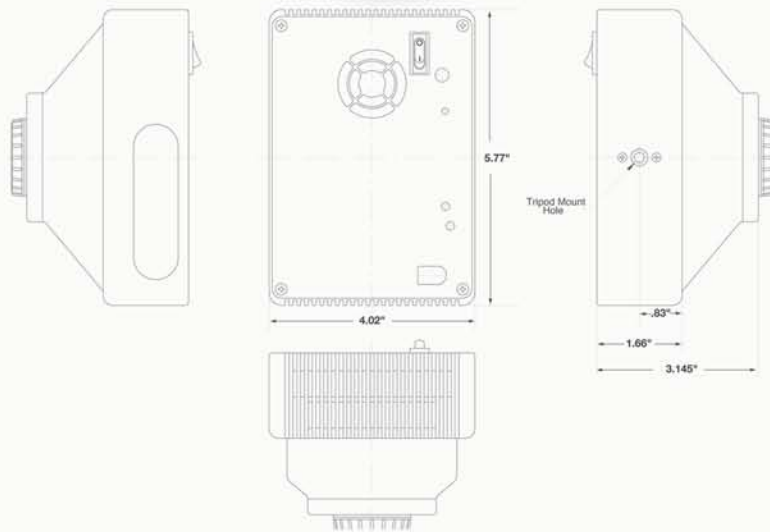


The third generation SPOT RT3™ Monochrome camera delivers high quality images with market-leading 14-bit digital output. Electronic circuitry refinements and deep cooling provide clean, uniform backgrounds when light is limited. The camera's 1" format sensor eliminates the need for expensive de-magnifying optics, and its large pixel wells enhance dynamic range. The RT3 Monochrome is optimal for fluorescence microscopy, FISH, GFP imaging, immunofluorescence and 3 D deconvolution.

The SPOT RT3 includes SPOT Basic software (Windows® and Mac® OS) which features real time image previewing, scale bar addition, report generation, time lapse, and measuring capabilities, and drivers are available for third party imaging software applications. A Software Development Kit (SDK) is available at no charge for integration with custom applications. IEEE 1394 Firewire™ connectivity enables effortless installation on computers and laptop portability. SPOT RT3 cameras come with a 2-year warranty and are supported by an experienced team of imaging specialists.



RT3™ 2.0 Mp | MONOCHROME



Features

Benefits

CCD cooled to -43.3°C below ambient	Reduces dark noise for long exposure image capture
1600 x 1200 (1.92 Mp) image capture	Resolves fine detail
Programmable gain (1-16x)	Facilitates live mode previews of low light specimens
14-bit x 20 MHz capture	Extra bit depth is ideal for image enhancement
40 MHz live mode (dual channel 20 MHz)	High-speed imaging for real time viewing
Interline progressive scan CCD	Electronic shuttering eliminates mechanical shutter shortcomings related to speed, wear, and vibration
FireWire® interface	Allows for effortless installation, hot-swapping, and laptop connectivity for greater ease of use

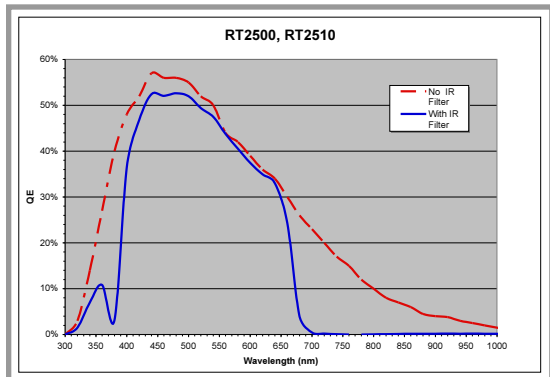


SPOT™ Imaging Solutions
A division of Diagnostic Instruments, Inc.

Sensor	
Resolution	1.92Mp
Sensor Type	Kodak KAI-2020-M with cover glass
Active Pixels	1600 x 1200
Pixel Size	7.4 μm square pixels
Optical Format	1"
Active Imager Size	11.8 mm x 8.9 mm active area 14.8 mm diagonal
Exposure Time	0.5 ms to 286 minutes; captured and live mode automatic exposure; captured and live mode manual exposure
Binning	1x1, 2x2, 3x3, 4x4, 8x8
Region of Interest	User selectable, 50 x 50 to full resolution
Cooling	-43.3°C differential from ambient via thermoelectric cooler with fan cooled heat sink (-23.3°C from an ambient of 20°C)
Read Noise	16 e ⁻ rms
Dark Current	0.003 e/p/s (typical)
Full Well Depth	31,500 e ⁻ (Gain=1)
Non-linearity	<1%
Bit Depth	8, 12, 14 or 16-bit BW
Sensor Readout Frequency	20MHz

Camera	
Lens Mount	C-mount
Computer Interface	FireWire (IEEE 1394a)
Triggers	Camera ready (TTL) External trigger input (TTL) Exposure sync output (TTL)
Tripod Mount	1/4"-20 UNC
Weight	2.4 lbs. (1.09 kg)
Size	5.77" W x 4.02" D x 3.15" H (147 mm x 102 mm x 80 mm)
Power Requirements	100-240 VAC, 1.5A
Operating Environment	0 to 30°C ambient, 0-80% relative humidity noncondensing
Storage Temperature	-20 to 60°C
Certifications	CE, FCC Class A, EN60950 RoHS compliant

Quantum Efficiency



Captured Frame Rates Captured Frames per Second *

Binning level	Region of interest				
	1600 x 1200	1024 x 1024	512 x 512	256 x 256	50 x 50
1 x 1	7.6	8.9	16.0	26.7	58.2
2 x 2	13.8	15.8	26.2	38.6	63.4
3 x 3	18.7	20.9	32.2	44.5	64.6
4 x 4	22.1	24.5	35.9	46.2	60.6
8 x 8	27.9	29.6	37.0	41.4	40.9

*0.5 ms exposure with post-processing deferred, taken with 1.67 GHz AMD XP2000 processor running Windows XP. Other platforms may provide different results.

SPOT Software	
SPOT Basic Software Features	<ul style="list-style-type: none"> Color Live mode viewing window with controls Image capture window Image capture setups are user defined, named and saved Auto or manual exposure for Live and captured images Zoom control on Live and captured images Auto white balance Spot or average metering Correct Color Technology™ using ICC/ColorSync corrections Flatfield correction Annotation Calibration mark Measurement tools Image enhancement tools Sequential image capture and playback Report generator Interactive print dialog Help menu Drivers: Twain for Windows®, 3rd Party Interface for Mac®
Computer Operating System Compatibility	Mac®: OS X Windows®: XP, Vista®, 7 (32 bit versions only)
Minimum Computer Requirements	Mac®: 400MHz Power PC, 512MB RAM, FireWire® IEEE 1394a port PC: 1GHz Pentium, 512MB RAM, FireWire® IEEE 1394a port Mac® and PC video: 24-bit color @ 1024 x 768 resolution
SPOT Advanced Software	Available (includes macro feature, floating taskbars and image archiving database)
SPOT Advanced Plus Software Modules (Optional)	Available (adds image display intensity scaling, peripheral device control and extended depth of focus)
Software Development Kit	Available for Mac® and Windows®
Native Drivers for 3rd Party Software	Available (call or visit our website)

Items Included	
Camera Head	With lens cap
FireWire® Cable	Data cable (6-pin)
Power Supply	With power cord, 2.29" (58mm) x 5.20" (132mm) x 1.18" (30mm), 0.70 lbs. (0.32kg)
Quick Start Installation Guide	Instructions on how to get up and running quickly
Software CD	Includes SPOT Basic software and User Guide
Warranty	2 years from date of purchase

Catalog Number	C-Mount	F-Mount
RT3 2.0 Mono No IR filter	RT2500	N/A
RT3 2.0 Mono With IR filter	RT2510	N/A

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Windows® is a registered trademark of Microsoft.

Specifications are typical and subject to change.



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Data Sheet: RT3 2.0 Mono Rev. B