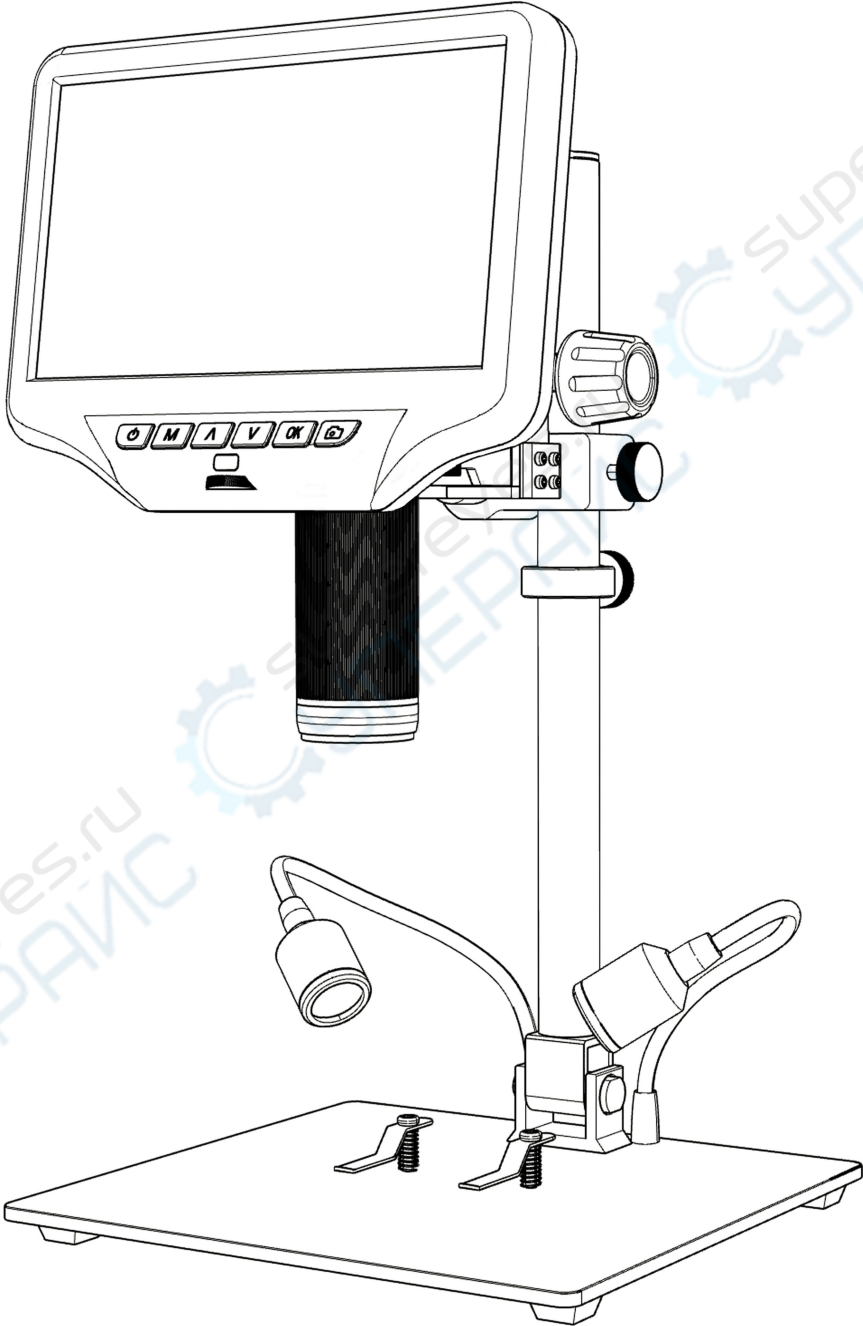


# Digital Microscope 407-pro Users Manual



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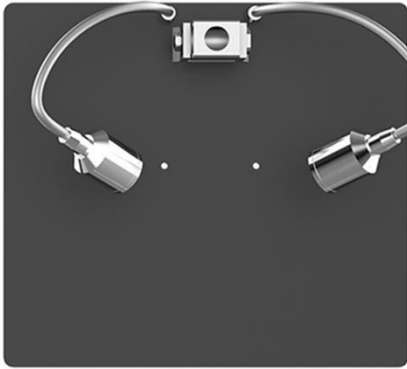
## Safety and Maintenance

1. This microscope is safe and low-maintenance, as long as common sense is employed.
2. The assembly includes small parts, particularly the thumbscrews used to hold the main device in place. Do NOT allow unsupervised access by infants or toddlers.
3. The microscope is not intended for field use. It is not waterproof, and should not be exposed to extreme temperatures. Treat as you would any other electronic device, such as laptop or tablet.
4. The surface of the lens at the bottom of the main device should be cleaned whenever you start to notice a degradation in image quality. Use a few drops of lens-cleaning fluid on lens tissues or use a microfiber cleaning cloth.
5. The rest of the microscope can be cleaned with a damp cloth.
6. The display on the device is very fragile. Please use with care. Do not drop, press hard or touch the display with sharp objects. The display is not waterproof, please clean it with dry and soft material. Do not press the display when adjusting the angle of the display.

## Basic Parameters

Image sensor	4 Mega Pixels HD Sensor
Video output	UHD 2880X2160 24FPS; FHD1920X1080 60FPS/30FPS, HD1280X720 120FPS,
Video format	MP4
Magnification Ratio	Up to 270X (27 inch HDMI monitor output)
Photo resolution	MAX 4032*3024 (12M 4032*3024)
Photo format	JPG
Minimum focus distance	5cm
Frame Rate	Max 120f/s (under 600 Lux Brightness& HDP120)
Storage	Micro-SD card (not included), up to 64G
Power source	5V DC
Stand size	20cm*18cm*32cm
Screen size	7 inch
What's in the box	Base, Microscope Monitor, Beam, Column, HDMI cable, Power Adapter, UV filter (assembled), Remote, Wrench, Screw*2, Spring, Metal clip, Power cable, Users Manual
Packing data	2.1kg /29.5*26*14.5cm

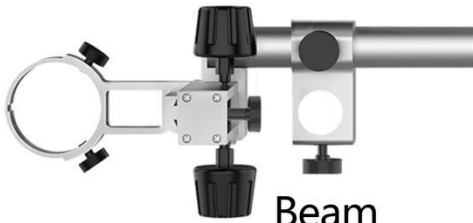
## What's in the Box



Base



Microscope Monitor



Beam



Column



Screw



Spring



Metal clip



Remote



Wrench



Power cable



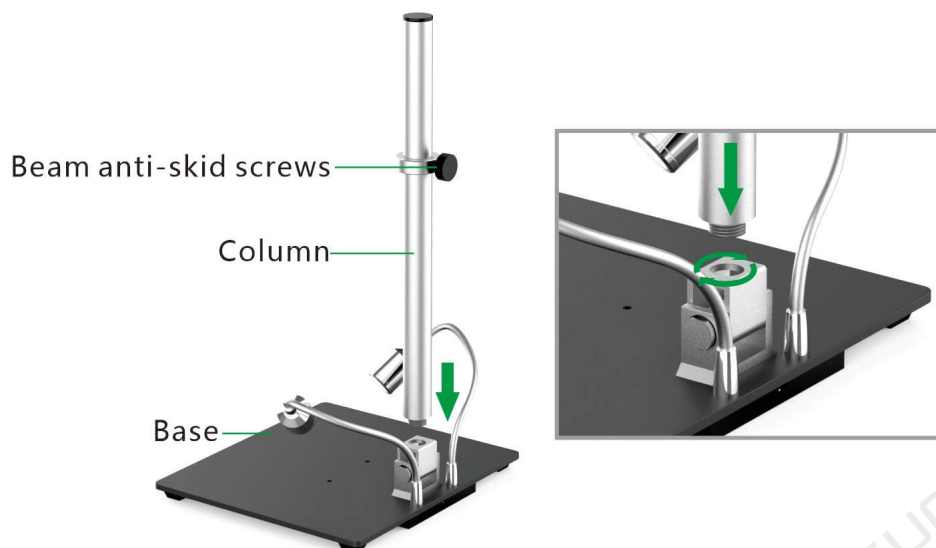
HDMI cable



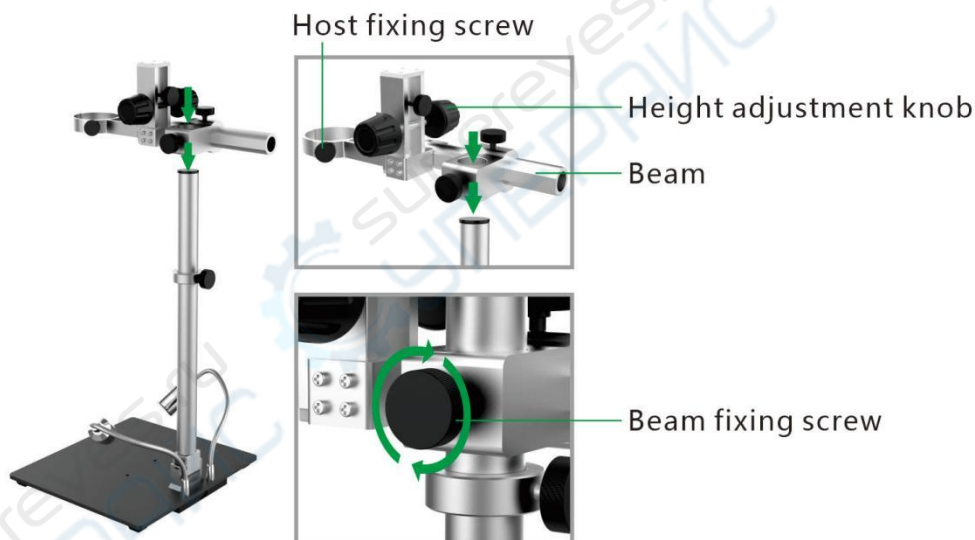
Power Adapter

(P1 what's in the box)

## Bracket Installation Steps



Step 1 : Install the column to the base plate.

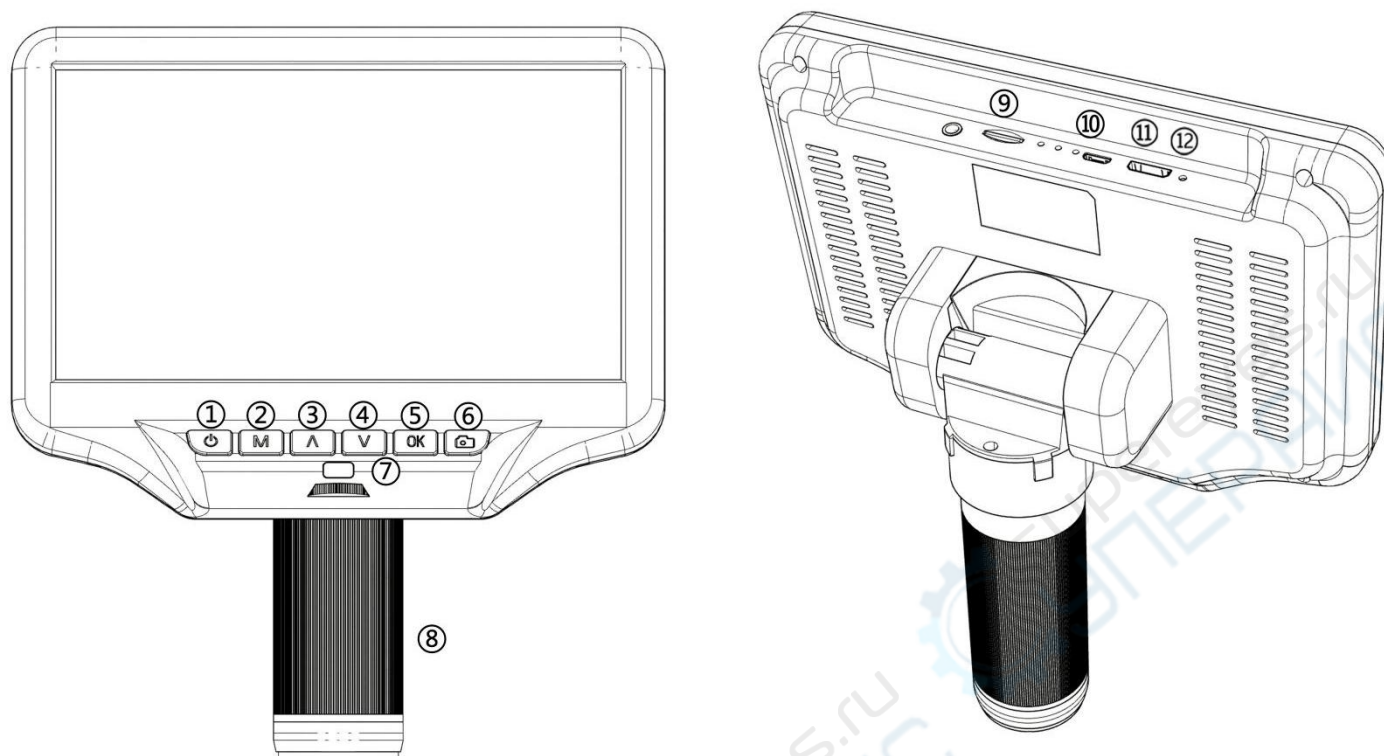


Step 2: Insert the beam into the column, then tighten the beam fixing screw and the beam anti-slip screw clockwise.

After the bracket is assembled, loosen the host fixing screw (see Step 2) in a counterclockwise direction, and insert the microscope main unit into the main unit hole. Adjust the position and orientation of the microscope, and then tighten the fixing screws of the microscope. Be careful not to get the focusing controller stuck in the hole of the main unit during this process.

If done correctly, the focusing tube, the microscope screen and the angle between the column and the base can be adjusted freely. If there is any problem during installation, please contact us in time to avoid damage to the product caused by improper installation and affect normal use.

## Buttons



(P2 buttons)

① Power on/off

② Mode/menu

③ Up (digital zoom in)

④ Down (digital zoom out)

⑤ OK/Start video record

⑥ Picture capture

⑦ Infrared sensor

(when you are using the remote, please point the remote to this so the device would response)

⑧ Focus controller

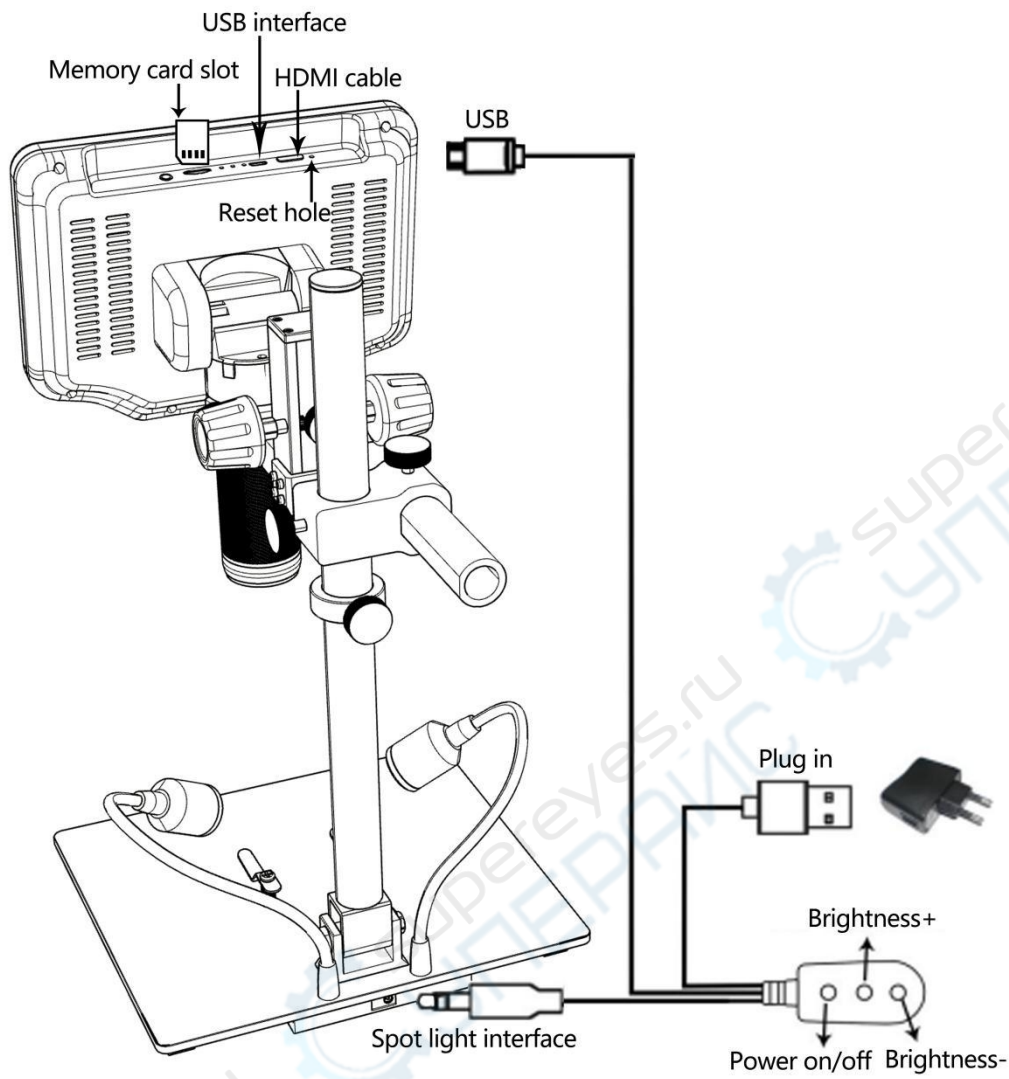
⑨ Memory card slot

⑩ USB interface

⑪ HDMI port

⑫ Reset hole

# Quick Start



(P3 connect )

1. Connect the microscope to the power supply via the dimmer cable. See the (P3) above.
2. Then press and hold the Power button (① from the P2 “Buttons”) underneath the display until the display turns on. (It may turn on automatically while you connecting cables at the first time, and it’s totally fine.)

## \*Troubleshooting

If the display freezes, locate the “reset ” hole (⑫ from the P2 “Buttons”) on the back of the monitor. Use a narrow object such as an unfolded paperclip to depress the button located inside. This resets all settings to their factory values and restarts the display, the image and video files saved in the memory card will not be deleted.



## Adjusting the Magnification and Focus

① Unscrew the beam fixing screw and the beam anti-slip screw counterclockwise to lift the microscope main unit to the required height. The lower the height, the greater the magnification is. But be careful not to let the bottom of the lens touch the object being observed. (Note that you may need to reposition the spotlights when adjusting the object distance). Turn the focus controller (⑧ from the P2 "Buttons") to focus the image.

② To increase the digital magnification, press and hold the Up button (③ from the P2 "Buttons") until the desired digital magnification (up to an additional 3X beyond the optical magnification) is reached. Use the Down button (④ from the P2 "Buttons") to decrease the digital magnification.

## Using a Micro SD Card to Save Images

By using a Micro SD card (not provided), you can save images and videos to review later or export to a computer or other device .

Insert the Micro SD card in to the TF slot on top back of the monitor. (be careful with the direction. The side which has metal exposed should face down. See the P3 )

Push it in until you hear a click. (If you don't push it in far enough, it will be ejected.)

\*If you insert the card while the microscope's working, the device would switch off automatically. Press the Power button and hold it until the screen lights up again.

## Mode Switch

The Mode button (② from the P2 "Buttons", marked with an "M") can be used to cycle between three modes: video standby (🎥), still image (📷), and playback (📺).

In video standby mode, there are white color numbers located upper left corner of the screen, shows how many time the rest storage of the card would allow you to record video.

## To Record Videos

Short press the OK button to begin recording. The elapsed time (red color) in the recording will appear at the top left. To stop recording, hit the OK button again.

The OK button on the remote has the same function.

## To Capture pictures

In video mode (🎥), photo mode (📷) and while the microscope is recording, short press the Picture Capture button (⑥ from the P2 "Buttons") to take photos.

The picture capture button on the remote has the same function.

**Note: Unable to take pictures or videos in playback mode.**



## Reviewing and Managing Images

To review and manage images on the display, use the Mode button to select review mode. Use the Up and Down buttons to cycle through the pictures and videos.

To play a video, press the OK button to start play. Press the OK button again to pause. Hit the Mode button again to to enter the video standby mode.

While reviewing a still image or video, the Menu button can be used to provide additional options. Press the Menu button and hold for a while till options show up.

### Delete:

Delete Current: deleting just the current image/video;

Delete All: deleting all unprotected images and videos;

### Protect:

Lock Current/All: provides protection for the current/all image/video from deleting accidentally, but not from Format function;

Unlock Current/All: unlock the current/all image/video.

**Slide Show:** You can choose 2 seconds, 5 seconds or 8 seconds for each play, and press OK to end the play.

## Remote

\*Freeze: Stop the image on the display, works in video mode, photo mode and while recording.

\*Illumination+ & -: exposure compensation from +2.0 to -2.0.

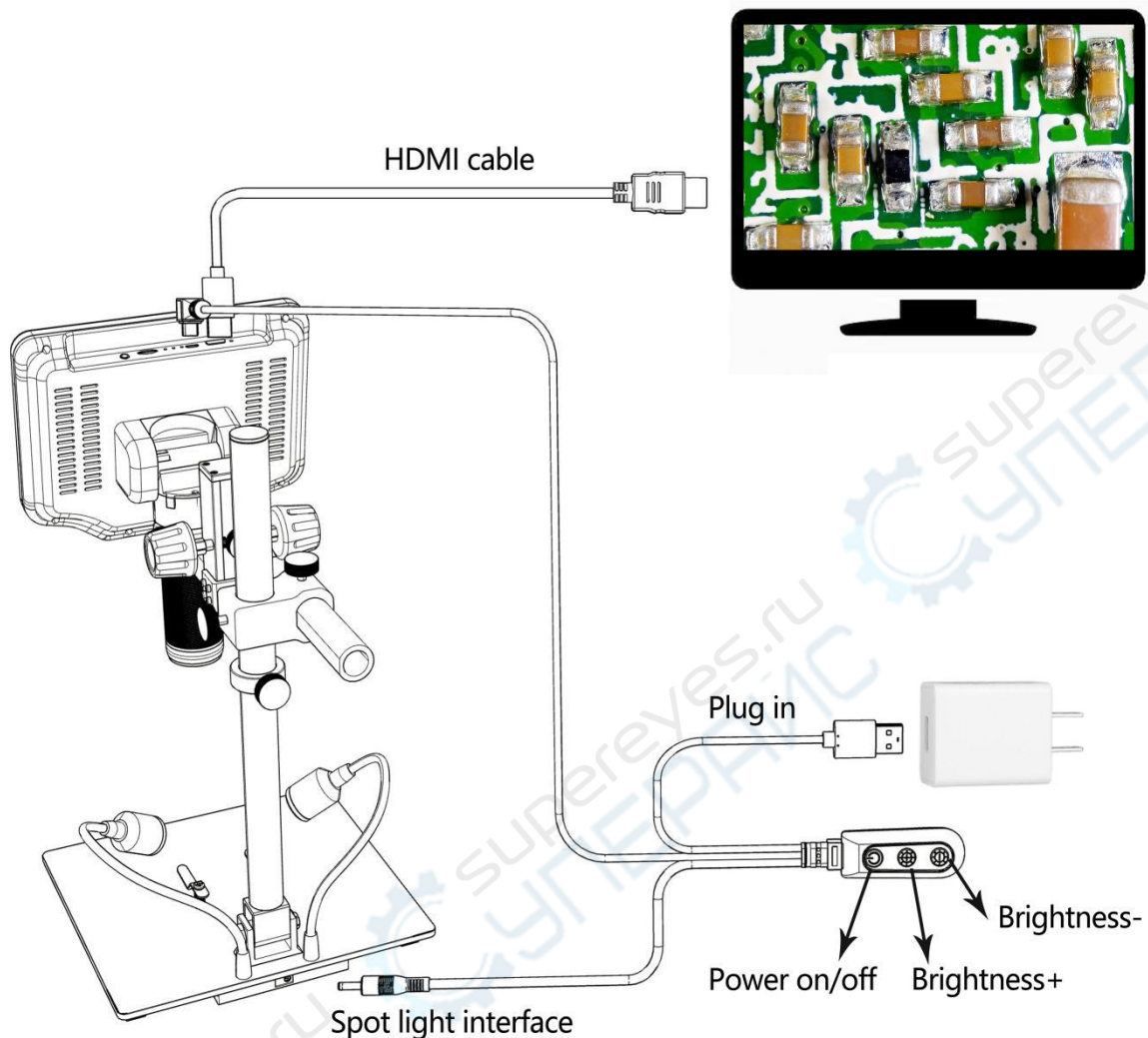
\*Sharpness up&down: three levels of sharpness: Soft/Normal/Strong. Those two buttons are both used to switch the levels, but in different orders.

\*Contrast up&down: same principle as Sharpness



(P4 remote)

## HDMI output



(P5 HDMI output)

- Please make sure that the monitor connected to the microscope is a HD monitor, otherwise the image effect will not reach 1080P.
- The microscope does not contain a built-in battery, so make sure the microscope is powered on at all times.

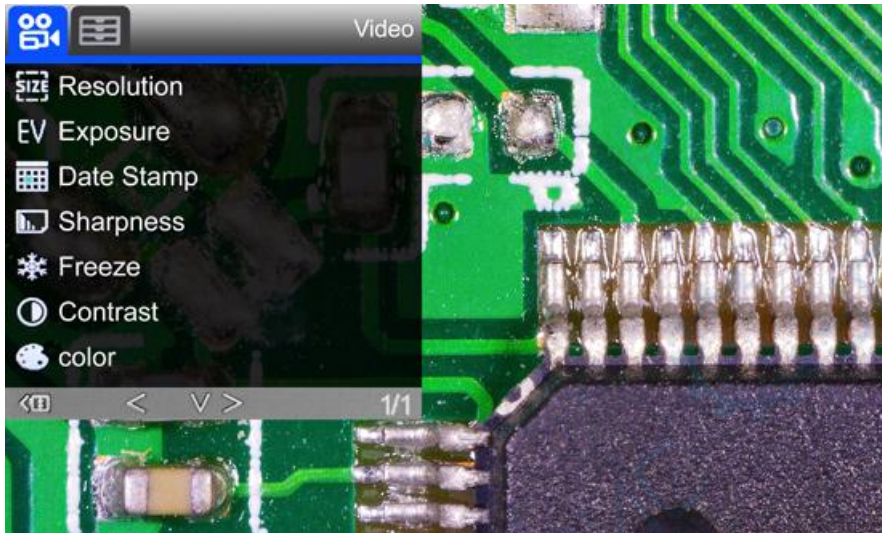
Use HDMI cable to connect the microscope to the HD display (as shown in P5). Adjust the brightness of the LED lights on both sides of the bracket, the focusing controller and the object distance, and you can see that the observed image is simultaneously presented on the microscope host and the external HD monitor.

\*Photo and video can be taken in HDMI mode.

## Settings

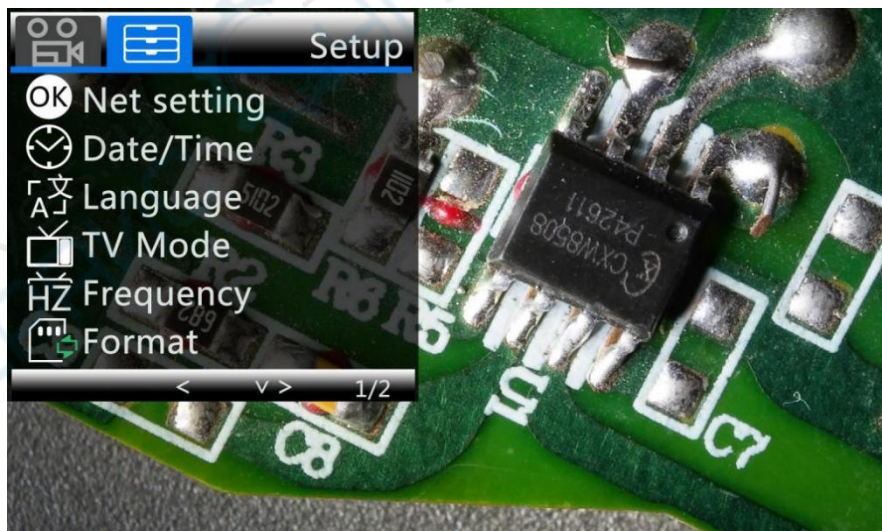
In each mode, press the M button and hold it for a while until the Video/Still/Playback Menu shows up on the display (Or you can press MENU button on the remote). Hit M button again, get into the general Setup Menu.

For example, if you are in video standby mode, and you press MENU, this is the first menu would show, the “Video menu”:



( P6 video menu )

Then, press MENU button (or M on the monitor) again, you get into the Setup menu, like this:



( P7 setup menu )

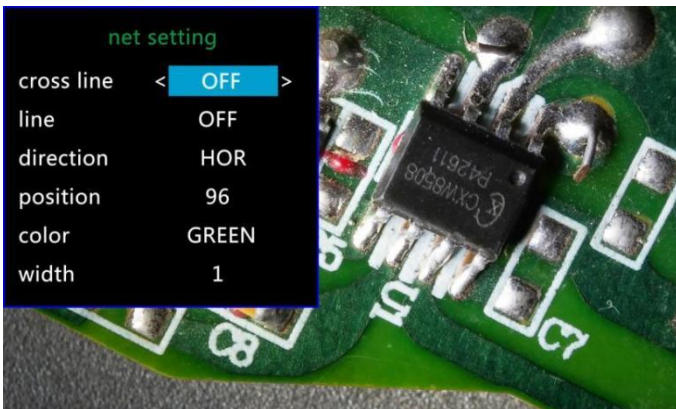
### Gridline Settings (remote needed)

Use “Up” and “Down” to select among “cross line”、“line”、“direction”、“position”、“color”and “width”. Use “Left” and “Right” on the remote to change the settings.

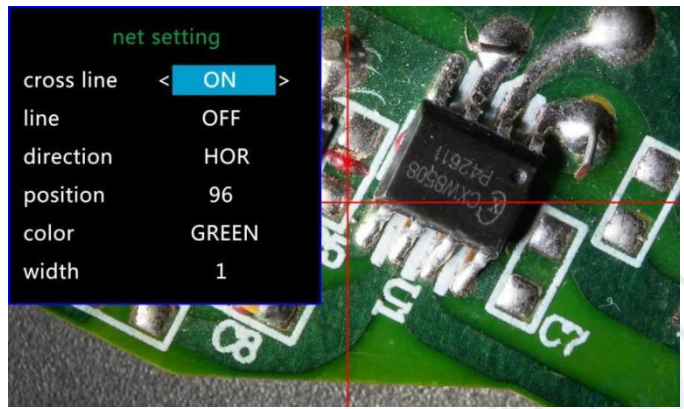
\* **Gridlines cannot be set without a remote control.**



Cross line means  $\oplus$  shaped lines that located literally in the middle of the view. when you set the cross line “on”, you will see one horizontal and one vertical showing in the middle of the view.



(P8 cross line original)



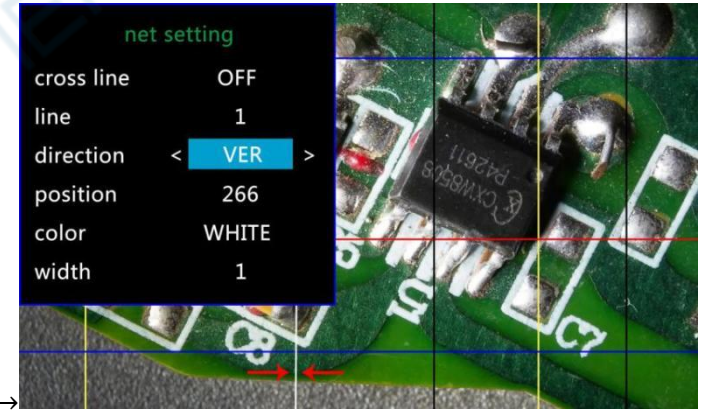
(P9 cross line on)

When you turn on the “Line”, there will be 8 lines showing up automatically. For each one, you could change it’s direction between “HOR” and “VER”(stand for “horizontal” and “vertical”), position, color and width.

There are 480 positions on direction “HOR”, and 800 positions on direction “VER”. So, when you change the direction from “HOR” to “VER”, the position would change at the same time,  $HOR/VER=480/800$ . For example, you change a line from HOR&160(P10) to a vertical line, the position would become 266(P11).

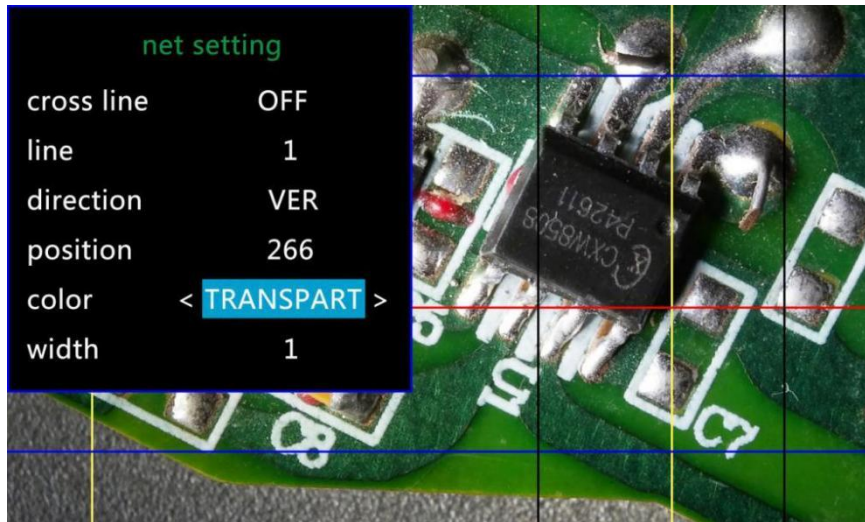


(P10 line 1,HOR&160)



(P11 line1,VER&266)

If you don’t want that many lines in the view, you could also change the color of the certain lines into “TRANSPARENT”.

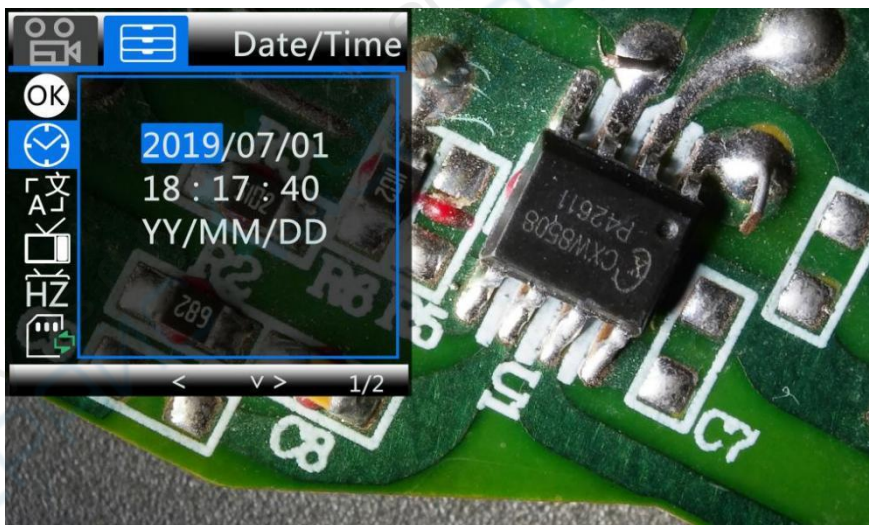


( P12 set the color of line 1 to transparent )

### Date/Time:

Press “OK” into Date/time setting. Use “Up” and “Down” to select the correct number for year/month/day. Once you finish setting a number, press “OK” on the monitor to the next number. Or, you can use “Left” and “Right” on the remote to get to the one that you want.

Press “MENU” button on the remote to exit date/time setting directly. If you don’t have the remote, you have to go through all over these settings one by one and then press OK again to exit.



( P13 date/time setting )

### To save settings

After you set everything right, you should turn off the device by pressing ON/OFF button on the monitor and hold it until the device switching off.

If you turn off the device by pressing the button on the switch cable, or just simply cut off the power supply, the setting would not be saved.

## FAQ

### 1. Why can't I boot normally?

Please confirm that the wiring is normal as shown in P3, and ensure that the product is powered on. After confirming the correct operation, if the machine still cannot be turned on normally, please use the reset hole on the back of the main unit to restart the machine.

### 2. Why can't I get a clear image?

Please confirm the illumination work properly, and shine directly to the surface of the specimen. Adjust the height of the boom arm, or the secondary bracket lift to change the distance from the lens to the specimen, and turn the focusing tube properly. If the image is still blurry, please clean the bottom of the lens use a piece of clean and soft cloth.

### 3. Why the setting changes can't be memorized?

After changing settings, press and hold the button on the monitor to switch off the device. DO NOT cut off the power supply directly or use the dimmer cable to switch off the device.

### 4. Why the microscope reboots repeatedly?

Please check the if the cable connection is firm and if the power supply is stable and strong enough. Please check your power adapter is high quality 5V 2A.

### 5. Why does the system crash, memory card error or memory card full prompt appear after inserting the TF card?

After inserting the TF card, please format it first.

(Formatting steps: long press the M key to open the menu - then short press the M key to switch to the system function setting bar - press the down key to select - find the format option - press the OK key to confirm)

Due to the higher performance requirements of the memory card, when recording video, if it still cannot be used normally after formatting, please replace the high-quality TF card with class 10 or above.

**PS: If there are other questions or problems, please contact us as soon as possible, we will do our best to help! Thanks for your support!**



## Warranty

Warranty		
User's name:	Address:	
Phone number:	Post code:	Email:
Model name:	Purchase date:	
Fault feedback:		
Date:	Fault:	
Notice:		
Our warranty doesn't cover:		
1	If users can not provide the purchase proof or the Warranty.	
2	If users use it in an improper environment, such as incompatible power supply, high temperature environment etc.	
3	If the fault caused by accident, oversight, misoperation or natural disasters etc.	
4	If the fault caused by people who are not belong to authorized organizations of our company during repacking, repair, dismantle, Or if users repack, repair or dismantle the device not following our advice.	
5	Out of warranty period.	