



R3™

RETIGA

More pixels or more speed? Why decide.

The Retiga R3™: Your Laboratory Workhorse

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 the Teledyne QImaging Retiga R3, you get a 2.8 MP camera that provides a large field of view for 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 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 R3 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 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, 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 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. 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 R3™ Specifications

CCD Sensor

Sensor Type	Sony ICX-674 Scientific Interline CCD
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	>9,000e- single pixel (>20,000e- with on-chip binning)

Camera

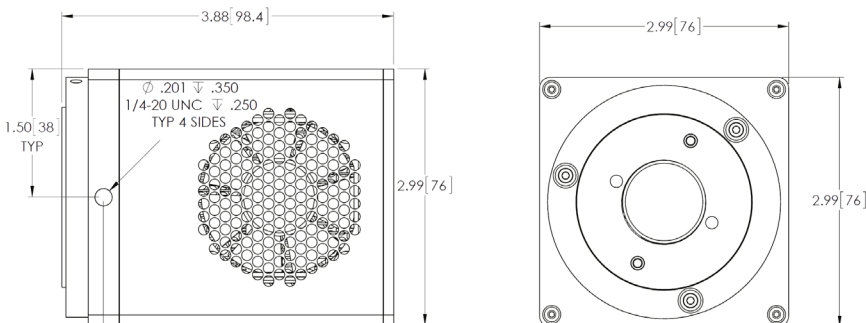
Digital Output	14-bit
Digitization Rate	USB3: 50MHz high frame rate
Read Noise (typical)	<5.5e- RMS
Frame Rate	14.4 fps (full resolution) 24.1 fps (binned 2x2)
Exposure Time Range	25µs - 60min
Supported Binning Modes	1x1, 2x2, 4x4, 6x6, 8x8, 12x12, 16x16
Dark Current Rate (typical)	0.0008 e/p/s at -12°C regulated
Sensor Cooling	-12°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



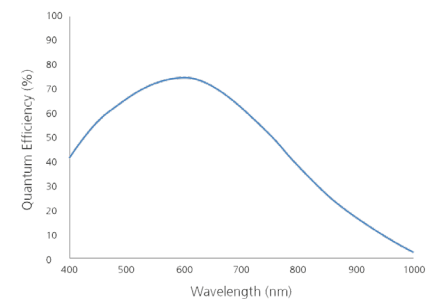
Why Retiga R3™?

- 2.8MP - increase field of view, use binning for high magnification
- Speed - slide scanning, 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
- 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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