

# ECLIPSE



Educational Microscope



# Look into the future

Curiosity – the genuine desire to study the world and unlock its mysteries – is the starting point of science and technology. The Eclipse Ei educational microscope offers unique digital and design solutions to ensure the smooth progress of your courses. Using the Eclipse Ei to foster curiosity in your students and maintain their enthusiasm for learning, you can unlock their potential and open their eyes to the world around them.



# New generation digital solutions that stimulate curiosity

Students can enjoy learning how to operate the Eclipse Ei using its smartphone-friendly Smart Guide. Digital cameras that enable sharing of discoveries and experiences through images are also available to stimulate your students' intellectual curiosity.





# Sharing Discoveries and Experiences of the Microscopic World

The Digital Sight 1000 optional microscope camera is simple to operate and ideal for use with the Eclipse Ei. Not only can users record images and videos of samples, but they can also simultaneously observe images with others via a monitor or network.

## For group observations

By using a monitor to display an image under observation with the Eclipse Ei, a group of people can observe the same sample simultaneously.



### Perfect for online education

By connecting the Digital Sight 1000 camera to a PC equipped with NIS-Elements L imaging software, the sample images under observation with the Eclipse Ei can be shared in real time on PCs and smart devices via a network. This system is a powerful tool for online education presentations using web conferencing services.



![](_page_2_Picture_12.jpeg)

Images under observation with a microscope can be shared online, in real time, with students even in distant locations.

### For lectures and seminars

Connecting the Digital Sight 1000 camera to a large display is ideal for classroom lectures and seminars.

![](_page_2_Picture_17.jpeg)

# Intuitive design that expands learning possibilities

Both ease of understanding and operability, which respectively enable intuitive and stress-free operation, are in demand. Our unique design expertise has been applied to each part of the microscope body. Establishing a new cycle, where students teach themselves how to operate the microscope, will revolutionize the conventional workflow of classes, allowing more time to be allocated to practical training.

![](_page_3_Picture_2.jpeg)

**Stress-free stage operation** The simple stage shape has no bothersome projections on either side.

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# Simple-to-use and Easy-to-Understand Operating Interface

The body of the Eclipse Ei is designed to provide smooth and secure operation, enabling quick and trouble-free observation. Positions and processes where operations are to be applied are displayed with illustrations and color codes on the microscope, allowing students to understand each operational procedure intuitively.

![](_page_3_Picture_6.jpeg)

Lighting status can be checked at a glance

The power switch and light intensity control knob are all located at the front.

![](_page_3_Picture_9.jpeg)

**Inner facing nosepiece** You can check which objective is in use and change magnifications without other objectives getting in the way.

![](_page_3_Picture_11.jpeg)

Illustrative presentation of handles

The handles for moving the stage in the X/Y direction are displayed using illustrations of their respective shapes.

![](_page_3_Picture_15.jpeg)

## Fine focus with either hand

The coarse/fine focusing knobs for moving the stage up and down are positioned on both sides of the microscope.

![](_page_3_Picture_18.jpeg)

The best aperture can be set intuitively The lever positions of the condenser aperture are displayed in the same colors as the color codes of the objectives.

![](_page_3_Picture_20.jpeg)

# Safe and secure focusing

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The stage height setting limit prevents damage to samples due to contact with the objective.

![](_page_3_Picture_23.jpeg)

## Position display of tube locking screw

The tube can be rotated to reduce the space required for storage by loosening the tube locking screw. The screw is not removable, which prevents the tube from falling.

# Stress-free setup due to weight <sup>\*Compared to previous models</sup> reduction of around 30%\*

Compact, lightweight but robust, the Eclipse Ei saves desktop space due to its small footprint. It is easy to carry and store, reducing the stress of setting it up and storing it.

![](_page_4_Picture_2.jpeg)

![](_page_4_Picture_3.jpeg)

## Compact, spacesaving design

Its compact body design reduces its installation area. The backward rotatable tubes save space when storing it.

![](_page_4_Picture_6.jpeg)

Integrated cord winding system The AC adaptor can be stored at the back of the microscope. The power cord can also be wound up when storing.

# Superior portability and weight

Its dramatically reduced weight and multiple grips make the Eclipse Ei easy and stable to lift, carry and store, even on high shelves.

![](_page_4_Picture_11.jpeg)

Loss prevention A security wire slot is provided and supports maintenance.

# Nikon's optical technology visualizes sample details in accurate colors and resolution

Nikon's optical technology and expertise, which have been refined over 100 years since its foundation in 1917, are applied in full to the Eclipse Ei educational microscope.

![](_page_4_Picture_15.jpeg)

## High definition, large FOV optical system

The dedicated CFI BE2 Plan series objective and the 10X eyepiece achieve a large field of view of 20. Infinity-corrected objectives with excellent image flatness and chromatic aberration correction provide high-contrast images that accurately capture the color and shape of samples.

![](_page_4_Picture_18.jpeg)

![](_page_4_Picture_19.jpeg)

# High- magnification objective lenses with superior image clarity

The bright, high-resolution 100X objective exhibits superior imaging performance through oil immersion, clearly capturing fine structures. The 60X objective does not require oil immersion for high magnification observation.

# Uniform brightness right up to the periphery of the field of view

The illumination system is equipped with a fly-eye lens to achieve uniform brightness across the entire field of view. Low heat generating, long-life LEDs are utilized as the light source.

![](_page_4_Figure_25.jpeg)

![](_page_4_Picture_26.jpeg)

# **Optional Accessories**

## Digital Sight 1000 microscope camera

A color camera equipped with a 2-megapixel CMOS image sensor that can acquire images of up to 1920 x 1080 pixels. Simply connecting it to a monitor and a mouse enables you to capture images without the need for a PC. In addition to still images, it also enables acquisition of movies and simple measurements\* such as length and angle on a monitor. By connecting the camera to a PC, you can share sample images being observed with the microscope with other PCs and smart devices. This makes the Digital Sight 1000 perfect not only for recording images, but also for online education and discussions. \* Calibration using an optional objective micrometer is required.

![](_page_5_Picture_3.jpeg)

# Easy image acquisition without a PC

The Digital Sight 1000 can be used with only a monitor and mouse connected.

![](_page_5_Picture_6.jpeg)

# Capable of simple measurements

Simple measurements such as measuring the distance between two points can be performed on the monitor. \*Calibration by an optional objective micrometer is required.

![](_page_5_Picture_9.jpeg)

# Tubes

The trinocular tube, on which a camera can be mounted, and the binocular tube can adjust the height of the eye point in two stages.

![](_page_5_Picture_12.jpeg)

EC-T-TB binocular tube

EC-T-TF trinocular tube

# System diagram

![](_page_5_Figure_16.jpeg)

# **Dimensional diagram**

### Specifications

Main body	
Optical system	CFI Infinity Optical System
Illumination	High luminescent white LED illuminator, 45mm diameter filter can be installed
Eyepieces (F.O.V., mm)	With diopter adjustment • EC-E CFI 10X (20) • E2-CFI 15X (12)
Focusing	Coaxial coarse/fine focusing, Cross roller guide, Focusing stroke: up 2 mm/Down 13 mm, Coarse: 37.7 mm/rotation, Fine: 0.2 mm/rotation, Coarse motion torque adjustable, Includes stage upper range limiter
Tubes	Binocular eyepoint height: adjustable to 2 positions • EC-T-TB Binocular Tube, Inclination: 30°, Pupillary distance: 50 - 75 mm • EC-T-TF Trinocular Tube, Eyepiece/Port: 50/50, Inclination: 25°, Pupillary distance: 50 - 75 mm
Nosepiece	Reversed-type quadruple nosepiece (within main body), Revolving mechanism with multiple ball bearings, Elastic nosepiece grip-ring
Stage	Rectangular mechanical stage (within main body), with specimen holder, with vernier calibrations, Cross travel: 76 (X) x 30 (Y) mm
Objectives (NA / W.D.)	<ul> <li>CFI BE2 Plan Achromat 4X (0.1 / 25mm)</li> <li>CFI BE2 Plan Achromat 10X (0.25 / 6.7mm)</li> <li>CFI BE2 Plan Achromat 20X (0.4 / 3.7mm)</li> <li>CFI BE2 Plan Achromat 40X (0.65 / 0.6mm)</li> <li>CFI BE2 Plan Achromat 60X (0.8 / 0.25mm)</li> <li>CFI BE2 Plan Achromat 100X Oil (1.25/0.14mm)</li> </ul>
Condenser	Abbe Condenser, NA 0.1~1.25, Color-coded position guide markings of aperture diaphragm, corresponding to objective magnifications
Observation method	Brightfield
Fungus-proof treatment	Antifungal paint is applied around optical system
Optional accessories	Object marker, Eyepiece pointer, 45mm diameter filter
Power supply	Uses the included AC adapter (input: 100-240VAC 0.48Amax. 50-60Hz, output: DC 4.7-5.3V 3.0Amax.)
Power consumption (max.)	Nominal value: 4 W
Weight (approx.)	5.2 kg (Binocular standard set), 5.5 kg (Trinocular standard set)

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. July 2020 ©2020 NIKON CORPORATION

 TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

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![](_page_6_Picture_6.jpeg)

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![](_page_6_Picture_16.jpeg)

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![](_page_6_Picture_19.jpeg)