



User's Guide

USB Microscope



Version 2.0A

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1. Product Introduction

1.1 Packing Contents:

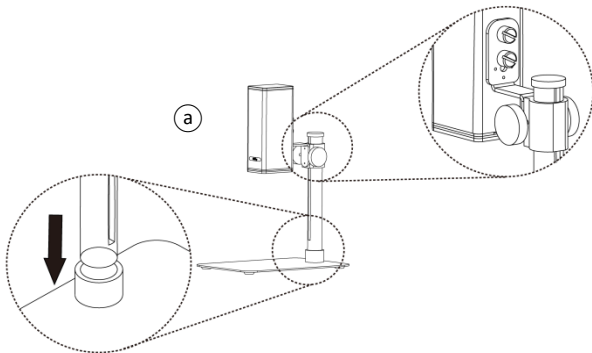
The box contains 1 microscope and 7 accessories.

Item	Q'ty	Item	Q'ty
USB Microscope	1	Install CD	1
USB 2.0 Cable	1	User's Guide	1
Stand S108	1	Calibrator	1
Stand assemble guide	1	White Balance card	1

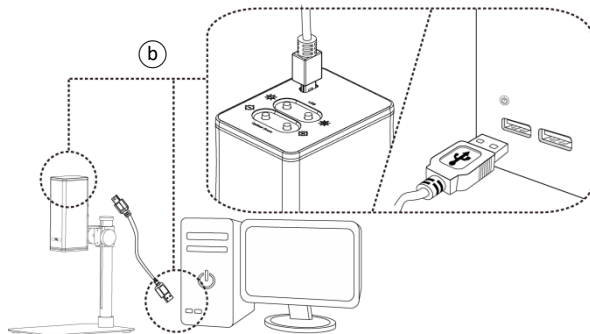
1.2 Start to use

(1) Assemble microscope with Stand

Tighten microscope onto stand **@**. (See stand assemble guide)



- (2) Connect microscope to PC via complimentary USB cable (b).

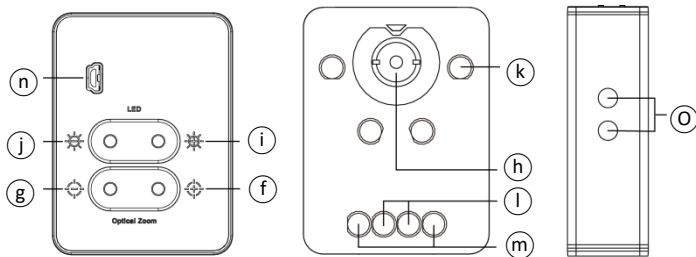


- (3) Install Software
Install software CD and execute autorun(c) to install software. For detailed install procedures, please refer to the Install Manual inside the software CD. If the software CD is missing or damaged, please download from <https://www.vitiny.com/en/download.html>.
- (4) Connect to PC
Double click microscope software icon (d) on PC desktop. When software opened, click on the connect icon(e) to preview image from the software. Adjust stand height or focus button If the image is out of focus or blurry. For

detailed software operation, please refer to the Application Manual inside the software CD. °

 Autorun	 UM12-CAM	
(c)	(d)	(e)

1.3 Buttons on microscope



(1) Optical zoom

Zoom in/out button. Zoom in (f), when magnification is higher, the distance is closer. Zoom out (g), when magnification is smaller, the distance is longer. (h) microscope lens.

(2) LED Adjustment:

Preview image in higher magnification requires higher luminance, on the contrary, lower magnification requires less luminance. It's suggested to set the "Auto Exposure" as "Manual" in the software.

(ⓘ) Increase luminance. (Ⓜ) Decrease luminance. (Ⓚ) LED Light. (Ⓚ) LEDs for Lower working distance. (LED x 4), (ⓘ) LEDs for middle height working distance. (LED x 2), (Ⓜ) LEDs for higher working distance (LED x 2). LEDs options will change automatically.

(3) USB port

USB port (Ⓝ) supply power to microscope and PC connection to preview image.

(4) Stand hole (Ⓢ) to fix microscope.

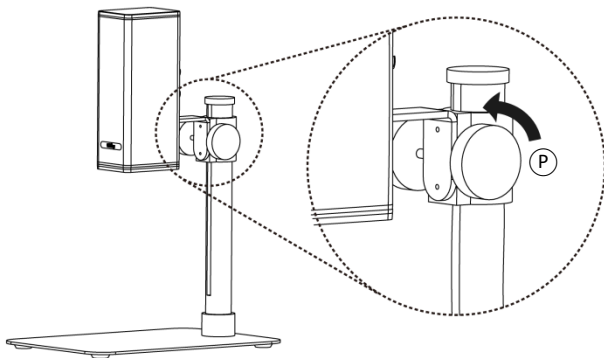
1.4 Microscope focus

There are two ways to focus. First, choose focus distance to adjust the microscope height, then zoom in/out on the software or microscope until clear. Second, first to choose the image sensor position then adjusts the microscope height. Distance: distance from lens to object. Sensor position: Image sensor position.

- (1) Fix focus distance
Use knob (P) to adjust the distance from lens to object. When the distance is closer, the magnification is higher. Either use Distance control mode in the software or buttons on the microscope to focus.
- (2) Fix sensor position
Choose the desired distance or FOV from the drop down list in the software.



When the sensor position is fixed, adjust the stand knob (P) to focus.



Magnification chart

26 focus section setting is based on the whole focus area, the sensor position tells the magnification size, field of view, or distance. The below chart is measured on 4:3 ratio on 21.5" screen, it's only a reference data, might not be accurate enough. Based on the image ratio (preview window size), field of view and magnification size will change.

Focus distance from 8mm~160mm(0.315~6.299 inch).

4:3 ratio on 21.5" monitor (Reference data)									
Focus section	1	2	3	4	5	6	7	8	9
Distance(mm)	159	114	92.0	70.0	48.5	39.5	35.0	30.5	26.0
FOV(mm)	35.0	25.0	20.0	15.0	10.0	8.00	7.00	6.00	5.00
Magnification (X)	10	13	17	22	34	42	48	56	68
Focus section	10	11	12	13	14	15	16	17	18
Distance(mm)	23.0	21.0	19.0	17.0	16.0	15.0	14.0	13.0	12.0
FOV(mm)	4.50	4.00	3.50	3.00	2.80	2.60	2.40	2.20	2.00
Magnification (X)	75	85	97	113	122	131	142	155	170
Focus section	19	20	21	22	23	24	25	26	
Distance(mm)	11.5	11.0	10.5	10.0	9.5	9.0	8.5	8.0	
FOV(mm)	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	
Magnification (X)	179	189	200	213	227	244	262	284	

2. Printed Notice

Please read the following information before operating.

2.1 Maintenance

Please abide by the following rules while storing or using this product:

- 2.1.1 Keep dry: do not place the product in a humid environment. Dry surroundings help extend the life of the product.
- 2.1.2 Avoid temperature shock: temperature shock (for example, taking the product into a warm room from a cold environment) will cause internal condensation inside the machine. Please put the device inside the protection bag or handbag to prevent temperature shock, and avoid using the device in an environment with extreme temperatures.
- 2.1.3 Avoid dropping: the device may malfunction if it encounters strong collision, vibration, or distortion.
- 2.1.4 Turn the microscope off before cutting off the power supply : do not forced cut off the power supply.
- 2.1.5 Do not face the lens against strong light or sunshine for extended periods of time: Strong light rays may degrade sensitive elements and generate white stains on images.
- 2.1.6 Handle the device carefully: do not disassemble USB cable and Lens forcefully and avoid contact with the lens since they are subjected to damage.
- 2.1.7 Make sure to switch the power supply off and unplug the power cable if the device is not in operation for an extended period of time. Store the device in a dry environment with excellent ventilation. Do not expose the machine in an environment lower than -5°C or higher than 50°C.
- 2.1.8 While carrying, put the device inside the box to prevent it from being damaged.

2.2 Product Specification

CMOS Sensor	5 million pixels CMOS sensor
L e n s	High Sensitive Lens
Magnification	10x – 280x on 21.5" monitor
Light Source	White LED × 8pcs
USB Port	USB 2.0, 3.0 Compatible, PC connection
Focus way	Microscope buttons/ Pc focus control
P o w e r Consumption	1.125A(Max)
S i z e	48(L)×64(W)×150(T) mm
W i g h t	Host weight around 310 grams
Operating temperature	5°C – 50°C
S t o r a g e temperature	-10°C – 60°C
H u m i d i t y	lower than 85% (No Condensation)
For any changes, please visit https://www.vitiny.com	

2.3 Safety Instructions

- As an electronic product, please do not use the device in any place in which electronic products are prohibited.
- Keep the device away from water sources to avoid electric shock as it is not waterproof.
- Keep the device away from chemicals or substances with explosive or fire hazards. Switch the device off near gas stations.
- In the case that there are foreign substances or water inside the device, or the device is dropped or damaged, please switch off and remove the power supply to avoid fire and electric shock.
- Do not look steadily into Light sources after switching on the host as it is harmful to your eyes.
- Please use only the product accessories provided in the box for connections. Do not use any outside products without approval of original factory.
- Please remove the power supply from the microscope when not in use.
- Do not disassemble the machine for inspection. For any problems occurring in the machine itself, please power off the device and contact us through e-mail: mltc@vitiny.com

ViTiny Warranty Sheet

Product	
Model no	UM12
S/L nos.	
Purchase d a t e	DD/MM/YYYY
Purchaser	
Tel no:	
Address	
Email	
Distributor Seal for Confirmation (Stamp is necessary for validation of the Warranty) ※Distributor's seal shall include name of the shop, telephone and address※	

Please ask the distributor to fill in the name of the shop, address, purchase date, and other contents to protect your rights and validate your one-year warranty since upon the purchase date.

Contents of Warranty: The warranty is provided free of charge for faults caused by manufacturing within one year from the purchase date.

Non-warranty:

1. Product appearance parts, such as the outer casing, and LED cover, etc (charged spare parts are limited to one year after completing the product manufacturing).
2. Consumption goods of the host itself, such as LED lights, lens and Sensor.
3. Product accessories and fittings, such as the power supplier, USB cable, calibrator, Stand...etc.

Services caused by any of the following situations in the period of the warranty shall not be provided free of charge:

1. Improper use or disassembly, repair or refitting.
2. Any damages to the device caused by external or environmental factors.
3. Discrepancy of product serial number, unfilled or unidentified warranty. Any inspection or repair service after the period of warranty will be charged as follows:
 - (1) Service fees (including transportation fees) of product inspection.
 - (2) Repair fees.
 - (3) Fees of replaced parts

ViTiny Service Center Tel: 07-657-9551 Fax: 07-657-9561

Address: 10 F., No.1, Section 1, Syuecheng Road, Dashu District, Kaohsiung City 840, Taiwan (R.O.C.)

Website: <https://www.vitiny.com>



[HTTPS://WWW.VITINY.COM](https://www.vitiny.com)

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