



**Upright Microscope**  
**ECLIPSE**  
***Ci-E/Ci-L***

# Feel the evolution

## Compact research microscope with superior optical performance

Nikon has drawn on its proven optics and mechanical design technologies to develop the compact and high-performance ECLIPSE Ci series research microscope.

High-quality objective lenses and a dedicated epi-fluorescence attachment provide bright and high contrast fluorescence images. Image capture of specimens is easy and efficient when the microscope is configured with Nikon Digital Sight series cameras. In addition, a newly developed high luminescent LED illumination and accessories that allow for a comfortable posture during observation and imaging are also available. With its high-optical performance and advanced easy control, the ECLIPSE Ci series supports the research of a broad range of user applications.

- High-intensity, uniform LED illumination (Eco-illumination)
- Compact dedicated fluorescence unit
- Reliable high-performance objective lens
- Observation and image capture with comfortable posture
- Motorized magnification switching by the push of a button (Ci-E)
- Simple image capturing by the push of a button on the microscope
- Enables a wide variety of observations



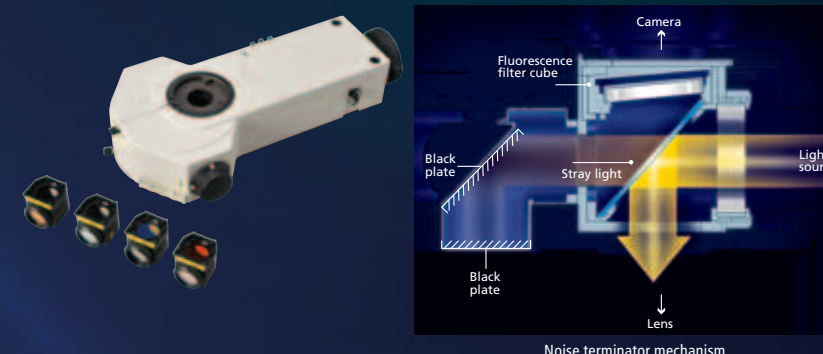
Configuration of Ci-L with epi-fluorescence attachment and DS-Fi1c camera

## High quality images powered by Nikon's reputed optical technologies

Nikon's well-reputed optical technologies enable the capture of sharp and high quality images in a wide variety of techniques, including brightfield and epi-fluorescence observations. The epi-fluorescence attachment of the ECLIPSE Ci series allows weakly fluorescing specimens to be captured with great clarity and brightness.

### Epi-fluorescence attachment

The dedicated noise terminator for the Ci series is utilized in the compact epi-fluorescence attachment and this allows bright, high-contrast and high signal to noise (S/N) ratio fluorescence image capturing. The filter turret can accommodate up to four filter cubes, and changing them is simple. The name and position of the filter cubes are displayed in front of the attachment with phosphorescent labels for easy identification in darkened rooms. The filters or dichroic mirrors in the filter cubes can be easily replaced to create a more specific combination.



### High-optical performance objective lenses

#### CFI Plan Apochromat Lambda series

With remarkably high NA, greatly improved transmission in the long wavelength range thanks to Nikon proprietary Nano Crystal Coat, and chromatic aberration correction over wide wavelength range, these objectives are ideally suited not only to brightfield observations but also to fluorescent observations. Bright images can be captured even with a weak excitation light, thereby reducing damage to the specimen.



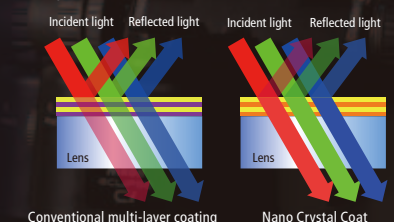
#### CFI Plan Fluor series

Featuring an extra-high transmission rate, especially in the ultraviolet wavelength, combined with flatness of field, this series is perfect for fluorescence observation and imaging. These objectives can function as multi-purpose objectives for brightfield, fluorescence and simple/sensitive color polarizing observations.



#### Nano Crystal Coat

This anti-reflective coating with nanometer-size particles is based on semiconductor manufacturing technology and is also used for Nikon camera lenses. The coarse structure with particles arranged in a spongy construction with uniform spaces between them enables extremely low refractive indices.



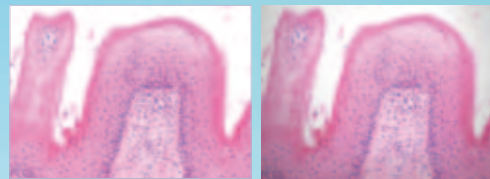
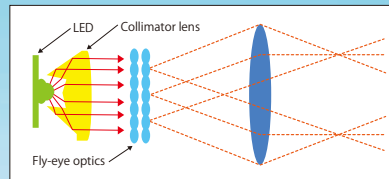


## Unparalleled basic performance

Nikon has created a highly advanced basic performance with the ECLIPSE Ci-E/Ci-L — including bright illumination, various accessories that enable comfortable observation posture, and convenient motorized operations.

### Eco-illumination

By combining a collimator lens, fly-eye optics and LED illumination, bright and uniform images up to the periphery can be obtained. The LED is a low power consumption unit that reduces lamp replacement frequency thanks to its long-life, and provides the same color temperature in every magnification. (Patent pending)



Viewed with Eco-illumination      Viewed without Eco-illumination  
\*These images are captured without using the shading compensation to emphasize the vignetting.

Ci-E (Motorized model)

### Ergonomic design

Various accessories that allow observation and image capturing with comfortable posture.



**Ergonomic binocular tube**  
Eyepiece angle (10° - 30°) and extension (up to 40mm) are adjustable. A camera can be mounted via the DSC port.



**Eyelevel riser**  
Eye-point height can be raised in 25mm increments to suit your normal posture.



**Stage with height-adjustable handle**  
Smooth stage movement is achievable with a comfortable hand position.



**Lower stage positioning**  
Stage height can be lowered 20mm from the standard position using the nosepiece spacer for easy specimen change with comfortable posture.

### Motorized model Ci-E

Equipped with motorized magnification switching and automatic intensity reproduction, it is ideally suited to applications that require frequent magnification switching.

#### Nosepiece rotating buttons

The nosepiece can be rotated with one-touch button control. In addition, your two favorite magnifications can be registered\*, and one press of the button alternates between these two objective lenses.

\* Using the remote control pad.



#### Remote control pad

By programming specific buttons to correspond to specific objective lenses, magnification can be easily changed with a one touch button.



#### Auto light intensity reproduction

The user-defined light intensity for each objective lens is automatically memorized and replicated when the objective is used again, eliminating the manual re-adjustment.

## Enhanced operability for digital imaging

The ECLIPSE Ci series microscope, imaging system Digital Sight series and imaging software NIS-Elements support smart image capturing with enhanced function.

### Image capture button

Imaging with the Digital Sight series cameras is possible with the one touch button located on the microscope base.



### Camera control unit Digital Sight DS-L3

The stand-alone controller with a large-size display monitor enables image capture without a computer. The touch panel allows simple setting and operation of a Digital Sight camera by simply choosing the observation technique using scene mode icons. Simple measurement functions, such as distance measurement between two points, are available. In addition, objective lens switching and Ci-E condenser setting are also possible. A network function enables image sharing of live images with multiple remote PCs during observation.

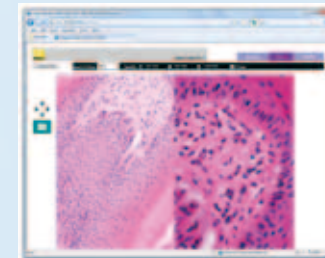


### Imaging software NIS-Elements

By connecting the Ci-E/Ci-L with a PC, capturing, processing, measuring, analyzing and management of images are possible using the dedicated imaging software NIS-Elements. (With the Ci-L, the DS-L3 or DS-U3 control unit is required.)

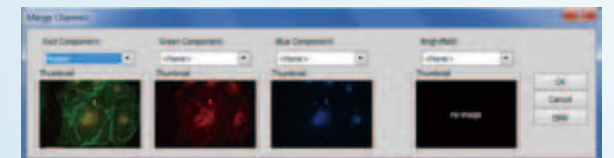
#### Live image comparison

Enables easy image comparison between a captured image and a live image. Live observation side by side with a paused live image is also available.



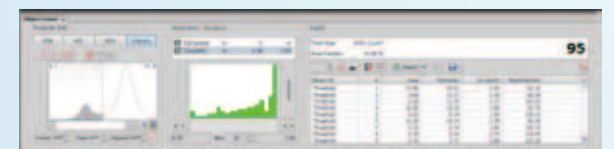
#### Merge channels

Multiple single channel images can be merged together to create an overlay of full depth separately scalable images.



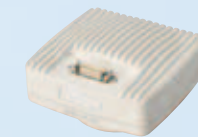
#### Object counting

This measures the number or area of objects extracted from images and is achieved by the creation of a binary layer through thresholding, using RGB/HIS or intensity values.



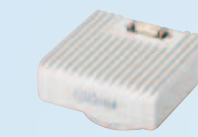
### Digital Sight series digital camera

● High-definition color camera head DS-Fi2



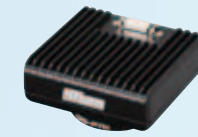
● 5.0-megapixel CCD  
● Up to 2,560 x 1,920 pixels  
High-speed movie display up to 21 fps is possible.

● High speed color camera head DS-Vi1



● 2.0-megapixel CCD  
● Up to 1,600 x 1,200 pixels  
High-speed image display up to 29 fps is ideal for live image display.

● High-definition cooled color camera head DS-Fi1c



● 5.0-megapixel CCD  
● Up to 2,560 x 1,920 pixels  
Equipped with a Peltier cooling device that retains the CCD at an ambient temperature of -20°C to reduce heat noise, it is ideally suited for capturing fluorescent images.

● High-sensitivity cooled monochrome camera head DS-Qi1



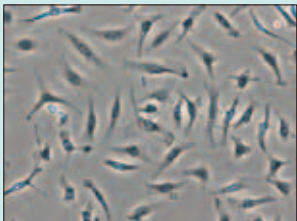
● 1.5 megapixel CCD  
● Up to 1,280 x 1,024 pixels  
By reducing noise, weak fluorescence signals can be acquired clearly. There is a high frame rate of up to 48 fps and a high quantitative linearity within 2%.



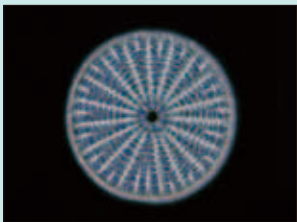
# Accessories for various observations

The ECLIPSE Ci-L/Ci-E uses a high-intensity Eco-illumination that provides sufficient light intensity even for phase contrast and simple polarizing observation. The wide variety of accessories enables the user to conduct various techniques including epi-fluorescence observation.

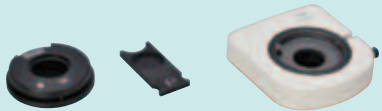
**Phase contrast**  
High contrast images with neutral background coloration regardless of the magnification range can be acquired. This observation technique is suitable for observation of the unstained structure.



**Darkfield**  
Enables clear observation of blood or the minute structure of flagella. Dry- and oil-type condensers are available. The expander lens is used to obtain illumination with greater brightness.



**Simple polarizing**  
This is ideal for observing bi-refrinent samples such as collagen, amyloids and crystals.  
\*Two types of analyzer are available: intermediate tube type and nosepiece slider type.



**Sensitive color polarizing**  
This enables the identification of uric acid crystals forming inside an organism by changing the interference color and is ideal for gout and pseudo-gout tests.  
\*Two types of analyzer are available: intermediate tube type and nosepiece slider type.





Ci-L with phase contrast accessories

## New advanced research microscopes ECLIPSE Ni series

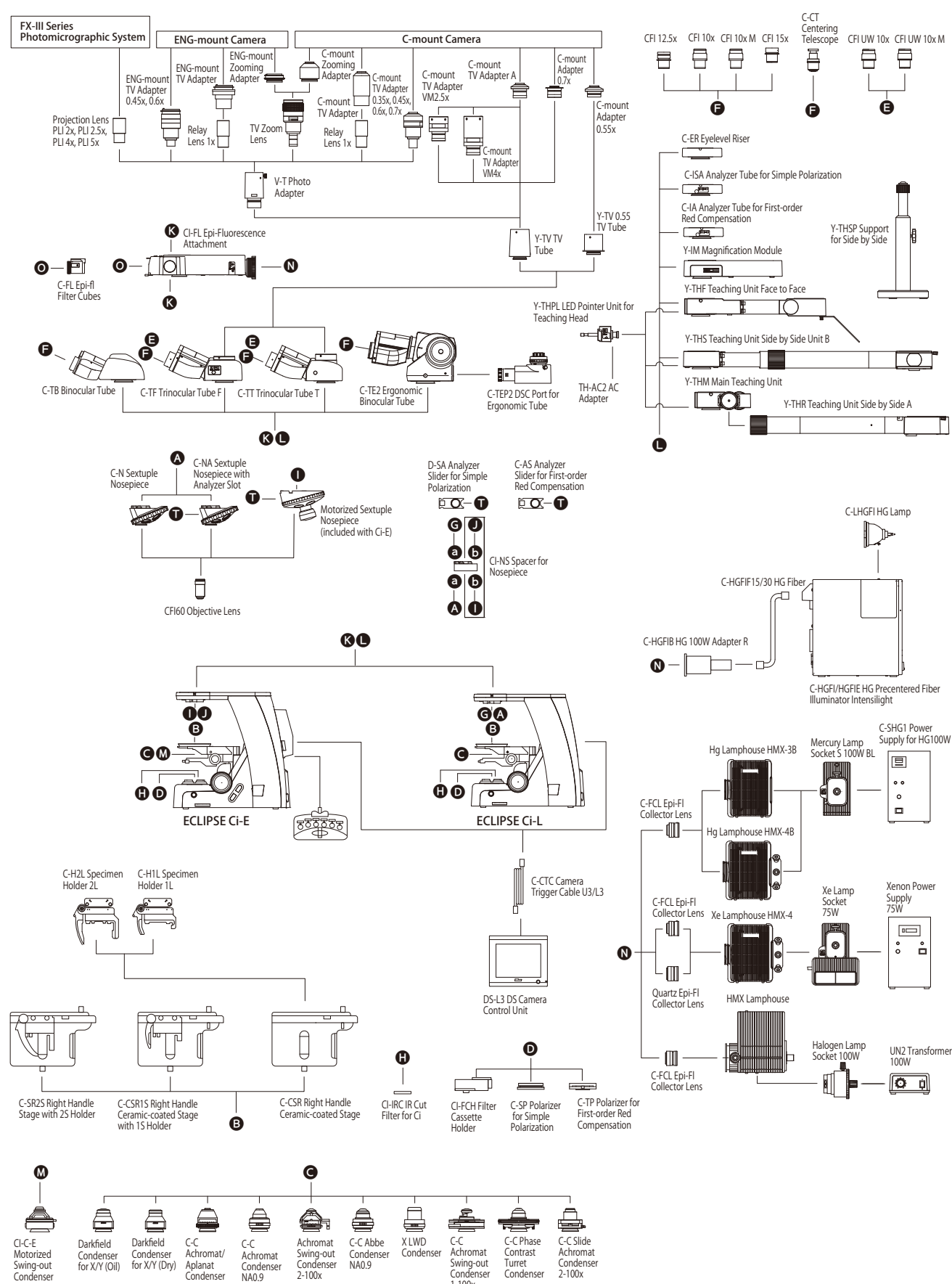
The ECLIPSE Ni series is the flagship of Nikon's upright research microscopes. They provide high optical performance and high expandability with various motorized accessories utilizing stratum structure.

- Manual model Ni-U with advanced basic performance
- Fully motorized model Ni-E with motorized focusing and auto observation technique switching.
- Fly-eye optics enable the capture of bright and uniform illuminated digital images.
- The noise terminator mechanism equipped in the epi-fluorescence system enables high S/N ratio image.



Ni-U with motorized epi-fluorescence attachment and Digital Sight series cameras

# System Diagram

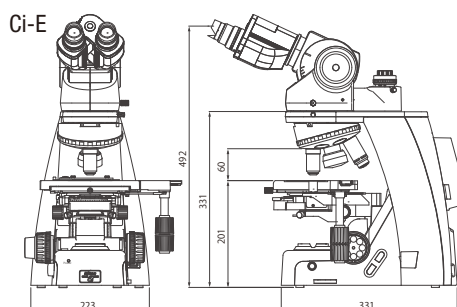


# Specifications

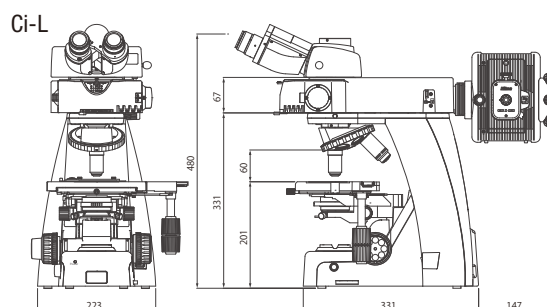
|                      | Ci-E   | Ci-L  |
|----------------------|--|---|
| Magnification        | 10-1500X   |   |
| Optical system       | CFI60 Infinity Optical System  |   |
| Illumination         | High luminescent White LED illuminator (Eco-illumination), AC adapter (100-240V)   |   |
| Eyepiece lens        | 10×(F.O.V.: 22mm), 10× M photo mask (F.O.V.: 22mm), 12.5×(F.O.V.: 16mm), 15×(F.O.V.: 14.5mm), UW 10×(F.O.V.: 25mm), UW 10× M photo mask (F.O.V.: 25mm)   |   |
| Coarse/Fine focusing | Coaxial coarse/fine focusing, Focusing stroke: 30mm, Coarse: 9.33mm/rotation, Fine: 0.1mm/rotation, Minimum reading: 1µm<br>Coarse motion torque adjustable, Refocusing function   |   |
| Eyepiece tube        | C-TB Binocular Tube (for F.O.V 22mm)<br>C-TF Trinocular Tube F (for F.O.V 22mm/25mm, observation/photo: 100:0, 0:100)<br>C-TT Trinocular Tube T (for F.O.V 22mm/25mm, observation/photo: 100:0, 20:80, 0:100)<br>C-TE2 Ergonomic Binocular Tube (for F.O.V 22mm, inclination:10-30°, extension 40mm (when optional DSC port is attached, observation/photo: 100/0, 50/50)                                      |   |
| Nosepiece            | Motorized Sextuple Nosepiece with Analyzer Slot  | Sextuple Nosepiece, Sextuple Nosepiece with Analyzer Slot |
| Stage                | Dry-film Coated Stage with specimen holder for 2 slides opens to the left<br>Ceramic-coated Stage with specimen holder for 1 slide opens to the left<br>Ceramic-coated Stage without specimen holder (specimen holder for 2 slides (opens to the left) or for 1slide (opens to left) can be attached)<br>Cross travel 54 (Y) × 78 (X) mm, with vernier calibrations, stage handle height and torque adjustable |   |
| Condenser            | Condenser focusing stroke: 27mm  |   |
|                      | Motorized Swing-out  | —   |
|                      | Abbe, Achromat, Achromat Swing-out 1-100×, Achromat Swing-out 2-100×, Slide Achromat 2-100×, Darkfield (dry, oil), Achromat/Aplanat, Phase Contrast, LWD   |   |
| Observation method   | Brightfield, Epi-fluorescence, Darkfield, Phase contrast, Simple polarizing, sensitive color polarizing  |   |
| Power consumption    | 1.0A/13W   | 0.37A/6W  |
| Weight               | 15.4kg (binocular standard set)  | 13.4kg (binocular standard set)                           |

## Dimensional Diagram

Unit: mm



Configured with Ergonomic Binocular Tube and DSC port



Configured with Fluorescence Attachment and Trinocular Tube T

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**WARNING**

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



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