Data Sheet

SPOT

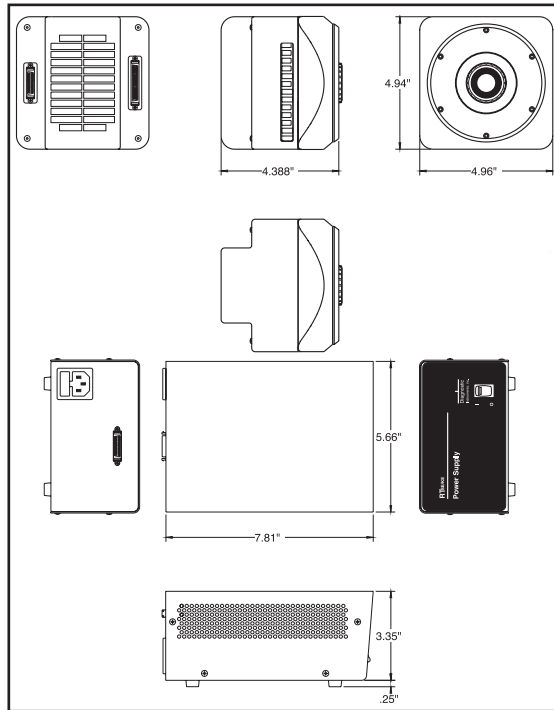## Application

This camera is designed for high-resolution quantitative capture of low light images as well as brightfield images.

This camera is commonly used in low light fluorescence, Phase, fluorescence, Ca++, and GFP applications.

RT™ SE6 Monochrome

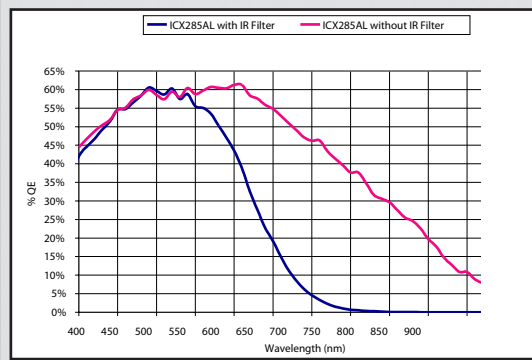| Feature	Benefit
CCD cooled to -28° C from an ambient temperature of 20° C (-48° differential)..........	Reduces dark noise to allow for long exposures
1360 x 1024 (1.39 Mpixel) image capture ..	Resolves fine detail
Live mode programmable gain (1-16x)	Facilitates live mode previews of low light specimens
18 MHz live mode	High-speed imaging for real time focusing and framing
12 bit x 6 MHz A-D conversion	4096 Brightness levels measured
New 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
PCI Interface	Stable, high-speed interface for PC and Mac platforms is over 50% faster than Firewire™ (IEEE 1394)
SPOT™ Software .... Mac® & Windows® operating systems Basic & Advance Applications, Twain & Apple Event, 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

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RT™ SE6 Monochrome

| ICX285AL with IR Filter | ICX285AL without IR Filter |

Captured Frames per Second*

Binning	REGION OF INTEREST		
	1360 X 1024	512 X 512	256 X 256
1 x 1	3.2	9.9	20.4
2 x 2	6.5	17.7	31.0
3 x 3	9.6	23.4	36.7
4 x 4	12.2	27.7	41.0

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

CCD information:
Sony ICX-285AL with cover glass
Monochrome progressive scan interline CCD
1360 x 1024, 6.45 µm square pixels
8.77mm x 6.60mm active area
100x minimum anti-blooming

CCD grade: Grade 0

CCD Cooling:
CCD cooled to -28ºC from an ambient temperature of 20ºC (-48º differential)

Digitization information:
Digitized pixel by pixel at CCD sensor
Live mode: 8 bit x 18 MHz
Live image frame rate: 15 frames per second at full resolution
Capture mode: 12 bit x 6MHz
(see chart for frame rate)
A/D Converter full scale set to 14,800 e (Gain=1)
Saved bit depths: 8, 12 or 16 bit BW

Noise specifications:
Read noise: 6-8 e rms
Dark noise: 0.012 e/p/s

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

Lens mount: C-mount

Sealing window: UBK7 multilayer anti-reflection coating (RT900)
IR Filter w/ multilayer anti-reflection coating (RT910)

Computer interface: PCI bus card

External shutter control: BNC TTL level output w/programmable delay

Mechanical:
Tripod mount: 1/4 - 20 UNC
Camera head: 4.96" (126mm) x 4.94" (125.5mm) x 4.39" (111.5mm), 3.4 lbs. (1.5 kg)
Power supply: 5.66" (143.7mm) x 7.81" (198.3mm) x 3.60" (91.5mm), 3.3 lbs. (1.5 kg)
Operating environment: 0 to 30˚C ambient, 0-80% relative humidity non-condensing
Power requirements: 85-264 VAC, 47-63 Hz

Certifications: CE, FCC Class A, EN60950

SPOT software features:
Live mode viewing window & controls, auto-exposure live and capture modes, image capture window, predefined and custom image setups, flat field correction, 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 / 1.33MB
12 bit BW / 2.00 MB
16 bit BW / 2.66 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)

Minimum system requirements:
Full size PCI bus slot or PCMCIA 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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Windows ® is a registered trademark of Microsoft.

RT® SE6 Monochrome: Catalog Number: RT900
RT® SE6 Monochrome w/IR Filter: Catalog Number: RT910