The QImaging® Rolera-MGi back-illuminated EMCCD camera combines >90% QE with the convenience of FireWire IEEE 1394. The Rolera-MGi features the 512 x 512 L3Vision Frame-Transfer EMCCD from e2v Technologies, enabling charge to be multiplied before readout in order to provide fast detection for low-light-level applications. Capable of capturing 300+ frames per second with binning and ROI, the Rolera-MGi allows single-photon detection for applications such as live-cell confocal microscopy.

**camera models**

Includes: IEEE 1394 FireWire cable, IEEE 1394 PCI card, power supply, QCapture Suite software and access to SDK

- Monochrome Rolera-MGi
  Model: ROI-MGi-F-M-14-C

**camera options**

- Extended Warranty

**emccd architecture**

- High Quantum Efficiency
  - Extremely high sensitivity for demanding low-light & fluorescent imaging; up to 90%+ between 500-650nm
- High-Speed Readout
  - Previewing & focusing in real time
  - 300+fps with 6x6 binning and ROI
  - 30fps full resolution @ 14 bits
  - Ideal for automated imaging applications
- Low-Noise Electronics
  - Quantitation & imaging of low light levels
- Flexible Exposure Control
  - Optimal integration over a wide range of light levels
- External Sync & Trigger
  - Tight synchronization with flashlamps, automated filters, shutters, & microscope stages
- Three-Stage Peltier Cooling
  - Reduces thermal noise for low-light long exposures while providing temperature stability
- Binning
  - Increases sensitivity for quantitation & imaging of very low light levels
  - Increases frame rate
- IEEE 1394 FireWire Connection
  - Simple connectivity
  - Better noise performance
  - Excellent connectivity ability
  - Ease of use & installation
  - Portability with laptop computer
  - Simultaneous use of multiple cameras through a single port
- Extensive Application Software Support
  - Choose from a large selection of life science & industrial software for microscopy, machine vision, & video-streaming functions
### emccd sensor

- **Light-Sensitive Pixels**: 512 x 512
- **Binning Modes**: 2, 3, 4, 5, 6 horizontally, arbitrary vertically
- **ROI (Region of Interest)**: From 1x1 pixels up to full resolution, continuously variable in single-pixel increments
- **Exposure/Integration Control**: 10µs to days
- **Sensor Type**: e2v L3Vision CCD97, back-illuminated device
- **Pixel Size**: 16µm x 16µm
- **Linear Full Well**: 240,000e- (1x1); 800,000e- (2x2, non-EM mode)
- **Read Noise**: <1 e- rms in EM mode
- **Dark Current**: 0.5 e-/pix/s
- **Cooling Technology**: Three-stage Peltier cooling, chamber back-filled with nitrogen at atmosphere, assembled in a Class 1,000 cleanroom
- **Cooling Type**: Down to -25°C, regulated, with software control in 1°C increments
- **Digital Output**: 14 bits
- **Readout Frequency**: 10, 5MHz (EM mode); 5, 1MHz (normal mode)
- **Frame Rate**: 30fps full resolution @ 14 bits (300+ maximum with binning and ROI functions)

### camera

- **Computer Platforms/Operating Systems**: Windows**
- **Digital Interface**: IEEE 1394 FireWire
- **External Trigger**: TTL Input
- **Trigger Types**: Internal, Software, External
- **External Sync**: TTL Output
- **EM Gain Control**: 1 to 1000 times (0-4095 DAC control)
- **Normal Gain Control**: 0.5, 1, 2
- **Optical Interface**: 2/3", C-mount optical format
- **Threadmount**: 1/4" – 20 mount
- **Power Requirements**: 96W; 12V
- **Weight**: 3.18kg (7lbs)
- **Warranty**: 2 years
- **Operating Environment**: 0 to 30˚C, 80% relative humidity non-condensing
- **Storage Temperature**: -20 to 60˚C

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<Refer to QImaging website for detailed listing of supported operating systems.>

**Note**: Specifications are nominal and subject to change.

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Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Other brand and product names are the trademarks or registered trademarks of their respective owners and manufacturers.

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### applications

- Spinning-Disk Confocal Microscopy
- Dynamic Ratio Imaging (e.g., pH, Low-Concentration Flux)
- FRAP (Fluorescence Recovery After Photobleaching)
- Live-Cell Fluorescent Protein Imaging

### spectral response