

**Nikon**

Digital Camera Series



**DIGITAL ECLIPSE**  
**DXM1200F**

Ultrahigh-quality Digital Camera for Photomicrographic Use

Super-performance 4X Zoom Digital Camera

**COOLPIX4500**

Digital Camera

**DN100**

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# Capturing precise fluorescence images with stunning contrast in photomicrography is no longer the monopoly of professional film-based cameras

With images composed of up to approximately 12 million output pixels, which is almost identical to images produced on high-end film-based cameras, the output of the DXM1200F digital camera is staggering—and so is the sensitivity. Thanks to Nikon-original low-noise design and a new CCD with a sensitivity more than twice that of conventional models, the DXM1200F can capture fluorescence images with excellent clarity and in high contrast. In addition, the DXM1200F incorporates a host of hot features that facilitate photomicrography, especially for those that must take a large number of photomicrographs. The DXM1200F is a clear choice of professionals.

**The DXM1200F. The first digital camera for photomicrography that satisfies the needs of demanding professionals.**

**Sparkling digital images even better than those taken by film-based cameras.**

Ultrahigh picture quality in the digital format is now a reality, due to Nikon's new IPS (Inter Pixel Stepping) high-density imaging technology. The result: breathtaking images composed of up to approximately 12 million (3,840 x 3,072) output pixels\* that rival conventional film-based, silver-halide images or even surpass them for enlargement purposes.

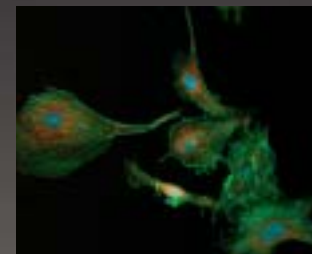
\* The total number of pixels in the CCD is 1.5 million.

**Low-noise design allows clear, low-light image capture**

Nikon's high S/N digital-circuit technology is combined with a new CCD that boasts a sensitivity more than twice that of conventional models. This design enables the capture of fluorescence images with outstanding sensitivity. Gain can be set in three levels and long exposure times can also be used.

**High-speed data transfer**

Images captured by the camera can be transferred to your computer at lightning speed (12 frames/sec. max.), setting a new standard in digital photomicrography.



Configured with automated biological microscope E1000

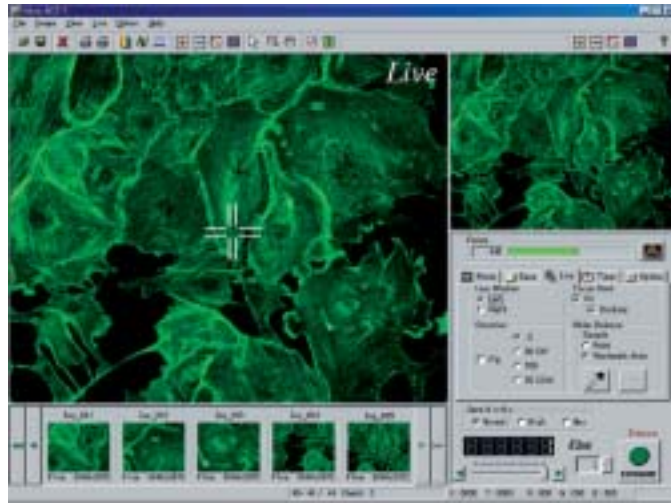


Configured with IC inspection microscope L200

\*The monitor images are simulated.

## Strain-free operation during long hours of photomicrographic operation:

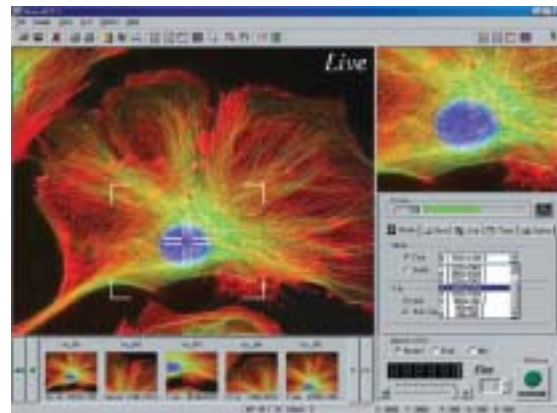
- Preview of the image in live, still image, and thumbnail format, in addition to the shooting conditions are displayed on a single screen, making photomicrography a simple matter. All of these display areas or windows are not affected by the operation of the mouse. This makes it unnecessary to constantly check their size or position, allowing you to concentrate on photomicrography while reducing fatigue.
- Transposition of the live and still image frame areas can be made by switching between the larger or small frames on the screen. You can make exposures while monitoring high-quality live images (12 frames/sec.) in the larger frame.
- All exposure settings are clearly organized in a small area on the screen, maximizing the space for image display. This area is always available and never hiding behind an image frame.



ATC-1 software screen

## Advanced, versatile, yet easy to use

- To photograph the required area within a specimen field with the highest possible definition, while using a minimal amount of data space, you can select the Fine or Quick mode. Uniformity of the photomicrograph's size and aspect ratio is secured, thanks to the frame selection feature. This feature is helpful when making a large number of exposures. It also eliminates wasteful white spaces when images are printed out.
- If you enter save and print formats prior to your shooting job, then once you press the exposure button, the camera's software will categorize the images taken, sort and save them, all automatically. This is a feature highly welcomed by professionals who take many photomicrographs. If desired, printing of the image each time you press the exposure button is also possible.
- White balance is preset by selecting a point or rectangle.
- Automatic sequential shooting at intervals from 5 seconds to approx. 100 hours (time lapse).



Frame selection screen



Save format setting dialog box

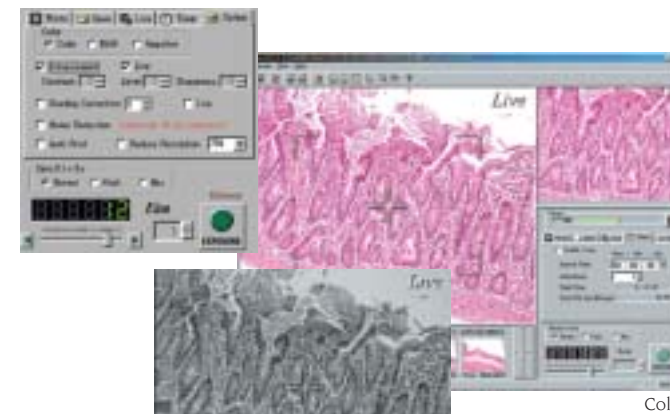


Timer setting

- Data saving in standard TIFF format (uncompressed), JPEG (3-types of compression), or the standard BMP format.



- Color/B&W changeover, Edge enhancement, Contrast enhancement (to be reflected in live images), Horizontal reverse, Vertical reverse, 90 degree rotation, Negative/positive reversal, Enlarge/Reduce image size.
- Brightness, gamma, and contrast adjustment can easily be made or applied to images as they are acquired.



Color

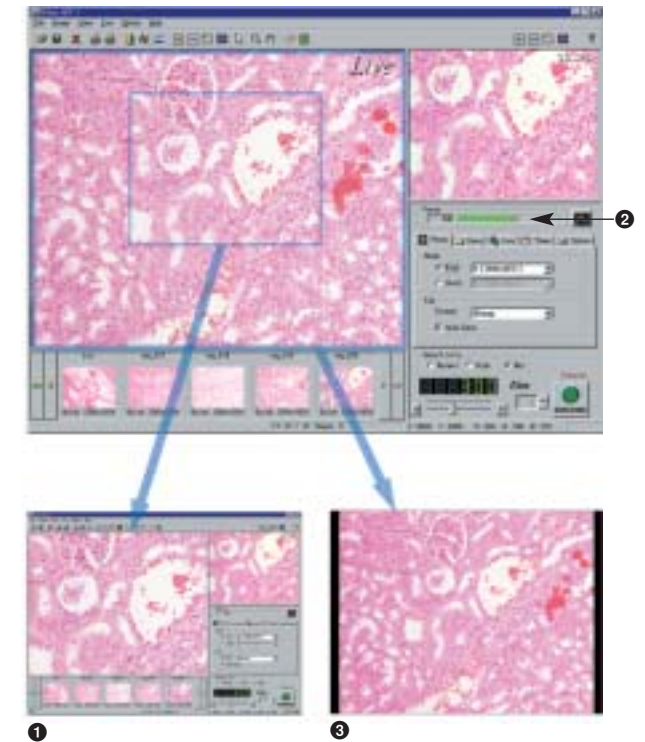
B&W

Negative

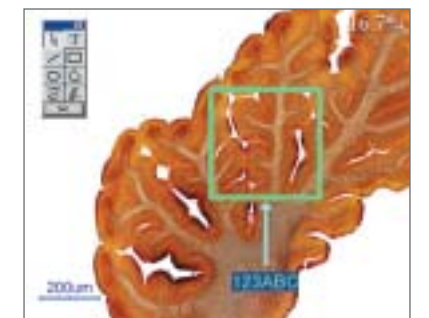
- RGB color level of the selected line is displayed in real time. Intensity profile by color is also provided to facilitate optimizing the dynamic range of the image.



- Zooming in on a live image is possible—up to 800%—to facilitate focusing. This feature is especially useful when taking pictures at low magnifications. ①
- The focus indicator facilitates easy focusing. ②
- The image can be displayed in full size over the screen. ③



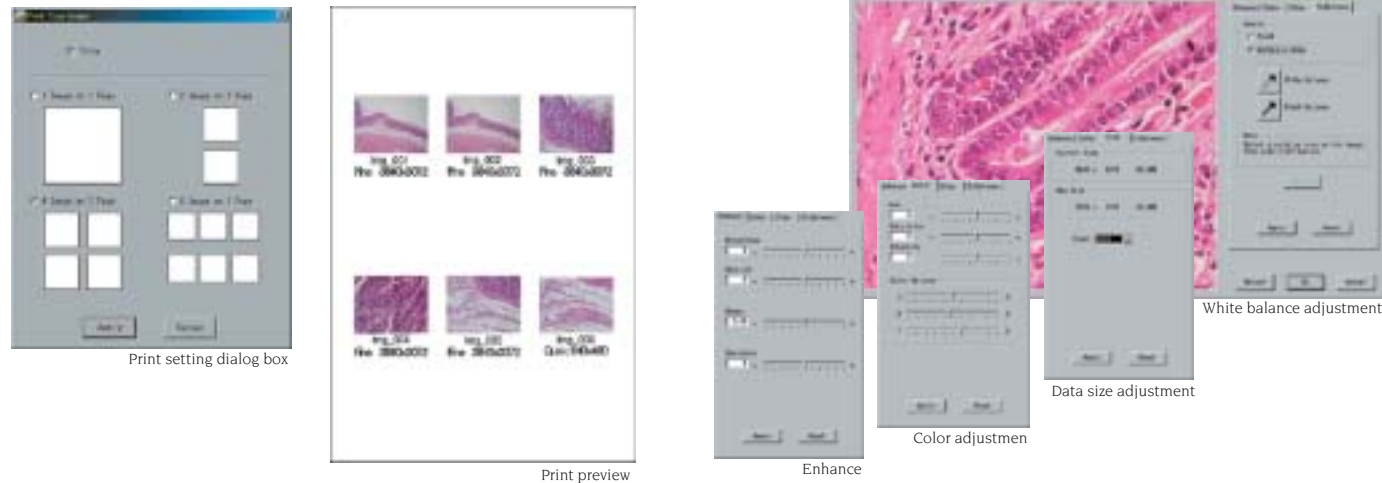
- A scale can be displayed on captured and live images, while text can be added to the captured image, on which graphics can be drawn.



• External application programs such as Adobe Photoshop™ can be started simultaneously with the ACT-1 Ver. 2.0 by adding the program to the launchable program list.

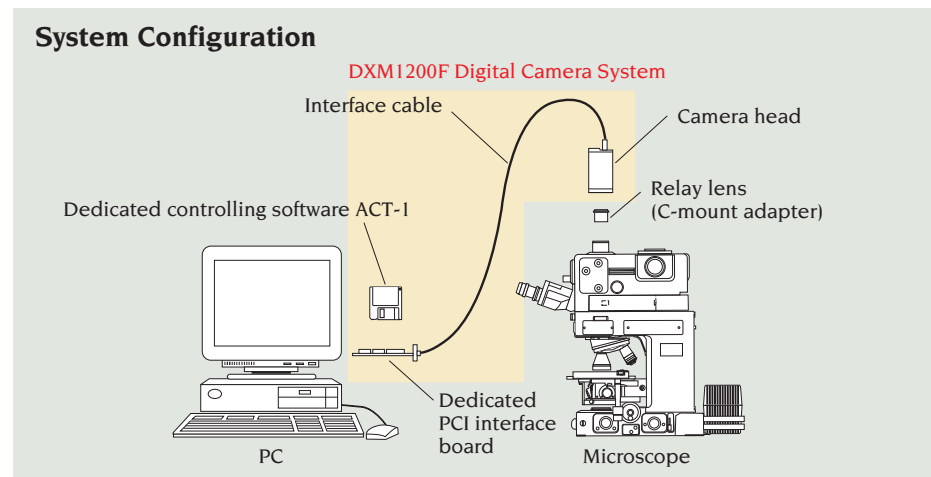
# Other Models in the Digital Eclipse Series

- Images can be printed in full size or Tiled (up to 6 images per sheet).
- You can retouch the captured image.



## Single cable connection

Connection between the camera head and a PC is provided via a single cable, eliminating troublesome wiring procedures and also providing power to the camera.



## Dedicated low-profile, wide-field C-mount lens

Nikon has developed a wide-field relay lens to provide increased brightness for photomicrography. Since this lens is of a low-gravity (short) design, it is less affected by vibrations when the camera is mounted on a microscope. (Available as an option)



## Tripod socket

The camera is provided with a tripod socket for convenient mounting on a macro stand or other possible uses.

## COOLPIX4500 Zoom Digital Camera—high-quality digital imaging is a snap

Featuring a high-performance CCD and performance-proven Nikkor lens, the COOLPIX4500 records photomicrographic images in digital format with ultrahigh-image quality. Useful for building an image data base, the COOLPIX4500 has a 4.0 effective megapixel 1/1.8-in. CCD and produces ultrahigh-quality 2,272 x 1,704-pixel images.

- Can be configured with a microscope using a dedicated microscope adapter\* (MD-C2 relay lens) and C-mount adapter\* available as options.
- Exposure control comprises Programmed Auto, Shutter-Priority Auto, Aperture-Priority Auto, and Auto Exposure Bracketing (5 steps within 1/3 EV), in addition to Manual.
- Programmable or Preset Manual White Balance for optimum color reproduction.
- Auto and manual Gain control is available for low-light shooting.
- High-resolution, low-temperature, polysilicon swiveling TFT LCD monitor.
- Auto File Numbering prevents doubling of numbers assigned to images.
- Dedicated cable release can be used for both releasing the shutter and zooming.
- Quick review allows you to see the captured image on the LCD monitor, even while the camera is set up for shooting.
- When you turn on the power, the shooting mode that opens is the last one used before the camera was turned off.
- When used as a standalone camera, it can be used as a 4X zoom digital camera.



COOLPIX4500

### Specifications

CCD	1/1.8-in. type (4.13 million total pixels, 4.0 million effective pixels)
Image size	2272 (2,272 x 1,704); 1600 (1,600 x 1,200); 1280 (1,280 x 960); 1024 (1,024 x 768); 640 (640 x 480); 3:2 (2,272 x 1,520) selectable
Lens	4x Zoom-Nikkor; f=7.85-32mm [35mm (135) format equivalent to 38mm-155mm]
Storage system	EXIF 2.2 file (uncompressed TIFF-RGB or compressed JPEG)
Shutter	Mechanical and charge-coupled electronic shutter; 8 to 1/2300 sec. and Bulb (up to 5 min.)
Exposure range	EV -2.2 to +17 (W), EV -0.3 to +18.1 (T) (ISO 100 equivalent)
Interface	USB 1.1 interface
I/O terminal	Power input; Audio/Video output (NTSC or PAL selectable); Digital terminal (USB 1.1/Remote Cord)
Dimensions	130 (W) x 73 (H) x 50 (D) mm (5.1 x 2.9 x 2.0 in.)
Weight	Approx. 360g (12.7 oz.) excluding battery and storage media
Accessories included	Lens cap, Neck strap, Audio/Video cable, 16MB CompactFlash™ Card, USB cable UC-E1, Rechargeable Li-ion Battery EN-EL1, Battery Charger MH-53, Nikon View 5 (COOLPIX) CD-ROM (Standard accessories may differ by country or area)
Options	Microscope Adapter (MD-C2 Relay Lens)*, C-Mount Adapter*, Remote Cord MC-EUI, AC Adapter EH-53, PC Card Adapter EC-ADI

The COOLPIX4500 is available at regular camera stores. For further information, visit the Nikon website at <http://www.nikon-image.com/eng/>.  
\*These adapters are not available at camera stores. Please consult with Nikon's authorized microscope dealers.

## DN100 Digital Camera—imaging is a breeze allowing you to monitor high-definition images

The DN100 meets your imaging needs in various situations, either configured with a microscope or used independently as a macro camera.

- High image quality of 1.3 million pixels on a 1/2.72-in. high-density CCD guarantees precision image viewing.
- A compact-size, light-weight (230g) camera head ensures stability on microscopes.
- CCU separation eliminates vibration during photography.
- A PC card slot allows the data to be uploaded, or stored and carried anywhere.



### Specifications

CCD	1/2.72-in. high density CCD; total number of pixels: 1.3 million	Captured image type	JPEG, BMP
Output image size	1280 X 960 pixels (max.)	Networking	Ethernet (10-base-T), HTTP, Telnet, or FTP server, FTP client
Sensitivity	2000 lx, F5.6 or greater; equivalent to ISO160 or greater	Dimensions (excluding protrusions)	CCU: 282 (W) x 177 (D) x 84 (H) mm Camera head: 88 (W) x 44 (D) x 73 (H) mm Remote unit: 56 (W) x 68 (D) x 21 (H) mm
Resolution	SXGA mode: Approx. 800 TV lines XGA mode: Approx. 640 TV lines	Weight	CCU: 2.2kg Camera head: 230g Remote unit: 110g
Lens mount	C mount (distance from mount plane to inside of the camera must be less than 8mm)	Power supply	AC 100-240V, 50/60Hz, 0.6A (max.)
Exposure control	Program AE (adjustable), Shutter-priority AE, Manual	Temperature range	Usable: 0-40°C, 85%RH max. (without condensation) Recommended: 15-30°C, 85%RH max. (without condensation) Storage: -20-60°C, 85%RH max. (without condensation)
Exposure time	1/1000 to 60 sec.	Compatible monitor	SXGA or greater resolution recommended
Output format	Analog RGB; SXGA mode (1280 x 1024, 60Hz), XGA mode (1024 x 768, 60Hz)		
White balance	Can be set from the menu; Color adjustable		
PC card	PCMCIA type II		

## Specifications

Image size/Resolution level	3,840 (H) x 3,072 (V) pixels (max. in Fine mode); 1,280 (H) x 1,024 (V) (max. in Quick mode)
CCD	2/3-in. high-density CCD; total number of pixels: 1.5 million (effective 1.45 million)
Lens mount	C-mount
Sensitivity setting	3 levels selectable: Normal, High and Max.
Exposure control	Manual
Auto white balance	Can be preset by selecting a point or rectangle.
Exposure time	1/12,000 to 170 sec.
Shooting mode	Fine (10 types): 3,840 x 3,072 pixels to 640 x 480 pixels. Quick (4 types): 1,280 x 1,024 pixels to 640 x 480 pixels.
Live image size	640 x 512 pixels (12 frames/sec. max.)
Data saving format	BMP, JPEG (3 types compression), or TIF (uncompressed)
Interface	Dedicated interface board (PCI bus)
Dimensions	78 (W) x 136 (H) x 69 (D) mm (3.1 x 5.4 x 2.7 in.) excluding protrusions; Interface cable: approx. 2m (6.6ft.)
Weight (without battery)	Approx. 800g (28.3 oz.) excluding lens
Operating temperature/humidity	Temperature: 0 to +40°C, Humidity: 10 to 80% (without condensation)
Power supply	Supplied from PCI bus (via dedicated PCI board)

## Recommended operating environment

CPU	Pentium III 1 GHz or faster
RAM	256MB or greater memory space required
Hard disk	100MB or greater memory space required
Mother board	PCI expansion slot space required
VRAM	16MB or greater memory space required
OS	Windows® 98/NT4.0/Me/2000/XP (Japanese/English ver.)
Display monitor	1,024 dots x 768 lines or greater, 16.7 million or more colors must be reproduced.
Interface	Only dedicated interface board can be used

Note: Some PCs might not work in this environment. If this happens, please consult Nikon or its local representatives.

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**WARNING**

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



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