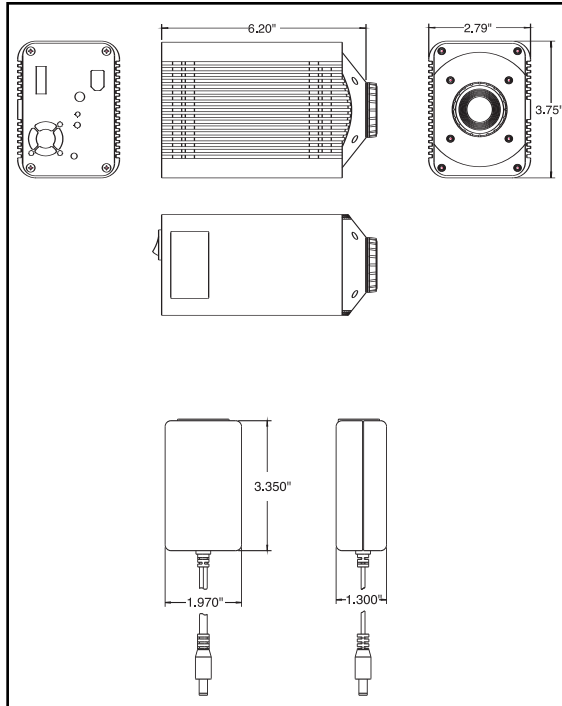# Data Sheet

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.

Insight™ 2 Megapixel Color Mosaic

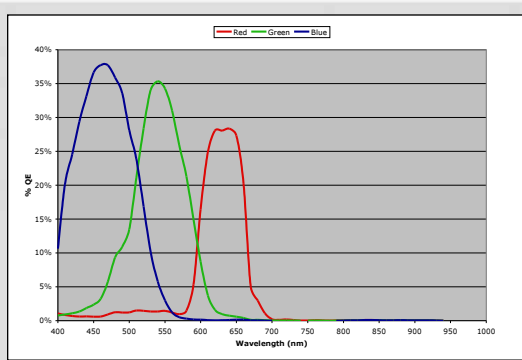| Features	Benefits
40 MHz live mode (dual channel 20MHz)	High speed imaging for real time viewing
1600 x 1200 (1.92 Mpixel) image capture ..	Resolves fine detail
Programmable gain (1-32x)	Facilitates live mode previews of low light specimens
14 bit x 20 MHz capture	Extra bit depth is ideal for image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

Data Sheet

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)

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 software 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.

Catalog Number: IN1820