INDUSTRY DIVISION

Leica MC120 HD & MC170 HD

Digital HD microscope cameras for optimum visualization and ultimate ease of use

Easy. Fast. Brilliant.

Fast and precise HD live preview images – right on your HD monitor! Absolutely user-friendly and, with an outstanding price/performance ratio, the new Leica MC120 HD and MC170 HD microscope cameras complement the high-definition product range for optimum use in industry and research. The perfect interaction of trend-setting quality, ultimate convenience of operation, and innovative image management create ideal requirements for ergonomic, efficient work with excellent results.

BEST PERFORMANCE FOR HIGHEST REQUIREMENTS

The high-performance Leica MC120 HD and MC170 HD microscope cameras provide ultra-high-speed live images via an HDMI interface to a high-definition monitor, or via a USB interface to a computer screen. Depending on the operating mode configured, the camera can be operated entirely separately, directly with a remote control on an HD monitor, or on a computer with high-performance Leica imaging software that was developed for the special require-ments in microscopy. Brilliant and professional – the results of the new HD microscope camera are impressive!

The infrared remote control allows comfortable work: Faster changeover to other camera modes; running a white balance operation; capturing movie clips for fast documentation and hands-on training; saving directly to an SD card. In addition, all camera parameters can be controlled directly and conveniently, even advanced settings such as brightness, intensification, or contrast of the image.
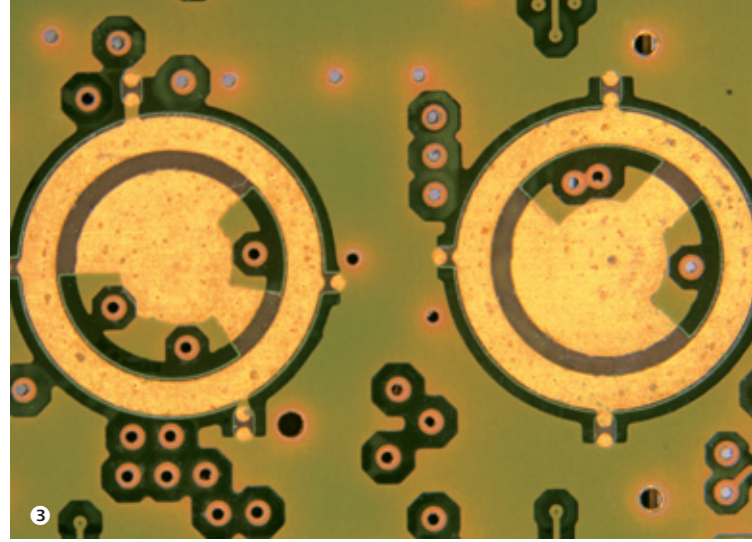
User-friendly menus on the monitor support professional processing of images. This enables digital watermarks, company logos, or even bar displays to be very easily copied right into the images.

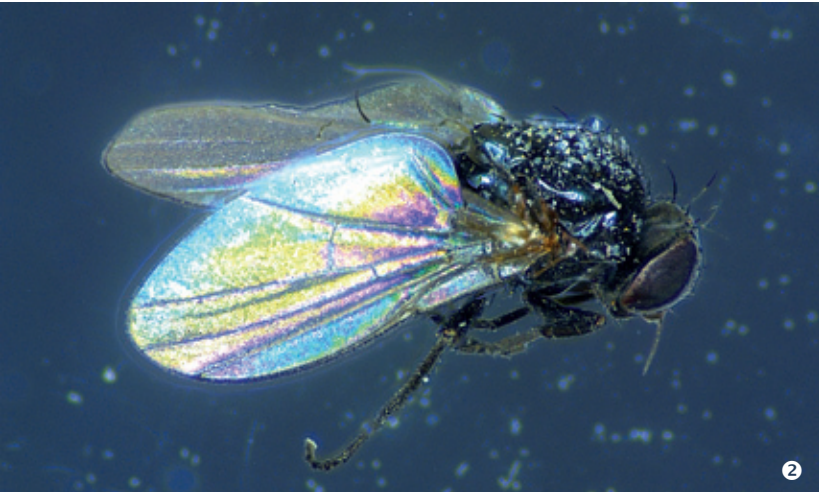Comfort and convenience at the touch of a button: RC2 remote control
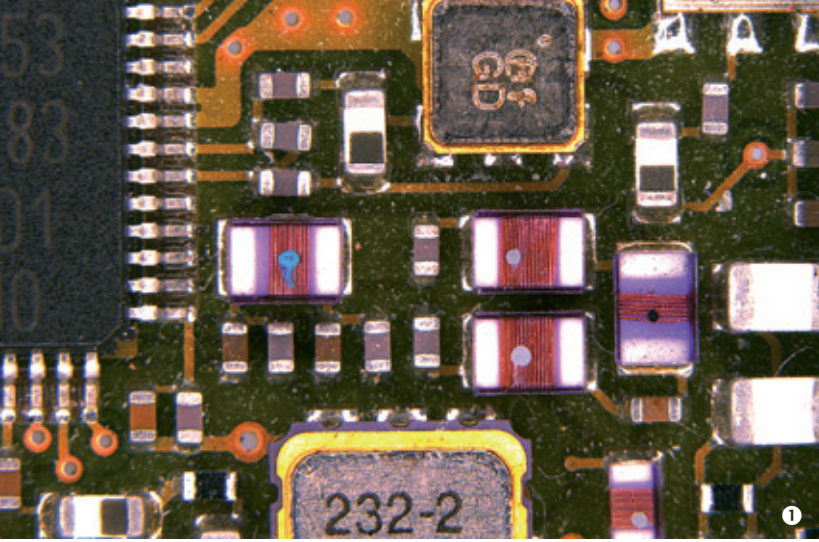
❶ Inspection of electrical parts and soldered joints
❷ Visualization of a fruit fly wing *(Drosophila melanogaster)*

❸ Examination of the surface composition of printed circuit boards
❹ Simple and fast: All switches and plug connections are located on the rear side of the camera for easy access.

FOR ALL REQUIREMENTS: COST EFFICIENCY BY MEANS OF FLEXIBILITY

With the C-mount interface, the compact HD microscope cameras fit on every commercially available microscope, macroscope, or imaging instrument. That makes them particularly flexible and of interest for individual requirements and budgets.

With the C-mount adapter, even existing microscopes can be easily and cost-efficiently enhanced with the advantages of the Leica MC120 HD and MC170 HD cameras.

TO THE HEART OF THE MATTER. PERFECT IMAGE MANAGEMENT

It has never been easier to acquire and edit first-class images. The new Leica MC120 HD and MC170 HD cameras get right to the heart of today's requirements for innovative image management. Use of the latest CMOS image sensors guarantees maximum image quality — pin-sharp and natural images, even in unfavorable light conditions. The intelligent automatic mode adapts exposure time, gamma, and various other camera settings to nearly every situation with amazing precision.

The latest image processing algorithms provide perfect results in images or brilliant HD videos — whether on a computer, right on the HD screen, or on the mobile SD card.

FOR ALL REQUIREMENTS:
## LEICA APPLICATION SUITE (LAS) SOFTWARE

Leica Application Suite (LAS) is the platform for all of the micro-scopes and microscope cameras from Leica Microsystems. Precise measurements and analyses are carried out on the digital image with it. This software allows expansion with a multitude of modules, which are unified in a collective, easy-to-use user interface. The compact and free Leica EZ software is suited for easily making remarks and measurements. For Apple users there is the user-friendly Leica Acquire camera software. Just like LAS, it contains many intuitive functions for optimal camera settings. Using Leica Acquire, images can be trans-ferred to other image editing programs immediately, such as iPhoto or Aperture, or stored in a simple gallery.
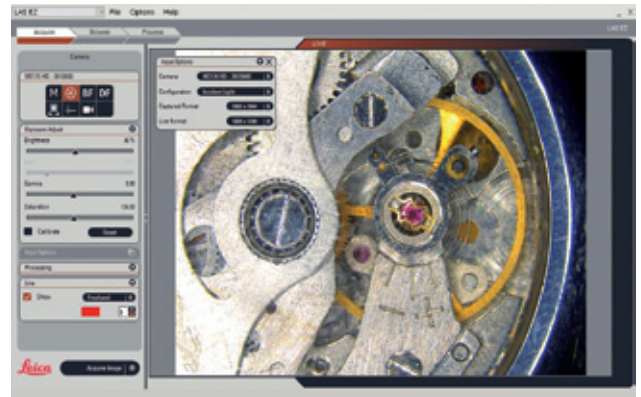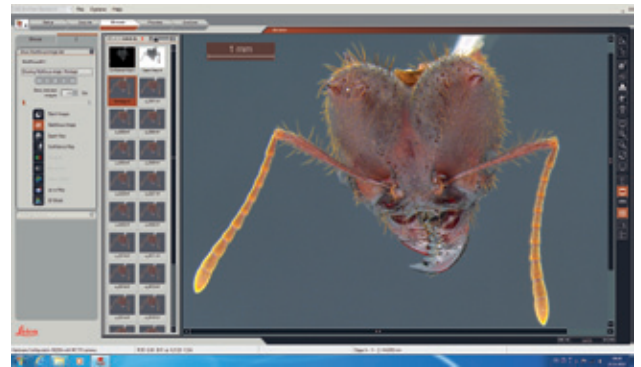
Added value including:
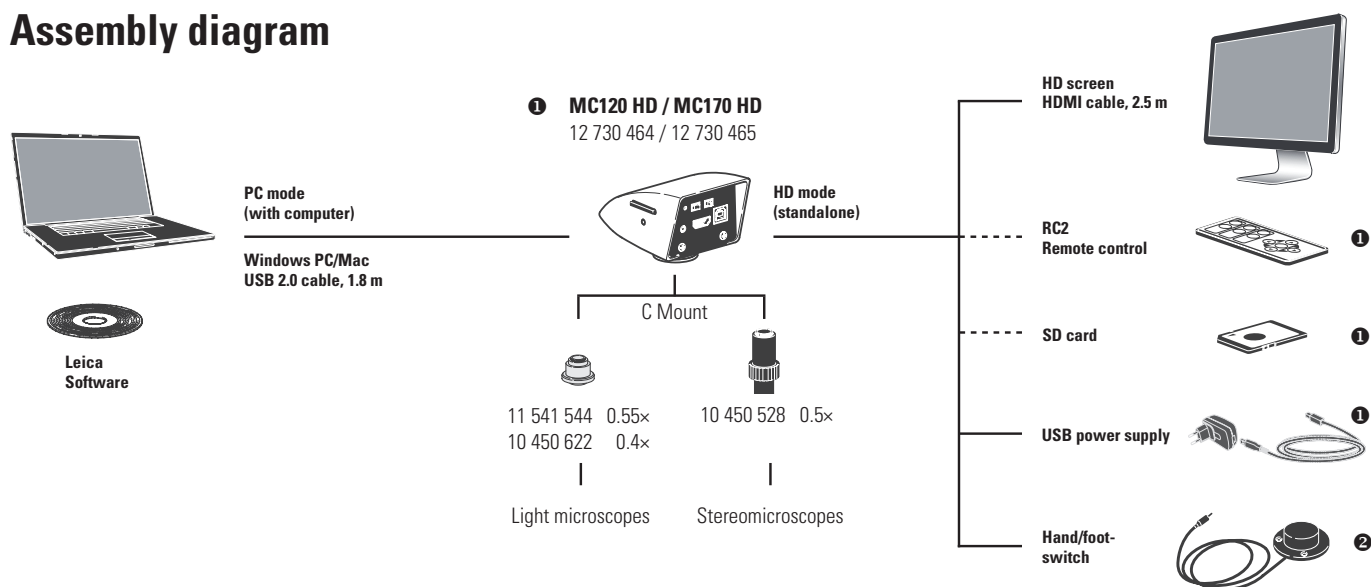LAS with LAS Montage module (top image) and LAS EZ (bottom image)

BENEFITS OF THE LEICA MC120 HD & MC170 HD:

› Digital microscope camera with HD live image for operation with or without a computer.
› Leica MC120 HD with a resolution of 2.5 megapixels, optimum for most microscopy applications.
› Leica MC170 HD with a resolution of 5 megapixels, also suited for acquiring the finest details at low magnifications.
› Very fast or high-resolution live preview images on an HD monitor (720 p or 1080 i/p).
› Outstanding price/performance ratio and cost efficiency.
› Ergonomic, thanks to view switching between the binocular tube and the HD monitor.
› Highly compact – with the corresponding C-mount adapter, it fits on any microscope with a C-mount port.

› Easy, inexpensive, fast and high-quality image storage to the SD card.
› Full HD movie clips recorded directly to the SD card (MP4 format).
› Direct control of all camera parameters via infrared remote control (in HD mode).
› Captured images stored and managed directly on the computer.
› Best image quality and sharpness without vignetting or reflections.
› Automatic, predefined, or user-specific selection of camera parameters.
› USB2 connector for power supply and data transfer via computer.
› Including the standard LAS software for easy camera control, image acquisition, commenting, and measuring.
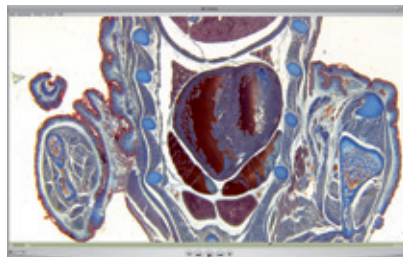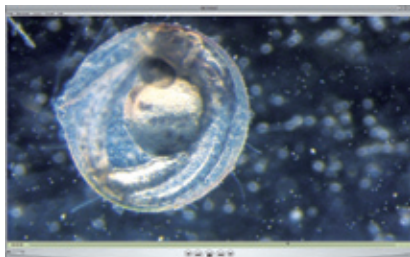
Easy and reproducible documentation
Brilliant Full HD movie clips

Assembly diagram

❶ **MC120 HD / MC170 HD**
12 730 464 / 12 730 465

HD screen
HDMI cable, 2.5 m

PC mode
(with computer)

HD mode
(standalone)

RC2
Remote control ❶

Windows PC/Mac
USB 2.0 cable, 1.8 m

SD card ❶

Leica
Software

C Mount

USB power supply ❶

11 541 544   0.55×
10 450 622   0.4×

10 450 528   0.5×

Hand/foot-
switch ❷

Light microscopes   Stereomicroscopes

Leica MC120 HD & MC170 HD – Technical Data

CAMERA		MC120 HD	MC170 HD
Resolution (Live images)	HD ready	1280×720 – 50 Hz / 60 Hz – 30 fps	
	Full HD	1920×1080 – 50 Hz / 60 Hz / 25 Hz / 30 Hz – 30 fps	
	PC	1600×1200 – 10 fps / 1024×768 – 24 fps	
Resolution (Individual images)		2.5 megapixels (1824×1368)	5 megapixels (2592×1944)
		1.1 megapixels (1216×912)	2.5 megapixels (1824×1368)
			1.1 megapixels (1216×912)
Resolution (Movie clips)		HD1080 (1920×1080)	
		HD720 (1280×720)	
Pixel size	at max. resolution	3.34 µm × 3.34 µm	2.35 µm × 2.35 µm
Sensor grade		Aptina 1/2.3" CMOS	
Sensor size		6.1 mm × 4.6 mm	
Exposure time		0.5 msec – 500 msec	
Gain		1× – 12×	
Color depth		3x8 bit = 24 bit	
Data format	PC	JPG / TIF / AVI	
	HD	JPG / MP4	
Operating systems		Windows XP, Windows 7, Mac OS X	
Software	PC	Leica LAS & LAS EZ software	
	MAC	Leica Acquire software	
Recommended computer configuration:		PC / Mac, Intel Core 2 Duo, >2.4 GHz, 4 GB RAM, 24-bit graphics, 1248× 024	

MECHANICAL AND OPTICAL INTERFACES

Mechanical	C-mount thread
Color filter	Type IRB680, replaceable, (stock number: 12730484)
Recommended C-mount adapter	0.55× / 0.5× / 0.4×

ORDER NUMBERS

|	
12 730 464 ❶	Leica MC120 HD camera (including USB power supply, HDMI cable, SD card, RC2 remote control)
12 730 465 ❶	Leica MC170 HD camera (including USB power supply, HDMI cable, SD card, RC2 remote control)
12 730 229 ❷	Hand or footswitch with 2 m cable

ELECTRONIC INTERFACES

Computer	USB 2.0, standard USB plug type B
High-definition connector	HDMI 1.3, standard HDMI plug type A
Audio	Audio signals for recording, white balance, etc. (can be turned off)
On/Off switch	Available, on rear side of the camera
PC/HD switch	Available, on rear side of the camera
Pinhole switch	Display for the current resolution, Changeover to the next resolution, reset, firmware upload
Remote control	Infrared remote control RC2, with button battery type CR2025
Remote release (Optional: 12730229)	Hand and foot trigger, with 1.5 m cable
SD card (Secure Digital)	SD HC compatible, 128 MB – 32 GB
Status LED	3 colors: green – power on, yellow – busy, red – error
Power supply	Through a USB cable to computer or to external USB power supply 5 V
Power requirement	4 W

OTHER

Operating temperature range	+5 °C – 50 °C
Rel. humidity	10 – 90 %
Weight	250 g (camera only)
Confirmation of CE conformity	Available
Tested standards	EMI/RFI: EN55011-B EMC: EN61000-3-3 / EN61010-1 / EN61326-1 / EN61326-2-3

The Leica MC camera has an image section with a 16:9 size ratio for live images on an HD monitor (shown with a green frame). The images are always saved in a 4:3 size ratio (shown with a red frame).

Leica

MICROSYSTEMS
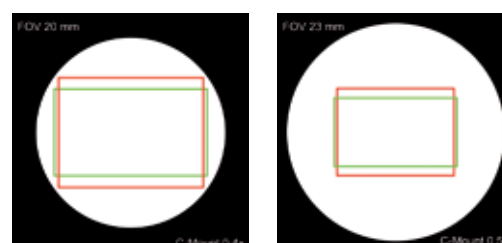
Leica DM500 / DM750

The Leica MC120 HD and MC170 HD fit excellently on the Leica DM500 or DM750 school microscopes. These feature many particularly user-friendly details, such as EZLite, EZStore, and AgTreat™. To use the cameras on these microscopes, we recommend using the high-quality 30° or 45° trinocular tubes.

Leica Z6Apo / Z16Apo

When using the Leica MC120 HD and MC170 HD with a Leica Z6Apo or Z16Apo macroscope, a trinocular tube can be omitted entirely. With an A tube and C-mount adapter, highly compact and optically outstanding systems can be composed. The fast live image can be conveniently viewed on an HD monitor in high resolution.

Leica M60 / M80

The ergonomically and modularly designed Leica M60 and Leica M80 routine stereomicroscopes offer a large field of view, high depth of field, and excellent optical resolution. With an HDF or HDV tube, the Leica MC120 HD and MC170 HD cameras can be connected to these microscopes

Leica M125

The modular Leica M125 stereomicroscope offers a fully apochromatically corrected 12.5:1 zoom. This large range of positions allows an overview of the specimen as well as observation and acquisition of the finest structures. With a 50 % or 100 % trinocular tube, the Leica MC120 HD or MC170 HD can be connected to this microscope.

The productive cooperative effort "with the user, for the user" has always been the basis for the innovative strength of Leica Microsystems. On this, we have developed our five corporate values: pioneering, high-end quality, team spirit, dedication to science, and continuous improvement. We call making these values reality Living up to Life.

INDUSTRY DIVISION

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result by providing the best and most innovative imaging systems for their needs to see, measure, and analyze microstructures. Its solutions are used in routine and research industrial applications, in materials science and quality control, in forensic science investigations, and educational applications.

Leica Microsystems – an international company with a strong network of worldwide customer services:

Active worldwide		Tel.	Fax
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Austria · Vienna	+43	1 486 80 50 0	1 486 80 50 30
Belgium · Diegem	+32	2 790 98 50	2 790 98 68
Canada · Concord/Ontario	+1	800 248 0123	847 405 0164
Denmark · Ballerup	+45	4454 0101	4454 0111
France · Nanterre Cedex	+33	811 000 664	1 56 05 23 23
Germany · Wetzlar	+49	64 41 29 40 00	64 41 29 41 55
Italy · Milan	+39	02 574 861	02 574 03392
Japan · Tokyo	+81	3 5421 2800	3 5421 2896
Korea · Seoul	+82	2 514 65 43	2 514 65 48
Netherlands · Rijswijk	+31	70 4132 100	70 4132 109
People's Rep. of China · Hong Kong	+852	2564 6699	2564 4163
· Shanghai	+86	21 6387 6606	21 6387 6698
Portugal · Lisbon	+351	21 388 9112	21 385 4668
Singapore	+65	6779 7823	6773 0628
Spain · Barcelona	+34	93 494 95 30	93 494 95 32
Sweden · Kista	+46	8 625 45 45	8 625 45 10
Switzerland · Heerbrugg	+41	71 726 34 34	71 726 34 44
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