

(I) Simple Installation Guide

Installation steps are as follows:

1. Install the digital camera hardware

- 1) Open the package, connect the digital camera with camera lens, and then insert it into the microscope eyepiece;
- 2) Insert the video camera's USB cable into the computer's USB2.0 interface, and the hardware installed.

2. Install the driver

Double-click the driver file in the CD-ROM to install. During the installation process can choose the next step. Driver installed.

Note: Non-drive video camera can omit this step.

3. Install the software

- 1) install the codec, ffdshow_rev3452_20100524.exe;
- 2) Install the S-Viewer software, S-Viewer setup.exe.

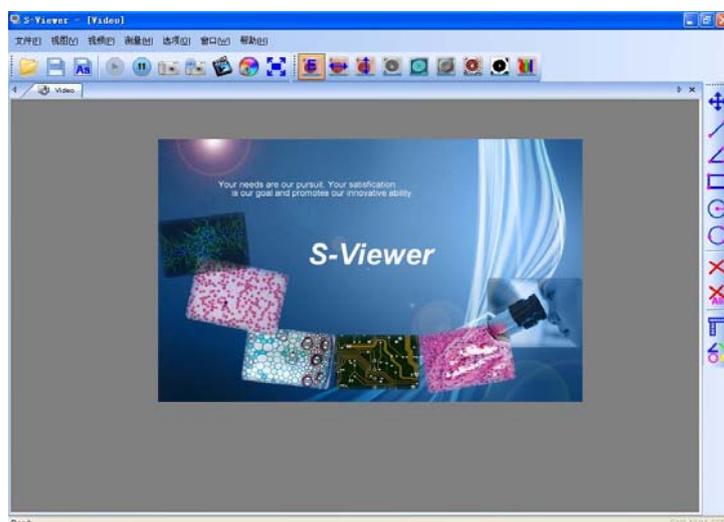


Default, during the installation process you can select Next to install the above software can be correctly.

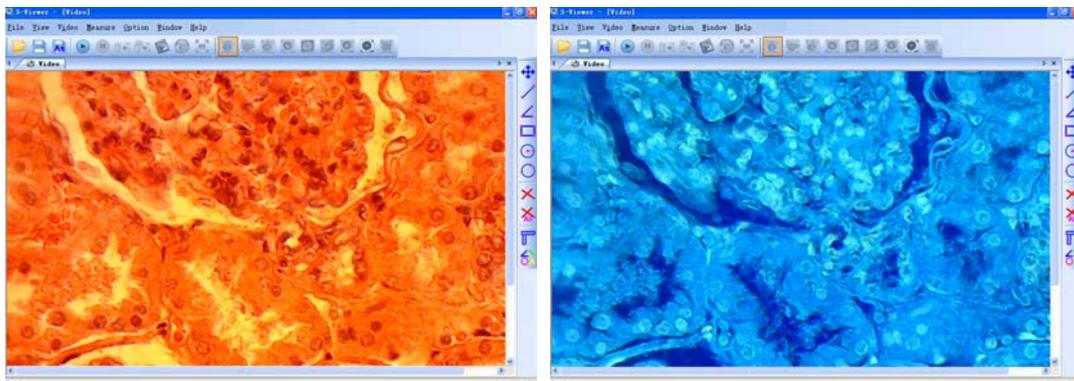
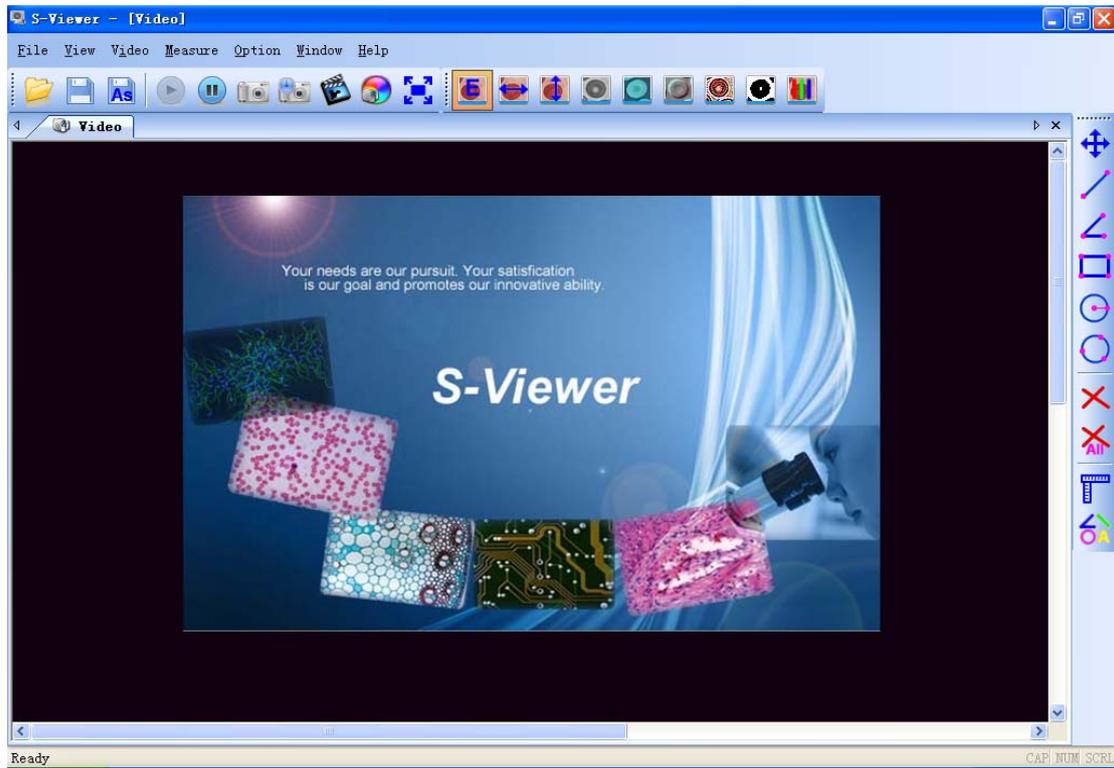
4. Use the software



Open the desktop shortcut , Into the interface operation. S-Viewer concrete how to use the S-Viewer, please see the instructions.



(II) User Manual of S-Viewer



Part 1. Overview

S-Viewer is a kind of professional software specially exploited for the application of digital microscope, belonging to the S-VIEW Digital Micro-software series. It satisfies the demand for visualization of operating morphology on PC in the field of medical, education, scientific research, industrial production, material, chemical engineering, metallurgy & mining, etc., playing an important role in the interaction between human beings and digital microscope of every kind. After a long period of use by experts in the fields mentioned above, it improves gradually in the aspects of functionality, easy operability, stability, etc.. In the meanwhile, the micro-digital camera and microscope which go with it also develop to a higher level, thus promoting the development of digital microscope to a large extent.

Characteristics (real-time processing, real-time measurement, several RGB alternatives)

- Applicable for all kinds of USB 2.0 interfaces, supportive of cam of DIRECTSHOW
- With the functions of real-time video processing, including Flip horizontal, flip vertical, grayscale, emboss, sharpen, binary, negative image, all of which adopt effective algorithm—hardly affect video's frame rate.
- Supportive of measurement of dynamic video, and it lessens measuring steps and shortens the time for measurement .
- With memorable RGB adjustment, it makes color rendition to be lifelike to the largest extent; it's available to set several RGB alternatives and brings great convenience to users as well as the perfect solution of color rendition.
- Easy to handle, able to inosculate measured data, file headlines, dates and rulers into the images, and it's supportive of fast preservation.
- Feasible for writing in detailed information about file while maintaining the image, strengthening the description of imaging files.

Functions

- Video selection, video previewing setting

- Video previewing, photograph, continuously shoots, video
- Adjustment of video parameter (luminance, contrast, saturation, chroma, gamma, clarity)
- Automatic white balance (AWB), automatic exposure
- Real-time video processing: flip horizontal, flip vertical, grayscale, emboss, sharpen, binary, negative image
- RGB tricolor real-time match, memorable, controllable
- Full-screen displaying
- Measurement calibration, measurement setting
- Dynamic real-time measurement (straight line, angle, circle, three-point circle, rectangle)
- Static image measurement (straight line, angle, circle, three-point circle, rectangle)
- Document loading, preservation

Part 2. Operating Instructions

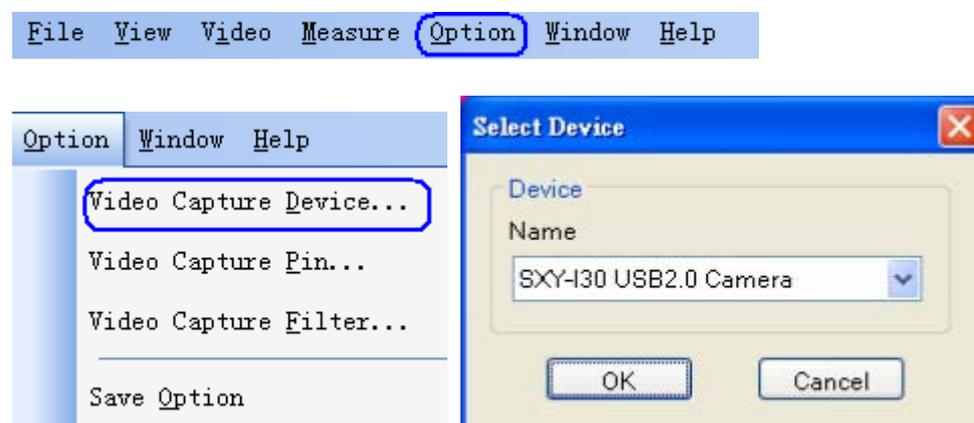
• Chapter 1. Basic Operation of Capturing Video Previewing

1. Use this software for the first time

After you have downloaded the software and start it up for the first time, you will see a device for video capturing for video previewing, the image is as follows:

2. Select the target video device

When more than one video device appears on computer, this software allows you to select the target video device. Select *menu*→*options*→*select video device*. When the dialog box “select video device” pops up, you can select the target video device in the list of devices. Click OK to preview.



3. Set video previewing size

Select *menu*→*options*→*set video previewing*, and when the dialog box “attribute” pops up, you can change the video previewing size by choosing from the options in the list of output size.

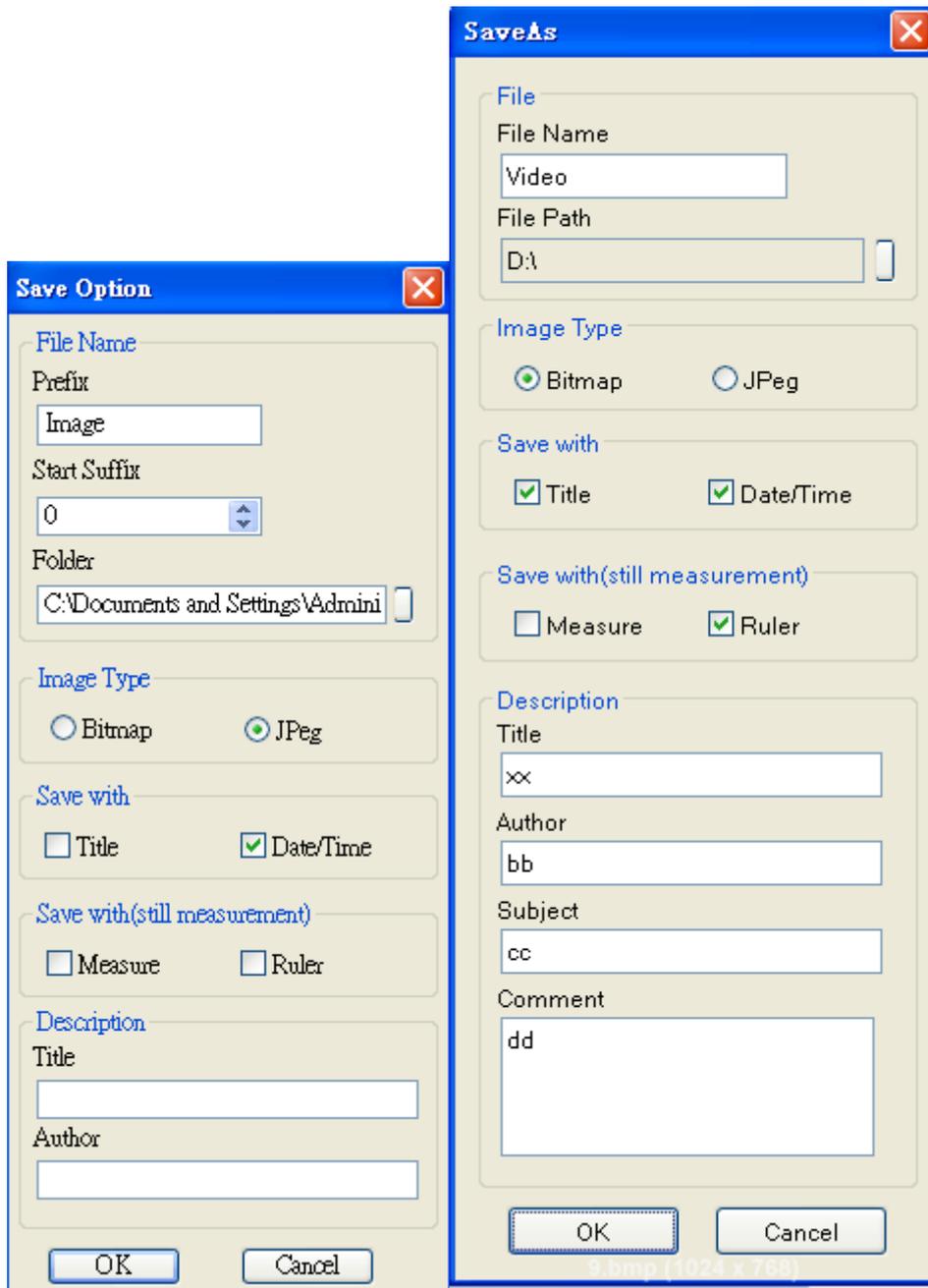
4. Set video attribute

Select *menu*→*options*→*set video attribute* to adjust the basic parameter of video.

5. Capture the video

Save: select *menu*→*file*→*save*, it will save automatically according to the information in “set to be saved”.

Set to be saved: select *menu*→*options*→*set to be saved*, then the dialog box of “set to be saved” will pop up.

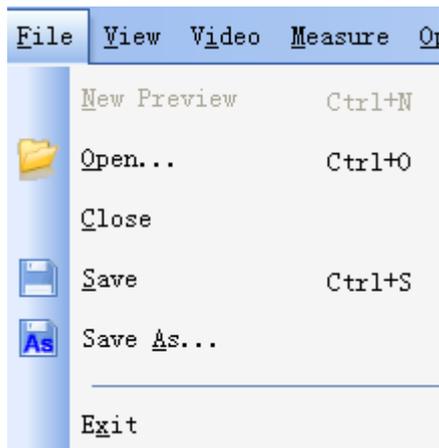


Save as: select *menu* → *file* → *save as*, then the dialog box of “Save As” pops up.

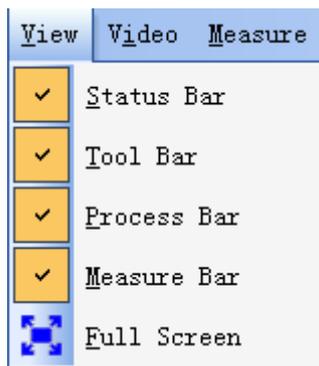
• chapter 2 Detailed Operating Instructions

2.1 Menu Bar File View Video Measure Option Window Help

- File:



- 1) **New Preview** **Ctrl+N** : When video previewing is turned off, you can select this to start a new video previewing;
- 2) **Open...** **Ctrl+O** : Load pictures from local disk, and it will display in windows; operations like dynamic measurement can also carry on.
- 3) **Close** : Close the current video windows or pictures-displaying windows;
- 4) **Save** **Ctrl+S** : Automatically save an image of the current video or save the current images to the default path.
About principles of taking out files, see *menu* → *options* → *set to be saved*;
- 5) **Save As...** : See the dialog box of “Save As” on the left;
- 6) **Exit** : Quit the application.

• View

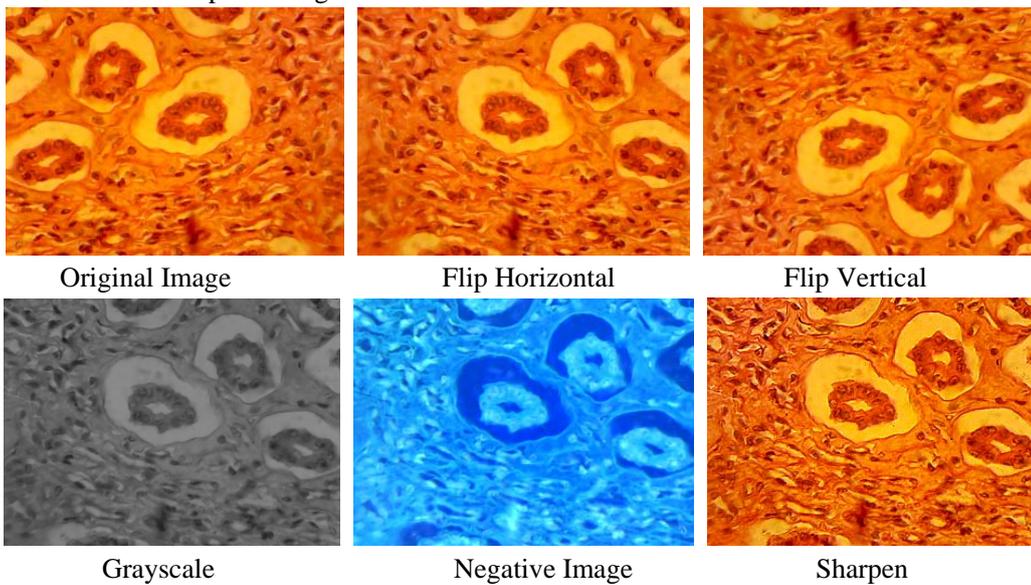
- 1)  **S**tatus Bar : Display or conceal the status bar;
- 2)  **T**ool Bar : Display or conceal the consequently-used tool bar;
- 3)  **M**easure Bar : Display or conceal the measuring tool bar;
- 4)  **F**ull Screen : Display video in full screen.

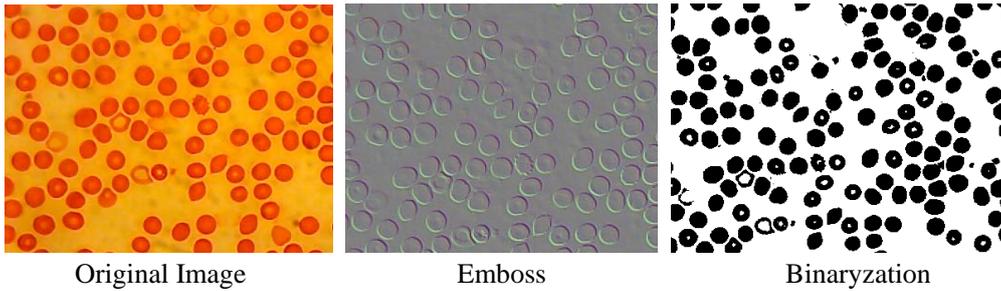
• Video:

- 1)  **A**djust : Adjust video parameter (Luminance, contrast, saturation, clarity, gamma, chroma, etc.);



- 2)  **Enable** : Start using or closing real-time processing or real-time measurement;
- 3) All of the effects of processing are as follows:





- 4)  **Binary** : If you want binaryzation on video, you can adjust the threshold value of **Enable** of binaryzation (1 to 255) to display dynamically. Start using check box to use or close the binaryzation real-time processing effect.



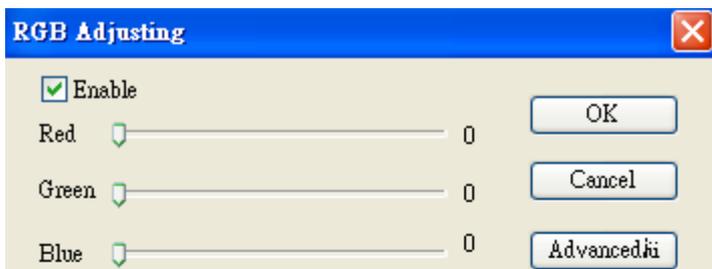
- 5)  **Rgb** : Start or close RGB real-time alternative video;



Enable : Start or close RGB adjustment;

: Display high-level panel;

: Conceal high-level panel



Pitch on check box, adjust the red-green-blue sliding road for video tricolor match;

Apply: Select options from list box and then apply them to the current video;

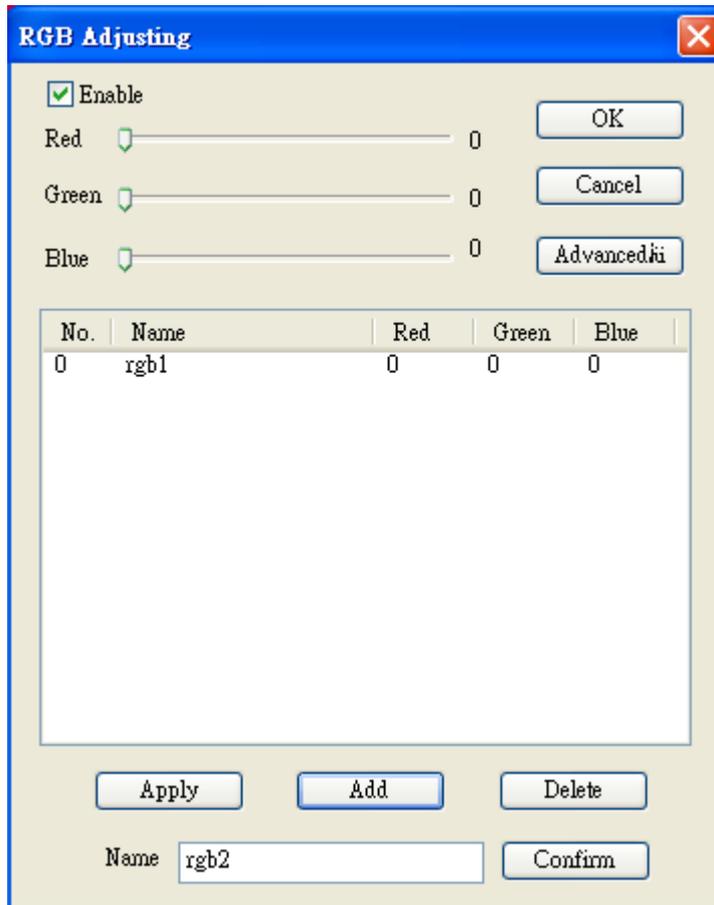
Add: Click “add”, input option names, add the adjusted red-green-blue value to the database, and it will display in

No.	Name	Red	Green	Blue
0	rgb1	0	0	0

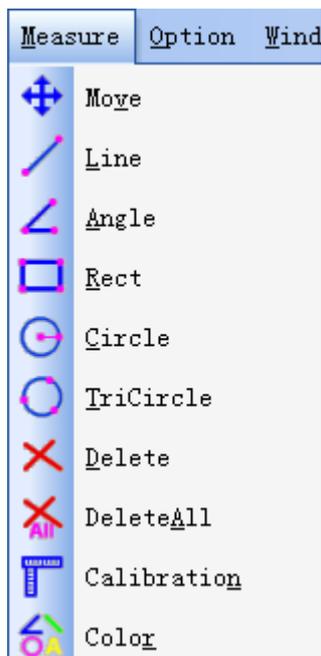
Buttons:

the list;

Delete: Select options from list box, then delete options from the list or database;

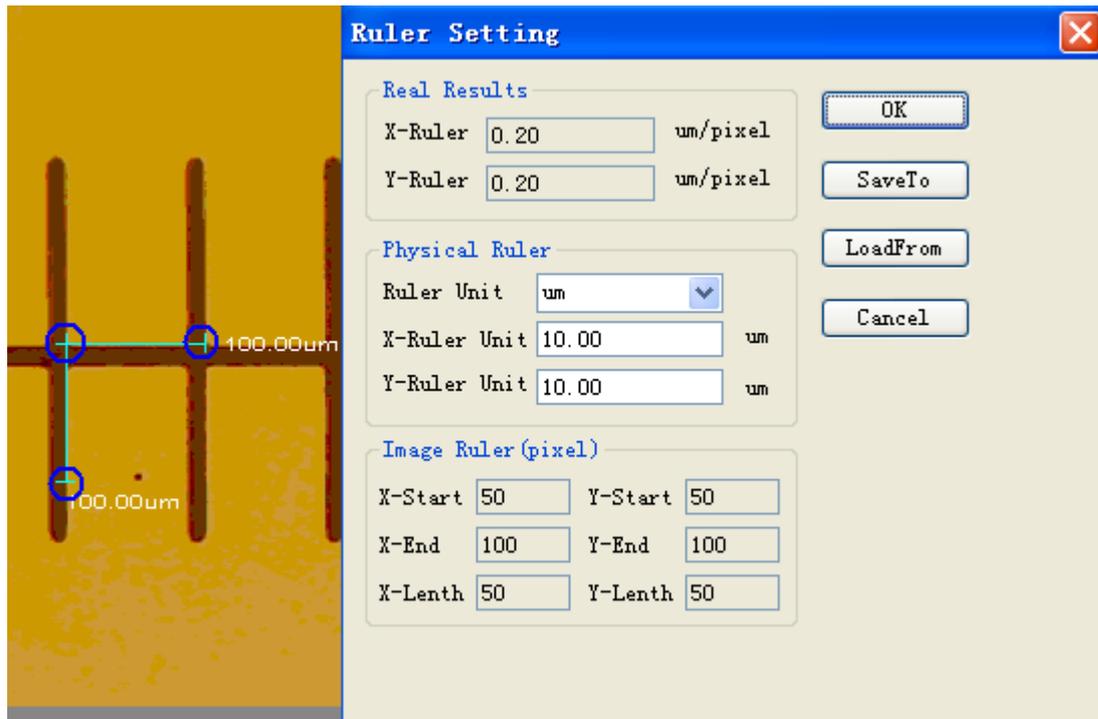


• Measure:



Operation Type	Operation Instruction	Displaying Value
 Move Movement	First, select the image to be moved, now the image displays in dotted line, then mark the accumulation of movable points, movable points or the whole.	
 Line Line-measurement	Select the starting point, click the left button of the mouse and keep it, then move it till the end; finally, release the mouse.	Display the length of the line
 Angle Angle-measurement	Click three points in different positions with the mouse to form an angle.	Display the angle
 Rect Rectangle-measurement	Select the top left corner of a rectangle, click the left button of the mouse and keep it, then move it till the lower right corner of the rectangle; finally, release the mouse.	Display the area of the rectangle
 Circle Circle-measurement	Select the centre of a circle, click the left button of the mouse and keep it, then move it till the point on the arc; finally, release the mouse.	Display the radius
 TriCircle Three-point Circle-measurement	Click three points in different positions with the mouse to form a circle.	Display the radius
 Delete Delete	Click the image to be deleted.	
 DeleteAll Eliminate	Delete all the images.	

 Calibration :



Unit: um/mm/cm/inch

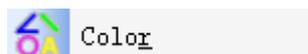
X Direction: the length in the direction of X in scaleplate

Y Direction: the length in the direction of Y in scaleplate

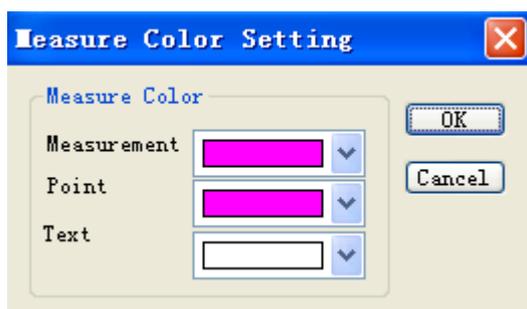
Demarcation Adjustment: Move the movable points (in the blue circle) of demarcating ruler on the Image, the value of trim size (unit length per pixel) will change.

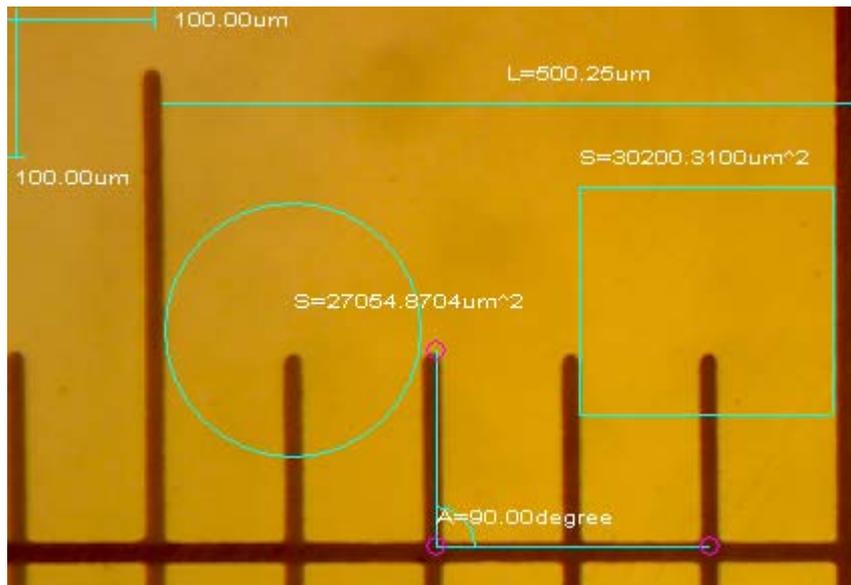
Save: Save the currently demarcated parameter to hardware;

Load: Load the demarcated-parameter file from the hardware.



: Set the colors of measuring lines, movable points and words.





• Options:



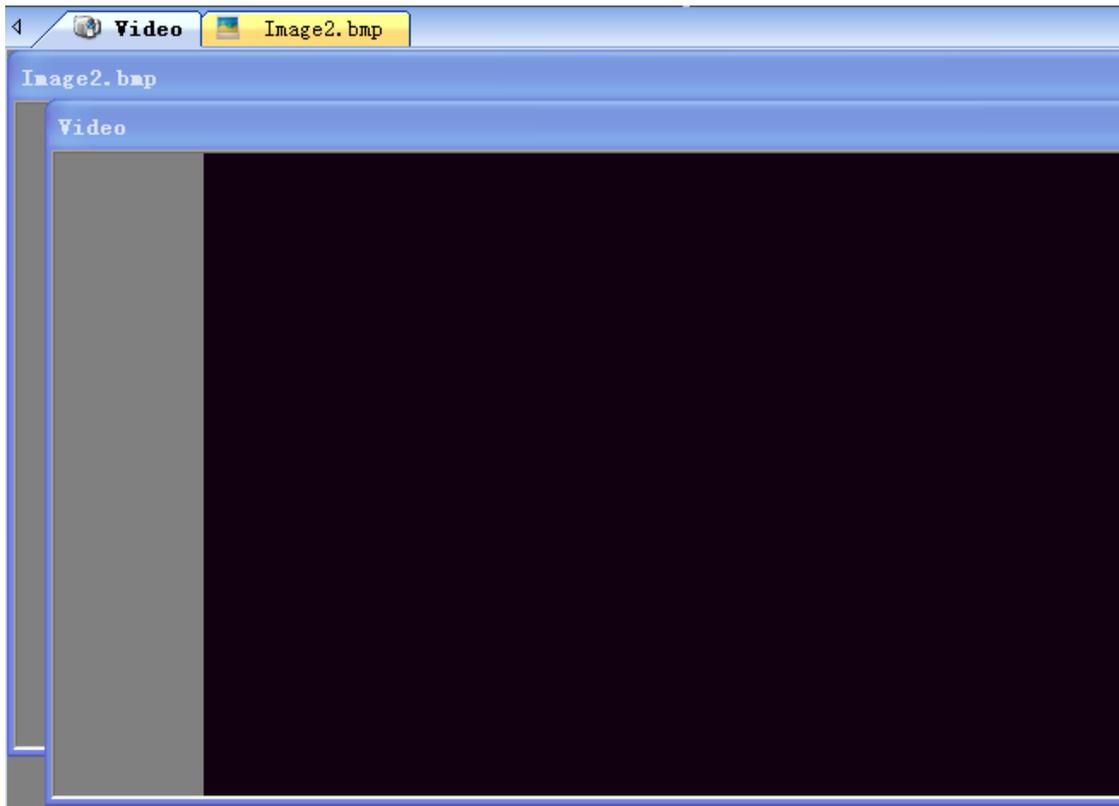
1) Video Capture Device... :



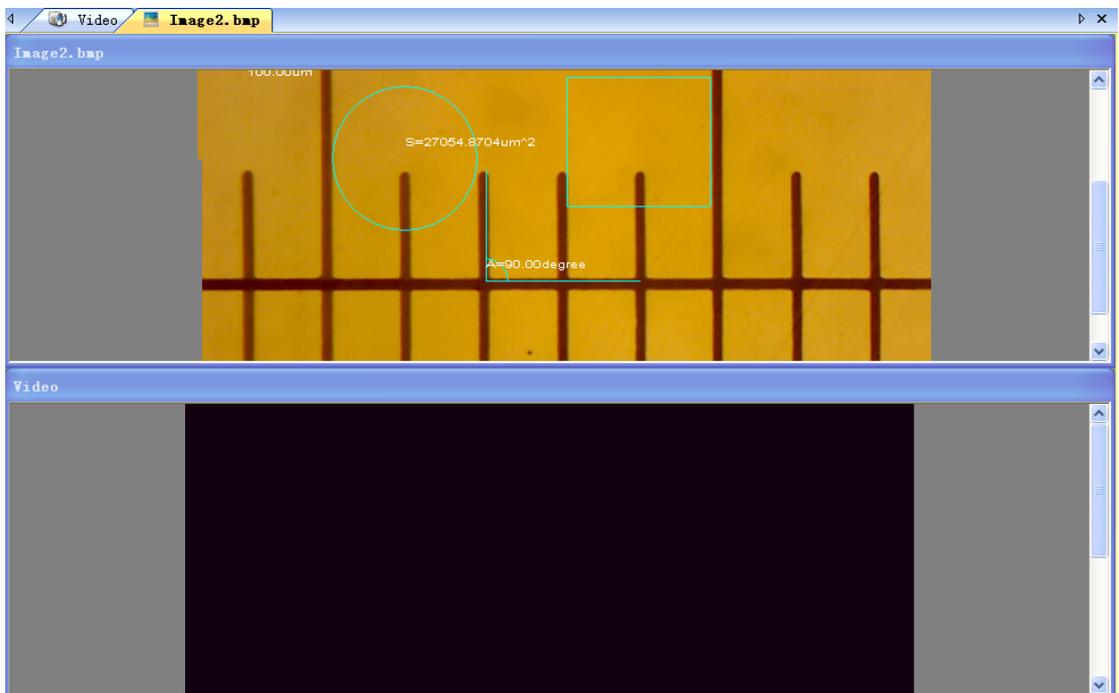
2) Video Capture Pin... : Set the size for video previewing, etc.

3) Video Capture Filter... : Adjust parameters like Luminance, contrast, chroma, saturation, clarity, gamma, white balance, automatic exposure, etc.

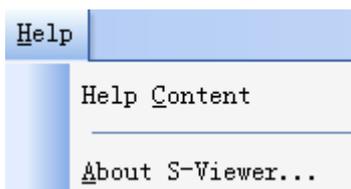
4) Save Option : Set saving parameters, including save path, file name, summary information, etc.

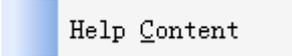


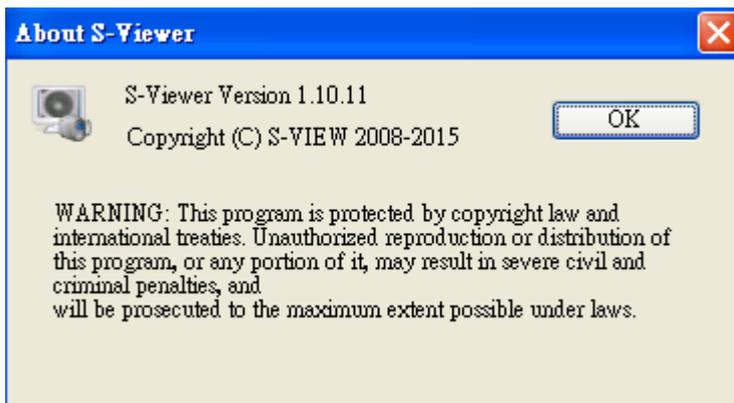
2) **Tile** : Effects of Tiling



• **Help:**



- 1)  : Display document of software-operation-help;
- 2)  : Display information and instructions about software versions;



2.2. Tool Bar

• Constantly Used Tool Bar

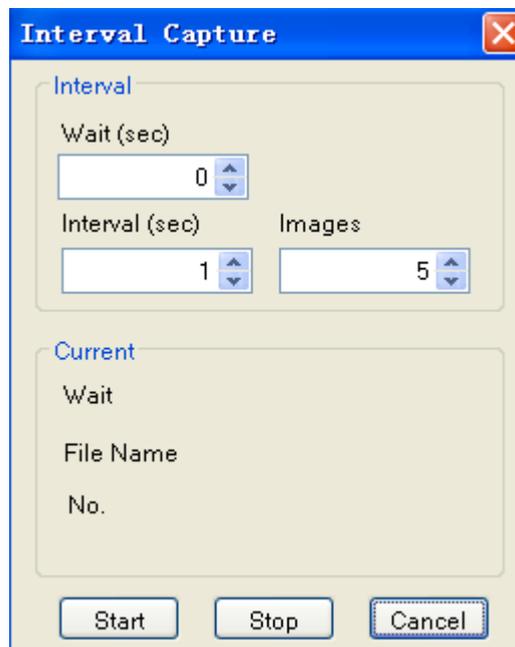


- 1)  : See the file submenu in menu 2.1;
- 2)  : Come back to the video previewing
- 3)  : Pause the video previewing
- 4)  : Video captured, capture video images to display in the newly-opened window;
- 5)  : Interval Capture

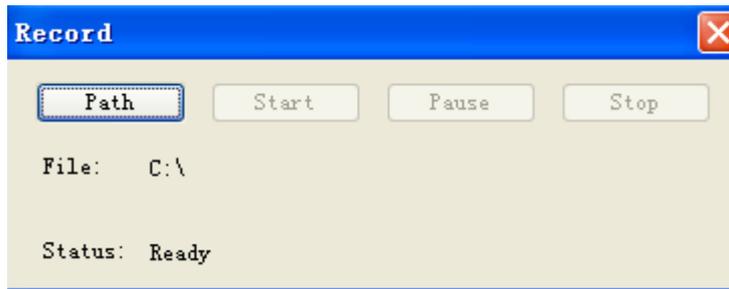
Wait(sec): Several seconds later, this function is set to work

Interval: Several seconds later, another photo is available to be taken

Images: The amount of photos that have been taken



- 6)  : Record



Select path: Select the address for saving video files and file names

Start: Start videoing

Pause: Pause the video

Stop: Stop videoing

- 7)  : Video attribute adjustment, see “video adjustment” in video submenu in menu 2.1

- 8)  : Display the video in full screen

• **Processing Tool Bar**



See the video submenu in menu 2.1

• **Measuring Tool Bar**



See the measurement submenu in menu 2.1

• **part 3 Problem shooting**

1. Previewing fails, blank screen
 - 1) Check whether there is source of light or not, and whether the exposure value of video attribute is normal;
 - 2) Check whether video device is connected, and video device driver is installed in Device Manager;
 - 3) Check the dialog box of “select video device” to make sure the correct target video device is selected;
 - 4) Close the software and restart it;
 - 5) Close the software, pull the cam out and plug it in again, then restart the software;
 - 6) Close the software, restart computer and the software;

Please operate in line with the steps above, till you can preview normally. But if it still cannot work after you have followed all of the six steps, please contact Customer Service.