MShot Image Analysis System

Dongle Version

User Guide

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PC Configuration Needs

To install and use Mshot Image Analysis System, you need the following equipments (or more

advanced) and software:

Configuration	Requirements
СРИ	Intel core 2 duo E2140
RAM	2 GB
Free Disk Space	1 GB
Display	17 inches (resolution:1280×1024, 24/32bits, color)
OS	Windows® XP,WIN7,VISTA

Setup Guide

Driver Setup (MC50)

- 1. Put the driver disk into your CD-Rom / DVD-Rom or DVD device.
- 2. Connect MC50 to the USB port of the computer (recommend the USB port on the back if it is desktop), then you can see the prompt of a new software.
- 3. Choose "Install from a list of specific location[advanced]". And click "Next".(as show in picture 1)



picture 1

- 4. Choose "Don't search. I will choose the driver to install", and click"Next" (as show in picture
- 2)

Please choose your search a	nd installation options.
OSearch for the best driver i	n these locations.
Use the check boxes belo paths and removable medi	w to limit or expand the default search, which includes local a. The best driver found will be installed.
Search removable <u>m</u>	edia (floppy, CD-ROM)
🕑 Include this location	in the search
G: \	Browse
Don't search. I will choose Choose will b the driver you choose will b	the driver to install. The device driver norm a list. Windows does not guarantee e the best match for your hardware.

picture 2

5. Select a hardware type, and click "Next" (as show in picture 3)

Hardware Type.	
Select a hardware type, and then click Next.	
Common <u>h</u> ardware types:	
lEEE 1284.4 devices	~
IEEE 1394 and SCSI printers	
IEEE 1394 Bus host controllers	
Reference in the second	
Imaging devices	
Keuboards	
Medium Changers	
Mice and other pointing devices	~

picture 3

6. Click"Have disk..." to select the device driver you want to install this hardware. (as show in picture 4)

Select the device d	
Select the manu have a disk that	facturer and model of your hardware device and then click Next. If you contains the driver you want to install, click Have Disk.
Show <u>c</u> ompatible hard Model	ware
	Have Disk

picture 4

7. Click "Browse..." (as show in picture 5)



8. Choose the locate file .select <u>"MSMC50.inf</u>" and click "<u>Open</u>" (as show in picture 6)

Locate File						? 🛛
Look jn:	🗀 мзнот м	C-50 STD2 100621	*	00	📂 🛄 •	
My Recent Documents Desktop My Documents My Computer	M5MC50.inf					
	File <u>n</u> ame:	MSMC50.inf			•	<u>O</u> pen
My Network	Files of type:	Setup Information (*.inf)			× .	Cancel

picture 6

9. Click "OK" (as show in picture 7)

H	Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.	OK
		Cancel
	Copy manufacturer's files from:	
	D:\Documents and Settings\Administrator\Desktor 👽 🦷	Browse

picture 7

10. Click "Next" (as show in picture 8)

tall for this har	dware.	1
ur hardware devic vant to install, clic	e and then click Next. If yo k Have Disk.	u
	Have Disk.	
	ur hardware devic vant to install, clic	Ir hardware device and then click Next. If yo ant to install, click Have Disk.



11. Click "Finish" to complete the hardware update wizard.(as show in picture 9)

Hardware Update Wizard	
	Completing the Hardware Update Wizard The wizard has finished installing the software for: MSMC50 CCD USB2.0 Camera
F	Click Finish to close the wizard.

picture 9

Driver Setup (MD50-T)

1.Put the disk into the CD-Rom / DVD-Rom or DVD device.

2.Connect MD50-T to the USB3.0 port of the computer, then you can see the prompt of a new software.





3.Find e in the disk (installation program under 32 bit system) or

(installation

program under 64 bit system), double click the icon, then it will pop up the installation interface. (as show in picture 10)

Module	Operate	Version	Provider	1
	Update			
🗄 🗖 GIGE Camera		03/28/2013, 1.1.4.7	MSHOT	
- 🔲 USB2_CAM_10M		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_1. 3M		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_14M		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_3M		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_5M		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_0. 36M_F		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_0. 36M_FM		04/11/2013, 1.0.7.34	MSHOT	
USB2_CAM_10M_F		04/11/2013, 1.0.7.34	MSHOT	
🗄 🔲 USB2_CAM_1. 3M_FM		04/11/2013, 1.0.7.34	MSHOT	
🗄 🕅 USB2 CAM 3M F		04/11/2013. 1.0.7.34	MSHOT	
Select Operate				1
🕫 Install 🔿 Unir	nstall	Begin		

picture 10

4.Find MD50-T in the component list, and choose "Install", click the "Begin" button (as show in picture11)

SelectALL				
lodule	Operate	Version	Provider	
USB2_CAM_5M_FT		04/11/2013, 1.0.7	.34 MSHOT	
USB2_CAM_1.40M_FS		04/11/2013, 1.0.7	.34 MSHOT	
H USB2_CAM_1.40M_FSM		04/11/2013, 1.0.7	.34 MSHOT	
USB2_CAM_1.41M_FS		04/11/2013, 1.0.7	.34 MSHOT	
- MD50-T	Update	04/11/2013, 1.0.7	.34 MSHOT	
UISB3 CAM 14M		04/11/2013 1.0.7	34 MSHOT	
		04/11/2013 1.0.7	TOHEM NEW YOL	
		04/11/2013 1.0.7	34 MSHOT	
UISB3 CAM 5M T		04/11/2013 1 0 7	34 MSHOT	
		04/11/2013 1.0.7	34 MCHOT	
Install ○ Un:	nstall	Begir	с	
.54.47> Driver Installer 54.47> Found 1 Net INF file 54.48> Found 24 USB INF fil	:5 :5	P		

picture 11

5. Click "Ok" to finish the installation of the camera of	driver.(as show in picture 12	2)
---	-------------------------------	----

lodule	Operate	Version		Provider	1
- USB2 CAM 5M FT		04/11/2013,	1.0.7.34	MSHOT	
USB2 CAM 1.40M FS		04/11/2013.	1.0.7.34	MSHOT	
USB2_CAM_1.40M_FSM		04/11/2013,	1.0.7.34	MSHOT	
USB2 CAM 1.41M FS		04/11/2013,	1.0.7.34	MSHOT	
USB2_CAM_1.41M_FSM		04/11/2013,	1.0.7.34	MSHOT	
- MD50-T	Update	04/11/2013,	1.0.7.34	MSHOT	
MD50-T. dscam	-				
- USB3 CAM 14M	Installer	×.	1.0.7.34	MSHOT	
- USB3 CAM 2M			1.0.7.34	MSHOT	
USB3_CAM_5M_M			1.0.7.34	MSHOT	
- USB3 CAM 5M T	Install is s	successful!	1.0.7.34	MSHOT	
USB3 CAM 14M H		[.	1.0.7.34	MSHOT	
Select Operate	nstall	ОК	Begin		
 57. 27> DVP_CAMSDK. dll insta 0. 57. 27> DVP_CAMSDK. ini insta 0. 57. 27> Encoder. dll installe: 0. 57. 27> ImageProcessOpt. dll. 0. 57. 27> imageprocess. ini installe: 	lled OK lled OK d OK installed OK talled OK ed OK				

Software Installation



1. Copy the file "Mshot Image Analysis System 1.2.6.19.exe"



- 2. Double click this icon 2. then it will pop up the installation interface.
- 3. Click "Next" (as show in picture 13)



picture 13

4. Choose "I agree to the terms of this license agreement" and click "Next". (as show in picture 14)



picture 14

5. Click "Next" (as show in picture 15)



6. Click "Next".(as show in picture 16)



picture 16

7. Click "Finish" (as show in picture 17)



picture 17



on your desk, and you can

8. Finishing installing the software, it will generate icon like System on your des click it to run.

Dongle Installation

Mshot image analysis system is an application software depends on the hardware combination lock. It needs to insert the key--dongle to unlock the related functions before you can use it. It is already preset related driver information of the combination lock hardware in Windows (\mathbb{R}) XP/Vista / 7 system. Users only need to insert the dongle to a USB port, the system will automatically install the driver information.

Some functions of Mshot image analysis system can only be run on circumstance which can detect the hardware combination lock, such as: WDM (as picture 18 showing the the difference between using and not using hardware dongle). When the dongle is pulled out during the running of the program, the system will prompt "please insert the dongle". At this time, you need to insert the dongle and click "Retry". (as show in picture 19). While clicking"Cancel", the program will automatically shut down.

WDM Camera	MSMC15 CCD U	5B2.0 C -	WDM Camera	6
O MShot Camera	MC-15	*	MShot Camera	MC-15
Number	#1		Number	#1



Error	×
Please insert the don	gle
重试(R)	取消

picture 19

Operation Interface

Mshot image analysis system has a clear interface (as show in picture 20), users can easily master the operating of all the functions.



Start MShot Image Analysis System

- 1. Connect the camera to the computer and install the driver.
- 2. Power on the light source and switch the light path to the camera.



Insert the dongle and double click the icon System on the desk to start the program.

- Choose "Open Device" on the "File list", select the camera, and you can preview the microscope image on the main window.
- 4. Clicking **I** this icon, you can open the devices using last time. (as show in picture21, 22)



picture 21



picture 22

5. You can adjust the white balance before observing the sample in order to avoid the image distortion.

One-push White Balance can smartly adjust the background of the image to pure white, and adjust the color of the image near to the observing effect in the eyepiece. You should remove the specimen on the object stage out of the view before using it in order to get pure white background in the view. Then adjust the brightness of the microscope to or near to white, then press "One Push WB" on the left tool bar, and then you can put the specimen back.. (as show in picture 23, 24)

Regional White Balance do not have to remove the specimen out of view, you just need to directly click the "Regional WB" button, and select the white region in the view, then it can get the white balance effect.

Analog Gain		77
Exposure Time		77.0m
Minute Second Millisecon	d	
0 🕶 0 💌 77	*	Apply

Picture 23





6. Opening up the "Camera control"in the left tool bar or click "View"---"Advanced image setting", or directly press hotkey (F7) (for WDM equipment only), and adjust the video parameters. About video parameters adjustment, please refer to the "image snap part" in the camera user manual. (picture 25, 26)

Measuring Tools	Image processing
Camera	control
Basic (control
Exposure	e control
Color o	control
One Push WB	Manual WB
Gain Control	
R Gain	69
G Gain	64
B Gain	115
Color Enhancement	
Saturation	50
Richtmass Control	
Digitaless Control	
orignmess	n
Contrast	50
Q	
Gamma	0.700
Auto BlackBalance	
Min	0
0	
Max	255
1	0
Check Overexposur	e 🔄 Mono
Correction	Off 🔹
Fluoresce	nt control
Sa	ive

		-	Traile Kate	
samma i	100	¥	O Normal Speed	
iontrast	30	^	High Speed	1
	1	1000	O Super Sper	ed
	luon.		Sbit mode	
aturation	100	×	016bit mode	
Exposure			high 8 high 8	bit
M AE	100		O Inia 85	iiC. iir
larget	100	Y	Parameter Grou	JD.
ime	1067		• A Group	
-	700		OB Group	
Jain - J	152	1	O C Group	
Manual WB			Ob Group	
R	64	-	Elin Vertical	
G	64	•	Flip Horizon	tal
в	64		Black/White	
One Buch WR				
One Positive			SAVE Der	aulu

picture 26

7. Click "Basic control" on the left tool bar, or click "View"---"Resolution Setup", or directly press hotkey (F8) (for WDM equipment only) to adjust the resolution. Cameras are usually provide different resolutions to adapt to different applications. Such as MD50, it provides four groups of resolution, including 640 * 480, 1024 * 768, 1280 * 960, 2596 * 1944, for the user to choose high resolution while getting static image, and choose low resolution while taking video. (picture 27)

For Preview	Catch
1360*1024 -	1360*1024 🔻
Picture 27	

8. Click the "Save" button on the tool bar, choosing the save file and typing in the file name, and choose the "Save as type", click "Save"to save the preview image. (picture 28)

Save As						? 🛛
Savejn:	🞯 Desktop		~	GØ	• 🛄 🔊	
My Recent Documents	My Documents My Computer My Network Pl	aces				
My Documents						
My Computer	File name:				~	Save
My Network	Save as type:	BMP(*.bmp)			~	Cancel

picture 28

Menu

When the program is under previewing mode, all menu are operational. Opening of function module is determined by the hardware combination lock--dongle.

<u>File Collect Advanced View Help</u>

Main Menu	Submenu	Function	Standard● /Optional○
	Language setting (F5)	Choosing the program language (Chinese/English)	
	New	Construct a new dynamic measurement	
	Open	Open the image or open the image to measurement	
File (F)	Open device	Select the image input device	•
	Save	Save the previewing image by choosing content, file name, and file type	
	Output	Output the measurement data	
	Close file	Close the previewing window	
	Exit	Exit the program	
	Snap (F2)	snap image to the content setting on auto-snap	
	Record Video (F4)	Start the video function	
	Auto-snap Setting	Set parameters like auto-snap interval and file name, etc.	
T	Photo cut setting	Start the function of photo cut	•
Image Collect	Shade Correction setting	Start the function of shade correction	
	Start auto-snap	Start auto-snap function	
	Stop auto-snap	Stop image auto-snap function	
	Auto-focus	underdevelopment	
	Temperature detection	underdevelopment	0

Main Menu	Submenu	Function	Standard● /Optional〇
	Auto-focus setting	underdevelopment	
	Temperature detection setting	underdevelopment	Ο
	Image processing	Start the image processing function	•
	Dynamic measurement	Measure the data of the dynamic image	•
A daraa a d	Static measurement	Measure the data of the static image	•
Advanced (A)	Splice	Splice the related images	•
	ExtFocus	Form one clearest image with a series of images of the same object in different focus distances	Ο
	Advanced image setting(F7)	Using in WDM device, for the setting of the video parameters	•
	Adjustment of the resolution(F8)	Resolution setting of mage preview and snap	
View	Display ratio	Choose display ratio (adaptive/full size1:1)	•
	Camera control	Start the camera control module	•
	Navigation view	Choose or cancel navigation view	0
	Measuring data	Choose or cancel display of measuring data	0
	Full screen	Preview in full screen	•
Help		Show related program information	•

Image snap

 Enter to preview, click "Basic control" on the left toolbar→choose "Snap" or "Collect" → take photo, or directly press hotkey [F3] / [F2] to snap static image on the current preview image. (picture 29)



picture 29

2. After clicking the "Snap", save the image to your specified file.(picture 30)



Dynamically snap of the Current Image Preview

Choose the "Record Video" under the list of "Collect", or press hotkey [F4]directly. Set the video parameters before taking video. (picture 31)

Collect Advanced View Help	Video	×
Snap F2 <u>R</u> ecord Video F4	Frame Rate: 5	
Auto Snap Settings	Save Path: D:\\	
Auto Image Cutting Setting	File Name: Video20130520151037 Video Rename	
Shade Correction Setting	Time:	
Stop Auto Snap	Start Stop Close	

picture 31

Continuous snap of the Current Image Preview

Set the snap parameters in "Auto Snap Settings" under list of "Collect" (Notice: Interval must longer than 0 second). Choose "start auto snap" under list of "Collect" after the parameters setting. Choose "Close Auto Snap" under list of "Collect" to closed function.(picture 32,33)





x TimeSet						y)
Time inter	rval					
	0	Hour	0	Minute	1.800000	Second
Save Path						
D:\						Browse
name pr	efix img		name suffix	img	file t	ype BMP 🔻
				ок	reset	Cancel

Shade Correction Settings

Correct the shade on "auto snap settings" under list of "Collect". You can correct partial light area of the image by this way. As the picture 34 show.



picture 34

As the center of the image is lighter, you need to set the correction parameters before correcting it.

1. Choose "Shade correction settings" under list of "Collect"to enter the interface of shade correction parameter settings. (picture 35)

Julius	Name	Width	Height	Врр	Filename	
4			m			
 International 		 		0		

Picture 35

Template from:					
Template from: Opened image	No camera found	.		Non-shad Start X	e area
Femplate from: Opened image File	No camera found	•		Non-shad Start X Start Y	e area
Template from:	No camera found	•)	Non-shad Start X Start Y Width	e area 0 0 0
Template from: Opened image File Video source Template name	No camera found	•)	Non-shad Start X Start Y Width Height	e area 0 0 0 0

2. Click "New" to enter the interface of new correction template. (picture 36,37)

picture 36

Opened image	No camera found	•	Chart V	e alea
	no camera roana		Start X	0
🔿 File			Start Y	0
🔿 Video source	Snap		Width	0
Template name			Height	0
			Drav	w region
		_		

picture 37

3. Choose "Video source" and click "Snap" to enter the window of video source, and choose the current video source. (picture 37,38)

Select camera		l
Select camera	MC-15	
	OK	Cancel

4. Click "Snap" to shoot the current picture, and input template name in the template note place (picture 39).

Notice: please adjust the focal length and remove the sample before using the template images, . Template images are blank samples, means the background is pure white, without any color and black spots.

	CALLER DA LINE AND A	Constanting of the second	- The Carrier		
emplate from:	(No manual format			Non-shade are	a
emplate from: Opened image	No camera found		•	Non-shade are Start X 0	a
emplate from: Opened image File	No camera found			Non-shade are Start X 0 Start Y 0	13
emplate from: Opened image File Video source	No camera found		v 	Non-shade are Start X 0 Start Y 0 Width 0	:a
emplate from: Opened image File Video source Template name	No camera found		ч 	Non-shade are Start X 0 Start Y 0 Width 0 Height 0	:a
emplate from: Opened image File Video source Template name	No camera found		v 	Non-shade are Start X 0 Start Y 0 Width 0 Height 0 Draw reg	a

Picture 39

5. Click "Enter" and choose the suitable brightness area with mouse and click "OK". Then new template is added successfully. (picture 40)

Status	Name	Width	Height	Врр	Filename	
V	MC15	1360	1024	24	templet1.t	

picture 40

6. Choose the template in the check box. Click "OK". Parameter is set successfully. The image snapped is already been shade correction. After correction, there is not any bright spot on the image. (picture 41)



Image Measurement

1. Do dynamic (static) measurement on the current preview. Choose "dynamic/static measure" under list of "Advanced". As picture 43 show, the above image on the left navigation bar is the position navigation, below image is the preview image of 400% magnified image effect of around zone. (picture 42, 43)



picture 42





2. Measure the adding zone

Use measuring tools in the toolbar to measure the object. Choose measuring ratio in the "Correction" under list of "Options". Tools in the toolbar is introduced as following. When needing to change or delete some measuring tools, select the target and choose "delete" under list of "edit". When needing to use measuring tools, single click the selected tool and choose the measuring zone in the measuring image.

- [insert unit scale] standard measuring scale
 - [insert tag point] label to locate the target point
 - [insert line] measure the distance between two target points

[insert line segment] measure the distance between two target points, and the perpendicular datum line

[insert contraction scale] insert the unit contraction scale

[insert horizontal line] measure the horizontal distance between two points



[insert vertical line] measure the vertical distance between two points



[insert 45° oblique line] measure distance of 45° oblique line

[insert rectangle] Mark the diagonal point on the rectangle zone, measure the length, width, area, and perimeter.



[insert circle] Mark three points on the circle, measure the radius, perimeter, and area.

[insert ellipse] Left click mark the elliptical circumscribed rectangle diagonal point, measure the long diameter, short diameter, perimeter, area.

[insert curve] long press the left mouse button to mark the key point of the curve, and measure the length.

[insert hand-painted area] long press left mouse button to mark the peripheric key points of the area, measure the perimeter and area.

[insert a polygon] click the left mouse button and mark the polygon's edge points in sequence, measure the perimeter and the area.



[insert the angle] mark the angle

[switch to mouse] cancel the choice of measured tools

3. Calibration of the measuring scale

Taking image of the standard scale (image pixel of the scale is consistent with both the magnification of objective and measured sample), following is the image of scale under 10X objective (picture 44)



Picture 44

After clicking the icon, it will pop up the setting window(picture 45). One of the spaces in the setting parameter is 10um, fill in 500 while choosing 50 spaces (picture 46), optional unit: px, cm, mm, um. Fill in the display name, after revising the name and choose "Calibration" under list of "Options" and revise under the display name.(picture 47)

Manual Ca	libration	×	Input the real length of the scale image
Real Size	px		Choose the unit of the measuring data
Save Cali	bration in defau	t 🔹	Choose the save calibration

picture 45

Click OK after finishing filling them. Draw out 50 spaces on the image, and then it is finished calibration. Afterwards, the same objective and picture in same pixels can measure with this standard.

MShot Image Analysis Syst	en line	- @×
Camera control Measuring Tools Image processing Select ruler Calibration defac.	MD-50_V2 Measuring 1	× •
Font size 13 ▼ Font color ■	Lont2 Longti::500.000mm	
I		
Zoom in	Calibration	Zoom:0.27

Picture 46

Options 1	<u>A</u> dvanced <u>V</u> iew	<u>H</u> elp				
<u>C</u> alibrati	ion					
Measure	ement Display Opti	ons 🕨				
Calibration Sett	ings			-		-
Display name	default	ID	Name	UNIT	UINT PIXEL	
Units/Pixel	6.64496e-006	1	default	рх	0.000	
Unit	[px	-				
Add	Delete Apply					
Numbers of a right of the a	ligits to the 3 lecimal point					
ОК	Cancel					
	Curren					



4. Save data

choose "Save image" under list of "File" or click this icon	E,	then you	can	get	the
image including the measuring data.					

Choose "save data" under list of "File" or click the icon , then you can get the excel file including the measuring data.

Image processing function

- Open one picture by choosing "File" or click this icon, and process the previewing image.
- 2. Choose "Image Processing" under list of "Image enhance", and choose the processing tools according to your need. (picture 48)

File	Image enhance <u>V</u> iew <u>H</u> elp			
	Image Processing		Brightness/contrast adjustment	
	Image <u>O</u> ptimize	•	Hue/saturation adjustment	
	Image <u>Cropping/Area</u> Selection	•	Inverse	
s	image binaryzation	•	Pseudo-color	
mera c	Image inpainting	•	<u>H</u> flip	
asic co	Image Point Calculations		<u>V</u> flip	
	Image morphological	•	Image Rotate	
	Image segmentation	•	Image Left-Rotate-90'	
arr	Back to Original		Image Right-Rotate-90'	
-11	Image Ephance		<u>G</u> ray	
	Dynamic Measure		<u>R</u> GB channel	×
	Static Measure		Image Split	×
	Image Splice		Image Combine	
0	ExtFocus		R DIN AL	1

picture 48

It will pop up the following window while choosing "Brightness/contrast adjustment" (picture 49). The number filled in the brightness is bigger, the image will be brighter. Number of contrast is bigger, the color contrast of image will be more distinct.

Apply
Cancel
Cancer
i

picture 49

It will pop up the following window while choosing "Hue/saturation adjustment" (picture 50). Number of the hue is bigger, color of the image will become brighter; while number of saturation is bigger, color of image will become darker.

Apply
Cancel

picture 50

After saving the processing image by clicking this icon icon, you can click "Back to Original" to reprocess the image. (picture 51)



picture 51

ExtFocus

ExtFocus can form one clearest image with a series of images of the same object in different focus distances. ExtFocus function of Mshot image analysis system can only run in circumstance that can detect the dongle.

1. Connect the dongle with the computer, start Mshot image analysis system.

2. Click "ExtFocus" under list of "Advanced" (picture 52) or click the icon on the toolbar to pop up the Image ExtFocus Wizard (picture 53).

		Select image for F	xtFocus		
		 Opened image 	No camera f	ound	
		🔿 Image file			
				Up Dov	vn Delete Add
				Serial Type Path	
		Match		Correction	Output mode
<u>A</u> dvanced	<u>V</u> iew <u>H</u> elp	Match O Point feature r	matching	Correction	Output mode © Crop mode Original Size
<u>Advanced</u>	<u>V</u> iew <u>H</u> elp Enhance	Match O Point feature r O Correlation mail	natching	Correction Segeometric correction	Output mode © Crop mode
<u>A</u> dvanced Image I	<u>V</u> iew <u>H</u> elp Enhance ⊂ Measure	Match	natching tching	Correction	Output mode Crop mode Original Size Cutting zoom
<u>Advanced</u> Image I Dynami	<u>V</u> iew <u>H</u> elp Enhance c Measure	Match Point feature r Correlation mat Save Save	matching	Correction	Output mode Original Size Cutting zoom
<u>A</u> dvanced Image I Dynami Static M	View Help Enhance c Measure 1easure	Match	natching tching	Correction Seconetric correction Brightness correction	Output mode Original Size Cutting zoom
<u>Advanced</u> Image I <u>D</u> ynami <u>S</u> tatic M Image S	<u>V</u> iew <u>H</u> elp Enhance c Measure 1easure Splice	Match Point feature r Correlation mat Save Save Progress	natching tching	Correction	Output mode Crop mode Original Size Cutting zoom

3. Choose the image file (or choose the opening file), add a series of images of the same object in different focus distances to the list. (picture 54)

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Image file D:\2.5X\1	.2.jpg				
		Up	Dowr	n Delete	Add
CONTRACTOR OF STREET	Serial	Туре	Path		^
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- and the	2	File	D:\2.5X\0	2.JPG	
TEAST DALLE	3	File	D:\2.5X\0	3.jpg	
1 28 28	4	File	D:\2.5X\04	4.jpg	
	5	File	D:\2.5X\0	5.jpg	
Match	Correc	tion		Output mode	
Point feature matching	📇 Ge	eometric	correction	Crop mode	Original Size
O Carrabtian matching	=	inhtooro	correction	O Cutting man	
O correlation matching	E DI	igniness	conection	O Cutting 200m	
Save					
Save to file					
Progress					

picture 54

4. Choose "Save to file" can save the processed image to the specified file. If you do not choose the file, system will open the default file to save the processed file.(picture 55). After filling in the save file and click the OK button to begin to process the image.

	No more f	aund					
	No camera n	Sunu					
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CARDINE KI	1222	Serial	Туре	Path			
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Ser and	2 Carlo	2	File	D:\2.5X\02	2.JPG		
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	6	*	1.02		, jpg		•
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O Correlation mat	ching	📇 Br	ightness	correction	◯ Cutt	ing zoom	
Save							
Save to file D:	:\2.5X\test.jpg						
Progress							

picture 55

5. The processed images will save to the specified file directly. And you can check the image effect in the specified file. (picture 56)



Image Splice

Image splice can splice many related images in one image. Function of image splice can only run in detected dongle circumstance of Mshot image analysis system.

- 1. Connect the dongle with the computer, and start Mshot image analysis system.
- 2. Click "Image Splice" under list of "Advanced" (picture 57) or click the icon on the



toolbar and it will pop up the image splicing wizard. (picture 58)

	Select images for splicing Opened image: No camera to the second secon	found	
	🔿 Image file:		
		Up Down Delet	te Add
	-	Serial Type Path	
dvanced View Help			
dvanced <u>V</u> iew <u>H</u> elp Image Enhance			
dvanced <u>V</u> iew <u>H</u> elp Image Enhance <u>D</u> ynamic Measure	Parameter Distance threshold : 0,49	Save spliced image to a file	
dvanced <u>V</u> iew <u>H</u> elp Image Enhance <u>Dynamic Measure</u> <u>S</u> tatic Measure	Parameter Distance threshold : 0.49 Progress	Save spliced image to a file	
dvanced <u>V</u> iew <u>H</u> elp Image Enhance <u>Dynamic Measure</u> Static Measure Image <u>Splice</u>	Parameter Distance threshold : 0,49 Progress	Save spliced image to a file	

Picture 57

picture 58

4. Choose Image file(or using the opening file), add a series of images of the same object in different focus distances to the list. (picture 59)

Image file: C:\Users\Administration	tor\De	sktop\新建	文件夹 (4)\120:	209112000031	.JPG
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			III		Þ
Barrantes					
Parameter	Save	e spiiced in	lage to a file		
Distance threshold : 0.49	=S	ave to file:			

picture 59

5. Choose "Save to file" can save the processed image to the specified file. If you do not choose the file, system will open the default file to save the processed file.(picture 60). After filling in the save file and click the OK button to begin to process the image.

Image file: C:\Users\Admin	istrator\De:	sktop\新建	文件夹 (4)\12012	209112000031	.JPG
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. A ACADOMICONS.	1	File	C:\Users\Adminis	trator\Desktop	\新建文件夹(
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Mar and Base and States	3	File	C:\Users\Adminis	trator\Desktop	\新建文件夹(
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			III		
Parameter	Save	e spliced in	age to a file		
Distance threshold : 0.49	<u></u> Sa	ave to file:	C:\Users\Admin	istrator\Deskto	p\新建5 (
Progress					

picture 60

6. The processed images will save to the specified file directly. And you can check the image effect in the specified file. (picture 61)



Solutions of common problems

NO.	Problems	Solutions
1	Vista\Windows7 can not run the program, and error message has been thrown by he system.	Use the administrator's account to operate it, or run the command mode with the administrator's account, and executive the program.
3	No equipment on the equipment list.	Please close the image process software, and install the camera driver first. If already install the driver program, please deal with it according to the solution of problem 4.
4	Go wrong after choosing the video equipment, and shows initializing failed.	 please confirm the camera has installed to USB2.0interface. please extract USB interface of the camera and connect again, and start the software again. If it still shows error, please connect the camera to another USB interface(it'd better connect to the back USB interface of the desktop).

NO.	Problems	Solutions
5	After opening the Snap wizard, the image wizard becomes all dark.	 (1) If it is rod spectral type microscope, please switch the rod to imaging facility terminal. (2) Please adjust the knob of the bulb of the microscope to lighten up the brightness. (3) deal with it according to solution of problem 4.
6	Image wizard shows all bright after opening the Snap wizard.	 (1) It is too bright of the illuminator, please lower down the brightness of the bulb. (2) open 2 video collecting software in the same time, and close one of them after closing the collecting software. (3) insert USB1.1interface in the camera, and change the computer.
7	The image wizard shows big difference between color and hue of the previewing image and the observed result in the eyepieces.	Please adjust the "White Balance", refer to the part of image snap in this manual.
8	The previewing image in the image wizard is smaller than the field of vision in the eyepieces.	It is common because of the sensor size is small. If you need bigger field vision, please contact us to choose 0.5X, 0.63X adapters.

NO.	Problems	Solutions
9	The image is vague.	 (1) aperture stop is too big, please close the aperture stop to suitable situation. (2) Camera is not synchronous lead to the not synchronously clear of the image, please adjust the C-mount adapter's synchronicity.
10	Image blinks while matching with stereo microscope.	Exposure time is too short, please switch to manual exposure, low down the gain, and increase the exposure time.