Leica DFC400

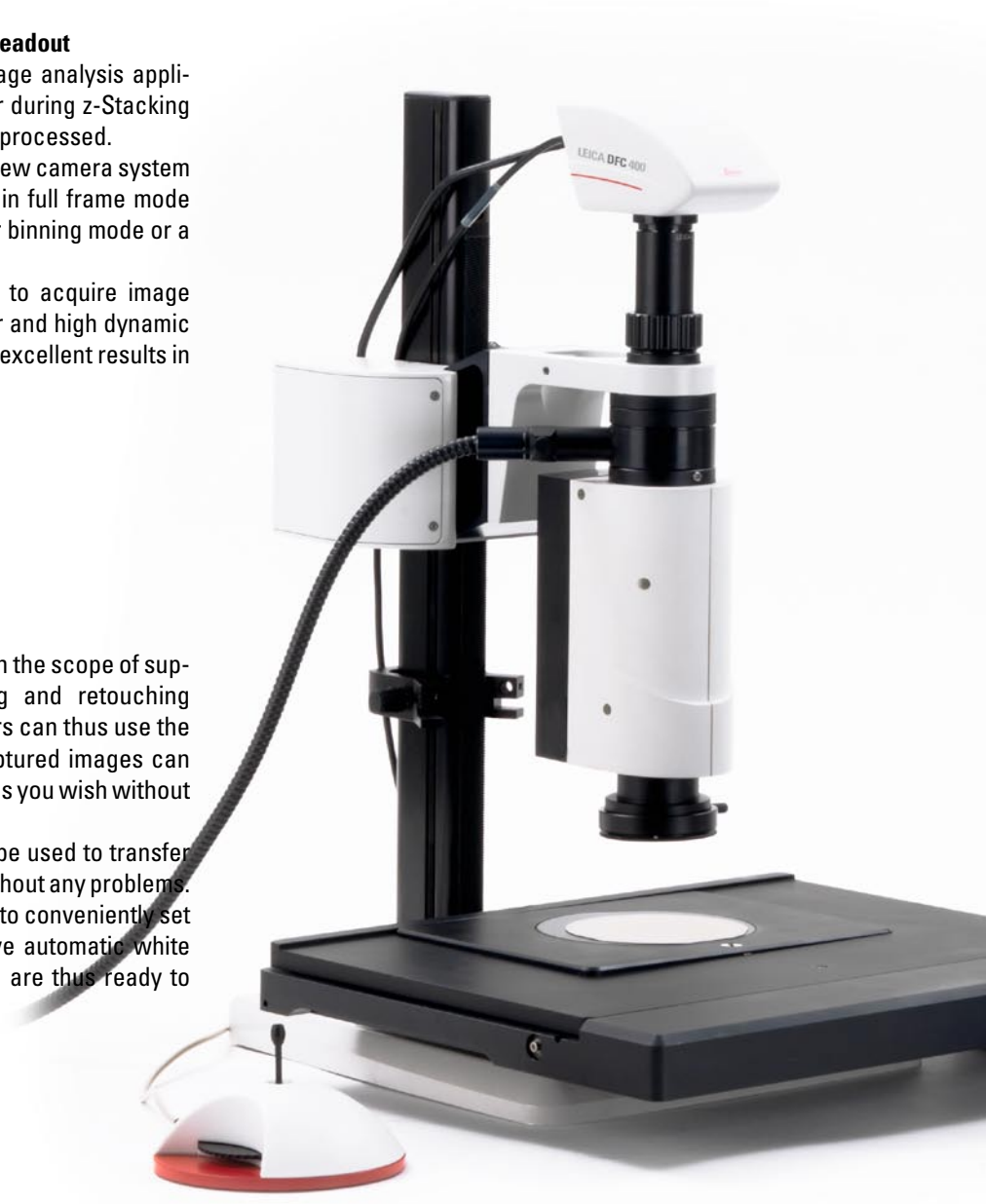
High Performance Digital FireWire Color Camera System for Professional Microscopy

Leica
MICROSYSTEMS

Ultra High Speed Photography

Excellent picture quality is essential from initial setup, through to documentation and reporting. The Leica DFC400 digital camera system provides images with the highest color fidelity, speed and detail. The camera is ideal for precise image analysis in industry, research and life science applications.

High sensitivity, excellent color and real-time readout
Speed is an essential factor for demanding image analysis applications. Particularly when creating a Mosaic or during z-Stacking whereby hundreds of single sample images are processed.
Thanks to state-of-the-art CCD technology, the new camera system achieves maximum frame rates of up to 20 fps in full frame mode and an astonishing 40 fps when you select color binning mode or a smaller region of interest.
The highly sensitive image sensor allows you to acquire image streams at short exposure times in perfect color and high dynamic range. The Leica DFC400 is the ideal solution for excellent results in all image analysis applications.



High-performance Leica LAS software
The Leica Application Suite software included in the scope of supply offers numerous functions for recording and retouching images. Beginners as well as experienced users can thus use the full potential of the digital technology. The captured images can be edited, printed out and reproduced as often as you wish without any loss in quality.
The TWAIN driver included in the delivery can be used to transfer photographs to other image editing programs without any problems. In addition, intelligent camera options allow you to conveniently set up the camera parameters. Leica cameras have automatic white balance and advanced illumination control and are thus ready to produce perfect images in seconds.

Creating crisp, sharp images has never been easier with the new Leica Application Suite (LAS) software. LAS features automatic functions for microscope setup and calibration, annotation, and measurements. When LAS is used with an automated microscope, you can store and recall camera and microscope parameters to exactly reproduce previously made pictures. Digital data can also be analyzed, modified, evaluated and integrated into reports quickly and easily.

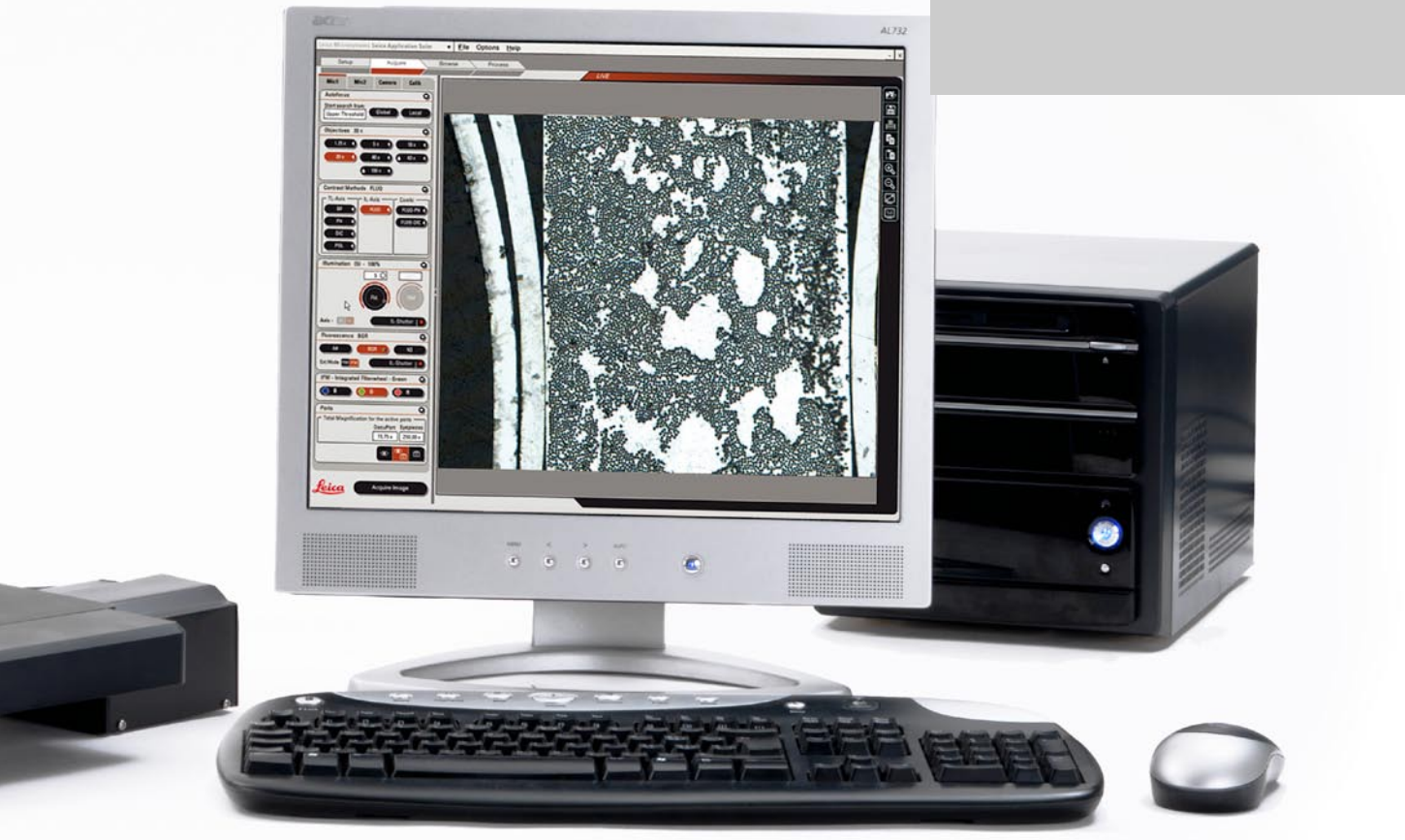
Intuitive solutions for PC

The camera's software makes digital recording on the screen quick and easy, when used on a PC. The easy-to-use interface is specifically designed for microscopy applications. Numerous intuitive image capture and editing functions ensure that recorded images are immediately available for viewing and processing, offering the highest quality and full use of all the benefits of digital technology.

DFC400

Advantages

- 0.5" interline progressive scan CCD with highly sensitive 1.4 megapixel resolution
- 40 frames per second for binning mode, 20 fps in full frame mode
- High linearity over the whole dynamic range and minimum noise
- Progressive scan of each exposure provides complete full images without disturbing horizontal skipping artefacts as known from interlaced image sensors
- 12 or 8 bit digitizing option allows the selection of the right degree of detail for the particular application.
- Partial Scan Mode: Ultrafast read-out of definable areas at full resolution, also in combination with binning
- Camera power supply and fast data transfer via FireWire IEEE1394 b
- Trigger port for exact synchronization
- Shutter speeds from 4µs to 60 seconds
- Easy installation on to the microscope
- Full system integration in Leica Application Suite
- Control of camera via Twain Interface



Technical Data: Leica DFC400

Digital camera		
Camera type	Digital camera for microscopy with control software	
Sensor	Progressive Scan CCD, IXC267	
Sensor grade/size	6.4 mm × 4.8 mm (type 1/2)	
Color filter	RGB Bayer mosaic	
Protective color filter	Hoya CM500S (IR cut-coating filter at 650 nm)	
Shutter control	Electronic global shutter/Progressive scan readout	
Number of pixels	1.4 megapixel, 1392× 1040	
Max. scalable resolution (only PC)	3.1 megapixel, 2088× 1560	
Pixel size	4.65 µm × 4.65 µm	
Color depth	36 Bit	
A/D converter	12 Bit	
Dynamic range	Type > 58 dB / 800:1	
Readout noise	σ < 7 LSB (12 bit) typical	
Exposure time	4 µsec – 60 sec	
Gain controll/Gain	1× – 10× / 0-20 dB	
Shading correction	Yes, stored for all formats	
Region of interest	Freely adjustable in 2-pixel steps from 2 × 2 up to full resolution	
Live image	HQ (20 MHz)	fast (40 MHz)
Full frame - 1392 × 1040	10	20
2 x 2 binning - 696 × 520	19	39
Minimum system requirements PC	Pentium 4, 2.5 GHz, 1 GB RAM, 24-bit graphics card, CD drive, FireWire or free PCI slot	
Supported operating systems	Windows XP Service Pack2, Windows Vista (Ultimate recommended)	

Interfaces	
Optical	C-mount
Recommended video adapter	0.5 × or 0.63 ×
Digital output	FireWire IEEE1394b 9-pin
Physical and Environmental	
Power consumption	~4W
Power supply	via FireWire cable
Housing	Aluminum die cast
Size	112 × 74 × 68.4 mm^3
Weight	340g
Operating temperature	+5 °C - +50 °C
Relative humidity	10%..90% non-condensing

Order numbers	
12 730 203	Leica DFC400 Camera kit comprising: Leica DFC400 Camera, Leica software, FireWire cable a-b
12 447 053	OHCI-PCI FireWire card for PCs without FireWire interface
12 447 066	PCMCIA FireWire interface for laptops
12 730 186	FireWire cable, 3m, b-b, 9/9-pin
12 730 187	FireWire cable, 3m, a-b, 6/9-pin
12 730 188	FireWire Power kit comprising: 110/220V power pack for 4-pin FireWireA or 6-pin FireWireA

www.leica-microsystems.com/DFC400

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