



# Leica DFC500

High-resolution Digital Camera System  
with 12 Megapixel Power

Living up to Life

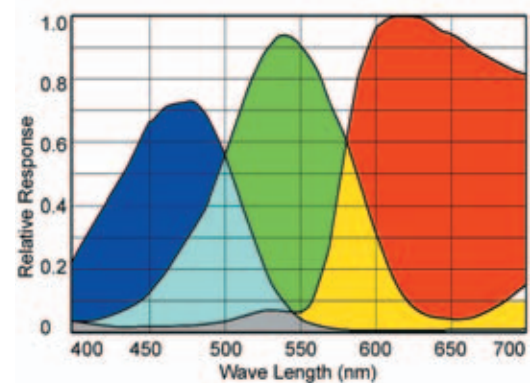
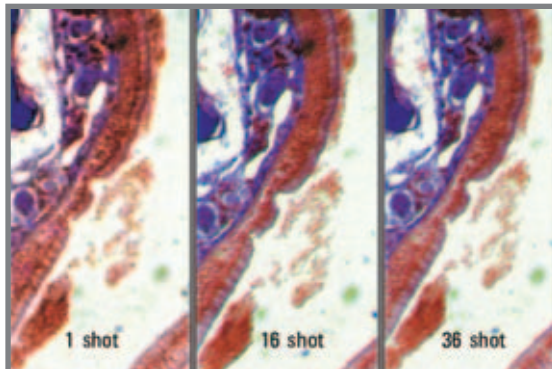
**Leica**  
MICROSYSTEMS

# Top Technology for Professional Documentation

Increasingly complex tasks in science and industry require innovative solutions. The immediate availability of high-quality image data for precise measurement, analysis, and processing is important in modern microscopy. The Leica DFC500 12-megapixel camera is perfect for the professional who places top priority on excellent resolution, color, and image quality, as well as an abundance of information. The camera's specially designed control program provides easy-to-use camera operating functions, and can also be used to process, analyze, and archive digital images. With these advantages, the Leica DFC500 offers greater efficiency in the processes required for scientific photography and microscopy in industrial and life science image recording.

## Greater detail, more information

Users requiring the greatest detail from their images benefit from the high-quality resolution offered by the Leica DFC500: Up to 12 megapixels at a color depth of 42-bit RGB is possible as a result of 36 partial exposures. Now, even the subtlest structures and color shades can be visually observed and digitally recorded. The Leica DFC500 ensures pin-sharp detail without moiré effect, color fringing or blooming.



## Great results under all microscopy conditions

In addition to all common microscope processes, such as incidental and transmitted light, the Leica DFC500 digital camera is ideal for weak fluorescence and capturing the images of poorly illuminated specimens. With combined cooling from a Peltier element and fan, the camera's CCD sensor provides perfect image and color quality even from long exposures. The 2/3" CCD Sensor is encapsulated in a vacuum chamber to avoid condensation on the optics, even with difficult to image specimens.

## Flexible for all applications

The Leica DFC500 is designed for all common contrast, light and dark procedures in microscopy, as well as for difficult fluorescence imaging. A choice of recording modes and resolutions provide excellent image quality in all applications.

## Intuitive solutions for PC and MAC

The camera's software makes digital recording on the screen quick and easy. For PC and MAC systems, the software is easy to operate using an interface specially designed for microscopy applications. Numerous intuitive image capture and editing functions ensure that the recorded images are immediately available for viewing and further processing, which offers optimum quality, and full use of all the benefits of digital technology.

### Feature highlights

- True12 Megapixel resolution and 42-bit RGB color depth
- Nine individual selectable resolutions between  
272 × 204 (5× binning)    340 × 256 (HFRM)  
453 × 340 (3× binning)    680 × 512 (HFRM)  
1360 × 1024 (4 shot)    1360 × 1024 (1 shot)  
2720 × 2048 (16 shot)    4080 × 3072 (9 shot)  
4080 × 3072 (36 shot)
- Provides precise rendering of the subtlest color shades and pin-sharp details.
- Offers perfect image and color quality without noise.
- The high dynamic range records very dark and bright image areas.
- Exposure times are from 1/4000 – 600 seconds.

### Feature highlights

- Analogue gain 1× – 8×
- 2 binning stages to increase sensitivity
- Fast live image provides easy focusing and monitoring of the image composition.
- Intuitive user interface offers easy-to-use image capture and processing functions.
- The camera's power supply and fast data transfer is provided via a standard FireWire IEEE 1394 interface.
- Easily and quickly connects to all microscopes with C-mount adapters.
- Color Co-Site-Sampling provides true color.

Leica Fluorescence Stereo-  
microscope MZ16 FA with  
Leica DFC500 Digital Camera  
and high-performance  
Dark- and Brightfield base.



## Leica DFC500 – Technical data

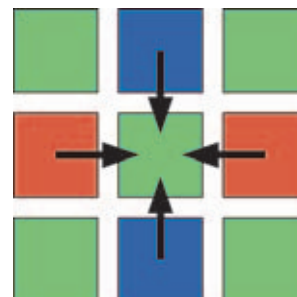
Housing	Aluminium die cast with fan
Size (L × W × H)	157mm × 93mm × 123mm
Weight	800g
Exposure	0.25 milliseconds – 600 seconds
Live image	On computer screen
Cooling	Active (Peltier cooling), fan
External manual trigger	Present
Flash synchronization	Present
Shading correction	Present
<b>Sensor</b>	
CCD sensor	2/3" – CCD ICX285AQ Progressive scan
Sensitive surface	8.8mm × 6.6mm
Pixel size	6.45µm × 6.45µm
Number of pixels	1360 pixels × 1024 pixels, 1.4 Mpixels
Total pixels (highest resolution)	4080 pixels × 3072 pixels, 12 Mpixels
Color filter	RGB Bayer
Signal-to-noise ratio	2000:1; 66 dB
AD converter	14-bit
Protective filter	Hoya C-500S
Binning mode	3 × 3, 5 × 5
Analogue gain	1× – 8×
<b>Software</b>	
Supported operating systems PC	Win2000, Win XP
Supported operating systems MAC	Mac OSX 10.3 and higher
Software PC	DFC Twain, Leica IM50 archiving software, Leica LAS
Software MAC	Leica FireCam
<b>Interfaces</b>	
Optical	C-Mount
Recommended video adapter	0.63×
Data	TWAIN, IEEE 1394a FireWire 6-pin single cable
Power supply	12V – 33V via computer
Power consumption	7W
Computer	FireWire interface
<b>Miscellaneous</b>	
Minimum Computer configuration PC	Pentium III, 512 MB RAM, 24 Bit True Color, Firewire onboard or 1 free PCI Slot
Minimum Computer configuration MAC	G4, 512 MB RAM
Operating temperature range	+5 to +35°C
Air humidity	max 80%, non condensing

## Equipment components

### Order numbers

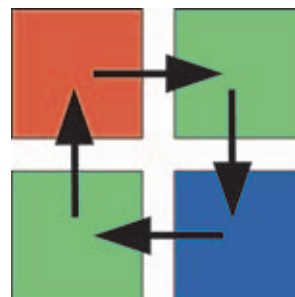
12 730 066	Leica DFC500 camera kit including:	Leica Firecam software for MAC
	DFC500 camera head	Leica IM50 and Leica LAS software for PC
	Leica Twain software for PC	2m, 6 to 6 pin FireWire cable
12 447 140 optional	4.5m cable for DFC500, 6 to 6 pin	
12 730 183	PCI-32 FireWire-a card for PCs without FireWire	
12 447 066	Laptop PCMCIA Firewire interface card	
12 730 188	FireWire Power kit comprising: 110/220V power pack for 4-pin FireWire-a or 6-pin FireWire-a	
12 730 178	Calibration slide	

www.leica-microsystems.com



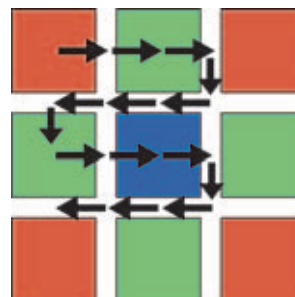
### 1 shot interpolation

The missing red and blue information of an image point are derived from the neighbouring pixels.



### 4 shot true color

Color-Co-Sampling with 4 shot technique. Shifting pattern for sampling color information.



### 16 shot Microscanning

Increased spatial and color resolution through Microscanning by combining up to 36 images.