ACCU-SCOPE®

Manual

SKYE 3 View™

Operation Guide

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Contents

CONTENTS ..... **- 2 -**
NOTES AND SAFETY REQUIREMENTS ..... **- 4 -**
CAUTIONS AND NOTES ..... - 4 -
INTRODUCTION ..... **- 5 -**
SOFTWARE SYSTEM REQUIREMENTS ..... **- 5 -**
SYSTEM REQUIREMENTS UNDER USB WORK MODE ..... - 5 -
SYSTEM REQUIREMENTS UNDER WIFI WORK MODE (MOBILE DEVICE) ..... - 5 -
FUNCTION INTRODUCTION ..... **- 6 -**
HARDWARE INTRODUCTION ..... - 6 -
CONNECTION METHODS ..... **- 7 -**
CAMERA WORK MODES ..... **- 8 -**
USB WIRED WORK MODE ..... - 8 -
Install SKYE View Software ..... *- 8 -*
Connect to the Camera ..... *- 8 -*
Open Software ..... *- 8 -*
WIFI WORK MODE – WINDOWS PC ..... - 8 -
Install SKYE View software ..... *- 8 -*
Connect to the Camera ..... *- 9 -*
Open Software ..... *- 9 -*
Start to Use ..... *- 9 -*
ETHERNET (LOCAL AREA NETWORK – LAN) CONNECTION ..... - 10 -
Connect to LAN ..... *- 10 -*
Install SKYE View app ..... *- 10 -*
Connect to Camera ..... *- 10 -*
Viewing Images via LAN ..... *- 10 -*
Start to Use ..... *- 11 -*
HDMI CONNECTION ..... - 12 -
Connect HDMI cable ..... *- 12 -*
Install SKYE View app ..... *- 12 -*
Connect to Camera ..... *- 12 -*
Start to Use ..... *- 12 -*
SKYE VIEW 3 SOFTWARE OPERATION ..... **- 13 -**
OPERATION INTERFACE ..... - 13 -
SHORTCUT TOOLBAR ..... - 14 -
Shortcut Tools ..... *- 14 -*
Automatic Depth-of-Field Fusion Function ..... *- 15 -*
Stitching Function ..... *- 16 -*
Combine Channels ..... *- 17 -*

Combine Color Images..... - 18 -
WORKING MODE BAR..... - 18 -
CAMERA PROPERTY CONTROL..... - 19 -
MEASURING TOOLS..... - 20 -
Calibration..... - 20 -
Select Measurement Tool for Measurement..... - 21 -
DRAWING TOOLS..... - 23 -
THUMBNAIL TOOLBAR..... - 24 -
SOFTWARE SETUP..... - 24 -
LIMITED WARRANTY..... - 25 -
DIGITAL CAMERAS FOR MICROSCOPY..... - 25 -

Notes and Safety Requirements

Cautions and Notes

1) To avoid danger or damage incurred to the lens, do not touch the lens or sensor directly with your fingers.
2) To avoid failure or electric shock hazard and so on, do not disassemble or modify the internal structure of the device.
3) Do not plug in or unplug the USB port when hands are wet.
4) Do not use alcohol and other organic solvents to clean.
5) If the lens or sensor is dirty or damp, it is better to use dry and non-linen fabric or professional lens tissue to wipe them. To avoid scratches on the surface, do not touch the lens with your fingers. Wipe the lens or sensor lightly.
6) The products are not designed for outdoor use. Do not expose it to outdoor environment without any protection. Excessive temperature and humidity will damage the lens. Please avoid using the product under the following environment: high temperature or high humidity environment, places with direct sunlight, dirt or vibration and places near heat source.
7) Please use and store in the following environment:
   Operating temperature ：0℃~ 60℃
   Storage temperature：-10℃~ 60℃
   Operating Humidity ：30~60%RH
   Storage Humidity：10~80%RH
8) If any foreign matter, water or liquid enters the device, disconnect the USB cable immediately. Please send it to ACCU-SCOPE for maintenance. DO NOT use a hair dryer to dry it by yourself.
9) To prevent microscope from being tripped over or dropped, please put away the device's USB cables in use or standby.
10) To avoid electric shock by accident, please power off microscope before you move your computer or laptop.
11) The cleanliness of the device lens will directly affect clarity degree of contents from the computer screen during preview. Problems like various circles or spots on the screen may mostly be incurred by dirt on the lens. When cleaning, please use professional lens tissue or other professional detergent to clear the dirt on the lens.

Introduction

This operation guide provides instructions for the use of the SKYE View 3 PC App (Windows only) with SKYE WiFi 3 cameras. The app can be for both USB-wired, Ethernet, or WiFi connection to the camera. Please refer to the SKYE WiFi 3 manual for information on connectivity between operating devices and the camera.

SKYE View 3 is a ready-to-use Windows PC software that requires no additional driver installation. It is designed to work with the SKYE WiFi 3 12MP color camera and supports USB connections, WiFi and network connections, thus providing users with more versatile and convenient ways to access and transfer images.

This guide provides an overview of some key features and functionality of the SKYE View 3 app. Since no two users have the exact same requirements for their applications, we encourage you to try the functions, and make adjustments to better suit your samples and requirements. Before long, you will find the best camera settings and be taking awesome images.

Software System Requirements

System Requirements under USB Work Mode

Macintosh OS not supported.

- Windows 10 (64-bit) or higher
- i5 (10th gen.) processor or later
- 512GB hard disk space or more
- 16GB RAM
- Graphics card: Core graphics
- USB 2.0 high-speed port
- Internet connection for software download
- Wireless network card, IEEE802.11ac compatible
- LAN network card for Ethernet operation, 10/100/1000Mb auto adaptive

System Requirements under WiFi Work Mode (mobile device)

Android

- Android v7.0 or higher
- Dual-Core processor, 1.7GHz or later
- 32GB storage space or more
- 3GB RAM

iOS (Apple)

- iOS 11.0 or later
- Dual-Core processor, 1.8GHz or later
- 32GB storage space or more
- 2GB RAM

- Supports 5GHz WiFi wireless protocol IEEE802.11ac

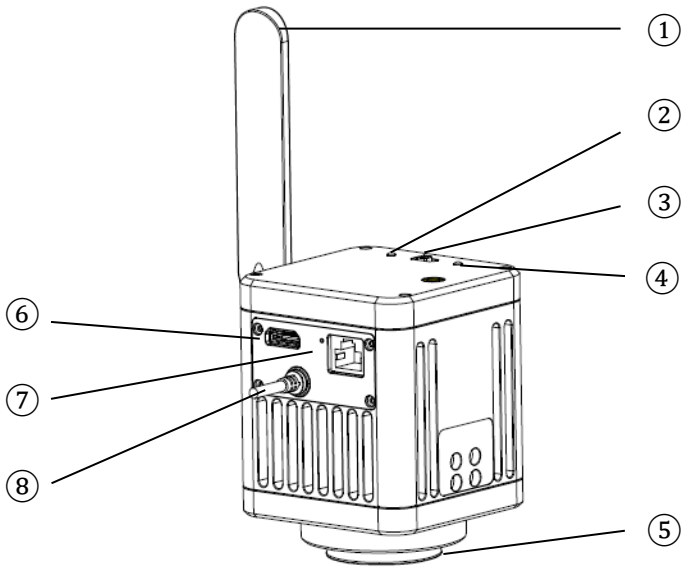
- Supports 5GHz WiFi wireless protocol IEEE802.11ac

Windows PC

- Windows 10 (64-bit) or higher
- i5 (10h gen.) processor or later
- 512GB hard disk space or more
- 16GB RAM
- Graphics card: Core graphics
- USB 2.0 high-speed port
- Internet connection for software download
- Wireless network card: IEEE802.11ac

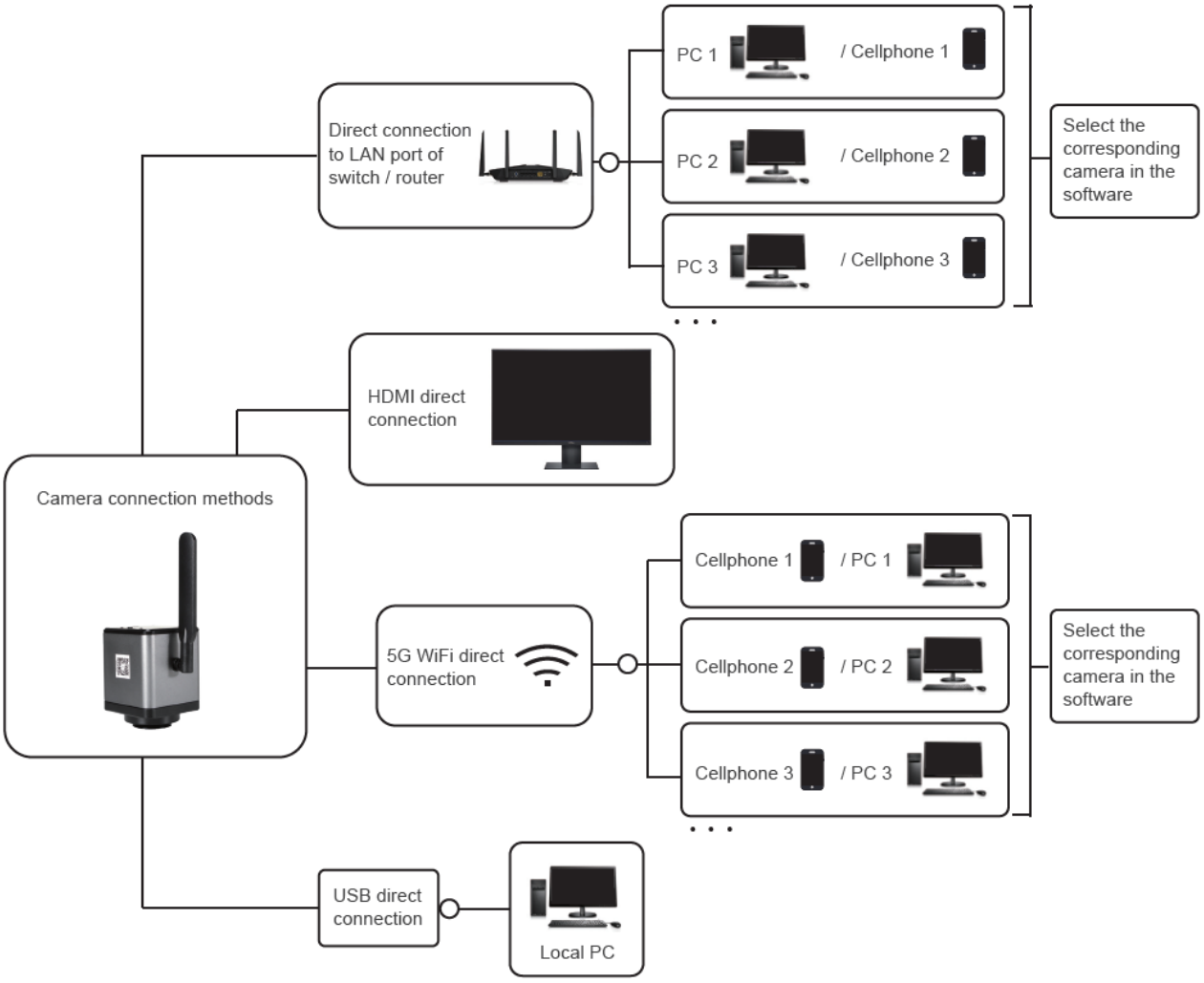
Function Introduction

Hardware Introduction



① Antenna
② Power indicator LED
③ Mode switch (WiFi / Off / USB)
④ ACT indicator LED
⑤ C-mount
⑥ HDMI port
⑦ Ethernet port
⑧ USB / power cord (attached)

Connection Methods



Camera Work Modes

The SKYE WiFi 3 camera can operate in five (5) work modes: USB, WiFi (PC, Apple iOS, Android) and Ethernet. Ethernet work mode can be used as either direct connect (Ethernet to Ethernet though a LAN or router) or WiFi (Ethernet to router, WiFi connection to router). Refer to the instructions below to connect to the camera with the desired operation mode.

USB Wired Work Mode

Install SKYE View Software

Insert the included USB stick into a USB port on your computer, click SKYE View Install file and finish the installation of the application software according to the on-screen prompts. For detailed installation methods, please refer to User Manual for SKYE View.

Connect to the Camera

1) Connect the USB/power cable of the SKYE WiFi Camera to the USB port of the computer.
2) The device's driver may automatically install when you first use the SKYE WiFi Camera, and then system will finish installation automatically.

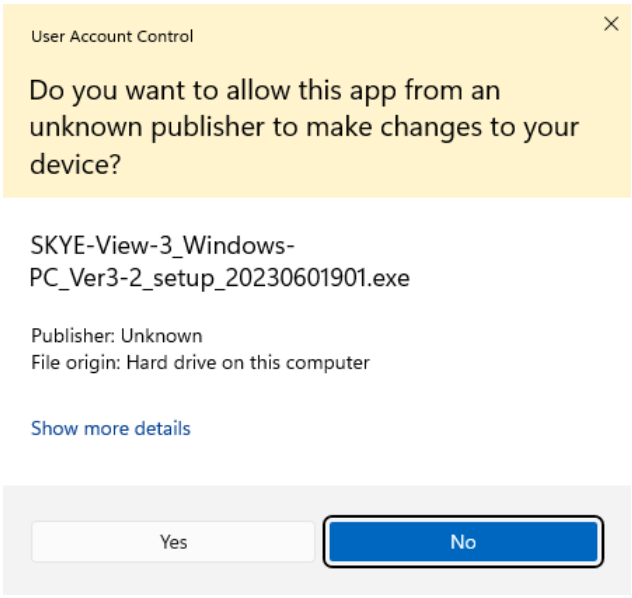
Open Software

1) Attach the SKYE WiFi Camera to the microscope and, using the eyepieces, focus on the desired object.
2) Execute the SKYE View software on your computer to observe your needed image. You may need to switch the light path to send light to the camera.
3) For detailed instructions on the use of SKYE View software, please refer to User Manual for the SKYE View software (available on the USB stick that came with the SKYE WiFi camera, and on the ACCU-SCOPE > Support > Software webpage.

WiFi Work Mode – Windows PC

Install SKYE View software

1) Download and install SKYE View software from the included USB stick, or from our software downloads page (https://accu-scope.com/support/software-updates). If prompted with dialog box regarding unrecognized publisher, choose "More info" then "Run anyway".



2) Follow the prompts to complete the installation of the software.

NOTE: Be sure to download the SKYE View app version that corresponds to the version of your SKYE WiFi camera, specifically use SKYE View 3 with SKYE WiFi 3 cameras and SKYE View 2 with SKYE WiFi 2 cameras. Due to hardware differences between camera versions, these apps/software are not interchangeable and are not backwards compatible.

Connect to the Camera

3) Turn the work mode switch of the SKYE WiFi Camera to WiFi work mode. After ~20 seconds, the ACT indicator of SKYE WiFi Camera blinks blue.
4) On the PC, navigate to WiFi network setting and connect to the SKYE WiFi Camera: WiFiCamera-xxxxxx, default password: 12345678

Open Software

4) Attach the SKYE WiFi Camera to the microscope and, using the eyepieces, focus on the desired object.
5) Execute the SKYE View mobile app on your iOS device to observe your needed image. You may need to switch the light path to send light to the camera.

Start to Use

5) Click on the microscope icon to enter live preview mode.

For detailed operating instructions, please refer to User Manual for SKYE View Mobile App.

Ethernet (Local Area Network – LAN) Connection

Ethernet connection allows the camera to be accessed across a LAN by up to 13 mobile or PC devices that are also connected to the same LAN router.

NOTE: The LAN must support 5G WiFi IEEE802.11ac protocol, otherwise the camera will not be displayed in the list of available cameras in the apps or software.

NOTE: Operation requires camera control by smart phone or PC (the camera does not have built-in software for stand-alone operation).

Connect to LAN

1) Connect Ethernet cable (provided) to Ethernet (WAN) port on camera, and connect the other end of the Ethernet cable to a suitable network (LAN) port on a router. LAN/router must support IEEE802.11ac protocol.

Install SKYE View app

2) Download and install SKYE View app as described previously.

Connect to Camera

3) Turn the work mode switch of the SKYE WiFi Camera to WiFi work mode. After ~20 seconds, WiFi work indicator of SKYE WiFi Camera blinks. Camera will automatically switch to Ethernet transmission.

Viewing Images via LAN

Images from any camera on the LAN can be viewed by any PC or mobile device that is on the same LAN as the camera. Multiple cameras can be simultaneously connected to the same LAN. SKYE View 3 supports switching between cameras on the same LAN at any time.

4) Connect a Windows PC, laptop or mobile device that supports 5G WiFi IEEE802.11ac protocol to the same local area network as the camera.
5) Run SKYE View 3 on the Windows PC, laptop or mobile device.
6) If there is only one network camera on the LAN, the software can automatically view the live image from the camera.
7) When there are multiple network cameras in the same local area network,
    a. On Windows PC, click the camera selection icon in the upper right corner of SKYE View 3 (Figure 1). The list automatically shows all cameras in the current local area network (Figure 2). Select a camera by clicking on it, then click Connect. SKYE View 3 supports switching between cameras on the same LAN at any time.

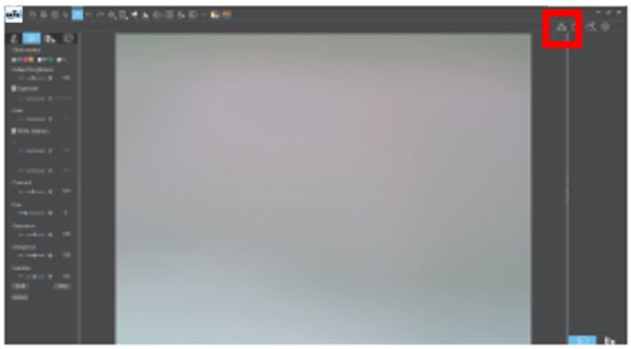


Figure 1

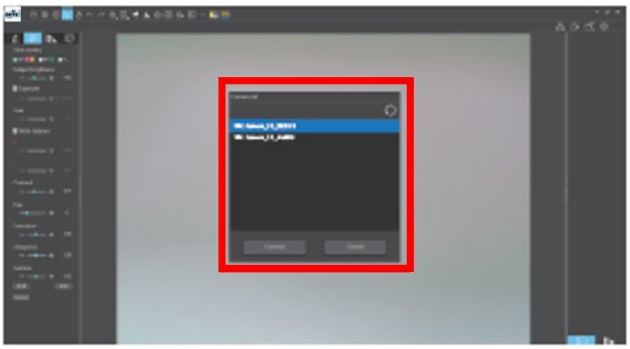


Figure 2

b. On mobile devices, click the camera select icon in the navigation interface (Figure 1), then choose Select camera. A pop-up menu appears with a list of available cameras (Figure 2). The list automatically shows all cameras in the current local area network (Figure 3). Select a camera by clicking on it. SKYE View 3 supports switching between cameras on the same LAN at any time.

Figure 1

Figure 2

Figure 3

Start to Use

8) In the Windows software, click on the microscope icon to enter live preview mode.
9) On the mobile app, click the Play icon on the main app interface to enter live preview mode.

For detailed operating instructions, please refer to User Manuals for SKYE View App and software.

HDMI Connection

HDMI connection can be used with any of the above work modes. It provides the option to display live images via projector or large monitor. HDMI connection requires camera control by smart phone or PC (the camera does not have built-in software for stand-alone operation).

Connect HDMI cable

1) Connect the HDMI cable (provided) from the HDMI port of the camera to the HDMI port of a compatible monitor or projector.

Install SKYE View app

2) Download and install SKYE View app as described previously.

Connect to Camera

3) Follow the previously described instructions to connect your device and SKYE View 3 app/software to the camera.

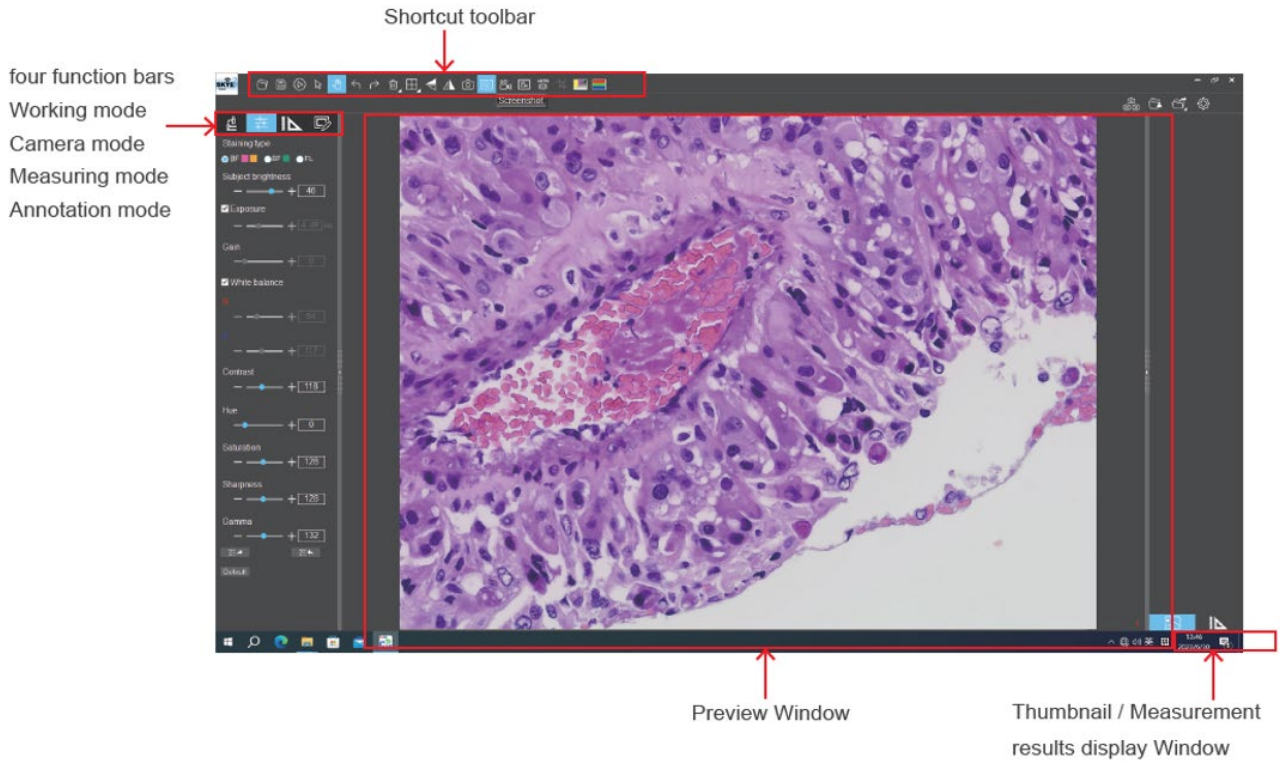
Start to Use

4) Follow the previously described instruction to enter live preview mode and begin imaging. The images will appear both on the PC or mobile device being used to control the camera AND the HDMI-connected monitor or projector.

For detailed operating instructions, please refer to User Manual for SKYE View Mobile App.

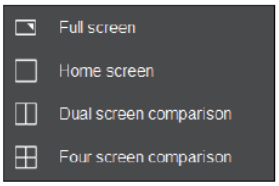
SKYE View 3 Software Operation

Operation Interface



Shortcut Toolbar

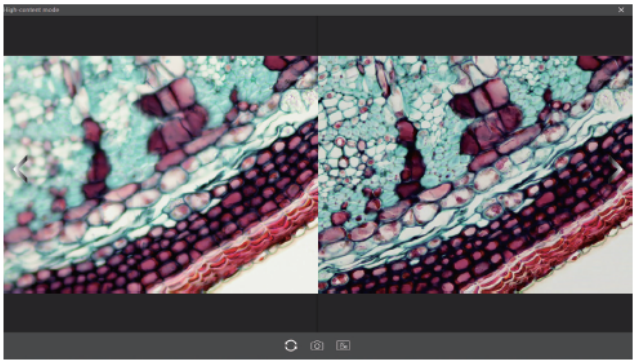
Shortcut Tools

	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	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	Undoing the last operation on an "object".
	Redo	Redoing the last operation on an "object".
	Removal / Eraser	Delete or erase the selected "object" with a single click.
	Multiple screen	 Options of Full screen / Home screen / Dual screen comparison / Four screen comparison.
	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.
	Screenshot	Screenshot on the entire computer desktop.
	Record	Record on the currently selected screen.
	Screen record	Screen record on the entire computer desktop.
	High-content mode	Automatic extraction of the clearest areas of the captured image for fusion.

	Proportional cutting	Crops images in equal proportions.
	Combine channels	Assign fluorescence channels to selected images.
	Combined color images	Composite overlay of selected color fluorescence images.

Automatic Depth-of-Field Fusion Function

Automatic depth-of-field fusion function for high content images works with USB or WiFi connection. Break through the limitation of insufficient depth-of-field in high magnification objective lenses, and to adjust the focal length can obtain a greater depth of field, thus obtaining a sharper image than a real-time single-frame image.Click “Snapshot” can save two images before and after depth of field fusion.



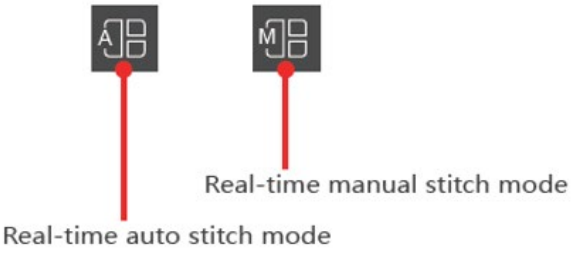
Operation steps:

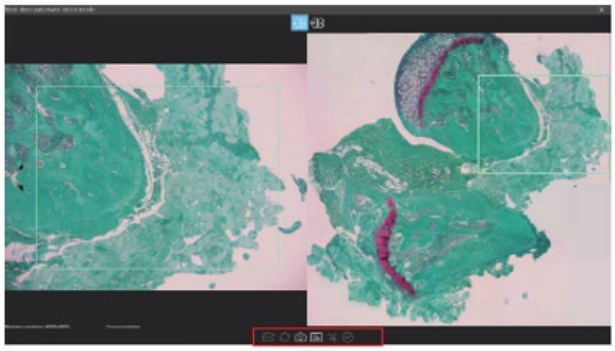
Step 1. Click " " button, a dual screen appears, the left screen is in line with the focal plane under the eyepiece, and the right screen is the result of high content fusion.

Step 2.Adjust the microscope coarse / fine focus knob, the depth-of-field fusion in real time on the right screen. If you switch the field of view midway, you can click " " button to refresh.

Step 3.Click " " button to automatically save two pictures on the left and right screen , close the current window to exit , click " " button to enter the file manager and export pictures.

Stitching Function





1.Real-time auto stitch mode

(1) Clicking the " " button starts to start real-time stitching and move the slices;
(2) When the " "photo button is clicked again it stops the real-time stitching.

2.Real-time manual stitch mode

(1)After clicking the " " button the stitching window displays the first real-time image taken, move the slice, and then click " " this time the stitching window displays the first and second stitched images, and so on;
(2)When clicking " " you can cancel the spliced image of the most recent photo.

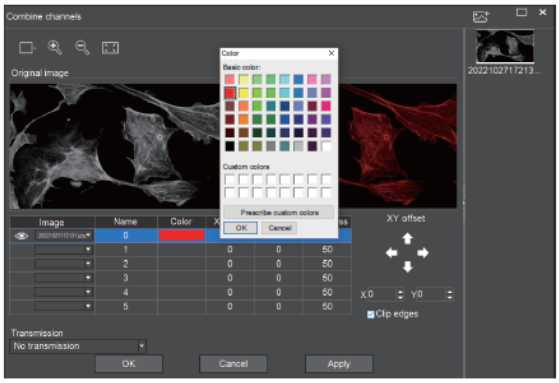
Importing images | Window refresh | Auto/Manual photo taking | Screen record | Undo | Proportional cutting | save

Combine Channels

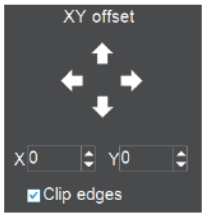
Fluorescent channels can be assigned quickly

	Snapshot
	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)



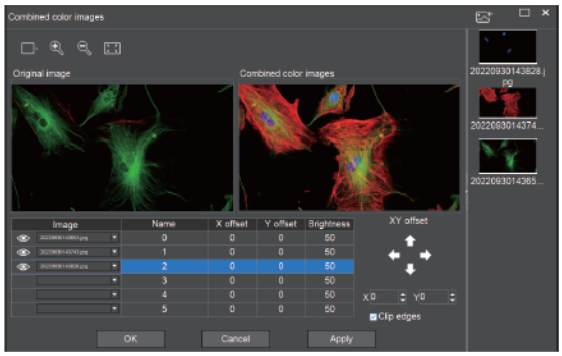
Allows direct input of X, Y, and brightness values for fine adjustment.



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

Combine Color Images

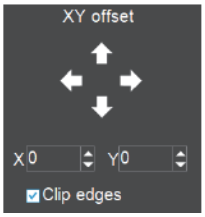
Color fluorescent images can be quickly combined.



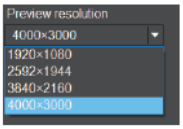
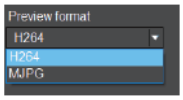
Note: Please import images with the same resolution, otherwise the image import will fail.

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

	Snapshot
	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

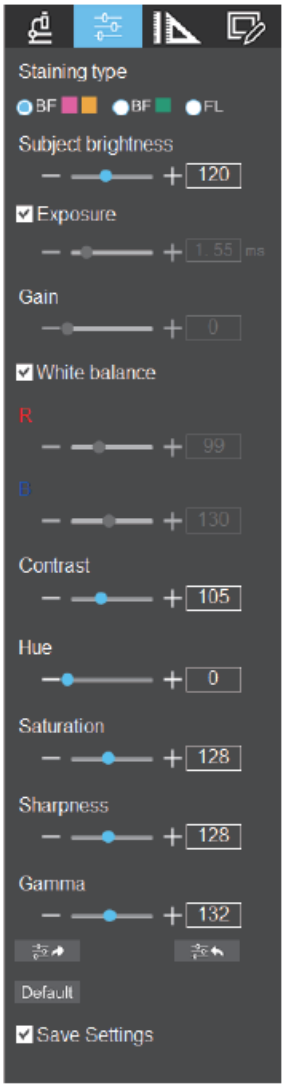


Working Mode Bar

	Preview resolution	Any of the resolutions in the drop-down list can be set for preview.
	Preview format	You can switch between MJPG and H264 preview formats. The advantage of H264 format is that the image quality is more transparent, but it requires a higher computer configuration. The advantage of MJPG format is that it requires a lower computer configuration, but the picture quality is not as good as H264.

Camera Property Control

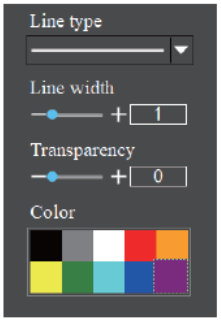
Adjust the corresponding image property parameters as needed to achieve the desired image effect.



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.
Target brightness	Manually 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.
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.
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
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	Exporting image properties to local disk.
Import image properties	Import image properties from local disk.
Restore Default values	Default Restore all image property parameters to their default values.

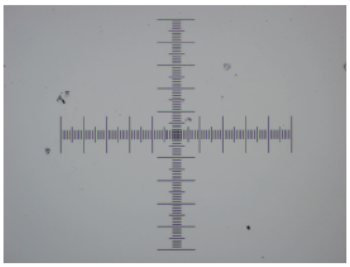
Measuring Tools

Provides calibration function as well as measurement function for dynamic or still image in the preview window.

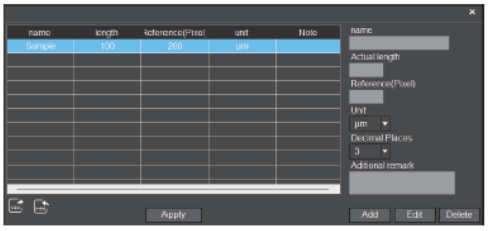


Calibration

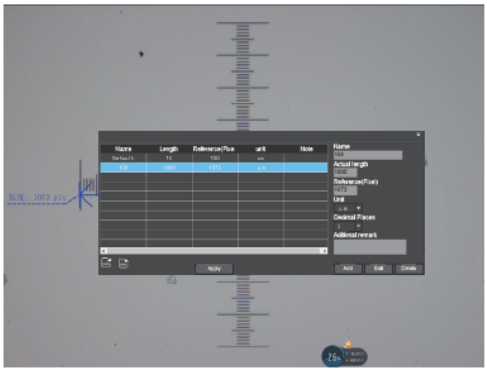
Step 1: Please place the micrometer under the microscope, the example below uses a micrometer with 1DV= 0.01mm.



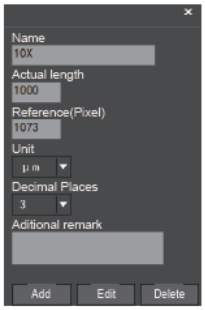
Step 2: Click on " " to bring up the calibration table as shown below.



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, as shown in the following figure.



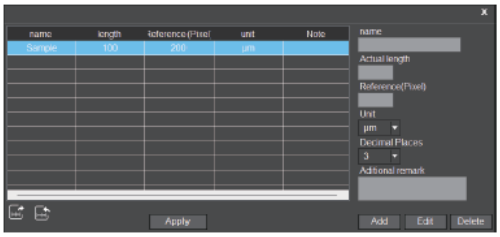
Step 4: Enter a name in the calibration table, such as 10X.
In the calibration table, enter the actual length that just drawn on the micrometer, for example, the sample figure is drawn 100 DV, that is, 1mm, or 1000μm, then enter the "actual length" box to fill in the specified 1000, "unit" select “μm”. 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.

Select Measurement Tool for Measurement

Firstly, select the calibration value according to the actual objective used in the calibration table and click on "Apply". The following figure shows:



Then select the measurement tools to measurement as follows:

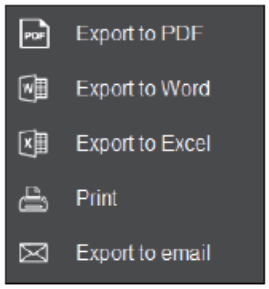
	Linear distance measurement		Concentric circle measurement
	Circular measurement		Concentric radius circle center distance drawing circle measurement
	Rectangle measurement		Ring measurement
	Three-point angle measurement		Manual count
	Parallel line spacing measurement		Font
	Center distance measurement of double parallel lines		Scale mark
	Polyline measurement		Scale bar

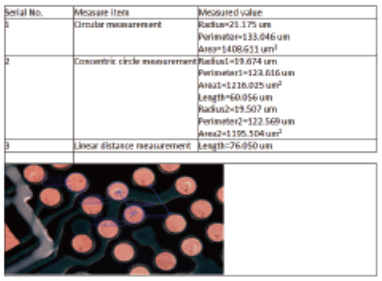
	Polygon measurement		Line type
	Arc measurement		
	Three-point vertical line measurement		
	Four-point angle measurement		Line width
	Ellipse measurement		Transparency
	Circle radius measurement		Color
	Three point drawing circle measurement		

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

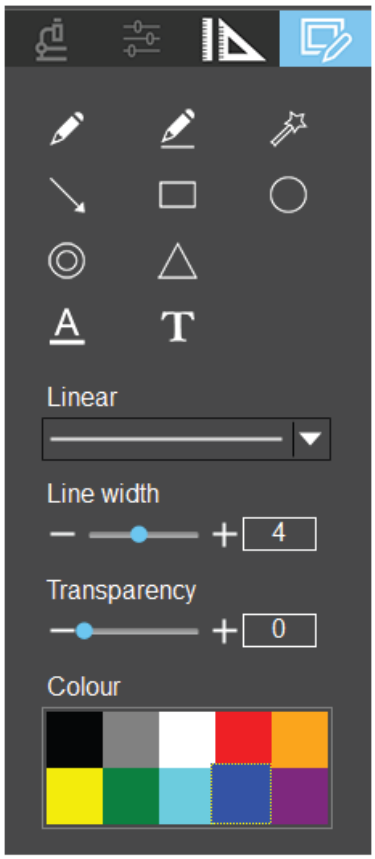
Click the export tool the upper right display bar to export data and images to PDF, Word, Excel, printer and mail (Outlook only). Export to PDF, printer and mail functions are only available for still images.

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





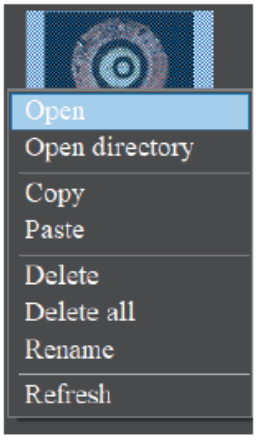
Drawing Tools



	Pencil
	Straight line
	Highlighter
	Single arrow straight line
	Rectangle
	Round
	Concentric circles
	Isosceles triangle
A	Font
T	Insert text
	Line type
	Line width
	Transparency
	Color

Thumbnail Toolbar

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



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).

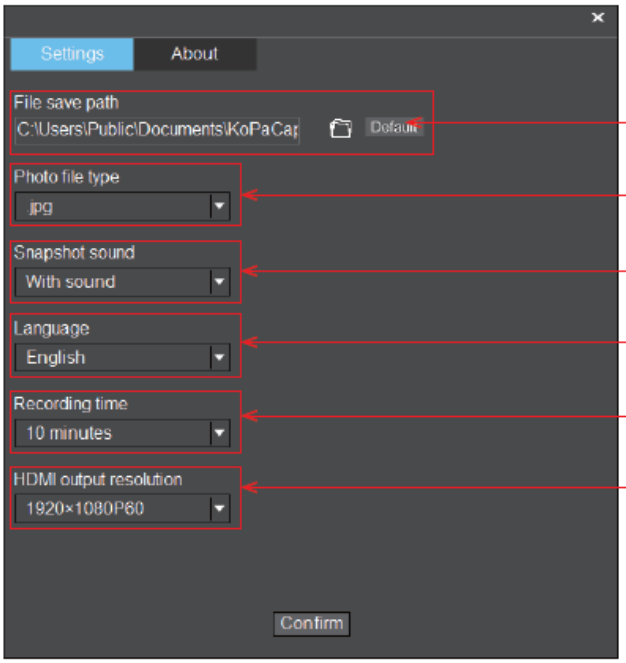
Delete: Deleting the current picture，can restore the file from the Recycle in.

Delete all: Deleting all the picture，can restore the files from the Recycle in.

Rename: Rename the selected image.

Refresh: Refresh the current image thumbnail area.

Software Setup



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 on an external HDMI display. (This function is only valid for cameras with HDMI output).

Limited Warranty

Digital Cameras for Microscopy

This digital camera is warranted to be free from defects in material and workmanship for a period of one (1) year from the date of invoice to the original (end user) purchaser.

This warranty does not cover damage caused in-transit, damage caused by misuse, neglect, abuse or damage resulting from either improper servicing or modification by other than ACCU-SCOPE or UNITRON approved service personnel. This warranty does not cover any routine maintenance work or any other work that is reasonably expected to be performed by the purchaser. No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage or other conditions beyond the control of ACCU-SCOPE Inc. This warranty expressly excludes any liability by ACCU-SCOPE INC. and UNITRON Ltd for consequential loss or damage on only grounds, such as (but not limited to) the non-availability to the End User of the product(s) under warranty or the need to repair work processes.

All items returned for warranty repair must be sent freight prepaid and insured to ACCU-SCOPE INC., or UNITRON Ltd., 73 Mall Drive, Commack, NY 11725 – USA. All warranty repairs will be returned freight prepaid to any destination within the Continental United States of America. Charges for repairs shipped back outside this region are the responsibility of the individual/company returning the merchandise for repair.