



Digital Microscope

Model: AY12214

Read the precautions and important tips in the instructions before use.

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Chapter One - Overview

1-1 Appearance



Figure 1.1



Included Accessories

AC Adapter input 110V-240v, 50/60Hz, 0.5A; Output: 5Vdc, 2A	7 Prepared Slides, 3 blank
USB Cable	Carrying Case
Mouse	USB HUB

Specifications

Stage	Stage (91mmX91mm)
Image	Up to 2560X1920 pixel array
LCD Monitor	7" High definition digital TFT display Resolution – 800x480 pixels
Focuser	Smooth, single motion
Objectives	Achromatic 4x, 10x and 40x
Internal Memory	4GB
USB Cable	USB 2.0
Filter	Bule/Green/Red/1mm/3mm/6mm
Illuminators	Built-in electric – both are LED 3.4Volt and 0.1Watt
AC Adapter	Input 110V-240v, 50/60Hz, 0.5A; Output: 5Vdc, 2A
Weight/Dimensions	3.3lbs / 14.25" x 7.5" x 6.5"
Compatible OS	Windows 7 and 8

Magnification (Power) Table

Objective Lens	4x	10x	40x
Digital Image -- normal	104X	260X	1040X
Maximum with 4x digital zoom	416X	1040 X	4160 X

1-2 Power on /off

Power On

1. Carefully remove the microscope and other parts from the carrying case and set them on a flat surface.
2. Remove the dust cover from the microscopes and all other included accessories.
3. Plug the small cable from the AC adapter into the socket on the back of the base.
4. Insert the plug end of the AC adapter into the proper power source
5. Turn illuminator knob on to turn the screen on.

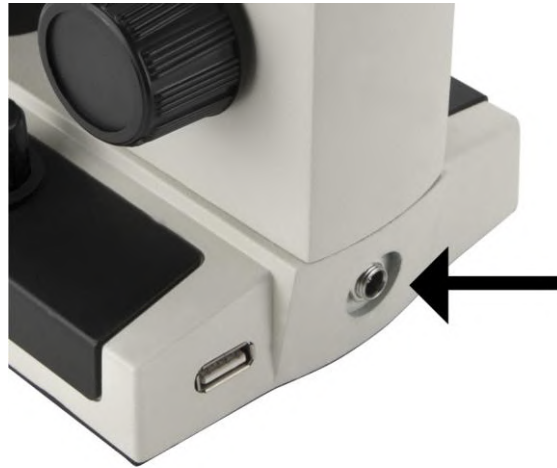


Figure 1.2

Power Off

1. Unplug the AC adapter.

Chapter Two - Microscope Operation

2-1 Illumination

To get the sharpest and best views, the proper illumination (lighting) must be chosen.

1. To turn the illuminator(s) on, see Figure 2.1 below which shows the following four positions on the Illuminator Switch --- OFF, I (Bottom Illuminator), II (Top Illuminator), and III (Both Bottom & Top Illuminators).
2. The top illuminator (I) is used for specimen slides where the light shines up through the hole in the stage through the slide.
3. The bottom illuminator (II) is normally for solid objects (not specimen slides) so light shine down onto the object. The top illuminator was designed to be used at low power (4 x objectives) as higher power objective lenses (10x & 40x) will block the light. If you need to use high power to observe solid objects, use a secondary light (desk lamp, etc.) for Illumination.

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4. Having both illuminators on at the same time can provide enough light for thick and irregular specimens.



Figure 2.1

2-2 Adjusting the Lighting

Specimens of different size, thickness and color variations will require different levels of illumination. There are two ways to change the amount of illumination when viewing a specimen:

1. Adjust the brightness dial shown below in Figure 2.2. (label the dial)
2. Change the EV setting on the LCD monitor. The EV (exposure value for brightness) function increases or decreases the brightness level by using the “left” or “right” arrow keys on the LCD monitor

When viewing a specimen that is not transparent or dark in color, you may need to increase the amount of light to see certain features and details vice versa if viewing a more transparent lighter object. Optimum lighting will be found by experimenting with different light adjustments for each specimen.



Figure 2.2

2-3 Microscope operation

Once the microscope is plugged in and the proper lighting is selected we can begin to use the microscope.



Figure 2.3

1. Place specimen on stage. Figure 2.3
2. Select the magnification you would like to view the object at by rotating objective lens to appropriate magnification. Refer to Magnification (Power) Table in section 1-1.
3. Rotate the adjustment knob until a clear image appears on the LCD screen. See Figure 2.2

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2-4 LCD Operation

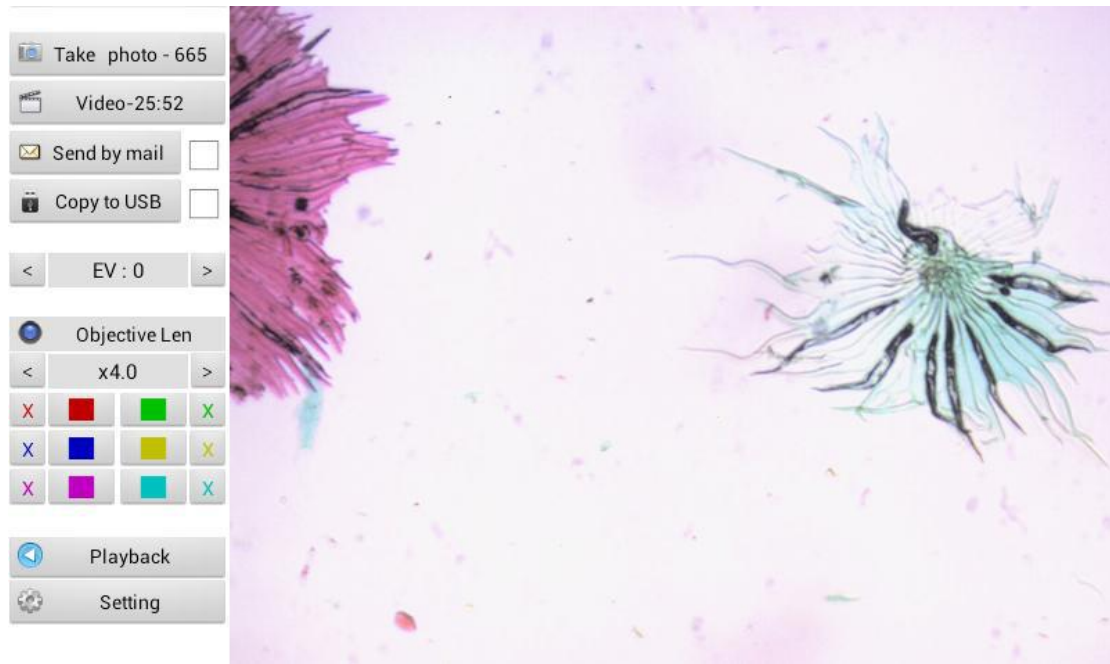
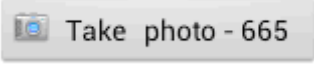
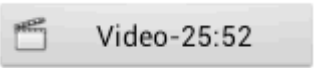
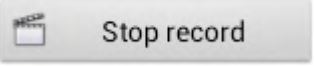


Figure 2.4

Please plug in included mouse before operating LCD monitor. LCD monitor should have the menu display shown in Figure 2.4.

Take photo and video

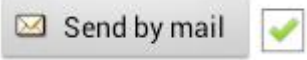
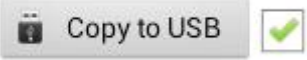
You can take snapshots or a short video with your microscope with the built-in digital camera. With the internal storage memory, you do not need to use a PC or any other devices to do imaging. Transferring of images to your PC for saving and or printing them is easy and will be discussed later in this manual.

Photo	Click	
		To take photo
		Button figures show the max number you can take photo
Video		To start recording video
		While recording button will change Click to stop recording

		Number displays the max time you can record for
--	--	---

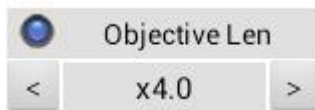
Saving Photo/Video

You can save photos and videos either via USB or by email.

Send By Email		After taking photo or video, if this button is selected, the application will send the photo or video by email
Copy to USB		After taking photo or video, if this button is selected, the application will copy the photo or video to usb disk.

Caution: Don't disconnect usb cable when copy the files to usb disk, otherwise it will damage the file in usb disk.

Object lens



To set the Objective len. When you turn the nosepiece, you manually set the corresponding objective len value.

Cautions: Objective lens will affect the distance measurement.

Distance measurement

Figure 2.5 show the buttons to measure distance.



Figure 2.5

1. Select Color

Click one button  ,  ,  ,  ,  ,  to select color.


2. Draw line

After selecting the color, move the mouse to the image area. Press the left mouse button (Don't let it go), then drag the mouse to the end point, release the mouse button. Now you draw a line with the selected color, meanwhile the line distance value will be measured automatically and presented in the upper left.

3. Cancel

Click the responding color button “X” to cancel the measurement. If you have drawn the line with a selected color and you still want to draw the line with the same color, you should cancel the measurement, then select the color and draw the line.

2-5 Playback mode

Click the button  to enter playback mode. The photo and videos files are stored in the internal memory card, you can browse and manage these files in playback mode.


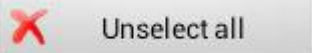
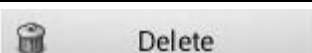
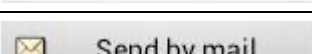


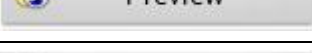
File List



Figure 2.6

Figure 2.6 show the files name. You can click one of the file names to show the photo or video in right area.

File operation

Click Button	Action
 Select all	to select all the file in file list
 Unselect all	to unselect all the file in file list
 Delete	to delete the selected files in file list
 Send by mail	to send the selected files by email in file list
 Copy to USB	to copy the selected files to usb disk in file list
 Preview	to go back to original menu
 Setting	to enter setting mode

Caution: Don't disconnect usb cable when copy the files to usb disk, otherwise it will damage the file in usb disk.

2-5 Setting mode

Click button  to enter setting mode

Wifi Setting



Figure 2.7


- 1、 Click button  to enter wifi setting.
- 2、 Click button  to enable wifi. Then the list will show the available wifi ssid. Click one of ssids, then enter password to connect wifi.

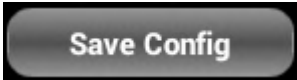
Caution: This device adopts automatic IP connection, so the wireless router should open the DHCP function.

Mail



Figure 2.8

- 1、 Click button  to set mail. Mail Setting contains two parts, one for sender, the other for recipients
- 2、 Set sender information.
 - “Mail ” is your mail address.
 - “Server” is your mail server. For example, if your mail address is icamsys_scope@163.com, then your mail server usually is “smtp.163.com ”.
 - “Port” is your mail port. The default setting is 465.
 - “User name” is your mail user name.
 - “Password” is your mail password.
- 3、 Set recipients information

There are three recipients you can set. Enter the recipient in the edittext, and selecte the recipient.
- 4、 Click button  to save the config you have set. Then when you send the photo and video by mail, the file will be sent to the recipients you selected.

Picture

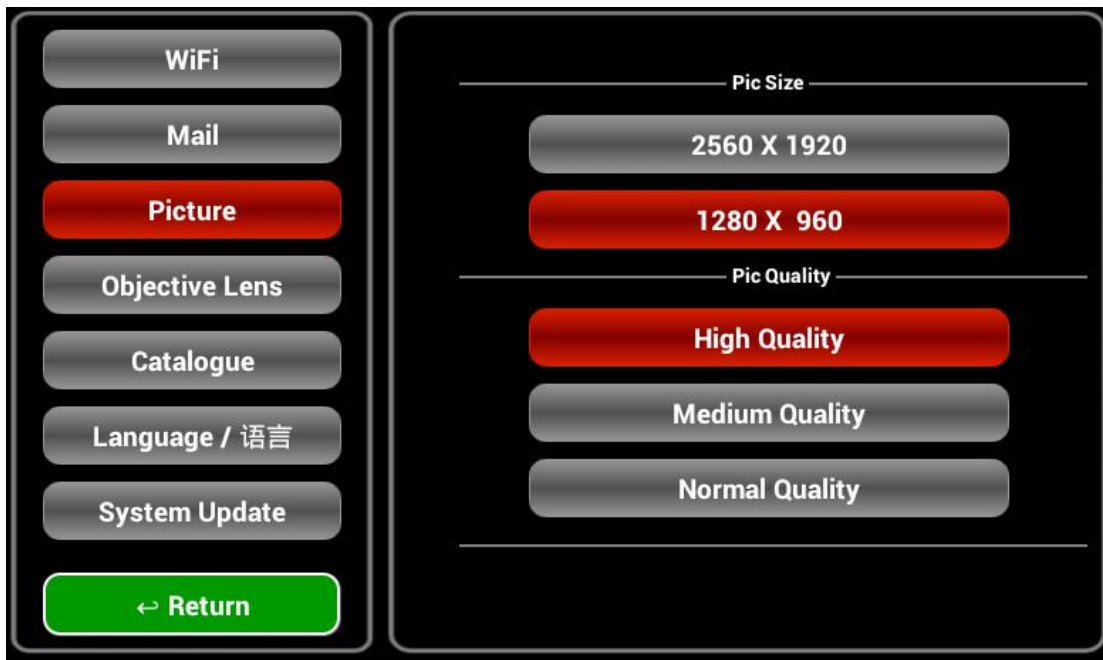



Figure 2.9

Click button  to set picture. In pic setting, you can set pic size and pic Quality.

Objective Lens



Figure 2.10

The accuracy of the objective magnification directly impact the accuracy of distance measurement. So you should enter the precise lens magnification.

The device installed X4, X10, X40 three objectives with accurate magnification description. Enter the objective lens value following the description.

Click button  to save config.

Catalogue

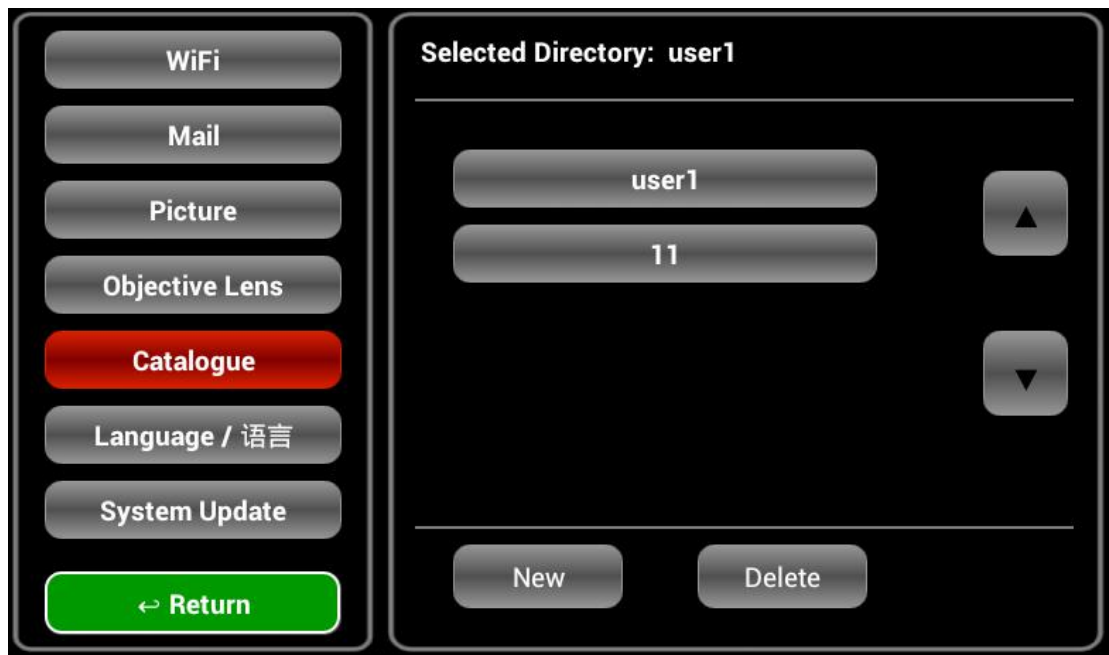



Figure 2.11

Click button  to set catalogue. The catalogue will store the photo or video which is taken in Preview mode.

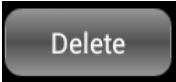
1. Create catalogue

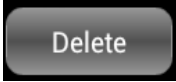
Click  to create a catalogue

2. Select catalogue

Click the a name in the catalogue list, then “Selected catalogue” will be your selected catalogue.

3. Delete catalogue

Click button , then select the catalogues which you want to delete, then

reclick the button  to delete catalogue.

Language

Click button  to set language.



Figure 2.12

The device support English or Chinese language.

System update

Click button  to update system.

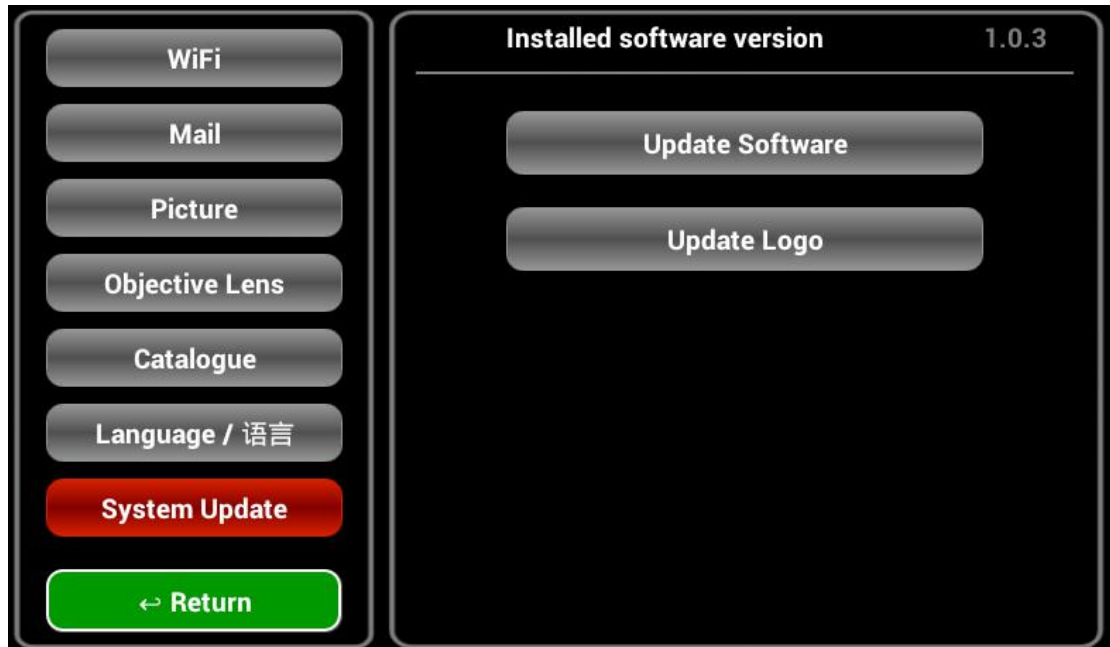


Figure 2.13

When you get latest software version, please copy the software to the root directory of usb disk, then plug the usb disk to the device. After the device detect the usb disk, click the

button  to update the software.

Return

Click button  to enter preview mode