



# ELECTRO<sup>™</sup>

## RETIGA

### High performance imaging for demanding science

#### The Retiga ELECTRO<sup>™</sup>: Designed for electrophysiology

Great instruments don't create great science, but they are essential for telling the story. Teledyne QImaging offers the right tool with the Retiga ELECTRO when that story is based on electrophysiology.

The Retiga ELECTRO is a cooled 1.4MP camera with zero vibration so you can excel at the unique challenges of electrophysiology. The camera's advanced technical features were designed to enable the electrophysiologist careful electrode placement, without exogenous noise that pollute recordings.

This is accomplished by coupling regulated fanless cooling, external grounding and FPGA-based intelligent features that correct defective pixels. The result is the only application-specific camera on the market driven to help you capture your best electrophysiology data.

Inside the ELECTRO, Intelligent Quantification<sup>™</sup> - on camera intelligence features, correct defective pixels. Fast 50 MHz pixel digitization increases camera frame rate to give you the speed you need to adhere electrodes to the right neuron.

A great camera deserves great acquisition software - it's the way you interface with your data. Ocular<sup>™</sup> is Teledyne QImaging's new imaging platform and it's included with the ELECTRO. The software is so easy, it will become your go-to capture program built around controls you are already know.

Scientific cameras are the cornerstone of the highest performing imaging instruments in a lab. Through careful selection of image sensors and components, the ELECTRO will redefine your expectations for the imaging component of your electrophysiology rig. The camera may also be used for more routine fluorescence imaging applications. You will not find a more capable electrophysiology camera on the market for this price. Contact us to trial one today.

Imaging Needs	Solutions
High Performance Low Light Imaging	<ul style="list-style-type: none"> <li>• 75% peak QE combined with low noise electronics reveals the weak signals missed by industrial cameras</li> <li>• Regulated sensor cooling delivers high quality images for precise electrode placement</li> </ul>
Designed for Electrophysiology	<ul style="list-style-type: none"> <li>• 50MHz two port readout delivers a high frame rate needed for electrophysiology</li> <li>• Fanless regulated cooling provides 100% vibration-free imaging</li> <li>• Integrated grounding connection for electrical isolation</li> </ul>
Flawless Images	<ul style="list-style-type: none"> <li>• Intelligent Quantification provides advanced real-time FPGA algorithms to deliver better image quality</li> <li>• Defective Pixel Correction (DPC) corrects hot pixels for high quality images over difficult long exposures</li> </ul>

# Retiga ELECTRO™ Specifications

## CCD Sensor

Sensor Type	Sony ICX-825 Scientific Interline CCD (Monochrome)
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

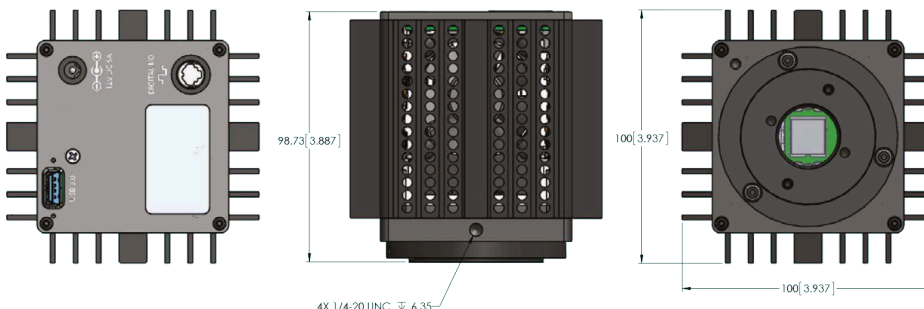
Digital Output	14-bit with 50MHz readout
Digitization Rate	USB3: 50MHz high frame rate
Read Noise (typical)	<5.5e- RMS with 50MHz readout
Frame Rate	22 fps (full resolution) 31 fps (binned 2x2)
Exposure Time Range	25µs - 5 sec
Supported Binning Modes	1x1, 2x2, 4x4, 6x6, 8x8, 12x12, 16x16
Dark Current Rate (typical)	0.036 e/p/s at +15°C regulated
Sensor Cooling	0°C stabilized at 22°C ambient Thermoelectric cooling with convection
Intelligent Quantification Features	DPC- Defective Pixel Correction

## 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



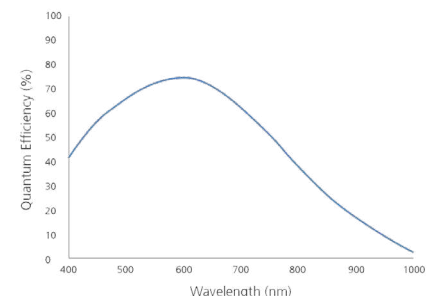
## Why Retiga ELECTRO™?

- 1.4MP imaging sensor
- Built for electrophysiology with zero vibration, regulated cooling, external grounding and active image correction
- Proven technology - built on the brand new high performance ICX825 sensor
- Ocular - powerful and intuitive capture software
- Service - unparalleled sales and support personnel
- Accelerate discovery - fit more into each frame

## Included

- Retiga ELECTRO 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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