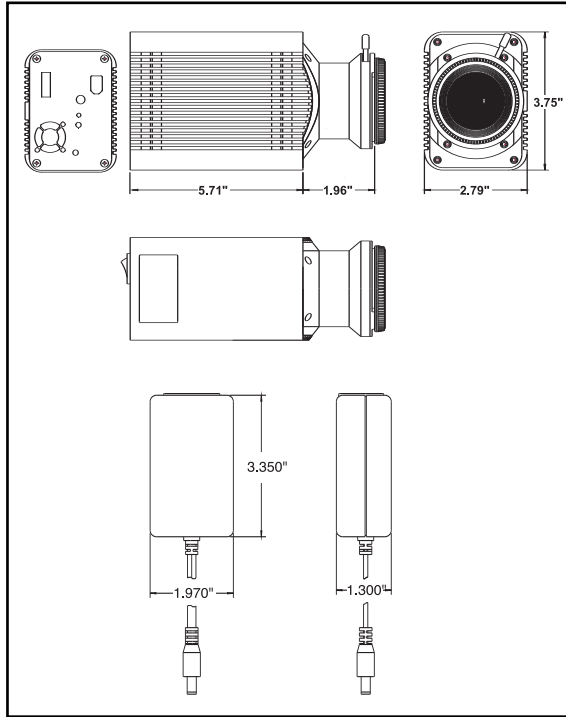


# Data Sheet



## Application

This camera is designed for high-resolution qualitative capture of brightfield and moderately bright fluorescence images. The 6 Mega-sample, 3 Shot color image capture measures every pixel, doubling mosaic technology. This camera finds widespread use for photo-documentation, poster presentations, publication submittals, and metallurgical applications.

## Features

## Benefits

3 Shot image capture .....	More than doubles the resolution when compared to color mosaic image capture technology
1600 x 1200 pixel resolution .....	High resolution that resolves fine detail
Programmable gain (1-32x) .....	Allows short exposures to facilitate live mode previews of low light specimens
Dual channel 20 MHz readout .....	Produces high-speed live imaging for real-time focusing and framing
42 bit RGB color image capture .....	Extra bit depth is ideal for image enhancement
High quantum efficiency CCD .....	Increases sensitivity for faster image captures
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™ Software .....	Provides essential tools for modern microscopy and is widely supported by 3rd party software companies for high end applications

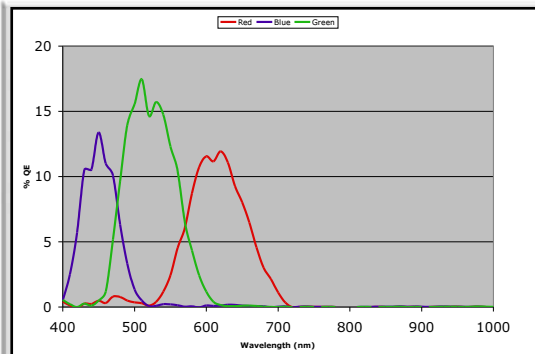
**Insight™ 2 Megapixel 3-Shot Color**



# Data Sheet

DIAGNOSTIC  
instruments, inc.  
SOURCE  
solution

Insight™ 2 Megapixel 3-Shot Color



Captured Frames per Second\*

Binning	REGION OF INTEREST		
	1600 X 1200	512 X 512	256 X 256
1 x 1	7.0	13.5	20.4
2 x 2	11.7	19.5	25.8
3 x 3	15.2	23.0	28.2
4 x 4	17.5	25.0	29.2

\*1ms exposure with post-processing deferred, taken with 2.6 Ghz Xeon processor running Windows XP

### CCD information:

Kodak KAI-2020-M with cover glass  
Monochrome progressive scan interline CCD  
1600 x 1200, 7.4 µm square pixels  
11.8mm x 8.9mm active area, 1" optical format  
300x minimum anti-blooming  
LCD electronic RGB color changing filter

**Cooling:** Convective cooled heat sink

### Digitization information:

Digitized pixel by pixel at CCD sensor  
Live mode: 8 bit x 40 MHz (Dual channel  
8 bit x 20MHz)  
Live image frame rate: 18 f/s without binning, up  
to 41 f/s with binning  
Capture mode: 14 bit x 20MHz (see chart  
for frame rate)

A/D Converter full scale set to 33,333 e (Gain=1)  
Saved bit depths: 24, 36, or 48 RGB; 8, 12  
or 16 bit BW

### Noise specifications:

Read noise: 17 electrons  
Dark current: 1.2 e/p/s mean value

### Exposure:

0.5 millisecond to 536 seconds  
Captured and live mode automatic exposure  
Captured and live mode manual exposure

**Lens mount:** Nikon F-mount

**Sealing window:** IR Filter w/ multilayer  
anti-reflection coating

**External device control:** TTL level output  
with programmable delay

**External trigger input:** TTL level input

### Mechanical:

**Tripod mount:** 1/4 - 20 UNC  
**Camera head:** 2.79" (71mm) x 3.75" (95mm) x 7.68"  
(180mm), 1.6 lbs. (0.72 kg)  
**Power supply:** 1.3" (33mm) x 1.97" (50mm) x 3.35"  
(85mm), 0.34 lbs. (0.16 kg)  
**Operating environment:** 0 to 30°C ambient, 0-80%  
relative humidity noncondensing  
**Power requirements:** 100-240 VAC, 47-63 Hz  
**Certifications:** CE, FCC Class A, EN60950

### SPOT 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, customizable  
floating taskbar, spot metering, annotation,  
calibration mark, measurement tools, sequential  
image capture and playback, exportable image  
archiving database (PC only), report generator,  
macro scripting, interactive print dialog, online  
help menu, and Correct Color Technology™.

### File formats:

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

### TIFF File sizes:

8 bit BW / 1.83MB                      24 bit RGB / 5.49 MB  
12 bit BW / 2.75 MB                    36 bit RGB / 8.24 MB  
16 bit BW / 3.66 MB                    48 bit RGB / 10.99 MB

### Drivers included:

Twain for supported Windows®  
operating systems. Third Party Interface  
for supported Mac® operating systems

### Native drivers for 3rd party software:

Call or visit our website ([www.diaginc.com](http://www.diaginc.com))

### Minimum system requirements:

PC: Pentium 400 Mhz or greater with Windows  
98SE, 2000, ME, or XP, 256 MB of RAM,  
Firewire/IEEE 1394a interface\*  
Mac: Power PC 400 Mhz G3 or greater with  
OS 10.2.8 or higher, 256 MB of RAM, Firewire/IEEE  
1394a interface  
Video card: 24 bit RGB @ desired resolution

### Items included:

Camera head, 6 pin to 6 pin FireWire® data cable,  
power supply cable, power supply, power cord,  
SPOT software install CD (includes drivers), user  
guide, 2 year warranty

\*Desktop computers may require IEEE 1394a to PCI bus interface card,  
laptop computers may require IEEE 1394a to PCMCIA interface card  
Firewire® and Mac® are registered trademarks of Apple Computers, Inc.  
Windows® is a registered trademark of Microsoft.  
Specifications are typical and subject to change.

Catalog Number: IN1830

