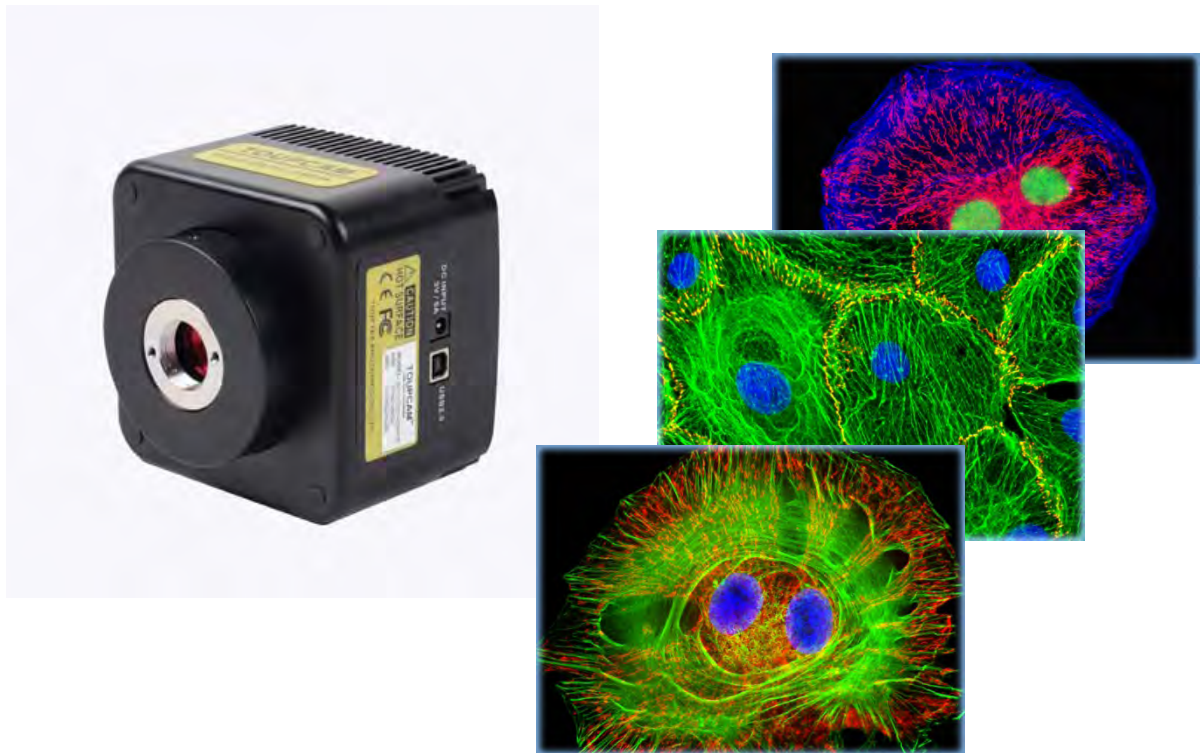


EHD-SCCCD Series Camera

SONY CCD SENSOR & TE-COOLING SYSTEM

USB2.0 | High Resolution | Perfect Color

Ultra-Fine™ Color Engine



Basic Characteristics

- Scientific research grade camera with SONY CCD sensor
- Well-designed high-performance TE-cooling structure
- Up to 20 degrees temperature drop
- Higher S/N ratio
- USB2.0 interface ensuring high speed data transmission
- Supporting up to 4 minutes' long time exposure
- Ultra-Fine™ color engine with perfect color reproduction capability
- Incl. Software with measuring, counting, 3D etc. functions



EHD-5200KPA

5.0MP USB2.0

HARDWARE CONFIGURATION

Image Pickup Device	SONY ICX655AQ CCD(Color)
Scan Mode	Progressive
Max. Resolution	2448 x 2050 (Approx. 5,018,400 Pixels)
Sensor Size (Diagonal)	2/3" (Diagonal 11.016mm)
Pixel Size	3.45μm x 3.45μm
Imaging Area	9.93mm(H) x 8.70mm(V)
G Sensitivity	420mv with 1/30s Accumulation
Dynamic Range	70dB
A/D Converter	12-bit Parallel, 8-bit R.G.B to PC
SN Ratio	72dB
Spectral Range	380-650nm (with IR-cut Filter)
Video Format & Frame Rate	4.3fps @2448 x 2050, 10.5fps @960 x 720 (Multiple Speed Level)
Binning	1 x 1
Exposure	0.22ms~60s, ROI Auto & Manual
White Balance	ROI White Balance/ Manual Temp Tint Adjustment
Color Rendering Technique	Ultra-Fine™ Color Engine
Peak Quantum Efficiency	N/A
Readout Noise	N/A
Extinction Ratio	N/A
Smear	-95dB
Capture/Control API	Native C/C++, C#, DirectShow, Twain and Labview
Recording System	Still Picture and Movie
Cooling System*	TE-cooling System -20 °C below Ambient Temperature

OPERATING ENVIRONMENT

Operating Temperature(in Centidegree)	-10~ 50
Storage Temperature(in Centidegree)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port for Camera External Power Adapter for Cooling System, DC3V, 5A

SOFTWARE ENVIRONMENT

Operating System	Microsoft® Windows® XP / Vista / 7 / 8 (32 & 64 bit) OS X (Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 2GB or More
	USB Port: USB2.0 High-speed Port
	Display: 17" or Larger CD-ROM



EHD-1400KPA

1.4MP USB2.0

HARDWARE CONFIGURATION

Image Pickup Device	SONY ICX285AQ CCD(Color)
Scan Mode	Progressive
Max. Resolution	1360 x 1024 (Approx. 1,400,000 Pixels)
Sensor Size (Diagonal)	2/3" (Diagonal 11mm)
Pixel Size	6.45μm x 6.45μm
Imaging Area	10.2mm(H) x 8.3mm(V)
G Sensitivity	1240mv with 1/30s Accumulation
Dynamic Range	70dB
A/D Converter	12-bit Parallel, 8-bit R.G.B to PC
SN Ratio	75dB
Spectral Range	380-650nm (with IR-cut Filter)
Video Format & Frame Rate	15fps @1360 x 1024(Multiple Speed Level)
Binning	1 x 1
Long Exposure	0.12ms~240s, ROI Auto & Manual
White Balance	ROI White Balance/ Manual Temp Tint Adjustment
Color Rendering Technique	Ultra-Fine™ Color Engine
Peak Quantum Efficiency	N/A
Readout Noise	4.5 e (r.m.s) @ Gain High /5.6 e (r.m.s) @ Gain Low
Extinction Ratio	1 : 2000 @1ms Exposure Time
Smear	-110dB
Linearity	Better than 99%
Capture/Control API	Native C/C++, C#, DirectShow, Twain and Labview
Recording System	Still Picture and Movie
Cooling System	TE-cooling System - 20 °C below Ambient Temperature

OPERATING ENVIRONMENT

Operating Temperature(in Centidegree)	-10~ 50
Storage Temperature(in Centidegree)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port for Camera External Power Adapter for Cooling System, DC3V, 5A

SOFTWARE ENVIRONMENT

Operating System	Microsoft® Windows® XP / Vista / 7 / 8 (32 & 64 bit) OS X (Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 2GB or More
	USB Port: USB2.0 High-speed Port
	Display: 17" or Larger
	CD-ROM



EHD-1400KMA

1.4MP USB2.0

HARDWARE CONFIGURATION

Image Pickup Device	SONY ICX285AL CCD (Monochrome)
Scan Mode	Progressive
Max. Resolution	1360X1024 (Approx. 1,400,000 Pixels)
Sensor Size (Diagonal)	2/3" (Diagonal 11mm)
Pixel Size	6.45 μ m x 6.45 μ m
Imaging Area	10.2mm(H) x 8.3mm(V)
G Sensitivity	1300mv with 1/30s Accumulation
Dynamic Range	70dB
A/D Converter	12-bit Parallel, 8-bit to PC
SN Ratio	62dB
Spectral Range	380-650nm (with IR-cut Filter)
Video Format & Frame Rate	15fps @1360 x 1024(Multiple Speed Level)
Binning	1 x 1
Long Exposure	0.12ms~240s, ROI Auto & Manual
White Balance	N/A
Color Rendering Technique	N/A
Peak Quantum Efficiency	N/A
Readout Noise	4.5 e (r.m.s) @ Gain High /5.6 e (r.m.s) @ Gain Low
Extinction Ratio	1 : 2000 @1ms Exposure Time
Smear	-110dB
Capture/Control API	Native C/C++, C#, DirectShow, Twain and Labview
Recording System	Still Picture and Movie
Cooling System*	TE-cooling System, -20 °C below Ambient Temperature

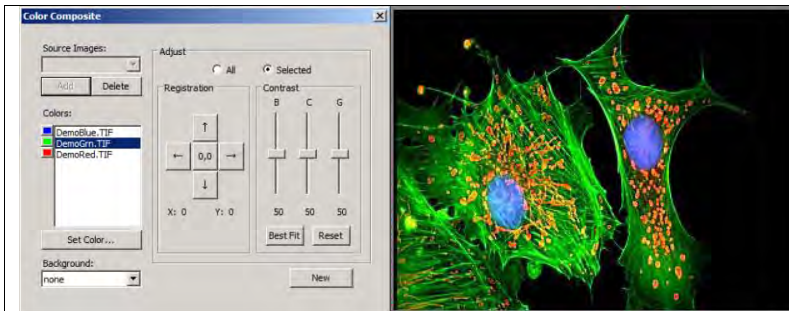
OPERATING ENVIRONMENT

Operating Temperature(in Centidegree)	-10~ 50
Storage Temperature(in Centidegree)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port External Power Adapter for Cooling System, DC3V, 5A

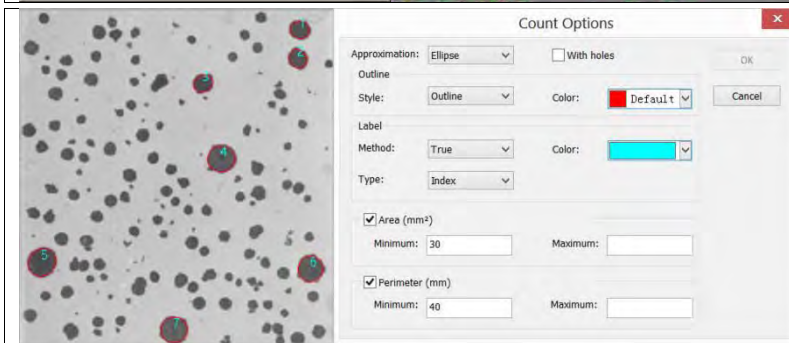
SOFTWARE ENVIRONMENT

Operating System	Microsoft® Windows® XP / Vista / 7 / 8 (32 & 64 bit) OS X (Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 2GB or More
	USB Port: USB2.0 High-speed Port
	Display: 17" or Larger CD-ROM

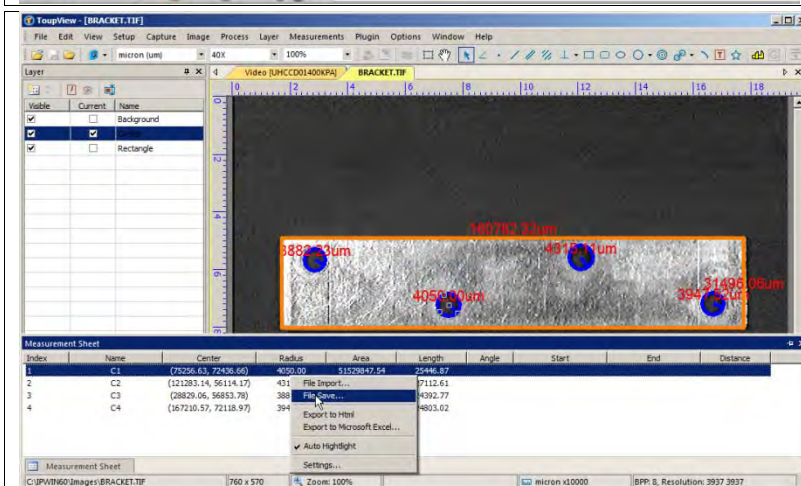
Application software examples:



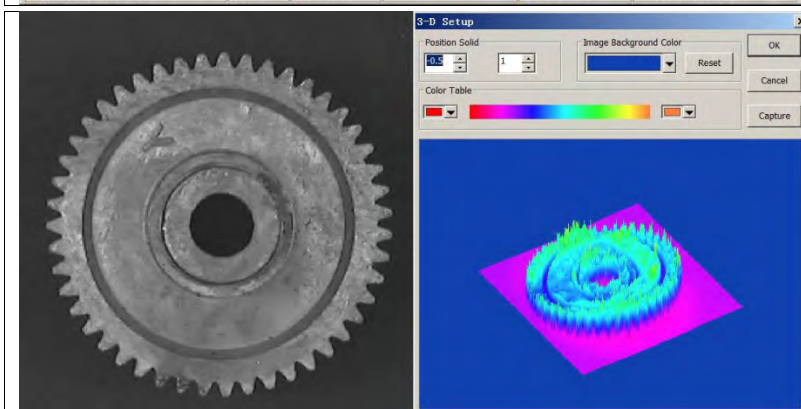
Color Composite
Create and configure color composites using monochrome source images.



Counting
Segmentation and count of the interested image. This function provides users with five methods which are: watershed, OTSU, RGB Histogram, HSV Histogram and color cube.



Measure
Uses layer technique, this will never pollute the image pixels. Many measuring functions are available. Results can be exported as HTML or to EXCEL.



3D Surface plot
Creates a 3D representation of the intensity of the image.