



Product Information
Version 1.1

ZEISS Axiocam 506 color
Your 6 Megapixel Microscope Camera
for Fast Imaging in True Color



Technical Specifications

› **Technology and Details**

› Service

ZEISS Axiocam 506 color

Sensor Model	Sony ICX 694, EXview HAD CCD II™ Progressive Scan Quad-Port Readout Selected sensor quality
Sensor Pixel Count	6 Megapixel: 2752 (H) × 2208 (V)
Pixel Size	4.54 µm x 4.54 µm
Sensor Size	Effective sensor size: 12.5 mm x 10.0 mm; image diagonal 16 mm, equivalent to 1" sensor format
Spectral Sensitivity	Approx. 400 nm – 720 nm, Hoya C5000 RGB Bayer color filter mask
Max Full Well Capacity (typical)	15.000 e-
Signal Amplification	Adjustable analog amplification: 1x, 2x, 3x
Readout Speed	39 MHz, 13 Mhz
Readout Noise (typical)	6,5 e- at 39 Mhz 6,0 e- at 13 Mhz
Dynamic Range (typical)	1:2500 (68 dB)
Digitization	14 Bit / Pixel
Dark Current (typical)	<0,06 e-/p/s at 18 °C sensor temperature
Cooling	Regulated Peltier-cooling (power supply via USB 3.0 and USB 2.0) Sensor temperature 18 °C
Dark Current Compensation	Digital dark current compensation for optimum low light performance at long exposure times Automatic hot pixel correction
Exposure Time Range	250 µs to 60 s

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Binning Modes and Frame Rates	Binning	Pixel Count (H x V)	Mode	FPS @ 1 ms
	1x1	2752 x 2208	Color/Mono	20
	2x2	1376 x 1104	Mono	34
	3x3	912 x 736	Color/Mono	44
	4x4	688 x 552	Mono	52
	5x5	554 x 440	Color/Mono	58
	ROI	2752 x 1080	Color/Mono	33
	ROI	2752 x 512	Color/Mono	50
(exposure time < readout time)				
Color Interpolation Modes	High Speed: optimum speed color interpolation			
	High Quality: optimum quality color interpolation			
Live Frame Rates	Max. Frame Rate	Binning factor / Mode	Resolution / Pixel	
Maximum Ratings at Pptimum Hardware Settings	19 frames/s	1 / slow	2752 x 2208	
	33 frames/s	2 / medium	917 x 733	
	51 frames/s	3 / fast	550 x 440	
Data-Post Processing (optional)	Objective specific shading correction			
	Sharpening			
	Black reference, dark current compensation			
	Color enhancement			
Special Features	Time stamp from camera for precise acquisition time point			
	Auto Switch Mode for Single Port / Dual Port / Quad Port Readout			
	Adjustable intensity of status LED			
	Dual Port / Quad Port Readout			
Special Preset Modes	Eight pre-loadable sets of imaging parameters for speed optimized multi modal image acquisition			
	Overlapping exposure and readout for fast time lapse imaging			

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Switchable Sensor Output Amplifier	Single Port Readout for long exposure times for maximum signal quality
	Dual Port or Quad Port Readout for improved readout speed at full resolution
	Automatic port activation mode or full manual mode
Region of Interest (ROI)	User defined imaging sub area for improvement of readout speed and reduction of amount of data
Hardware Trigger	Galvanic isolated I/O-signals
	Three output signals: exposure time, readout time, trigger ready, i.e. for controlling external mechanical shutters
	One trigger input for exposure control, 5V auxiliary voltage, GND
Status LED	Top LED: camera status (acquisition, power, cooling, speed)
	Back LED: trigger status
Interface	USB 3.0 SuperSpeed (5 Gbit/s)
	Bandwidth max. 240 Mbytes/s
	USB 2.0 optional, with lower speed
Optical Interface	C-Mount
Max. File Size per Image	Approx. 36.4 MB per image with 2752 x 2208 Pixel at 3 x 14 Bit/Pixel
Operating Systems	Microsoft® Windows 7 Enterprise and higher
Size (W x H x D) / Weight	10.8 cm x 4.3 cm x 7.8 cm / 500 g
Housing	Blue anodized aluminum
	¼" thread for camera equipment
	Zero vibration by convection-cooling, optimized cooling fins
	Teflon coated C-Mount thread
	Coated IR filter
Certificates	CE
Power Supply	7 W power consumption, power supply camera: USB 3.0, power supply Peltier-cooling: USB 2.0
	For maximum performance connection to USB 3.0 and USB 2.0 required
	Dual connection cabling provided with delivery

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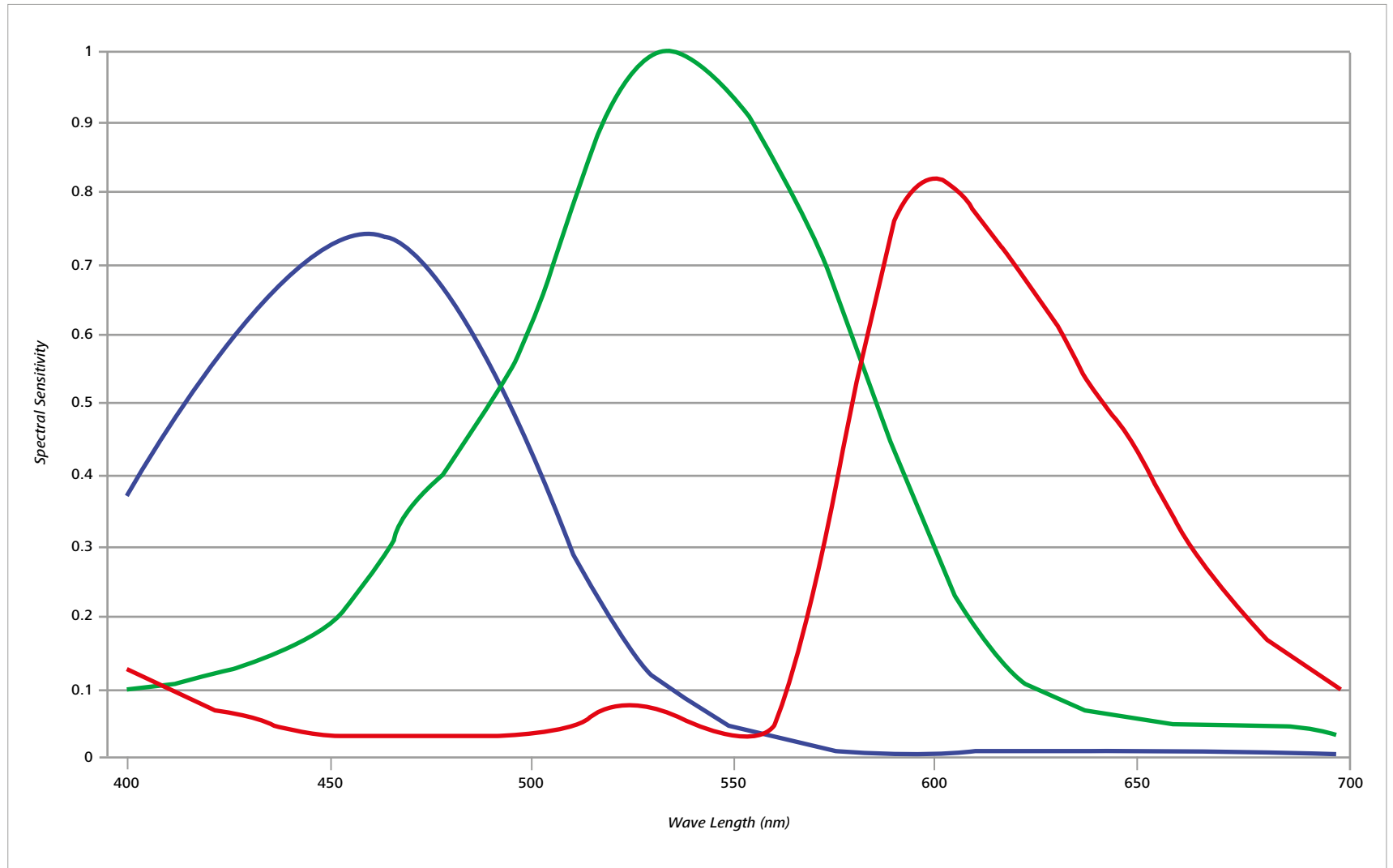
Ambient Conditions (Operation)	+5 °C ... +35 °C
	Max. 80% relative humidity, non-condensing
	Free air circulation required
Ambient Conditions (Storage)	-15 °C ... +60 °C
	90% relative humidity at +40 °C, 80% relative humidity at +20 °C, non-condensing
Software	ZEN 2 lite

All frame rates are maximum values at short exposure times below readout time of the sensor. Exposure time, computer hardware operating system and software can reduce the maximum achievable frame rates. By using binning or sensor sub regions (ROI), the frame rates can be further increased. Technical data is subject to changes due to technical progress.

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Count on Service in the True Sense of the Word

› Technology and Details

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Because the ZEISS microscope system is one of your most important tools, we make sure it is always ready to perform. What's more, we'll see to it that you are employing all the options that get the best from your microscope. You can choose from a range of service products, each delivered by highly qualified ZEISS specialists who will support you long beyond the purchase of your system. Our aim is to enable you to experience those special moments that inspire your work.

Repair. Maintain. Optimize.

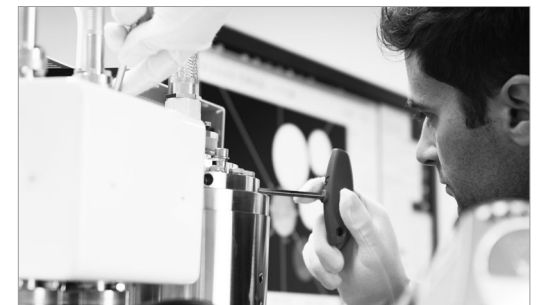
Attain maximum uptime with your microscope. A ZEISS Protect Service Agreement lets you budget for operating costs, all the while reducing costly downtime and achieving the best results through the improved performance of your system. Choose from service agreements designed to give you a range of options and control levels. We'll work with you to select the service program that addresses your system needs and usage requirements, in line with your organization's standard practices.

Our service on-demand also brings you distinct advantages. ZEISS service staff will analyze issues at hand and resolve it – whether using remote maintenance software or working on site.

Enhance Your Microscope System.

Your ZEISS microscope system is designed for a variety of updates: open interfaces allow you to maintain a high technological level at all times. As a result you'll work more efficiently now, while extending the productive lifetime of your microscope as new update possibilities come on stream.

Please note that our service products are always being adjusted to meet market needs and maybe be subject to change.



Profit from the optimized performance of your microscope system with services from ZEISS – now and for years to come.

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