OLYMPUS®

High Resolution & High Sensitivity Coupled With High-Speed Processing Position

The DP70 Digital Camera Out On Top

Hardware

Rapid high-resolution image acquisition — 12.5 million pixels in only 3 seconds. High sensitivity, low noise design captures detailed low light fluorescence signals.
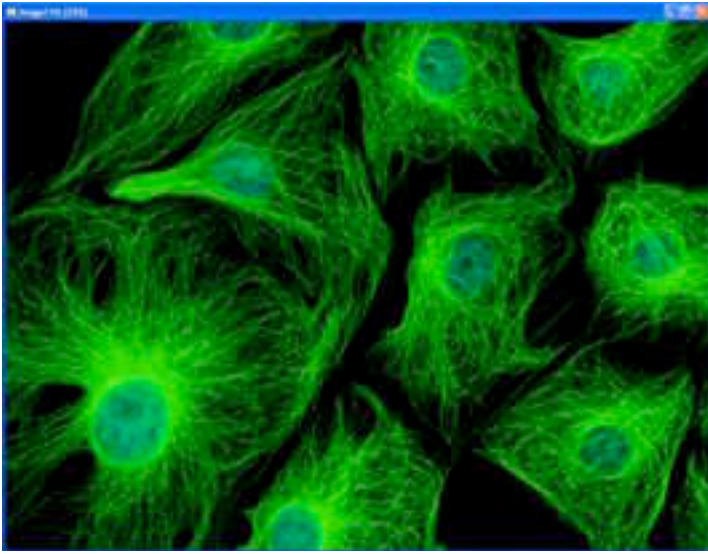
Super-high resolution, 12.5 million pixel equivalent

By shifting the 1.45 million pixel CCD, DP70 users can obtain still images at the maximum image resolution of 4080 X 3072 pixels. This results in an effective resolution equivalent to 12.5 million pixels — capturing accurate images of the specimen with remarkable clarity, detail, and color depth.

### Approximately 3 seconds…to capture a high-resolution image equivalent to 12.5 million pixels.

Combining the most advanced Olympus technology used in digital cameras with high-speed image data transfer, the DP70 can capture an extremely high resolution image in only 3 seconds*— eliminating delay and facilitating a smooth, uninterrupted workflow.

*This will depend on the PC configuration

Software

Olympus presents advanced, multi-function software to optimize real-time acquisition conditions and subsequent image management.

Image acquisition software
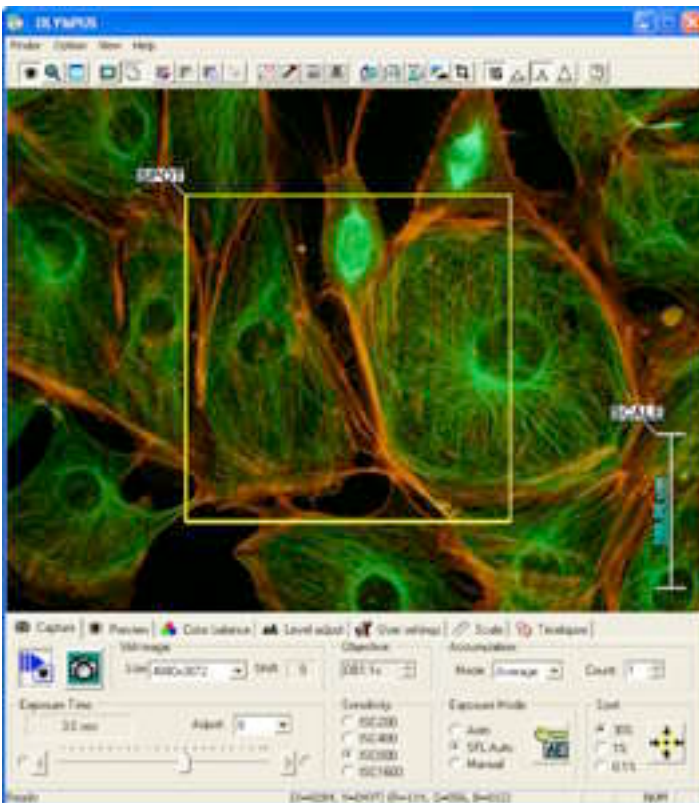
SFL (Super FL) automatic exposure mode for easy fluorescence image acquisition

The DP70's SFL automatic exposure mode calculates and sets the correct exposure time for fluorescence images using metering parameters based on advanced photomicrographic expertise. In addition, either automatic or manual exposure modes can be selected. The former sets the exposure and adjusts the image brightness automatically; great for a brightly illuminated stained specimen. Manual mode allows the user to select the preferred level of image brightness.

Binning function (preview image)

For low light level fluorescence signals, enable the DP70's 2 X 2 or 4 X 4 binning function. Sensitivity is increased, allowing preview images to be displayed at an increased frame rate that is very effective for dim fluorescence specimens.
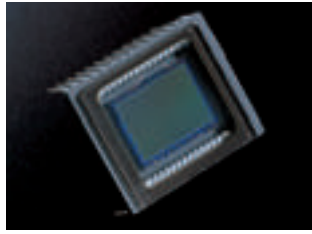
Scale bar feature

A scale bar superimposed on the image provides a valuable reference to approximate the specimen size. Simply enter the objective and relay magnification and the appropriate scale bar is generated.
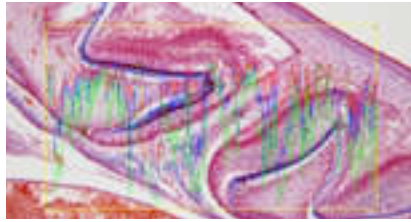
High-sensitivity, low-noise performance detects and captures images from low light fluorescence signals

A CCD with high sensitivity was developed specially for the DP70. Cooled by means of a Peltier device, it delivers high sensitivity with low noise at an equivalent of ISO1600; enabling even faint fluorescence signals to be captured as detailed, informative images.

Specimens are represented in true color

The data from each RGB color is captured with 12 bits of image information yielding 4096 intensity values. This presents an image of the specimen image with smooth gradations in true, natural colors.

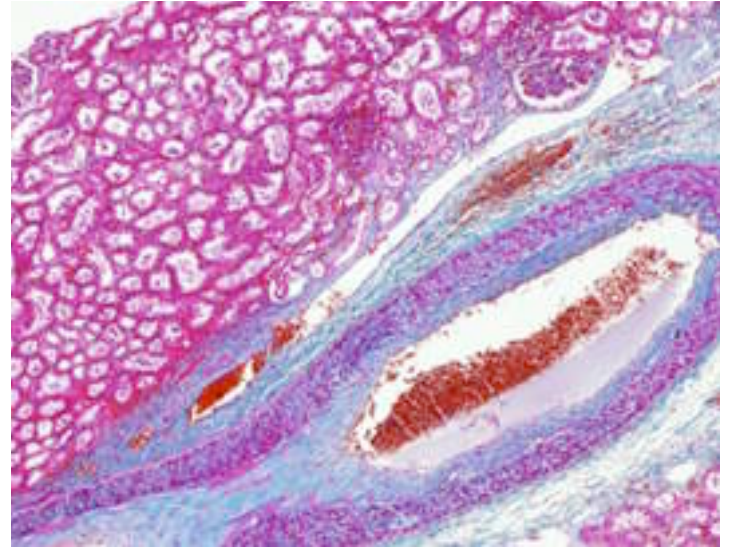**Fast frame rate allows rapid previewing and easy focusing**

The DP70 displays live images (size: 680 X 512) at a fast 15 frames/sec* for quick, easy focusing and framing. With the camera's high sensitivity and 2 X 2 or 4X 4 binning functions, even dim fluorescence specimens are displayed clearly and sharply at fast frame rates.

* This will depend on the PC configuration.

Frame and clip a region of interest

The user can clip a region of interest within the image window and save it separately. The size and position of the designated domain within the field of view can be designated without restriction.
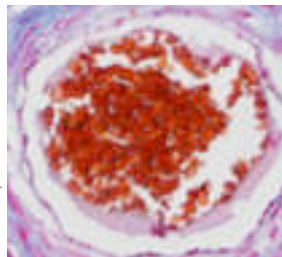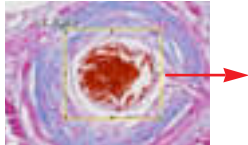
Full window image display for easy viewing

One click on a tool bar button displays the full image area in the window. High image clarity is maintained at the new larger display size necessary for meetings and conferences. The center of the field of view can be enlarged up to 2X using the zoom mode.

Simple time-lapse function

Time-lapse function allows a series of images to be acquired, turned into an AVI file, and played back immediately.

Image management software
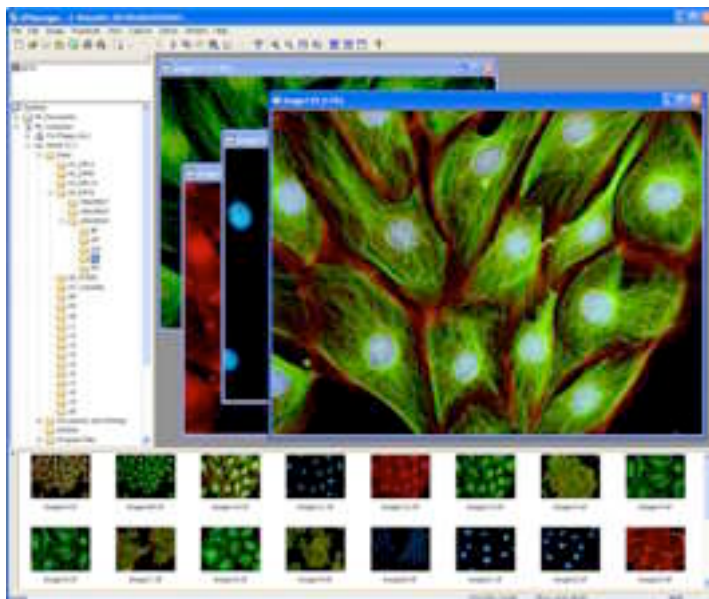
Easy to view thumbnail display

Stored images can be displayed simultaneously as thumbnails; size can be changed by pressing a button. Locating, selecting, and displaying an image is performed quickly.

Multiple image merging for fluorescence and DIC imaging

Images from a specimen captured using multi-fluors and DIC can be combined to compose a single image. No other additional image processing software is required.
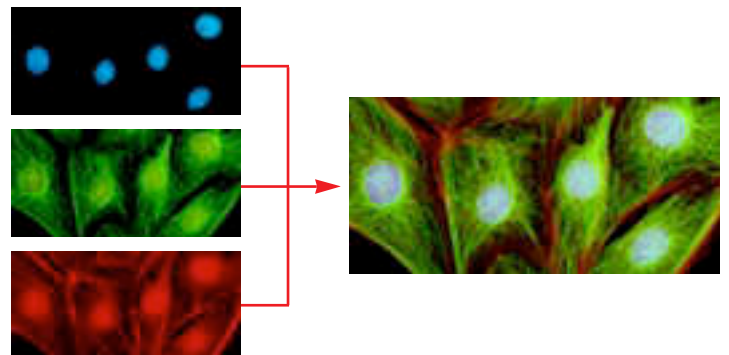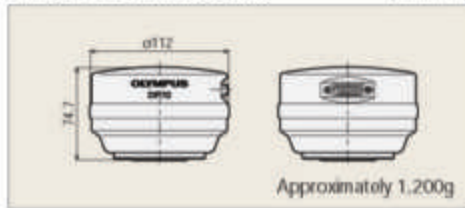
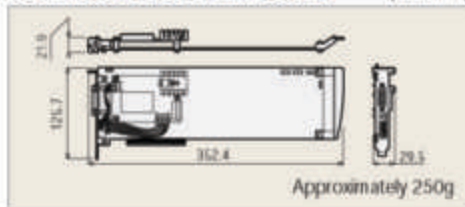## ■ Attachment adapter for IX microscopes / DP70-IFAD

This adapter enables the DP70 to be attached to the side ports of IX81, IX71, and IX51 inverted microscopes.
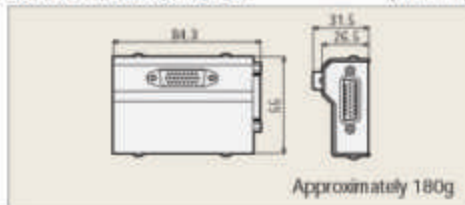

Camera head dimensions   (unit: mm)

Approximately 1,200g

PCI interface board dimensions   (unit: mm)

Approximately 250g

DP70-IFAD dimensions   (unit: mm)

Approximately 180g

Specifications

Camera	Type	Single chip color CCD camera, Piezo shifted
	Cooling system	Peltier device (Ta-10°C)[*1]
Imaging sensor	Size	2/3 inch
	Effective pixels	1.45million pixels (total pixels: 1.5 million pixels)
	Scanning method	Progressive scanning
	Color filter	RGB Bayer primary color filter
Microscope camera mount		Standard C mount
Effective image resolutions		4080 X 3072, 2040 X 1536, 1360 X 1024, 680 X 512
Sensitivity		Equivalent to ISO 200/400/800/1600
Bit depth		12 bits each for R, G, B
Metering Modes		30%, 1% spot, 0.1% spot (measuring area can be moved in image freely)
Exposure controle	Exposure modes	Auto, manual, SFL automatic
	AE lock	Available
	Exposure adjustment	Range : ± 2.0EV, step : 1/3EV
Exposure time		1/44,000s-60s
Image integration	Mode	Integral/Average
	Number	64 frames maximum
Binning options		OFF (1X1), 2 X 2 and 4 X 4 only preview image
White balance	Mode	Auto, manual, one-push
Image format		BMP, TIFF (48 bit images saved in TIFF format only), JPEG, PICT, AVI
Image orientation		Flip/mirror/180°
Interface	PC interface	PCI bus interface
Image transfer rate		Approximately 3.5s[*1] (at maximum resolution 4080 X 3072)
Frame rate		15 frames/s[*1] maximum (at image size 680 X 512)
OS		Microsoft Windows XP, 2000, NT4.0
Camera system		Camera head, PCI interface board (full size), interface cable, standard software
Dimensions & weight	Camera head	112(ø) X 75(H)mm (excluding protuberance), approximately 1,200g
	PCI interface board	352(W) X 126(D) X 29(H)mm (excluding protuberance), approximately 250g
	Interface cable	Approximately 2.5m

*1 Depends on environmental conditions.
*2 Image transfer time and preview image display time depend on PC's condition.

●Expected product life time: 5 years