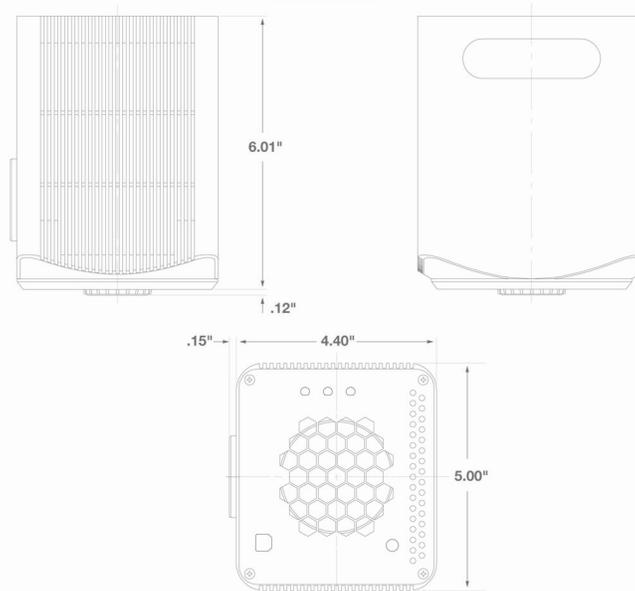




# Xplorer™ 1.4 Mp MONOCHROME

The SPOT™ Xplorer Monochrome digital camera offers deep cooling and high speed, optimizing sensitivity for low light scientific applications. 14-bit digitization with multiple readout speeds add flexibility for recording dynamic events. Its CCD sensor provides megapixel resolution and high quantum efficiency, especially in the near-IR portion of the spectrum. The primary applications for this camera include live cell GFP imaging, ion tracking, high content screening, immunofluorescence and 3D deconvolution.

The SPOT Xplorer includes SPOT Basic software (Windows® and Mac® OS) for real-time image preview and acquisition, and drivers are available for many third-party imaging software applications. Advanced triggering enables precise synchronization with peripherals. The SPOT Xplorer camera's robust design and well-documented, free Software Development Kit (SDK) provide easy OEM integration.



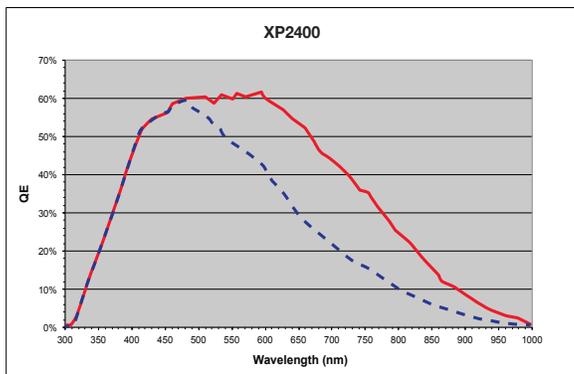
Features	Benefits
Nearly 11 full frames per second	High speed image capture
-40° C regulated cooling	Dark noise reduction and repeatable dark frame correction for long exposures
Enhanced IR Mode	Increases the Sensitivity for wavelengths > 525 nm (see QE chart)
No Glow Mode	Turns off all sources of On-CCD circuit glow during exposure. Important for long exposures.
4.5 e <sup>-</sup> Read Noise	Great low light detection limit and SNR
14-bit digitization	Over-sampled bit depth ensures best data quality
Interline progressive scan CCD	Electronic shuttering eliminates mechanical shutter shortcomings related to speed, wear, and vibration



## Specifications

Resolution	1.4 Mp
Sensor Type	Sony ICX285AL with cover glass Monochrome Progressive scan interline CCD Shutter
Active Pixels	1360 x 1024
Pixel Size	6.45 µm x 6.45 µm
Optical Format	2/3"
Active Imager Size	8.77mm (H) x 6.60mm (V)
Exposure Time	0.5ms – 1500sec
Anti-Blooming	100x minimum
Binning	2 x 2, 3 x 3, 4 x 4, 8 x 8
Region of Interest	User selectable
Read Noise	4.5 e <sup>-</sup> @ 10 MHz; 5.5 e <sup>-</sup> @ 20 MHz
Dark current	0.0013 e/p/s
Full Well Depth	>16,000 e <sup>-</sup> (no binning) >24,600 e <sup>-</sup> (with binning)
Non-linearity	<1%
A-D Converter	14-Bit @ 20 MHz DCS
Saving Bit Depth	8, 12 or 16 bits/channel (Monochrome)
Cooling	-40° C regulated cooling via thermoelectric cooler with her- metically sealed, fan cooled heat sink, -70° C maximum differen- tial cooling from ambient
Lens Mount	C-Mount with adjustable back focus
Computer Interface	PCI Express
Triggers	Camera ready output (TTL) External trigger input (TTL) Exposure sync output (TTL)
Tripod Mount	1/4"-20 UNC
Weight	4.5 lbs (1.09 kg)
Size	5.00" W x 4.40" D x 7.13" H (127mm x 112mm x 181mm)
Power Requirements	100-240 VAC 1A
Operating Environment	0 to 30°C ambient, 0- 80% relative humidity (non-condens- ing)
Storage Temperature	-20 to 60°C
Certifications	CE, FCC Class A, EN60950, RoHS

## Quantum Efficiency



## Captured Frame Rates Captured Frames per Second\*

Binning level	Region of Interest				
	1360x1024	640x480	512x512	256x256	50x50
None	10.8	21.1	20.1	35.0	92.4
2 x 2	19.7	37.1	34.8	58.2	114.0
3 x 3	27.4	48.4	46.3	74.4	124.6
4 x 4	33.8	59.2	57.4	84.6	130.0
8 x 8	55.3	83.6	83.2	108.7	138.8

\*1ms exposure with post-processing deferred, taken with 2.6 Ghz Xeon processor running Windows XP. Capture rates on other computers OS platforms may vary.

## Spot Software

SPOT Basic Software Features	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 Auto white balance Spot or average metering Flatfield correction Annotation Calibration mark Measurement tools Image enhancement tools Sequential image capture and playback Report generator Interactive print dialog Help menu 3rd Party Software Interface: Standard Twain for Windows®, SPOT Image Capture Application & Apple Event for Mac®
Computer Operating System Compatibility	Windows®: XP SP3 (32-bit), Vista (32 or 64-bit), 7 (32 or 64-bit) and 8 (32 or 64-bit) Mac®: OS 10.6 - 10.8
Minimum Computer Requirements	PC: 1GHz Pentium 4 (or equivalent x86 SSE2 processor), 1 GB RAM, FireWire® IEEE 1394a port Mac®: Intel processor, 1 GB 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, custom dialogs and image archiving database)
SPOT Advanced Software Modules (Optional)	Available (adds image display intensity scaling, peripheral device control, extended depth of focus and extended third party interface)
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
PCI Express card	Computer interface
Power Supply with Power Cable	With power cord, 3.61" (92mm) x 3.90" (99mm) x 8.13" (207mm), 3.2 lbs. (1.5kg)
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
Xplorer 1.4 Mp Mono w/o IR	XP2400	N/A



Specifications are typical and subject to change.

**SPOT Imaging Solutions™**  
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Data Sheet: Xplorer 1.4 Mp Mono