The versatile SPOT™ Flex camera is a multipurpose workhorse camera with industry-leading performance specifications. Ultra-high resolution options up to 64 Mp are supported, along with full color sampling of the large format CCD sensor, providing accurate color rendition, crisp detail, and an incredible field of view. Cooling and 14-bit digital output reduce noise for low light level imaging. The suggested applications for this camera include widefield color imaging, high resolution documentation, fluorescence imaging, slide scanning, inspection, and phase contrast studies.

The SPOT Flex includes SPOT Basic software (Windows® and Mac® OS) which features real time image previewing, scale bar addition, report generation, time lapse, and measuring capabilities. IEEE 1394 Firewire™ connectivity enables effortless installation on computers and laptop portability. SPOT Flex cameras come with a 2-year warranty and are supported by an experienced team of imaging specialists.

### Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 MHz live mode (dual channel 20 MHz)</td>
<td>High speed imaging for real time viewing</td>
</tr>
<tr>
<td>4 Mp Color Mosaic to 16 Mp* Cosite Color Sampling</td>
<td>Multiple resolution options provide the ability to capture a wide range of samples</td>
</tr>
<tr>
<td>-20°C differential cooling</td>
<td>Reduces thermal noise for low light level imaging</td>
</tr>
<tr>
<td>14-bit x 20 MHz capture</td>
<td>Extra bit depth is ideal for image enhancement</td>
</tr>
<tr>
<td>15.2 mm x 15.2 mm imaging area 21.4 mm FN</td>
<td>Large field of view to closely match the field of view in the microscope eyepiece</td>
</tr>
<tr>
<td>FireWire® interface</td>
<td>Allows for effortless installation, hot-swapping, and laptop connectivity for greater ease of use</td>
</tr>
</tbody>
</table>

* Equivalent to 64 Mp Color Mosaic Resolution
Sensor SPOT Software

**Resolution**
- 4.0 Mp to 16.0 Mp Cosite color sampled

**Sensor Type**
- Kodak KAI-4020-CM with cover glass Color mosaic progressive scan interline CCD

**Active Pixels**
- 2048 x 2048

**Pixel Size**
- 7.4µm x 7.4µm

**Optical Format**
- 4/3" (4:3)

**Active Imager Size**
- 15.16 mm x 15.16 mm
- 21.43 mm diagonal

**Exposure Time**
- 1 ms to 536 seconds

**Binning**
- 1x1, 2x2 (Monochrome)
- 4x4 (Monochrome)

**Cooling**
- -20°C differential from ambient via thermoelectric cooler with hermetically sealed, fan cooled heat sink

**Read Noise**
- 15 e- rms

**Dark current**
- 0.103 e/p/s mean value

**Full Well Depth**
- 33,333 e-

**Non-linearity**
- <1%

**Bit Depth**
- 14-bit

**Sensor Readout Frequency**
- 40 MHz

**Camera**

**Lens Mount**
- C-mount (F-mount available)

**Computer Interface**
- FireWire® IEEE 1394a interface

**Trigger Connectors**
- Camera ready (TTL)
- External trigger input (TTL)
- Exposure sync output (TTL)

**Tripod Mount**
- 1/4"-20 UNC

**Weight**
- C-Mount 2.4lbs. (1.09kg)
- F-Mount 2.4lbs. (1.09kg)

**Size**
- (C-Mount) 5.77" x 4.02" x 3.15" (147mm x 102mm x 80mm)
- (F-Mount) 5.77" x 4.02" x 4.29" (147mm x 102mm x 109mm)

**Power Requirements**
- 100-240 VAC, 47/63Hz

**Operating Environment**
- 0 to 30°C ambient, 0 to 80% relative humidity (non-condensing)

**Certifications**
- CE, FCC Class A, EN60950 RoHS

**Quantum Efficiency**

**Captured Frame Rates (Single Shot Mode)**

<table>
<thead>
<tr>
<th>Image Size</th>
<th>Red</th>
<th>Blue</th>
<th>Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>2048 x 2048</td>
<td>3.4</td>
<td>10.5</td>
<td>15.9</td>
</tr>
<tr>
<td>1024 x 1024</td>
<td>6.2</td>
<td>10.5</td>
<td>15.9</td>
</tr>
<tr>
<td>512 x 512</td>
<td>10.5</td>
<td>15.9</td>
<td>21.3</td>
</tr>
<tr>
<td>256 x 256</td>
<td>20.6</td>
<td>24.9</td>
<td></td>
</tr>
</tbody>
</table>

**Camera Head With lens cap**

**FireWire® cables**

**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**

**Software CD**
- Includes SPOT Basic software and User Guide

**Warranty**
- 2 years from date of purchase

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**SPOT Software**

**SPOT Basic Software Features**
- 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
- Flatfield correction
- Annotation
- Calibration mark
- Measurement tools
- Image enhancement tools
- Sequential image capture and playback
- Report generator
- Interactive print dialog
- Help menu

**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, IEEE 1394a port
- Mac®: Intel processor, 1 GB RAM, 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)

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**Items Included**

**Camera Head**
- With lens cap

**FireWire® cables**

**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**

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**Catalog Number**

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<tr>
<th>C-Mount</th>
<th>F-Mount</th>
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<tr>
<td>FX1520</td>
<td>FX1521</td>
</tr>
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</table>

Specifications are typical and subject to change.