

## Application

This camera is designed for brightfield and bright qualitative fluorescence with a requirement for extra resolution at low magnification.

## Feature

## Benefit

3-Shot color image capture, 1600 x 1200 (6 Megapixel sampling) .....	High resolution for resolving fine detail
CCD cooled to -26°C from an ambient temperature of 20°C (-46°C differential) ..	Reduces dark noise for long exposure image capture
Programmable gain (1-16x) .....	Facilitates live mode previews of low light specimens
36 MHz live mode (dual channel 18MHz) ....	High-speed imaging for real time viewing
Interline progressive scan CCD .....	Electronic shuttering eliminates mechanical shutter shortcomings related to speed, wear, and vibration
PCI Interface .....	Stable, high-speed interface for PC and Mac platforms is over 50% faster than Firewire™ (IEEE 1394)
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 & Advance Applications	
Twain & Apple Event	
DLL w/ SDK and Tutorial manual	
3rd Party Driver support	

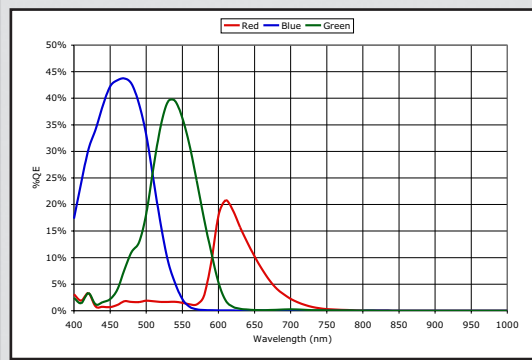
**RT™ KE Color 3-Shot**



# Data Sheet

DIAGNOSTIC  
instruments, inc.  
SOURCE  
solution

RT™ KE Color 3-Shot



### CCD information:

Kodak KAI-2001-M with cover glass  
Monochrome progressive scan interline CCD  
1600 x 1200, 7.4 μm square pixels  
11.8mm x 8.9mm active area  
100x minimum anti-blooming  
LCD electronic RGB color changing filter with IR filter

### Cooling:

-46 °C differential from ambient via thermoelectric cooler with fan cooled heat sink (-26 °C from an ambient of 20 °C)

### Digitization information:

Digitized pixel by pixel at CCD sensor  
Live mode: 8 bit x 36 MHz (Dual channel  
8 bit x 18MHz)  
Live image frame rate: 19 frames per second  
at full resolution  
Capture mode: 12 bit x 6MHz (see chart for  
frame rate)  
A/D Converter full scale set to 31,500 e (Gain=1)  
Saved bit depths: 8, 12 or 16 bit BW, 24, 36 or  
48 bit RGB

### Noise specifications:

Read noise: 18-22 e rms  
Dark noise: 0.05-0.06 e/p/s

### Exposure:

40 microseconds to 71 minutes  
Captured and live mode automatic exposure  
Captured and live mode manual exposure

Lens mount: Nikon F-mount

Sealing window: BK7 w/ multilayer  
anti-reflection coating

Computer interface: PCI bus card

External shutter control: BNC TTL level  
output w/ delay

### Mechanical:

Tripod mount: 1/4 - 20 UNC

Camera head: 4.96" (126mm) x 4.94"  
(125.5mm) x 5.51" (140 mm), 3.5 lbs., 1.6 kg.)

Power supply: 5.66" (143.7mm) W x 7.81"  
(198.3mm) D x 3.60" (91.5mm) H, 3.3 lbs. (1.5 kg.)

Operating environment: 0 to 30 °C ambient, 0-80%  
relative humidity noncondensing

Power requirements: 85-264 VAC, 47-63 Hz

Captured Frames per Second\*

Binning	REGION OF INTEREST		
	1600 X 1200	512 X 512	256 X 256
1 x 1	2.4	10.1	25.3
2 x 2	5.1	20.1	33.4
3 x 3	7.8	25.1	49.9
4 x 4	10.1	33.4	50.4

.04ms exposure, no post-processing, images saved  
to RAM on 1.7 GHz P4 running Windows XP

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, report generator, macro  
scripting, interactive print dialog, online help menu

### File formats:

BMP, TIFF, TIFF-JPEG, JPEG, JPEG-2000, PICT, AVI

### 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  
AppleEvent 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:

Full size PCI bus slot or PCI-MCA CardBus slot\*

\*-Requires Magma™ Adapter (sold separately)

PC: Pentium 166 or greater w/

Windows 95, 98, 00, NT, ME, XP

Mac: Power PC, OS 8.6 - OS X

RAM: 64MB minimum, 256MB suggested

Video card: 24 bit RGB @ desired resolution

### Items included: Camera head, PCI plug-in

board, data cable, power supply cable, power  
supply, power cord, SPOT software install CD  
(includes drivers), user guide, 2 year warranty

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Catalog Number: RT730

