ROLERA-XR

High-Performance Near-Infrared IEEE 1394 FireWire™ Digital CCD Camera

The QImaging Rolera-XR digital camera is designed for high-resolution infrared and visible-range scientific and industrial imaging applications. The Rolera-XR spectral range extends to 1000nm in the IR region. High-speed, low-noise electronics provide linear digital data at frame rates up to 120 fps with binning and ROI. The IEEE 1394 FireWire™ digital interface allows ease of use and installation with a single wire. No framegrabber or external power supply is required. The Rolera-XR includes QCapture Pro software (Windows®) for real-time image preview and capture. A Software Development Kit (SDK) is available upon request for interfacing with custom software.

features | benefits
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High Quantum Efficiency | Super high sensitivity for demanding low-light & IR imaging
Large Pixels (12.9μm x 12.9μm) | High sensitivity
High-Speed Readout | Previewing & focusing in real time
| 120fps with 2x2 binning & ROI
| 20fps full resolution
Low-Noise Electronics | Quantitation & imaging of low light levels
Flexible Exposure Control from 10μs to 17.9min | Optimal integration over a wide range of light levels
External Sync & Trigger | Tight synchronization with flashlamps, automated filters, shutters, & microscope stages
ROI (Region of Interest) | Higher frame rates for precise analysis of rapidly changing specimens
Binning | Increases sensitivity for quantitation & imaging of very low light levels
| Increases frame rate
Extended IR Sensitivity | High-performance imaging outside the visible range
IEEE 1394 FireWire™ QImaging Fast 1394 Technology | Simple connectivity
| Ease of use & installation
| Portability with laptop computer
| Simultaneous use of multiple cameras through a single port
| Single-cable operation (no external power supply or control unit)

applications

- Real-Time, Low-Light Infrared Imaging
- IR-DIC
- Surveillance
- Low Light Level Fluorescence
- Wafer Inspection
- Live Cell Imaging
# ROLERA-XR Specifications

## ccd sensor

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light-Sensitive Pixels</td>
<td>696 x 520</td>
</tr>
<tr>
<td>Binning Modes</td>
<td>2x2, 4x4, 8x8</td>
</tr>
<tr>
<td>ROI (Region of Interest)</td>
<td>From 1x1 pixels up to full resolution, continuously variable in single-pixel increments</td>
</tr>
<tr>
<td>Exposure/Integration Control</td>
<td>10μs to 17.9min in 1μs increments</td>
</tr>
<tr>
<td>Sensor Type</td>
<td>VQE3618L progressive-scan interline CCD (monochrome)</td>
</tr>
<tr>
<td>Pixel Size</td>
<td>12.9μm x 12.9μm</td>
</tr>
<tr>
<td>Linear Full Well</td>
<td>22,000e-</td>
</tr>
<tr>
<td>Dark Current</td>
<td>1.78e-/pix/s (non-cooled)</td>
</tr>
<tr>
<td>Cooling Available</td>
<td>Yes (optional)</td>
</tr>
<tr>
<td>Cooling Type</td>
<td>Peltier thermoelectric cooling to 25°C below ambient</td>
</tr>
<tr>
<td>Digital Output</td>
<td>12 bits</td>
</tr>
<tr>
<td>Readout Frequency</td>
<td>20, 10, 5, 2.5MHz</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>20fps full resolution @ 12 bits (165fps maximum with binning and ROI functions)</td>
</tr>
</tbody>
</table>

## camera

- **Computer Platforms/Operating Systems**: Windows® 7, Vista and XP (32/64 bit)
- **Digital Interface**: IEEE 1394 FireWire
- **Shutter Control**: Electronic shutter, no moving parts
- **External Trigger**: TTL Input
- **Trigger Types**: Internal, Software, External
- **External Sync**: TTL Output
- **Gain Control**: 1.0 to 45x
- **Offset Control**: -2048 to 2047
- **Optical Interface**: 2/3", C-mount optical format
- **Threadmount**: 1/4" — 20 mount
- **Power Requirements**: 7W (non-cooled); 13W (cooled); 8-24V
- **Weight**: 635g (non-cooled); 915g (cooled)
- **Warranty**: 2 years
- **Operating Environment**: 0 to 50°C (32 to 122°F)
- **Storage Temperature**: -10 to 60°C
- **Humidity**: Less than 80% non-condensing at 35 °C (95°F)
- **Color Filter Option**: No

## spectral response

### camera models

- **Monochrome Rolera-XR Cooled**
  - Model: ROL-XR-F-M-12-C
- **Monochrome Rolera-XR Non-Cooled**
  - Model: ROL-XR-F-M-12

## camera options

- Extended Warranty

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*Refer to QImaging website for detailed listing of supported operating systems. Note: Specifications are typical and subject to change.*

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