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

<table>
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<tr>
<th>Feature</th>
<th>Description</th>
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<tr>
<td>High speed image capture</td>
<td>Nearly 11 full frames per second</td>
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<tr>
<td>Dual speed readout</td>
<td>Allows users to select between maximum speed or lowest noise level</td>
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<tr>
<td>Enhanced IR Mode</td>
<td>Increases the Sensitivity for wavelengths &gt; 525 nm (see QE chart)</td>
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<td>Live mode gain</td>
<td>Provides real time viewing of low light specimens</td>
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<td>14 bit digitization</td>
<td>Over-sampled bit depth ensures best data quality</td>
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<tr>
<td>Interline progressive scan CCD</td>
<td>Electronic shuttering eliminates mechanical shutter shortcomings related to speed, wear, and vibration</td>
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<tr>
<td>Exposure while downloading</td>
<td>Allows user to overlap exposure with previous image download to increase the frame rate</td>
</tr>
<tr>
<td>Data /device streaming</td>
<td>Allows the highest speed experiment image captures</td>
</tr>
<tr>
<td>-10° C regulated cooling</td>
<td>Dark noise reduction and repeatable dark frame correction</td>
</tr>
<tr>
<td>SPOT™ Software for Mac® and Windows® operating systems</td>
<td>Provides essential tools for modern microscopy and is widely supported by 3rd party software companies. (SDK available for OEM development)</td>
</tr>
</tbody>
</table>
**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 calibration 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™.

**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

**Quantum Efficiency**

**Captured Frames per Second**

**Region of Interest**

Binning 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.

**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, 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 PC 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