CELESTRON®

MICRO Spin™
DIGITAL MICROSCOPE

INSTRUCTION MANUAL
MODEL # 44114

1. INTRODUCTION

Thank you for purchasing the Celestron MicroSpin™ Digital Microscope. Please read this instruction manual carefully before using this product and retain it for future reference. With proper care and maintenance, your microscope will provide you years of service.

The MicroSpin Digital Microscope differs from a traditional optical microscope. Instead of an eyepiece, MicroSpin's internal camera sensor acts as a 10x eyepiece. The microscope connects to your computer via the USB 2.0 cable and the magnified image of your specimen is displayed on your monitor. The integrated objective wheel has 6 objective lenses with powers from 10x to 60x, resulting in 100x to 600x final magnification.*

You can capture and save still images and video to your computer using the included MicroSpin Digital Capture software.

***NOTE:** The final magnification you can achieve depends on the size of your monitor—the larger the monitor, the higher the magnification.

Windows OS
• Windows 8 (32 bit or 64 bit)/Windows 7 (32 bit or 64 bit)/Windows XP SP2, SP3 systems/Windows Vista (32 bit or 64 bit)
• CD-ROM drive
• CPU speed P4-1.8 GHz or above
• Minimum 512 MB RAM
• Minimum 800 MB available hard disk space
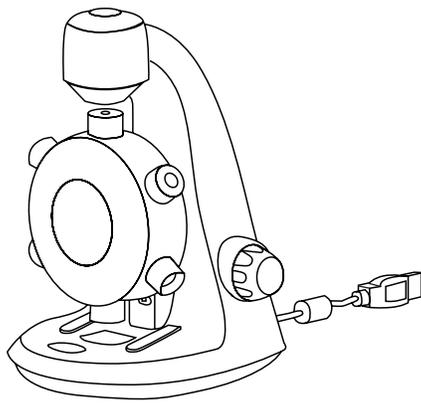• Available USB 2.0 port

Mac OS
• Mac OS X 10.4.8-Mac OS X systems 10.10.x
• CPU speed Power PC G3/G4/G5 or Intel-based
• CD-ROM drive
• Minimum 128 MB RAM
• Minimum 800 MB available hard disk space
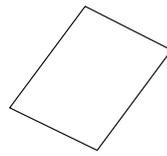• Available USB 2.0 port

SPECIFICATIONS

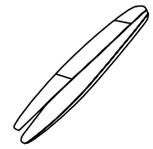|	
Magnification Powers	100x, 200x, 300x, 400x, 500x, 600x
Sensor	2 MP CMOS
Image File Format	JPEG
Video Capturing Resolution	320 x 240, 640 x 480
Effective observation area	Objective lens 100x = 3.6 x 2.70 mm Objective lens 200x = 1.8 x 1.40 mm Objective lens 300x = 1.2 x 0.90 mm Objective lens 400x = 0.9 x 0.70 mm Objective lens 500x = 0.7 x 0.50 mm Objective lens 600x = 0.6 x 0.45 mm
OS systems supported	Windows 8/7/XP/Vista Mac OSX 10.4.8 and up
Connection Type	USB
Power	5V, 140mAh (through USB cable connected to computer)
Illuminators	Upper and lower LED
Size	8.19in. x 5.12in. x 6.02in. / 208mm x 130mm x 153mm
Weight	0.77 lbs / 350 g

IN THE BOX

MicroSpin Digital
Microscope (1)

(1) Quick Set-up
    Guide

(1) Eye dropper

(1) Tweezers
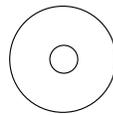
(3) Blank specimen
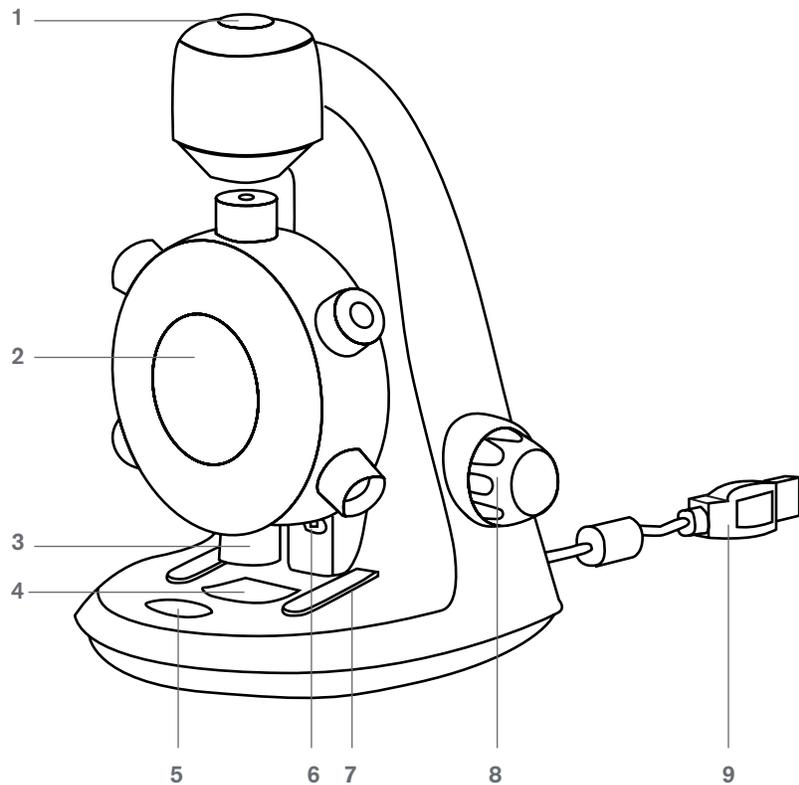   slide cover slips

(3) Blank specimen
    slides

(1) Prepared slide
    with cotton
    swatch

(1) MicroSpin Digital
    Capture software

PARTS

1. Shutter trigger button

2. Objective wheel

3. Objective lenses (6)

4. Stage and lower illuminator LED

5. Illuminator selector switch

6. Upper illuminator LED

7. Stage clips

8. Focus knob

9. USB cable

2. GETTING STARTED

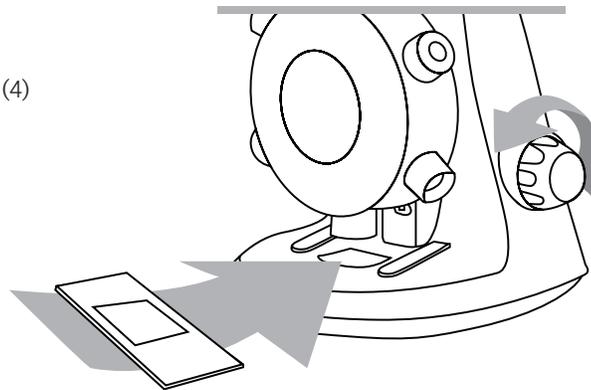## SOFTWARE INSTALLATION

Windows OS

1. Insert the supplied MicroSpin Digital Capture CD to the computer's CD-ROM drive.

2. Double click the "MicroSpin Digital Capture.exe" icon within the CD.

3. Follow the MicroSpin Digital Capture software wizard to complete the installation.

Mac OS

1. Insert the supplied MicroSpin Digital Capture CD to the computer's CD-ROM drive.

2. Double click the "MicroSpin Digital Capture.dmg" icon within the CD.

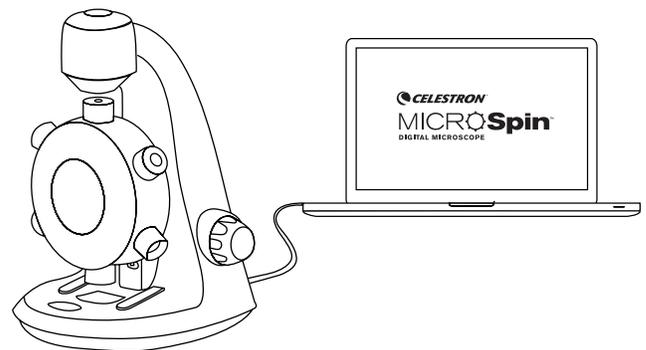**3.** Drag the MicroSpin Digital Capture Viewer icon into the Applications folder.

INSTALLING A SPECIMEN SLIDE

• Raise the objective wheel (2) by turning the focus knob counter-clockwise until it stops.

• Place a prepared specimen slide on the specimen stage (4) and secure it in place with the stage clips (7).

CONNECTING THE DEVICE

• Connect the device to the computer by plugging the USB 2.0 cable into an open USB port on your PC.

STARTING THE DIGITAL CAPTURE SOFTWARE

Windows OS

Launch the MicroSpin Digital Capture software by double clicking the desktop icon from the desktop, or from the start menu {Start > All Programs > MicroSpin Digital Capture > MicroSpin Digital Capture}.
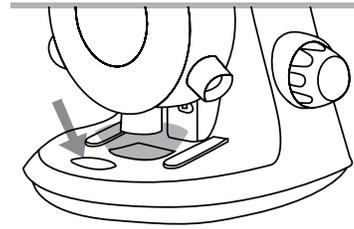
MicroSpin Digital Capture

Mac OS

Launch the MicroSpin Digital Capture software by double clicking the icon in the Applications menu.
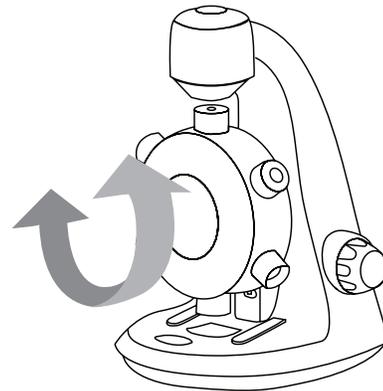
MicroSpin Digital Capture

SELECTING A LIGHT SOURCE

• This digital microscope contains an upper (6) and lower (4) LED illuminator. Once connected to your computer, one of the lights will turn on. Press the illuminator selector switch (5) to toggle between the illuminators.
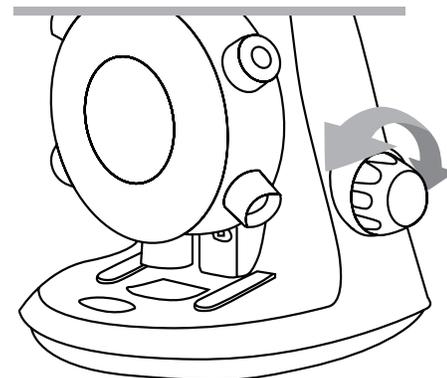
SELECTING A MAGNIFICATION POWER

• The objective wheel (2) can be rotated clockwise or counter-clockwise. Rotate the wheel until the desired objective is directly over the specimen and you feel a 'click'. This means the objective lens is correctly aligned.

FOCUSING

• The Focus knob (8) can be rotated clockwise or counter-clockwise. Rotate the focusing knob (8) while viewing the streaming image on the computer monitor. Stop when the image is in focus.

NOTE: Make sure that the objective is clear from obstructions and does not hit the specimen slide while lowering the objective's wheel during focusing.

3. USING THE DIGITAL CAPTURE SOFTWARE

MAIN WINDOW ICONS

Settings icon

Video Record/Stop

Shutter trigger

Information

Timer

Power off

SYSTEM SETTINGS MENU

The first time the MicroSpin Digital Capture software is started, the default settings will be loaded, and you may change these settings manually in the system settings menu.

Device - Choose your video streaming device (in this case the MicroSpin Digital Microscope).

Resolution - Change the capture resolution settings here.

Timed shot setup - Setup automatic image capture here.

Movie setup - Choose your video resolution here (640x480 or 320x240).

Save setting - Choose the destination folder on your computer where all images and video will be saved.

Language setting - The language of the MicroSpin Digital Capture software can be changed using this setting.

Advanced settings - Clicking the "More…" button on the right of the system settings menu will allow you to manually adjust all of the image settings.

These may include:

- Brightness
- Gamma
- Contrast
- White Balance
- Hue
- Backlight comp
- Saturation
- Gain
- Sharpness

NOTE: These settings available may vary depending on your operating system.

Saved files - With the MicroSpin Digital Capture software open, you can locate the saved files folder by clicking the "More… " button located on the left of the main window.

Full screen - To activate full screen mode, click the full screen button located in the bottom right hand corner of the MicroSpin Digital Capture software window.

- To exit full screen mode, either double click on the screen, or press the "Esc" button on the keyboard.

CARE AND MAINTENANCE

• Keep the device dry and protect it from water or vapor.
• Do not leave your device in a place with an extreme high or low temperature.
• Do not touch the device with wet hands. Doing so may damage the device or cause an electric shock to the user.
• Do not use or store the device in dusty, dirty areas as its moving parts may be damaged.
• Do not use harsh chemicals, cleaning solvents or strong detergents to clean the device. Instead, wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.

WARNING

• Do not look into the digital microscope's illuminators. Doing so may cause permanent eye damage.
• Do not attempt to open or dismantle the digital microscope.

LEGAL INFORMATION

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WARRANTY

Your MicroSpin Digital Microscope has a two year limited warranty. Please visit the Celestron website for detailed information on all Celestron microscopes: **celestron.com**