# R6™
## RETIGA

# Field-of-view:
# Discover more, faster

## The Retiga R6™:
## When Pixels Matter

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 QImaging Retiga R6, you get a 6.0 MP camera that fits more into your field of view. For time lapse, tile-and-stitch or stereo microscopy, the Retiga R6 will accelerate your discoveries.

The Retiga R6 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 R6 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 the speed you need to handle all the pixels in the Retiga R6.

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.

Scientific cameras are the cornerstone of the highest performing imaging instruments in a lab. Through careful selection of image sensors and components, the R6 will redefine your expectations, even for routine applications. You will not find a more capable large FOV camera on the market for this price. Contact us to trial one today.

| Imaging Needs | Solutions |
|---|---|
| **Extreme Low Light Imaging** | • 75% peak QE combined with low noise electronics reveals the weak signals missed by industrial cameras<br><br>• 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<br><br>• Reduce photobleaching and phototoxicity on samples. |
| **Flawless Images** | • Intelligent Quantification provides advanced real-time FPGA algorithms to deliver better image quality |

**TELEDYNE** IMAGING
Everywhere**you**look™

# Retiga R6™ Specifications

## CCD Sensor

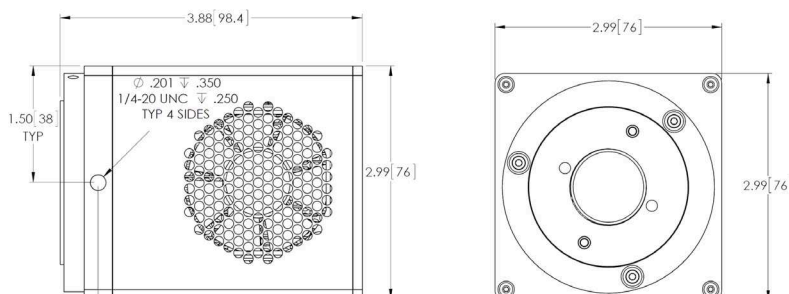| | |
|---|---|
| Sensor Type | Sony ICX-695 Scientific Interline CCD |
| CCD Array | 2688 x 2200 |
| Pixel Size | 4.54µm x 4.54µm |
| Sensor Dimensions | 12.5mm x 10mm (16mm diagonal) |
| Peak Quantum Efficiency | 75% at 600nm |
| Full Well Capacity | >9,000e- single pixel (>20,000e- with on-chip binning) |

## Camera

| | |
|---|---|
| Digital Output | 14-bit |
| Digitization Rate | USB3: 50MHz high frame rate |
| Read Noise (typical) | <5.5e- RMS |
| Frame Rate | 7.1 fps (full resolution)<br>12.8 fps (binned 2x2) |
| Exposure Time Range | 25µs - 60min |
| Supported Binning Modes | 1x1, 2x2, 4x4, 6x6, 8x8, 12x12, 16x16 |
| Dark Current Rate (typical) | 0.0009 e/p/s at -12°C regulated |
| Sensor Cooling | -12°C stabilized at 22°C ambient<br>Thermoelectric cooling with forced air |
| Intelligent Quantification Features | Defect correction (nearest neighbor)<br>Dynamic Dark Frame subtraction |

## Interfacing

| | |
|---|---|
| Computer Platforms/ Operating Systems | Windows 7 (64 bit), Windows 8 (64 bit), Windows 10 (64 bit)<br>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

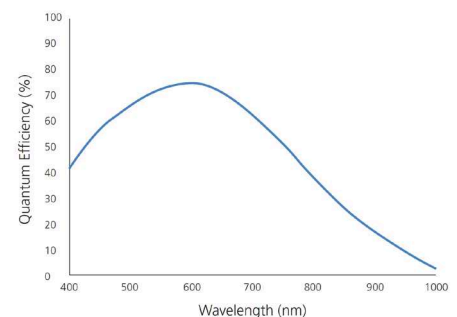| | |
|---|---|
| Optical Interface | 1", C-mount optical format |
| Mounting Hole Thread Size | 1/4" - 20 thread, 4 sides |
| Camera Dimensions | 98.4mm x 76mm x 76mm (length x width x height) |
| Weight | 1.55lb, 0.72kg |
| Power Requirement | 7.5V DC, 2.5A |

## WHY RETIGA R6?

- 6.0MP - incredible field of view

- Ideal camera for slide scanning, time-lapse, tile-and-stitch, stereo microscopy

- Proven technology - built on Sony ICX695 sensor

- Feature rich - cooled, fast focusing and Intelligent Quantification

- Ocular - powerful and intuitive capture software

- Service - unparalleled sales and support personnel

- Accelerate discovery - fit more into each frame

## Included

- Retiga R6 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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