

## More pixels or more speed? Why decide.

Great instruments don't create great science, but they are essential to telling the story. QImaging puts the right tool in your hands when the goal is fast, sensitive imaging and documentation in true plug-and-play fashion. With the QImaging Retiga R3, you get a 2.8 MP platform that will increase the quality of overview images, but capable of signal binning for work at high magnification or increased sensitivity. Fixed or live, time lapse, slide scanning or dynamic cell imaging, the R3 packs the punch you need in an everyday camera your lab will depend on.

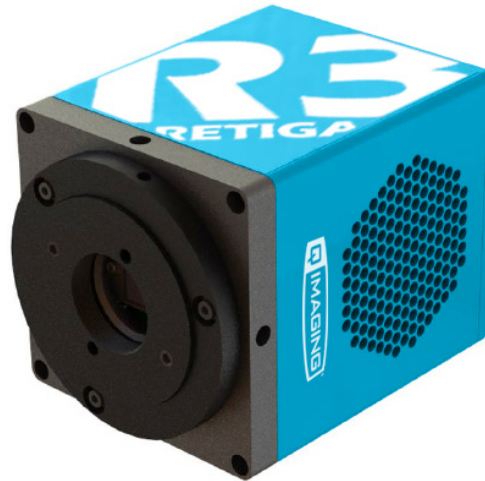
The Retiga R3 has the technical features you require in a scientific camera to improve limits of detection and quantification. More importantly, the camera becomes an intuitive extension of your imaging system, smoothly delivering data from the super speed USB3.0 interface to your computer.

Inside the R3 camera, QImaging introduces Intelligent Quantification™ - on camera intelligence features that correct for defective pixels, remove accumulated dark current and make high dynamic range imaging available. Fast 50 MHz pixel digitization increases camera frame rate to give you all the speed you need for almost any laboratory imaging challenge.

A great camera deserves great software for acquisition - it's the way you interface with your data. Ocular™ is the all new image acquisition platform, that's ready to become your go-to capture program. Based on controls you are already familiar with, it will be love at first click.

Scientific cameras are the cornerstone of the highest performing imaging instruments in a lab. Through careful selection of image sensors and components, the R3 will redefine your expectations, even for routine, applications. You will not find a more capable blend of speed and pixels anywhere else for this price... Call us to demo one today.

## The Retiga R3™: Your Laboratory Workhorse



### imaging needs

### solutions

#### Extreme Low Light Imaging

- 75% peak QE combined with low noise electronics reveals the weak signals missed by industrial cameras
- Increased exposure time and binning enables detection of the faintest signals with deep sensor cooling

#### Rapid Find and Focus

- 50MHz two port readout delivers frame rate for finding, focusing and imaging samples
- Reduce photobleaching and phototoxicity on samples.

#### Flawless Images

- Intelligent Quantification provides advanced real-time FPGA algorithms to deliver better image quality

# RETIGA R3™ Specifications

## ccd sensor

Sensor Type	Sony ICX-674 Scientific Interline CCD (Monochrome or Color)
CCD Array	1920 x 1460
Pixel Size	4.54µm x 4.54µm
Sensor Dimensions	8.8mm x 6.6mm (11mm diagonal)
Peak Quantum Efficiency	75% at 600nm
Full Well Capacity	16,000e <sup>-</sup> single pixel (24,000e <sup>-</sup> with on-chip binning)

## camera

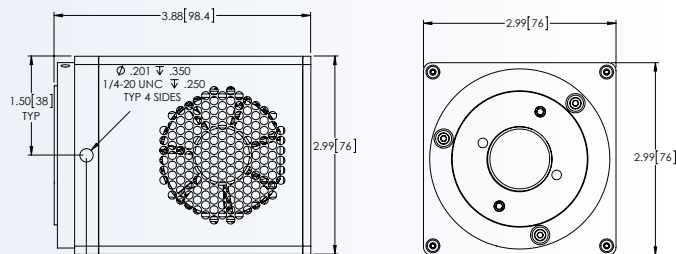
Digital Output	16 bit
Digitization Rate	USB3: 50MHz high frame rate
Read Noise (typical)	5.2e <sup>-</sup> RMS typical
Frame Rate	13.7 fps (full resolution) 21.9 fps (binned 2x2)
Exposure Time Range	25µs - 60min
Supported Binning Modes	1x1, 2x2, 4x4, 6x6, 8x8, 12x12, 16x16, 24x24
Dark Current Rate (typical)	0.00017 e/p/s at -20°C regulated
Sensor Cooling	-20°C stabilized at 22°C ambient Thermoelectric cooling with forced air
Intelligent Quantification Features	Defect correction (nearest neighbor) Dynamic Dark Frame subtraction

## interfacing

Computer Platforms/ Operating Systems	Windows 7 (64 bit), Windows 8 (64 bit) Refer to the QImaging website for the latest list of minimum computer recommendations
Digital Interface	USB3.0 (USB2 compatible at reduced max fps)
Triggering I/O Signals	Trigger In, Expose Out, End-of-Frame, Shutter Out
Supported Triggering Modes	Trigger First, Strobe, Bulb

## mechanical

Optical Interface	1", C-mount optical format
Mounting Hole Thread Size	1/4" - 20 thread, 4 sides
Camera Dimensions	98.4mm x 76mm x 76mm (length x width x height)
Weight	1.55lb, 0.72kg
Power Requirement	12V DC, 5A



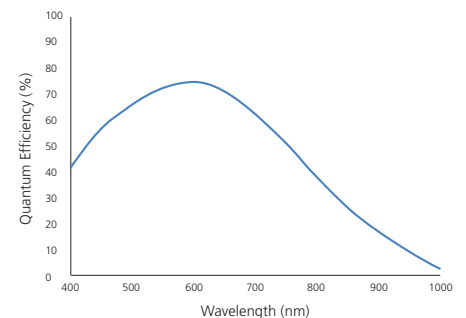
## WHY RETIGA R3?

- **2.8MP** - increase field of view, utilize binning for high magnification
- **Speed** - slide screening, time lapse, live cell or fixed samples
- **Proven technology** - built on Sony ICX674 sensor
- **Feature rich** - cooled, fast frame rate and Intelligent Quantification
- **Ocular** - powerful and intuitive capture software
- **Service** - unparalleled sales and support personnel
- **Everyday workhorse** to handle any laboratory imaging needs

## included

- **Retiga R3 Scientific CCD Camera**  
Model: 01-RET-R3-R-M-16-C (monochrome)  
Model: 01-RET-R3-R-CLR-16-C (color)
- **Power Supply**
- **USB 3.0 Cable**
- **Ocular™ Imaging Software**
- **Access to SDK**
- **Limited Warranty**

## spectral response



Note: Specifications are typical and subject to change.

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