Micro Cam Software

User Manual

V1.3

CONTENT

CHAPTER 1: MICRO CAM SOFTWARE INSTALLATION AND CONNECTION

1.1 SOFTWARE MICRO CAM INSTALLATION

Step1: Start your computer and insert the installation disc into the driver.

Step 2: Double-click the file "Micro Cam Install.exe"under the disc content. When the following window is displayed, please choose the installation language and press " OK "button.
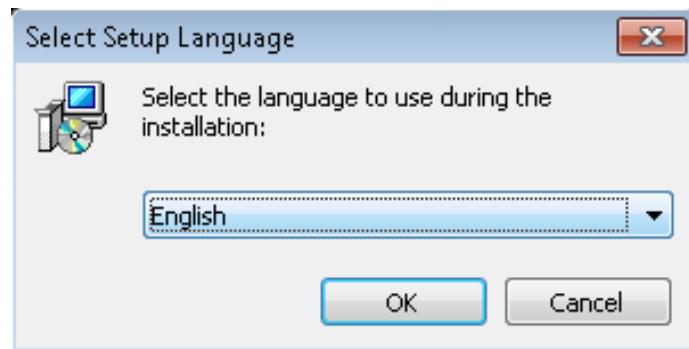
Step 3: When the window "Welcome to use Micro Cam installation guide" is displayed, please click " Next > "button.
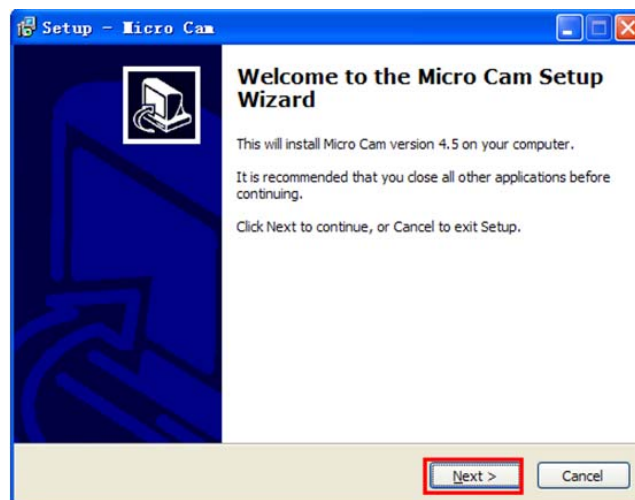
Step 4: When the window "Select target location" is displayed, please click "Browse" to choose the installation file path. After you confirm the installation file path, please click " Next > "to continue.
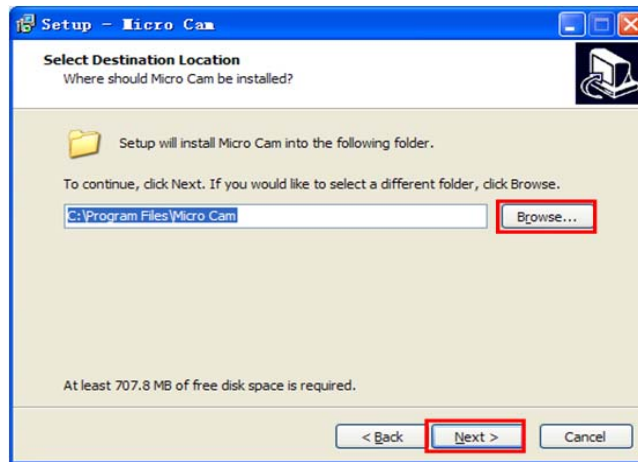
Step 5：When the following window is displayed, please tick "☐" before your needed shortcut under "Add shortcut" andthen tick " Next > ".
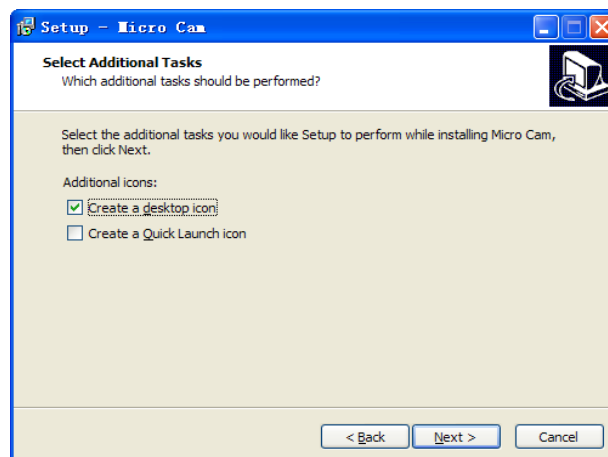
Step 6: Confirm whether the "Target location" of the software installation, "Start menu folder" and "Add task" are installed correctly. After confirmation, please click " Install "button.
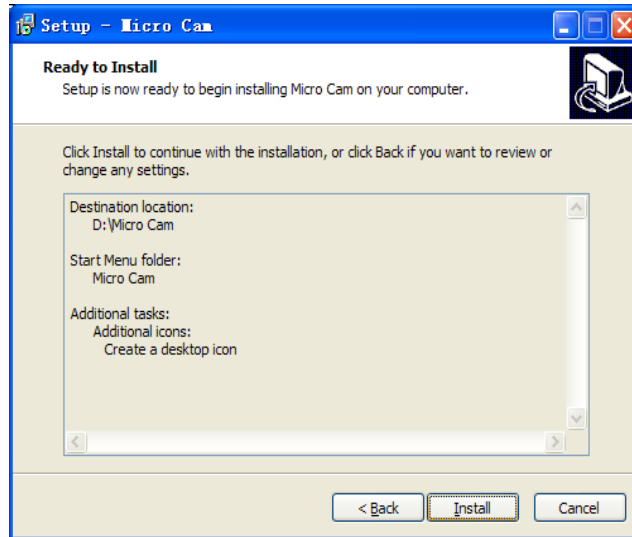
Step 7: During the installation, installation progress bar will be displayed. When the following window appears, the software has been installed successfully and click "Finish" to finish the installation. After closing the window, please check the Micro Cam icon on your desktop. If you cannot find the icon, please find it from "Start" → "All programs".
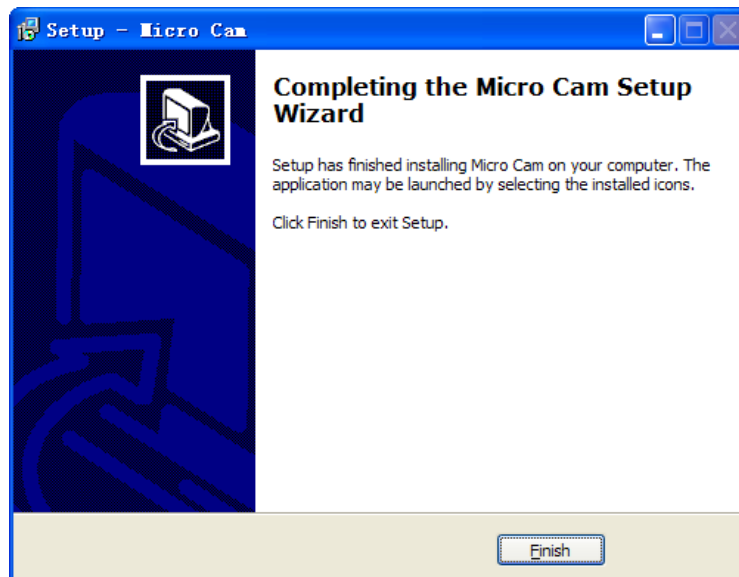
1.2 WIRED DEVICE CONNECTION

1．Connect the USB port of electron microscope deviceto the USB port of the computer. The system will display "Find new hardware" window and finish the driver installation automatically.

2.Run "Micro Cam" software through shortcut on the desktop or from "Start" → "All programs".

Note 1:

If you use "Micro Cam" program for the first time, please confirm whether the device has been connected to the USB port of the computer. Otherwise, only " Edit " can be operated and " Preview " and " Video "will fail to run.

Note 2:

For multiple USB ports, if you insert the device into the port for the first time, the system will finish the driver installation for each USB port automatically.

Note 3:

You are advised to close Micro Cam program before you pull out the USB cable of the device.

1.3 SOFTWARE OPERATION INTERFACE AND INSTRUCTION

1.3.1 Scan Work Mode

Open Micro Cam program, the default work mode of the program is "Scan" and the software operation interface is displayed as above. You can choose the work mode according to your need.

1.3.2 Real-time Preview Toolbar

Open Micro Cam program, the interface presets parameters relevant to the image display effect to call for actual use.
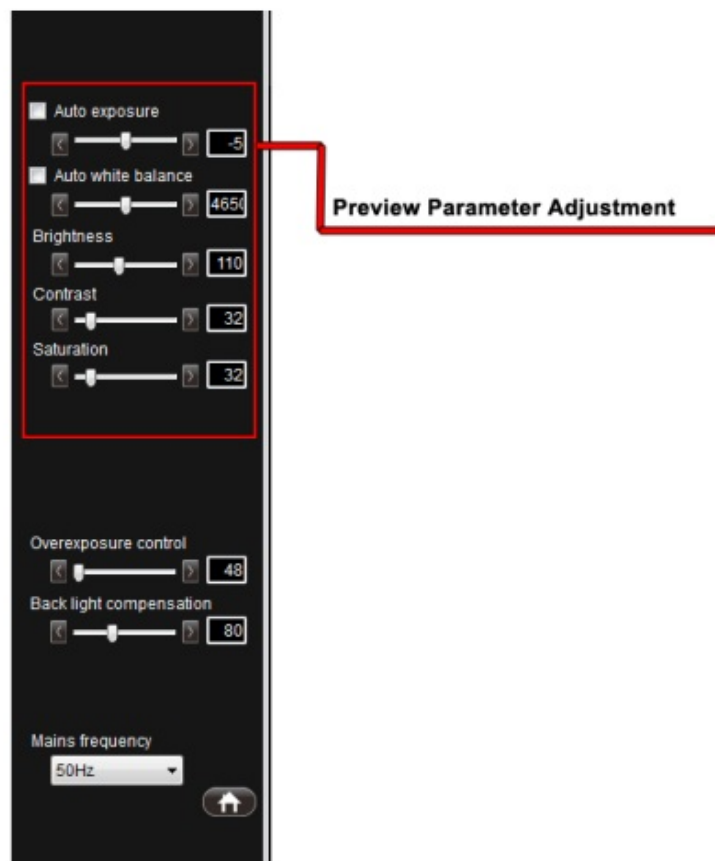
1.3.3 Preview Resolution Selection

You can select any of the preview resolution for preview under this drop-down box according to your need.

1.3.4 Video Preview Parameter Adjustment

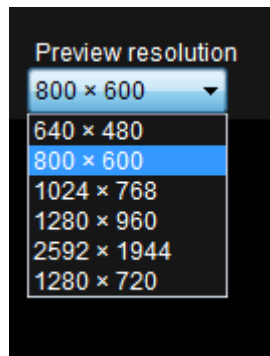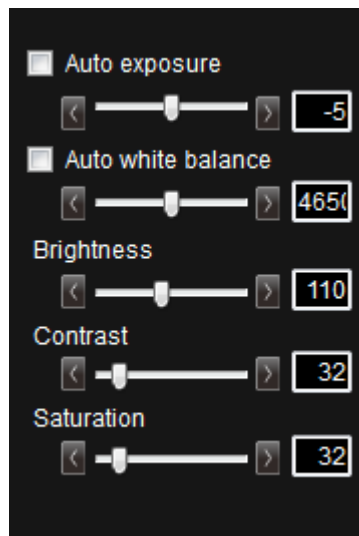You can adjust the relevant parameter according to your need to achieve the best preview and scan effect.

Automatic exposure: the device processes automatic exposure according to the operational environment. The automatic exposure is effective when this option is ticked and you can make adjustment through " " when this option is not ticked.

Exposure parameter adjustment: you can adjust the exposure parameter according to the operational environment. The parameter adjusts around automatic exposure and is only effective when " " option is not ticked.

The following figures display effects in different exposure

Parameter adjustment value.

(1)   (2)   (3)
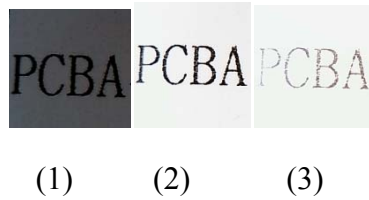
(1)Low exposure adjustment parameter

(2)Proper exposure adjustment parameter
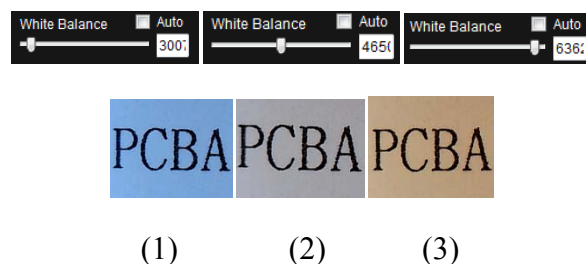
(3)High exposure adjustment parameter

Automatic white balance: the device will process automatic white balance according to the operational environment. The automatic white balance is effective when this option is ticked and can be adjusted through "☐ Auto " when this option is not ticked.

White balance: adjust the white balance parameter of the device according to the operational environment. This parameter adjusts around the automatic white balance and is only effective when "✓ Auto " option is not ticked.

The following figures display effects in different white balance parameter adjustment value.

(1)   (2)   (3)

(1)Low white balance adjustment parameter

(2)Proper white balance adjustment parameter

(3)High white balance adjustment parameter

Lightness adjustment: lightness adjustment can change the overall lightness of the screen and is always used with contrast adjustment to achieve the best effect.

Contrast adjustment: Contrast adjustment can change the contrast between the brightness and darkness of the screen and is always used with lightness adjustment to achieve the best effect.

Saturation adjustment： Saturation adjustment can change the color saturation of the picture to achieve the best effect.
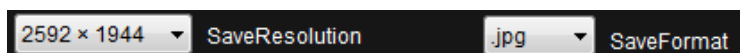
1.3.5 Property
You can make compensative adjustment to Overexposure control,Back light compensation and Mains frequency.
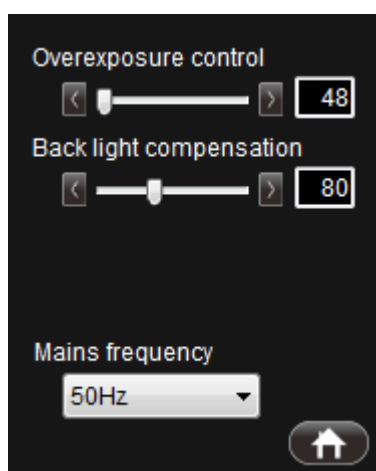
After the above parameter adjustment, you can click " " to restore the factory parameter.
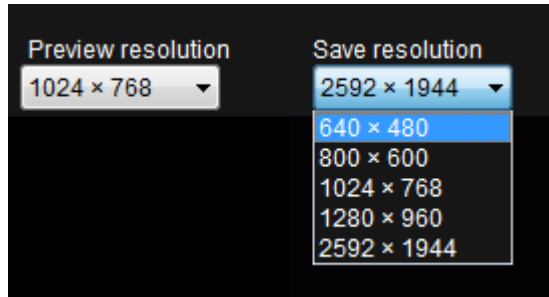
1.3.6 Real-time Scan Toolbar
Real-time scan toolbar contains two parts: save resolution and save format.

1.3.7 Save Resolution
The ratios of preview resolution and save resolution keep the same. When the preview resolution ratio is 4:3, save resolution ratio only supports 4:3 resolution selection. The default maximum save resolution is 2592×1944, as shown below.
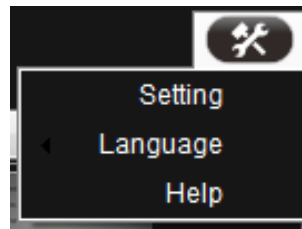
When the preview resolution is 16:9, the save resolution only supports 16:9 resolution for scan and the default 16:9 save resolution is 1280×720, as shown below.

1.3.8 Picture format

There are 4 kinds of save formats: .pdf, .bmp., .jpg and .png and the default format of the program is .jpg. You can choose any of the save formats according to your need.
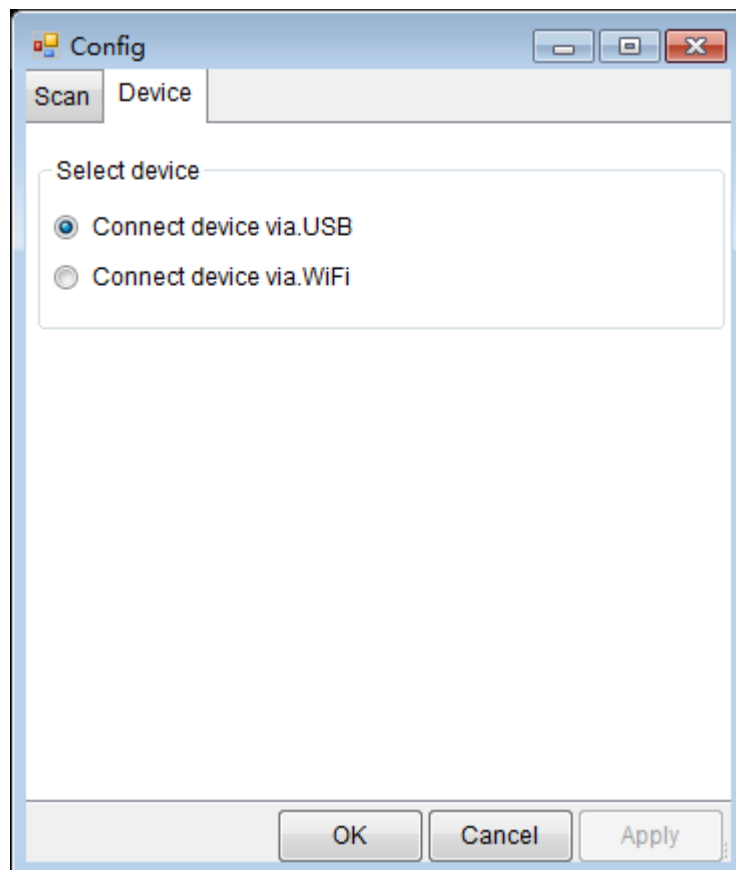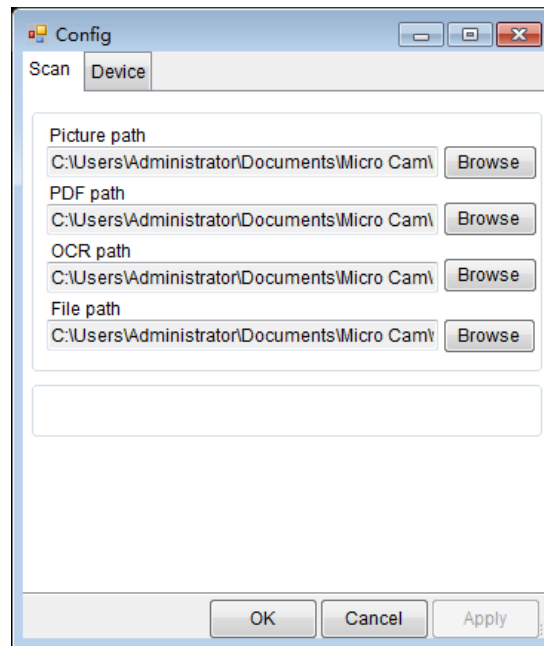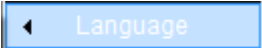
1.3.9 Menu

1.3.10 Setting
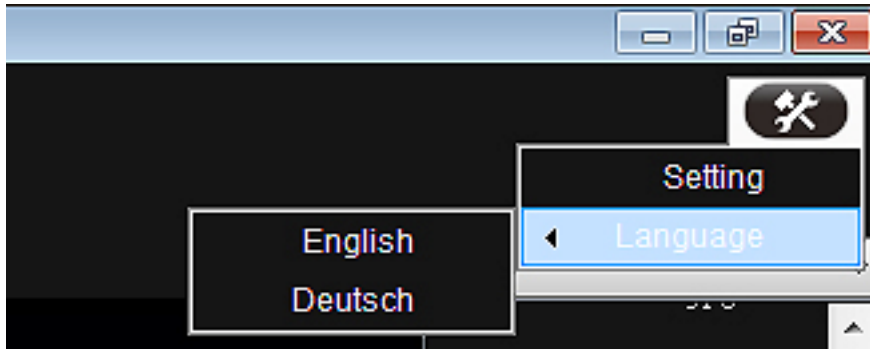
Click ""button in the advanced option. "Scan", "Video" and "Property" will be displayed.

Scan: you can choose the save path of image and PDF document, as shown below.

1.3.11 Multi-language Selection

Click ""button in the advanced option button and 2 kinds of language version selection will be displayed. As shown below:

Note: The languages for the main form and sub form of the program are the same. If you want to change the display language of the sub form such as continuous photographic form and advanced dialog box, you can modify the program language in this menu and then reopen the sub form.
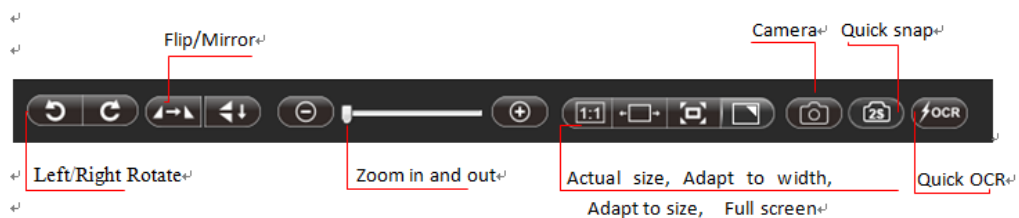
1.3.12 Help Options

Click"Help"Option，scan instructions for PDF format software as follows:

Note: The system must be equipped with software for PDF format view, such as Foxit reader etc. before using the function.
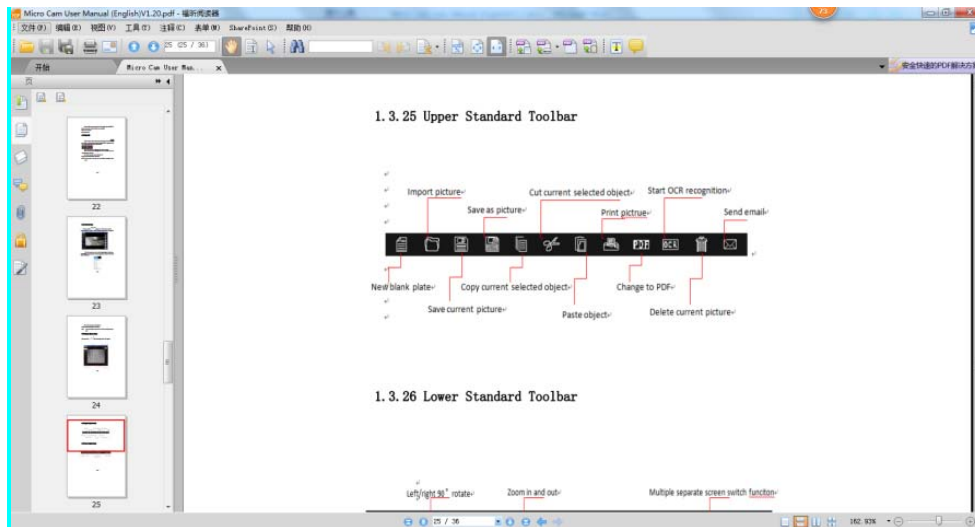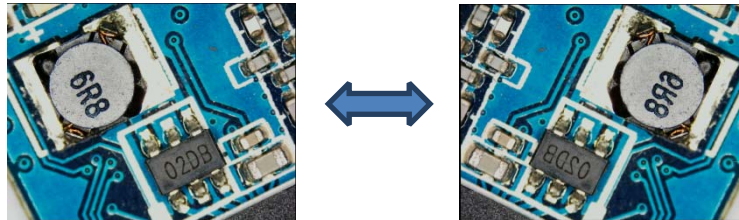

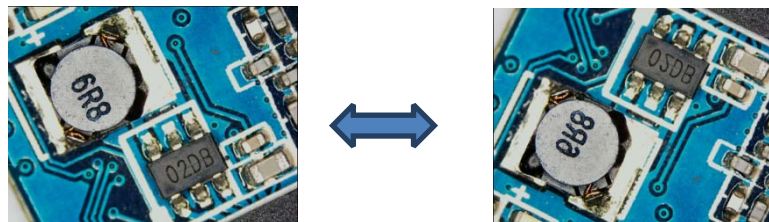
1.3.13 Preview Screen Adjustment
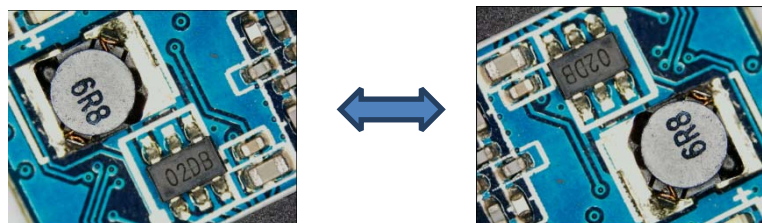
1.3.14 Mirror Image and Flip
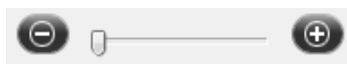
Preview image contrast before and after mirror image

Preview image contrast before and after flip

Preview image contrast by flip + mirror image (equal to 180°flip of image)

1.3.15 Zoom out and Zoom in

Under preview resolution of 640×480, 800×600 and 1024×768, click "Zoom out" and "Zoom in" button or directly click the scroll bar with the mouse to achieve the reduction and magnification of the preview screen.

1.3.16 Actual Size (1:1)

Click " 1:1 " button to change the field angle and the fault location is in the middle. If the field angle exceeds the current software preview scope, you can drag by

holding down the left mouse button. Under the proper screen mode, the default location is in the middle.

1.3.17 Adapt to width

Click " " button to change the field angle and the default location is in the middle. If the field angle exceeds the current software preview scope, you can drag by holding down the left mouse button. Under the proper screen mode, the default location is in the middle.

1.3.18 Adapt to Screen

Click " " button to adapt to the current software preview scope. With the field angle unchanged, the maximum screen doesn't exceed the preview scope; If the field angle is smaller than the preview scope, the screen is in actual size (such as 640×480).

1.3.19 Full Screen

Click " " button to fill the image on the full screen. Under this mode, click the right mouse button or ESC to return, the image location stays the same. If the previous status is 1:1, then return 1:1 status; if the previous status is proper size, then return to proper size status.

1.3.20 Camera

If you want to scan documents, please click " Preview " to align the device lens to the scan documents and click" " scan button to scan the image displayed in the preview window, as shown below.
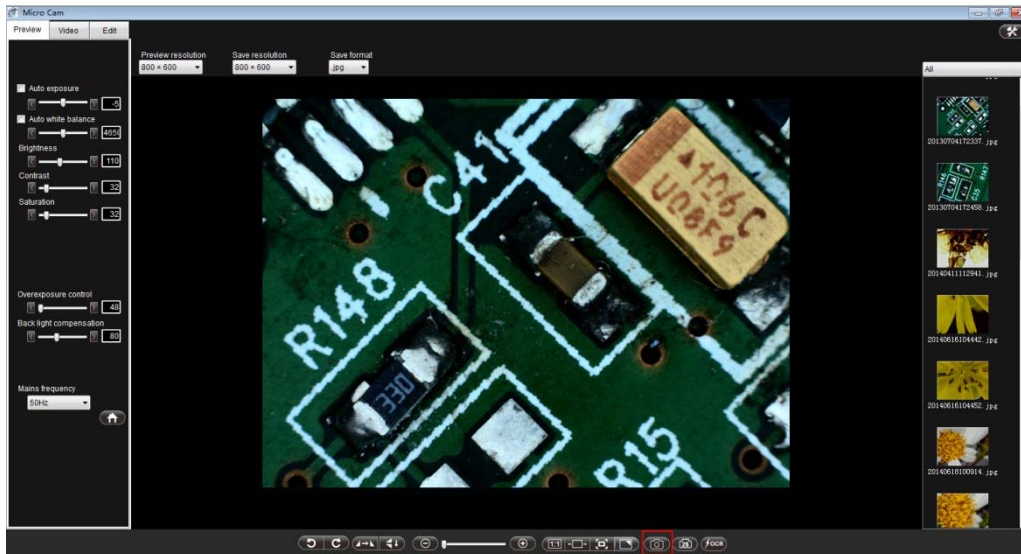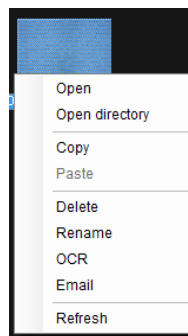
Image can be dealt correspondingly in "Document thumbnail box", such as open, open content, copy, paste, delete，rename, OCR, Email and Refresh.

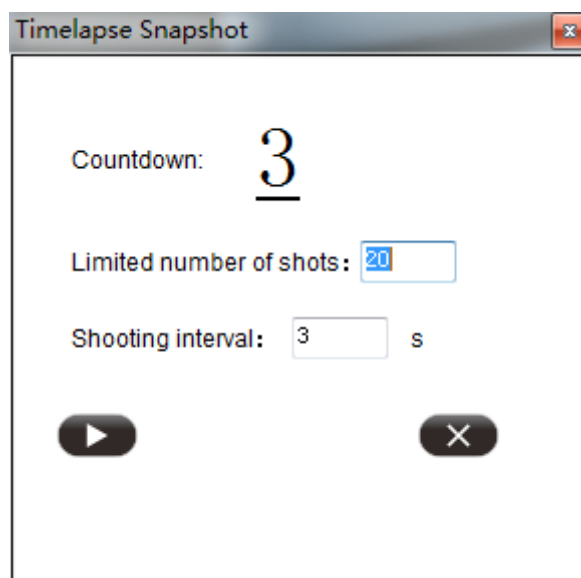The default save path of the scan document is :

  …\MyDocuments\Micro Cam\picture

…\MyDocuments\Micro Cam\pdf

Note: The save path of the scan image can be modified according to your need. For modification method, please see 1.3.11.

1.3.21 Timed Camera

If you want to take timed picture, please click " " scan button, a small window will pop out, as shown below:

You can fill the shot interval time behind "shot interval time" and allowed shot number behind "limited shot numbers".
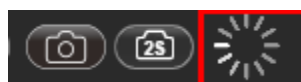
Limited shot numbers:

Shot interval time

1.3.22 Quick OCR And OCR(Optical Character Recognition)

Quick OCR(No need to callout OCR program)

If you want to process quick OCR function, please click " " scan button to quickly export the picture displayed in the preview window to document and open it, as shown below:

When the wait icon is displayed, quick OCR scan is running.

When the icon restores default, quick OCR scan has finished and the scanned document will open.

The default save path of the document is:

…\My Documents\Micro Cam\OCR

Note 1: The save path of the video can be modified according to your need.

Note 2: Be sure to check the OCR language corresponds with the interface language when using Quick OCR. If the needed Quick OCR file fails to display on the software interface, "OCR" function instead of "Quick OCR" function is required.

Note 3: When using "quick OCR" for digital recognition of files, the direction of OCR must correspond with the character laydown direction. OCR cannot recognize rotary characters (shown as follows). Also, characters needed to be OCR must be as distinct as possible. Otherwise, the OCR accuracy rate will reduce (After OCR to the file, some messy code or dislocation may occur. That kind of circumstance is normal, users can modify directly in software or Rtf file.).
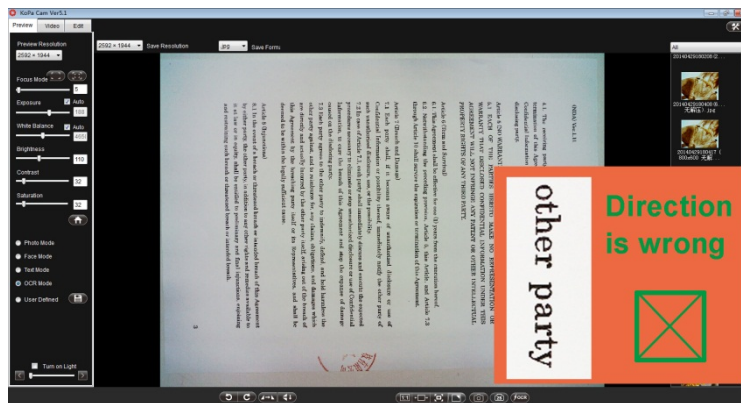
Through or to adjust the placing direction of the file
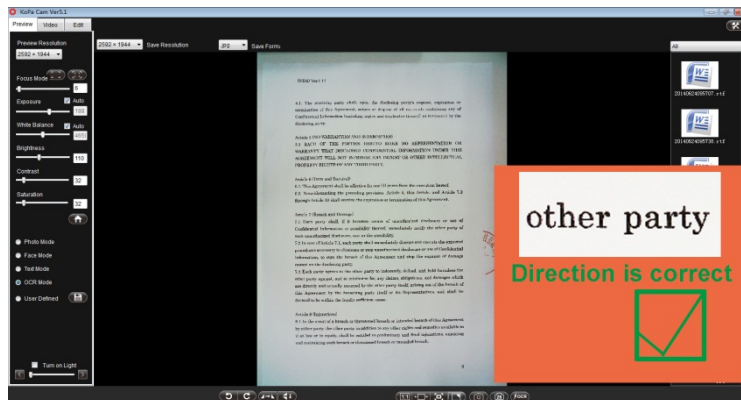
OCR:If you fail to find the corresponding language on the software interface or the two or more languages needed to be recognized simultaneously, you can make it by OCR function. Steps are as follows:

1. Photograph the file for OCR recognition, right click thumbnail of the file, choose"OCR" (as image A) to enter OCR interface (as image B); or double-click the thumbnail of the file for OCR recognition on the bottom right to enter the Edit interface. Click " " (as image C) on the right above navigation bar of the Edit interface.
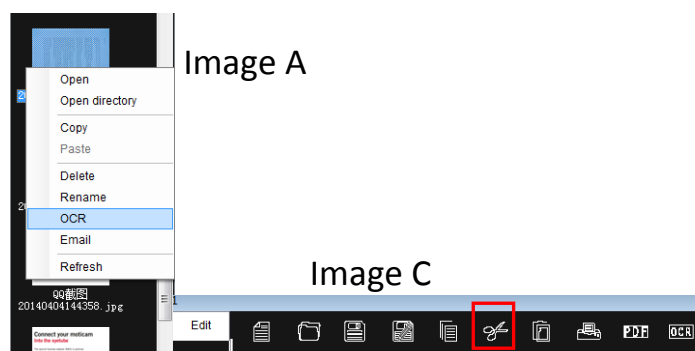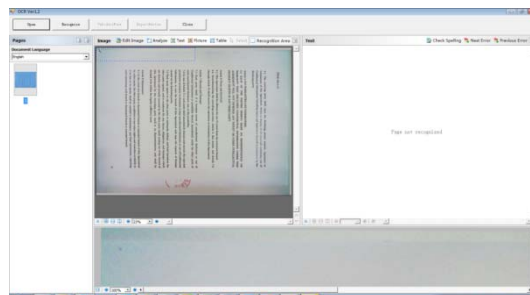

Image A

Image C

Image B

2. Choose the language for recognition in OCR interface (as image A) or click More languages for selecting more languages (Image B) or click "Edit Image"to adjust the direction of character and editing operation (as   image C).
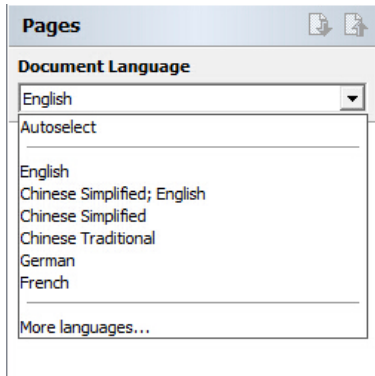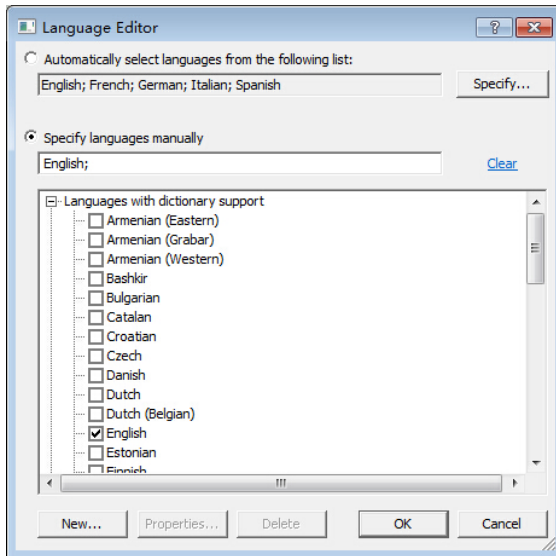
Image A

Image B

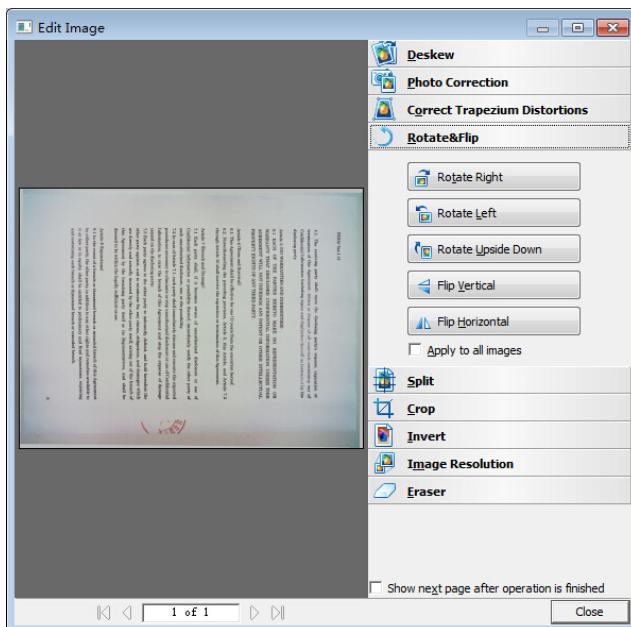Tick your needed language and then click "OK"

Image C

After editing, click "Close" to save and exit

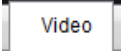3. After editing, click "Recognize" to recognize the file content.。

Tips1："Quick OCR" is only available when the language of the file for OCR corresponds with the interface language. If you fails to find the

corresponding language on the software interface, you need to choose "OCR" for recognition.

Tips 2："OCR" supports 168 languages from different countries.

Tips 3：The current software language is OCR's recognition language. When the recognition language corresponds with thecurrent document language, the character recognitionfunction of OCR can perform at its maximum effects.

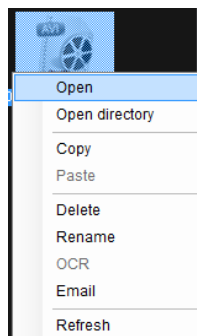**1.3.23 Video Work Mode**

When you click " Video ", press " ⊙ " video button to record images displayed in preview window. The following interface will appear:
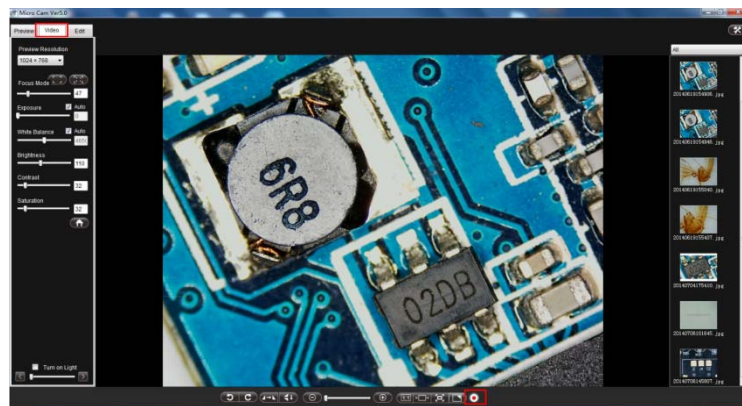
The video document can be dealt correspondingly in "document thumbnail", such as open, open content, copy, paste,
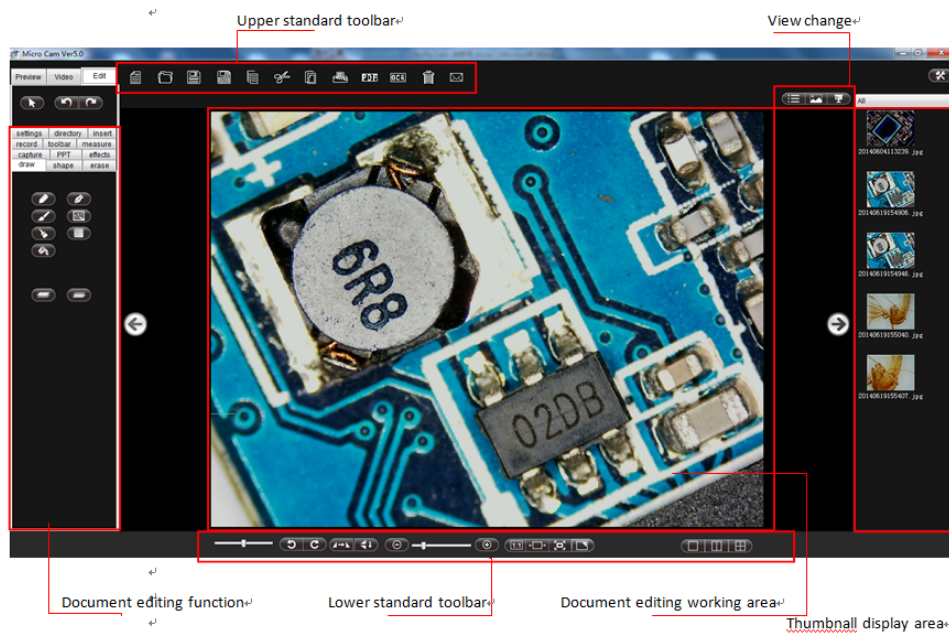
delete, rename, OCR, Email and Refresh.

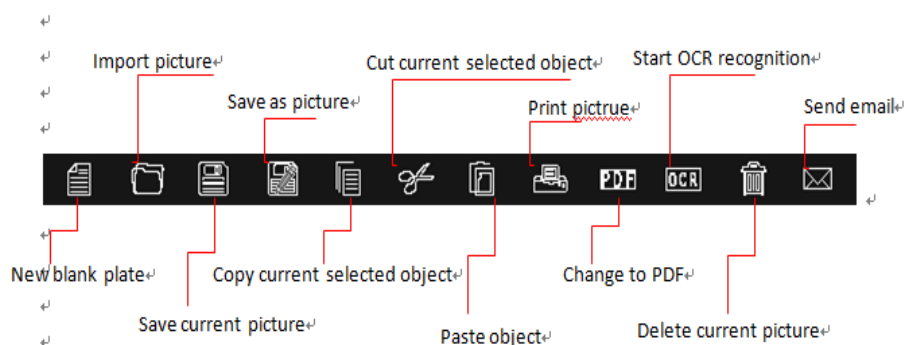The default save path of the video is:

…\My Documents\Micro Cam\video

Note: You can modify the save path of the video according to your need.

1.3.24 Document Editing Toolbar

When you click " Edit ", the following interface will appear:

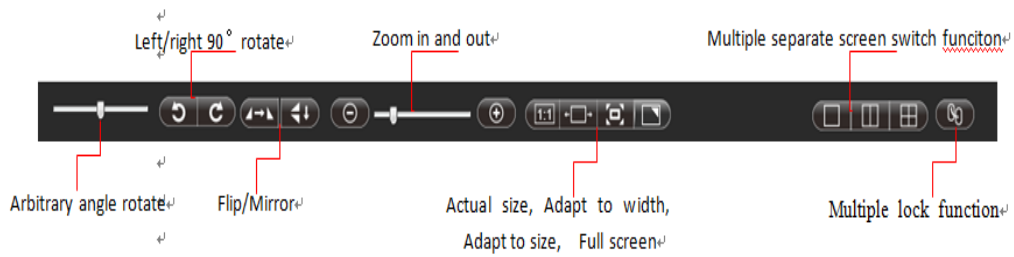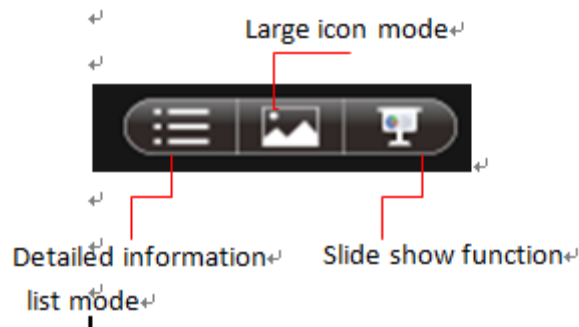

1.3.25 Upper Standard Toolbar

Note： Three function keys, including"Copy current selected object","Paste object"， "Cut current selected object" are only for object of the current picture, such as line and shape, etc. painted by brush.

1.3.26 Lower Standard Toolbar


1.3.27 View Change Bar

1.3.28 Thumbnail Active Area

1. When you select picture list box and double-click the picture, the picture will be inserted into "document editing work area"

2. When you select picture list box and right-click the picture, the following image will appear. You can make operation to the selected picture according to the display menu.
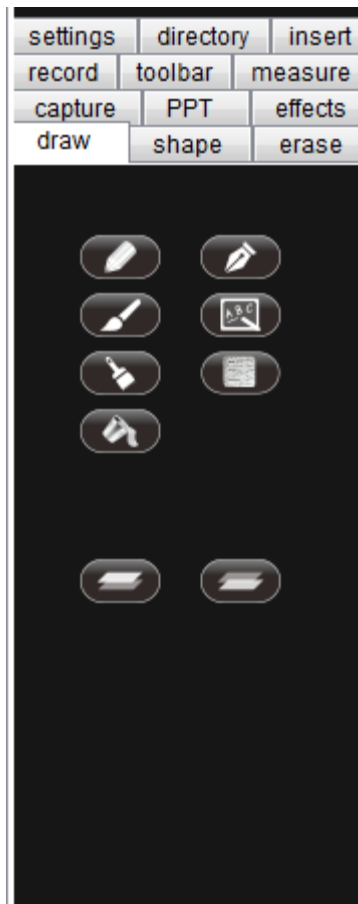
As shown in figure:

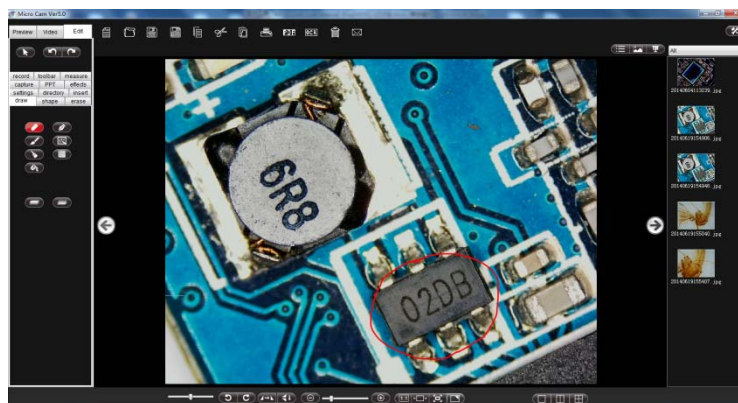No picture selection   Right-click picture list box
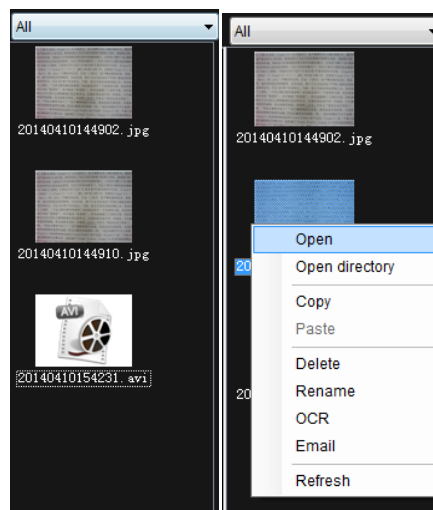
1.3.29 Document Editing Function Area
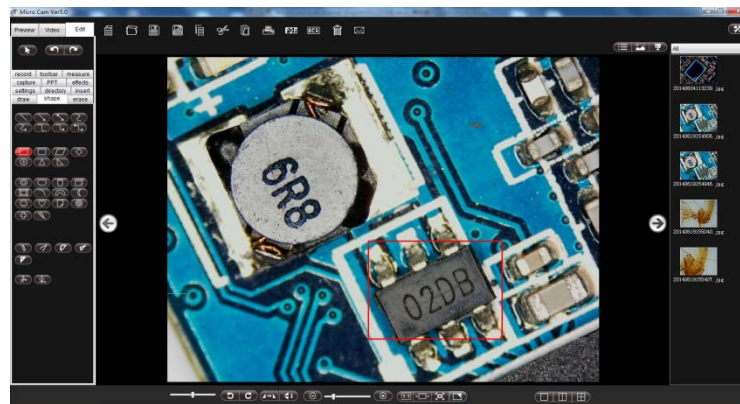

"Drawing" Function:

This function provides various drawing tools in different shapes, such as pencil, pen, texture pen, brush etc. and can make drawing in document editing working area, as shown below:
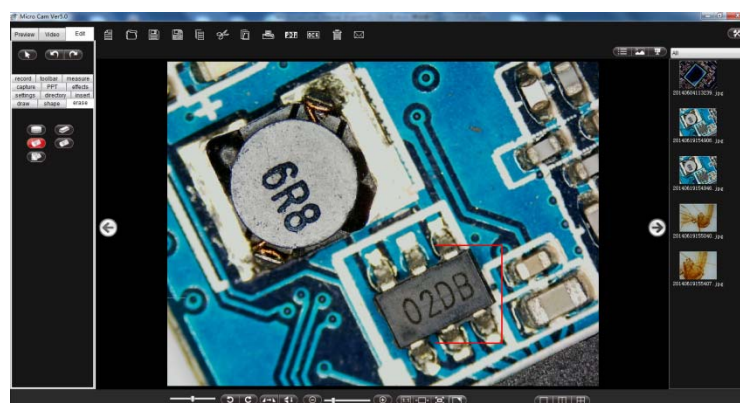
"Shape" Function:

This function provides various shapes such as straight line and circular and can make drawing in document editing work area, as shown below:


"Wipe" Function:

This function provides different wipe functions, such as circular wipe, object wipe and wipe all etc. and can proceed wipe work in document editing work area, as shown below:
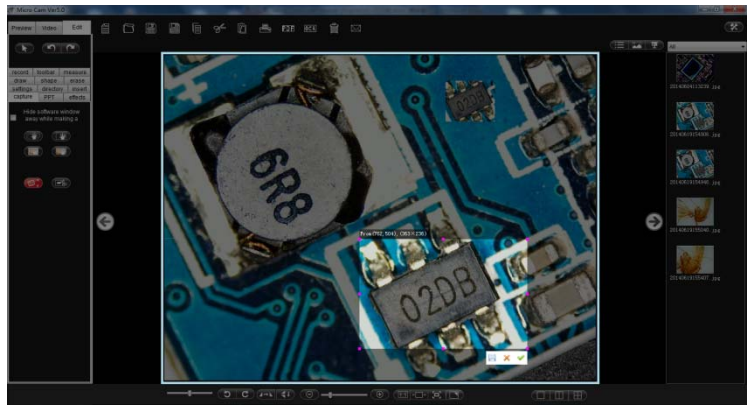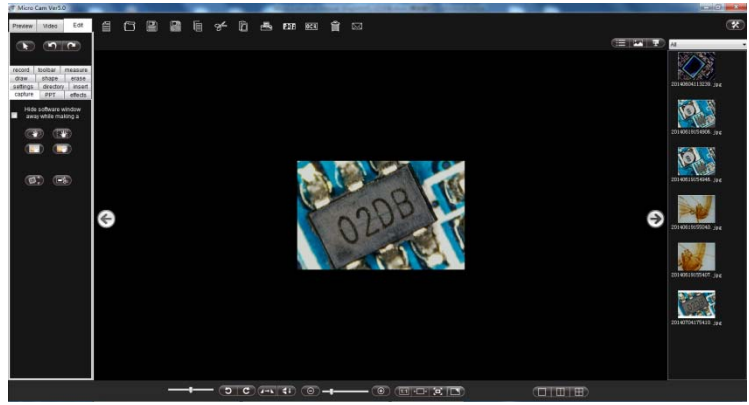

"Screenshot" Function:

This function provides different screenshot function to insert the captured picture into document editing area and proceed other function operation, as shown below:
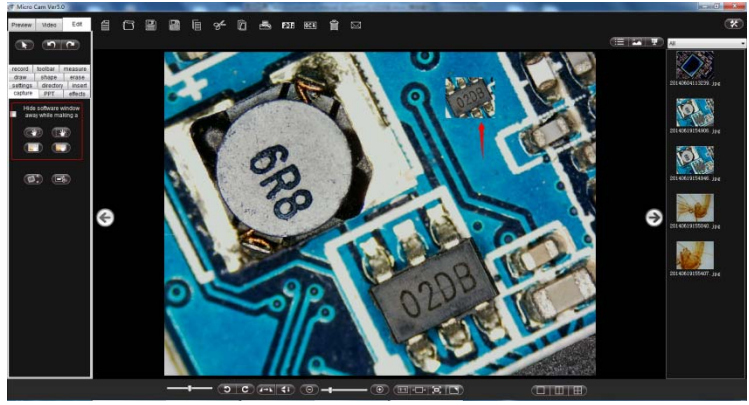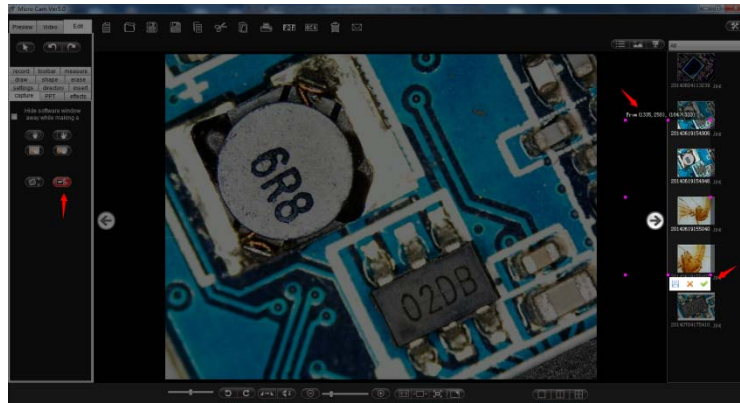
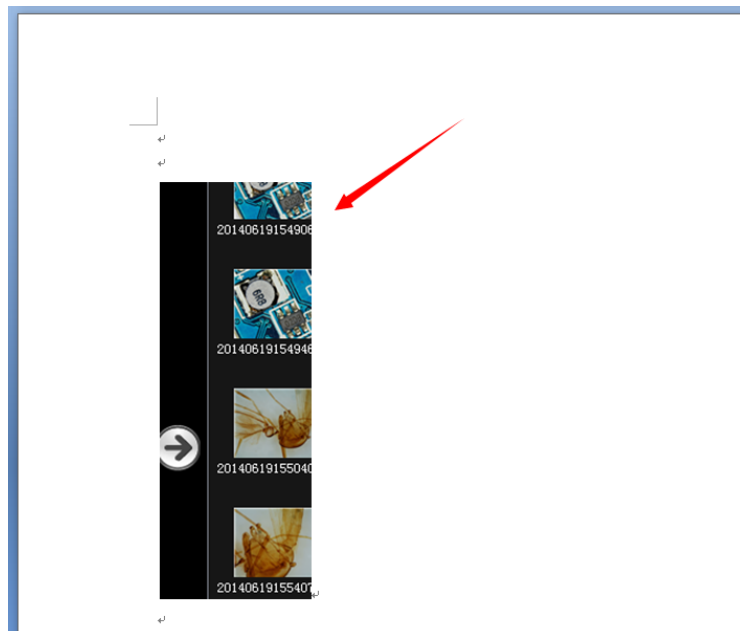Note: 1. " " refers to cropping the picture in accordance with the proportion shown as follows:

Click " " to demonstrate result as in the following:

2.""refers to capturing the current picture and   depositing it in the clipboard
 of the system, and it can be copied in documents, etc. after being successfully cut.

Open word document for copy after clicking"" as in the following:

"Slide" Function:

This function provides various cover function to current screen, such as "blank screen" and "spotlight" etc. As shown below:
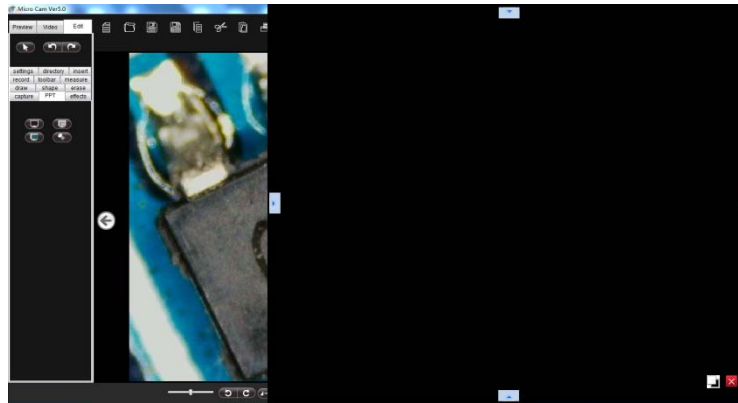
"Special Effect" Function:

This function adds various effects for pictures in current editing area, such as "monochrome effect" and "grey effect" etc. As shown below:

"Record Screen" Function:

This function provides screen recording function. The recording scope can be specified area or full-screen. The effective area is inside the green flash box, as shown below.
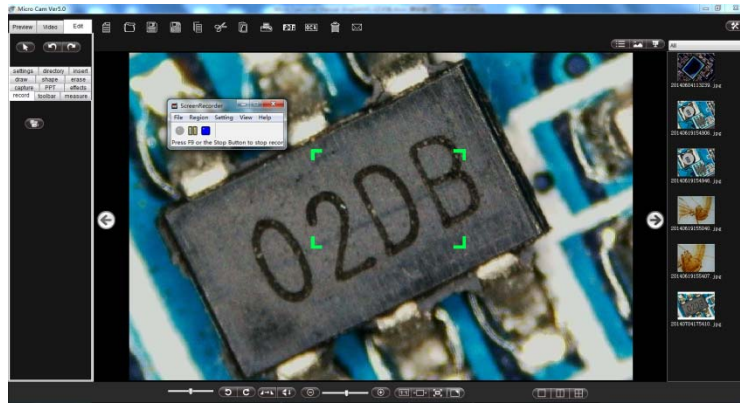
"Tool" Function

This function provides various auxiliary software, such as "Screen keyboard", "Clock" and "Random number" etc. As shown below:

"Measure" Function:

This function provides calibration function and measure function to make accurate measurement to picture in the editing area. As shown below:

Note:

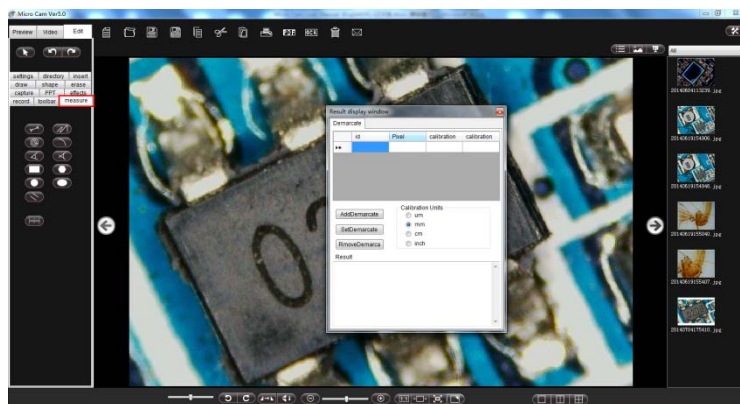Specific instructions are：First, adjust the device to make the measured object under the most distinct state and overlay… and then photograph it, as image 1; or take away the measured object and put the differentiation board at the same height, as image 2. (By this time, amplification factor of the device and the eyepiece distance cannot be changed. Otherwise, the measurement result will be inaccurate.)
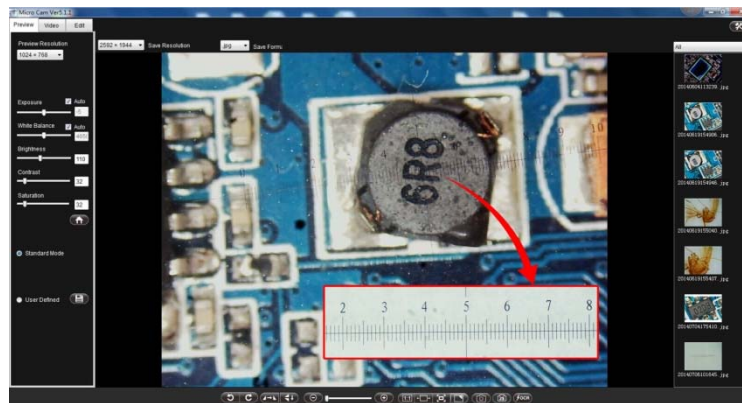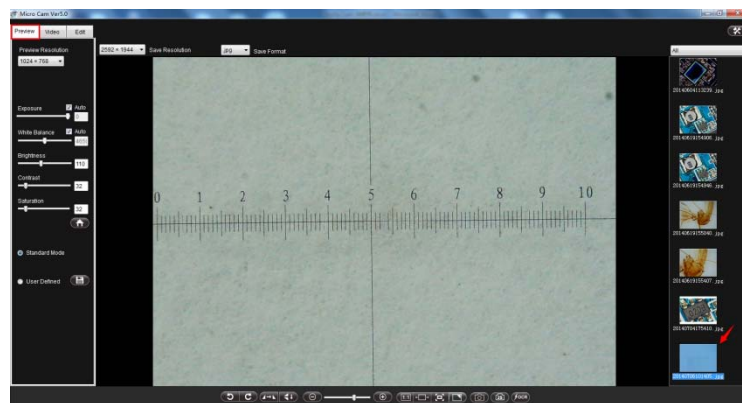
Image 1：
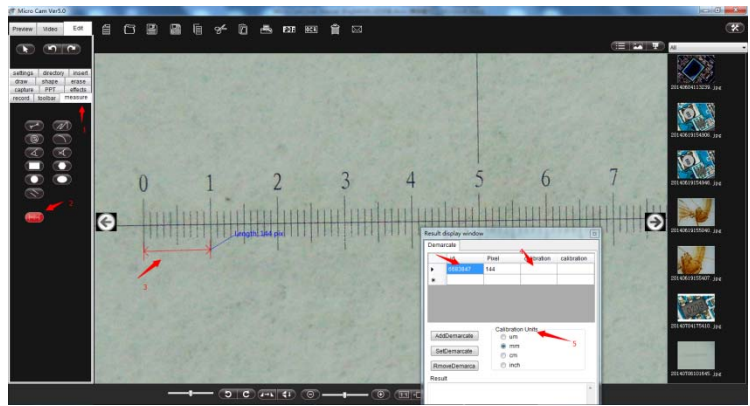

Image 2：
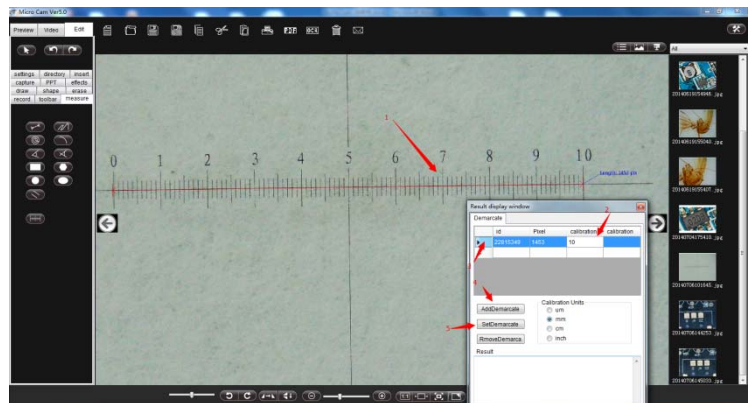
2.Decide the current pixel values and length proportion as shown in the figure below:

Fill appropriate number in"3", such as length of"2"is equal to 10 (to be filled) mm actually.

3. After filling the number, it shall be set to determine the calibration value. Operating sequences are as follows:

4. After determining the calibration value, measurement for the targeted picture can proceed, the following demonstrates measurement result:
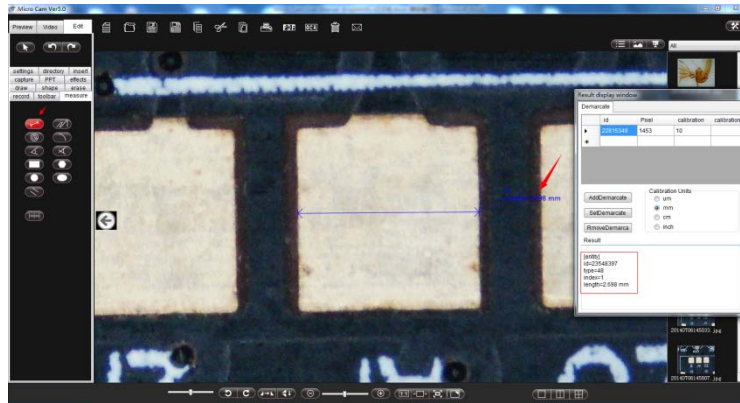
Measurement accuracy test is as follows：
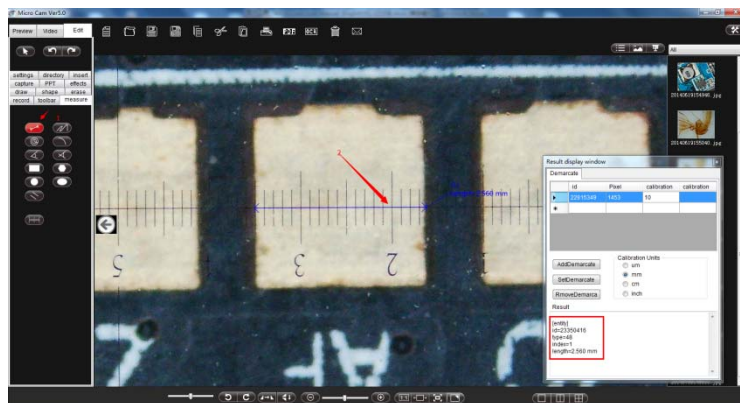
By manual measurement, we can see that actual measured value is close to the value by the software.

"Setup" Function:

This function can be used to make setup for various functions of "drawing function" and "shape function", such as setup for line type, color, transparency of various functions, as shown below:

Note:

1. Padding function is only effective to the closed figure of the "Sharp" option such as triangle etc.
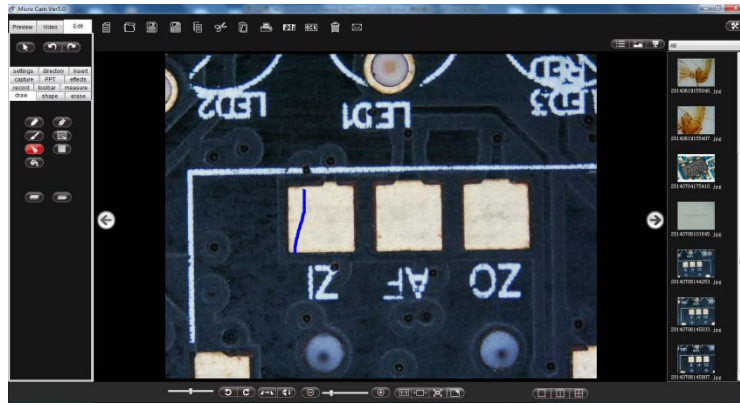
2. "Upper layer" and "lower layer" function is only effective to "object".

"Content Tree" Function:

This function can be used to check files under specified content, as shown below.
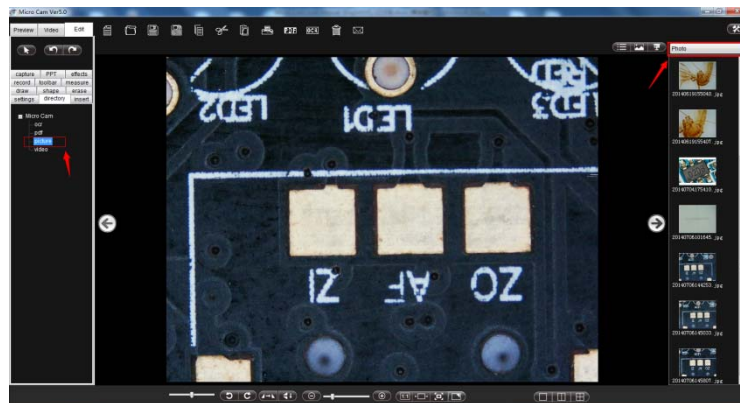
"Insert" Function

This function can be used to insert "text", "picture" etc. into picture working area and make text formatting setup for the inserted picture, as shown below:

Note: when image is under the state of "actual size", "insert character" function gets the better display effect. Meanwhile, you can also modify the currently inserted character font by " " function.
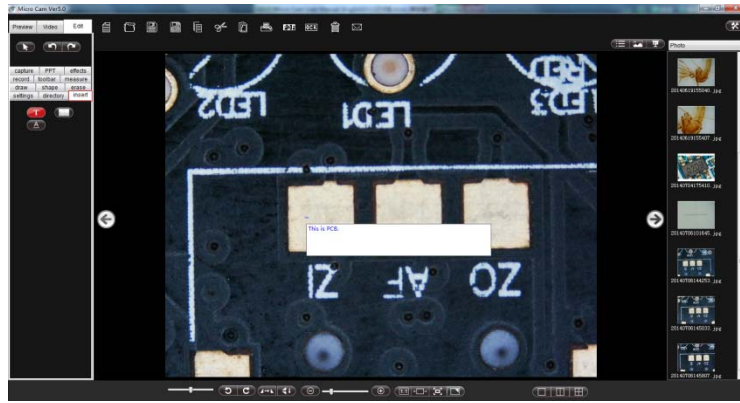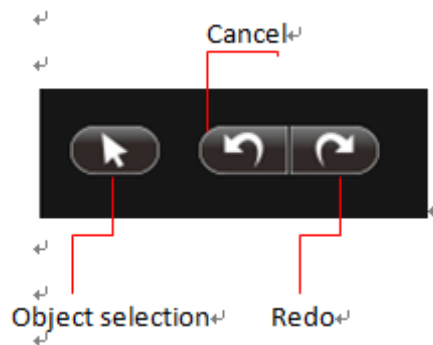
1.3.30 Object Selection Toolbar

"Object Selection" Function: Click this button to select operation except the original image in image editing work area. After selection, you can make relevant operations such as "drag, copy and cut".

Note:

The definition of object refers to the graph or picture added by software function such as drawing function or insertion function, not contained in the original picture. Object can be operated by cutting, moving, copying, dragging, enlarging and roating.

"Undo, Redo" Function: Click this button to make "undo the last step" or "redo the last step" for operation except the original image in image editing work area.

CHAPTER 2: TROUBLESHOOTING

(1) Check whether one end of USB cable has connected normally.

(2) From My computer->Device Manager->Image Processing Device->USB Video
Device check whether the device is recognized.

(3) Try to insert and pull out the device again and then open the software.

(4) Check whether Micro Cam software operates normally.

(5) Check whether Micro Cam software has installed successfully.