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Celestron 44348

Celestron PentaView LCD Digital Microscope Instruction Manual

Model: 44348

INTRODUCTION

The Celestron PentaView LCD Digital Microscope is a versatile biological microscope designed for educational, laboratory, and hobbyist use. It features a 4.3-inch full-color LCD screen, a 5MP digital camera, and offers magnification up to 2400x. This manual provides essential information for setting up, operating, and maintaining your microscope.

Great for STEM Students, Hobbyists & Professionals

User-friendly design for learning, discovery, and inspection



Image: The Celestron PentaView LCD Digital Microscope, a comprehensive tool for microscopic observation.

PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- Celestron PentaView LCD Digital Microscope
- 8GB SD Card
- USB 2.0 Cable (for data transfer)
- 10 Prepared Slides
- 4-plug, multi-country AC Adapter
- Dust Cover
- Carrying Case
- Touch Pen
- AV Cable (for TV output)

Everything You Need in One Kit



- Microscope
- 8GB SD Card
- 60x Objective Lens
- USB 2.0 Cable
- AV/TV Cable
- Touch Pen
- 10 Prepared Slides
- Dust Cover
- Carrying Case
- AC Adapter with 4 international plugs

Image: All components included with the Celestron PentaView LCD Digital Microscope, neatly arranged.

PRODUCT COMPONENTS

Familiarize yourself with the various parts of your microscope:



Image: A detailed diagram labeling the key components of the PentaView LCD Digital Microscope for easy identification.

1. **LCD Monitor:** 4.3-inch full-color screen for viewing specimens.
2. **SD Card/USB/AV-TV Cable Receptacles:** Ports for memory card, USB connection, and AV output.
3. **Objective Lenses:** Rotating turret with 4x, 10x, 20x, 40x lenses.
4. **Detachable Objective Lens:** A separate 60x objective lens for higher magnification.
5. **Upper Illuminator:** Top LED light source for opaque specimens.
6. **Mechanical Stage:** Adjustable platform for precise slide positioning.
7. **Filter Wheel:** 6-position wheel with color and aperture filters to enhance contrast.
8. **Focus Knobs:** Coarse and fine adjustment knobs for sharp imaging.
9. **Bottom Illuminator:** Adjustable LED light source beneath the stage for translucent specimens.

Key Features

- **4.3" LCD Screen with 180° Rotating Head:** Allows for comfortable viewing and sharing of observations.

4.3" LCD Screen Mounted on 180° Rotating Head

- View specimens in vivid detail without eyepieces
- Rotate the screen to share observations in group or classroom settings



Image: The microscope's LCD screen rotated to demonstrate its flexibility for group viewing.

- **5MP Digital Camera with Video Recording:** Captures high-resolution still images and 20 fps video directly to an SD card.

5MP Digital Camera with Video Recording

Capture high-resolution still images and smooth 20 fps video directly to an SD card



Image: A close-up view of the microscope's side panel, highlighting the SD card slot and other connectivity ports.

- **Magnification up to 2400x:** Optical magnification up to 600x with 4x digital zoom for a total of 2400x.

Powerful Magnification Range

- Offers 40x, 100x, 200x, 400x, and 600* optical magnification
- Use 4x digital zoom to reach up to 2400x magnification.

* 60x objective lens is detachable



Image: A detailed view of the microscope's objective lenses, indicating the various magnification options.

- **Adjustable Mechanical Stage with Illumination:** Provides precise control over slide movement and optimal lighting.

Precise Control

See every detail clearly with a fully adjustable mechanical stage, bright bottom LED lighting, and a built-in 6-position filter wheel to enhance contrast and control light intensity.



Image: The mechanical stage and focus knobs of the microscope, designed for precise specimen manipulation.

- **Dual Power Options:** Operates with the included AC adapter or 4 AA batteries (not included) for portability.

Dual Power Options for Flexibility

- Operates on 4 AA batteries for use in the field
- Plugs into the wall for home, classroom, or on-the-go exploration



Image: The microscope connected to its AC power adapter, demonstrating one of its power options.

- **TV Output:** Connects to a TV or monitor via AV output for large-scale viewing.

Big-Screen Viewing

Display on a TV or monitor via AV output for large-scale viewing

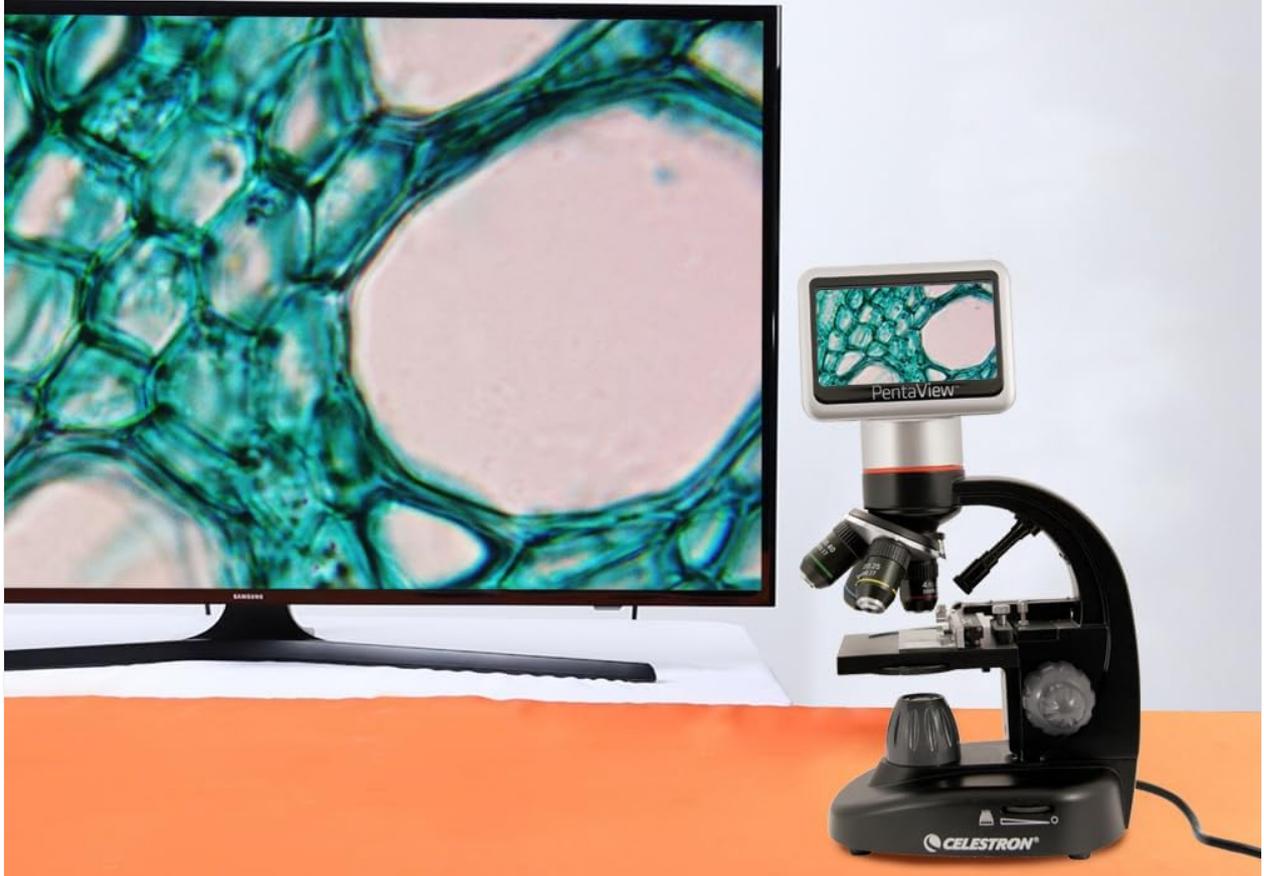


Image: The microscope displaying a specimen on an external television screen via its AV output.

SETUP

Powering the Microscope

- **AC Power:** Connect the included AC adapter to the microscope's power input and plug it into a wall outlet.
- **Battery Power:** For portable use, insert 4 AA batteries (not included) into the battery compartment located at the base of the microscope.

Inserting the SD Card

Locate the SD card slot on the side of the LCD monitor. Insert the included 8GB SD card until it clicks into place. This card is used for saving images and videos.

Placing a Specimen Slide

1. Gently open the stage clips on the mechanical stage.
2. Place a prepared slide (or your own specimen slide) under the clips, ensuring the specimen is centered over the aperture.
3. Release the stage clips to secure the slide.

OPERATION

Turning On/Off

Press and hold the power button located on the microscope's base until the LCD screen illuminates (or turns off).

Adjusting Magnification

1. Rotate the objective lens turret to select the desired magnification (4x, 10x, 20x, or 40x).
2. For 60x magnification, attach the detachable 60x objective lens.
3. Use the digital zoom function on the LCD screen (up to 4x) to achieve higher magnifications, up to 2400x total.

Focusing the Image

1. Use the coarse focus knob for initial, large adjustments to bring the specimen into approximate focus.
2. Then, use the fine focus knob for precise adjustments to achieve a sharp, clear image.

Adjusting Illumination and Filters

- **Bottom LED Illuminator:** Adjust the brightness using the control dial for translucent specimens.
- **Upper Illuminator:** Turn on the top LED for opaque specimens.
- **Filter Wheel:** Rotate the 6-position filter wheel to select different color or aperture filters to enhance contrast and control light intensity for various specimens.

Capturing Images and Videos

Use the controls on the LCD monitor to capture still images or record videos. Saved files are stored directly on the inserted SD card.

Connecting to an External Display

Use the included AV cable to connect the microscope to a television or monitor for larger-scale viewing. Ensure the external display is set to the correct input source (e.g., AV, Video 1).

MAINTENANCE

- **Cleaning Lenses:** Use a soft, lint-free cloth specifically designed for optical surfaces. Avoid harsh chemicals.
- **General Cleaning:** Wipe the microscope body with a soft, damp cloth. Do not use abrasive cleaners.
- **Storage:** When not in use, cover the microscope with the provided dust cover and store it in its carrying case in a dry, clean environment.
- **Battery Replacement:** Replace AA batteries when the low battery indicator appears on the LCD screen or when performance diminishes.

TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No image on LCD screen	Microscope not powered on; insufficient illumination; objective lens not properly aligned.	Ensure power is connected or batteries are installed. Turn on illuminators and adjust brightness. Rotate objective turret until it clicks into place.
Image is blurry	Incorrect focus; objective lens dirty; slide not flat.	Adjust coarse and fine focus knobs. Clean objective lenses. Ensure slide is properly seated on the stage.
Cannot save images/videos	SD card full or not inserted correctly; SD card corrupted.	Check SD card insertion. Delete unnecessary files or use a new SD card. Format the SD card if necessary (this will erase all data).
No image on external TV	AV cable not connected properly; TV input not selected correctly.	Ensure AV cable is securely connected to both microscope and TV. Select the correct AV input on your television.

SPECIFICATIONS

Feature	Detail
Model Name	PentaView LCD Digital Microscope
Item Model Number	44348
Magnification Range	40x - 2400x (Optical up to 600x, Digital up to 4x)
Camera Resolution	5MP (Still Images), 20 fps (Video)
LCD Screen	4.3 inch, 180 Degrees Rotating
Objective Lenses	4x, 10x, 20x, 40x, Detachable 60x
Illumination	Adjustable Bottom LED, Upper LED
Filter Wheel	6-position (Color and Aperture Filters)
Storage	SD Card (8GB included)
Connectivity	USB 2.0, AV Output
Power Source	AC Adapter (included), 4 AA Batteries (not included)
Product Dimensions	7 x 5.5 x 13 inches (17.8 x 14 x 33 cm)
Item Weight	4.18 pounds (1.9 kg)
Material	LCD Desktop
Color	Black

WARRANTY AND SUPPORT

Celestron provides a 2-Year US Warranty for this product. For technical assistance or warranty claims, please contact Celestron customer support. Detailed contact information can be found on the official Celestron website or in

the warranty card included with your product.

For additional resources and frequently asked questions, visit the [Celestron website](#).