# DXM1200C

High-Definition Cooled Color Digital Camera

Cooling mechanism reduces thermal noise, leading to greater clarity and higher signal to noise image acquisition

The high-definition DXM1200C digital camera is the perfect choice for top-of-the-line microscopy image documentation. The camera's cooling mechanism successfully reduces thermally induced CCD noise, and provides an increased dynamic range for low light level imaging of fluorescence, darkfield, or DIC images with greater clarity. Image resolution has been upgraded as well, with super high 12.6 output megapixels, thanks to Nikon's industry-leading pixel stepping technology. The DXM1200C also provides superb sensitivity, utilizing a high quantum-efficiency CCD. With a high-speed live image display at up to 15 frames per second, coupled with full function control and capture software, the DXM1200C is well-suited for a variety of imaging applications—the DXM1200C dynamically meets today's demands for high-definition color documentation.
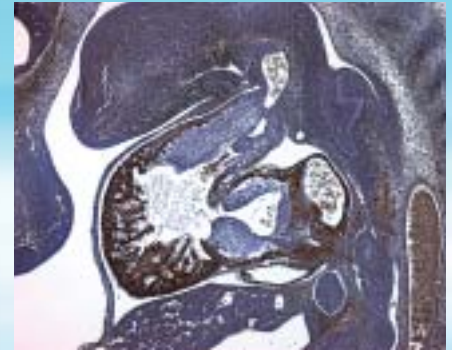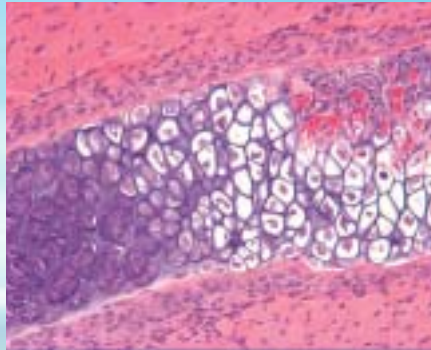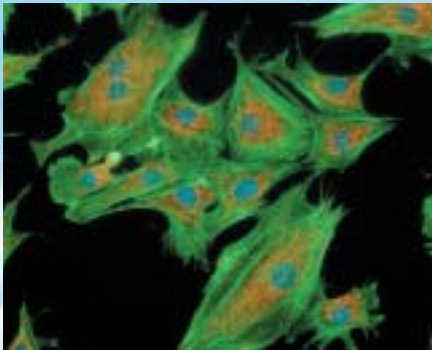
Configured with microscope Eclipse 80i and DIH-M

Configured with inverted microscope Eclipse TE-2000

Configured with muti-purpose zoom microscope Multizoom AZ100

Configured with industrial microscope Eclipse LV100D

*Above configurations are examples only. Actual configurations may differ.

Cooling mechanism reduces noise

The Peltier device cooling mechanism maintains the temperature of CCD at approximately 20°C below the pre-cooled temperature. As a result, thermal noise is significantly reduced, so even weak fluorescence and darkfield images are captured clearly.

Crisp images with 12.6 megapixel output

Nikon's industry-leading pixel stepping technology produces a super high resolution of 12.6 output megapixels (4116 x 3072 pixels)—1.07 times greater than our previous models. The resulting images are exceptionally sharp, and the high-definition image files created can be printed in large format—a valuable requirement for today's demanding research digital imaging systems.
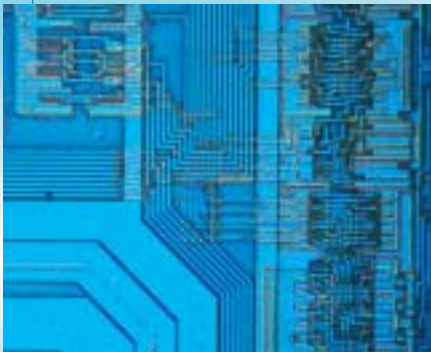
Superb sensitivity suited for high dynamic range

Nikon's high signal-to-noise (S/N) digital circuit technology enables a greater range of image sensitivity, performance and image quality. Thanks to its wide exposure latitude and improved dynamic range, a wide range of light intensities can be observed, acquired, and measured.

Smooth live image display

Images are transferred and displayed at up to 15 frames per second for near video-rate live image observations. Along with auto-exposure calculation, this makes it easy to adjust focus, observe, and acquire images.

Dedicated imaging software NIS-Elements

NIS **Elements**
Imaging Software
Advanced Solutions for your Imaging World

NIS-Elements is an integrated imaging software platform developed by Nikon to achieve comprehensive control of microscope, camera and peripheral devices, image analysis and document data management. Three distinct packages with advanced features are available, scaleable by adding various modules to meet specific needs and applications of the user.
The DXM1200C comes standard with NIS-Elements F-package—software for basic image acquisition.

| **Ar** *NIS-Elements Advanced Research*	**Br** *NIS-Elements Basic Research*	**D** *NIS-Elements Documentation*
NIS-Elements AR is optimized for advanced research applications. It features fully automated acquisition and device control through full 6 dimensions (X, Y, Z, wavelength, Time, Multipoint) image acquisition and analysis.	NIS-Elements BR is suited for standard research applications. It features acquisition and device control through 4 dimensions (up to four dimensions can be selected from X, Y, Z, wavelength, Time, Multipoint).	NIS-Elements D supports color documentation requirements in bio-research, clinical and industrial applications, with basic measuring and reporting capabilities.

Flexible screen layout

Three types of operation screens are available, each of which ensure that operation is a breeze. The screen can be easily switched, turned on and off, and the position of the screen changed.
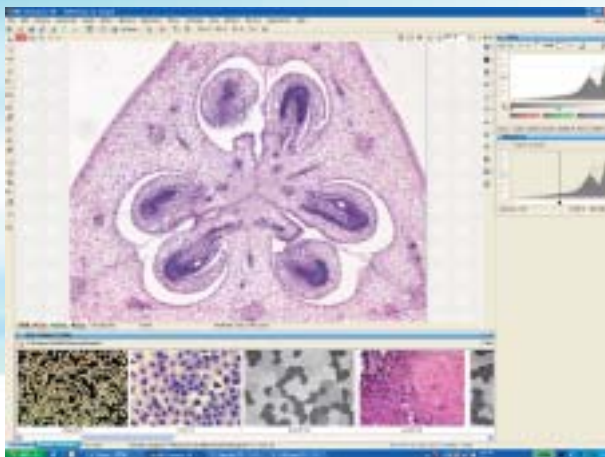


Full screen

Docked control screen

Organizer screen

Interactive measurement

NIS-Elements offers all necessary measurement parameters, such as taxonomy, counts, length, semiaxes, area and angle profile. Measurements can be made by drawing the objects directly on the image. All output results can be exported to any spreadsheet editor. Annotations (scale bar, arrow, text) attached to the image can be saved together.
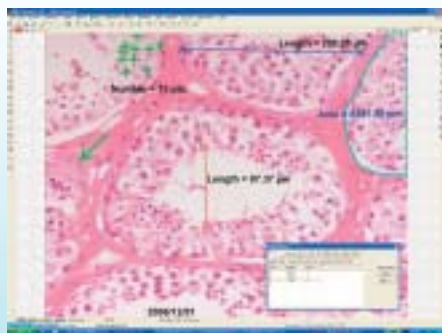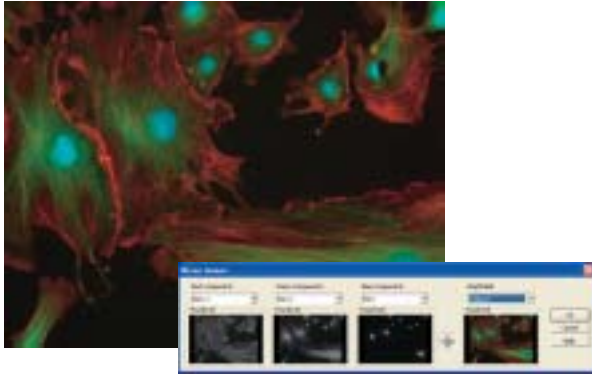

Profile

Five possible interactive line profile measurements provide consecutive intensity of a sourced image along an arbitrary path (free line, two-point line, horizontal line, vertical line and polyline).
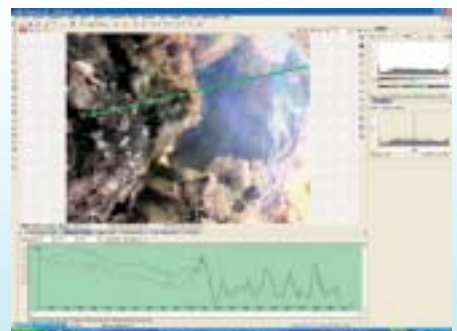
Image merging

By selecting separate color image components, a merged image can be created.


Report Generator

Report Generator enables the user to create customized reports containing images, database descriptions, measured data, user texts, and graphics. PDF files can be created directly from NIS-Elements.

Various convenient plug-ins are available for advanced imaging and analysis capabilities.

Object counting (standard with Ar and Br versions)

A sophisticated counting module is available. Object counting on saved images and continuous object count on live images are possible. Data spreadsheet views are linked to threshold data. Functions commonly used for object counting (Threshold/Restrictions/Data spread sheet/Data export) have been incorporated into a full-featured object counting module.
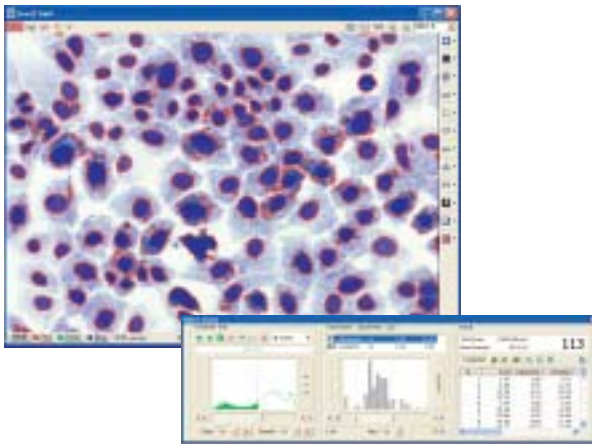
Extended Depth of Focus

With the Extended Depth of Focus (EDF) plug-in, images that have been captured in a different Z-axis can be used to create an all-in-focus image. Also, it is possible to create stereovision images & 3D surface images to achieve virtual 3D imaging.
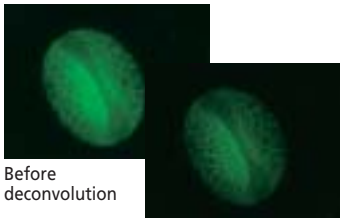

Focused image created from a sequence of Z-stack images

3D/2D real-time deconvolution

Haze and blur of the fluorescence image can be eliminated from the captured 3D image or from the 2D live preview image. (Separate plug-in for 3D and 2DRT)

3D deconvolution

Before deconvolution

After deconvolution

2D real-time deconvolution

Multidimensional capturing

NIS-Elements can combine X, Y, Z, Lambda (wavelength), Time and Multi points within one integrated platform for multidimensional acquisition. All combinations of multidimensional images can be linked together in single file sequence using an efficient workflow and intuitive GUI.

X, Y, Z, λ (Wavelength), T, Multipoint acquisition

Database

NIS-Elements has a powerful image database module that supports saving images and acquisition parameters. Various databases & tables can easily be created and images can be saved to the database via one simple mouse-click. Filtering, sorting and multiple grouping are also available according to the database field given for each image.
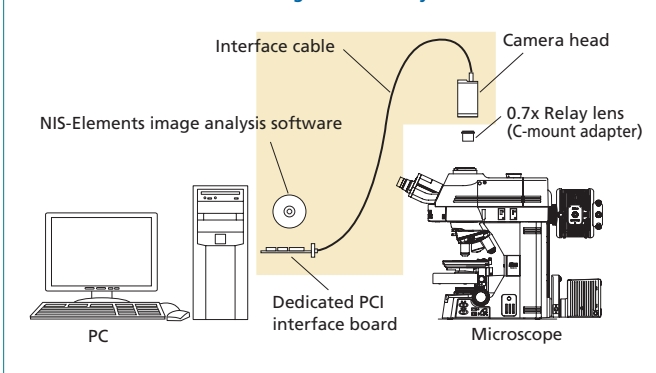
Specifications

Output pixels	12.6-mega pixels (max. in Fine mode), 1.4 -mega pixels (max. in Quick mode)
CCD	2/3-in. high-density CCD; total number of pixels: 1.5 million (effective 1.45 million)
CCD cooling	Approx. 20℃ below pre-cooled temperature; On/Off; Peltier device; Radiator; Cooling fan
Digitizer	12-bit A/D conversion
Lens mount	C-mount
Shooting mode	1,372 x 1,024, Focus, 1,372 x 1,024, Fine (SW), 4,116 x 3,072
Live image frame rate	15fps (686 x 512, 1,372 x 1,024 pixel display selectable)
Sensitivity setting	3 levels: Normal (Equivalent to ISO 300: Standard), High (Equivalent to ISO 600) and Max (Equivalent to ISO 1200).
Exposure control	AE (Continuous, One push)
Metering area	Size/position can be set at discretion
Exposure correction	±8 levels
Gamma setting	4 levels
Auto color balance	White balance, black balance adjustable by selecting a region
Exposure time	1/16,000 to 60 sec.
Data saving format	BMP, JPEG (3 types compression), TIFF (uncompressed), JPEG2000 (reverse compression)
Print	Print size designation; Tiling print for multiple images
Interface	PCI2.2 bus, Bus master transfer method
Power source	DC5V±10%, 400mA (Supplied from connecting cable)
Consumption power	7W
Dimensions	56 (W) x 56 (D) x 138 (H)mm excluding protrusions
Interface cable	3m
Weight (without battery)	Approx. 600g
Operating temperature/humidity	Temperature: 0 to 40℃ Humidity: maximum 85% (without condensation)
Accessories	Interface cable, Dedicated imaging software NIS-Elements, Dedicated PCI interface board
Optional accessories	Wide field, Low gravity point 0.7x relay lens

System configuration

DXM1200C Digital Camera System

Interface cable
Camera head
NIS-Elements image analysis software
0.7x Relay lens (C-mount adapter)
Dedicated PCI interface board
PC
Microscope

NIS-Elements Operating Environment

Intel Pentium4	CPU: 3.0GHz or more RAM: 1GB or more
Intel PentiumD	CPU: 3.2GHz or more RAM: 2GB or more
Intel Core 2 Duo	CPU: E6700 (2.67 GHz) or more RAM: 3GB or more
OS	Windows XP Professional SP2 (32bit) English version
HDD	600MB or more required for installation
Operation guaranteed on these models	HP xw4300/xw4400

Notes: DXM1200C may not work with Intel 965 Chipset.
DXM1200C does not support PCI Express.

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. December 2006 ©2005-6 NIKON CORPORATION

⚠ **WARNING** | TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

* Monitor images are simulated.
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