

AmScope M220-3MP

AmScope M220-3MP 40X-1000X Compound Microscope User Manual

Model: M220-3MP

1. INTRODUCTION

This manual provides instructions for the proper setup, operation, and maintenance of your AmScope M220-3MP Compound Microscope. This instrument is designed for educational, clinical, and hobbyist use, offering magnification from 40X to 1000X and featuring a built-in 3MP USB digital camera for image and video capture. Please read this manual thoroughly before using the microscope to ensure optimal performance and longevity.

2. SAFETY INFORMATION

- Handle the microscope with care. Avoid sudden impacts or vibrations.
- Do not expose the microscope to direct sunlight, high temperatures, or high humidity.
- Always disconnect the power cord before cleaning or performing any maintenance.
- Keep the microscope away from corrosive chemicals.
- Ensure the microscope is placed on a stable, level surface.
- Do not attempt to disassemble or repair the microscope yourself. Contact qualified service personnel.

3. PACKING LIST

Upon unpacking, please verify that all the following components are present:

- One Monocular Microscope with 3D Mechanical Stage
- Built-in 3MP USB Camera
- Four Achromatic DIN objectives: 4X, 10X, 40X, 100X (oil immersion)
- One Widefield WF10X Eyepiece
- One Dust Cover
- User's Manual (Download)
- One CD with Camera Software Driver

- One 6' USB Cable

4. COMPONENTS OVERVIEW

Familiarize yourself with the main parts of your AmScope M220-3MP microscope:



Overall view of the AmScope M220-3MP Compound Microscope, showing the monocular head, objective turret, stage, and base.

Monocular Head: The viewing tube where the eyepiece is inserted. Angled at 45 degrees for comfortable viewing.

Eyepiece (WF10X): The lens through which you look to observe the specimen.

Objective Turret (Revolving Nosepiece): Holds the objective lenses and allows for easy switching between magnifications.

Objective Lenses (4X, 10X, 40X, 100X): Lenses that magnify the specimen.

Mechanical Stage: A platform with clips to hold the specimen slide, featuring X-Y movement controls for precise positioning.

Coarse Focus Knob: Used for large adjustments in focus.

Fine Focus Knob: Used for small, precise adjustments in focus.

Illumination System: Built-in LED light source for illuminating the specimen.

Abbe Condenser with Iris Diaphragm: Located beneath the stage, it focuses light onto the specimen and controls the amount of light.

Built-in 3MP USB Camera: Integrated camera for digital imaging and video capture.

5. SETUP

1. **Unpacking and Placement:** Carefully remove all components from the packaging. Place the microscope on a stable, level, and vibration-free surface.
2. **Eyepiece Installation:** Insert the WF10X eyepiece into the monocular head.
3. **Objective Lens Installation:** The objective lenses (4X, 10X, 40X, 100X) are typically pre-installed on the revolving nosepiece. Ensure they are securely screwed in.
4. **Power Connection:** Connect the power adapter to the microscope's power input and then plug it into a suitable electrical outlet (240 Volts).
5. **USB Camera Connection and Software Installation:**
 - Connect the provided 6' USB cable from the microscope's USB port to your computer.
 - Insert the included CD with the camera software driver into your computer's CD drive.
 - Follow the on-screen instructions to install the camera software. The software is compatible with Windows XP/Vista/7/8, and Mac OS X 10.6.8 and higher.

6. OPERATING INSTRUCTIONS

6.1 Powering On

Locate the power switch on the microscope base and turn it on. The LED illumination should light up.

6.2 Adjusting Illumination

Use the dimmer control knob on the base to adjust the brightness of the LED illumination. Adjust the iris diaphragm on the Abbe condenser to control contrast and resolution.

6.3 Placing a Specimen

Place a prepared microscope slide onto the mechanical stage, securing it with the stage clips. Use the X-Y stage control knobs to center the specimen area you wish to observe under the objective lens.



Close-up view of the objective lenses and mechanical stage, highlighting the objective turret and specimen holder.

6.4 Focusing

1. Rotate the objective turret to select the lowest power objective (4X).
2. While looking through the eyepiece, slowly turn the **Coarse Focus Knob** to bring the specimen into approximate focus.

3. Once roughly focused, use the **Fine Focus Knob** to achieve a sharp, clear image.

6.5 Changing Magnification

To increase magnification, rotate the objective turret to the next desired objective (e.g., 10X, 40X). The microscope is parfocal, meaning minimal fine focus adjustment should be needed when switching objectives.

6.6 Using the 100X Oil Immersion Objective

The 100X objective requires immersion oil for proper function. Place a small drop of immersion oil directly onto the specimen slide in the area to be viewed. Carefully rotate the 100X objective into the oil drop, ensuring no air bubbles are present. Focus using only the fine focus knob. After use, clean the 100X objective and slide immediately with lens cleaning solution.

6.7 Using the Digital Camera

After installing the camera software, launch the application on your computer. The software provides a live video feed from the microscope. You can:

- **Capture Still Images:** Use the software interface to take high-resolution still photographs of your specimen.
- **Record Video:** Record live video footage of moving specimens or processes.
- **Measurement Functions:** Utilize built-in tools for on-screen measurements.
- **Image Editing:** The software includes basic image editing and processing functions.

7. MAINTENANCE

- **Cleaning Lenses:** Use only specialized lens cleaning paper and lens cleaning solution. Gently wipe the lens surfaces. Avoid touching lenses with bare fingers.
- **Cleaning the Body:** Wipe the microscope body with a soft, damp cloth. Do not use organic solvents.
- **Storage:** When not in use, cover the microscope with the provided dust cover and store it in a dry, dust-free environment.
- **Bulb Replacement:** The microscope uses an LED illumination system, which has a long lifespan and typically does not require bulb replacement.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No image visible	Power off, illumination off, objective not clicked into place, diaphragm closed.	Check power, turn on illumination, rotate objective turret until it clicks, open diaphragm.
Image blurry / Cannot focus	Incorrect focus knob usage, objective lens dirty, slide upside down.	Use coarse then fine focus, clean objective lens, ensure slide cover slip is up.
Camera not detected / Software issues	USB cable loose, driver not installed correctly, software compatibility issue.	Ensure USB cable is secure, reinstall camera driver, verify OS compatibility. Note: Some users have reported lower than advertised resolution; ensure software settings are correct.
Dust or spots in view	Dust on eyepiece or objective lens.	Clean eyepiece and objective lenses with lens cleaning supplies.

9. SPECIFICATIONS



Side view of the AmScope M220-3MP microscope, showing the model number label and power input.

Feature	Detail
Model Name	M220-3MP

Feature	Detail
Magnification Range	40X - 1000X
Eyepiece	WF10X Widefield
Objective Lenses	4X, 10X, 40X (Spring), 100X (Spring, Oil) - Achromatic
Head	Monocular, 45-degree inclined
Stage	3D Double Layer Mechanical Stage
Focusing	Coarse and Fine Focusing Adjustments
Illumination	Tungsten LED, Variable Intensity
Condenser	Abbe Condenser with Iris Diaphragm
Digital Camera	Built-in 3MP USB
Software Compatibility	Windows XP/Vista/7/8, Mac OS X 10.6.8 and higher
Power Source	Corded Electric (240 Volts)
Item Weight	10 Pounds
UPC	840979100369

10. WARRANTY AND SUPPORT

For warranty information, technical assistance, or customer support regarding your AmScope M220-3MP microscope, please contact AmScope directly. Refer to the official AmScope website ([AmScope Store](#)) or the documentation included with your purchase for the most current contact details and support resources.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question