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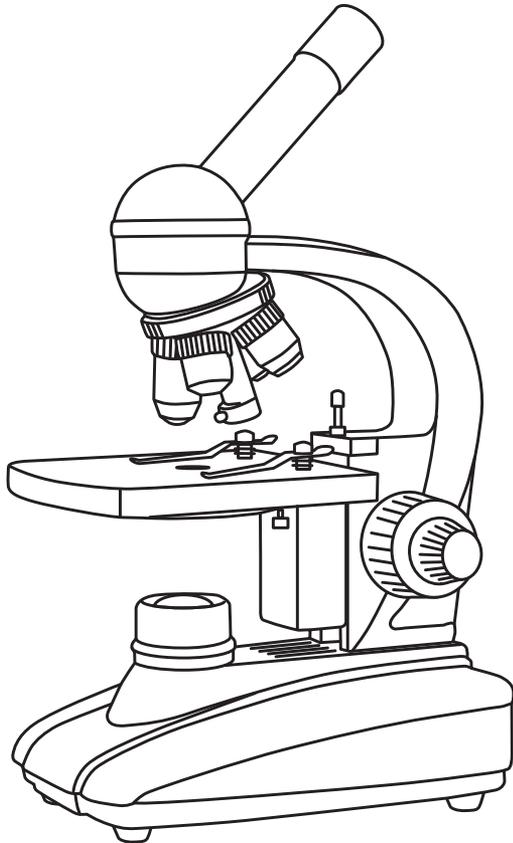
# **Cordless Comprehensive Dual Purpose Scope**

Instruction Manual

T-1931C

T-1932C

T-1933C



# **Thank you for purchasing a Cordless Comprehensive Dual Purpose Scope.**

## **Packing List**

- Dust Cover
- Power Supply / Charger
- Instruction Manual
- Warranty Card & Sheet

## **Application**

The Cordless Comprehensive Dual Purpose Scope combines the features of a standard compound microscope with some limited features of a stereo microscope. It is available with a monocular head (T-1931C), a dual opposing head (T-1932C), or a Seidentopf binocular head (T-1933C). All models come with an x/y floating stage, a light rheostat for light control, and a longer working distance to allow fairly thick specimens to be viewed. Additionally, there is a separate top light for viewing large, macro, or opaque specimens and a bottom light for standard microscope slides, and a longer working distance.

## SPECIFICATIONS

| Catalog Number  | T-1931C | T-1932C | T-1933C |
|---|---------|---------|---------|
| 10x Widefield Eyepiece with Pointer                   | X       | X       | X       |
| Monocular Interchangeable Head                        | X       |         |         |
| Dual Opposing Interchangeable Head                    |         | X       |         |
| Seidentopf Binocular Interchangeable Head             |         |         | X       |
| 4 Hole, Reversed Nose Piece                           | X       | X       | X       |
| 2x, 4x, 10x, 40xR DIN Objective Lenses                | X       | X       | X       |
| Coarse and Fine Coaxial Focal Adjustment              | X       | X       | X       |
| Supra-Stage Incident Lighting (Above-Stage Lighting)  | X       | X       | X       |
| Sub-Stage Transmitted Lighting (Below-Stage Lighting) | X       | X       | X       |
| x/y Floating Stage                                    | X       | X       | X       |
| Powered by Ken-A-Vision Cool Lighting                 | X       | X       | X       |
| Power Source- NiMH Batteries                          | X       | X       | X       |

Specifications subject to change without notice.

100x Oil Immersion objective can be optionally selected, but then either 2x, 4x, 10x, or 40x must be sacrificed.

## **Microscope Preparation**

Open packing box carefully, and lift microscope out of shipping container. Remove all packing materials on eyepieces, stage, and illuminator.

Check the coarse focus tension. The knobs are oversized, designed for better gripping. The coarse (larger) focus knob should turn easily to change the focus. The stage should move up and down when either the coarse or fine adjust knobs are turned. Watch the up-down motion of the stage; it should not drift or slip on its own.

Check the stage stop feature. The stage stop is a knurled thumb screw with a lock nut found on the main frame, just behind the stage. To check the stage stop, place a prepared slide in normal position for viewing. Place the 40x objective into viewing position and move the coarse focus knob until the object and stage are as close together as they can be WITHOUT TOUCHING. Look through the eyepiece at the slide, and get the specimen into focus. The objective should be very close to the slide, but not touching. If the stage stop is not set correctly, loosen the locking nut and thumb screw, and reset the stage stop, tightening both when correct position is attained.

## **Microscope Use and Instructions**

Visit the Ken-A-Vision Web site, <http://www.ken-a-vision.com/pdf/MicroscopePrimer.pdf>, for a Microscope Primer on general microscope usage.

## **Operation**

The NiMH batteries of your microscope need to be charged. Plug in the round pin adapter from the supplied battery charger (or a Ken-A-Vision Multicharger, SCGN06) into the back of your microscope. Connect the opposite end to an electrical outlet. Charge the unit overnight (approximately 12 hours or more) and your microscope is now ready for up to 40 hours of continuous operation.

## **Power switch**

This microscope has a double switch at rear right of the microscope. Depressing the right side switch controls the bottom illuminator (sub-stage transmitted light), providing light through the condenser for a standard microscope slide. Depressing the left side switch turns on the supra-stage incident light for macro and opaque objects. The center position of the switch is OFF.

## **Focus**

For microscope slides - place a specimen slide under the stage clips and move into position for viewing. Use the 2x objective first. Raise the stage until it will go no higher (stage stop controls this). Then looking through the eyepieces and using the coarse adjust knob, lower the stage until the specimen is in focus. Use the smaller fine adjust knob to now sharpen the focus and attain maximum resolution. Now rotate the 4x objective into place, and you should only have to use the fine adjust to achieve a crisp focus (The microscope is Parfocal). Now the 10x and 40x objectives can be similarly utilized if needed.

With coaxial focusing both the coarse focus (large knob) and fine focus (small knob) are on the same axis. Having both sets of knobs on the same axis makes it easier to switch from one focus knob to the other without moving eyes away from the eyepieces.

## **Eyepiece(s) and Head**

The widefield eyepiece is locked in to place to avoid loss. A pointer is built in to the eyepiece.

There are three kinds of heads available for the T-193XC (Cordless Comprehensive Dual Purpose Scope) series of microscopes. The T-1931C is monocular with a single eyepiece.

The T-1932C has a dual opposing head which allows two people to look at the same specimen at the same time, or connect a camera to one eyepiece for projecting image to a group. There is a diopter on one eyepiece tube for independent focusing of each eyepiece.

The T-1933C has two eyepieces with a diopter on one eyepiece to compensate for differential visual acuity between an individual's eyes. The Seidentopf binocular head allows adjustment for interpupillary (interocular) adjustment. The eyepieces will move to exactly match the distance between the user's eyes.

## Care and Maintenance

Your microscope is a fine precision instrument and should be treated with care. When not in use, it should be protected from dust by the plastic cover provided. Lenses and eyepieces should be cleaned periodically with optical lens tissue which is soft and lint free. Painted surfaces can be cleaned with a moistened cloth.

Ken-A-Vision has quality technicians on staff to repair or service your microscopes. Ken-A-Vision recommends service every two years for optimal life of the product. Contact Ken-A-Vision at 1.816.353.4787, Extension 5620 for more details.

## Technical Specifications for Model No. T-193XC Series Microscopes

For the technical specifications on the Cordless Comprehensive Dual Purpose Scope, visit the Ken-A-Vision Web site, <http://www.ken-a-vision.com/t1930c.asp>

## Equipment Rating: Description of Input Output Connection

This is a 2.5 mm barrel style center pin with a 5.5 volt, 300mA, output supply which may be used with 110v, 220v, 230v, or 240v input systems. The power supply/charger is made exclusively for the Ken-A-Vision Cordless Microscope. Failure to use Ken-A-Vision parts, will void the warranty of your microscope.



INPUT: 5.5VDC, 300 mA

## **Batteries**

The supplied batteries (3) type is a 1.2V 2000mA NiMH (Nickel Metal Hydride). Should you need battery replacement, visit the Ken-A-Vision Web site, <http://store.kenavision.com/catalog/> or contact your local Ken-A-Vision Dealer for (Cordless Comprehensive Scope Replacement batteries). **USE OF NON-RECHARGEABLE BATTERIES WILL VOID ANY WARRANTY.**

To replace the batteries, loosen the silver thumbscrew in bottom of the base. Drop the door down, remove the battery cover and replace the batteries.

## Accessories

If you are interested in purchasing accessories or replacement parts for your Cordless Comprehensive Dual Purpose Scope visit our Web site, <http://store.kenavision.com/catalog/> or contact your local Ken-A-Vision Dealer.



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