



**ken-a-vision®**  
KNOWLEDGE THROUGH VISION

## Dual Purpose Scope 2

Instruction Manual

T-19311C

T-19311C-230

T-19321C

T-19321C-230

T-19331C

T-19331C-230

T-19341C

T-19341C-230

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## Introduction

Thank you for purchasing the Dual Purpose Scope 2. This microscope combines the features of a standard compound microscope with limited features of a stereo microscope. This microscope features upper (incident) and lower (transmitted) LED light to view opaque and transparent microorganisms with high quality optics that magnify 20-400 times; a square, floating stage with spring-loaded stage clips; a dimmer switch (rheostat) for light control; and a longer working distance to allow for fairly thick specimens to be viewed.

## Packing Contents



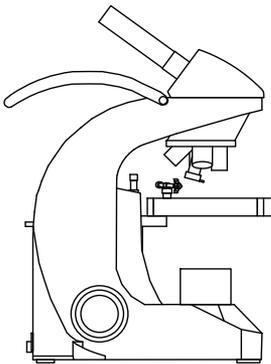
Instruction Manual



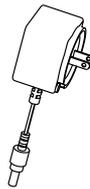
Warranty Sheet



Microscope Cover



Dual Purpose 2 Microscope



Power Supply



Allen Wrench

## Microscope Set-up Guide

The Dual Purpose Scope 2 microscope can be set up in a matter of minutes. To get the most out of this amazing teaching tool, follow these step-by-step instructions:

1. After unpacking the box, remove the Dual Purpose Scope 2 from the plastic bag and remove the protective coverings from the objective lenses and the eyepiece(s).
2. Place the microscope on a flat, firm surface.
3. Check the coarse focus knob on either side of the main body support. The coarse focus knobs should turn easily.

**NOTE:** The stage should move freely up and down the main body support when focusing. When you release the knob, the stage should remain stationary, and not slide down the post on its own.

4. To operate the cordless feature of this microscope, immediately plug in the microscope to charge for eight (8) hours.
  - a. Plug in the round adapter from the power supply to the back of your microscope.
  - b. Connect the opposite end to a Ken-A-Vision multicharger (Part # SCGN061) or an 110V (220V international) electrical outlet.

**NOTE:** With one eight (8) hour charge, you can use the microscope for up to forty (40) hours of continuous operation. The cordless microscope can also be operated with the cord plugged into a power source.

- c. When not in use, plug the microscope into a Ken-A-Vision multicharger that will automatically stop charging once the battery is fully charged to keep it at the optimal full charge for longer battery life. This prevents overcharging and the users can charge up to eight (8) microscopes at once.
    - d. Should you need a replacement power supply/charger, or new specialized rechargeable batteries (Part # VFBATBU5), contact your nearest Ken-A-Vision dealer.
5. To turn on the LED lights, locate the power switch on the right back side of each microscope base.

**NOTE:** The switch on each base is a double switch, with the middle position being OFF.

6. Pushing the right side of the power switch controls the bottom (transmitted) light for viewing microscopic specimens.
7. Pushing the left side of the power switch controls the upper (incident) light for viewing opaque, multi-dimensional specimens.

### **T-19311C/T-19311C-230**

The monocular Dual Purpose Scope 2 compound microscope with COOL LIGHT™ illumination allows for viewing specimens through one (1)-10x wide-field eyepiece with 2x, 4x, 10x, and 40x(S) DIN Plan Achromat objective lenses on a square, floating stage with spring-loaded stage clips, and an adjustable light dimmer (rheostat).

### **T-19321C/T-19321C-230**

The dual viewing head Dual Purpose Scope 2 compound microscope is the same as the T-19311C above, except that the dual viewing head allows two people to look at the specimen through two (2)-10x wide-field eyepieces at the same time or connect a camera to one eyepiece to display on an interactive white board/projector/computer. One eyepiece has a diopter, so the second user can adjust the ring to focus his/her eye, allowing for the differences in vision between two users.

### **T-19331C/T-19331C-230**

The Seidentopf binocular Dual Purpose Scope 2 compound microscope is the same as the T-19311C above, except that the binocular head allows the user to view the specimen with both eyes and to adjust for interpupillary distance. The eyepieces will move to exactly match the distance between the user's eyes. The left eyepiece has a diopter to allow the user to focus the left eye once the right eyepiece is in focus. Adjusting the diopter, allows for the difference in vision between the user's two eyes.

# Specifications

Product Number		T-19311C	T-19321C	T-19331C
Stand/Frame				
SC12	Comp 2 Stand with 4 hole nose piece			
SC12M	Comp 2 Mechanical Stage			
SC12DP	Comp 2 4 hole NP w/ upper/lower light	X	X	X
Standard Features				
	Charger Storage Compartment	X	X	X
	Stow and Go Handle™	X	X	X
	Green Battery™	X	X	X
	Cordless Rechargeable	X	X	X
	COOL LIGHT™ illumination	X	X	X
	Increased Range of Focus	X	X	X
	UPPER LIGHT STALK	X	X	X
Heads				
SC12MH	Comp 2 Monocular Head with eyepiece	X		
SC12DH	Comp 2 Dual View Head with 2 eyepieces		X	
SC12BH	Comp 2 Binocular Head with 2 eyepieces			X
SC12TH	Comp 2 Trinocular Head with 2 eyepieces			
SC12CMH	Comp 2 Monocular with 3.2MP Camera			
SC12CBH	Comp 2 Binocular Head with 3.2MP Camera			
Stage				
SC12FS	Comp 2 Floating Stage with built in Condensor	X	X	
SC12MS	Comp 2 Mechanical Stage with Built in Abbe			X
SC12SS	Comp 2 Standard Stage w/ 5 Hole Disc Dia.			
Eyepieces				
SC12EP5	5X			
SC100EP10-19	10X	X	X	X
SC12EP16	16X			
SC12EP20	20X			
Objectives				
<b>SC120 B2</b>	2X Plan DIN Achromat	X	X	X
SC120 B4	4X Plan DIN Achromat	X	X	X
SC120 B10	10X Plan DIN Achromat	X	X	X
SC120 B40R	40X Plan DIN Achromat 0.65NA	X	X	X
SC120B100R	100X DIN Achromat			
Optional				
T-12UG	Comp 2 Mechanical Stage w/ Abbe and 100X DIN Achromat Obj.			
SC120B4P	4X Plan			
SC120B10P	10X Plan			
SC120B20P	20X Plan			
SC120B40RP	40X Plan			
SC120B60RP	60X Plan			
SC120B100RP	100X Plan			
SC12CMH	Monocular Camera Head			
SC12CBH	Binocular Camera Head			

## Troubleshooting

This section provides many useful tips on how to solve common problems while setting up or using the Dual Purpose Scope 2:

I can't see an image. I only see a partial image.

- Check to see if the power supply is plugged into an electrical outlet or the battery is charged if using cordless.
- Check to see if the LED lights are turned on by switching the power button on the back of the microscope, right or left. A red indicator light should glow if the LED lights are on.
- Check to see if the objective lens is clicked into place.
- Adjust the amount of light controlled by the dimmer switch (rheostat). Turn clockwise to increase the intensity of light and counterclockwise to decrease.

It is difficult to get an image to focus.

- Adjust the coarse focus knobs slowly.
- Check to see if the objective lens is clicked into place.
- Check to see if there has been damage to the objective lens/eyepiece. If the lens/eyepiece is dirty, use lens paper and distilled water to rub gently clean.

**NOTE:** Never rub the lens/eyepiece when it's dry. This can cause static charge that will attract dirt.



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