

OLYMPUS

THE VISIBLE DIFFERENCE

DP-SOFT

PROFESSIONAL SYSTEM SOLUTIONS FOR DIGITAL PHOTOMICROGRAPHY



OLYMPUS DP-SOFT

NEW SYSTEMS FOR DIGITAL IMAGING WITH MICROSCOPES



As a natural development of their great success in digital photography, Olympus presents a new range of digital cameras for high resolution and ultra-high resolution imaging for microscopy.

For the first time, new generation digital cameras can take full advantage of the optical resolution of the microscope. In this way, Olympus redefines digital photography and sets a higher standard.

As with conventional 35-mm cameras, digital cameras are suitable for a wide range of applications, as well as offering all the advantages of digital imaging and image processing.

The latest selection of digital cameras offers a range of solutions for every purpose and every user. It is ideal for all fields of industry, medicine, research and training. The universal C-Mount connector enables the digital cameras to be mounted on any manufacturer's light or stereo microscope.

The potential of today's digital photomicrography can only be fully utilised if digital cameras are used together with a powerful PC software. With DP-SOFT, Olympus offers the perfect complement to professional digital cameras for photomicrography. The software enables images to be viewed immediately on a PC monitor after they have been taken and depending on the requirements, processed, saved or deleted. Once stored easily in the database, digital image data are available for further image processing and analysis.

Image annotations and measurements of specimen structures can be added, and the images inserted in reports, publications and Internet pages. The images can of course be sent via e-mail or used for education and presentation purposes.

Digital photography and image processing provide incredible opportunities and are clearly superior to conventional camera technology.

Taking Digital Images

The digital cameras produce outstanding image quality as the image information is digitised directly behind the CCD sensor. The resolution of the image is not artificially enlarged or interpolated through software, as is normally the case with other cameras, but instead every pixel from the CCD sensor is mapped directly to the digital image.

This technology produces crystal clear images with natural colour reproduction and a quality, which is fully comparable to that of 35-mm camera pictures. Ultra-high resolution cameras even produce a clearly higher level of quality than 35-mm cameras. Digital cameras and photography can be controlled directly and easily using the DP-SOFT software. Image data are directly transferred to the PC and are available for subsequent use including archiving, Image processing or printing.

It is also possible to operate different types of cameras via an ergonomic hand switch allowing these digital cameras to be used in environments where a PC connection is not possible or desirable. Digital images are saved on ultra-compact storage media, such as SmartMedia (with a memory capacity of up to 64 MB) or CompactFlash (with a memory capacity of up to 96 MB).

Depending on the selected resolution and image quality, a 32 MB SmartMedia card saves between four and 330 images. These images can either be printed directly or transferred to a PC via an adapter for processing within DP-SOFT.

Digital Colour Printing

For the first time, the new Olympus P-400 colour dye-sublimation printer offers professional paper printouts of digital images in A4, A5 and A6 format at a very reasonable price. The printer operates with a resolution of 314 dpi and produces crystal-clear images with brilliant colour reproduction in photo quality.





After printing, the printer automatically covers the image with a laminated overcoat to protect it from environmental influences. Despite the outstanding print quality, the printer operates unbelievably fast in comparison with other print processes. An A4 printout is completed in just 90 seconds.

In addition to direct printout from SmartMedia storage media, the printer can also be connected as part of a picture processing system via a parallel or USB interface to the PC.

This printer is the ultimate solution for all users of ultra-high resolution digital cameras who want to print digital images with full resolution and without compromising on quality.

Image Processing with DP-SOFT

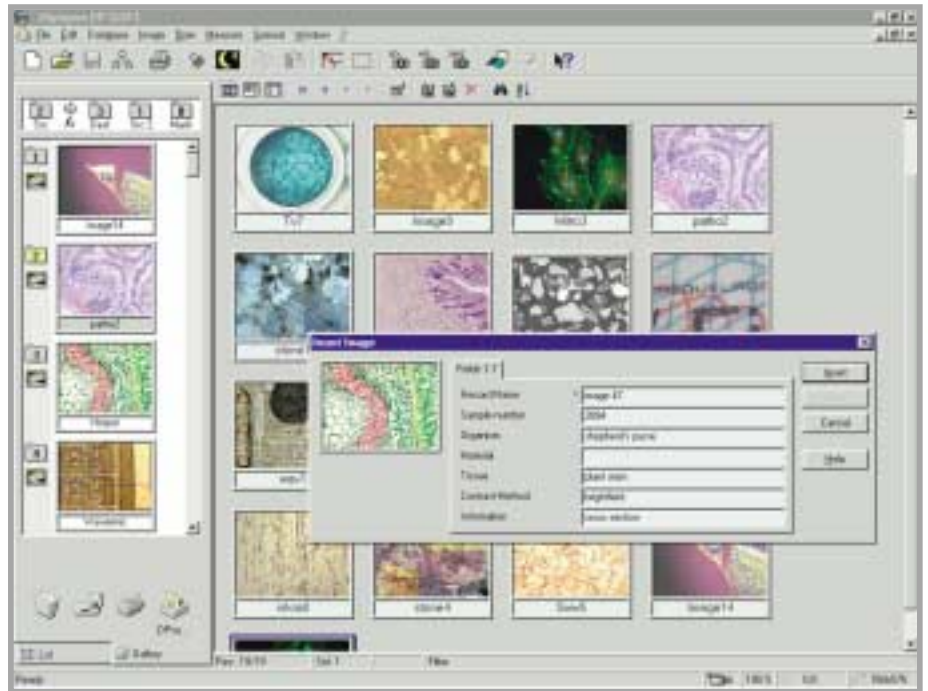
DP-SOFT is a professional image processing software package under Windows 95/98®, Windows NT® and Windows 2000®. It includes image archiving, processing and analysis functions. This software has been exclusively developed for Olympus and enables direct operation of digital cameras from the PC.

All it takes is one mouseclick to automatically transfer the images from the digital camera to the PC. A second mouseclick calibrates the images i.e., information on the magnification of the objective used is allocated to the images. Calibration is a very important step in professional imaging as it makes subsequent analysis of image data possible.



The DP-SOFT database sets new standards regarding user-friendliness, compatibility and functional coverage. It is Microsoft Access compatible and offers complete network capability.

The structure and organisation of the database can be freely defined by the user. Joint filing of images together with supplementary data and documents and the drag & drop function for storing image data make working with the database incredibly easy. Definable query filters and optional password protection complete the database.



DP-SOFT database with gallery view and dialog window for inserting images

Data Storage

DP-SOFT handles the memory-intensive filing of digital image data through the special Multiple Volume Management (MVM) function. Due to MVP it is possible to save digital images separately from the database on the hard drive. The image data can be stored on network drives or removable storage media, such as rewritable CD-ROMs or DVD and MO media.

This separation of database and digital images enables practically unlimited data volumes to be stored and managed. The removable storage media, containing the corresponding image data, is automatically called up for a database enquiry.

Handling High Resolution Images

An outstanding feature of the DP-SOFT user interface and a must for every user of high resolution digital cameras is the use of the Multiple View Port (MVP) function. In contrast to conventional software programs, using separate dialogue boxes and windows for each document MVP offers a clearly better way to manage the organisation of documents on the user interface. The Viewport-Manager facilitates the choice between multiple and single image views and enables the synchronisation of viewports for pan&scroll and zoom functions.

DP-SOFT provides a solution for the increasing problem of handling high resolution images. These images greatly exceed the resolution capabilities of today's standard PC monitors. Therefore it is often only possible to display very small image sections in the original resolution on the monitor. However, the Viewport technology offers the possibility to display an overview image and a section of the image in original resolution in parallel, without losing the structural context in the whole picture, by navigating through the ultra-high resolution original image.

Another function of DP-SOFT, the dynamic overlay, has also been specifically developed for handling ultra-high resolution images. Overlay elements, such as annotations, scale bars and measurement results, which can be easily inserted in a image, now behave dynamically. Regardless of the zoom factor of the image, the same size is shown continuously and is therefore always visible to the user.



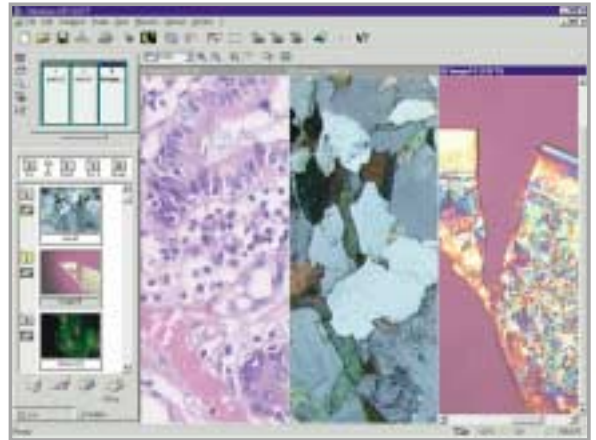
The Olympus complete system for professional digital imaging.

Extended Software Properties

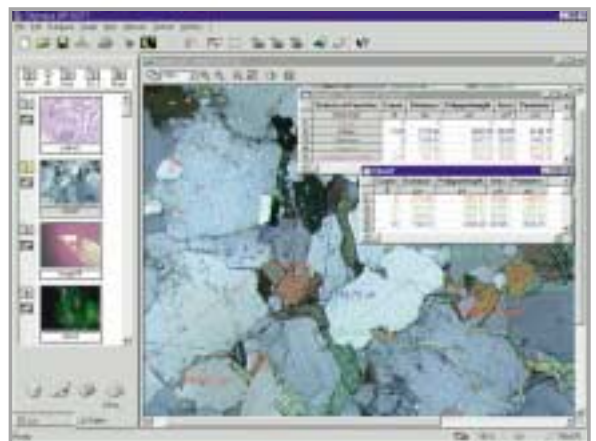
DP-SOFT offers a great deal more. Various software functions are available to optimise the digital images to meet the requirements of the user. In particular for colour adjustment, extensive help tools achieve perfect results.

Interactive measuring functions offer analysis possibilities including counting objects as well as length and area measurements. The measuring results are shown either in the image itself or in an additional table, according to requirements.

With a choice of high resolution and ultra-high resolution digital cameras, the image archiving and processing software DP-SOFT and the digital colour printer P-400, Olympus is offering a complete system for professional digital imaging in microscopy. Working with this system is incredible easy and provides all the features you would expect from an ergonomically designed system.



Multiple View Port technology structures the graphical user interface.



Interactive measurement functions, results and statistics displayed in the image overlay and spreadsheets.

The results achievable with this system, are of exceptional high quality and in most cases exceed the results of conventional photography.

Specifications

DP-SOFT Software Features

Operating system	Windows 95/98®, Windows NT 4.0® and Windows 2000®
File menu	New, Open, Close, Save, Save As, Define Page Layout, Print Setup, Print, Exit
Edit menu	Undo, Repeat, Cut, Copy, Paste, Delete, Find, Find Next, Find Previous, Find Selection, Replace Sheet: Sort Sheet Ascending, Sort Sheet Descending, Create Copy, Autofilter
Database menu	New, Open, Close, Delete, Define Fields, Arrange Fields Query: by Example, by Free Filter, by SQL Sort Records, Move Files, Edit Record, Update Views, Insert Image, Insert Images, Insert Image File, Data, Load Image, Load Image with Documents, Info Window, Insert Documents, Insert Document File, Open Document File, Execute SQL, Change Password, Repair, Settings, DbFile 1
Image menu	Set Input, Configure Input, Camera Control, Set Magnification, Calibrate Image, Draw Scale Bar Automatic Scale Bar: Properties, Burn into Image, Show in View port, Overlay: Edit, Copy, Delete, Burn, Image and Overlay, Image Only, Overlay Only, Copy Image, Delete Image, Protect Image, Set Frame
Operation menu	Intensity: Maximise Contrast, Equalize Contrast, Optimize Contrast, Modify Grey Value, Invert, White Balance, Edit Image Define Filter: User Filter, NxN, Pseudo, Reimer, DCE, Filter: Sharpen I, Sharpen II, Differentiate X, Differentiate Y, Laplace I, Laplace II, Mean, Median, Pseudo, Sobel, Roberts, Reimer, User Filter, NxN, Lowpass, DCE, Change Bit Depth to 8-Bit, Change Bit Depth to 16-Bit, Change Bit Depth to 24-Bit, Adjust Colors: Define and Execute Intensity Adjustment, Define and Execute HIS Adjustment, Define and Execute RGB Adjustment, Count Colors, Color Selections: Red, Green, Blue, Hue, Saturation, Intensity, Combine Color Separations, RGB Studio: Apply Filters, Change Color Depth, Rotate Image, Shear Image, Zoom Image, Watermarks Adapted and tiled, Separate and Merge Colors According to RGB, CMYK, CMY, HSV, HLS, Image Geometry: Zoom, Rotate, Mirror, Correct Aspect
Measure menu	Touch Count, Arbitrary Distance, Polygon Length, Area/Perimeter, Pixel Value, Intensity Profile Horizontal, Perspective, Grid, Define Statistics, Statistics
Special menu	Edit Button Bars, Define Menu Bar, Define Keyboard, Define Programs. Configuration: Reset, Load, Merge, Save, Screen Saver, Settings
Window menu	Cascade, Tile Vertical, Tile Horizontal, Minimize All, Arrange Icons, Close All, Viewport Manager, Image Manager, Status Bar
Help menu	Help, Context Help, Welcome, About

P-400 Digital Colour Printer

Type	Colour dye-sublimation transfer printer (Yellow/Magenta/Cyan 3-level with additional lamination)
Maximum printing area	194 x 258 mm (W x H)
Resolution/pixel	2400 (vertical) x 3200 (horizontal) pixels, 314 dpi
Gradations	3-fold 8-bit (256 levels/depths), approximately 16.7 million colours
Paper feed	Cassette type automatic feeder (50 sheets) Automatic feed form paper tray, 50 sheets maximum
Printing paper	A4 standard paper (297 x 210 mm), P-A4NE A5 oversize (210 x 200 mm), P-A5NE A6 perforated A4 sheet (89 x 119 mm x 4), P-A4LE A5 perforated A4 sheet (100 x 148 mm x 2), P-A4PE
Printing time	Approx. 90 seconds for A4 full size (excluding data transmission time)
File types	DCF (JPEG (JFIF, Exif), TIFF), DPOF (reservation, number, trimming)
Computer interfaces	Parallel interface (IEEE 1284, Centronics, Amphenol 36-pin) under Windows 95/98®, Windows NT 4.0® and Windows 2000® USB - under Windows 98®, Windows 2000® and Mac OS 8.6 or later
Card interface	SmartMedia 3V (3.3V): 4, 8, 16, 32, 64 MB, PCMCIA card type II
Power requirements	220-240 V AC, 50/60 Hz, 180 W
Operating environment	Temperature: 5 - 35°C, humidity: between 30% and 85%
Dimensions and weight	422 x 275 x 311 mm (W x D x H), weight = 11.3 kg

Specifications are subject to change without any obligation on the part of the manufacturer.

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Microscopy • Photography • Endoscopy • Diagnostics • Communications

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