



R1™

RETIGA

Telling the story behind great science

The Retiga R1™: Imaging and Documentation

Great instruments don't create great science, but they are essential to telling the story. Teledyne QImaging puts the right tool in your hands when the goal is fast, sensitive imaging and documentation in true plug-and-play fashion. With features and specifications that you'd expect from a camera twice the price, the performance of the Retiga R1 will help write the tale of your experiments.

The Retiga R1 is packed with advanced technical features that improve limits of detection and quantification. The camera generates large amounts of data, but handles it smoothly via the USB 3.0 interface.

Inside the R1 camera, Teledyne QImaging introduces Intelligent Quantification™ - on camera intelligence features that correct for defective pixels. Fast 50 MHz pixel digitization increases camera frame rate to give you all the speed you need for 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 imaging platform that's ready to become your go-to capture program, built around controls you are already familiar with.

Scientific cameras are the cornerstone of the highest performing imaging instruments in a lab. Through careful selection of image sensors and components, the R1 will redefine your expectations, even for routine, applications. You will not find an easier to use camera on the market anywhere, or a better value for this price. Contact us to see one today.

Imaging Needs	Solutions
Extreme Low Light Imaging	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 50MHz two port readout delivers frame rate for finding, focusing and imaging samples • Reduce photobleaching and phototoxicity on samples.
Flawless Images	<ul style="list-style-type: none"> • Intelligent Quantification provides advanced real-time FPGA algorithms to deliver better image quality

Retiga R1™ Specifications

CCD Sensor

Sensor Type	Sony ICX-825 Scientific Interline CCD
CCD Array	1360 x 1024
Pixel Size	6.45µm x 6.45µm
Sensor Dimensions	8.8mm x 6.6mm (11mm diagonal)
Peak Quantum Efficiency	75% at 600nm
Full Well Capacity	11,000e- single pixel

Camera

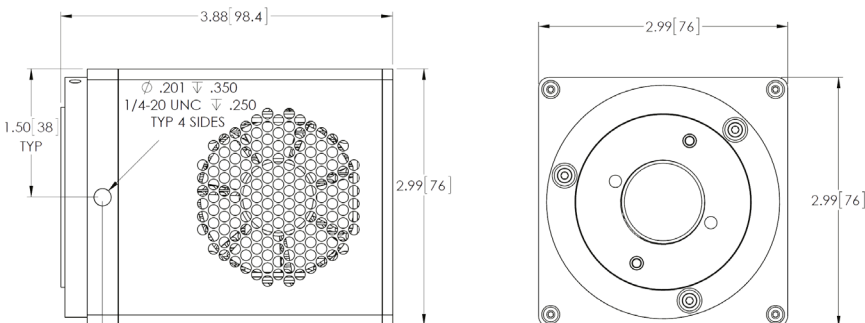
Digital Output	14-bit
Digitization Rate	USB3: 50MHz high frame rate
Read Noise (typical)	<5.5e- RMS
Frame Rate	25 fps at full resolution 40 fps binned 2x2
Exposure Time Range	25µs - 60min
Supported Binning Modes	1x1, 2x2, 4x4, 6x6, 8x8, 12x12, 16x16
Dark Current Rate (typical)	0.001 e/p/s at -15°C regulated
Sensor Cooling	-15°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), Windows 10 (64 bit) Refer to the Teledyne QImaging website for the latest list of minimum computer recommendations
Digital Interface	USB3.0
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	7.5V DC, 2.5A



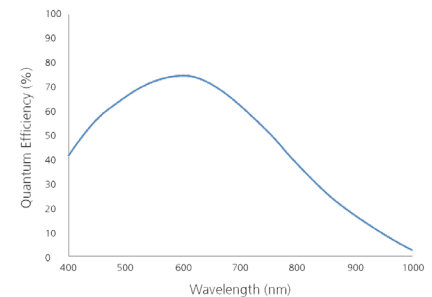
Why Retiga R1™?

- Value - maximize your research budget
- Proven technology - built on Sony ICX825 sensor
- Feature rich- cooled, fast frame rate and Intelligent Quantification
- Ocular- powerful and intuitive capture software
- Service- unparalleled sales and support personnel
- Plug and play and image away

Included

- Retiga R1 Scientific CCD Camera
- Power Supply
- USB 3.0 Cable
- Trigger Cable
- Ocular™ Imaging Software
- Access to SDK
- Two Year Limited Warranty

Spectral response



Note: Specifications are typical and subject to change.

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