



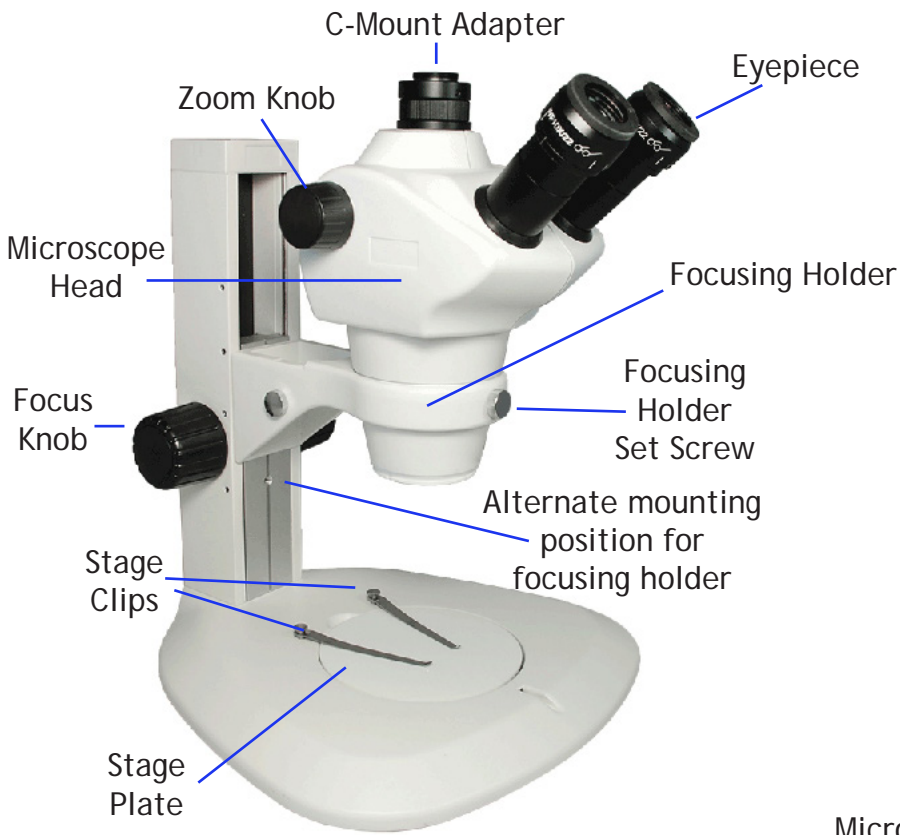
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Richter Optica

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Instructions for Model:  
S850  
Stereo Zoom Microscope



Assembly:

1. Insert the microscope head into the focusing holder.
2. Tighten the focusing holder set screw.
3. Insert the eyepieces into the eyetubes.
4. Move the zoom knob to the lowest setting (0.8x).
5. Adjust the focus knob while looking through the eyepieces to get a clear image.
6. If using the lighted stand connect the power cord connections.



Thank you for your purchase of a Richter Optica microscope. The information in this manual is provided to answer most questions that can arise when operating your microscope and to help you avoid unnecessary maintenance expenses in the future.

Please carefully read instructions before operating microscope. Nomenclature used to describe components and controls are identified on opposite page.

## UNPACKING

Do not discard styrofoam container or packing materials until you are sure shipment is complete and undamaged (retain styrofoam shipping container to store your microscope when it is not in use). Remove all tape and packing material used to protect microscope during shipment. Make certain lens surfaces do not come in contact with dirt, fingerprints or oil. Damage of lens surfaces occur when they come in contact with such contaminants, and image quality is reduced.

## BEFORE USE

When moving the microscope, use both hands and only lay on flat, even surfaces. Damage will occur by holding the stage, focusing knobs or head when moving the microscope. Hold carrying handle when moving the microscope.

For safety, make sure the power switch is always turned to the off position “O” before replacing the bulb or fuse and wait until both the bulb and bulb holder have cooled down.

VLED Stand:

Replacement bottom LED circuit board: With connector and 36 LED lights. Part #S850-001.

Replacement top LED lamp assembly: Includes 24 LED lights and connector cord. Part # S850-002.

## SETTING UP THE INSTRUMENT

Avoid placing the instrument in locations exposed to direct sunlight, dust, vibration, high humidity and where it is difficult to unplug the power supply cord.

## MAINTENANCE

1. Wipe lenses only with lens paper.
2. Never disassemble the microscope other than to change the bulb (instructions on page 6). Disassembling the microscope will affect performance and void warranty.
3. Cover microscope with dust cover provided after each use.

## ASSEMBLING THE MICROSCOPE

1. POWER CORD:  
Connect the power cord to the wall outlet (110~240V).
2. ADJUST ILLUMINATION:  
Turn the main power switch to the on position. Adjust the light intensity by rotating the rheostat control knob.

## INSTALLING AN EYEPIECE RETICLE

1. Unscrew the reticle retaining ring from the bottom of the eyepiece.
2. Remove the reticle retaining ring. Insert a 25mm diameter glass eyepiece reticle with the printing facing down. The reticle will sit on the small ledge just inside the eyepiece.
3. Replace the reticle retaining ring by screwing it back into the eyepiece.
4. Look through the eyepiece to ensure that the reticle is not upside down. If it is, remove the retaining ring, flip the reticle over and replace the retaining ring.



## TROUBLESHOOTING: Optical

PROBLEM	POSSIBLE CAUSE
Dust or dirt in field of view.	Dust or dirt on objective, illuminator or eyepiece.
Double Image	Interpupillary distance is not set correctly.
	Diopter adjustment not set on eyepieces.
	Two different eyepieces are being used.
Sample blurs when zoom magnification changes.	Diopter adjustment is not set properly on eyepieces.
	Specimen is not properly in focus.
Focusing is loose or too tight.	Adjust tension by holding both focus knobs and turning slightly in opposite directions.

## TROUBLESHOOTING: Electrical

PROBLEM	POSSIBLE CAUSE
Lamp does not turn on and light up.	Power cord not plugged in.
	Light is burned out.
Inadequate brightness.	Rheostat knob needs adjustment.
Lamp blows out immediately.	Incorrect bulb being used.
Lamp flickers.	Connector wires are not secured.
	Lamp near end of life.
	Lamp not securely plugged into socket.

## CARE AND MAINTENANCE

### Do Not Disassemble

1. Disassembly may significantly affect the performance of the instrument, may result in electric shock or injury, and will void the warranty.
2. Never attempt to dismantle any parts other than described in this manual. If you notice any malfunction, contact your Richter Optica representative.

### Cleaning the Microscope

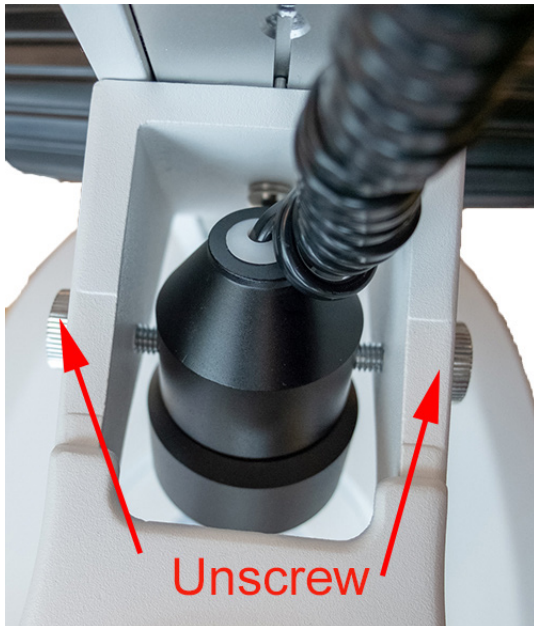
1. Do not use organic solvents such as ether, alcohol or paint thinner on painted surfaces or plastic components. Doing so could result in discoloration of surfaces.
2. When cleaning lenses do not use any solvents other than absolute alcohol, as they may damage lens bonding cement.
3. Do not use petroleum benzene when cleaning components such as lenses.
4. Absolute alcohol and petroleum benzene are highly flammable. Keep away from open flames and when turning power switch on and off.
5. For stubborn dirt, dampen a piece of gauze with diluted neutral detergent and wipe gently.

### When Not In Use

1. When not in use, cover the instrument with a dust cover and store in a place low in humidity where mold is not likely to form.
2. Proper handling of the microscope will ensure years of trouble free service.
3. If repair becomes necessary, please contact Richter Optica at [info@richter-optica.com](mailto:info@richter-optica.com).

## VLED Stand Top Light Assembly Replacement

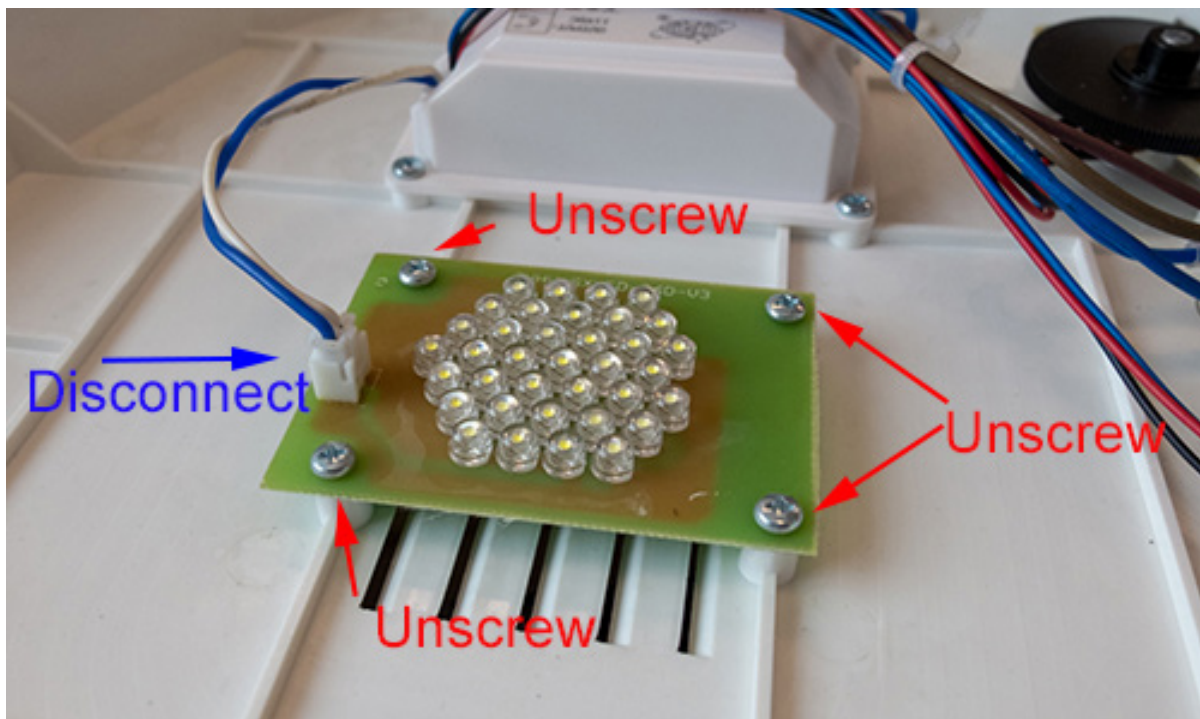
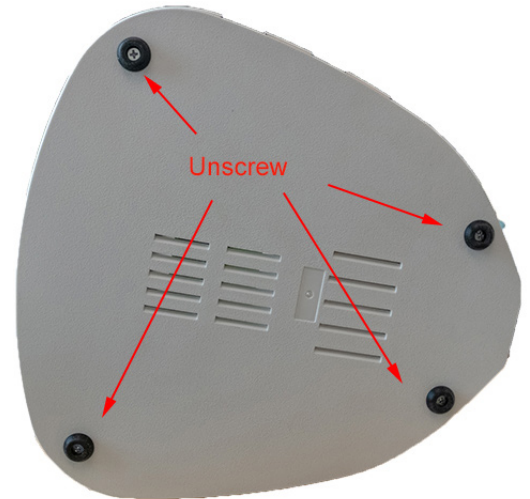
1. Unplug the microscope.
2. Unplug the lamp assembly (see image at right).
3. Unscrew the two lamp housing screws to remove lamp housing (see image below).
4. Replace with lamp assembly part #S850-002.
5. Secure lamp housing with two lamp housing screws on stand.
6. Plug lamp assembly back into top of track stand.
7. Plug microscope back into outlet and power on.
8. Adjust rheostat control for brightness.



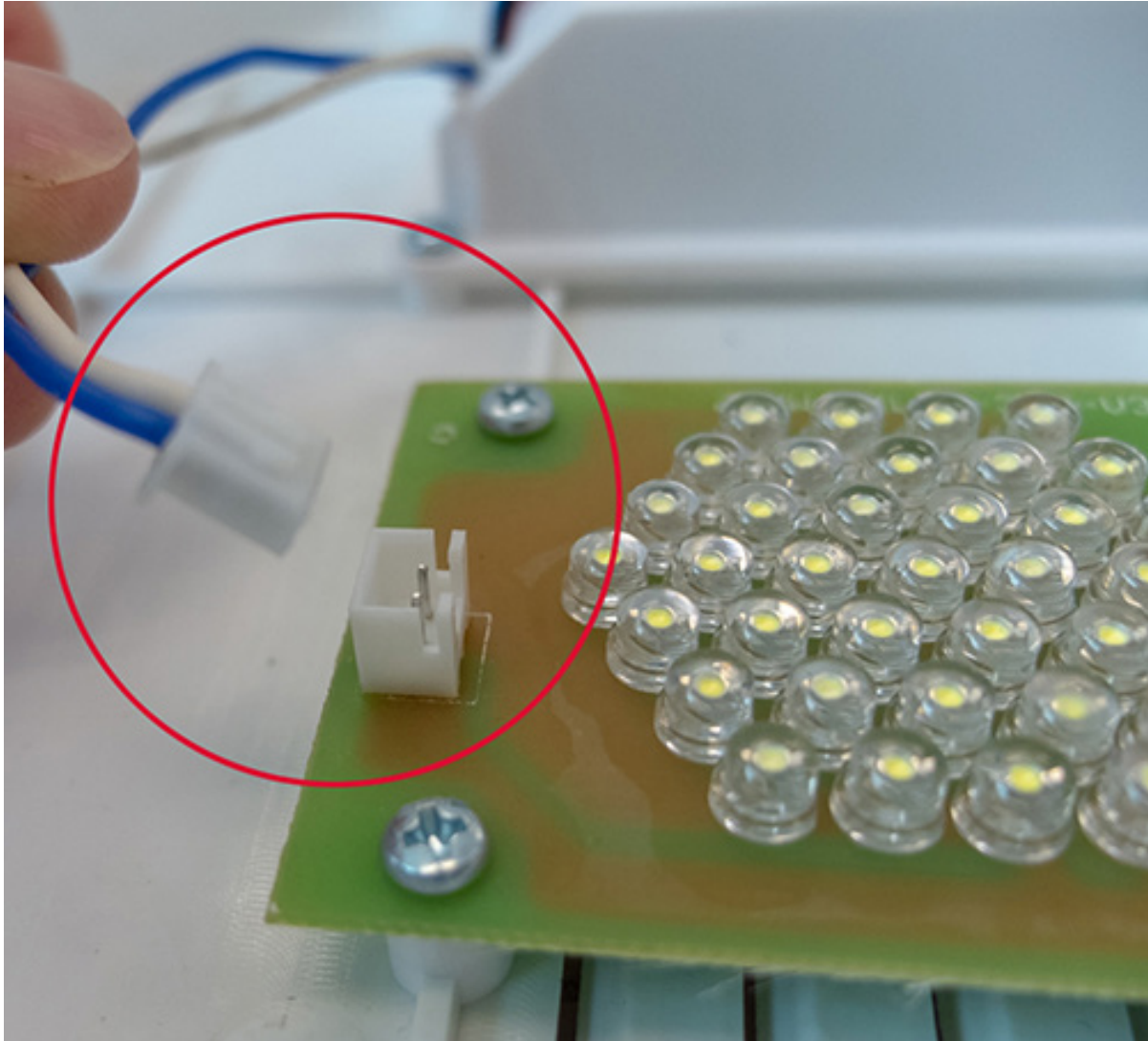
Replacement 24-LED Top Light Assembly  
Part #S850-002

## VLED Stand Bottom LED Circuit Replacement

1. Unplug the microscope.
2. Remove the head from the focusing holder.
3. Remove the stage plate from the stage.
4. Turn the microscope on its side and unscrew the four foot screws on the bottom of the base (see image at right).
5. Be careful when separating the base, as some wires travel up the microscope and will still be connected.
6. Inside the base locate the bottom 36-LED board (shown below).
7. Unscrew the 4 corner screws and disconnect the wire connected to the board (see image shown below).
8. Place the replacement LED board (part #S850-001) in place and secure with the four corner screws. Reconnect the wire back into the socket on the board. (see image on next page).
9. Replace the base and secure the four corner foot screws.
10. Plug the microscope back in and power on, adjust rheostat control as needed.







Replacement 36-LED Bottom Light Board  
Part #S850-001

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