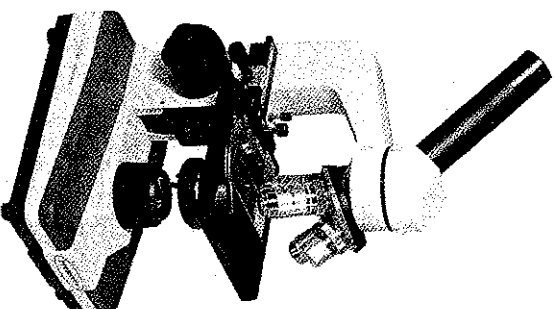


Premiere®

STUDENT MICROSCOPE



USER'S MANUAL Model MS-01UL

*Thank you for purchasing this **Premiere®** Microscope.
Before use, please read this manual to learn about all the available
features to obtain the best results from your microscope.*

Warning:

To prevent fire or shock hazard, do not expose this unit to rain or moisture.
This equipment should be used with AC 110V, 60Hz in the USA or Canada.
No user-serviceable parts inside. Refer servicing to qualified service personnel.

Premiere® trademark reg. No. 1713212 USA

Maintenance

1. Keep the instrument covered in a dry, cool place when not in use. Vinyl dust cover is included.
2. Keep the objectives and eyepiece clean. Clean the optical glasses when needed with lens paper ONLY. If necessary, apply a small amount of rubbing alcohol (commercially available).
3. To change the bulb: remove the plate from the underside of the microscope by unscrewing the four screws. Pull the bulb slightly to remove. Insert new bulb and replace bottom plate.

The manufacturer warrants this instrument to be free from defects in material and workmanship under normal use for five years from the date of purchase (one year for electrical components). It does not cover damage resulting from abuse or misuse, repairs or alterations performed by other than authorized repair technicians, or damage occurring in transit. If you have questions concerning this product or warranty, contact the dealer from whom it was purchased. For warranty service, microscope should be well packed to avoid damage in transit, preferably in original box and packing. Include your complete return address and telephone number as well as a description of the difficulty, date and place of purchase, and ship to the address below. It will be repaired or replaced at no charge and returned. If misuse, alterations, accident or abnormal conditions of operation caused failure, an estimate for repairs will be provided for your approval prior to work being performed.

Premiere Microscope Service Department

7241 Gabe Court
Manassas, VA 20109
(703) 330-1413

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Made by **C & A Scientific** for Inquiscorp, Littleton, CO

Applications

This microscope is suitable for student use in primary and middle schools for observing various biological specimens, such as spores, insects and stem sections. Model MS-01UL is equipped with three objectives and a spiral mounted sub stage condenser with iris diaphragm. MS-01UL is equipped with a mechanical stage movable slide clip.

Specifications

1. Objectives

Magnifying Power	Numerical Aperture
4X	0.10
10X	0.25
40X	0.65

2. Eyepiece

Type	Magnification	Diameter of Field (mm)
Widefield	10X	15

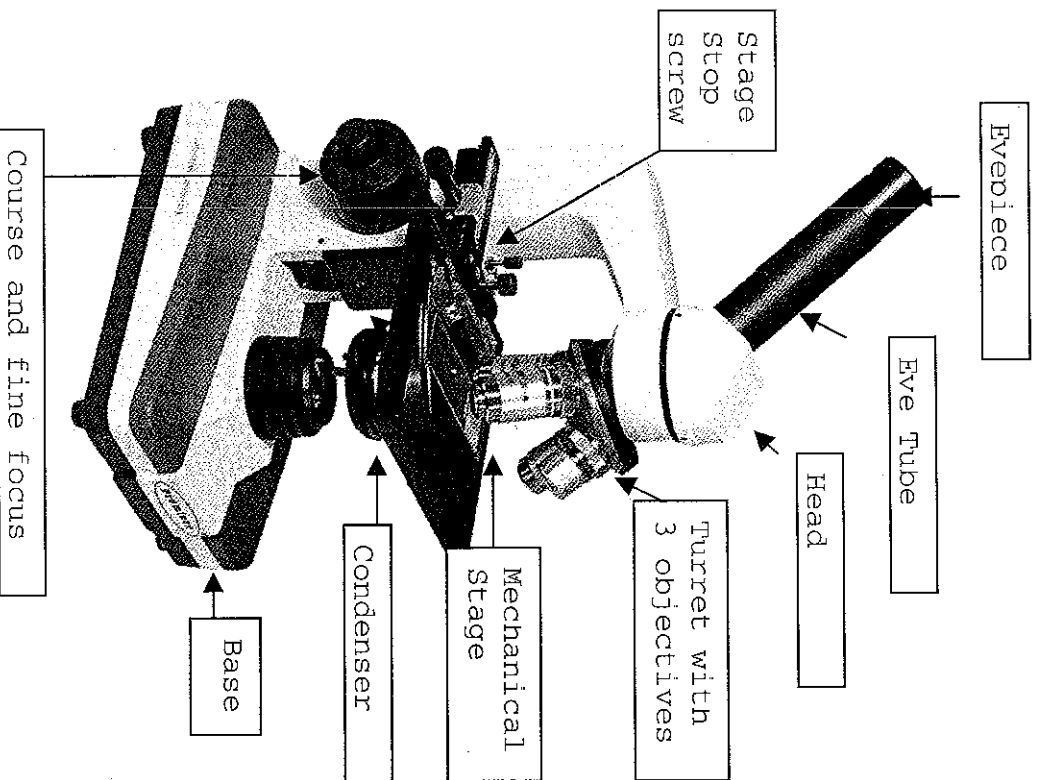
3. Range of focus control: Coarse and Fine--- 8 mm

4. Spiral mount condenser with iris diaphragm

5. Illuminator: 110V, 5W Fluorescent

6. Mechanical Stage: movable spring clip installed on the stage platform which holds the microscope slide in place and allows slide to be moved left/right or forward/backward during observation. Two knobs control the X & Y movement.

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Operation

1. Remove the microscope from the styrofoam. Then remove all plastic coverings. Place these in a safe place.
2. Place microscope on a flat surface and plug the microscope into an outlet. Please verify the country voltage before plugging in the microscope if using outside the USA
3. Turn microscope on, the fluorescent bulb may take several seconds to come on, this is normal.
4. Place the slide on the observation stage platform inside the mechanical stage.
5. Starting at the lowest magnification turn the coarse adjustment (larger) knob, observing the image of the specimen through the eyepiece. Use the fine adjustment (smaller) knob for more clarity.
6. The spiral mount condenser assembly can be shifted up or down by means of the control knob (left hand side under the stage) to effectively move the light beam closer to (up) or away from (down) the specimen under observation. The iris diaphragm on the bottom of the condenser can be opened (slide lever forward) or closed (slide lever back to left) to control the amount of light directed through the condenser. Try experimenting with various settings to get the most effective view of your specimen.
7. Once the specimen is in focus you can increase the magnification by rotating the objectives. After the objective clicks into place you should only have to make minor fine focus adjustments. It is important to remember when adjusting the focus that the objective should never touch the specimen. When increasing to 40X objective (400X magnification), the objective will appear to be very close to the slide. (Note: All slides should be placed face up and prepared with cover slips over the specimen for observation.)

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HERE ARE SOME TROUBLESHOOTING TIPS TO REALLY ENJOY YOUR MICROSCOPE!

Microscope can focus on the 4X and 10X, but not the 40X, or can't focus at all:

- When preparing your own slides, do not place the specimen between two slides. You must use a cover glass; cover glass is not a slide. Cover glass is a paper-thin (1-inch by 1-inch) piece of glass or plastic that is placed over specimens.
- You must use cover glass to focus on objects at the 40X objective. The 40X objective cannot focus on a specimen that is under a slide.
- When viewing professionally made prepared slides, make sure the specimen is face up (cover glass on the top) when viewing. Once again the 40X objective cannot focus on a specimen that is under a slide.
- Clean the bottom of the objective with lens paper and a little rubbing alcohol. Sometimes when using the 40X objective the objective can come in contact with substances on the slides. This can make the objects look blurry if the objectives are not clean.
- If that does not solve the problem, the stage stop may be set too low. The stage stop is a screw behind the mechanical stage, under the arm of the microscope. This is a factory set screw that is used to prevent the slide on the stage from hitting the 40X or higher objective. Since we are dealing with fractions of millimeters on this screw it may be set too low by the factory. You can loosen the nut around the screw, and then loosen the screw a little. Do not worry about where it should be set since the 40X objective can push inside itself and still not damage the objective. However, anything more than ¼ inch should be discouraged.

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Bulb is blinking:

Your microscope has a fluorescent bulb to help keep the base cooler during extended use. It is normal for these types of bulbs to blink or flicker for several seconds every time the microscope is turned on. Sometimes it may take as long as 10 or more seconds to even start to turn on.

Microscope bulb is not turning on: See above "bulb is blinking"

- Is your microscope plug in properly?
- Is your microscope plug into an outlet that needs a light switch flipped?
- Did you just replace your bulb or open the bottom of your microscope by unscrewing the four screws on the bottom? If so you may have detached the ground wire. This is a ring shaped wire that goes around one of the four screws on the base. If unattached, the microscope may not work properly.

Nosepiece / objectives are loose:

- Rarely during shipping the turret that holds the objectives can shake loose. If the turret for the objectives is loose then you need to contact customer service.

The head or eye tube is loose

- If the head is loose and slightly wobbles you can tighten the three screws around the head. Use a small eyeglass type screwdriver. Look through the eyepiece before tightening to make sure that the prism is lining up with the eye tube.
- If the eye tube is loose, you may be able to turn the tube to tighten the tube back into place. If you can not tighten the tube by screwing it back in place, then contact customer service.

Light is on but can't see the light in the eyepiece/on slide.

- Make sure to open the disc diaphragm completely. This is under the condenser.
- Make sure the objective has **clicked** into place, and is lined up for the light to come into the objective
- If this is not the problem check above for Nose/Eyepieces loose or head or eye tube loose.

Mechanical stage problem

- The slide goes under the mechanical stage as you move the mechanical stage. Tighten down the mechanical stage screw. If this does not work, inform customer service.
- Stage clip on the mechanical stage does not hold the slide (clip spring is broken). Contact customer service

SOME IDEAS FOR OBSERVATION

- Crystals: Place a few grains of dry salt or sugar on a slide to observe. You should be able to see a difference between these two items. Also try adding salt to a spoonful of warm water and then place a couple drops on a slide. Leave it to dry and then observe the re-crystallized salt (or sugar).
- Shake some grains of pollen from a flower onto a slide.
- Hairs, including pet hair, or pieces of feathers, can be observed. Try comparing hairs from various animals. You can use a small piece of tape at each end of the hair to hold it on the slide.
- View fibers in different kinds of paper, newspaper printing or typewriter.
- Threads or fibers from different types of fabric. Compare natural fibers such as cotton and wool to synthetics like polyester.
- Stagnant water from a pond will contain live organisms. Place a drop into the well of a concavity slide (sold separately) for observation.