

WELCOME TO USE

Thanks for using our video microscope!
Please read the manual carefully and it will be helpful for you to use this video microscope better.

PRODUCT FEATURES

This product is our brand new video microscope with high performance and cost effective.

- Adopt color LCD screen, high definition and high lighting;
- 1080P30 (Clear) / 720P60 (Smooth) design, no lag, no smear, fluent HD;
- Professional image processing DSP, 3D de-noise, restore colors and details really;
- Built-in HD lens, have microscope and telescope function (1cm~5cm);
- Rotating lens barrel design, precise focusing and smooth feeling;
- Touch type white LED design, simple operation and intuitive viewing;
- Support picture, video record and playback function;
- Support mouse control + measurement function(optional);
- Support HDMI+USB(UVC)+WiFi(Optional) output display;
- Support 1X~16X infinite magnification, clear and smooth;
- Support full screen freezing, left and right, up and down, 1/4 PIP comparison;
- Support cross and scale cursors;
- Support grid, and position , color , thickness are adjustable;
- Support AE lock, exposure compensation function;
- Support auto, manual and calibration white balance;
- Support WDR, contrast, saturation, sharpness are adjustable;
- Support image horizontal mirror and vertical flip;
- Support functions customized and App secondary development;
- Support IR remote, voice record, and buzzer prompt;
- Support 4GB ~64GB TF card;
- Powered by 18650 lithium battery, easy for outdoor use;
- Adopt TYPE-C 5V power supply, both positive and negative inserts are available;

With brand new algorithm, new design and new configuration, it will bring you new smooth and high-definition experience!

PACKAGING&ACCESSORY

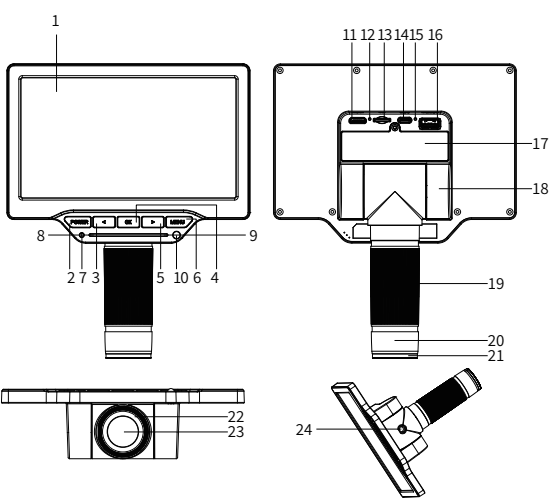
- Video Microscope 1pcs
- Lithium Battery 1pcs (optional)
- HDMI Cable 1pcs (optional)
- Power Adaptor 1pcs
- USB Cable 1pcs(optional)
- Calibration Ruler 1pcs (optional)

- USB Mouse 1pcs (optional)
- IR Remoter 1pcs (optional)
- Base Bracket 1pcs (optional)
- User Manual 1pcs
- Cleaning Cloth 1pcs
- Calibration Ruler 1pcs (optional)

TECHNICAL SPECIFICATIONS

- Screen size: 7.0 Inch
- Screen resolution: 1024x600
- Image sensor: 1/3 inch (BSI);
- Pixel size: 2um x 2um;
- Image resolution: 2688x1512, 5376*3024 (Interpolation);
- Video resolution: 1080P30 (Clear) , 720P60 (Smooth);
- HDMI resolution: 720P60;
- USB resolution: 1080P20, 720P30, WVGA P60;
- WiFi output: 720x360@30fps; Support Android and iOS (Optional);
- Zoom rate: 5X~528X(Optical 5X~33X, Digital 1X~16X);
- Exposure control: AE lock, Exposure compensation (10 level adjustable);
- White balance: Auto, Manual (R, G, B 10 level adjustable) , Calibration;
- Image control: Ten level adjustment of contrast, saturation and sharpness;
- Comparison of the PIP: Full screen, left and right, up and down, 1/4;
- Grid: 8 groups, position, color, thickness adjustable;
- Measurement: point, line, circle, angle (Optional);
- Language: English, Simplified Chinese, Traditional Chinese;
- White LED: Touch type stepless adjustment;
- Mouse interface: TYPE-A, recommend to use the original mouse (optional);
- IR Remote: Max 5 meters;
- WiFi distance: Max 10 meters;
- HDMI interface: C TYPE (MINI HDMI);
- USB interface: TYPE-B USB2.0;
- TF card slot: Max support 64 G TF card;
- Working distance: 1cm~5m;
- Device size: 174mm (L) x 129mm (W) x 51mm (H);
- Device weight: 320 (With battery) / 270 (Without battery);

PRODUCT STRUCTURE



1. Display

2. Power button

3. Left button

4. Confirm button

5. Right button

6. Menu button

7. Power light/charge light

8. White LED touch strip

9. White LED indicator strip

10. IR Receiver

11. HDMI-C

12. MIC

13. TF card slot

14. USB (TYPE-A)

15. Buzzer

16. USB mouse (TYPE-A)

17. Battery cover

18. Lens barrel shaft

19. Focusing lens barrel

20. Dustproof cover

21. Protective lens

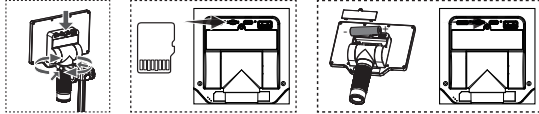
22. White LED

23. Lens

24. Tripod slot interface


HOW TO USE

1. Install Video Microscope




Attention: Use a Phillips screwdriver to remove and assemble the battery cover; Please use 18650 battery with protective plate or original battery; Please pay attention to the positive and negative electrodes of the battery, don't assemble them converse;

2. Connect Video Microscope



Attention: Please use the original mouse, otherwise there may be compatibility issues;

3. Power ON/OFF



1. Long press power button, video microscope will turn on, power light will be on to enter preview mode;

2. Use center point of monitor to aim the object, adjust bracket height and lens focal length to make image clear;

3. Long press power button again to power off video microscope;

Attention: In order to reach the best effect, please clean protective lens and display screen before using.

4. Use Video Microscope

Zoom in / out function: Press left button to zoom out, press right button to zoom in; Photo/Video/Freeze: Press Confirm button can take photo/video/freeze; White LED brightness: Click or slide the touch area of the white LED with your finger to adjust the brightness of the white LED;

Menu function: Press Menu button, get into menu for setting of playback, video, system, marking, measurement, WIFI parameters etc;

Playback mode: Get into menu, choose playback option, can check photo and video; Measure function: Single click mouse right key, get into menu, choose measurement option, can set dot, line, circle, angle measurement etc (Optional);

WIFI mode: Get into menu, choose WIFI setting, get into WIFI mode and APP connection (Optional);

USB mode: Insert USB cable, connect with PC, get into U disk/ UVC mode; Press Confirm button can switch between U disk and UVC mode;

For more details, please check Function and Menu Introduction section.

INTRODUCTION OF FUNCTIONS

1. Zoom Rate Adjustment

Press left or right button to adjust the zoom rate and then reach the best display effect; This device can be zoomed in and out infinitely between 1X~16X;

2. Touch Type White Led Adjustment

Click or slide the touch area of the white LED with your finger to adjust the brightness of the white LED.

1. Click on the touch area to directly set the brightness of the click;

2. Slide the touch area, the brightness will follow up the touch position;

3. The indicator area will indicate the current brightness of the white LED, and the brightness increases from left to right gradually;

Attention: 1. Please keep the finger humidity properly, too dry or too wet may cause insensitive touch;

2. Please keep the touch area clean and avoid getting water or oil stains;

3. Please use the original power adapter and avoid electromagnetic interference in the surrounding environment;

3. Photo And Video Recording Function

Preview menu →System →Shortcut set as photo or video recording;

In preview menu, press Confirm button, can take photo or video recording;

Attention: Photo or video recording function need to insert TF card.

4. Image Freeze(PIP Comparison)

In preview menu →system →shortcut set as freeze;

In preview menu →system →freeze set as full screen, left and right, up and down, 1/4 screen;

In preview menu, press Confirm button, can freeze the monitor to make a comparison;

5. Playback function

In preview menu → playback, enter into preview mode to check photo and video;

Photo playback: Press Left button to zoom out;

Press Confirm button to get into next photo;

Press Right button to zoom in;

Press Menu button to enter menu playback;

Video playback: Press Left button to get into previous video menu;

Press Confirm button to play/ pause;

Press Right button to get into next video menu;

Press Menu button to get into playback menu;

6. Image Adjustment

This device provides rich image adjustment function to meet different application occasions;

Brightness adjustment: AE Lock →lock current exposure value, by adjusting the brightness of the white LED to control the display brightness;

Exposure compensation → Adjust value of lightness to control the display brightness;

Attention: When the White LED is insufficient or the environment is dark, the brightness may not be adjusted up.

White balance adjustment: Auto white balance →Through white balance algorithm to reach white balance and meet most application occasions;

Manual white balance →Adjust R/G/B value to meet different application occasions according to your likes and dislikes.

Calibration white balance →Before putting the standard ash card in front of the lens, choose calibration white balance to adjust current light to reach accurate white balance control;

Color Effect Adjustment: Colorful →Display picture with multi color;

Black white →Display the picture with white and black only to meet special application;

Negative film → Display picture with negative film to meet some special applications;

WDR: Start the WDR function , have better effect on dark detailed area;

Tips: Lower the lightness first, open the WDR, can avoid the high light reflector;

Contrast adjustment: Adjust contrast of picture to meet different requirements of lens, monitors and application occasions.

Saturation adjustment: Adjust saturation to meet different requirements of lens, monitors and application occasions.

Tips: Adjust the saturation to the minimum to achieve black and white special effects.

Sharpness adjustment: Adjust Sharpness to meet different application occasions.

Image invert: Horizontal mirror →Mirror the image in a horizontal direction;

Vertical flip → Flip the image in a vertical direction;

Light source frequency: Choose 50HZ or 60HZ according to the light source frequency of the current environment, which can effectively prevent image water ripples.

LCD+HDMI+USB+WIFI VIDEO MICROSCOPE

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7. Marking Function

This device provides rich marking function for reference in the processing period.

Mouse pointer: Pointer, Cross, Gesture 3 different shapes optional.

Cross cursor: Switch off, Ruler and Centre 3 different shape optional.

Grid line: Provide 8 line grids, each line can set turning on/off, type (Horizontal, Vertical), position, line width, color etc.

Attention: In open/close grid line menu, double click confirm button, can turn on/off all grid lines; Cross pointer's color and line width adopt grid line 1 setting; Image freeze color and line width adopt grid line 1 setting;

8. Measurement Function (optional)

This device provides measurement function (need mouse supported), including mark, delete, save, dot, line, polygon, circle, angle etc;

Partial Magnification: Magnify the part you want, easy to spot the measurement point:

1. Keep clicking left key of mouse;

2. Move the mouse, it will show partial magnification;

3. After aiming at measurement point, release left key of mouse;

Attention: When the mouse moved to the edge of the image, partial magnification function will be closed automatically.

Calibration index: Provide 8 sets of demarcated data storage functions, the calibrated value can be saved in the corresponding serial number in order to get the calibrated data to be measured quickly.

Attention: Recalibration will cover the demarcated data of the current calibration index.

Calibration: Calibrate the lens, convert pixels to MM units, and save in the current demarcation calibration index.

1. Put the rulers below of the lens.

2. Choose appropriate calibrated value;

3. Mouse choose the starting and ending point;

Attention: Before being calibration, it will be measured in pixels by default.

Counting: Counting on target;

RGB: Measure current RGB value;

YUV: Measure current YUV value;

Point-Point: Measure distance of two points;

Point-Line: Measure vertical distance from point to straight line;

Polygon line: Measure total distance of broken line;

Rectangle: Measure length of rectangle;

Polygon: Measure the area of polygon;

Radius circle: Take circle point and radius to confirm a circle and calculate the radius and the area of the circle;

Diameter: Take circle diameter to confirm a circle, and use it to calculate the diameter and the area of circle;

3-point circle: Take 3 points and use it to calculate the radius and the area of circle;

Arc: Take 3 points to confirm a circle, and use it to calculate the radius and the area of the circle;

Angle: Measure the angle between two line segments;

Attention: Max to measure 100 groups of data;

Each group max support 10 points;

When start measuring, need to choose menu Measure → After quitting, then you can do other operations;

9. WIFI Function (optional)

This device provides WIFI connection function to view, control, playback, download by smart phone/ iPad.



1. In AppStore (iOS) or GooglePlay (Android) to search iSmartDV and install it;

2. Get into preview menu →WIFI option to select WIFI mode;

3. Get into WIFI setting, connect VMS**M** -***** device;

4. Use your smart phone or iPad to turn on iSmartDV APP, choose related device to connect;

5. iSmartDV can proceed with function operations such as view, control, playback, download ect.



iSmartDV (iOS)

iSmartDV (Android)

Attention: The Android platform of some areas could not connect with GooglePlay, please kindly try to search iSmartDV in local APP market and install it.

10. Battery Power Check

This device provides power indicator and low battery tips function.

1. When use battery, short press Power button, the bottom left corner will show the current battery level;

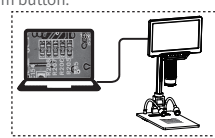
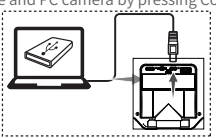
2. When use power adaptor, short press Power button, the external power supply will be displayed in the bottom left corner;

3. When in low battery, it will prompt that the battery is low, and power off automatically.

Attention: It will automatically show current battery power when you turn on the device every time.

11. Connect To Computer(U disk+UVC)

After connecting USB cable with computer, computer can recognize the device as mass storage device or PC camera (UVC), it can switch between storage device and PC camera by pressing Confirm button.



Mass Storage Device

PC Camera (UVC)

Mass Storage Device: Can show the picture and video playback or download and save in computer.

PC Camera (UVC) : Can deliver video to computer to display in real time for analysis, measurement etc.

12. IR Remote(Optional)


This device can support IR remote in order to make the device avoid image shaking.

All operations are same as the operations of the button on the device:

Left button → same as left button

Middle button → same as middle button (Double click is Menu button)

Right button → same as right button



13. Mouse operation (optional)

All operations of mouse middle key are the same as the operations of the button on the device:

Back roll → same as left button

Middle key → same as middle button (Double click is Menu button)

Front roll → same as right button

Mouse quick operation supported:

1. Click right key to open or close menu;

2. Click relevant menu directly and choose it quickly;

3. Double click menu option and set relevant option and choose it quickly;

4. While zooming in the picture, please kindly press mouse and drag the picture;

COMPUTER CONFIGURATION REQUIREMENTS

This video microscope requires computer reach below requirements:

- Windows® Win7/Vista/XP SP3 or above OS;
- Intel® Pentium 4, 2.8 GHz CPU or above;
- At least 2GB RAM or above;
- Standard USB 2.0 or above;
- 512 MB or above video card;

PRECAUTIONS

In order to keep your video microscope working in the best condition, please read below notes carefully:

- Do not expose video microscope under high temperature or sun light;
- Please make sure video microscope protective lens and display clean enough to have the best imaging effect;
- Please make sure video microscope far away from humidity, rain, liquid and chemicals;
- Please do not use video microscope near inadequately shielded electronic devices or medical equipment;
- Please make sure to use video microscope between 10°C and 40°C;
- Please make sure to store video microscope between -20°C and 40°C;
- Please do not try to repair or open video microscope to avoid damage out of warranty;
- Please use original adapter and accessories to avoid possible damage and danger;

Warning:

Please use original adapter and accessories to avoid possible damage of the device;

Device measurement accuracy is only for reference, any dispute caused by measurement errors have nothing to do with this product.

TROUBLE SHOOTING

Questions	Solutions
Video microscope cannot be switched on	Make sure if power connect correctly; Make sure if battery install correctly;
Video microscope without display	Make sure if monitor is on; Make sure if monitor switch to HDMI output mode;
Touch white LED malfunction or insensitivity	Make sure if finger is too dry or too wet; Make sure if there is interference source in the surrounding environment; Please use original power adaptor;
White LED causes the screen to reflect the light	Please try to dim or turn off the white LED, use ambient light; Please try to make an angle between the lens barrel and the observation object to avoid the reflective point;
Microscope image is too dark or too bright	Make sure if lens focus on the observation object; Make sure if white LED is on; Make sure if screen brightness setting is too dark;
Video microscope blur or dirty	Clean lens and filter; Make sure if focal length is placed at the best position;
Video microscope cannot be stored or showed card error	Format TF card or change a new one;
Mouse doesn't work or cannot show	Re-plug and unplug the mouse or restart it;
WIFI cannot be connected or image lagging	Avoid being covered by antenna area; Make sure if there is interference source in the surrounding environment.

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