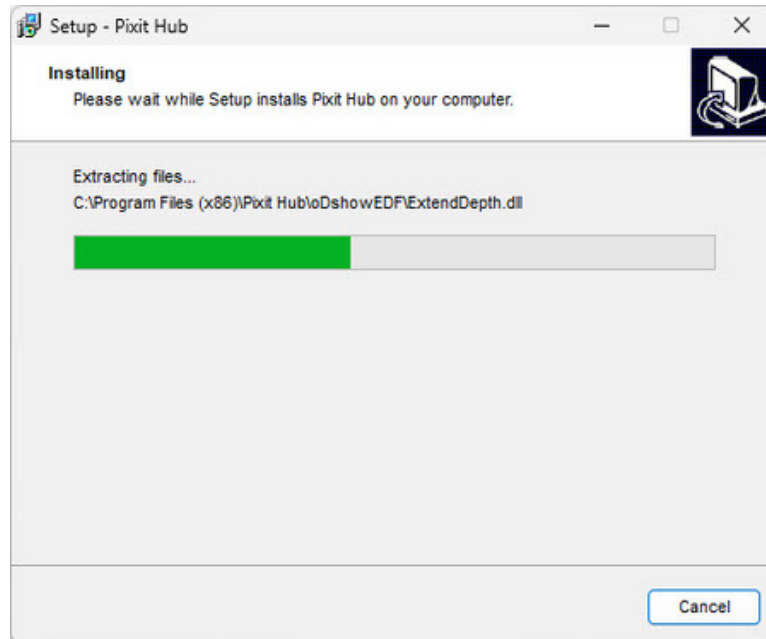
Step 5. When following window appears, select the shortcut you need, and then click the "NEXT" button.




Step 6. Confirm information like "the target location" of software installation. After confirmation, please click the "INSTALL" button.

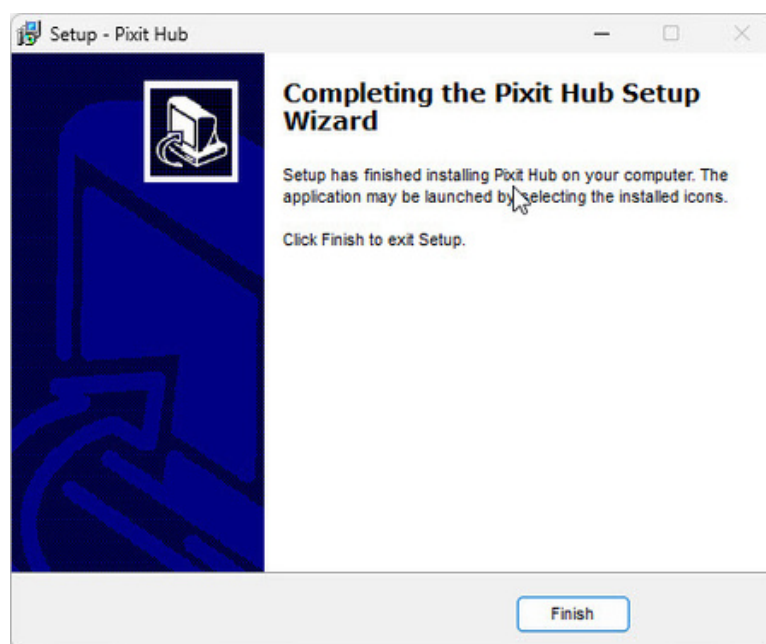


Step 7. An installation progress bar will appear during the software installation procedure. The software installation necessitates the registration of some runtime libraries, which might be intercepted by some antivirus software. If such interception pops up, please allow the procedure to continue.



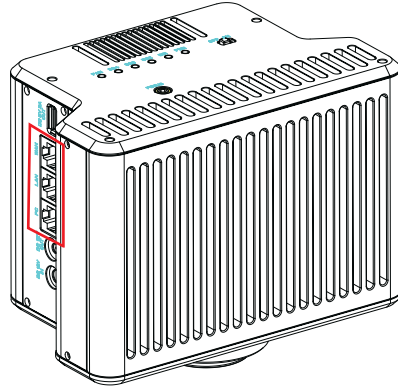
Step 8. An installation progress bar will appear during the software installation procedure. When the following window appears, the software has been installed successfully. Then click the button "FINISH".

to complete the installation. After closing the window, check the icon  on your desk. If you fail to find it, please find it from the path "Start" → "All programs".



1.3 How to connect camera to Pixit Hub software

The software supports connection to the camera via **5G WiFi** and **Ethernet**.

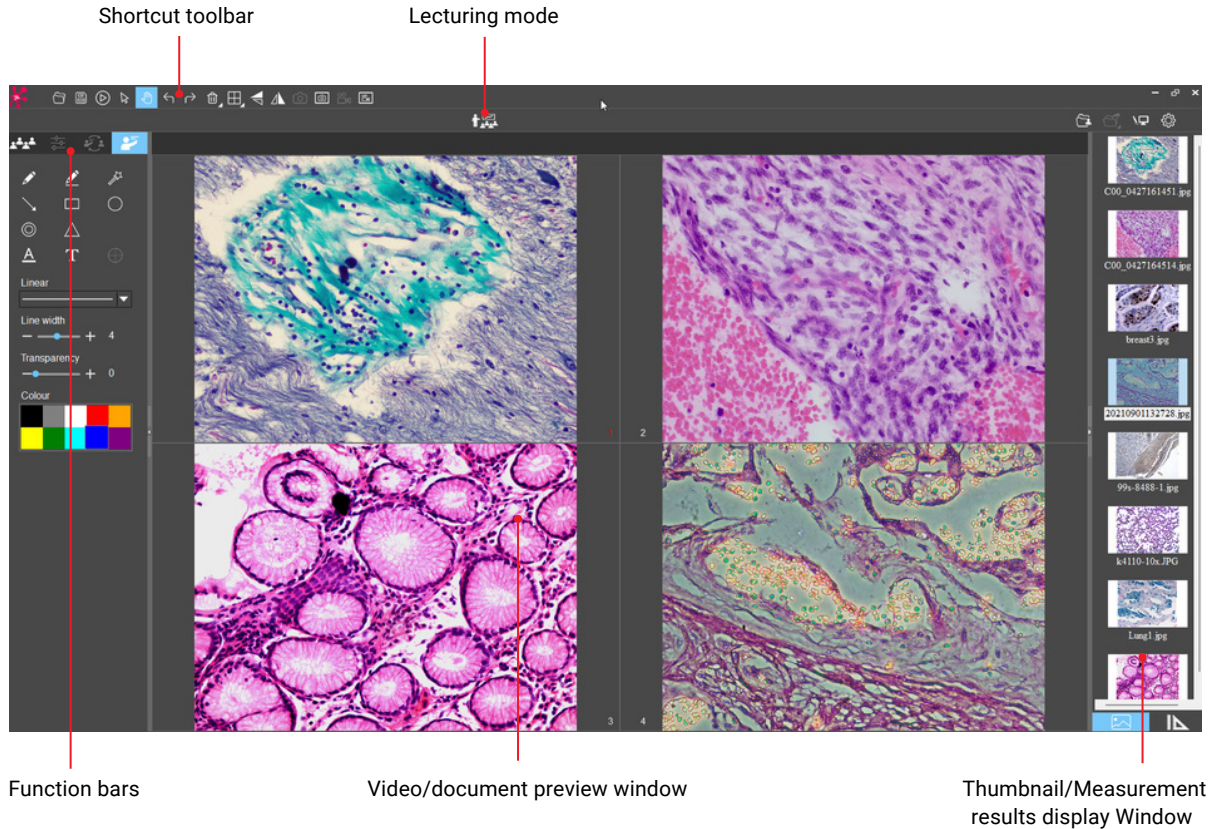


MV60 - WiFi Multi-viewing Workstation for microscope



Chapter 2 Software Instructions

2.1 Software Operation Interface and Instruction



- Online User List
- Camera control
- Measuring tools
- Annotation tools

2.2 Number of user connections

Feature Details:

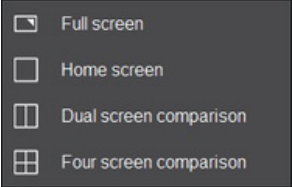
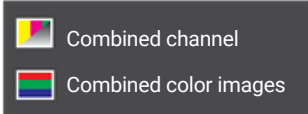
- Scan QR code connection and view the current number of user connections to the multi-viewing workstation.
- Smart devices (mobile phone or tablet) can scan the QR code to connect to the multi-viewing workstation and observe the microscopic images in real time.
- The "Number of user connections" mode on the left side of Pixit Hub allows you to view the total number of users currently connected to the multi-viewing workstation (connection number is 2 in the example image on the right). The system automatically detects the number of refreshed users online, join or leave midway and then return can be viewed in real time.



2.3 Shortcut Toolbar

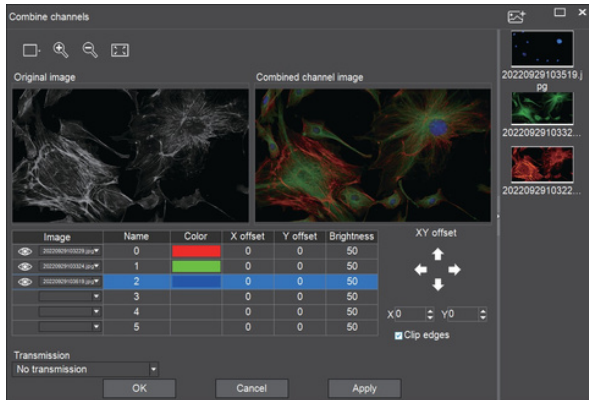


2.3.1 Shortcut tools

	Open	Retrieve images from the local disk to the software.
	Save	After annotating the picture, adding text, etc., click the "Save" button to save the current annotation, text, etc
	Preview	If a still image is retrieved from the window, clicking this button will return the window to the preview dynamic picture.
	Select object	Select "objects" such as annotations, text, measurements, etc. for the next step, such as moving, deleting, etc. Support single selection or select them by drawing a big box around them.
	Drag	Use the mouse to drag the still image.
	Undo	Undo the last operation on an "object".
	Redo	Redo the last operation on an "object".
	Delete	Delete or erase the selected "object" with a single click.
	Compare with multiple windows	 <p>Options of Full screen / Home screen / Dual screen comparison / Four screen comparison.</p>
	Flip	Flip the image on the currently selected screen.
	Mirror	Mirror the image on the currently selected screen.
	Snapshot	Snapshot the image on the currently selected screen.
	Screen capture	Screen capture on the entire computer desktop.
	Record	Record on the currently selected screen.
	Screen record	Screen record on the entire computer desktop.
	Image processing	 <p>Assign fluorescence channels to selected images. Composite overlay of selected color fluorescence images.</p>

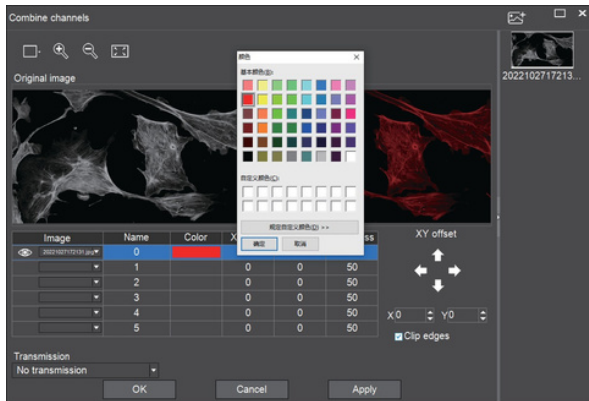
2.3.2 Combine channels

Fluorescent channels can be assigned quickly.

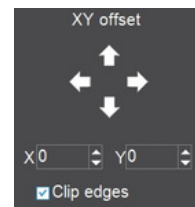


	Live image taking
	Preview window setting: double window to display original image and combine channels image separately, single window to display combine channels image only
	Zoom in
	Zoom out
	Adapts to screen size
	Import images

Fluorescence channels can be specified for imported images (as shown in the figure below).



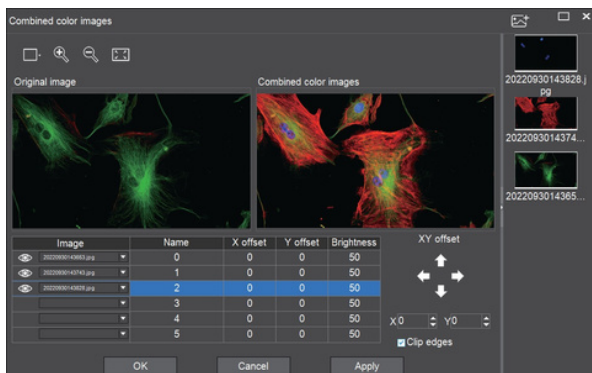
Allows direct input of X, Y, and brightness values for fine adjustment.



Note: Please import images with the same resolution, otherwise the image import will fail.

2.3.3 Combined color images

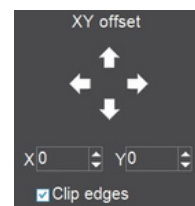
Color fluorescent images can be quickly combined.



	Live image taking
	Preview window setting: double window to display original image and combine channels image separately, single window to display combine channels image only
	Zoom in
	Zoom out
	Adapts to screen size
	Import images

Note: Please import images with the same resolution, otherwise the image import will fail.

Allows direct input of X, Y, and brightness values for fine adjustment.


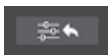
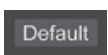
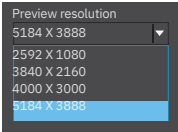


2.4 Camera Property Control



Adjust the corresponding image property parameters as needed to achieve the desired image effect.

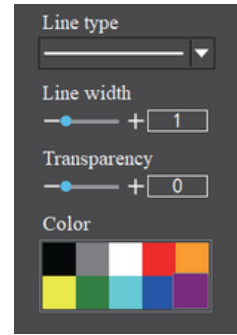


Staining type	Users can select different exclusive types of stained pathology sections to obtain matching image effects and more accurate color reproduction. BF type 1: for bright-field, red or gold-based sections. BF type 2: for bright-field, cyan-dominated sections. FL type: for fluorescence observation.
Brightness	Manually drag the adjustment bar to adjust the image brightness.
Exposure	When checked, the camera will automatically expose according to the environment used. When unchecked, manual exposure can be performed through the adjustment bar, supporting direct input of values in the box.
White balance	Manual white balance adjustment can be made through the adjustment bar, supporting direct input of values in the box. Click on "R" will restore the default value of the R channel alone. Click on "B" will restore the default value of the B channel alone
Gain	Manually drag the adjustment bar to adjust the image gain. Support for entering values directly in the box. Click on "Gain" will restore the default value of gain alone.
Contrast	Manually drag the adjustment bar to adjust the image contrast. Support for entering values directly in the box. Click on "Contrast" will restore the default value of contrast alone
Hue	Manually drag the adjustment bar to adjust the image hue. Support for entering values directly in the box. Click on "Hue" will restore the default value of hue alone.
Saturation	Manually drag the adjustment bar to adjust the image saturation. Support for entering values directly in the box. Click on "Saturation" will restore the default value of saturation alone.
Sharpness	Manually drag the adjustment bar to adjust the image sharpness. Support for entering values directly in the box. Click on "Sharpness" will restore the default value of sharpness alone.
Gamma	Manually drag the adjustment bar to adjust the image gamma. Support for entering values directly in the box. Click on "Gamma" will restore the default value of gamma alone.
	Export image properties to local disk.
	Import image properties from local disk.
	Restore all image property parameters to their default values.
Preview resolution	 <p>Any of the resolutions in the drop-down list can be set for preview.</p>

2.5 Measuring Tools




Calibration function and measurement tools are available for dynamic or static image in the preview window.

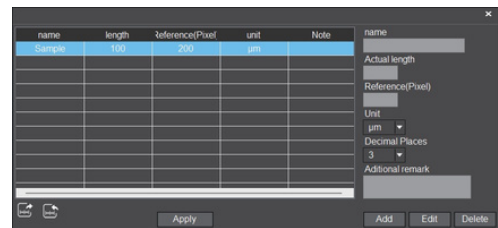


2.5.1 Calibration

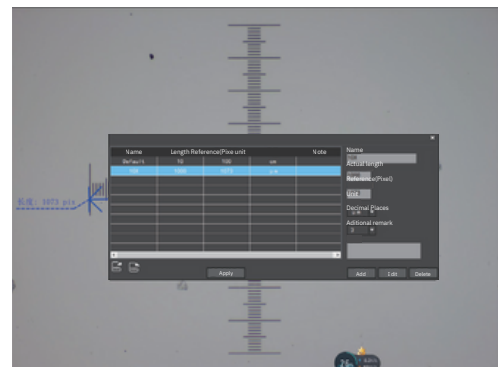
Step 1: Please place the micrometer under the microscope, the example below uses a micrometer with 1DV= 0.01mm.



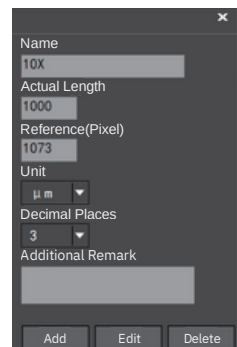
Step 2: Click on "  " to bring up the calibration table.



Step 3: When using the mouse to draw a straight line on the micrometer image and setting the scale length, selecting a longer scale length will give more accurate results. For example, selecting 10 small scale lengths will give you more accuracy than selecting only 1 scale length. After releasing the mouse, the image value of the line drawn with the mouse will be automatically updated in the "Benchmark" of the calibration table.



Step 4: Enter a name in the calibration table, such as 10X. In the calibration table, enter the actual length that just drawn on the micrometer, for example, the sample figure is drawn 100 DV, that is, 1mm, or 1000µm, then enter the "actual length" box to fill in the specified 1000, "unit" select "µm". Then click "Add" to add this calibration value to the calibration table to be used. Add the calibration value for other objectives of different magnifications in this way.

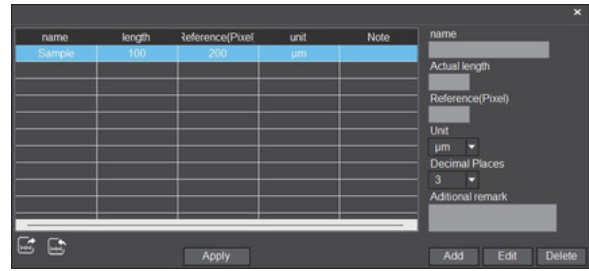


Notes:

- ① "Add": The information in the right box will be added to the list on the left.
- ② "Edit": The calibration value selected in the left list will be modified.
- ③ "Delete": The calibration value selected in the left list will be deleted.
- ④ "Apply": The calibration value selected in the left list will be called.

2.5.2 Select measurement tools

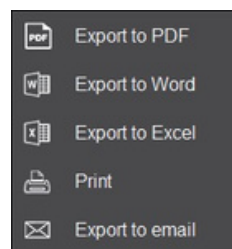
1. Select the calibration value according to the actual objective used in the calibration table and click on "Apply".
2. select the measurement tools as follows:



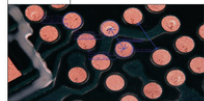
	Linear distance measurement		Concentric circle measurement
	Circular measurement		Concentric radius circle center distance drawing circle measurement
	Rectangle measurement		Ring measurement
	Three-point angle measurement		Manual count
	Parallel line spacing measurement		Font
	Center distance measurement of double parallel lines		Scale mark
	Polyline measurement		Scale bar
	Polygon measurement		Line type
	Arc measurement		
	Three-point vertical line measurement		
	Four-point angle measurement		line width
	Ellipse measurement		Transparency
	Circle radius measurement		Colour
	Three point drawing circle measurement		

The results of each measurement will be displayed on the right side of the software. The user can export the measurement results.

Click the export tool in the upper right display bar to export data and images to PDF, Word, Excel, printer and mail (Outlook only). Export to PDF, printer and mail functions are only available for still images.

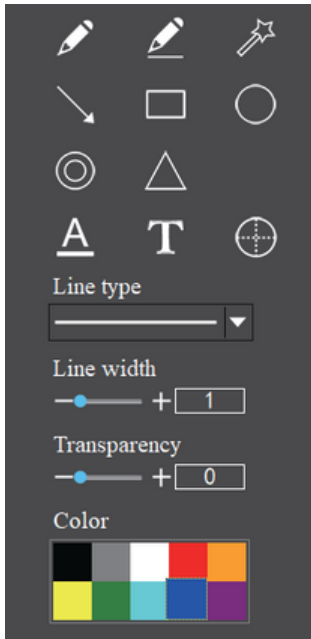


Serial No.	Measure item	Measured value
1	Circular measurement	Radius=21.135 um Perimeter=133.046 um Area=1408.631 um ²
2	Concentric circle measurement	Radius1=19.674 um Perimeter1=123.616 um Area1=1216.025 um ² Length=60.056 um Radius2=19.507 um Perimeter2=122.569 um Area2=1195.504 um ²
3	Linear distance measurement	Length=76.050 um



Select Export to Word, as shown below: Enter file name, select path, and click "Save".

2.6 Annotation Tools



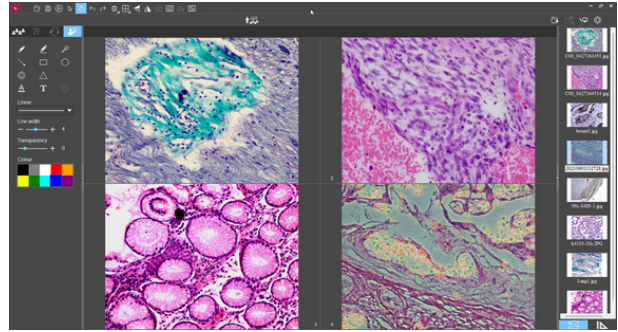
	Pencil
	Straight line
	Highlighter
	Single arrow straight line
	Rectangle
	Oval
	Isosceles triangle
	Concentric circles
	Font
	Insert text
	Line type
	Line width
	Transparency
	Colour

2.7 Lecturing function



2.7.1 Lecturing function

- Synchronized broadcasting computer screen or operation process to the smart devices (mobile phone or tablet).
- Real-time display of microscopic images and computer operation screens at the smart devices (mobile phone or tablet).
- Displaying lesson plans, PPT, videos, etc., in real time at the smart devices (mobile phone or tablet).



2.7.2 Electronic white board function



Click the "Whiteboard" button in the upper right corner of the software to show the teacher's desktop to the smart devices (mobile phone or tablet) and to comment on the desktop and other courseware. The "Whiteboard" tools from left to right are: Pen, Arrow, Enter Text, Undo, Redo, Eraser, Delete Object, Line Width, Line Type, Color, Macro Photo, Macro Video, Mouse Penetration (this tool allows you to call the file data in the computer disk), and return to the software interface, which helps you to annotate the desktop, video, etc. and comment on the desktop in the lecture mode. It helps to annotate and push the displayed courseware, videos, etc. to the smart devices (mobile phone or tablet) in real time.

2.8 Thumbnail Toolbar

Right-clicking on a thumbnail will display the action menu as shown in the right figure.

Open: Open the image in the software default way.

Open directory: Open the directory where the selected image is located.

Copy: Copy the currently selected image.

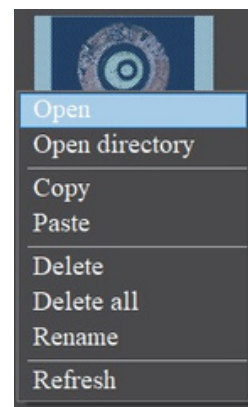
Paste: Paste the image that has been copied. (Note: Paste can only be done within the thumbnail toolbar).

Delete: Permanently delete the selected image and the source file.

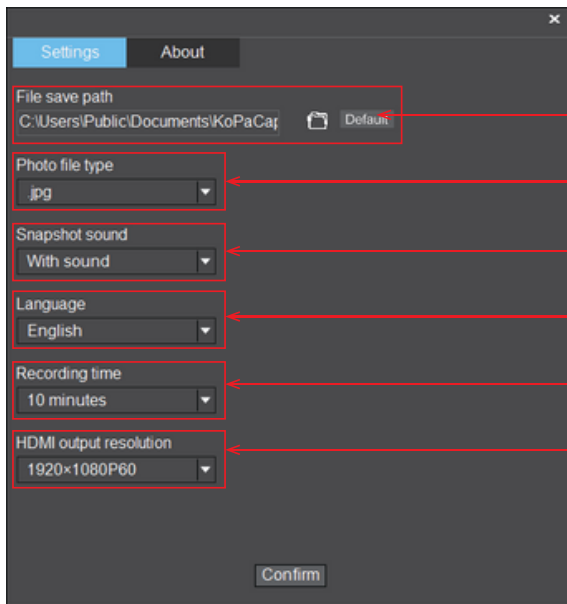
One-click deletion: Permanently delete all thumbnails and the source files.

Rename: Rename the selected image.

Refresh: Refresh the current image thumbnail area.



2.9 Software Settings



Support access / modify / restore default file save path.

Support modifying image saving format: JPG, BMP, TIFF, PNG.

Support modifying the camera sound as off or on.

Support for modifying software interface language.

Support modifying the default maximum single recording time.

Support for modifying the image resolution of an external HDMI display. (This function is only valid for cameras with HDMI output).

Specifications are subject to change without any obligation on the part of the manufacturer.



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