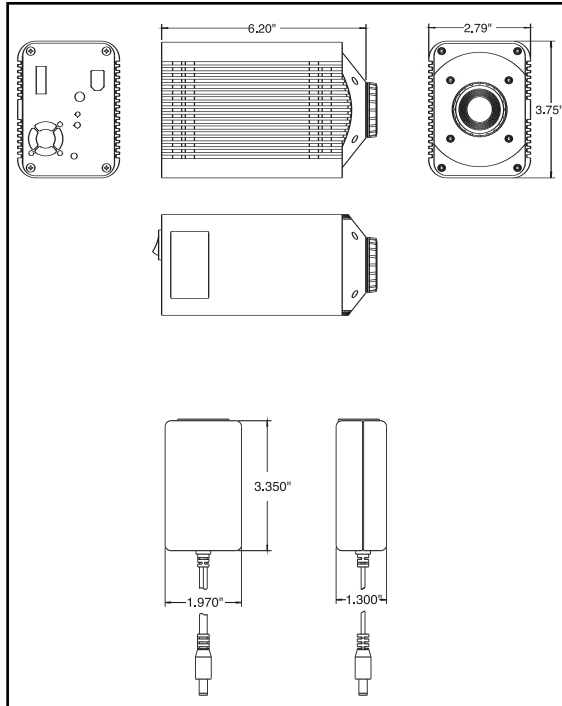


# Data Sheet



## Application

This camera is designed to replace video camera/frame grabber combinations in a cost effective single unit.

This camera is used for photo-documentation, pathology, fluorescence, industrial and metallurgical applications.

## Features

## Benefits

40 MHz live mode (dual channel 20MHz) ....	High speed imaging for real time viewing
1600 x 1200 (1.92 Mpixel) image capture ..	Resolves fine detail
Programmable gain (1-32x) .....	Facilitates live mode previews of low light specimens
14 bit x 20 MHz 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 as well as providing DLL with SDK for OEM driver development
Mac® & Windows® operating systems	
Basic & Advanced Applications	
Twain & Third Party Interface	
DLL w/ SDK and Tutorial manual	
3rd Party Driver support	

**Insight™ 2 Megapixel Color Mosaic**

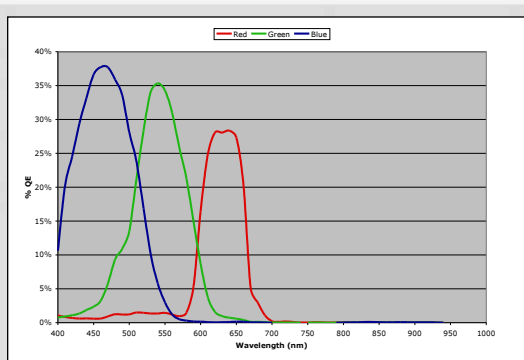




# Data Sheet

DIAGNOSTIC  
instruments, inc.  
SOURCE  
solution

Insight™ 2 Megapixel Color Mosaic



Captured Frames per Second\*

Binning	REGION OF INTEREST		
	1600 X 1200	512 X 512	256 X 256
1 x 1	9.8	13.1	19.6

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

### CCD information:

Kodak KAI-2020-CM with cover glass  
Color mosaic 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

**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:** C-mount

**Sealing window:** UBK-7 with DM011 IR filter  
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 6.2"  
(142mm), 1.4 lbs. (0.62 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), electronic soft-  
ware user guide and hardware user guide. Includes a  
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.

