

# **DIGITAL** *microscopes and cameras*
































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- SZM-D - Digital stereozoom microscope page 229
- VIDEO AND PHOTO APPLICATIONS - Video and photo cameras page 233



# Icons

 1	Monocular	 400x	Magnification 400X	 X-LED <sup>2</sup>	X-LED <sup>2</sup> illuminator
 2	Binocular	 1000x	Magnification 1000X	 X-LED <sup>3</sup>	X-LED <sup>3</sup> illuminator
 3	Trinocular		Incident light	 X-LED <sup>8</sup>	X-LED <sup>8</sup> illuminator
 16	Field number 16		Transmitted light	 1WLED	1W LED illuminator
 18	Field number 18		Polarized light	 LED	LED illuminator
 20	Field number 20		Halogen lamp		Automatic light control
 22	Field number 22		Incandescant lamp	 IOS	Infinity-corrected optics
 24	Field number 24		Dichroic lamp		Rechargeable battery
 360°	Rotating head 360°	 USB	USB connection		Anti-fungus treatment

## DM Series

Digital biological microscopes



# DM Series

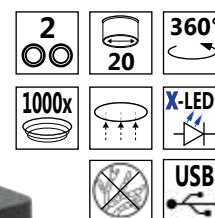
The OPTIKA digital microscopes DM are equipped with a camera which is integrated in the head of the microscope, as well as the traditional characteristics of quality and robustness.

The entire DM series, from models dedicated to teaching to those intended for laboratory use, is equipped with "plug & play" software, this series is the ideal solution for capturing images and video and transfer them to a PC.

- DM-5** Monocular digital microscope.
- DM-5UP** USB powered monocular digital microscope.
- B-150DM** Monocular digital microscope.
- B-150DB** Binocular digital microscope.
- DM-15** Binocular digital microscope.
- DM-20** Binocular digital microscope, PL objectives.
- DM-25** Binocular microscope with LCD screen.



## DM-25



## DM Range



**DM-5**



**DM-5UP**



**B-150DM**



**B-150DB**



**DM-20**

# DM Series - Models



**DM-5**

1	16	360°
400x		USB
		LED



**DM-15**

2	360°	1000x
	X-LED <sup>3</sup>	USB



**DM-20**

2	360°	1000x
	X-LED <sup>3</sup>	USB



**B-150DB**

2	18	360°
	1000x	1WLED
USB		

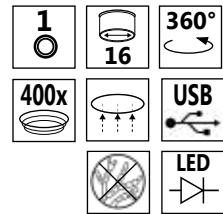


**B-150DM**

1	18	360°
	400x	1WLED
USB		

# DM Series - DM-5

## DM-5



The DM-5 is the “entry level” model of the DM series and it is ideal for primary schools.

Its ease of use combined with high quality construction and first choice optical system, make the study of biology a pleasant experience.

The DM-5 is supplied with everything needed for immediate use without the need for additional accessories.





# DM Series - DM-5

<b>Head:</b>	Digital, monocular, 360° rotating, 45° inclined
<b>Eyepiece:</b>	WF10x/16mm
<b>Nosepiece:</b>	Triple, reversed
<b>Objectives:</b>	Achromatic 4x (0.10), 10x (0.25), 40x (0.65)
<b>Stage:</b>	Rotating round stage dia. 90mm; moving range: 5mm; slide clips
<b>Focusing:</b>	Coarse and fine with different axis
<b>Illumination:</b>	White led, non-rechargeable, with brightness control
<b>Digital camera resolution:</b>	640x480
<b>Output:</b>	2.0 USB port
<b>Software:</b>	OPMIAS (Optika Micro Image Analysis Software), for Windows XP/Vista/Win7, Win8, 32-64 bit
<b>Packing:</b>	Carton box with inner foam



**DM-5**

1	16	360°
400x	LED	USB

# DM Series - DM-5UP

**Monocular digital microscope**

Same as DM-5, but with illuminator powered by your PC through USB connection.



**USB POWERED  
OR EXTERNAL POWERED**

**DM-5UP**

1	16	400x
LED	USB	



# DM Series - B-150DM

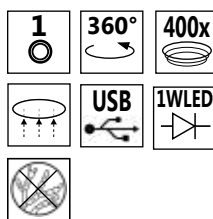
The microscopes B-150DM and B-150DB are built to meet the needs of secondary schools.

The integration of a digital camera, the quality of the optics and mechanics, and the rich equipment of these microscopes make them the best solution for the interactive training.

B-150DM and B-150BM are provided with everything necessary to allow immediate use without the need for additional accessories.



## B-150DM



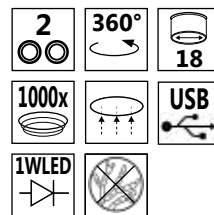
<b>Head:</b>	Digital, Monocular, 360° rotating, 45° inclined
<b>Eyepiece:</b>	WF10X/18mm
<b>Nosepiece:</b>	Quadruple
<b>Objectives:</b>	Achromatic 4x (0.10), 10x (0.25), 40x (0.65).
<b>Working stage:</b>	Double layer with mechanical sliding stage, 125x115mm, moving range: 50x30mm
<b>Condenser:</b>	1.25 N.A. Abbe type
<b>Focusing system:</b>	Coaxial coarse and fine, with focusing stop mechanism
<b>Illumination:</b>	1W White LED, non-rechargeable, with brightness control
<b>Digital camera resolution:</b>	1280x1024 pixels (1.3Mp)
<b>Output:</b>	2.0 USB port
<b>Software:</b>	OPTIKA Vision Lite for Windows XP/Vista, Win7, Win8, 32-64 bit
<b>Packing:</b>	Carton box with inner foam

# DM Series - B-150DB

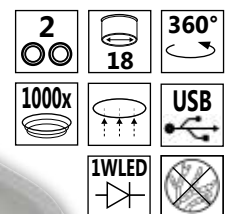
<b>Head:</b>	Digital, Binocular, 360° rotating, 30° inclined
<b>Eyepiece:</b>	WF10X/18mm
<b>Nosepiece:</b>	Quadruple
<b>Objectives:</b>	Achromatic 4x (0.10), 10x (0.25), 40x (0.65), 100x (1.25).
<b>Working stage:</b>	Double layer with mechanical sliding stage, 125x115mm, mov. range 50x30mm
<b>Condenser:</b>	1.25 N.A. Abbe type
<b>Focusing system:</b>	Coaxial coarse and fine, with focusing stop mechanism
<b>Illumination:</b>	1 watt white LED, non-rechargeable, with brightness control
<b>Digital camera resolution:</b>	2048x1536 pixels (3.14Mp)
<b>Output:</b>	2.0 USB port
<b>Software:</b>	OPTIKA Vision Lite for Windows XP/Vista, Win7, Win8, 32-64 bit
<b>Packing:</b>	Carton box with inner foam



**B-150DB**



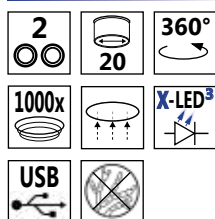
**B-150DB**



# DM Series - DM-15

The microscope DM-15 is specifically designed for advanced use. Binocular head with 20mm eyepieces field index, and a built-in 2MPixels digital camera make the DM-15 the ideal tool for biology teachers and for the professional use.

## DM-15



<b>Head:</b>	Digital, Binocular, 360° rotating, 30° inclined
<b>Eyepiece:</b>	WF10X/20mm
<b>Nosepiece:</b>	Quadruple, reversed
<b>Objectives:</b>	Achromatic 4x (0.10), 10x (0.25), 40x (0.65), 100x (1.25) (oil immersion)
<b>Working stage:</b>	Double layer with mechanical sliding stage, 160x142mm, mov. range 76x52mm
<b>Focusing system:</b>	Coaxial coarse and fine, with focusing stop mechanism
<b>Condenser:</b>	1.25 N.A. Abbe type, with centring system
<b>Illumination:</b>	X-LED system with brightness control
<b>Digital camera resolution:</b>	1600x1200pixels, 2.0M
<b>Output:</b>	USB 2.0 port
<b>Software:</b>	OPMIAS (Optika Micro Image Analysis Software) for Windows XP/Vista, Win7, Win8, 32-64 bit
<b>Packing:</b>	Carton box with inner foam

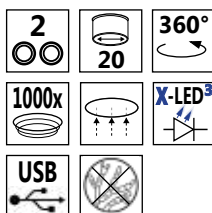


## DM Series - DM-20

Especially designed for professional use, the DM-20, thanks to the 3.2MPixels digital camera integrated in the binocular head, 20mm field number, and a set of plan-achromatic objectives, stands as a reference point in the digital microscopy.



### DM-20



<b>Head:</b>	Digital, Binocular, 360° rotating, 30° inclined
<b>Eyepiece:</b>	WF10X/20mm
<b>Nosepiece:</b>	Quadruple, reversed
<b>Objectives:</b>	PLAN Achromatic 4x (0.10), 10x (0.25), 40x (0.65), 100x (1.25) (oil immersion)
<b>Working stage:</b>	Double layer with mechanical sliding stage, 160x142mm, mov. range 76x52mm
<b>Focusing system:</b>	Coaxial coarse and fine, with focusing stop mechanism
<b>Condenser:</b>	1.25 N.A. Abbe type, with centring system
<b>Illumination:</b>	X-LED system with brightness control
<b>Digital camera resolution:</b>	2048x1536pixels, 3.2M
<b>Output:</b>	USB 2.0 port
<b>Software:</b>	OPMIAS (Optika Micro Image Analysis Software) for Windows XP/Vista , Win7, Win8, 32-64 bit
<b>Packing:</b>	Carton box with inner foam

# DM Series - DM-25

Equipped with a 3.14 MPixels camera and a 2.5" LCD screen, the DM-25 is positioned right at the top of its class.

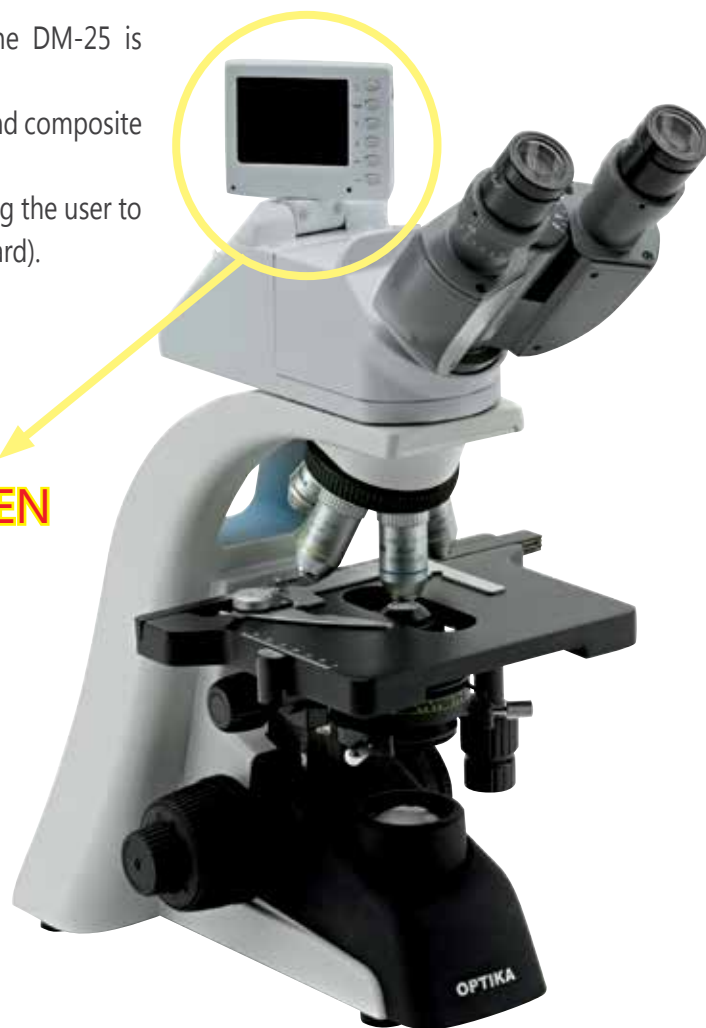
The digital camera, with additional output for analog signal (S-video and composite video) allows you to connect to a TV or to a personal computer.

The LCD screen turns this microscope in a stand-alone system, allowing the user to take pictures, display and store them in the integrated memory (SD card).

- built-in 2.5" LCD screen (rotating and tilting)
- Zoom function
- Internal picture storing function
- Video storing function
- SD memory card slot
- 1GB SD card included
- Video output
- USB output (to PC)

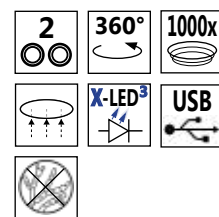


**WITH  
LCD SCREEN**



<b>Head:</b>	Digital, Binocular, 360° rotating, 30° inclined
<b>Eyepiece:</b>	WF10X/20mm
<b>Nosepiece:</b>	Quadruple, reversed
<b>Objectives:</b>	Achromatic 4x, 10x, 40x, 100x (oil immersion)
<b>Working stage:</b>	Double layer with mechanical sliding stage, 160x142mm, moving range 76x52mm
<b>Focusing system:</b>	Coaxial coarse and fine, with focusing stop mechanism
<b>Condenser:</b>	1.25 N.A. Abbe type, with centring system
<b>Illumination:</b>	X-LED system with brightness control
<b>Digital camera resolution:</b>	2048x1536pixels, 3.14M
<b>Output:</b>	2.0 USB port, S-Video port, AV port
<b>Software:</b>	OPTIKA Vision Lite for Windows XP/Vista, Win7, Win8, 32-64 bit
<b>Packing:</b>	Carton box with inner foam

## DM-25



# DM Series - Technical specifications

	<b>DM-5</b>	<b>B-150DM</b>	<b>B-150DB</b>	<b>DM-15</b>	<b>DM-20</b>	<b>DM-25</b>
<b>Resolution</b>	640x480 pixels	1280x1024 pixels (1.3Mp)	2048x1536 pixels (3.14Mp)	1600x1200 pixels (2.0Mp)	2048x1536 pixels (3.1Mp )	2048x1536 pixels (3.14Mp)
<b>Sensor</b>	1/4"CMOS	1/3,2"CMOS	1/2,5"CMOS	1/3"CMOS	1/2"CMOS	1/2"CMOS
<b>Pixel size</b>	7,9x7,9 μm	2,8x2,8 μm	2,2x2,2 μm	2,8x2,8 μm	3,2x3,2 μm	3,18x3,18 μm
<b>Resolution &amp; Frame Rate</b>	640x480 25 fps	1280x1024 15 fps	2048x1536 4 fps	1600x1200 15 fps	2048x1536 12 fps	
		640x480 30 fps	1280x1024 8 fps	800x600 30 fps	1600x1200 20 fps	
			640x480 30 fps		1280x1024 27 fps	640x480 25fps
<b>Digital camera resolution</b>						2048x1536 3,14Mpixels
<b>Sensitivity</b>	2.0 V/Lux-sec	1.0 V/Lux-sec	1.0 V/Lux-sec	1.0 V/Lux-sec	1.0 V/Lux-sec	1.0 V/Lux-sec
<b>White Balance</b>	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual
<b>S/N Ratio</b>	≥50 dB	≥ 42 dB	≥ 40 dB	≥ 56 dB	≥ 52 dB	≥ 52 dB
<b>Dynamic Range</b>	≥ 60 dB	≥ 71 dB	≥ 66 dB	≥ 71 dB	≥ 60 dB	≥ 60 dB
<b>Digital Port</b>	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0
<b>Imaging Software</b>	OPMIAS	OPTIKA Vision Lite	OPTIKA Vision Lite	OPMIAS	OPMIAS	OPTIKA Vision Lite
<b>System Requirements</b>	Operating system: Windows XP, Vista, Win7, Win8, 32-64 bit					

# DM Series - Accessories

## DM-5 - DM-5UP

M-044	Eyepiece WF10x/16mm
M-727	Achromatic objective 4x/0.10
M-728	Achromatic objective 10x/0.25
M-729	Achromatic objective 40x/0.65
M-030	Dust cover, type 1

## B-150DM - B-150DB

M-001	Eyepiece H5x
M-002.1	Eyepiece WF10x/18mm
M-003	Eyepiece WF16x/12mm
M-004	Micrometer eyepiece WF10x/18mm
M-137	Achromatic objective 4x/0.10
M-138	Achromatic objective 10x/0.25
M-139	Achromatic objective 20x/0.40
M-141	Achromatic objective 40x/0.65
M-142	Achromatic objective 60x/0.85
M-143	Achromatic objective 100x/1.25 (oil)
M-031	Dust cover, type 3

## DM-15 - DM-25

M-301	Eyepiece high-point WF10x/20mm
M-302	Eyepiece high-point WF16x/12mm
M-303	Micrometer eyepiece high-point WF10x/20mm
M-005	Micrometric slide 26x76 mm. Range: 1mm, div.: 0,01mm
M-310	Objective achromatic 4x/0.10
M-311	Objective achromatic 10x/0.25
M-312	Objective achromatic 20x/0.40
M-313	Objective achromatic 40x/0.65
M-314	Objective achromatic 60x/0.80
M-315	Objective achromatic 100x/1.25 (oil)
M-031	Dust cover type 3

## DM-20

M-301	Eyepiece high-point WF10x/20mm
M-302	Eyepiece high-point WF16x/12mm
M-303	Micrometer eyepiece high-point WF10x/20mm
M-005	Micrometric slide 26x76 mm. Range: 1mm, div.: 0,01mm
M-320	Objective planachromatic 4x/0.10
M-321	Objective planachromatic 10x/0.25
M-322	Objective planachromatic 20x/0.40
M-323	Objective planachromatic 40x/0.65
M-324	Objective planachromatic 60x/0.80
M-325	Objective planachromatic 100x/1.25 (oil)
M-031	Dust cover type 3



## 15103 - Lens cleaner, 50ml

It cleans glass quickly and effectively, without leaving residue or odor. Ideal for precision lens or prism cleaning.





## SZM-D

Digital stereozoom microscope



# SZM-D

The stereomicroscopes of the SZM series are instruments specifically designed for laboratory and industry applications. Their optical and mechanical qualities place them at the top of that sought-after category of appliances and the price/quality ratio is exceptionally good.

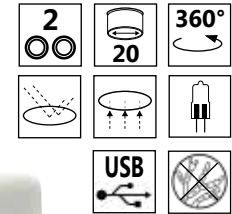
Sharing the same optical system consisting of binocular and trinocular heads with zoom objectives, the four models of the SZM series find their proper application wherever professional instruments are required at a particularly contained cost.

The numerous accessories provide an ample choice of possible configurations and extend the flexible use of the instruments.

SZM-D stereozoom microscope is our best option when an ease of use and a good quality for the image are required.

By using the built-in camera with its USB port the connection with the pc will be simple and quick.

## SZM-D



# SZM-D Model - Technical specifications

Model	Head	Objectives	Stand	Illumination
SZM-D	Binocular	0,7 .... 4,5x Zoom	Pillar stand	Incident and transmitted 12V/15W halogen with separated brightness controls

## Technical specifications of the built-in camera

Resolution	1280 x 1024 pixels (1,3 Mpixels)
Sensor	CMOS 1/3"
Pixel Size	5.2 µm x 5.2 µm
Imaging Area	6.67 mm x 5.33 mm
Frame Rate at Full Resolution	15 frames/sec
Frame Rate at 640x480	30 frames/sec
Optical Format	1/2"
Aspect Ratio	4:3
S/N Ratio	44 dB
Dynamic Range	71 dB
ADC	10 bit
Data Output (Uncompressed Video)	3x8 bit
Exposure Range	0-70 msec
Sensitivity	1,0V/Lux-second
C-Mount Lens Adapter	no
System Requirements	Windows XP/Vista, Win7, Win8, 32 & 64Bit, USB 2.0
Software	Optika Vision Lite, TWAIN interface, several freeware for image elaboration
Capture Features	Continuous auto white balance, continuous auto exposure
Included with the camera	Optika Vision Lite package, 1.5 m USB cable.



# SZM-D Model - Accessories

## SZM-D

ST-081	Eyepieces (pair) WF10x/20 mm
ST-082	Eyepieces (pair) WF15x/15 mm
ST-083	Eyepieces (pair) WF20x/10 mm
ST-084	Micrometric eyepiece WF10x/20 mm
ST-085	Additional lens 0,5x (w.d. 165mm)
ST-091	Additional lens 0,75x (w.d. 117mm)
ST-086	Additional lens 1,5x (w.d. 47mm)
ST-087	Additional lens 2x (w.d. 26mm)
ST-088	Polarising set (filters and rotating stage)
ST-040	Darkfield condenser
ST-041	Sample clip
ST-100	Hand moving stage
ST-036	Eye cups (pair) type 2
ST-012	White/black object-plate, type 2 dia. 95 mm
ST-014	Glass stage, type 2, dia. 95 mm
ST-038	Halogen bulb, 12V/15W
ST-037	Halogen bulb, 12V/15W, with dichroic mirror
ST-033	Dust cover type 13



## 15103 - Lens cleaner, 50ml

It cleans glass quickly and effectively, without leaving residue or odor. Ideal for precision lens or prism cleaning.

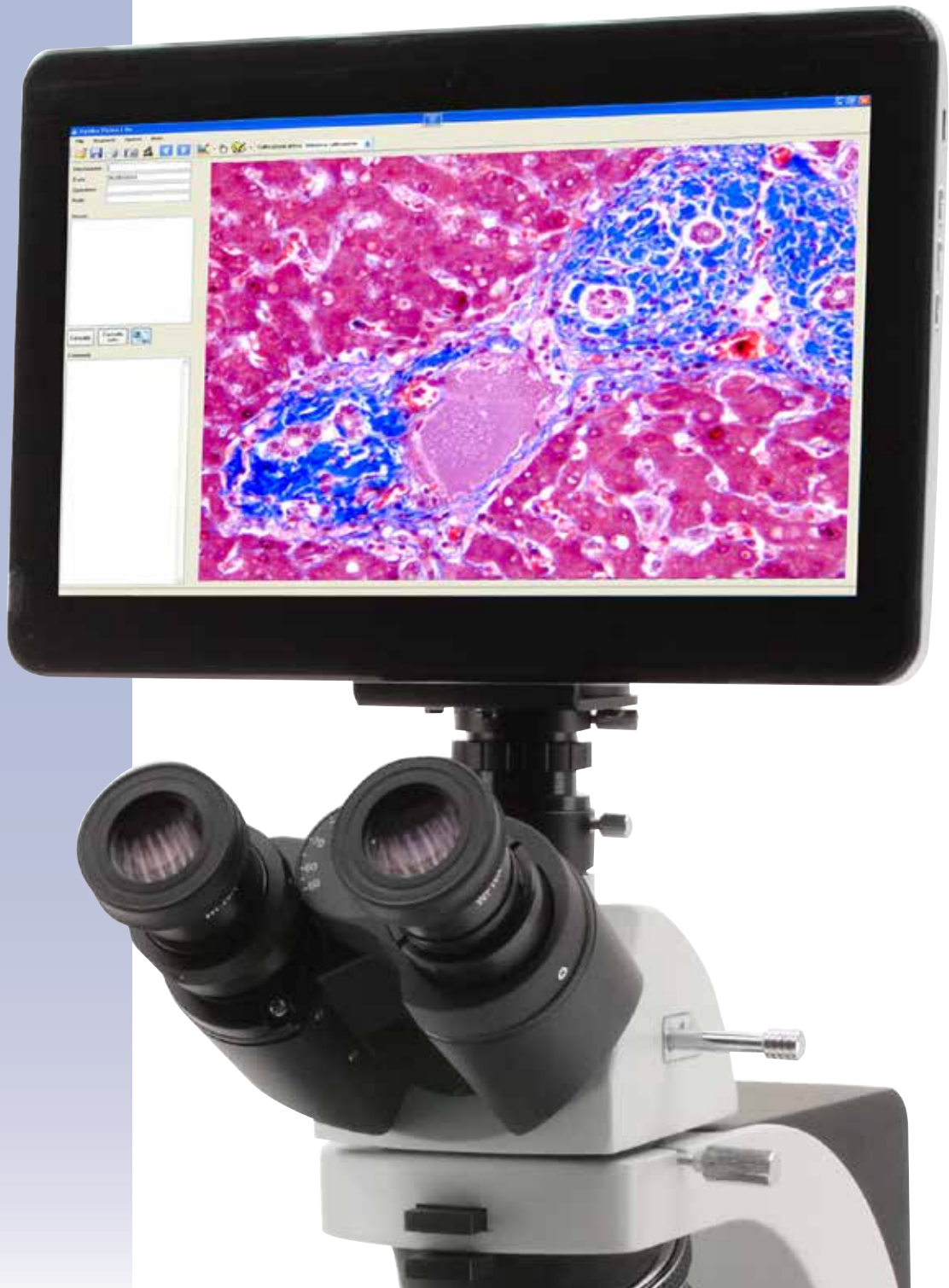


## VIDEO AND PHOTO APPLICATIONS

OPTIKAM B05 / OPTIKAM B1 / OPTIKAM B2 / OPTIKAM B3  
OPTIKAM B5 / OPTIKAM B9 / OPTIKAM PRO 3LT  
OPTIKAM PRO3 / OPTIKAM PRO 5LT / OPTIKAM PRO 5  
OPTIKAM PRO COOL 5 / DIGI / TB-2L / TB-2W / EDUCAM SERIES  
VC SERIES

## VIDEO AND PHOTO APPLICATIONS

Video and photo cameras



# Video and photo applications

A wide range of instruments fulfilling any requirement in the photo/video field. It has never been so easy to get impressive images from your microscope. Thanks to different resolutions, all digital cameras (to be used with PC or TV set) can meet the demands of either a professional user or people who are looking for an economic but valuable product. Several models (OPTIKAM B2, Pro LT models, and pro Cool 5) are designed to be used on trinocular microscopes by using specific adapters (optional accessories). It will be easy to connect these instrument to any microscope, biological or stereo, by C-mount. The models with optical eyepiece adapter are ready to be used (by means of one of the two eyepieces) on monocular and binocular microscopes too, both biological and stereo.

**OPTIKAM Budget Series**

USB cameras for general purpose

**OPTIKAM Pro Series**

High Performance cameras with advanced software package

**OPTIKAM Pro Cool**

Very high-sensitive camera with cooled CCD

**DIGI**

Universal photo & video (1080p) camera

**TB2 Series**

Tablet PC with integrated camera

**EDUCAM Series**

Multimedia cameras

**VC Series**

CCD videocameras for general purpose

## Video and photo applications *Range*



**OPTIKAM Budget Series**



**OPTIKAM Pro Series**



**OPTIKAM Pro Cool**



**DIGI**



**TB Series**



**EDUCAM Series**



**VC Series**

# Video and photo applications - OPTIKAM® "Budget"

<b>OPTIKAM B05</b>	<b>Eyepiece Camera</b>
Sensor	CMOS 1/4"
Resolution	640x480 pixels
Frame Rate	30 frames/sec
Optical Format	1/4"
Aspect Ratio	4:3
S/N Ratio	45 dB
Dynamic Range	60 dB
Sensitivity	1,9 V/Lux-second
C-Mount	No
Adapters for stereomicroscopes	30 and 30,5 mm diameter
Calibration slide	None
System Requirements	Windows XP/Vista, Win7, Win8, 32-64 bit, USB port
Software	Optika Vision Lite / OPTIKA MIPro
Capture Features	Continuous auto white balance, continuous auto exposure
Accessories included	1.4 m USB cable, carton box



<b>OPTIKAM B1</b>	<b>C-mount and Eyepiece Camera</b>
Sensor	CMOS 1/3"
Resolution	1280 x 1024 pixels (1,3 Mpixels)
Frame Rate at Full Resolution	15 frames/sec
Frame Rate 640x480	55 frames/sec
Optical Format	1/3"
Aspect Ratio	4:3
S/N Ratio	44 dB
Dynamic Range	71 dB
Sensitivity	1,0 V/Lux-second
C-Mount:	Yes
Optical adapter	0,5x (for eyepiece tube)
Adapters for stereomicroscopes	30 and 30,5 mm diameter
Calibration slide	76x24mm micrometric calibration slide
System Requirements	Windows XP/Vista, Win7, Win8, 32-64 bit, USB port
Software	Optika Vision Lite / OPTIKA View
Capture Features	Continuous auto white balance, continuous auto exposure
Accessories included	1.8 m USB cable, carton box



<b>OPTIKAM B2</b>	<b>C-mount Camera</b>
Sensor	CMOS 1/3"
Resolution	1600 x 1200 pixels (2 Mpixels)
Frame Rate at Full Resolution	10 frames/sec
Frame Rate at 640x480	25 frames/sec
Optical Format	1/3"
Aspect Ratio	4:3
S/N Ratio	56 dB
Dynamic Range	60 dB
Sensitivity	1,0 V/Lux-second
C-Mount:	Yes
Optical adapter	None
Adapters for stereomicroscopes	None
Calibration slide	76x24mm micrometric calibration slide
System Requirements	Windows XP/Vista, Win7, Win8, 32-64 bit, USB port
Software	Optika Vision Lite / OPTIKA MIPro
Capture Features	Continuous auto white balance, continuous auto exposure
Accessories included	1.8 m USB cable, carton box



Special model designed for trinocular microscopes only. This camera does not include any optical adapter for biological microscopes or stereomicroscopes. Especially designed for heavy applications, the Optikam B-2 is very robust and does not need the installation of any driver in your computer.

# Video and photo applications - OPTIKAM® "Budget"

<b>OPTIKAM B3</b>	<b>C-mount and Eyepiece Camera</b>
Sensor	CMOS 1/2"
Resolution	2048 x 1536 pixels (3,14 Mpixels)
Frame Rate at Full Resolution	8 frames/sec
Frame Rate at 640x480	55 frames/sec
Optical Format	1/2"
Aspect Ratio	4:3
S/N Ratio	44 dB
Dynamic Range	71 dB
Sensitivity	1,0 V/Lux-second
C-Mount	Yes
Optical adapter	0,5x (for eyepiece tube)
Adapters for stereomicroscopes	30 and 30,5 mm diameter
Calibration slide	76x24mm micrometric calibration slide
System Requirements	Windows XP/Vista, Win7, Win8, 32-64 bit, USB port
Software	Optika Vision Lite / OPTIKA View
Capture Features	Continuous auto white balance, continuous auto exposure
Accessories included	1.8 m USB cable, carton box



<b>OPTIKAM B5</b>	<b>C-mount and Eyepiece Camera</b>
Sensor	CMOS 1/2,5"
Resolution	2592 x 1944 pixels (5,04 Mpixels)
Frame Rate at Full Resolution	7 frames/sec
Frame Rate at 640x480	46 frames/sec
Optical Format	1/2,5"
Aspect Ratio	4:3
S/N Ratio	40,5 dB
Dynamic Range	60 dB
Sensitivity	1,0 V/Lux-second
C-Mount	Yes
Optical adapter	0,5x (for eyepiece tube)
Adapters for stereomicroscopes	30 and 30,5 mm diameter
Calibration slide	76x24mm micrometric calibration slide
System Requirements	Windows XP/Vista, Win7, Win8, 32-64 bit, USB port
Software	Optika Vision Lite / OPTIKA View
Capture Features	Continuous auto white balance, continuous auto exposure
Accessories included	1.8 m USB cable, carton box



<b>OPTIKAM B9</b>	<b>C-mount and Eyepiece Camera</b>
Sensor	CMOS 1/2,3"
Resolution	3488 x 2616 pixels (9,12 Mpixels)
Frame Rate at Full Resolution	3 frames/sec
Frame Rate at Middle Resolution(1,3Mp)	25 frames/sec
Frame Rate at 640x480	30 frames/sec
Optical Format	1/2,3"
Aspect Ratio	4:3
S/N Ratio	40,5 dB
Dynamic Range	63 dB
Sensitivity	1,0 V/Lux-second
C-Mount	Yes
Optical adapter	0,5x (for eyepiece tube)
Adapters for stereomicroscopes	30 and 30,5 mm diameter
Calibration slide	76x24mm micrometric calibration slide
System Requirements	Windows XP/Vista, Win7, Win8, 32-64 bit, USB port
Software	Optika Vision Lite / OPTIKA View
Capture Features	Continuous auto white balance, continuous auto exposure
Accessories included	1.8 m USB cable, carton box





# Video and photo applications - OPTIKAM Pro Series

## Hi-Performance cameras with advanced software package

C-mount cameras for video and still-image capturing with high performances. These cameras are delivered with our complete OPTIKA VISION SOFTWARE PACKAGE.

LT versions do not include any eyepiece adapter.

Ideal for professional trinocular microscopes.



	OPTIKAM® PRO 3LT	OPTIKAM® PRO 3	OPTIKAM® PRO 5LT	OPTIKAM® PRO 5
<b>Resolution</b>	2048 x 1536 pixels (3.2 Mpixel)		2560 x 1920 (5.0 Mpixel)	
<b>Sensor</b>	CMOS 1/2"		CMOS 1/2,5"	
<b>Pixel Size</b>	3.2 µm x 3.2 µm		2.2 µm x 2.2 µm	
<b>Image Area</b>	6.55 mm x 4.92 mm		5.70 mm x 4.28 mm	
<b>Frame Rate at Full Resolution</b>	12 frames/sec		3 frames/sec	
<b>Frame Rate at Half Resolution</b>	24 frames/sec		12 frames/sec	
<b>Optical Format</b>	1/2"		1/2"	
<b>Aspect Ratio</b>	4:3		4:3	
<b>S/N Ratio</b>	43 dB max		43 dB max	
<b>ADC</b>	10 bit		10 bit	
<b>Data Output (Uncompressed Video)</b>	3x8 bit		3x8 bit	
<b>Sensitivity</b>	1.0 V/Lux-second		0.53 V/Lux-second	
<b>System Requirements</b>	Windows XP, Vista, Win7, Win8, 32-64bit, USB 2.0 port		Windows XP, Vista, Win7, Win8 32-64bit, USB 2.0 port	
<b>Software</b>	OPTIKA Vision Pro Plus, TWAIN interface, SDK		Optika Vision Pro, TWAIN interface, SDK	
<b>Capture Features</b>	Continuous auto white balance, continuous auto exposure, averaging, subsampling (decimation)		Continuous auto white balance, continuous auto exposure, averaging, subsampling (decimation)	
<b>Optical adapter</b>	None	0,45x with additional ring adapter for stereomicroscopes	None	0,45x with additional ring adapter for stereomicroscopes
<b>Included with the camera</b>	3 m USB cable, 76x24mm micrometric calibration slide, C-mount cap, box		3 m USB cable, 76x24mm micrometric calibration slide, C-mount cap, box	
<b>Max exposure</b>	1 sec		28,9 msec	
<b>Max extended exposure</b>	26 sec		29 msec	

# Video and photo applications - OPTIKAM® Pro Cool

A new CCD cooled camera for fluorescence applications

- \* Scientific-grade CCD chip
- \* 5 Mega pixels resolution (2580x1944 pixels)
- \* 12 bit color RGB
- \* Peltier-cooled to 30° below room temperature
- \* Very long exposure time for fluorescence imaging
- \* Anti "amplifier glow" function for long exposure
- \* CNC aluminum alloy metal case



<b>OPTIKAM® Pro Cool 5</b>	<b>CCD Cooled Camera</b>
CCD chip manufacturer, model	Sony, ICX282AQ
CCD scan mode	interline transfer
CCD size	2/3"
Pixels	3.4mm x 3.4mm
G sensitive	280 mV
Resolution	2580H x 1944V
Filter	RGB
C-mount	Yes
Frame Rate at Max Resolution	3 fps (2580x1944)
Frame Rate at middle Resolution	10 fps (1280x932)
Low-speed readout	Yes
A/D conversion	8/12 bit
Peltier cooling system	30°C below room temperature
Exposure control	Automatic, manual
Exposure time	0.1ms - 6 minutes
Anti "amplifier glow"	Yes
White balance	Automatic, manual
Parameter controls	Image size, brightness, gain, exposure time, white balance
Interface	USB2.0 / 480Mb/s
Dimensions	130mm x 111mm x 54mm
System Requirements	Windows XP / Vista / Win 7 / Win 8, 32-64bit, USB 2.0 port
Software	Optika View

# Video and photo applications - DIGI

OPTIKA Microscopes is pleased to introduce a new model of digital camera, fitted with USB connection and AV output for HDTV or TV set with standard resolution. All you need to capture pictures and videos from your microscope or simply from the surroundings is in this 2-in-1 model.

The advantages of the DIGI camera are the possibility to record videos and to use it as a standard digital camera, for personal use.

The camera sensor has a resolution of 5MPixels (8MPixels through interpolation), it is provided with 3X optical zoom and a very bright 2.4" LCD display.

The system also includes specific adapters that allow the use on all microscopes and stereomicroscopes models with diameter of the eyepiece holder of 23mm or 30mm. A complete software will allow you to process, file and work with the captured images.

The camera includes a 2GB SD memory card.

DIGI	Digital Photo and Video Camera
Sensor	5.0 MP 1/2.5" CCD Sensor
Resolution (PHOTO)	8Mp (3200x2400 pixels) 5Mp (2595x1944 pixels) 3Mp (2048x1536 pixels)
Resolution (VIDEO)	1440x1080 (HD 1080p, 30fps) 1280x720 (HD 720p, 60fps) 1280x720 (HD 720p, 30fps) 848x480 (480p, 60fps) 320x240 (QVGA, 30fps)
Lens	3x optical zoom lens
Digital zoom:	4x (2x in 1080p mode)
File format:	JPEG, MOV, WAV
Internal Memory:	32MB
External Memory:	2GB SD card included (up to 32GB SDHC)
LDC display:	2,4"
TV out:	HDTV Component Out, PAL/NTSC system supported
Interface:	USB 2.0
Voice Recorder:	Yes
Microphone:	Internal (stereo), mic jack
Speaker:	Yes
Nightshot:	Yes (both in still image and video modes)
E.I.S.:	Electronic Image Stabilization
C-Mount:	No
Optical adapter	10x (for eyepiece tube)
Adapters for stereomicroscopes	30,0mm diameter
Battery:	Li-Ion rechargeable
Remote Control:	Yes, IR transmission

## DIGI



# Video and photo applications - TB Series - Tablet PC with camera

"A 2 in1 solution in digital microscopy"

A Tablet PC with 10" LCD touch screen, in combination with a 2Mp C-mount camera, or a new 3Mp and 5Mp cameras; an universal system which can be installed on every trinocular microscope.

Tablet PC specifications	TB-2W	TB-3W	TB-5W
PCU	Intel Atom N455 1.66GHz		
Screen	10" Touch		
Hard Disk	16 GB		
RAM	1GB		
Graphics Card	Intel GMA3150		
LAN	Ethernet port		
USB 2.0	2 ports		
VGA output	Yes mini		
W-LAN	Wi-Fi adapter		
Bluetooth	Yes		
SD Card Reader	Yes		
OS	Windows 7 Home Premium 32bit	Windows 7 Home Premium 32bit	
Image Analysis Software	Optika Vision Lite / Optika MiPRO	Optika Vision Lite / Optika View	
<b>USB Camera specifications</b>			
Sensor	CMOS 1/3"	CMOS 1/2"	CMOS 1/2.5"
Resolution	1600 x 1200 pixels (2 M pixels)	2048 x 1537 pixels (3 M pixels)	2532 x 1944 pixels (5 M pixels)
Frame Rate at Max Resolution	10 fps	8 fps	7 fps
Frame Rate at 640x480 Resolution	25 fps	55 fps	46 fps
S/N Ratio	56 dB	44 dB	40 dB
Dynamic range	60 dB	71 dB	60 dB
Sensitivity	1,0V/lux-second		



## TABLET



# Video and photo applications - EDUCAM® Series - Multimedia cameras

The EDUCAM® video camera is especially designed to meet the various requirements in the educational field. When it is connected to a professional monitor or simply to a TV set, EDUCAM® is able to carry out many different functions.

It can be used as an episcopes, for the reproduction of

- texts, documents, photographs
- to enlarge small objects, insects, minerals
- for video-microscopy, connected to microscopes used in biology or to stereomicroscopes
- as an overhead projector, for the projection of drawings
- as a camera for teleconferences, assemblies, meetings
- as a camera for filming, with the help of a video recorder.

Its ultra-high sensitivity enables to record clearly even in low-light conditions.

The special lens enables you to focus from 0,76 cm, up to an infinite distance. An extremely sensitive microphone (only on Multimedia models), records the teacher's voice during the lesson, or sounds and noises from the surrounding area, that can be heard via the TV itself, or via a separate amplifying system.

The microphone can be switched off if required.

The special 50-or 65-cm flexible arm (12mm dia.) and the heavy weight of the base (approx. 2.7 Kg), make EDUCAM® versatile, sturdy and stable at the same time.

The CCD camera is placed on the end of a flexible arm that can be safely twisted in any position, even projecting from the base, without affecting the system stability. A special joint allows the head to rotate without damaging the wires inside the flexible arm. All models are equipped with an external power supply and a dual adapter for video-microscopy (for biological and stereo microscopes).

For the connection to a PC, a USB video grabber is available as option (see next page, CONV-USB video grabber).

In the model EDUCAM USB, the video grabber is built-in.

**EDUCAM**



	MULTIMEDIA 4083	MULTIMEDIA PRO 4083.1	STUDENT 4083.2	STUDENT PRO 4083.3	MIC 4083.5	USB 4083.4
CCD element	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"
Resolution (TV lines)	420	420	420	420	420	420
Total pixels	298.000	298.000	298.000	298.000	298.000	298.000
Signal/noise ratio	>48 dB	>48 dB	>48 dB	>48 dB	>48 dB	>48 dB
Sensitivity (lux/F1.2)	0.8lux/F1.2	0.8lux/F1.2	0.8lux/F1.2	0.8lux/F1.2	0.8lux/F1.2	0.8lux/F1.2
Electronic shutter	yes	yes	yes	yes	yes	yes
Automatic gain control	yes	yes	yes	yes	yes	yes
White balance (auto)	yes	yes	yes	yes	yes	yes
Video signal	PAL (NTSC opt.)	PAL (NTSC opt.)	PAL (NTSC opt.)	PAL (NTSC opt.)	PAL (NTSC opt.)	PAL (NTSC opt.)
USB output	-----	-----	-----	-----	-----	yes
Digital resolution	-----	-----	-----	-----	-----	640x480 pixels
Working distance	>0,76 cm	>0,76 cm	>0,76 cm	>0,76 cm	>0,76 cm	>0,76 cm
Objective	8 mm	8 mm	8 mm	8 mm	8 mm	8 mm
Magnification	> 90x	> 90x	> 90x	> 90x	> 90x	> 90x
Microphone	yes	yes	-----	-----	-----	yes
Audio signal	analogic	analogic	-----	-----	-----	analogic
Voltage	15Vdc	15Vdc	12Vdc	12Vdc	12Vdc	15Vdc
Power adapter 230/12Vdc	included	included	included	included	included	included
Flexible arm length	50 cm	65 cm	50 cm	65 cm	-----	65 cm
Base diameter	17 cm	17 cm	17 cm	17 cm	-----	17 cm
Weight	3,4 Kg	3,5 Kg	3,3 Kg	3,4 Kg	0,4 Kg	3,5 Kg
Microscope adapters	included	included	included	included	included	included
System Requirements	Windows XP, Vista, Win 7, Win 8 32-64 Bit, USB 2.0 port					

# Video and photo applications - VC Series - CCD Cameras

VC-01



VC-01  
VC-04



VC-02  
VC-03



CONV-USB



VC-05



# Video and photo applications - VC Series - CCD Cameras

Videomicroscopy system composed by a colour CCD TV camera, complete with Bio & Stereo Microscope adapter tube, integrated power supply unit, cables and manuals.

VC-04	Videomicroscopy system
Sensor	CCD SONY sensor 1/3"
Horizontal Resolution	480 TV lines (PAL)
Picture elements	752[H]x582[V]
Video output	BNC VBS 1.0Vp-p, 75 Ohm
C-Mount	C/CS
Sensitivity	0.8lux/F=1.2
Auto white balance	Yes
Auto gain control	Yes
Load current	150mA
Dimension	60x50x145mm - Weight 400g
Operating temperature	-10° to + 50°

VC-01	Videomicroscopy system
Sensor	CCD SONY sensor 1/3"
Horizontal Resolution	420 TV lines (PAL)
Picture elements	500[H]x582[V]
Video output	BNC VBS 1.0Vp-p, 75 Ohm
C-Mount	C/CS
Sensitivity	0.5lux/F=1.2
Auto white balance	Yes
Auto gain control	Yes
Load current	150mA
Dimension	60x50x145mm - Weight 400g
Operating temperature	-10° to + 50°

Colour CCD TV camera for C-Mount connection, complete with cables, SCART adapter & manual.

VC-02	Videomicroscopy system
Sensor	CCD SONY sensor 1/3"
Horizontal Resolution	420 TV lines (PAL)
Picture elements	500[H]x582[V]
Video output	BNC VBS 1.0Vp-p, 75 Ohm
C-Mount	C/CS
Sensitivity	0.5lux/F=1.2
Auto white balance	Yes
Auto gain control	Yes
Load current	150mA
Dimension	60x50x145mm - Weight 400g
Operating temperature	-10° to + 50°

VC-03	Videomicroscopy system
Sensor	CCD SONY sensor 1/3"
Horizontal Resolution	480 TV lines (PAL)
Picture elements	752[H]x582[V]
Video output	BNC VBS 1.0Vp-p, 75 Ohm
C-Mount	C/CS
Sensitivity	0.8lux/F=1.2
Auto white balance	Yes
Auto gain control	Yes
Load current	150mA
Dimension	60x50x145mm - Weight 400g
Operating temperature	-10° to + 50°

## VC-05 Eyepiece CCD camera

Simple eyepiece camera with CCD sensor. 340 TV Lines (PAL).

## CONV-USB Video Grabber

Analogic to Digital signal converter for PC.

Real time video capture from camcorder, VCR or camera. User friendly software easily stores and manages images & videos. Real time/full size Video capture window. The CONV-USB video grabber comes with a CD with drivers for Windows XP, Vista, Win7, Win8, 32-64bit.

# Video and photo applications - SOFTWARE SUITE

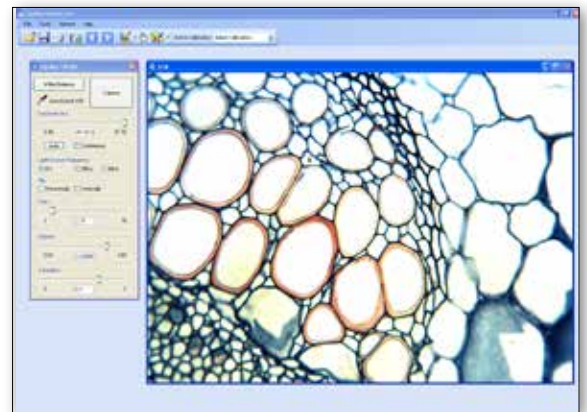
**OPTIKA VISION® LITE** is a software developed by Optika Microscopes with the main purpose to be a handy and simple tool for our customers using our Optikams and other digital microscope cameras. It has a simple user interface and can be used for image acquisition, line measurements and documentation. It is available in seven languages: English, Italian, French, Spanish, German, Swedish and Polish.

## Image and video Acquisition

You can capture still images using a live preview that allows to precisely focus your image and change image parameters in order to have a perfect final result. The image can be saved separately in BMP, JPG or TIFF formats. It is also possible to import saved images from other sources.

Moreover:

- Image stacks acquisition (adjustable time steps)
- Square or round grid on live preview
- Video acquisition function included.

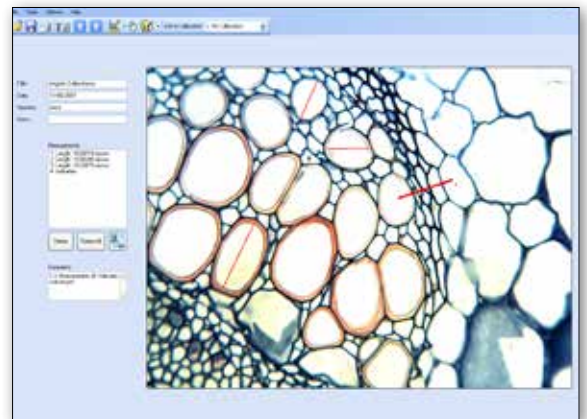


## Measurements

Linear in-scale measurements can be made in any unit you like, using a simple calibration and measurement tool.

The data can be exported to a spreadsheet document for further elaboration.

There is also the possibility to indicate special objects in the image and to write comments.



## Documentation

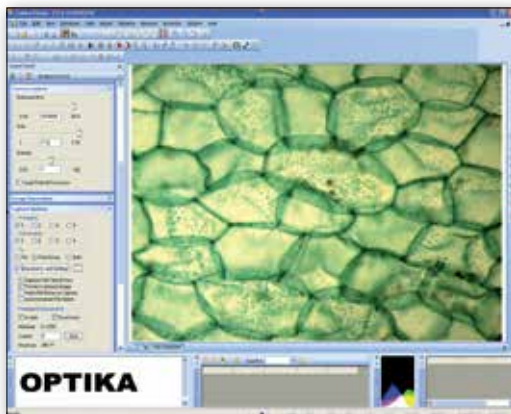
A report can be generated simply by printing the document on a normal printer or to a PDF. The document can be personalized with your own logo.





# Video and photo applications - SOFTWARE SUITE

**OPTIKA VISION® PRO** is a new generation of microscope image analysis instruments, especially developed for our Optikam Pro series, which contains various tools for processing and analysis of digital microscope images. It includes powerful tools for image capturing, adjusting, operating and measuring. You have also the possibility to create your own database for easy organisation and storage of your images.



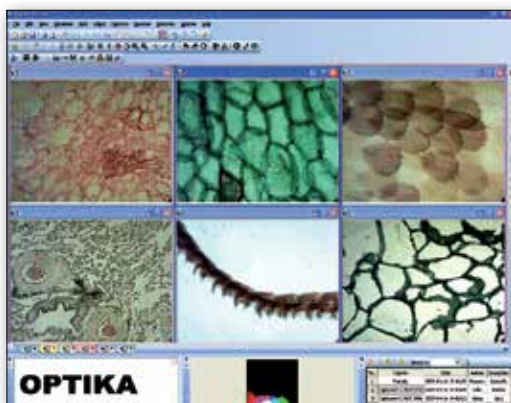
## Image Acquisition

Optika Vision® Pro allows still image acquisition with several possibilities to control the image output according to your needs. There are functions such as white balance, automatic exposure, frame average, sub-sampling, hue, saturation and intensity controls, to mention a few.



## Post Elaboration and Measurements

Optika Vision® Pro also offers the possibility to make various types of enhancements and adjustments of the captured image and calibrated measurements of lines, angles and areas. You can also perform manual counting and measure the light density of your acquired image.



## Organize your work

For easy storage and fast upload you can organize your images into a database where it is possible to search for the images using keywords. In Optika Vision® Pro you can also arrange images into groups in order to combine them calculate the average or create a multi-focus composition.

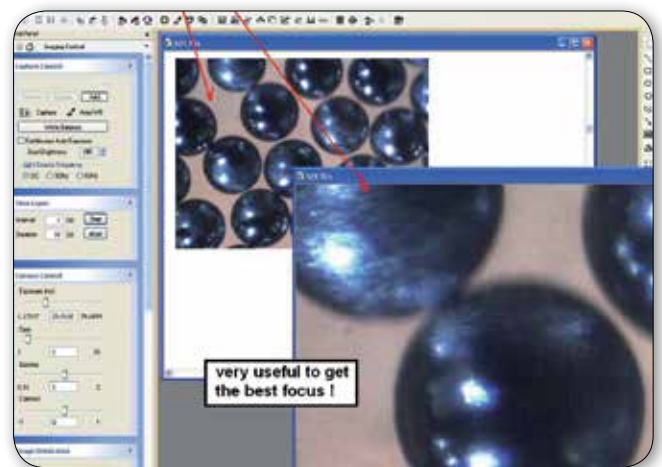
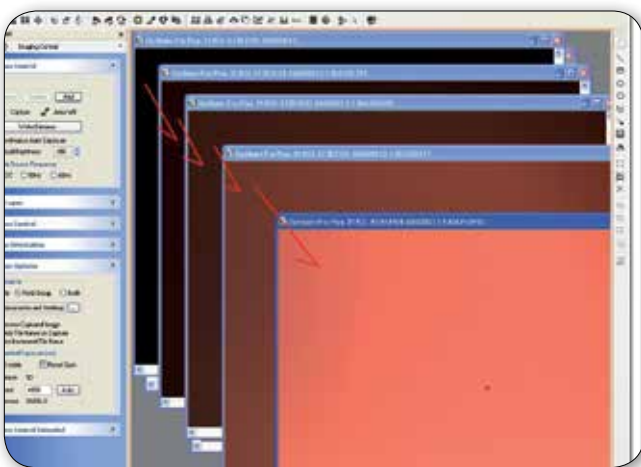
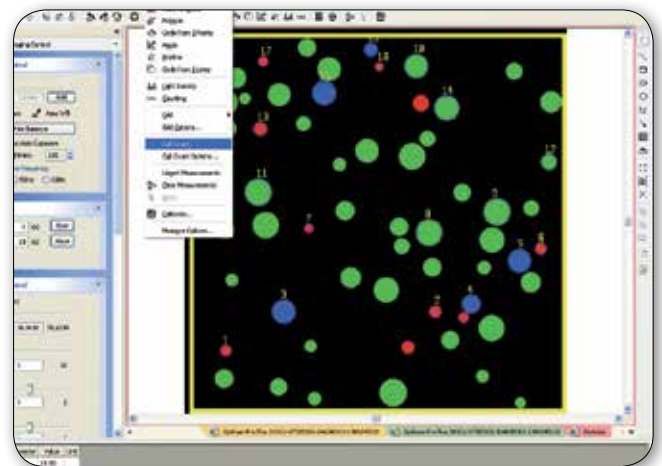
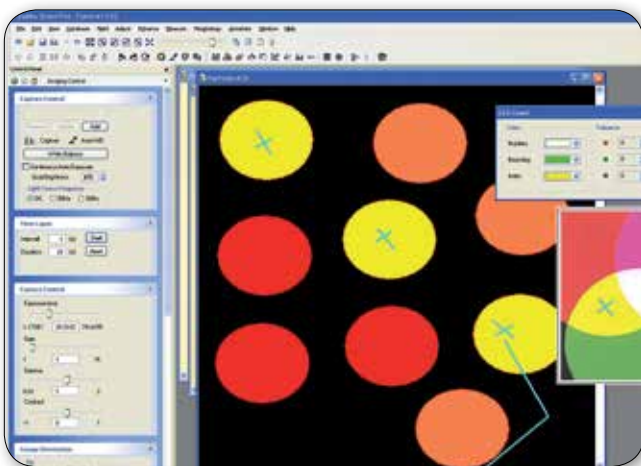
# Video and photo applications - SOFTWARE SUITE

**OPTIKA VISION® PRO PLUS** is a software version just for your PRO3 camera which, having a powered internal clock, allows a faster frame rate and additional useful functions such as:

- exposure time up to 1000msec.
- snap exposure time up to 26 sec, very useful when the light source is weak.
- automatic live image brightness on the screen.

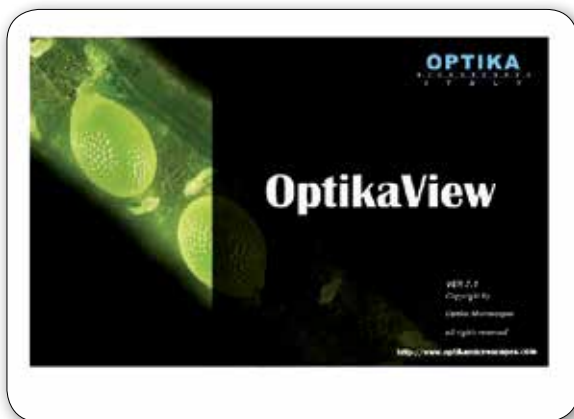
and furthermore :

- a simple to use live zoom bar, very helpful to get the better focusing point.
- automatic cells counting ( based on RGB colours )
- direct measurement on live view



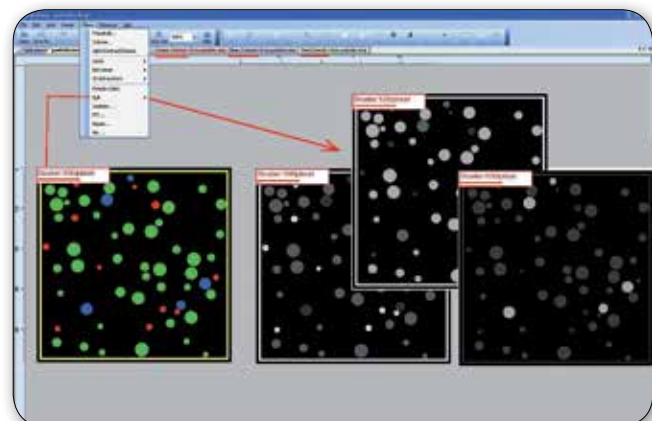
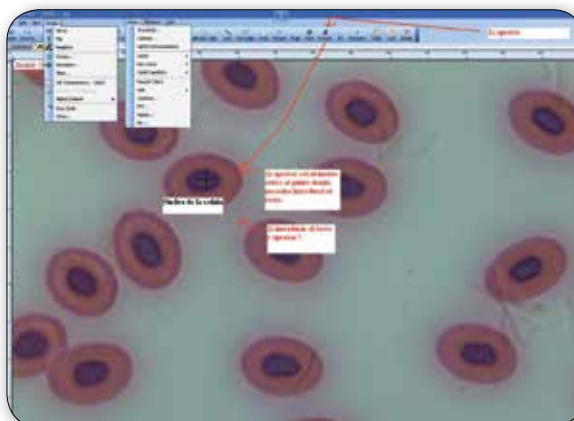
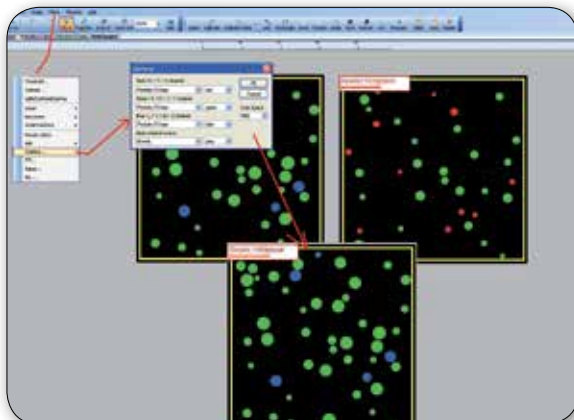
# Video and photo applications - SOFTWARE SUITE

**OPTIKA VIEW** is a new generation of microscope image analysis instruments, especially developed for our Optikam Budget and Pro Cool series, which contains various tools for processing and analysis of digital microscope images. It includes powerful tools for image capturing, adjusting, operating and measuring.



## Image Acquisition

Optika View allows still image acquisition with several possibilities to control the image output according to your needs. There are functions such as white balance, automatic exposure, frame average, sub-sampling, hue, saturation and intensity controls, to mention a few.



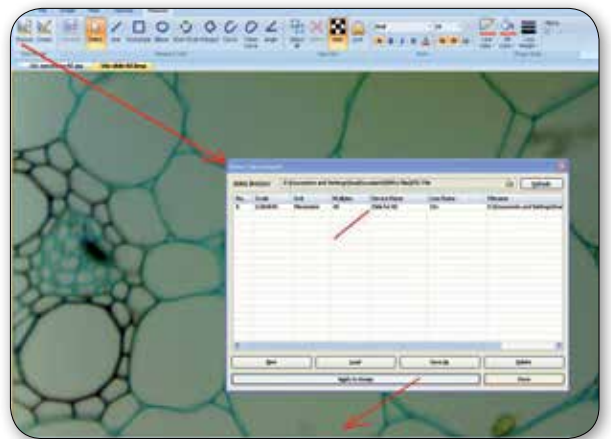
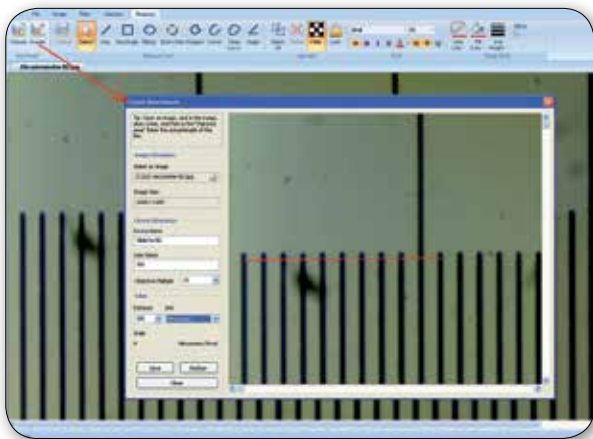
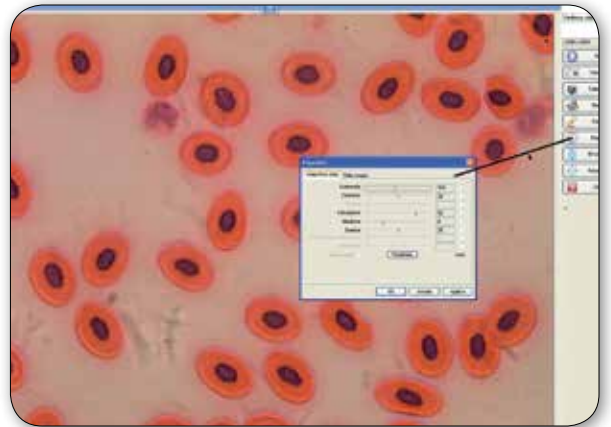
# OPTIKA - SOFTWARE SUITE

## OPTIKA MiPro

OPTIKA MiPro is a new generation of microscope image analysis instruments, especially developed for our Optikam B0.5 and B2 cameras, which contains simple tools for processing and analysis of digital images. It includes powerful tools for image capturing, adjusting, operating and measuring.

### Image Acquisition

Optika MiPro allows still image acquisition with several possibilities to control the image output according to your needs. There are functions such as white balance, automatic exposure, frame average, sub-sampling, hue, saturation and intensity controls, to mention a few.



# OPTIKA - SOFTWARE SUITE

## **FREWARE**

The Optika Vision® software package also contains a bundle of imaging, video and image analysis software that are freely available from the Internet. They are provided free of charge, according to the original license, as an aid in the use of your Optika product.

## **Emamcapture**

AMCap is a small yet fully functional video capture and preview application compatible with Microsoft™ DirectShow (formerly ActiveMovie, hence the name). It is based on the sample AMCap source code from the Microsoft DirectX 9 SDK.

## **GIMP**

GIMP is the GNU Image Manipulation Program. It is a freely distributed advanced software for tasks such as photo retouching, image composition and image authoring. It works on many operating systems, in many languages.

## **Combine Z**

This small software combines pictures to increase depth of focus.

## **Image Tool (not for Windows 7)**

ImageTool is an advanced image processing and analysis program for Windows. It can acquire, display, edit, analyze, process, compress, save and print greyscale and colour images. It can read and write over 22 common file image formats.

Image analysis functions include dimensional (distance, angle, perimeter, area), automatic (or manual) object/cell counting and full analysis functions, and greyscale measurements (point, line and area histogram with statistics). ImageTool supports standard image processing functions such as contrast manipulation, sharpening, smoothing, edge detection, median filtering and spatial convolutions with user-defined convolution masks.

ImageTool also has built-in scripting capabilities that allow the user to record repetitive tasks and playback saved scripts to automate image analysis. ImageTool was designed with an open architecture that provides extensibility via a variety of plug-ins for example image acquisition using either Adobe Photoshop plug-ins or Twain scanners is built-in.

ImageTool provides for geometric transformations and magnification up to four levels. All analysis and processing functions are available at any magnification factor.

ImageTool also provides for image annotation with text, arrows, rectangle, ellipses and polygon.

## **MBF ImageJ**

ImageJ is a public domain Java image processing program that runs on any computer with a Java 1.4 or later virtual machine.

It can display, edit, analyze, process, save and print 8-bit, 16-bit and 32-bit images of various image formats. It supports "stacks", a series of images that share a single window. It is multithreaded, so time-consuming operations such as image file reading can be performed in parallel with other operations.





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**OPTIKA SRL**

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**ALPHA OPTIKA MICROSCOPES HUNGARY**

2030 ÉRD, Kaktusz u. 22.- HUNGARY - Tel.: (23) 520-077 Fax: (23) 374-965

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