QIMAGING®

DIGITAL IMAGING MADE EASY

QICAM FAST1394

High-Performance IEEE 1394 FireWire™ Digital CCD Camera

Monochrome or Color

The **QImaging QICAM** digital camera is designed for high-resolution, brightfield scientific and industrial applications. A progressive-scan interline CCD sensor gives a resolution of 1.4 million pixels in a 12-bit digital output. High-speed, lownoise electronics provide linear digital data at frame rates up to 110 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 QICAM includes QCapture software (Windows® and Mac OS) for real-time image preview and capture. A Software Development Kit (SDK) is available upon request for interfacing with custom software.

applications

- **Brightfield and Phase-Contrast Microscopy**
- **Live-Cell Imaging**
- **Pathology, Histology, & Cytology**
- **Motility & Motion Analysis**
- **DNA Analysis**
- **Metallurgical Microscopy**
- **Semiconductor Inspection**
- **Failure Analysis**
- **Forensic Analysis**

High-Performance Digital CCD Camera

QI series

features	benefits
High-Resolution, 1.4-Million-Pixel Sensor	- Highly detailed, sharp images
High-Speed Readout	- Previewing & focusing in real time - 165fps maximum frame rate - 110fps with 4x4 binning & RO - 10fps full resolution - Ideal for automated imaging applications
Flexible Exposure Control from 12μs to 17.9min	- Optimal integration over a wide range of light levels
12-Bit Digitization/ 36-Bit Color Digitization	- 4096 grey levels for precise light-intensity discrimination - 4096 levels per channel for superior color images
External Sync & Trigger	- Tight synchronization with flashlamps, automated filters, shutters, & microscope stage
Peltier Cooling	- Minimizes thermal noise during low-light imaging
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
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)
Extensive Third-Party Software Support	- Choose from a large selection of life science & industrial software for microscopy, machine vision, & video-streaming applications

QICAM Specifications

ccd sensor

Light-Sensitive Pixels	1.4 million; 1392 x 1040
Binning Modes	2x2, 4x4 8x8
ROI (Region of Interest)	From 1x1 pixels up to full resolution, continuously variable in single-pixel increments
Exposure/Integration Control	12µs to 17.9min in 1µs increments
Sensor Type	Sony® ICX205 progressive-scan interline CCD (monochrome or color)
Pixel Size	4.65µm x 4.65µm
Linear Full Well	10,000e-
Read Noise	12e-
Cooling Available	Yes (optional)
Cooling Type	Peltier thermoelectric cooling to 25°C below ambient
Digital Output	12 bits
Readout Frequency	20, 10, 5, 2.5MHz
Frame Rate	10fps full resolution @ 12 bits (165fps maximum with binning and ROI)

camera

Computer Platforms/ Operating Systems	Windows® 7, Vista and XP (32/64 bit)
Digital Interface	IEEE 1394 FireWire™
Sustained Data Rate	40MB/s
Shutter Control	Electronic shutter, no moving parts
External Trigger	TTL Input
Trigger Types	Internal, Software, External
External Sync	TTL Input
Gain Control	0.6 to 15x
Offset Control	-2048 to 2047
Optical Interface	1/2", C-mount optical format
Threadmount	1/4" — 20 mount
Power Requirements	6W (non-cooled); 11W (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)

camera models

Includes: IEEE 1394 FireWire™ cable, IEEE 1394 PCIe card, QCapture software, and access to SDK

- **Monochrome QICAM Cooled**
  Model: QIC-F-M-12-C

- **Monochrome QICAM Non-Cooled**
  Model: QIC-F-M-12

  CCD Digital Camera, 12 Bits

- **Color QICAM Cooled**
  Model: QIC-F-CLR-12-C

- **Color QICAM Non-Cooled**
  Model: QIC-F-CLR-12
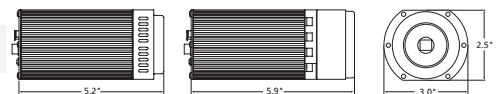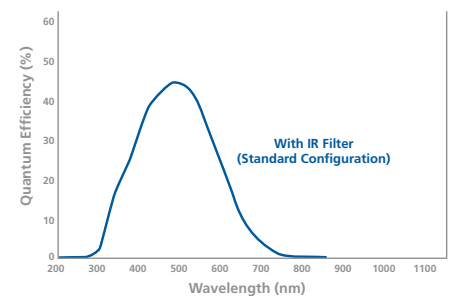
  CCD Digital Camera, 12 Bits

camera options

- **RGB Color Filter**
  for monochrome cameras (F-mount interface required), refer to data sheet for more details

- **Extended Warranty**

spectral response

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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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