



Pursuit™-XS

Monochrome | 1.4 MP



The Pursuit™ 1.4 MP Monochrome camera is a cooled, low noise, high speed digital camera designed for researchers who have quantitative scientific applications. The 1.4 MP model is optimized for speed over resolution. Key applications include ion imaging, FRET, FRAP, TIRF, SMF and particle tracking.

The Pursuit™-XS Monochrome is a high end performer, excellent for a multitude of cutting edge scientific research applications.

KEY FEATURES AND BENEFITS

High speed image capture	Nearly 11 full frames per second
Dual speed readout	Allows users to select between maximum speed or lowest noise level
Enhanced IR Mode	Increases the Sensitivity for wavelengths > 525 nm (see QE chart)
Live mode gain	Provides real time viewing of low light specimens
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
Exposure while downloading	Allows user to overlap exposure with previous image download to increase the frame rate
Data /device streaming	Allows the highest speed experiment image captures
-10° C regulated cooling	Dark noise reduction and repeatable dark frame correction
SPOT™ Software for Mac® and Windows® operating systems	Provides essential tools for modern microscopy and is widely supported by 3rd party software companies. (SDK available for OEM development)

CCD INFORMATION

Sony ICX285AL with cover glass
Monochrome Progressive scan interline CCD
1360 x 1024, 6.45µm square pixels
8.77 x 6.60 mm active area
100x anti-blooming
CCD Grade: Sony Grade 0

COOLING

Peltier thermoelectric cooling, -10°C regulated,
-33° C maximum differential cooling from ambient

Digitization information:

Correlated dual sampling at CCD sensor

Live Mode: 8 bit x 20 MHz

Capture mode: 14 bit (selectable 10 or 20 MHz)

Nonlinearity: <1%

A-D converter full scale set to 16,000 e-(no binning);
24,600 e-(with binning)

Saved bit depths: 8, 12, or 16 bit; Monochrome

Noise specifications:

Read noise: 4.5 e @ 10 MHz.; 5.5 e @ 20 MHz

Dark current: 0.001 e/p/s

Exposure:

Minimum: 100 µs

Maximum: >48 hrs

Captured and live mode automatic exposure

Captured and live mode manual exposure

Lens Mount: C-Mount with adjustable back focus

Sealing window: Corning 7980 fused silica
320 nm – 820 nm anti-reflection coating

Computer interface: PCI Universal or PCI Express

External device control: TTL level output
with programmable delay

External trigger input: TTL level input with
programmable active state and delay. Manual and bulb
exposure modes.

MECHANICAL

Tripod mount: 1/4-20 UNC

Camera head: 5.00" (127mm) x 4.40" (112mm) x
7.13" (181mm), 4.55 lbs. (2.1 kg)

Power supply: 3.61" (92mm) x 3.90" (99 mm) x
8.13" (207mm), 3.2 lbs. (1.5 kg)

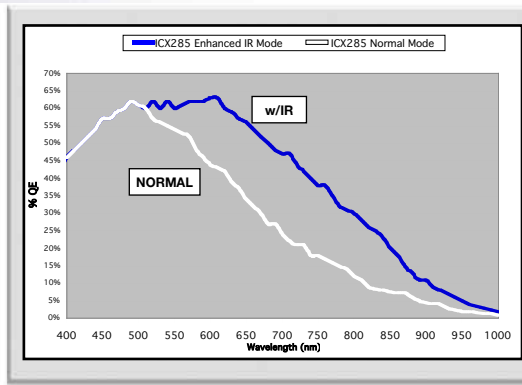
Operating environment: 0-30°C ambient, 0-80%
relative humidity noncondensing

Power requirements: 100-240 VAC, 3A

SPOT BASIC SOFTWARE FEATURES

Color live mode viewing window & controls,
auto-exposure live and capture modes, image
capture window, predefined and custom image
setups, auto white balance, flat field correction,
image enhancement tools in three color spaces
(RGB, HSL, HSV), pan and zoom windows, multiple
customizable floating taskbars, spot metering,
non-destructive annotations, non-destructive calibra-
tion marks, measurement tools, sequential image
capture and playback, exportable image archiving
database (PC only), report generator, macro
scripting, interactive print dialog, online help menu,
Correct Color Technology™.

QUANTUM EFFICIENCY



Quantum Efficiency

Captured Frames per Second*

Binning	REGION OF INTEREST				
	1360 x 1024	640 x 480	512 X 512	256 x 256	50 x 50
None	10.9	21.5	20.5	36.2	92.4
2 x 2	20.1	37.3	35.9	58.3	114.0
3 x 3	28.0	49.4	48.2	73.8	124.6
4 x 4	34.8	59.2	57.7	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.

FORMATS AND TIFF SIZES

File formats:

Bitmap, TIFF, TIFF-JPEG, JPEG-2000, PICT, AVI (PC, export
only), Quicktime (Mac, export only)

TIFF File sizes:

8 bit monochrome: 1.33 MB

12 bit monochrome: 2.00 MB

16 bit monochrome: 2.66 MB

DRIVER INFORMATION

Drivers included:

Twain for supported Windows® operating systems
AppleEvent for supported Mac® operating systems

Native drivers for 3rd party software:

Call or visit our website (www.diaginc.com)

COMPUTER REQUIREMENTS

Minimum system requirements:

PC: Pentium® based processor or equivalent @ 1 GHz or
greater with Windows 2000, XP, Vista, one available PCI
or PCI Express slot.

Mac: Power PC G4 or greater with OS 10.3.9 or higher,
512 MB of RAM, available PCI or PCI Express slot.

Video card: 24 bit RGB @ 1024 x 768 or greater

Items included:

Camera head, PCI or PCI Express card, power supply,
power cord, communication cable, SPOT software install
CD (includes drivers), electronic software user guide.
Quick Start Installation Guide. Includes a 2 year warranty.

Mac® is a registered trademark of Apple Computers, Inc.

Windows ® is a registered trademark of Microsoft.

Specifications are typical and subject to change without notice.

Ambient temperature is defined as 20°C.

Catalog Number: PR2300

Pursuit-XS™

Mono: 1.4 MP 4.14.08



DIAGNOSTIC
instruments, inc.