

<b>BRIEF</b>
--------------

Thank you for purchasing 3D Microscope System.

To use the product correctly, please read this “Operation Instruction” carefully.

Please understand the symbol first.

<b>Graph</b>				
<b>Meaning</b>	<b>Danger</b>	<b>Caution</b>	<b>Common Forbidden</b>	<b>Common Behavior</b>

 **Cautions:**

1. As the 3D microscope is precise equipment, always handle with care; avoid abrupt movement and collision in usage and transportation.
2. Avoid exposure to direct sunlight, high temperature, humidity, dust and vibration.
3. Avoid leaving dirt or fingerprint on the lens surfaces, as the dirty mirror or lenses may reduce image clarity.

 **Maintenance and Storage:**

1. Place the 3D microscope in a cool, dry place where is free from dust, acid, alkali, steam, etc.
2. Do not disassemble lens without authorization as all lens have been pre-adjusted and tested. Should dirt is on lens; slightly wipe it with gauze with liquid mixture of ether (70%) and alcohol (30%). Dust on lens might be blown away with a blower or gently wiped out by clean brush or cleaning tissue. Be careful not to touch any optical elements while in cleaning mechanical parts and smearing non-corrosive lubricant.
3. Do not use organic solvent to clean other component surfaces, especially for the plastic components.
4. Do properly store reflector module not in use.
5. Do switch off power supply after usage. Unplug the power cord if the instrument is out of use for long time.
6. Handle the instrument carefully and gently during usage and transportation. It is strictly prohibited to put the instrument upside down.

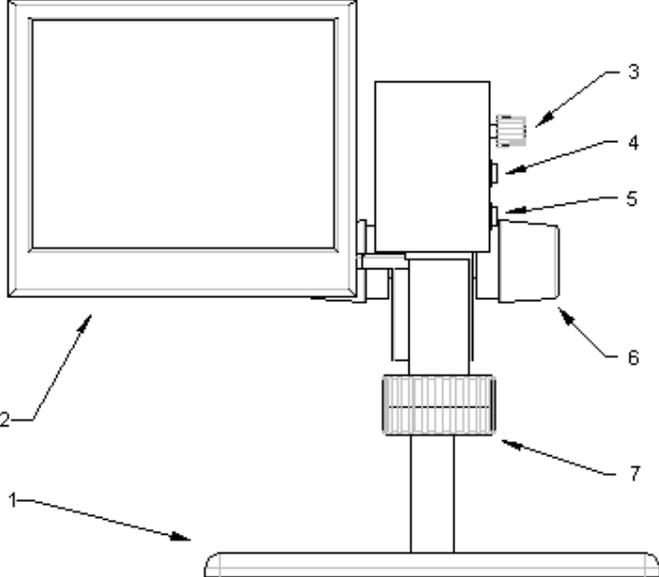
 **3D Microscope Operation Procedures:**

1. Adjust Working Distance and Focus: Rotate the focus adjustment knob counter clockwise or clockwise to instrument main body up (down). After seeing the image, rotate the knob slightly until the image is sharp.
2. Adjust Focus Knob Tension: Hold 1 side of the focus knob and rotate another side clockwise (counter clockwise) to tighten (loosen) the knob tension. User can adjust the tension freely up to its feeling.

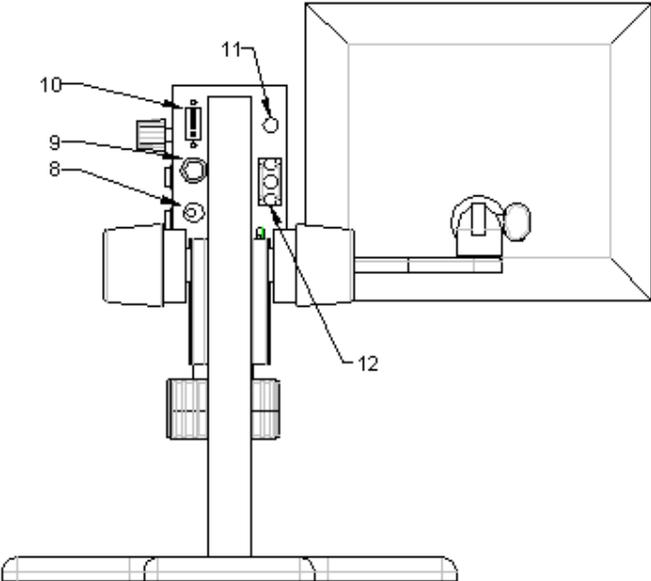
Adjust Zoom: Rotate Zoom Adjustment Knob to change the zoom ratio.

Description

Drawing



FRONT



BACK

No.	Name	No.	Name
1	Platform	7	3D Adapter
2	LCD	8	12V Power Socket
3	LED Light Adjusting	9	Power On/Off
6	Lifting Knob	10	Microscope Lens
11	Small Keyboard Socket	12	VGA Output

### THE MAIN PARAMETERS:

Name	Parameters	Name	Parameters
Zoom Range	0.75~5	Power In	12V / 3A
CCD Camera	1.3 or 0.3MP CCD	Output Signal	VGA
Min Fov	2mm×1.5mm	Working Humidity	Below 85%RH
Max Fov	11.5mm×9.2mm	Working Temperature	-20℃~50℃

#### ! Microscope operation:

- 1, the working distance and focal length adjustment: clockwise (counterclockwise) rotate the handwheel, can make the lens upper (lower) move. When objects appears, slightly rotate the handwheel until see the clear pictures.
- 2, rate adjust: adjust the zoom knob, it will continuously change the magnification.
- 3, 3D Angle adjustment: by rotating the lens adapter can adjust view angle, clockwise (counterclockwise) adjust to the angle users needed.
- 4, LED lighting adjust: by turning the knob at the right side, clockwise and counterclockwise rotate the lights to be bright or dark; Users can according to image needed to adjust.

#### ! 3-d seismic steps

- 1, Adjust the zoom knob to lowest ratio
- 2, Manual adjust the lens adapter, pictures begin to spin
- 3, Adjust the working distance and focal length, clockwise (counterclockwise) rotate the handwheel to make the lens upper (lower) move until the pictures around a fixed point without moving.
- 4, Adjust the zoom knob to highest ratio, stop rotate the adapter, adjust the handwheel to the picture center till it is clear. (right now, because magnification is larger, previewer is smaller, some points may be not clear, please be patient to adjust)

#### ! Power adapter output must be 12V!

**Before use, please make sure the power adapter cable connect with Lens.**

## How to Measure

### 1. Setting

It will show below items after "Cross Cursor" is checked under system sub menu.

Cursor Color: 8 cursor color to be chosen

Measure Line Color: Set the measure line color

Calibration: Calibrate the real size. Within the FOV (Field of View), the length is longer, the measurement accuracy is higher.

### 2. How to Calibrate

Put standard calibrator on the table.

Calibrate X: Long press CAL for 3 secs to enter X Calibration Mode. "Calibration Mode dx, Calibration length= \*\* mm" will be shown on upper left of display. Using SET, ←, → to adjust parallel lines distance as calibration distance. Then long press CAL until "Calibration dx OK" shown on upper left of display.

Calibrate Y: Long press CAL for 3 secs to enter Y Calibration Mode. "Calibration Mode dy, Calibration length= \*\* mm" will be shown on upper left of display. Using SET, ↑, ↓ to adjust parallel lines distance as calibration distance. Then long press CAL until "Calibration dy OK" shown on upper left of display.

### 3. Measurement

Put object to be measure on the table. Maintain the same magnification, adjust focus for sharp image. Using SEL, ↑, ↓, ←, → to measure the object real size. The measurement accuracy depends on magnification. The magnification is higher, accuracy is higher.

**Note:** Maintain the same magnification in measurement. Otherwise it will need recalibration.

### 4. Image Freeze

Hold POWER for 1 sec to freeze the image. To measure on freeze image will be more stable. Hold POWER for 1 sec to release.

### 5. Power Off

Hold POWER for 3 sec to power off.

### Camera Specification:

1. 1.3 MP pixel CMOS, 1280 (H) \* 1240 (V), 15 frames/sec, 600TV-Lines.
2. VGA output, 1024X768 60HZ, 1024X768 75HZ, 1280X1024 60HZ
3. Chinese/English menu, Brightness, Contrast, Saturation, Acutance, Blue Offset, Red Offset, Exposure Control, Negative, Cross, Line Color. All specifications is memory power off proof, except vertical mirror image, horizontal mirror image, Negative.  
Note: Using auto exposure control will achieve better image quality with brightness is adjustable.
4. Accuracy= pixels for standard length/ calibrated length. For example, when it is displayed in 1024\*768 pixels, the cross will move in 1 pixel unit. When you magnify 1mm to full screen, the measurement accuracy is 1/1024mm, nearly 1 micron. If 0.1mm is magnified to full screen, accuracy will be 0.1um