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 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,USB3.0 interfaces, supportive of cam of DIRECTSHOW and Twain

• 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
- Image counting, stitching, HDR, EDF, Rotate
- · Measurement calibration, measurement setting
- Dynamic real-time measurement (straight line, angle, circle, three-point circle, rectangle, etc)
- Static image measurement (straight line, angle, circle, three-point circle, rectangle,etc)

Part 2. Operating Instructions

2.1 Basic Operation of Capturing Video Previewing

1. Use this software for the first time

The first time the software is started after installation, a video capture device will be found for video preview.



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*—>*View*—>*Camera control Pane*. Pop up the left sidebar to select the target video device in the device name list.



3. Set video previewing size

In the toolbar below the menu, change the video preview size by selecting full screen or by selecting the option in the output size list. You can also use the scroll wheel to zoom the image by holding down Ctrl.

Fit to Window	~
250%	
200%	
150%	
125%	
100%	
75%	
67%	
50%	
33%	
25%	
Fit to Window	

4.Set magnification

100%

In the toolbar below the menu, the magnification can be modified here.

5. Set video attribute

In the left sidebar, adjust the basic parameters of the video. (see 2.3 sidebar for details)

Camera		ά×
[⊙] Camera List	t	*
5.0m-2 USB2.0	Camera	
🛛 Capture and	l Resolution	*
Snap	Record	ł
Live:	2592*1944	~
Snap:	2592*1944	
Format:	MJPG	~
Auto Exposure		-6
Gain:		0
	Default	
∯ V hite Balar	ice	*

6. Capture the video

Save: select *menu*—>*File*—>*Save*, it will save automatically according to the information in "*set to be saved*".

Save as: select *menu—>File—>Save As*, then the dialog box of "Save As" pops up.

File Name	
Desfin	
Image	
Start Suffix	
69	-
Folder	
C:\Users\tstx06\Do	ocuments\Swift-EasyView
Image Type	
🔘 Bitmap	 JPeg
Save With	
🗌 Title	🗹 Data/Time
Save With(Still Mea	asurement)
🗹 Measure	🔲 Ruler
Description	
Title	
Author	

2.2 Detailed Operating Instructions

2.2.1 Menu Bar

File	Process	View	Advanced	Layer	Measure	Annotation	Option	Window	About	
ile										
	New Previ	ew	Ctrl+N							
	Open Tree									
0	oben nwag	e rord	G. 1.0							
	Open		Ctrl+0							
1	Close									
	Save		Ctrl+S							
As	Save As									
	Print		Ctrl+P							
	Print Pre	view								
	Print Set	up								5
	Select So	urce	- 15			Save As			U	
			14			File Name				
	Acquire					Video				
	Exit					File Path				_
						C:\Users\Lia	ang\Deskto	р		
						Image Type	-			
New	Preview	Ctrl	·Yo	ou can	open	BMP	C JI	PG (TIF	
e video	preview at	ter you	u insert the	camera		C PNG	СР	cx (TGA	
0	Teres Del	1				Save with				
Open	Image Fol	der	:Open the	director	y where	I Title		Date/Time		
u saveo	a your picti	ures.				Save With(st	ill measure	ment)		
St 🔁	oen		Ctrl+0			I Measur	re 🗖 I	Ruler		
ad pict	tures from	local	disk, and	it will di	splay in	Description				
ndows;	operations	s like o	lynamic m	easurem	ient can	Title				
so carry	/ on.					123				
<u>C</u> 1	lose					Author				_
	4h a					567				
use stures-c	ine cu displaving v	window	viaeo	WINDOV	vs or	Subject				-
Jui - 5-0	aspiaying \	MILLOW	v3,			8910				
the second se			C++1+5	A (4: 11	Comment				-
<u> </u>	ave		CULT-D	: Autor	natically	11110				
<u> </u>	ave		Currs	: Autor	natically	11112				

OK

Cancel

save an image of the current video or save the current images to the default path.

6) 🔝 Save As...

See the dialog box of "Save As" on the right;

```
7) Print... Ctrl+P
```

Available in static view, print current image.

.

8) Print Preview

Available in static view, preview the image of the printed image on A4 paper.

- 9) Print Setup... :Available in static view, some settings for printing.
- 10) List of recently opened files.

11)	E <u>x</u> it	: Quit the application. (Close the software)
,		

·View

	\checkmark	Status Bar	
	v	Process Bar	
	v	Measure Bar	
	 Image: A start of the start of	Annotation Bar	
	 Image: V Image: V<	Camera Control Pane	
	X	Full Screen	
1)	~	Status Bar : Display or conceal the status bar;	
2)	v	Process Bar : Display or conceal the process bar;	
3)	*	Measure Bar : Display or conceal the measuring tool bar;	
4)	✓	Annotation Bar :Display or conceal the measuring annotation tool bar;	
5)	~	Camera Control Pane : Display or conceal the camera of the control pane	Э;
6)		<u>Full Screen</u> : Display video in full screen.	

Process Advanced Meas Process Advanced Meas Enable Flip Horizontal Flip Vertical Gray Negative Emboss Sharpen

Binary

RGB

0

1) Enable : Start using or closing real-time processing or real-time measurement;

2) All of the effects of processing are as follows:



3) Dinary

: If you want binarization on video, you can adjust the threshold

value of binarization (1 to 255) to display dynamically. Start using check box to use or close the binarization real-time processing effect.

inary		×
🔲 Enable		
	-	
5	U	1

4)

Rgb

: Start or close RGB real-time alternative video;

RGB Adjusting	
Enable	OK
Red 🗍	
Green []	O Cancel
Blue []	0 Advanced->

Enable : Start or close RGB adjustment;

Advanced-> : Display high-level panel;

Image: Senable OK Red O Green O Blue O Advanced No. Name Red Green Blue	GB Ad	justing				
Blue U dvanced V	👿 En: Red Green	able 0		- 0 - 0		OK Cancel
	No.	Name	Red	Gr	een	Blue

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 the list;

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

🔽 En	able					OK
Ked	0			U		Concol
Green	0			0		Caller
Blue	0			0	Ad	lvanced<
No.	Name		Red	Gre	en	Blue
[Apply	و	sdd		Del	.ete

Advanced

Adva	inced	Measure	Annotation	Opt	
	Coun	t			
	Rota	te		•	
	Stite	ching			
	HDR				
	EDF				
	Mix				
	Autor	natic Sti	tching	•	
	Semi-	-automati	c Stitching	•	
1) C	count:				
	Count	t	•	Watershed	
	Stitch	ing		Split Objec	ts
	HDR			Counting F	Results
	EDF				
	Mix				

Watershed: watershed algorithm is more suitable for the image with single background or large difference between the target and the background. The image with complex background is not suitable.

Holes: when selecting holes, app will mark the outer contour of the segmentation object with contour color, and also mark the holes in the object with contour color and output its parameters (holes are defined as pixels whose gray or color is close to the background in the target object).

Tab: Style: there are three options for the style. Outline: use the outline to mark the segmentation object, and the color can be determined by the user.

Line definition: Fill: fill the divided objects with custom colors; None: do not mark the contour of the segmented object.

Color: customize the color used for marking.

Mark: style is serial number and area. Perimeter. Color: customize the color used for marking.

Area: lower limit: determine the lower limit of the area of the object to be divided, that is, objects smaller than the lower limit will not be divided or counted;

Upper limit: determine the upper limit of the area of the object to be segmented, that is, objects larger than the upper limit will not be segmented and counted;

Perimeter: lower limit: determine the lower limit of the perimeter of the object to be segmented, that is, objects smaller than the lower limit will not be segmented or counted;

Upper limit: determine the upper limit of the perimeter of the object to be segmented, that is, objects larger than the upper limit will not be segmented and counted;

Segmentation: when two independent objects are counted into one object, two independent objects can be separated by segmentation and counted again.

Counting settings					×
Hole				-	_
Outline				OK	
Style: Contour line	• •	Color:	~	Cance	.
Tab:					
Style: No.	~	Color:	~		
Min: 2.0	Max:	4652668.5	Average:	33530.3	
Area (px)					
Lower limit:		Upper limit:			
Min: 6.0	Max:	25250.7	Average:	303.6	
Perimeter (px)					
Lower limit:		Upper limit:			

Statistical results:

Displays statistics and exports them.

atistical results				
No.	core	Area	Perimeter	-
1	(1744.0,2040.0)	304.5	90.9	
2	(1764.0,2027.0)	4.0	8.0	
3	(1171.0,1992.0)	14.5	24.2	
4	(1164.0,1987.0)	6.0	10.0	
5	(1037.0,1980.0)	6.0	10.0	
6	(957.0,1976.0)	4.0	8.0	
7	(1006.0,1971.0)	4.0	8.0	
8	(1005.0,1967.0)	4.0	8.0	
9	(1097.0,1976.0)	591.5	107.4	
10	(999.0,1964.0)	4.0	8.0	
11	(807.0,1958.0)	144.5	51.6	
12	(747.0,1953.0)	13.0	18.8	
13	(761.0,1955.0)	169.0	70.6	
14	(978.0,1956.0)	185.0	78.6	
15	(738.0,1936.0)	66.0	37.3	
16	(899.0,1931.0)	262.0	74.3	
17	(1017.0,1898.0)	33.5	24.2	
18	(1132.0,1934.0)	4001.0	354.4	
19	(1014.0,1893.0)	6.0	10.0	
20	(723.0.1898.0)	276.0	96.4	

2) Rotate:

	Rotate	×
90 (CW) 180 (CW) 270 (CW)	Angle Degree: 45 O CW O CCW	OK Cancel
Arbitary		

It can only be used under static pictures, it can be rotated 90 degrees, 180 degrees, 270 degrees or any angle.

3) Stitching:

Unselected image:		Selected image:	
Measur2 Counting 1	Loading	Measur2 Counting 1	
	Add>>		
	Add All>>		
	Delete	1	
	Clean]	

Click this function to load the opened image to the list on the left by default. Click load to import the image to be stitched from outside. Select the image to be stitched, click Add to import the list on the right, and click OK to splice the selected image.

4) EDF:

Static EDF(Enabled when non dynamic image display):

DF			>
Unselected image:		Selected image:	
UVC WIFI1.bmp UVC WIFI2.bmp	Loading	UVC WIFI1.bmp UVC WIFI2.bmp	
	Add>>		
	Add All>>		
	Delete		
	Clean		
		NT.	
[OK	Cancel	

Click this function to load the opened image to the left list by default. Click Loading... to import EDF image from outside. Select the image that needs EDF, click Add to import the right list, and click OK to get the result image.



Dynamic EDF(Enable during dynamic image display):

It can be opened in dynamic view, and can be opened when auto exposure and sharpness are turned off. The small image on the left is a real-time micrograph, and the right is a depth of field composite image. Adjust the focal length so that the picture on the left is clear in a certain area and wait for the picture on the right to be synthesized. After synthesis, adjust the focal length again to synthesize the remaining areas until all areas are clearly mapped. After finishing, you need to click close in the menu to get the EDF composite image.



5) HDR:

Static HDR(Enable during dynamic image display):

Turn off the camera auto exposure, dim the light source to the appropriate brightness, click Start HDR synthesis, and then slowly adjust the brightness of the light source. Dynamic HDR(Enabled when non dynamic image display):

niselected image.		Selecteu Image.	
Measur2 Counting 1	Loading	Measur2 Counting 1	
HDR	Add>>		
	Add All>>		
	Delete		
	Clean		

Click this function to load the opened image to the left list by default. Click load to import HDR image from outside. Select the image that needs HDR, click Add to import the right list, and click OK to synthesize the selected image by HDR.

Image Mix			×
dst:	Counting 1		~
SIC:	Measur2		~
		transparency:	50%
		Y: U	OK Cancel

6) MIX: You can mix two images according to different transparency ratios.

7) Automatic Stitching (stitching error may be caused by frame rate or roller shutter exposure):



It can be turned on in dynamic view, and on when auto exposure and sharpness are turned off. It can be stitched automatically by moving slowly when the two frames are related. The small image on the left is a real-time microscopic image, and the right is a mosaic image. If the stitching is not successful, please move the image back and try again. After finishing, you need to click close in the menu to get the Stitching composite image.



8) Semi automatic splicing (more accurate):

It can be opened in dynamic view, and it can be opened when auto exposure and sharpness are turned off. When the two frames are related, press the space bar to select the current frame for stitching. If the stitching is not successful, please move the image back or long press the space bar to try again. After finishing, you need to click close in the menu to get the Stitching composite image.

· Layer

After the program opens the image by default, the current image defaults to the background layer. Layers can be manipulated through the menu or the layer sidebar.

New	
Delete.	
Delete	ALL
Current	
Show/Hi	de
Rename.	

New: Click to open the New Layer dialog box, you can enter the name of the new layer, click OK to create a new layer, and set this layer as the current layer.

		ОК
Name:	My Layer1	
		Cancel

Delete: Click to open the Delete Layer dialog box, select the desired layer to delete. (Background layer and current layer cannot be deleted)

elete Layer		
My Layer 1	<u> </u>	OK
background [No Name]		Cancel
My Layer1		Caricer

Delete All:Delete all layers after click, keep only background layer.

Current: Select the desired layer and set it as the current layer.

urrent Layer		
My Layer 1	ОК	
background [No Name]	Can	
My Layer 1		.ei

Show/Hide: Click to open the Show Layer dialog box, you can hide and display any layer in the check box. (The background layer and the current layer cannot be hidden)

isible	Index	Name	ОК
2	1	background	
0	2	[No Name]	Cancel
2	3	My Layer1	

Rename: The current layer can be renamed.

		ОК
Name:	My Layer2	
		Cancel

· Measure



=

Operation Type	Operation Instruction	Displaying
		Value
A Move	First, select the image to be moved, now the	
	image displays in dotted line, then mark the	
Movement	accumulation of movable points, movable	
	points or the whole.	
/ Arbitrary Line	Select the starting point, click the left button of the mouse and keep it, then move it till the end;	Display the length of the
Line-measurement	finally, release the mouse.	line
- Horizontal Line	Select the starting point, click and hold the left mouse button, move the mouse to reach the	Display the length of the
HorizontalLine-measur ement	end point, pop up the left mouse button, and the operation is completed (only drag in the horizontal direction).	line
Vertical Line	Select the starting point, click and hold the left mouse button, move the mouse to reach the	Display the length of the
VerticalLine-measurem	end point, pop up the left mouse button, and	line
ent	the operation is completed (only drag in the	
	vertical direction).	
X VertLine	The first click selects the starting point, the	Displays the
	second click determines a straight line, and the	length of the
VerticalLines-measure	third click passes through the third point to	vertical line
ment	make the vertical line of the straight line.	
X VertLines	Click to select the starting point for the first time, click to determine a straight line for the	Displays the length of each
MultipleVerticalLines-	second time, and then click to make the vertical	vertical line
measurement	line of the straight line.	
A Parallellines	The first click selects the starting point, the	Displays the
	second click determines a straight line, and the	length of the
ParallelLine-measure	third click draws a parallel line and a vertical	vertical line
ment	line between the two lines.	between
		parallel lines
Angle	Click three points in different positions with the mouse to form an angle.	Display the angle
Angle-measurement		
Prot	Select the top left corner of a rectangle, click	Display the
Lect	the left button of the mouse and keep it, then	area of the
Rectangle-measureme	move it till the lower right corner of the	rectangle
nt	rectangle; finally, release the mouse.	

O Circle	Select the center of a circle, click the left button	Display radius	
CIICLE	of the mouse and keep it, then move it till the	and area	
Circle-measurement	point on the arc; finally, release the mouse.		
Tui Cinele	Click three points in different positions with the	Display radius	
	mouse to form a circle.	and area	
Three-point			
Circle-measurement			
∧ Palman	Select a point with the left mouse button of the	Display the	
Ulygon	stand-alone computer, and click the right	area of the	
Polygon-measurement	mouse button to stop when finished	polygonal row	

J Scale Bar

Refer calibration, the scale can be set according to the length and unit.

20 mm			
Scale Bar	-		×
	20	mm	
	ОК	Cancel	
1			M

Calibration : The default is 15 sets of magnifications, all of which need to be re-calibrated and can be renamed in the management magnification.

1	Ruler Setting			×
1	Magnification Magnification	4×	Management M	Agnification
	Real Results Resolution	15.2000000	pixel/um	OK
10.000 um	Physical Ruler Ruler Unit	um	~	Lancel
		P	ixel	1
		Actua	I Length	•

Magnification: the magnification of the image

Resolution: the ratio between the actual size of the image and the pixels

Pixels: the pixels occupied by the calibration length

Ruler unit: the actual unit of calibration

Actual length: the actual length of calibration

Management Magnification: Can display all magnification names, resolutions, units, and can be renamed.

V

Name	Resolution	Unit	OK
4 X	5.00000	pixel/um	
10 X	5.00000	pixel/um	Cancel
20 X	5.00000	pixel/um	
40 X	5.00000	pixel/um	Rename
100 X	5.00000	pixel/um	
2.5 X	5.00000	pixel/um	
5 X	5.00000	pixel/um	
6 X	5.00000	pixel/um	
8 X	5.00000	pixel/um	
Mag 5	5.00000	pixel/um	
Mag 6	5.00000	pixel/um	
Mag 7	5.00000	pixel/um	
Mag 8	5.00000	pixel/um	
Mag 9	5.00000	pixel/um	
Mag 10	5.00000	pixel/um	

Management Magnification

6	Measurement	Settings	: Set the scale	e, font size a	and background	d color of the
	measureme	ent.			, C	
Mea	sure Setting		×			
0	thers					

Precision	3	~	ų
Font Size	Medium	~	Cancel
Background	Transparent	~	



	CSV	Export	Data	
--	-----	--------	------	--

1	А	В	C	D
1	No.	Туре	Result	Unit
2	1	Line distance	121.552	inch
3	2	VerticalLine distanc	84. 343	inch
4	3	PallelLine distance	55.306	inch
5	4	Circle radius	30.171	inch
6	4	Circle area	2859.837	inch2
7	5	Tri-circle radius	32	inch
8	5	Tri-circle area	3216.988	inch2

You can export the measured data as a CSV file to a specified directory.

Report : Save pictures and generate simple report.



No.	Name	Туре	Result	Unit
1		VertLine distance	25.803	um
2		Circle radius	3.200	um
2	6015 1005	Circle area	32.170	um2
3		Line distance	23.600	um

Comment

.Annotation

4	Select/Move
~	Arrow
А	Text
00	Number Markers
+	X—Y Guide Solid
	X—Y Guide Dashed
1:1	Center Line
×	Delete
*	Delete All

- 1) Select/Move :The added graphics and text can be moved.
- 2) Arrow :Arrows can be added.
- 3) A Text :Can add text.
- 4)) ⁹ Number Markers : The serial number can be marked in the image for counting.
- 5) + X-Y Guide Solid :Cross solid line can be added. Click again to cancel.
- 6) X-Y Guide Dashed :Cross dotted line can be added. Click again to cancel
- 7) Center Line :Draw the center line between two parallel lines
- 8) X Delete added graphics and text.
- 9) Delete All :Delete all added graphics and text.

.Option

Opt	ion	Window	Ab
	Sat	ve Optio	n
	Language		•

1) Save Option: It is used to set the parameter information when saving. See the figure below for details.

Save Option	×
File Name	
Prefix	
Image	
Start Suffix	
81	×
Folder	
C:\Users\tstx06\Do	ocuments\Swift-EasyView\Ir
Image Type	
🔘 Bitmap	 JPeg
Save with	
🗌 Title	🗹 Data/Time
Save with(Still meas	urement)
🔲 Measure	🗌 Ruler
Description	
Title	
	1.
Author	
	1
ОК	Cancel

File name: prefix + suffix + file format, such as image1.bmp, image2.jpg, etc

File path: select location to save

File format: bitmap file or JPEG file format

Save with Title: writes the title in the description to the image

Save date / time: write system date time to image

Save measurement: write measurement data to image

Save ruler: write the measurement calibration ruler to the image

Description: describes the title and author's content written to the file summary information

2) Language: some different languages can be switched.



·Window



1)

Cascade : Effects of Cascading





Tool Bar

·Constantly Used Tool Bar

	Standard Toolbar
	😂 🦳 💽 🕕 📷 🏙 🃽 🔀 100% 🗸 4X 🗸
1)	See the file submenu in menu 2.1;
2)	: Come back to the video previewing
3)	Pause the video previewing
4)	Capture images and display it in the newly-opened window
5)	: Interval Capture

Interval Capture	23
Interval	
Wait (sec)	
0	
Interval (sec)	Images
1 💌	5 🌩
Current Wait	
File Name	
No.	
Start	Stop Cancel

Wait (sec): Several seconds later, this function is set to work Interval: Several seconds later, another photo is available to be taken Images: The number of photos that have been taken

6)	🗭: Record
	0

Record			×
Path	Start	Pause	Stop
File: C:\			
Status: Ready	,		

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

Pause: Pause the video

Stop: Stop videoing and the video will be automatically saved in the selected path

7) **Constant**: Display live image in full screen mode. (Or double click live display window to enter into or quit full screen mode)

100%	~
250%	
200%	
150%	
125%	
100%	3
75%	1
67%	
50%	
33%	
25%	
CONTRACTOR DOWNERS AND AND	

8) Fit to Window _____:Used to adjust the image display ratio.

4X	v
4X	
10X	
20X	
40X	
100×	

:Used to adjust the magnification of the calibration during 9) **TUUX**

measurement.

Processing Tool Bar



See the Process submenu in menu 2.1

·Annotation Tool Bar



See the Annotation submenu in menu 2.1 Measuring Tool Bar



See the Measurement submenu in menu 2.1

2.3 Sidebar

1.Camrea Control Panel

Camera		μ×
[⊙] Camera List		
5.0M-2 USB2.0 (Camera	
Capture and	Resolution	*
Snap	Rec	ord
Live:	2592*1944	~
Snap:	2592×1944	~
Format:	MJPG	~
⊛Exposure Cor	atrol	*
Auto Exposure Exposure Time:		-6
	Default	
🕸 White Baland	:e	*
AWB Color Temperature:		3120
⊗Color Adjust	tment	*

1. Camera List:

Select target video device.



2. Capture and Resolution:

It can take photos and record videos. It can set the resolution of images, the resolution of

photos and the format of pictures.

Capture and Resolution		*
Snap	Reco	ord
Live:	2592*1944	~
Snap:	2592*1944	
Format:	MJPG	~

3. Exposure Control:

The default is auto exposure. If you want to manually expose, you can adjust the exposure time and gain by yourself. Click the default value to restore the default auto exposure.

Exposure Control	*
Auto Exposure	
Exposure Target:	128
Exposure Time:	13.34ms
Gain:	15
Default	

4. Magnify:

It can be turned on and off in the menu or in the measurement toolbar, and can zoom in on the image of the mouse position for easy marking.



5. White Balance:

RGB color temperature can be adjusted. Click the default value to restore the default value.

Thite Balance	
Red:	1.87
Green:	1.00
Blue:	1.58
When using the camera for the fi slicing, adjust the source of the n brightness, then click the white b	irst time, remove the nicroscope to the right palance.
White Balance	Defaults

6. Color Adjustment:

Adjust the hue, saturation, brightness, contrast and gamma value of the image. Click the default button to restore the default value.



2.Layer Control Panel

The toolbar above corresponds to the operations of the layer menu, and has the functions of creating a new layer, deleting a layer, deleting all layers, setting the current layer, showing/hiding the layer, and renaming the current layer.

The checkboxes below can set the hidden and realistic of the layer, and toggle the current layer.

Visible	Current	Name
2		background
~		My Layerl
		My Layer2

3. Measurement Control Panel

After selecting Move on the marking toolbar, click the measured object to modify the appearance of the current object and display the information of the current object.

Ξ	Appearance		
	Lable Name		
	Line Width	1	
	Line Type		
	Line Color	🗖 Green	
	Text Color	Red	
	MovePoint Color	Red	
	Arrow1	No	
	Arrow2	No	
Ξ	Geometry		
	Start	(121, 29)	
	End	(63, 99)	
	Length	90.8	
	Slope	1.2	
	Angle	50.3	
Ξ	Corrdinates		
	Point1.X	608	
	Point1.Y	148	
	Point2.X	318	
	Point2.¥	497	
	1		

1) Appearance: Depending on the type of measurement, different appearance parameters can be modified.

Appearance	ppearance	
Lable Name	Ty Line	
Line Width 3 Line Type	3	
	50 - 54	
Line Color	📕 Blue	
Text Color	📕 Red	1 - 28 720 um
MovePoint Color	📕 Red	G L=∠0.7∠0 UIII
Arrow1	V Tes	A Long
Arrow2	Tes	

2) Geometry: According to different measurement types, the corresponding geometric information is displayed.

	Geometry		
	Start	(147, 52)	
	End	(128, 66)	11 000
	Length	23.8	
	Slope	0.7	/ 1=23.808.um
	Angle	35.4	C=20.000 um

3) Corrdinates: Displays the coordinates of the active point of the current measurement object.

😑 Corrdinates		
Point1.X	735	7
Point1.Y	363	A state
Point2.X	638	
Point2. ¥	432	🖌 🛛 L=23.808 um

III. Problem shooting

- 1. Previewing fails, blank screen
- Check whether there is source of light or not, and whether the exposure value of video attribute is normal; (Check if there is light source and the exposure value of video attribute)
- Check whether video device is connected, and video device driver is installed in Device Manager;
- 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.