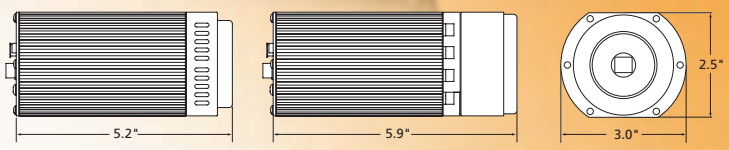
High Performance Digital Imaging **made easy**

QICAM FAST 1394

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, low-noise 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.



Note: Lenses are shown for illustration only and are not included.

CAMERA MODELS

*Includes: **IEEE 1394 FireWire™ cable, IEEE 1394 PCI card, QCapture software, & 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 spec sheet for more details

- **Extended Warranty**

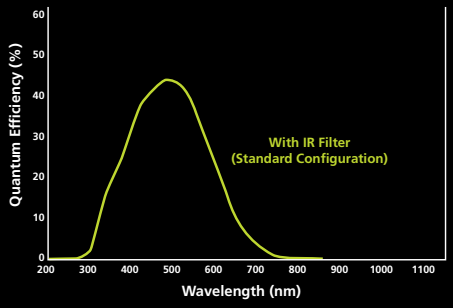
FEATURES	BENEFITS
High-Resolution, 1.4-Million-Pixel Sensor	▪ Highly detailed, sharp images
High-Speed Readout	▪ Previewing & focusing in real time ▪ 165fps maximum frame rate ▪ 110fps with 4x4 binning & ROI ▪ 10fps full resolution ▪ Ideal for automated imaging applications
Flexible Exposure Control 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 stages
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 FAST1394 SPECIFICATIONS

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

SPECTRAL RESPONSE



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® & Mac OS**
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 Output
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	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)

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

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