



The Eyes of Science

... *i* imagine perfection in digital microscopy



**ECLIPSE**  
**90*i* / 80*i***



Digitization is expanding into the world of research and analysis, creating demand in the field of microscopy image documentation. Using its advanced optical technologies, Nikon has come up with a new series of research-level microscopes that are superbly optimized for the capture of digital images. When configured with a digital camera, the Eclipse 90i and 80i can capture digital images that are free of aberrations and have excellent resolution and uniform brightness throughout the view field.

The 90i is a motorized unit that can be operated via a PC and interacts with the camera controls. It also offers researchers the ability to automatically switch observation techniques and the benefits of auto-focus image capture\* during brightfield microscopy. The ergonomically designed 90i and 80i offer comprehensive support to researchers at the forefronts of their fields.

\*When a Digital Sight-series digital camera is mounted.

## ECLIPSE 90i/80i

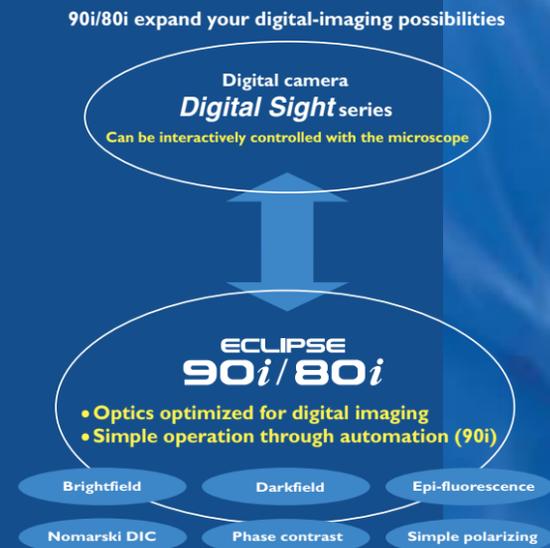
# Definitive digital imaging . . . for optimal performance and efficiency

### Digital-imaging optics:

- “Fly-eye” lens array (Page 4)
- CFI Plan Apo VC objectives (Page 4)
- Noise Terminator mechanism (Page 4)
- New DIC System (Page 5)

### Automation in observation and imaging (90i):

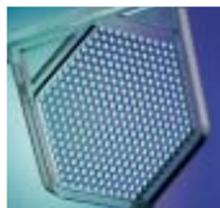
- Auto switching of observation techniques (Page 7)
- Auto adjustment interacting with magnification (Page 7)
- Interactive control of microscope and camera via PC (Page 7)



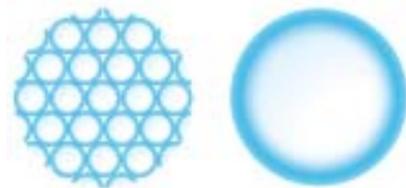
... with optical performance that is more than enough to support digital-imaging needs

### "Fly-eye" optics ensure uniform illumination

A revolutionary "fly-eye" lens array built into the transmitted-light illumination optics provides uniform illumination throughout the visual field—perfect for digital imaging.



Conception of "fly-eye" optics



Fly-eye lens

Ordinary lens



Viewed with fly-eye lens



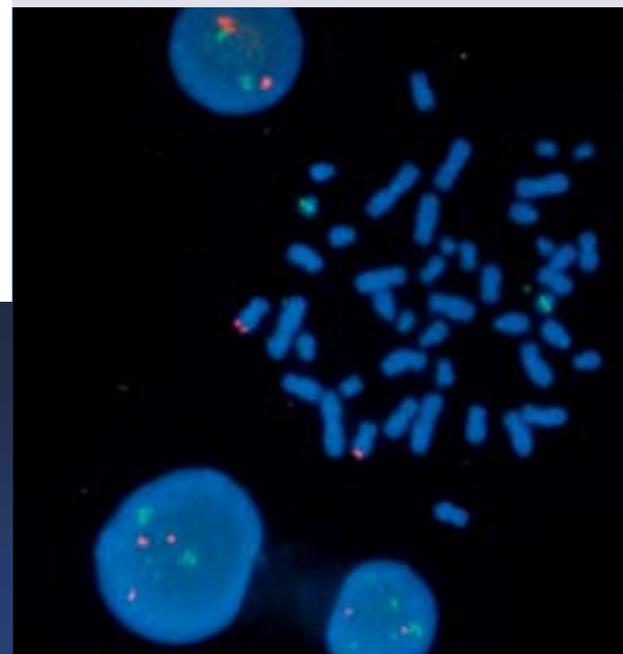
Viewed with ordinary lens

### Plan Apo VC objectives deliver high-resolution images, right to the edge

Plan Apo VC objectives offer the best performance among Nikon's acclaimed CFI60 infinity corrected objectives, achieving perfect correction of chromatic aberration, even at the h-line (405nm), and excellent resolution over the whole view field. These objectives are especially suitable for confocal and multistained fluorescence microscopy. Shading has been eliminated by minimizing light loss at the periphery to provide optimal optical performance for digital-imaging applications. The 60X water immersion objective achieves high UV transmittance, even in the 360nm region.



CFI Plan Apo VC 60X Oil, 60XWI, 100X Oil



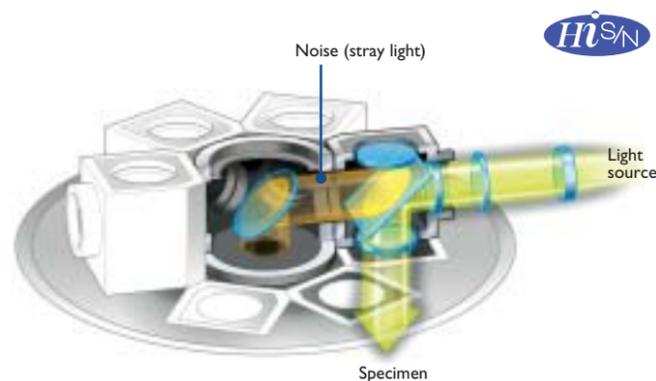
Pictured by Momoki Hirai, Professor, Department of Integrated Biosciences, Graduate School of Frontier Sciences, The University of Tokyo.

### Universal epi-fluorescence illuminator boasts excellent contrast

The universal epi-fluorescence illuminator and the DIH-E/ DIH-M digital-imaging heads work brilliantly to produce brighter, higher contrast fluorescence images.

#### Noise Terminator boosts S/N ratios

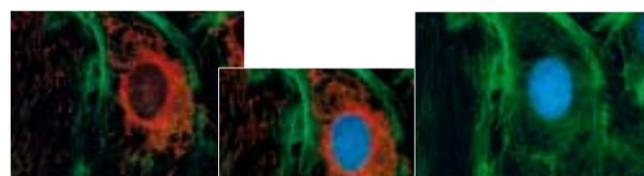
Nikon's revolutionary Noise Terminator eliminates stray light inside the filter cube to achieve a signal-to-noise (S/N) ratio five times that of Nikon's previous fluorescence system, allowing weakly fluorescing specimens to be captured with greater clarity, brightness, and dynamic range.



Stray light is thoroughly eliminated from the optical path in the filter turret.

#### Excitation Balancer continuously adjusts excitation wavelength

The operator can use the Excitation Balancer\* to continuously change the spectral intensity of each excitation wavelength without changing the filter cube during observations of multistained specimens. \*Optional.



TRITC is emphasized.

DAPI is emphasized.

Standard triple-band excitation is shown.



#### Six-filter turret

The filter turret can accommodate up to six filter cubes, and changing them is a breeze. The names and positions of the filter cubes are displayed with phosphorescent labels for easy identification in darkened rooms. The filters or dichroic mirrors in the filter cubes can be easily replaced to create the intended combination.

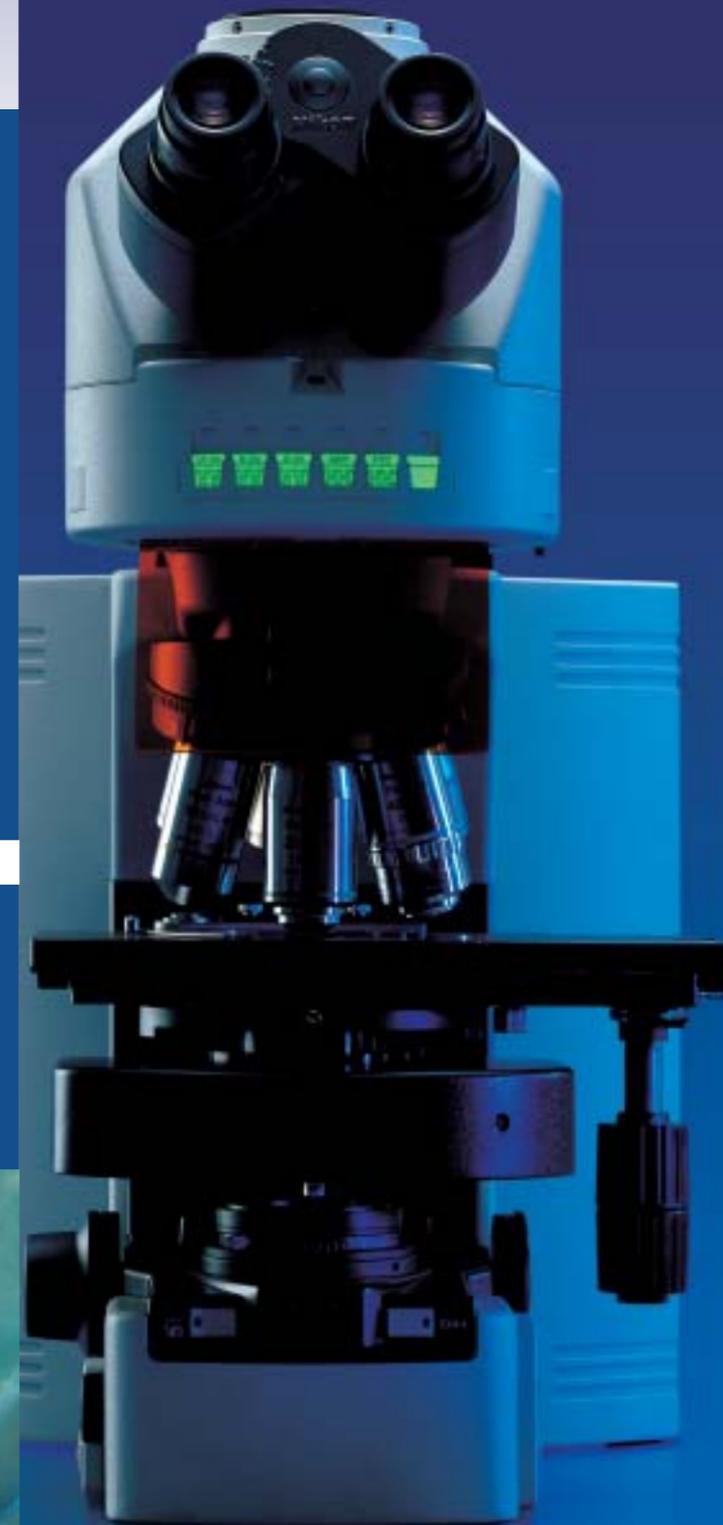
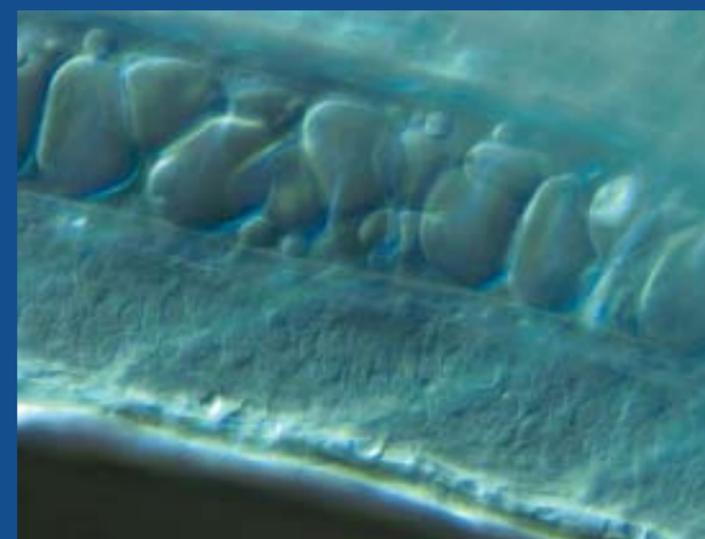


### New DIC system clearly visualizes minute structures

High-contrast DIC images with excellent resolution and uniform coloration are possible at any magnification by changing the material composition of the DIC prism.

- Two types of new DIC modules (dry) cover observations at 10X-100X magnifications.
- Three types of DIC prisms are available: standard, high contrast and high resolution.
- The shear angle (3D effect) of the image can be adjusted on the rotatable stage\*.

\*The rotatable stage cannot be mounted on the 80i mechanical-stage model.



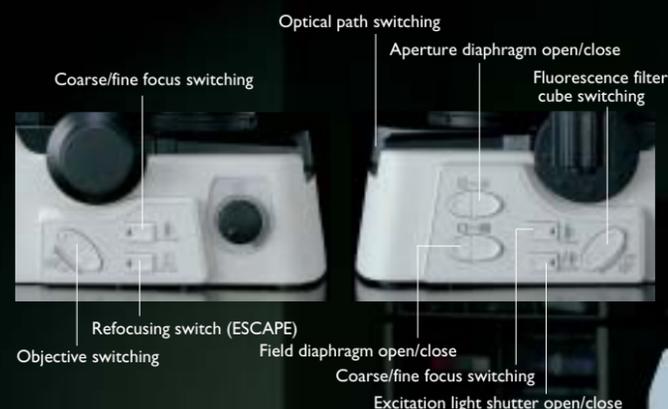
# ... offering full automation throughout observation and imaging sessions — ECLIPSE 90i

A success that Nikon could only achieve by developing a microscope, digital camera and software all at the same time.

## Motorized operation in comfort

### Centrally arranged controls

The microscope's operating controls and switches are concentrated around the focus knob, enabling researchers to seamlessly perform observation and imaging sessions while viewing the image.



### iControl dedicated microscope-control software

With iControl software, researchers can check the microscope status and control the microscope via a PC. By remotely controlling the microscope and cameras from a PC outside the darkroom, the microscope is free of the effects of heat and light generated by the PC.

### Ergo Controller\*

The Ergo Controller enables researchers to operate the microscope and camera in front of a PC monitor as if you are in front of the microscope actually operating it.

\*Available soon.



## High-precision motorized focus

Feedback from a linear encoder showing vertical movement enables high-precision focus control in 0.05µm increments, facilitating high-resolution deconvolution, confocal and other techniques.

## Automation in observation procedures

### Auto adjustment interacting with the objective changeover

The aperture and field diaphragms, ND filter, and other units are automatically set to the optimal position following a change of the objective\*. The travel speed of the motorized stage (available soon) and focusing speeds are also altered automatically in accordance with the objective's magnification.

\*Optional accessories are necessary for auto adjustment of aperture and ND filter.

### Auto switching of observation settings

Complicated procedures for changing the observation technique, such as from DIC to epi-fluorescence, are a thing of the past. Researchers can now select the technique by clicking on it, and the condenser, analyzer, light intensity, diaphragm and other units will switch automatically. Setting preferences can also be registered for each individual user, and quickly recalled anytime.



### Auto link focus

The auto link focus system automatically corrects deviations in parfocal distance between each objective after the objective is changed, dramatically reducing the time taken for focus adjustments.

## Interactive control of microscope and digital camera

The Eclipse 90i can be configured to interact with a Digital Sight-series digital camera, creating a totally automated imaging-microscope system.

### Auto recording of microscope status

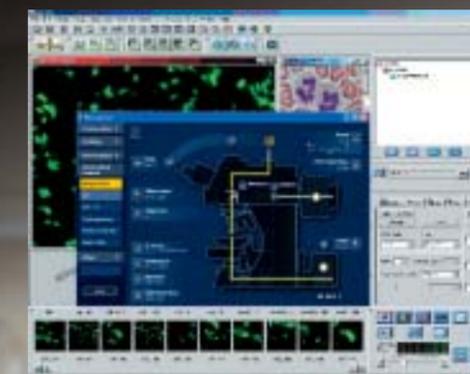
The camera automatically records the microscope settings, including the objective magnification and fluorescence filter in use, as a text file when capturing the image, increasing the efficiency of managing the history log of the images.

### Auto-focus during imaging

When a Digital Sight-series digital camera is mounted on a 90i, the system automatically uses the image's contrast information to enable auto-focus image capture during brightfield microscopy.

### Interactive control of image capture and observations

It is possible to boot the iControl software at the click of a mouse on the GUI of the Act-2U camera control software. This enables researchers to control imaging sessions in synchronization with microscope operations. It also programs the desired operating procedures for complicated tasks, such as capturing large quantities of images at certain intervals, and can recall them at the click of a mouse.



# ... meeting broad microscopy needs in configuration with a digital-imaging head

## ECLIPSE 90i: motorized system microscope

Auto-focusing of brightfield images is possible when a Digital Sight-series digital camera is mounted.

The combination with a Digital Sight-series digital camera allows researchers to automatically record the microscope status data along with the captured image.

High-precision motorized focusing.

Fully motorized operation of microscope and a wealth of motorized accessories.

Field/aperture diaphragms, and ND filter are automatically adjusted following a change of the objective.

"Fly-eye" lens array built into the illumination optics creates uniform illumination throughout the view field.

When it is configured with a digital-imaging head, microscope status can be checked on the PC monitor or camera controller DS-L1. When a Digital Sight-series digital camera is added, the status data can be automatically recorded along with the captured image.

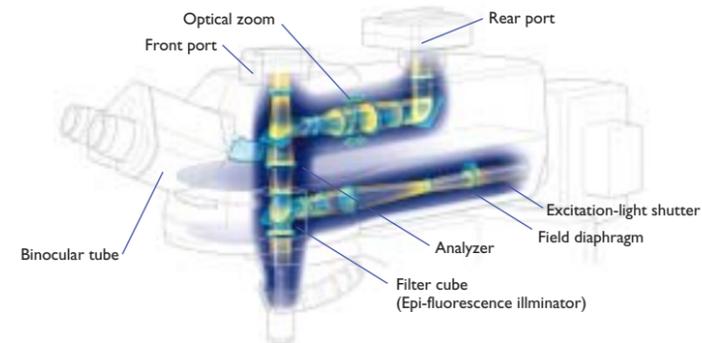
"Fly-eye" lens array built into the illumination optics creates uniform illumination throughout the view field.

The observation technique can be changed automatically by a simple mouse click operation.

Microscope status can be checked and the microscope operated via the PC monitor. Ergo Controller enables operation in front of the PC monitor.

## Digital-imaging heads: DIH-E and DIH-M

Nikon has developed two types of digital-imaging heads integrating a Hi S/N epi-fluorescence illuminator, binocular eyepiece tube, dual ports, and optical zoom, into a single unit. The motorized model DIH-E supports automatic image capture while switching epi-fluorescence filters, and the manual DIH-M can be freely configured with the 90i or 80i microscope.



### DIH-E

Optical path switching, epi-fluorescence filter cube switching, excitation-light shutter, epi-fluorescence field diaphragm, optical zoom, as well as analyzer are all motorized to support automated capture of digital images.



### DIH-M

This model comes with a motorized control specifically for the excitation light shutter.



### Auto recording of status data

When it is combined with a Digital Sight-series digital camera, the status data, such as fluorescence filter information, and zoom magnification, is automatically recorded as a text file along with the captured image. This feature is extremely convenient for managing the histories of large quantities of images taken under different conditions.

### Optical zoom

The rear camera port is equipped with a 0.8X–2.0X optical zoom to allow digital images to be captured at the desired magnification. Unlike digital zoom, the optical zoom provides high-definition images.

### Dual ports

Two types of cameras can be mounted simultaneously. The front port, in particular, has a design in which the loss of light is minimized, so it is ideal for quantitative analysis or confocal applications.



ECLIPSE  
80i

ECLIPSE  
90i

# Imagine the most ergonomic system ever . . .



## Ergo Controller enables operation in front of a PC (90i) (Available soon)

Researchers can operate the 90i, digital-imaging head and a Digital Sight digital camera via the Ergo Controller. The Ergo Controller, which can be operated as if you are sitting in front of and operating the actual microscope, allows focus adjustment and stage movement\* to be performed while capturing images in front of the PC monitor.

\*When the motorized XY stage is mounted.



## Ergonomic tube

The ergonomic binocular-eyepiece tube can be inclined at angles from 10° to 30° and the eyepieces can be extended up to 40mm. This ensures an optimum eye point and comfortable viewing posture, regardless of the operator's physique or if intermediate modules have been attached.



## DSC port for the ergonomic tube

A C-mount digital camera can be attached to the ergonomic tube. It includes a 0.7X lens that can optimize the frame of the image to be captured to a 2/3-inch CCD.



## Eye-level riser

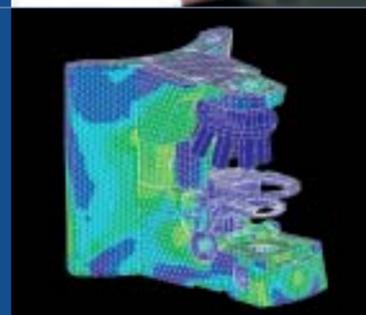
The eye-level riser can raise the eye-point height in 25mm increments, up to a maximum of 100mm\*, to suit individual requirements.

\*The number of risers that can be used at any one time depends on the tube or intermediate modules being used.



## Stay-in-position stage handle

The handle of the mechanical stage stays at a fixed position near the focusing knob throughout the full range of X/Y stage movement, so the operator's hand can remain comfortably on the desk at the same position, even when observation points are repeatedly changed. The height- and tension-adjustable stage handle can be set to suit each operator.



## High-strength body supports comfortable viewing

The stability of the microscope body has been greatly improved to maintain excellent stability and eliminate image shifts during observations at high magnifications. The stage surface has been coated with a smooth, superhard Alumite treatment to protect it from scratches during specimen exchanges.



## Hi S/N epi-fluorescence microscopy

The Noise Terminator eliminates stray light leaking from the filter cube to produce high-contrast images with greater S/N ratios when observing weakly fluorescing specimens. The desired wavelength of a multistained specimen also can be emphasized with the unique Excitation Balancer\*.

\*Optional

## Nomarski DIC microscopy

The new DIC method results in crisp, clear images with perfectly even color, even at low magnifications. Three types of DIC prisms are available: standard, high contrast and high resolution. The shear direction of DIC images can also be adjusted on the rotatable stage\*.

\*The rotatable stage cannot be mounted on the 80i mechanical-stage model.

## Hi S/N epi-fluorescence/DIC microscopy

By using the high-performance DIC method in combination with Hi S/N epi-fluorescence illumination, researchers can accurately locate fluorescent-tagged structures or proteins and visualize the cellular morphology of specimens.



Dr. Torsten Wittmann,  
The Scripps Research Institute.

# . . . that exhibits full potential in all techniques

## Phase-contrast microscopy

Nikon has specially developed its unique Apodized Phase Contrast objectives for phase-contrast microscopy. These objectives enable researchers to observe minute structures—previously difficult to detect due to annoying halos—with excellent contrast and a much wider tonal range. This is ideal for specimens with varied refractive indices.

## Brightfield microscopy

The "fly-eye" lens array in the illumination optics provides uniform brightness to the edge of the view field. The Plan Apo VC objectives provide extraordinarily high resolution over the entire view field. Researchers using the 1X-100X condenser can view images at magnifications ranging from ultralow to high without having to change the condenser.

## Darkfield microscopy

Nikon's dedicated condensers for darkfield microscopy allow clear observation of blood and the minute structure of flagella. Dry- and oil-type condensers are available.

## Simple polarizing microscopy

Polarizing microscopy is as simple as inserting a polarizer over the field lens and an analyzer in the arm slot. It is ideal for observing birefringent samples such as collagen, amyloids and crystals.

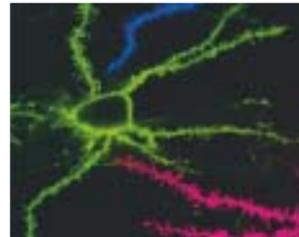


... with the versatility to support various applications— from basic inspection to top-notch research ...

**For total automation from switching the observation method to capturing images**



ECLIPSE 90i configured with the digital-imaging head DIH-E, confocal microscopy system C1, and digital camera DS-5Mc-U1.



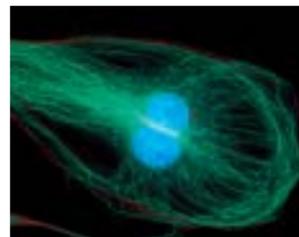
**This fully-motorized system enables automatic image capture even while switching the imaging device from the confocal system or quantitative analysis system to a cooled CCD camera.**

- Operations such as switching the objective and epi-fluorescence filter can be performed remotely via a PC.
- Switching observation techniques, such as from confocal to epi-fluorescence, can be carried out automatically at the click of a mouse.
- The ability to capture images with greater precision in the z-axis direction makes this setup most suitable for confocal and deconvolution applications.
- Image capture is performed automatically in time-lapse applications, where recordings are made by changing the observation technique, focus point or specimen position.
- CFI60 Plan Apo VC objectives in which axial chromatic aberration has been corrected up to 405nm (h-line) are perfect for confocal imaging.
- DIC images are rendered with excellent sharpness and even brightness.

**For quantitative analysis, such as gene analysis and new medicine development**



ECLIPSE 90i configured with the digital-imaging head DIH-E, cooled-CCD camera, and Ergo Controller (available soon).



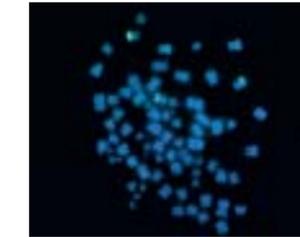
**The digital-imaging head enables the capture and analysis of noise-free, high-definition images**

- Switching the objective and epi-fluorescence filter, and other operations, are motorized.
- Microscope and stage are operated via the Ergo Controller (available soon) while sitting in front of the PC's monitor.
- Front port of the digital-imaging head accommodates the minimum necessary optics, maximizing the amount of light coming into the camera.
- S/N ratios are five times greater than previous Nikon models, thanks to the Noise Terminator mechanism.
- Colors of a multi-stained fluorescence specimen can be continuously changed using an optional Excitation Balancer.

**An integrated image capturing system in which the camera and the microscope interact.**



ECLIPSE 90i configured with the digital imaging head DIH-E, and digital camera DS-5Mc-U1.



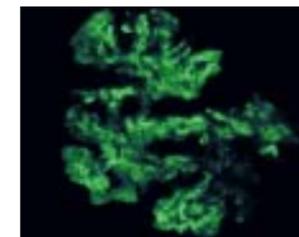
**When configured with a Digital Sight digital camera, both the camera and microscope can be controlled by the camera control software Act-2U that interacts with the microscope control software iControl.**

- Camera and the microscope can be operated via a common PC software program (Act-2U/iControl).
- Image-capture data, such as magnification and the specific protocols used, are automatically detected and can be easily attached to the image file.
- Aperture/field diaphragm and ND filter are automatically and precisely adjusted according to the objective magnification.
- Auto focus during brightfield microscopy utilizing the image's contrast information provided from the camera.
- Easy USB connection to the microscope and a PC, and high-speed image transfer using the DS-U1 controller.
- Low-noise fluorescence images can be captured using the DS-5Mc cooled CCD digital camera and/or a quantitative monochrome CCD camera.
- Unlike digital zoom, optical zoom maintains the camera's effective pixel number.

**For easy creation of databases of high contrast fluorescence images**



ECLIPSE 80i configured with universal epi-fluorescence illuminator, trinocular tube, and digital camera DS-5Mc-L1.



Pictured by Naoyuki Miyokawa, M.D., Ph.D., Associate Professor, Dept. of Surgical Pathology, Asahikawa Medical College Hospital.

**With this system, clear, noiseless fluorescence images can be easily obtained without connecting it to a PC.**

- Noise Terminator creates high S/N fluorescence digital images.
- Excitation Balancer allows specific wavelengths in a multi-stained fluorescence specimen to be emphasized.
- Noise-free, clear fluorescence and darkfield images are obtained with the DS-5Mc cooled-CCD digital camera.
- Images can be easily shared and managed over the network, utilizing the network function of the DS-L1 camera controller.

**For pathology tests and recording of various cases**



ECLIPSE 80i configured with ergonomic tube, DSC port, and digital camera DS-5M-L1.



**A digital-optimized optical system facilitates the capture of high-definition, crisp, clear images in digital format.**

- "Fly-eye" lens array optics ensure uniform illumination.
- Ergonomic tube enables natural posture and reduces fatigue during long hours of observation.
- Specimen holder for one slide available to facilitate specimen exchange with one hand.
- The DS-5M-L1 digital camera is space-saving and enables easy imaging without a PC.

... by combining a variety of imaging equipment



### Digital Sight series digital camera system

#### Auto detection of image capture data

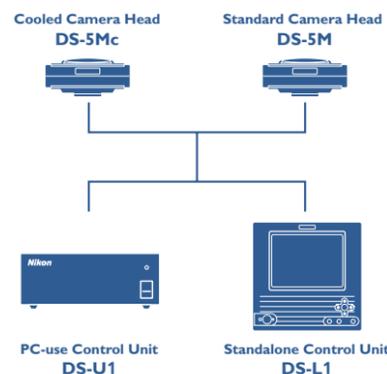
The DS-U1 and DS-L1 automatically detect the status of the 90i/80i and the digital-imaging head during image capture—including objective magnification, fluorescence filter in use and zoom magnification—and records it in an image folder. This feature is extremely convenient for managing the history log of images taken under different conditions.

#### Auto focus function (with 90i)

When configured with the Eclipse 90i for brightfield microscopy, auto focusing is possible utilizing the contrast information provided from the camera.

### Great freedom of choice

Two types of camera heads and two types of control units are available. Select the combination best suited to your purpose from DS-5Mc-U1 (PC-control cooled camera), DS-5Mc-L1 (standalone-type cooled camera), DS-5M-U1 (PC-control standard camera) and DS-5M-L1 (standalone-type standard camera).



#### Cooled camera head: DS-5Mc

Incorporating a cooling mechanism in the 5-megapixel CCD, this camera delivers high-contrast images with low background noise, even of weakly fluorescing and darkfield specimens.

#### Standard camera head: DS-5M

Although compact in size, researchers can easily capture high-definition digital images at a resolution of 5 megapixels (2,560 x 1,920 effective pixels).

#### PC-use control unit: DS-U1

Using this unit, researchers can easily connect camera with a PC and/or the 90i, allowing the camera, the microscope and the DIH-E digital-imaging head to be controlled via a PC software program (Act-2U/iControl). A high-speed 15fps data transfer facilitates strain-free focusing without the use of a PC.

#### Standalone control unit: DS-L1

The DS-L1 is equipped with a 6.3-inch LCD monitor. Researchers can use this unit to control the motorized units of the Eclipse 90i and the DIH-E digital-imaging head without needing a PC. Researchers can easily perform imaging sessions by selecting the optimum setting from a "Scene mode" menu. The DS-L1 also features a networking function to store images directly on a network-wide basis.



### Modular confocal microscope system DIGITAL ECLIPSE C1

The C1 is a compact, lightweight, personal type of confocal laser microscope system that supports almost any imaging technique – including simultaneous 3-channel fluorescence, 3-channel plus DIC, time-lapse recording and spatial analysis – while delivering the highest quality images of its class.

- Excellent image quality (2,048 x 2,048 pixels max. at 12-bit image depth).
- Filters are interchangeable to match fluorescent dyes, enabling researchers to use the latest probes or dyes available.
- Modular design, including an ultra-compact scanning head, provides plenty of working space around the system, which can be expanded according to applications.
- Various settings of the 90i and DIH-E, including filter switching, can be made via the C1 control software EZ-C1.
- 408nm laser can be mounted and AOM scan control is supported.

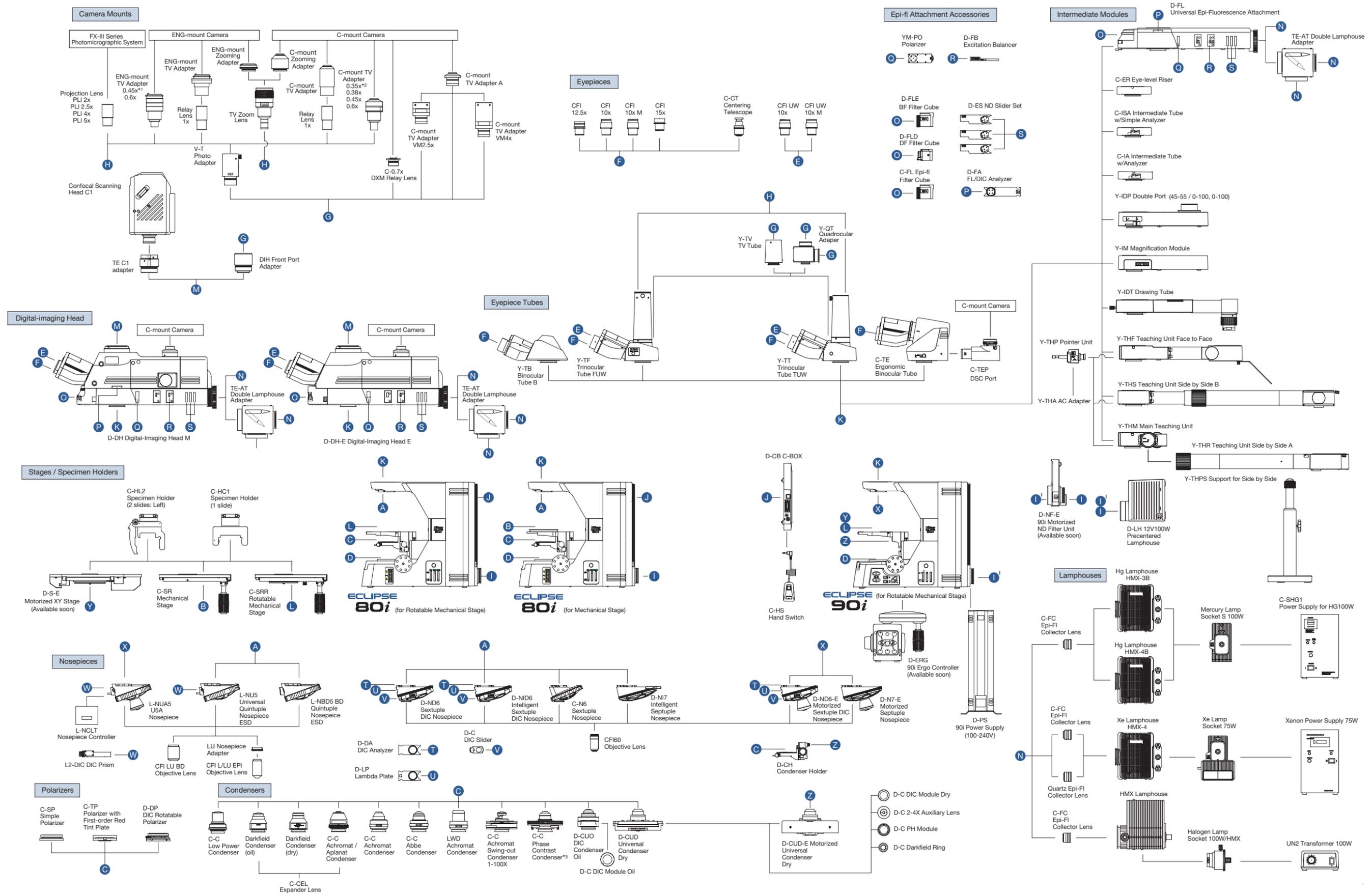


### Ultrahigh-definition digital camera for microscopes DXM1200F

The DXM1200F is a top-end digital camera with 12 million output pixels. It features a low-noise design and a CCD more than twice as sensitive as conventional models, providing stunning fluorescence capabilities. It incorporates a host of features, including easy-to-use software, to facilitate the capture of a large number of images.

- Sparkling digital images composed of approx. 12 million output pixels, equivalent to those taken with film-based cameras.
- Live image display at the max. transfer rate of 12 frames per second.
- Imaging with sensitivity 2.5 times greater than conventional models, for shorter exposure times and increased work efficiency.
- High sensitivity shortens exposure times and improves work efficiency.
- Image preview in live, still image and thumbnail format, as well as imaging parameters are all displayed on a single screen.

# System Diagram



\*1: Use the dedicated 0.45X adapter for the double port sub-port. The 0.6X adapter cannot be used with the double port sub-port.

\*2: Use the dedicated 0.35X adapter for the double port sub-port.

\*3: Cannot be used with the 90i and 80i models for rotatable mechanical stage.

Eclipse 90i/80i Specifications

		90i	80i
Main body	Optical system	CFI60 infinity optical system	
	Base	Rotatable stage model	Mechanical stage model, Rotatable stage model
	Transmitted illumination	12V-100W halogen lamp External transformer Fly-eye lens built-in NCB11, ND8, ND32 filters built-in (detachable) Diffuser built-in (not detachable) Light-intensity control via motorized ND filter unit (option)(available soon)	12V-100W halogen lamp Transformer built-in Fly-eye lens built-in NCB11, ND8, ND32 filters built-in (detachable) Diffuser built-in (not detachable)
	Controls	Main power switch (power supply) Light-intensity control With preset function ND8/ND32/NCB11 filter insert/remove switch Motorized control switches (for field diaphragm, aperture diaphragm, stage's up/down movement, coarse-fine/ultra-fine focus switching, escape, objective switching, DIH-E optical-path switching, DIH-E epi-fl filter switching, DIH-E/M excitation light shutter) Ergo Controller for remote control (option) (available soon)	Light-intensity control With preset function ND8/ND32/NCB11 filter insert/remove switch Field diaphragm adjustment ring
	Focusing unit	Motorized coaxial coarse/fine focusing (resolution 0.05µm, linear encoder built-in) Focusing stroke: 27mm Refocusing mechanism using escape function Auto link focus	Manual coaxial coarse/fine focusing (right: fine; left: coarse/fine) Focusing stroke: 27mm Coarse: 14mm/rotation; Fine: 0.1mm/rotation Minimum reading: 1µm Refocusing mechanism with focus clamp
	Eyepiece tubes	Binocular tube B: F.O.V. 22 Trinocular eyepiece tube FUW: F.O.V. 22, 25 (observation/photo: 100/0, 0/100), with reticle rotation correction mechanism Trinocular eyepiece tube TUW: F.O.V. 22, 25 (observation/photo: 100/0, 20/80, 0/100), with reticle rotation correction mechanism Ergonomic binocular tube: F.O.V. 22, Inclination angle 10-30°. Tube extension 40mm (DSC port, observation/photo: 100/0, 50/50) Digital-imaging heads DIH-E/M: F.O.V. 22, 25 (observation/front port/rear port: 100/0/0, 0/100/0, 0/0/100)	
Nosepiece	Motorized sextuple DIC nosepiece, Motorized septuple nosepiece	Sextuple nosepiece, Sextuple DIC nosepiece, Intelligent sextuple DIC nosepiece, Intelligent septuple nosepiece	
Stage	Rotatable mechanical stage (centerable; rotation angle 220°) Cross travel: 54 (Y) x 78 (X)mm, with calibrations; stage handle height and torque adjustable Motorized XY stage (option) (available soon) Specimen holders (2- and 1-slide types)	Rotatable mechanical stage (centerable; rotation angle 220°) Cross travel: 54 (Y) x 78 (X)mm, with calibrations; stage handle height and torque adjustable Mechanical stage (centerable; rotation angle 220°) Cross travel: 54 (Y) x 78 (X)mm, with calibrations; stage handle height and torque adjustable Specimen holders (2- and 1-slide types)	
Condenser	Motorized universal condenser Dry (7 modules mountable), Motorized aperture diaphragm; Manual condenser can be used via condenser holder	Abbe, Achromat, Achromat Swing-out 1-100X, Low Power, Darkfield (dry, oil), Achromat Aplanat, Phase Contrast, LWD Achromat, DIC (oil), Universal (dry) condensers	
Eyepiece lens	10X (F.O.V.: 22mm), 10X M photo mask (F.O.V.: 25mm), 12.5X (F.O.V.: 16mm), 15X (F.O.V.: 14.5mm), UW 10X (F.O.V.: 25mm), UW 10X M photo mask (F.O.V.: 25mm)		
Power consumption	2.8A/230W	2.4A/140W	
Weight	18.2kg (standard trinocular set)	13.9kg (standard binocular set)	

Digital-imaging Heads, Universal Epi-fluorescence Illuminator Specifications

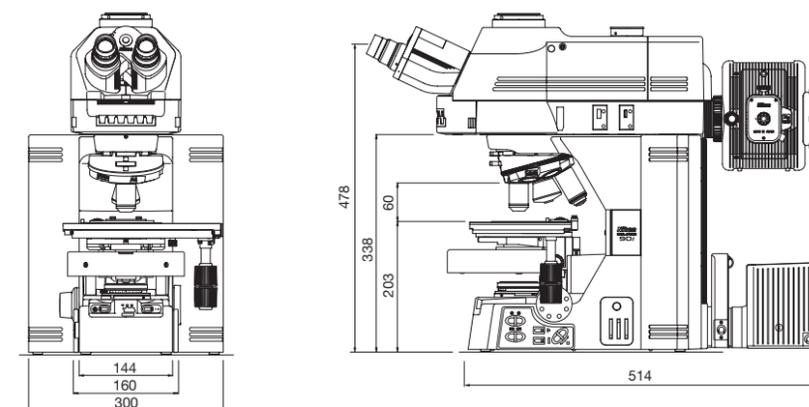
	DIH-E	DIH-M	Universal Epi-fluorescence Illuminator
Applications	Epi-fluorescence, Epi-brightfield, Epi-darkfield, Epi-DIC, Epi-simple polarizing, Confocal		
Light distribution	Observation/front port/rear port: 100/0/0, 0/100/0, 0/0/100		Depends on eyepiece tube used
	Motorized switching	Manual switching	
Optical output ports	Front port: 1X, diameter ø52mm Rear port: optical zoom 0.8-2.0X (continuous), zoom ratio 2.5 : 1, C-mount		Not available
	Motorized	Manual	
Inclination angle	25°		
F.O.V.	22, 25mm		
Filter turret	6 filter cubes mountable		
	Motorized	Manual	
Hi S/N Noise Terminator mechanism	Available		
Excitation light balancer	Available		
Aperture diaphragm	Centerable, detachable, diameter ø1-9mm (manual)		
Field diaphragm	Centerable, not detachable, diameter ø1-9mm		
	Motorized	Manual	
ND filters	ND4, ND8, ND16 (manual)		
Excitation light shutter	Motorized		Manual
Analyzer	Motorized	Manual (with slot)	
Polarizer	Manual (with slot)		
Light source	Mercury, xenon, halogen (centerable)		
External connection	USB, C1 interlock, external connection connector		Not available
Status-check function	Available (data can be recorded with image captured by Digital Sight digital camera)		Not available
Compatible microscopes	90i, 80i		90i, 80i, E600, E600FN, ME600L, L150

Dimensional Diagrams

Unit: mm

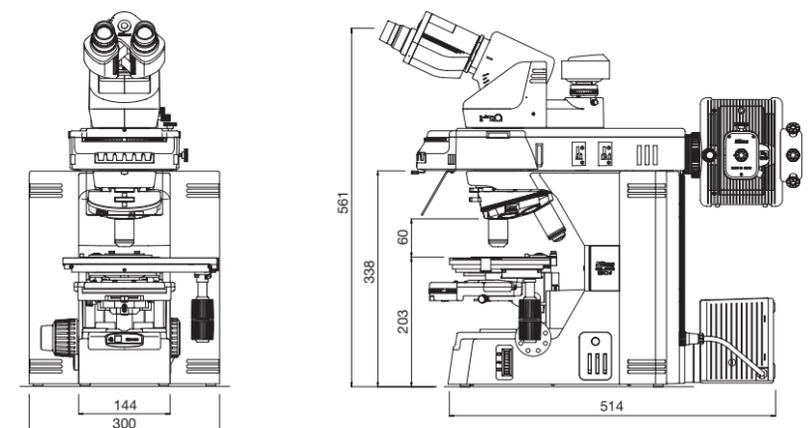
ECLIPSE 90i

Configured with digital-imaging head

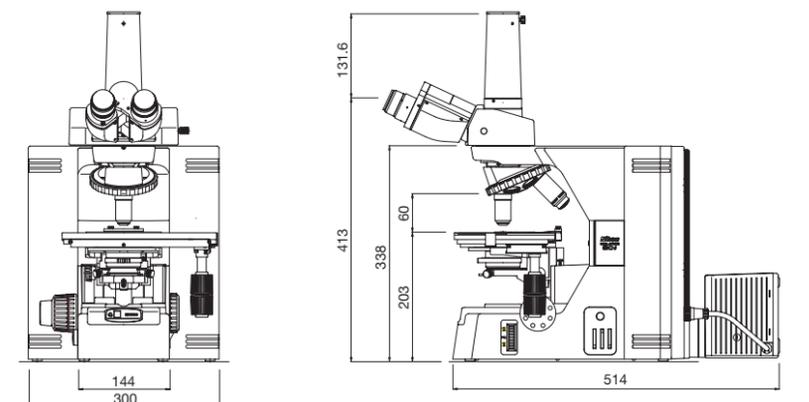


ECLIPSE 80i

Configured with universal epi-fluorescence illuminator and ergonomic binocular tube



Configured with TUW trinocular tube



Nikon has reduced the amount of chromium, cadmium and lead used in the Eclipse-i Series to an absolute minimum to diminish its environmental impact.

Please contact Nikon for a handy pamphlet listing compatible accessories, including objectives and epi-fluorescence filters.

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. April 2004. ©2004 NIKON CORPORATION



**WARNING**

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



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