3.2 Megapixel OLYMPUS Q-Color*3*™ IMAGING SYSTEM
High Resolution FireWire™ Digital CCD Color Camera
For Publication and Documentation

The Q-Color3™ digital imaging system delivers high resolution color images for microscopy documentation and publication. The 3.2 Megapixel CCD sensor and 30-bit color digitization produce high quality color images of brightfield, darkfield and fluorescence work. For low light applications, the Q-Color3™ cooled model minimizes thermal noise during long exposure times yielding high quality, low light images. The FireWire™ IEEE 1394 digital interface facilitates use and installation. A single wire connects the camera to the computer (including laptops) for full computer control of the camera. The Q-Color3™ includes QCapture software for Windows® and Mac® based software systems and Adobe® Photoshop® Elements for image enhancements. A Software Development Kit (SDK) is available for interfacing with custom software.

Features	Benefits
3.3 Megapixel CCD Sensor (3.2 active Mpixel)	High resolution images for publication
FireWire™ IEEE 1394 Digital Interface	Ease of use and installation Laptop computer use for portability No framegrabber or external power supply
Full Color Binning up to 4x4	Rapid preview and focus
Region of Interest (ROI) Function	Selection of a specific region within an image through an easy click and draw function on the computer screen
Exposure/Integration Control	Flexible control from 1.6 milliseconds to 18 minutes in 1 microsecond increments
Peltier Cooling on Cooled Model to 10ºC below ambient	Minimizes thermal noise during low light imaging High quality fluorescent images
30-bit Color Digitization	1024 intensity levels per color
Complete Camera Control through Windows® or Mac® desktop or laptop computer	Programmable exposure times, auto exposure, color balance control

Olympus Q-Color3™
High Resolution Color CCD Digital FireWire™ Camera

Technical Specifications

Sensor	Sony ICX252AQ – 8.933mm diagonal – 1" x 1.8" (1/2") optical format
Resolution	2080 x 1542 active pixel resolution, 3.2 Megapixels
CCD Type	**Interlaced***, interline, Bayer color (R,G,B primary color mosaic filters on chip)
Pixel Size	3.45 µ x 3.45 µ
Well capacity	8600 e⁻
Readout noise	9.8 e⁻
S/N ratio	58 dB
Dark current (cooled)	2.3 e⁻/pixel/second
Dark current (uncooled)	9 e⁻/pixel/second
Readout Speed** 8-Bit (default setting) 2x2 binning 3x3 binning 4x4 binning ROI	20 MHz in 8-bit, 10 MHz in 10-bit Full resolution – 5.4 fps Full frame readout time 210 ms (8bit) 420 ms (10-bit) 9.2 fps (8-bit) 4.1 fps (10-bit) in full color 12 fps (8-bit) 6 fps (10-bit) in full color 14 fps (8-bit) 7 fps (10-bit) in full color Region of Interest (up to 100 fps)
Exposure Times	1.6 ms to 17.9 minutes with 1 µ resolution
Cooling (optional)	Approx. 10º C below ambient Reduces dark current during long exposure times
Power	Cooled – 560mA@12V=6.72W Uncooled – 310mA@12V=3.72W The Q-Color3™ can only draw power through a FireWire™ port. An auxiliary power supply cannot be hooked up directly to the Q-Color3™. A PCMCIA FireWire™ card with an auxiliary power supply is required to run the Q-Color3™ on a laptop.
Mounts	Standard C-mount for microscopes or lens Standard camera tripod mount 1 / 4" – 20

Interlaced, interline Bayer color sensor reads 2 fields per frame, reading out odd then even pixels. The 2 fields have equivalent exposure times but not simultaneously. The time difference between the 2 field readouts are 105 ms in 8-bit and 210 ms in 10-bit. The sensor has been designed for capturing still images.

** For fast previewing or focusing, binning modes can be used and then capture in full resolution.