

# MiView USB Digital Microscope

## User's Manual

### Welcome

Thank you for choosing MiView USB digital microscope!

The MiView USB digital microscope is an exciting new device that enables you view clear many micro- objects with it, and has a wide scope of applications, such as,

- Industrial Inspection
- Computer Parts inspection
- Telecom module inspection
- Scientific teaching tool
- Medical analysis
- School Research tool
- Insect dissection / examination
- Plant dissection / examination
- Skin examination
- Textile Inspection
- Collections / Coin/ Jewelry Inspection
- Printing Inspection
- And more.....

Please read this manual carefully before using MiView USB digital microscope!!!

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## Product Specifications

- U Operation system: Windows XP SP2 /Vista/ Window 7/Win8
- U PC interface: USB 2.0
- U Image Sensor: 1.3 Mega or 2.0 Mega pixels or 5.0 Mega pixels
- U Video Capture Resolution: 1.3MPixel 1280x1024, 640x480, 320x240  
2.0MPixel 1600x1200, 1280x960, 640x480  
5.0MPixel 2592x1944, 2048x1536, 600x1200, 1280x1024, 640x480
- U Color: YUV or 24bit RGB or MJPG
- U Lens: High Definition Microscopy
- U Focus Range Manual Focus From 8mm to 300mm
- U Magnification Ratio 5X to 200X
- U White Balance: Auto.
- U Exposure: Auto
- U Light Source: 8pcs adjustable White LEDs
- U Power supply: 5V DV from USB Port
- U Size: 120mm (L) X36mm (R)
- U USB Cable:1.8m

## Safety Cautions

1. Avoid touching the lens with finger to dirty it and protect the product from electrostatic damage.
2. Do not attempt to disassembly any part of this product.
3. Do not attempt to service this product yourself. Opening the covers may expose you to dangerous voltage points or other risks.
4. Storing and operating MiView USB digital microscope at Temp: -20 ~ 45°C, Humidity: 45% ~ 85%, as this will extend Product life and prevent damage to the product.
5. Do not allow this product to have contact with water or other liquids. If water or other liquids enter the product interior, immediately unplug the product from PC. Continued use of the product may result in fire or an electrical shock.
6. Do not use any detergent or volatile solution, which will damage the camera case, painted surfaces and lens. Only use a soft cleaning cloth to clean it.
7. Do not place this product near a heat source or expose direct flame, avoid the lens damaged by high temperature or humidity
8. If the lens is dirty, please use a lens brush on soft cloth to wipe clean. Avoid touching it with your fingers. Exercise care to avoid scratching the lens.
9. Need to read MiView USB digital microscope User's Manual before using and storing it.
10. To avoid electric shock, remove all electricity source before moving PC.

## Package Contents

The MiView USB digital microscope package includes the following:

1. USB microscope
2. CD ROM (Software) and Quick manual
3. Stand (Plastic)
4. 2pcs Focus Caps



## System Requirements

In order to install MiView USB digital microscope, you will need the following minimal systems:

- ①. OS: Windows XP SP2 and Vista and windows 7
- ②. CPU: Pentium IV 1.0G, Celeron, AMD Athlon
- ③. CD-ROM drive
- ④. Available USB port (if it is USB1.1, please use MiViewCap-Beta.exe application inside CD)
- ⑤. 256MB RAM
- ⑥. 100MB available hard disk space
- ⑦. Graphic card: 16-bit

### **Recommended PC specification for optimal performance:**

- √ OS: Windows XP SP2 or Vista SP1 or Window 7 above
- √ CPU: Pentium IV 1.6G, Celeron, AMD Athlon or above
- √ CD-ROM drive
- √ Available USB 2.0
- √ 512MB RAM or above
- √ 10GB available hard disk space or above
- √ Graphic card: 16-bit or above

## Software Installation process

The following instructions will guide you to through the process of installing the MiView USB digital microscope:

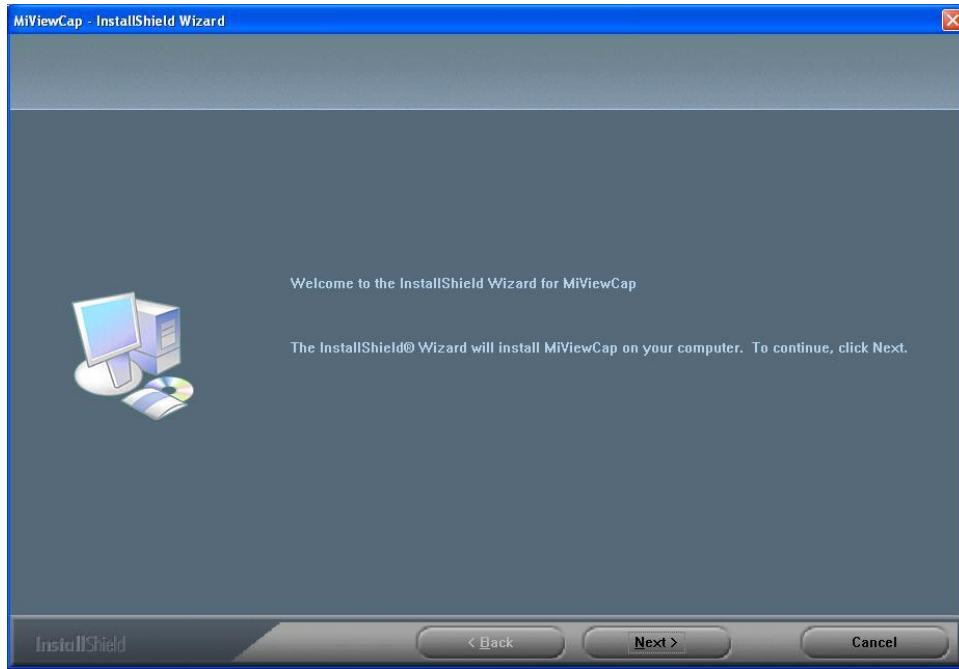
- I. Power on PC and place installation CD into CD-ROM driver, do not connect USB Cable from MiView USB Device to PC before software installation.
- II. Select “Install Software”, and follow the instructions to complete installation.
- III. As driver installation completed, and if system asking for restarting, please restarting PC.

## Window XP OS Installation

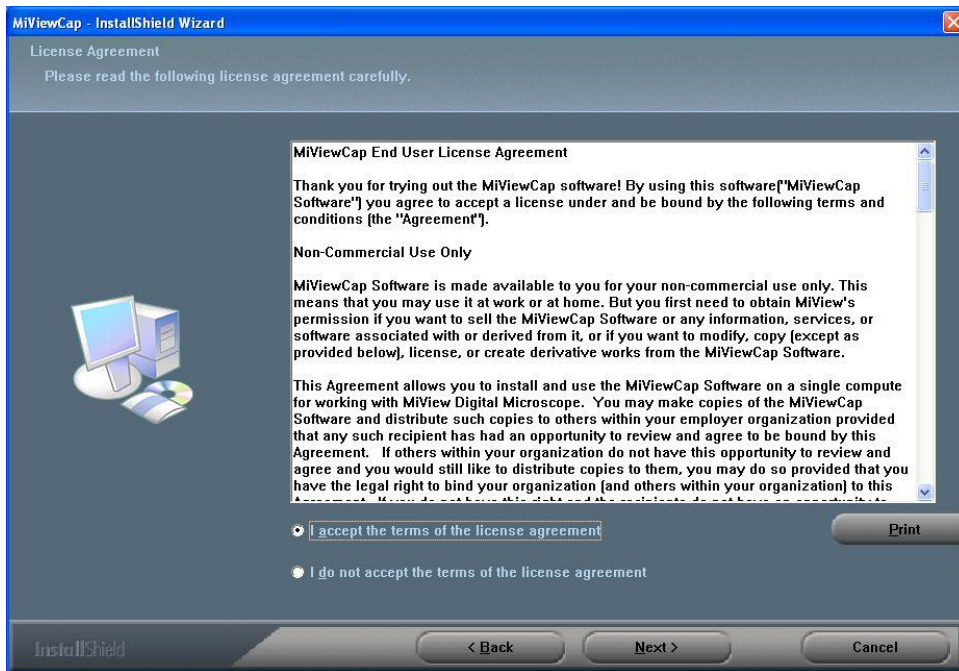
1. Place the installation CD-ROM into CD-ROM drive, the installation program should be started automatically. Otherwise, please execute the AUTORUN.EXE directly from the CD-ROM. Or Miviewcap\_Setup.exe



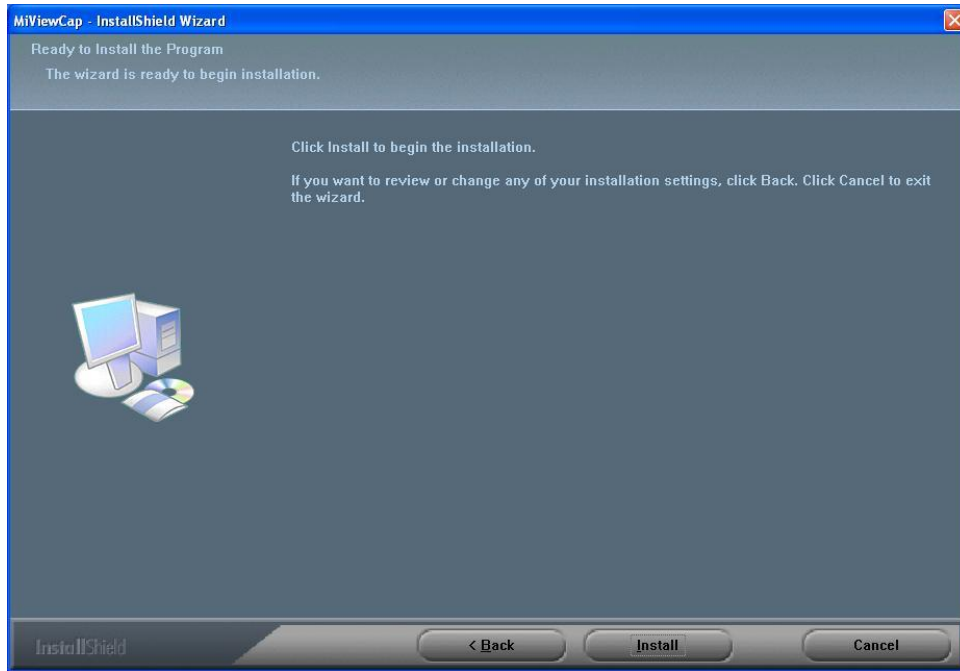
2. Select “SOFTWARE” item, you will see the following popup .Press “Next” to proceed or “Cancel” to abort installation.



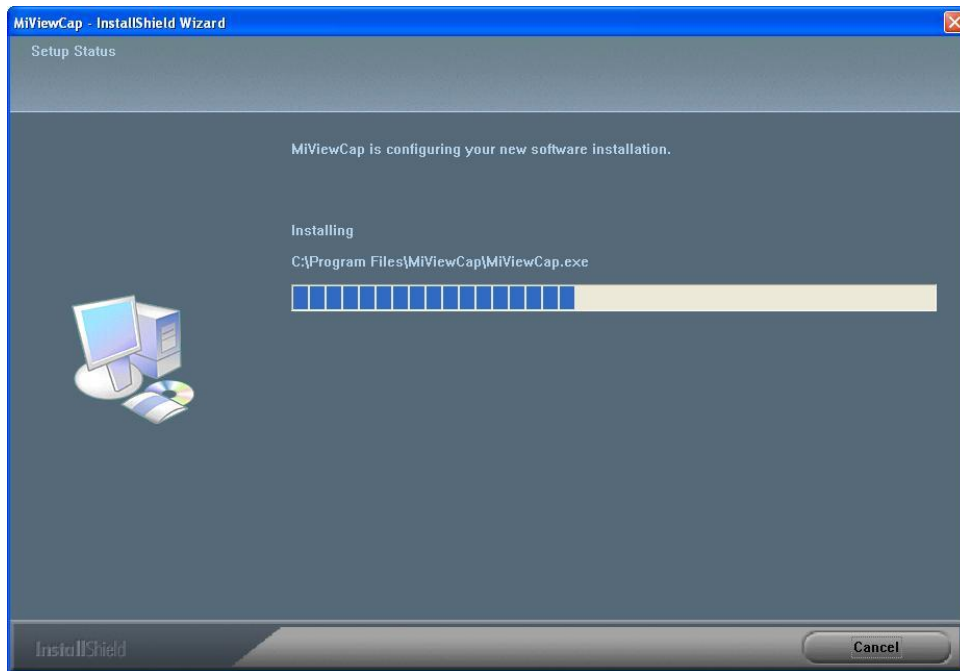
3. You will see the End User License Agreement. If you accept the License Agreement, then you can Click the “Next” button which is availability to process, or “Cancel” to abort installation.



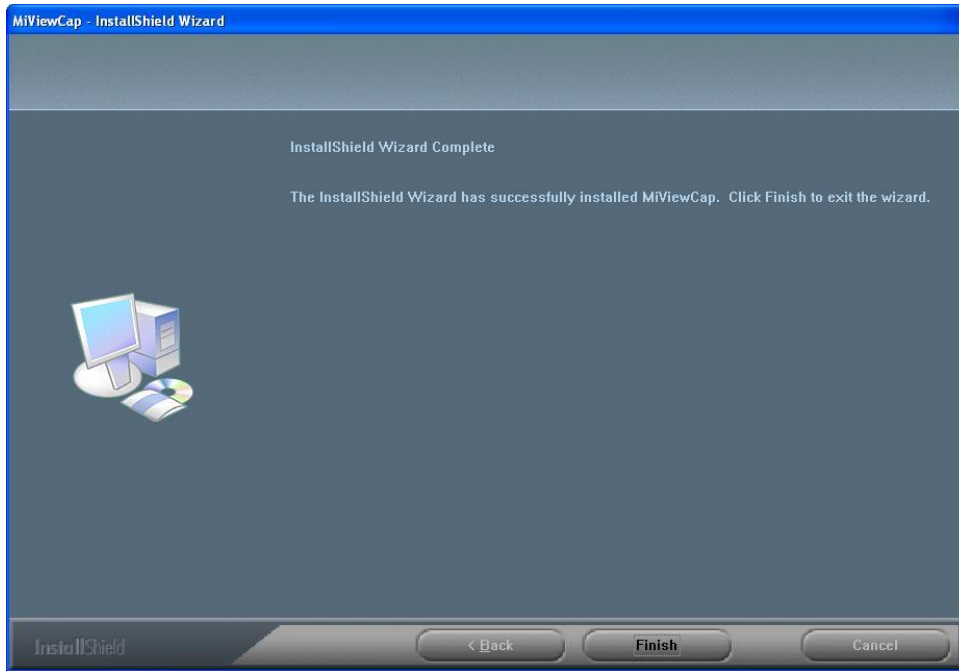
4. Click “Install” to start to install the application, click “Cancel” button to abort installation. Click on “Back” to back to read the End User License Agreement again.



5. You will see the following progress bar below indicating that the installation is proceeding. If click "Cancel" button, it will abort installation.



6. Wait until you see the following popup and press "Finish" button.



7. Please plug USB cable to MiView USB digital microscope Device to connect with PC and power on. You will see the following popup window.



8. Please select "No,not this time" and click "Next" to continue.





9. Please select “Install the software automatically (Recommended)” and click “Next” to continue. It would popup the following window.



10. Please click “Continue Anyway” to continue till popup the following window.



11. Click "Finish" to finish all software installation.

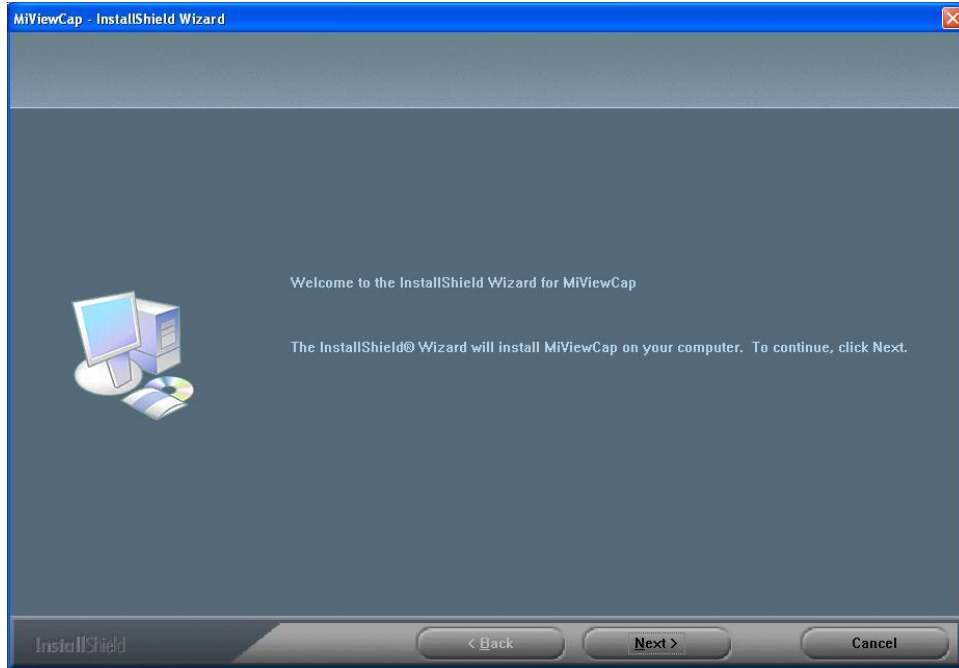
Now the software installation was completed, you can use free MiView USB digital microscope.

## Window Vista OS Installation

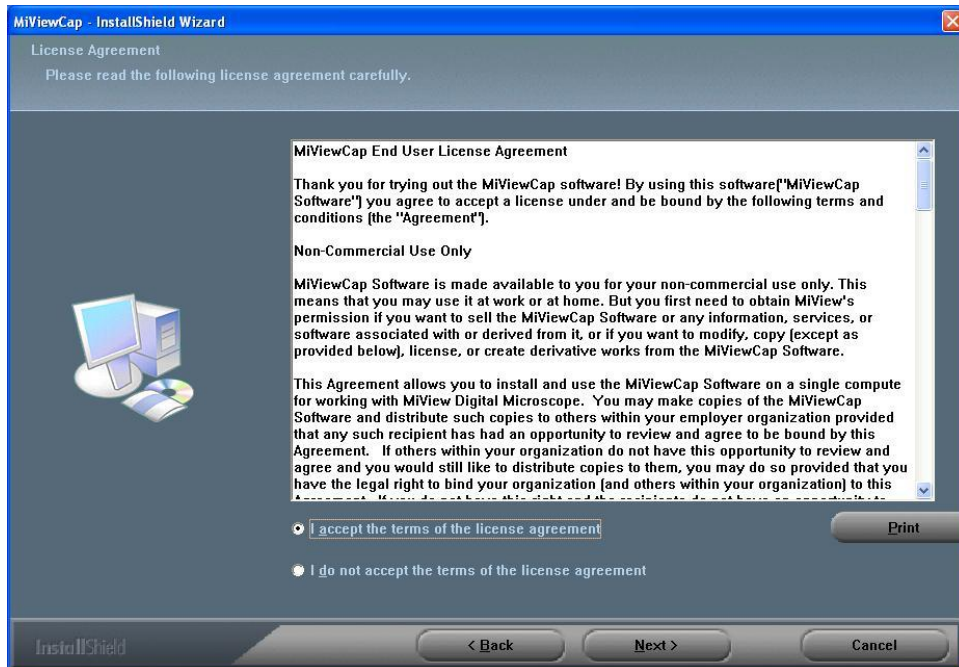
1. Place the installation CD-ROM into CD-ROM drive, the installation program should be started automatically. Otherwise, please execute the AUTORUN.EXE directly from the CD-ROM or MiviewCap\_Setup.exe.



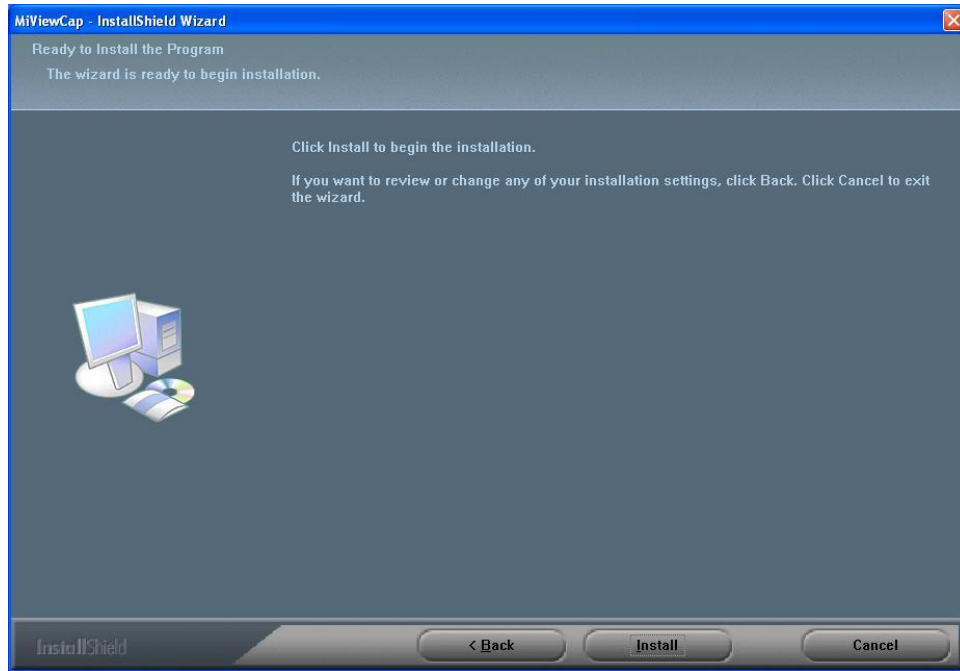
2. Select “SOFTWARE” item, you will see a “User account control” popup. Please press “Allow” to continue or “Cancel” to abort installation.
3. You will see the following popup .Press “Next” to proceed or “Cancel” to abort installation.



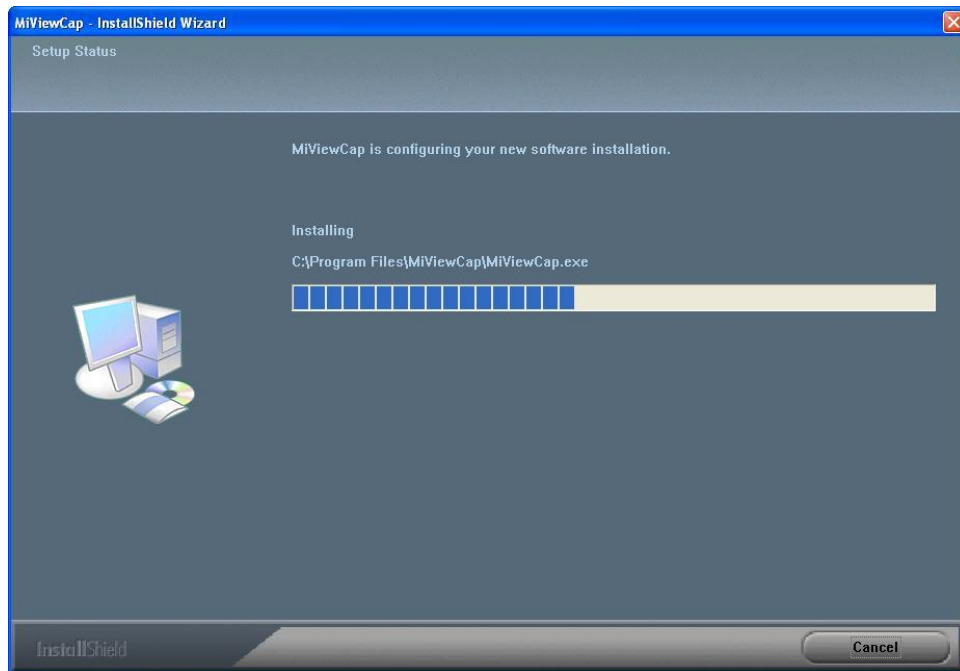
4. You will see the End User License Agreement. If you accept the License agreement, then you can Click the “Next” button which is availability to process, or “Cancel” to abort installation.



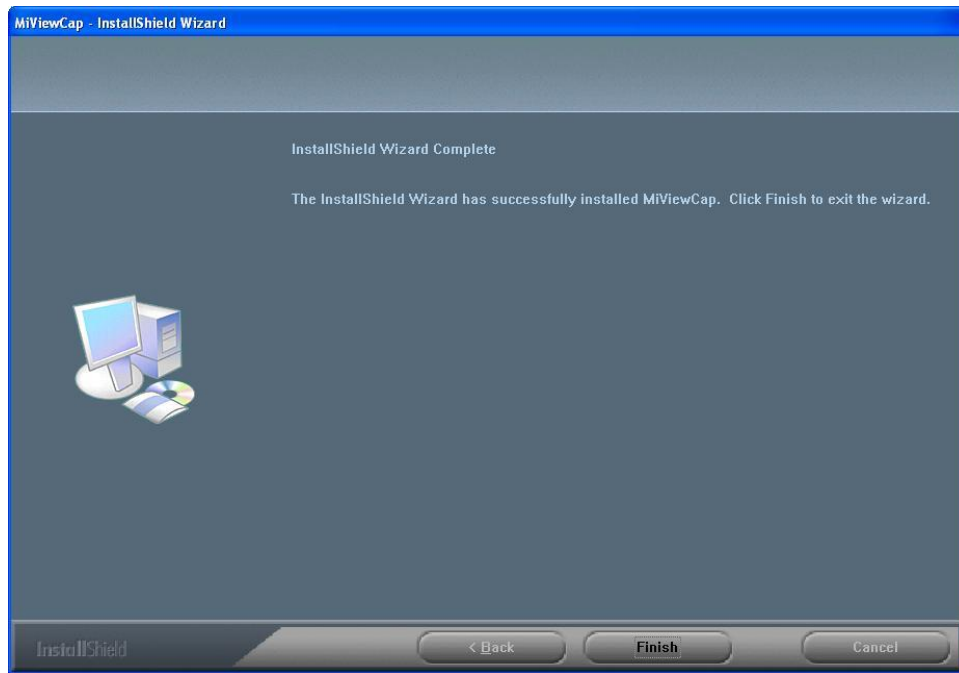
5. Click “Install” to start to install the application, click “Cancel” button to abort installation. Click on “Back” to back to read the End User License Agreement again.



6. You will see the following progress bar below indicating that the installation is proceeding. Click "Cancel" button to abort installation.



7. Wait until you see the following popup and press "Finish" button.



8. Please plug USB cable to MiView USB digital microscope Device to connect with PC and Power on. System will automatically search and install the driver. Wait until you see this message that system show “Your new hardware is installed and ready to use”.



Now the software installation was completed, you can use free MiView USB digital microscope.

## MiView Digital Microscope Connecting

The following procedure will show you how to properly connect MiView USB digital microscope with your PC.

- i. Connect USB Cable on MiView USB digital microscope to PC USB port and Power on



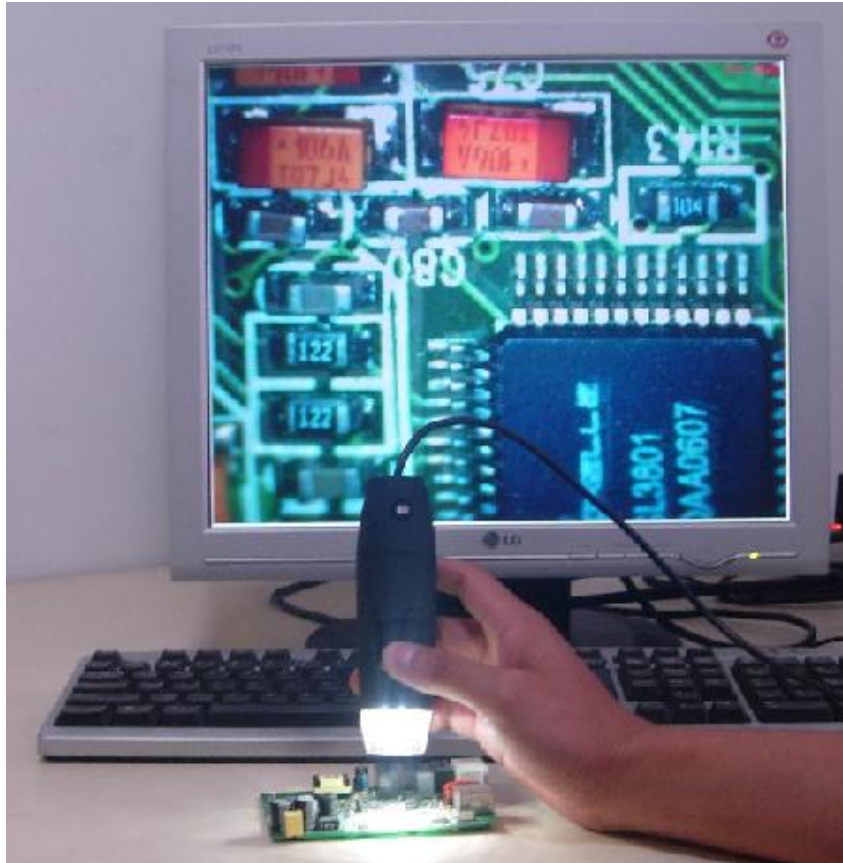
- ii. The MiView USB digital microscope has one switch for power on and LED adjusting on one side as shown:



## Operating MiView Digital Microscope Process

The following process will show you how to operate MiView USB digital microscope.

- ①. To have a right image, suggested holding MiView USB digital microscope as shown:

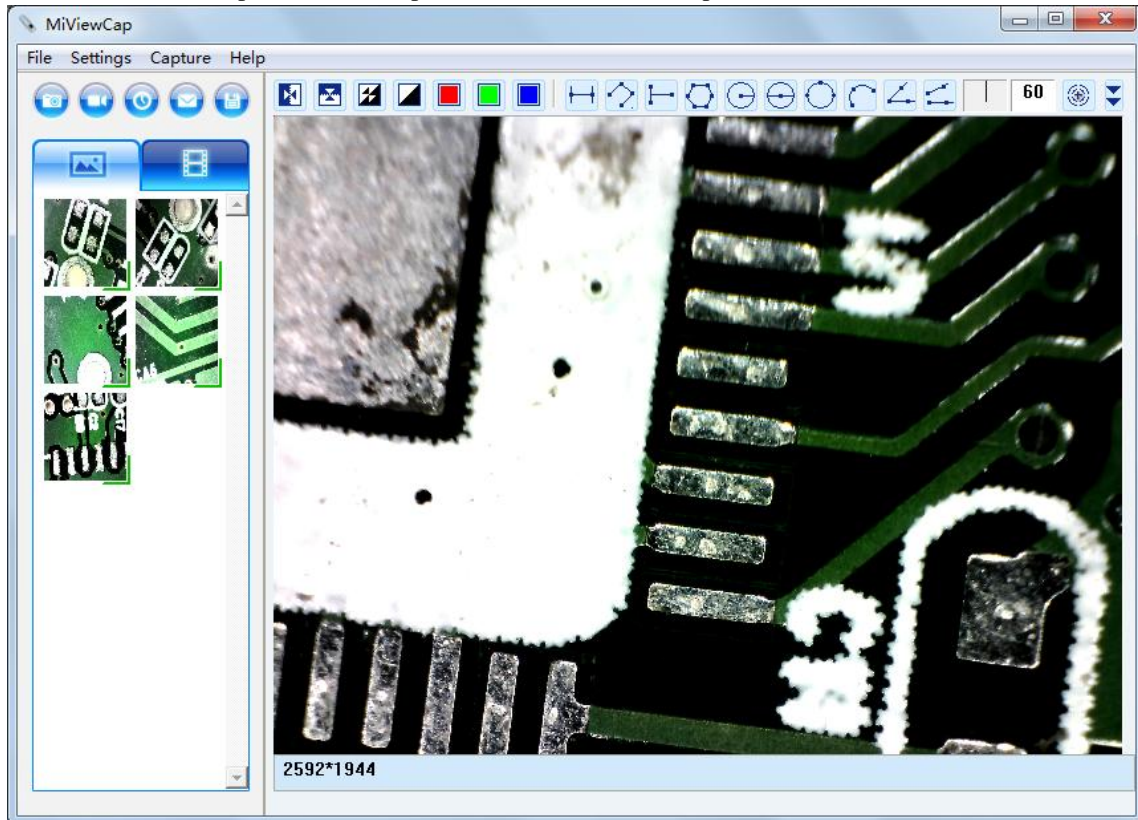


- ②. Put the to-be-observed object near the MiView USB digital microscope, the distance between both (object distances) don't exceed to 30CM.
- ③. Adjust the focus: Use any finger to rotate the roller, till the image is clear.
- ④. The Zoom time will be larger as MiView USB digital microscope is closer to the observed object.
- ⑤. When the observed object is located at the top of the transparent cover, there are two focus positions you can be found by rotating the roller: long cover—60X and 200X; short Cover—80X and 150X. If you want other zoom time, you must adjust the object distance and ever must take off the transparent cover to adjust it.

## MiViewCap Application Software

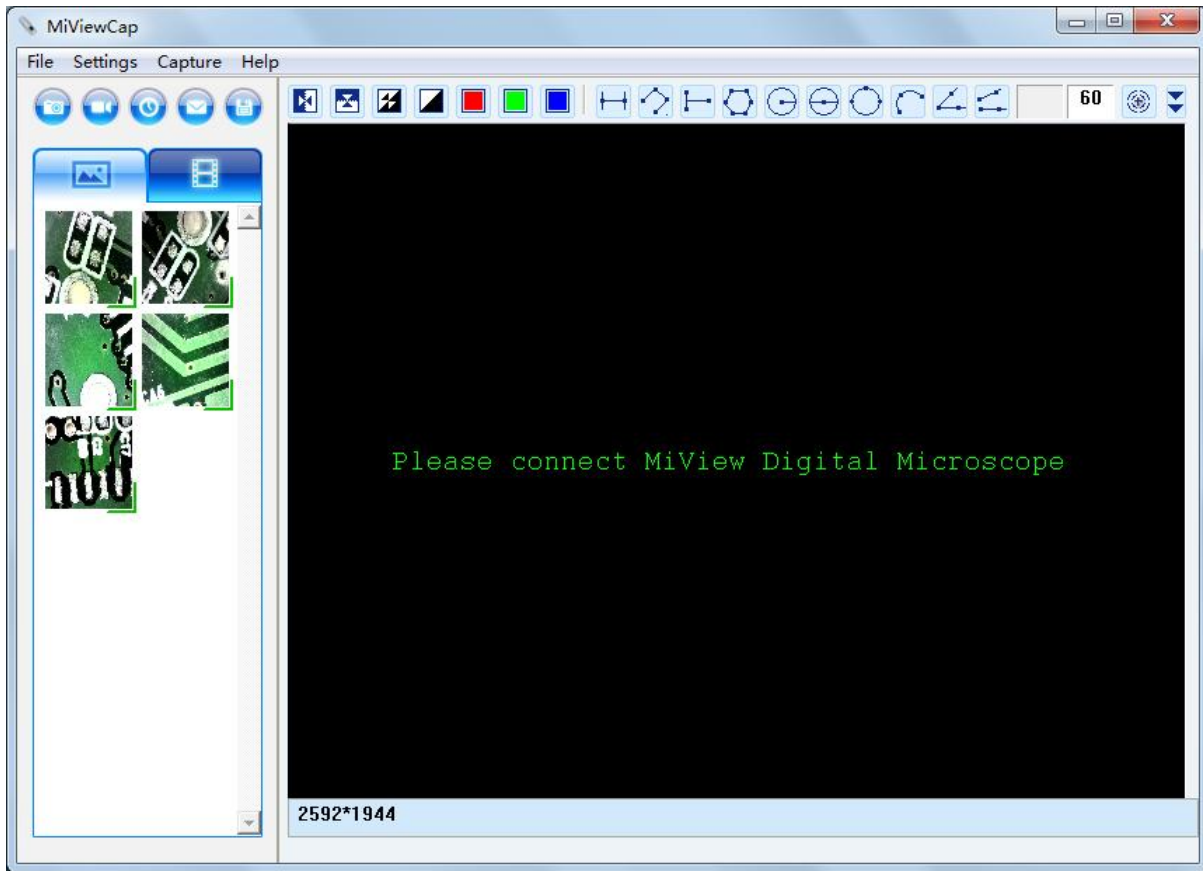
Note: Before start MiViewCap program, please make sure MiView USB digital microscope has been connected to PC via USB line and Power on.

Double-Click MiViewCap icon on desktop<sup>MiViewCap</sup>, the MiViewCap main screen will be shown as below:



If MiView USB digital microscope has not been found while opening the MiViewCap program, the message will be shown as below:





## Menu Bar

### File

Select a photo or video in Photo or Video folder; click “File” on menu bar or right key to pup-up the drop-down menu for operation.


Note: Open - open the selected file for measure or playing.

### Open

-Opens a selected picture or video to be viewed.

### Save As

-open the “Save as” window which allows you to save your files into the desired folder and file format (Or

please click  button to do the same action)

### Save All

-open the “Save All” window which allows you to save all your files in the photo or video folder into the desired folder.


### Delete

-Allow you to delete the selected image or video. You will be prompted to confirm your decision.

### Delete All

-Allow you to delete all the images or videos in the photo or video folder. You will be prompted to confirm your decision.

**Send email**

-Allow you to send the selected images through your default email account. (Or please click  button to do the same action)

**Setting**

Click “Setting” on menu bar to pup-up the drop-down menu:

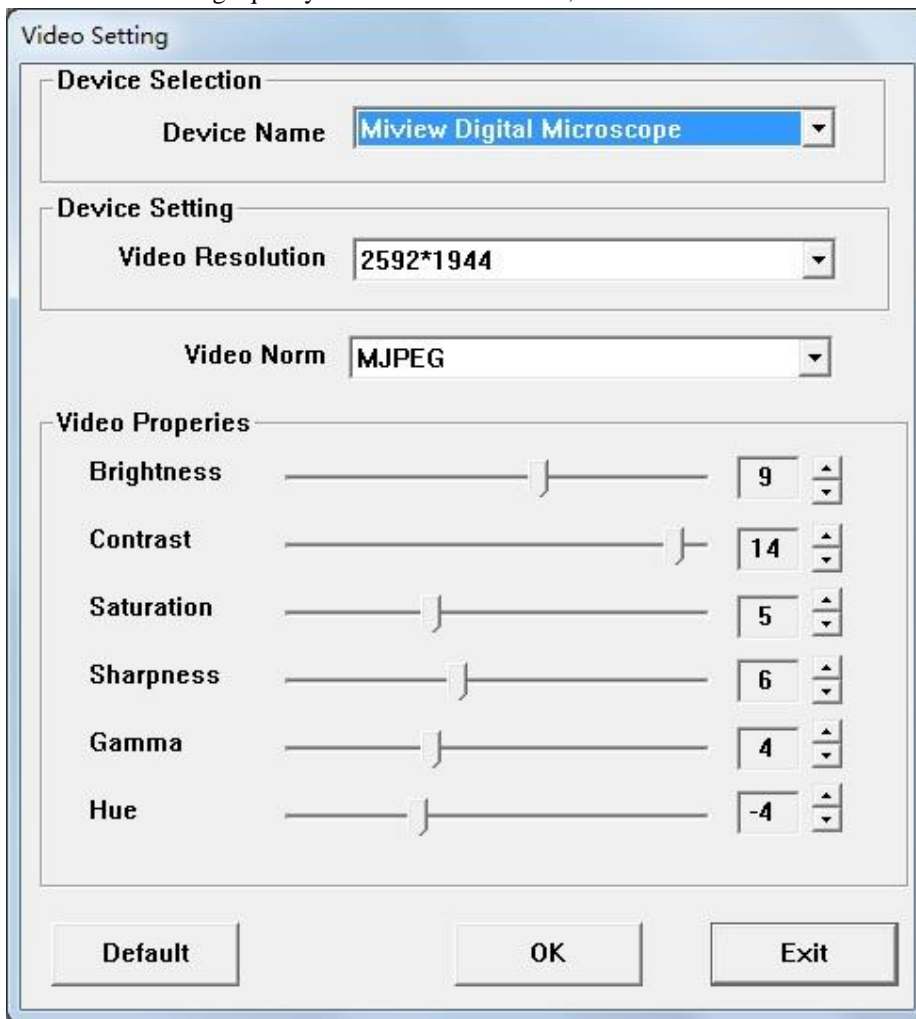
**Video Setting**

-Select “Video setting” to pop-up the below window for video parameter setting:

Video Norm:

MJPEG: The image quality is poorer than YUY2’s, but the frame rate is faster than YUY2’s

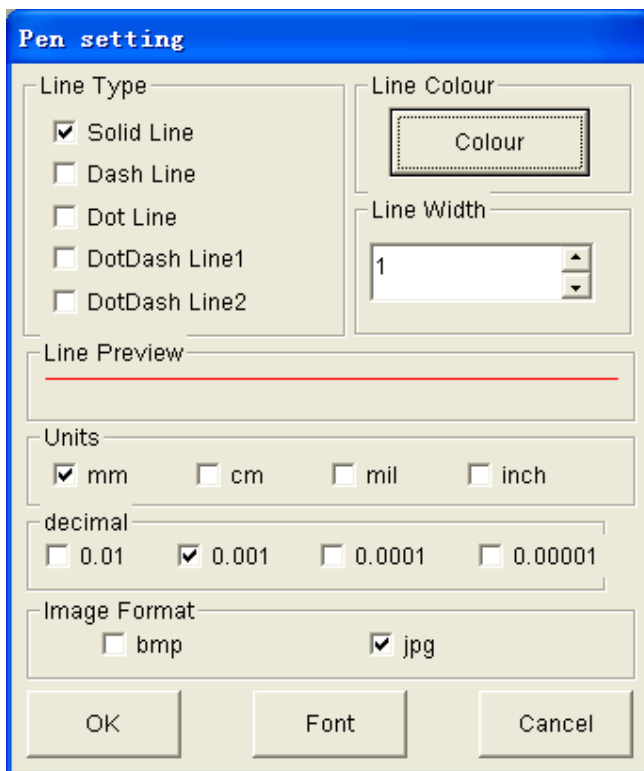
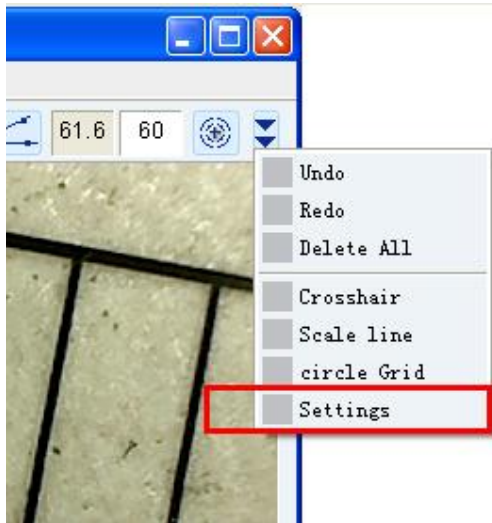
YUY2: The image quality is better than MJPEG’s, but the frame rate is slower than MJPEG’s



If the video color is distortion a little, please adjust the “Hue” parameter till it is right.

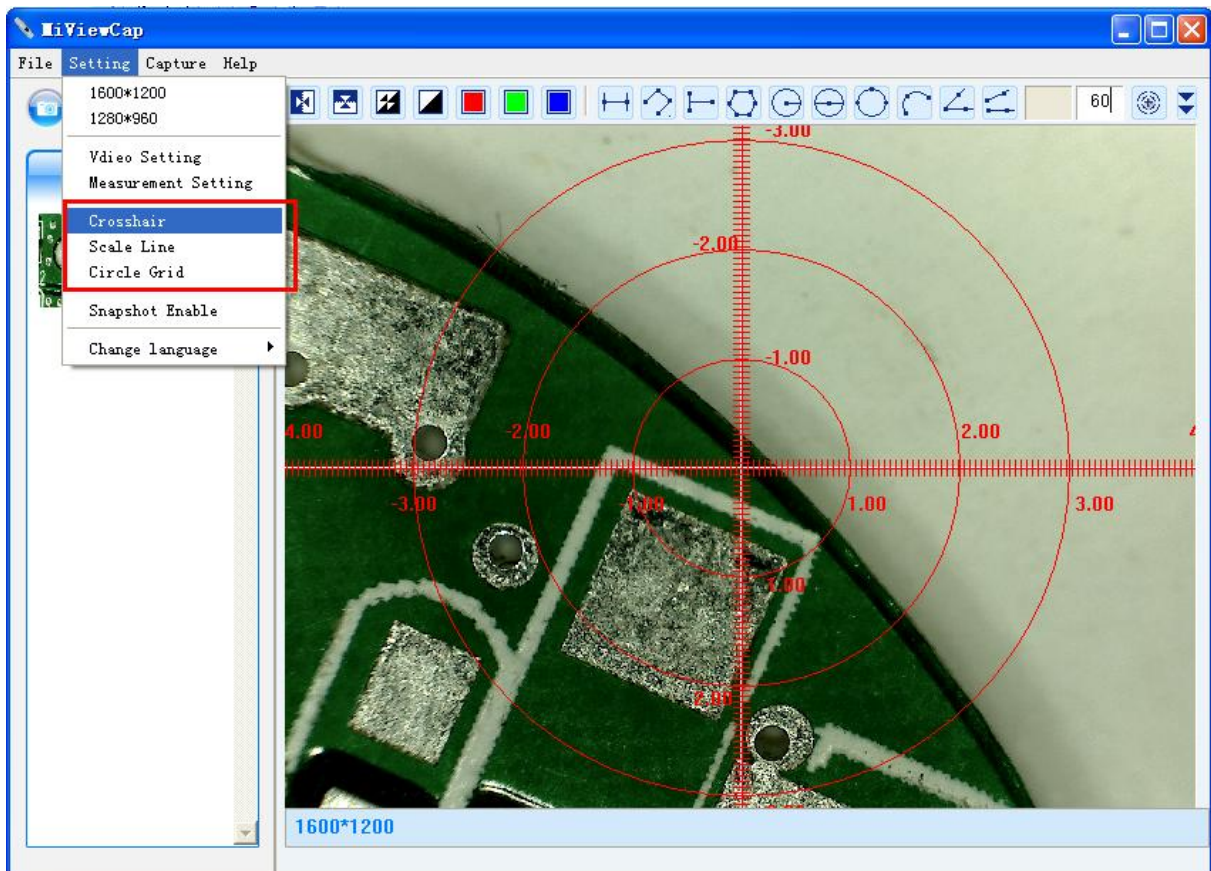
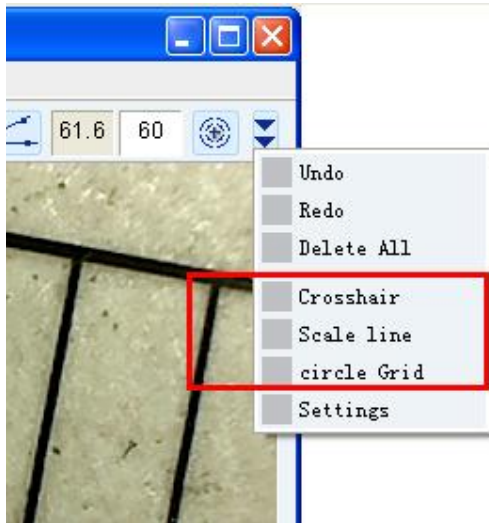
**Measurement setting**

- -Select “Measurement setting” to pop-up the below window for setting:



**Crosshair / Scale Line / Circle Grid**

Add Crosshair / Scale Line / Circle Grid on the live video: click “Crosshair / Scale Line / Circle Grid” in the drop-down menu as below.



**Snapshot Enable and Snapshot Disable:** the default is enable snapshot.



**Suggestion:** If you need the better performance of the live video, please disable it, or maybe video slow.

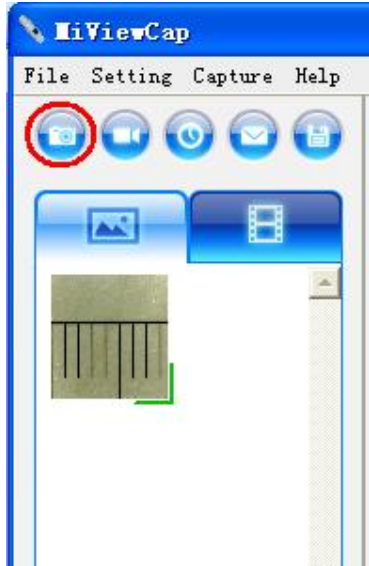
### Change Language

-The language selection allows you to select the MiViewCap interface language.


# Capture

## 1. Take Picture

-You can take image by clicking the  snapshot Button or press this  button on the device.

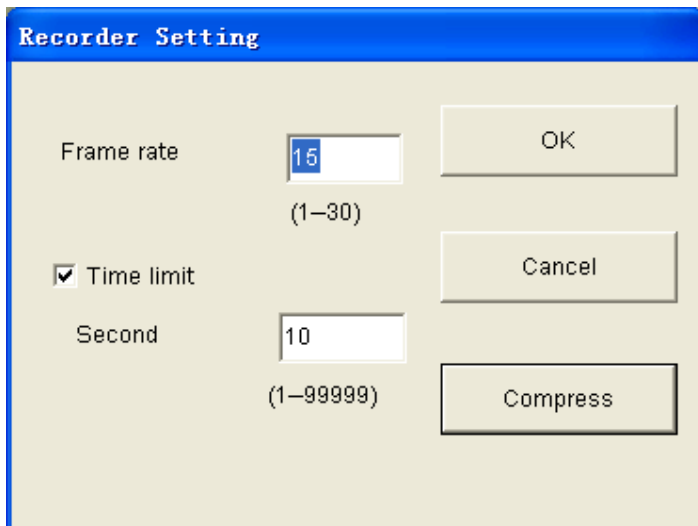


## 2. Start /Stop Video recording


Click the  button to pop-up the below setting window for recording a video.

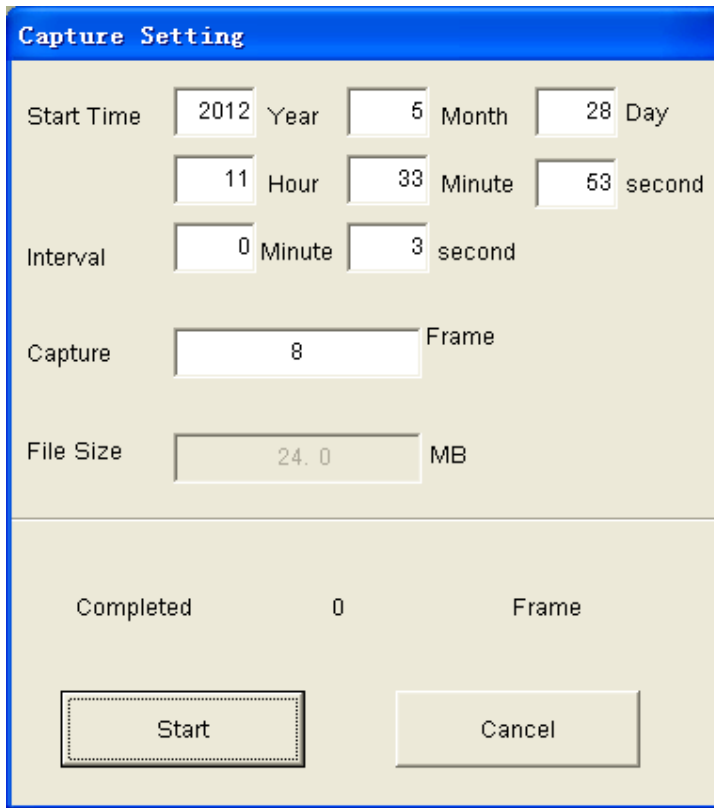
Recorder setting:

1. **Frame rate:** it is the number of frames or images that are projected or displayed per second. The number range is 1~30
2. **Timer limit:** it is the time of video recording to avoid video file size exceed to the space of disk. The number range is 1~99999
3. **Compress:** click it and you can select the video compressed format to reduce video size. It loads automatically compress programs according to your PC system. The video quality may be varied with different compress program.



### 3. Take time-lapsed images

-Press the time-lapsed  button to pop-up the below window:



The 'Capture Setting' dialog box contains the following fields and controls:

- Start Time:** Year (2012), Month (5), Day (28), Hour (11), Minute (33), second (53)
- Interval:** Minute (0), second (3)
- Capture:** 8 Frame
- File Size:** 24.0 MB
- Completed:** 0 Frame
- Buttons:** Start, Cancel

### Help

Click “Help” on menu bar to pop-up the following message:

1. MiViewCap User manual: will instruct you how to use MiViewCap application software.
2. Miviewcap Update link
3. About MiViewCap: you can check your present version.

### Video Processing

 **Horizontal Mirror**

 **Vertical Mirror**

 **Negative**

 **Binary Segmentation**

 **Display Red**

 Display Green

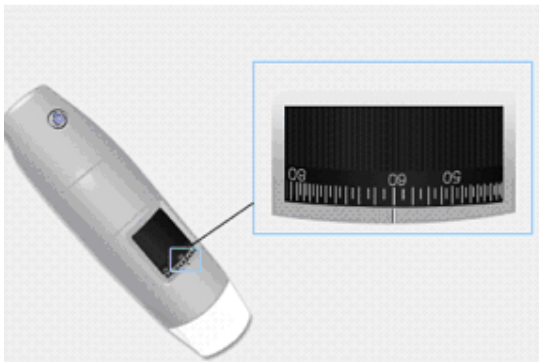
 Display Blue

## Video Measurement

 Calibration on Video

**It is strongly suggestion:** To obtain more accurate the measurement data, please make calibration before any measurement function.

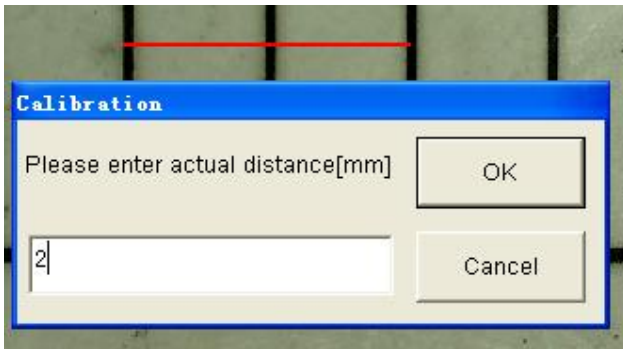
Select a known measurement standard as the to-be-observed object, such as a ruler, to be used for calibration. Bring image of the selected ruler into focus by turning the “Focus & Magnification adjustment wheel”, determine the magnification by taking a reading from the scale on the focus dial as below(The default magnification is 60):



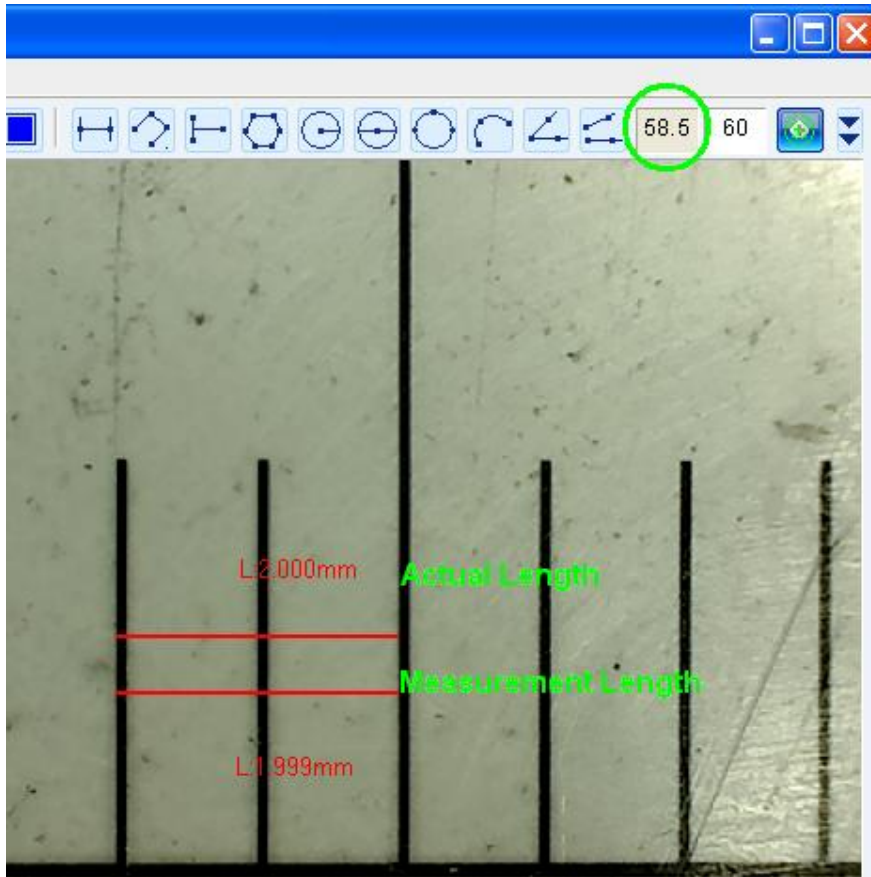
Enter the scale value in the “Scale” box in the right-hand scale box of the screen as below:



In the live video window click the calibration button , then click and drag to 2mm length, a small window pop up, enter the actual length(The example is 2mm) to click “OK”.



The software will automatically calibrate the scale of magnification and will show the calibrated scale of magnification at the right-hand box of calibration button as below:



Now the calibration is completed, you can make measurement features accurately on taken photos or real-time video at this focus point (*Don't subsequently adjust the "Focus & Magnification adjustment wheel"*). *If the new photo object is not in focus, please only adjust the distance between the microscope and the object till the photo is clear, and then capture the photo to measure it.*

#### Measurement features on video:



##### Line Measurement

This allows you to measure the linear distance between two points. Simply click and drag to the desired length, and click again to finish.



##### Continuous Line Measurement

This allows measurement of the distance between multiple connecting lines. Simply click and drag to form one section of distance, click again to start another section. Continue until the total desired distance is measured. Double click to finish.



##### Point to Line Measurement

This allows measurement of a line 90 degree from a certain line. Simply create a line to represent the base by clicking once to start, drag, and then click again to set the endpoint. Branch off from the base line to start measuring the line that is 90 degree from the base line and a final click to finish the measurement.



##### Polygon Measurement

This allows measurement of a polygon. Simply click and drag to form the desired length, and click again to start the next section, double click to finish the polygon measurement.





### Radius of Circle Measurement

This allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired radius.



### Diameter of Circle Measurement

This allows you to measure the circumference, area, and radius of a circle. Simply click and extend out to the desired diameter.



### Three Point Circle Measurement

This allows the measurement of the circumference, area, and radius of a circle. Simply click on any three points on the circle you wish to measure.



### Three Point Arc Measurement

This allows a measurement of an arc. Click on three consecutive points on an arc to measure.



### Three Point Angle Measurement

This allows the measurement of an angle. Start at the pivot point and extend out to start measuring an angle.

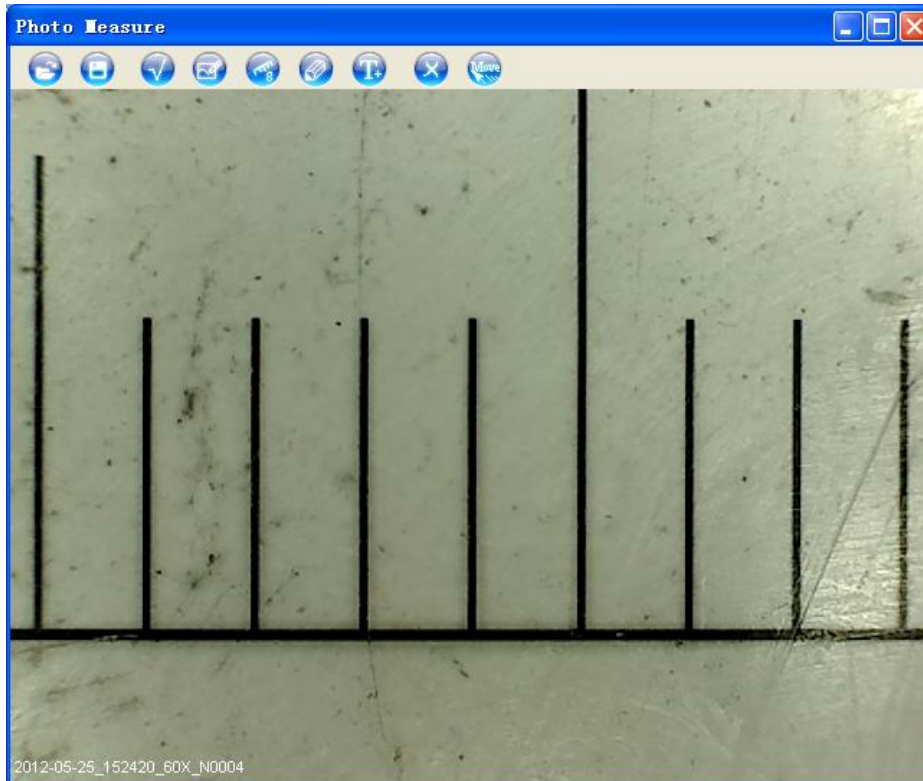


### Four Points Angle Measurement

This allows the measurement of an angle by selecting four points. Simply select two points from one line segment and another two points from another line segment to complete the angle measurement.

## Photo Viewing and Measure


Double-click the selected image in Photo folder to measure and view it as below shown:







To obtain a more accurate measurement data, please calibrate firstly in live video window.



Image file name: Still\_yyyy-mm-dd\_hhmmss\_nnnx\_Nxxxx is combined by date, time, magnification and serial number. For example, Still\_2009-03-06\_102949\_060X\_N0002 figures: Number is 0002, magnification is 60, date is Mar-06-2009, time is AM10:29:49.




The program will auto load the magnification when you measured it if you finished the calibration function before you capture the image.

: Open an image for measure from other folder, but the image must be captured by MiviewCap.

: Save as. : Print this photo. : Select one target.

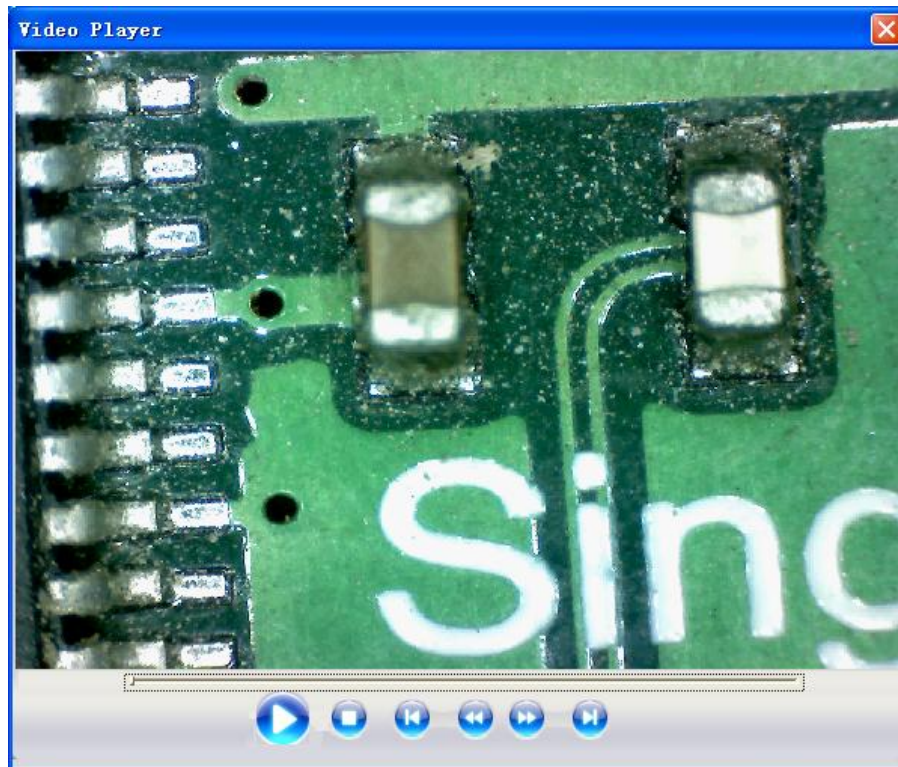
: Paint: you can draw “Line, Continuous Line, Angle, Rectangle and Circle etc. into the image.

: Measurement items : Pen setting for “Paint” and “Measure”.

: Add text. : Delete the selected target. : Move the selected target.

## Video player


Double-click the selected video in video folder to play back it as below shown:



## Troubleshooting

1. **Q:** If the MiView device and MiViewCap application suddenly stops working.  
**A:** Unplug the microscope from PC and close MiViewCap, wait 1 minute, then plug in PC again and open the Miviewcap to try.
2. **Q:** For under Recommended PC specification (see 4<sup>th</sup> page), maybe MiViewCap does not work properly.  
**A:** Please use MiViewCap-Beta.exe on CD: run it directly—double click.
3. **Q:** After PC resume from standby or hibernate, maybe MiViewCap will not work properly.  
**A:** Please close and re-open Miviewcap to try.
4. **Q:** After completing installation of Miviewcap, the main screen is black and display “Please connect Miview digital microscope”.  
**A:**If Your PC is a desktop and use the front USB port of the host, please try the back USB port one by one; If your PC is a laptop, please try another USB port one by one.
5. **Q:** After completing installation of Miviewcap, the main screen is black and doesn't prompt “Please connect Miview digital microscope”.  
**A:** Please try another USB port one by one.
6. **Q:** why does the live video is slow or unsmooth?  
**A:** 1.Probably your PC's configuration is not sufficient enough. Please check the Recommended PC specification as mentioned in this User's Manual.  
2. Probably your PC's CPU or memory is overloaded by executing too many applications software. Try to close applications or restart your PC to release the memory.  
3. Probably your system has being attacked by virus, which may dramatically degrade your system's performance.

## Warm-up Tips

- A. Maybe you need a few presses on the snapshot button to capture one image on Window 7.
- B. It takes 10 seconds to capture one image by pressing the snapshot button for 5.0Mpixel image.
- C. **It is strong suggestion to disable the snapshot feature on Miviewcap->setting->Snapshot disable, please use**  
**Hotkey F2 or click  to capture image. Or live video delay a little.**
- D. **The Power dissipation is about 1W on 5Mpixel resolution, so the device temperature is about 40°C.**
- E. **If the resolution can't be up to 2592\*1944(5.0Mpixel), please install MJPEG CODEC V3.2.4.exe inside CD-Rom, and then try again.**