

## AmScope M158C-2L

# AmScope M158C-2L Cordless Compound Monocular Microscope User Manual

Model: M158C-2L

## 1. PRODUCT OVERVIEW

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The AmScope M158C-2L is a versatile cordless compound monocular microscope designed for biological and educational applications. It features interchangeable WF10x and WF25x eyepieces, providing a magnification range from 40x to 1000x. The microscope is equipped with both upper (episcopic) and lower (diascopic) LED illumination, controlled by a rheostat for adjustable brightness. Its robust design includes coaxial coarse and fine focus knobs, a single-lens condenser, and a plain stage with stage clips. This model can be powered by a 110V AC adapter or three AA batteries, offering flexibility for both lab and field use.



Figure 1: AmScope M158C-2L Cordless Compound Monocular Microscope. This image displays the full microscope unit, including the monocular head, objective lenses, stage, focus knobs, and power adapter.

## 2. SAFETY INFORMATION

- Always handle the microscope with care to prevent damage to optical and mechanical components.
- Ensure the microscope is placed on a stable, level surface to prevent tipping.
- Do not expose the microscope to extreme temperatures, humidity, or direct sunlight.
- Disconnect the power adapter before cleaning or performing any maintenance.
- Use only the specified power adapter (110V) or AA batteries.
- Keep small parts and accessories away from children to prevent choking hazards.
- Avoid touching optical surfaces with bare hands. Use a lens cleaning cloth if necessary.

## 3. WHAT'S IN THE BOX

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Verify that all components listed below are included in your package:

- AmScope M158C-2L microscope with plain stage
- WF10x eyepiece
- WF25x eyepiece
- 4x DIN achromatic objective
- 10x DIN achromatic objective
- 40x DIN achromatic objective
- (2) Stage clips
- Dust cover
- 110V power adapter
- Instructions (this manual)

## 4. SETUP

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### 4.1 Unpacking and Placement

1. Carefully remove all components from the packaging.
2. Place the microscope on a sturdy, level, and vibration-free surface.
3. Remove the dust cover from the microscope.

### 4.2 Eyepiece Installation

1. Gently insert either the WF10x or WF25x eyepiece into the monocular viewing tube.
2. Ensure the eyepiece is fully seated.

### 4.3 Power Connection

The microscope can be powered by the included AC adapter or by three AA batteries (sold separately).

- **AC Power:** Connect the 110V power adapter to the microscope's power input jack and then plug it into a standard electrical outlet.
- **Battery Power:** Locate the battery compartment on the base of the microscope. Insert three AA batteries, ensuring correct polarity. Close the battery compartment cover securely.

## 5. OPERATING INSTRUCTIONS

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### 5.1 Preparing a Specimen

1. Place your prepared slide or specimen on the plain stage.

2. Secure the slide using the stage clips.
3. For opaque specimens, ensure the upper LED illumination is positioned correctly. For translucent specimens, ensure the lower LED illumination is clear.



Figure 2: User placing a specimen slide on the microscope stage. This image illustrates the proper method for securing a slide using the stage clips on the plain stage.

## 5.2 Selecting Magnification

1. Rotate the revolving nosepiece to select the desired objective lens (4x, 10x, or 40x). Start with the lowest magnification (4x) for initial viewing.
2. The total magnification is calculated by multiplying the eyepiece magnification by the objective lens magnification (e.g., WF10x eyepiece with 40x objective = 400x total magnification).

## 5.3 Adjusting Illumination

The microscope features both upper (episcopic) and lower (diascopic) LED illumination.

- **Lower Illumination (Brightfield):** Used for translucent or transparent specimens. Turn on the lower LED light

source. Adjust the light intensity using the rheostat control knob located on the base. The disc diaphragm below the stage can be rotated to control the amount of light passing through the specimen.

- **Upper Illumination (Incidental):** Used for opaque specimens that do not allow light to pass through. Turn on the upper LED light source. Adjust the light intensity using the rheostat control knob.

## 5.4 Focusing

1. With the lowest power objective (4x) in place, use the coarse focus knob (larger knob) to bring the specimen into approximate focus.
2. Once roughly focused, use the fine focus knob (smaller knob, nested with coarse focus) for precise focusing and to achieve a sharp image.
3. When switching to higher magnification objectives, only minor adjustments with the fine focus knob should be necessary due to the parfocal design.

## 5.5 Video Demonstration

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Video 1: AmScope M158C-2L Cordless Compound Monocular Microscope Overview. This video provides a visual demonstration of the microscope's features, including its high-quality optics, dual illumination system for opaque and transparent specimens, and precision focusing capabilities.

## 6. MAINTENANCE

- **Cleaning Lenses:** Use a soft, lint-free lens cleaning cloth and a small amount of lens cleaning solution. Wipe gently in a circular motion. Avoid using abrasive materials or harsh chemicals.
- **Cleaning 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 cool, dry place away from direct sunlight and dust.
- **Battery Replacement:** If using battery power, replace all three AA batteries when the illumination dims significantly. Ensure correct polarity.

## 7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No illumination	Power adapter not connected, batteries dead/incorrectly inserted, power switch off.	Check power adapter connection, replace batteries, ensure power switch is on.
Image blurry/cannot focus	Incorrect objective selected, coarse/fine focus not adjusted, slide upside down, dirty lens.	Start with lowest objective, use coarse then fine focus, ensure slide is correct side up, clean lenses.
Dark field of view	Diaphragm closed too much, illumination too low, objective not fully clicked into place.	Adjust diaphragm, increase rheostat intensity, rotate nosepiece until objective clicks.
Dust/spots in view	Dust on eyepiece or objective lens.	Clean eyepiece and objective lenses carefully.

## 8. SPECIFICATIONS

Feature	Detail
Head	Compound monocular, 45-degree fixed inclination, 360-degree rotatable
Eyepieces	WF10x, WF25x
Objectives	4x, 10x, 40x DIN achromatic
Magnification Range	40x-1000x
Stage	Plain stage with stage clips
Lighting Configuration	Incidental (upper) and Transmitted (lower)
Condenser	Single lens, 0.65 NA
Diaphragm	Disc diaphragm
Light Source	LED with rheostat control
Illumination Type	Brightfield
Focusing	Coaxial coarse and fine focus
Power	110V/60Hz AC adapter or three AA batteries
Product Dimensions	10.24 x 6.69 x 14.96 inches
Item Weight	4.8 pounds
Material	Metal

## 9. WARRANTY AND SUPPORT

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United Scope (AmScope) products are designed for durability and precision. While specific warranty details are typically provided with the product documentation, AmScope generally offers a 5-year warranty on their microscopes, covering manufacturing defects.

For technical support, warranty claims, or replacement parts, please contact AmScope customer service directly. Refer to the contact information provided on the official AmScope website or in your product's original packaging.

**Manufacturer:** AmScope

**Headquarters:** Irvine, CA, USA