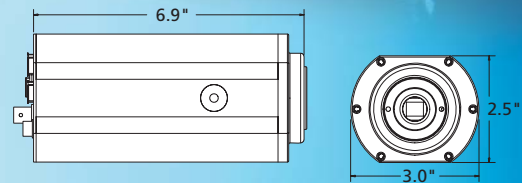


INTENSIFIED RETIGA *FAST1394*

Monochrome Super High Sensitivity, Intensified IEEE 1394 FireWire™ Digital CCD Camera

The QImaging Intensified Retiga digital camera system is a megapixel high quantum efficiency intensified 12-bit FireWire camera for demanding low-light and high-speed imaging applications. The Intensified Retiga utilizes an 18mm Gen III image intensifier with high-speed intensifier gate control for nanosecond exposures. The intensifier is fiber-optically coupled to a 2/3 inch, 1.4 megapixel high QE progressive scan interline CCD. The IEEE 1394 FireWire™ digital interface allows ease of use and installation with a single wire requiring no frame-grabber or external power supply. The Intensified Retiga includes QCapture Software for Microsoft Windows® and Mac® OS based systems for real time image preview and capture. A **Software Development Kit (SDK)** is available upon request for interfacing with custom software.



Note: Lens is shown for illustration only and is not included.

CAMERA MODELS

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

- Extended Blue Gen III Intensified Retiga Monochrome Non-cooled

Model: INT-RET-F-BLUE
GaAs photocathode Extended Blue
– from 350nm to 900nm

- Standard Gen III Intensified Retiga Monochrome Non-cooled

Model: INT-RET-F
GaAs photocathode
– from 475nm to 900nm

CAMERA OPTIONS

- RGB Color Filter

for monochrome cameras (F-mount interface required)
Refer to spec sheet for more details



- Extended Warranty

FEATURES

High Quantum Efficiency & Luminous Gain up to 80,000

High Speed Readout

Low Noise Electronics

High Dynamic Range

Flexible Exposure Control from 50ns to 17.9 min.

12-bit digitization

Very Short Exposure Time Capability

Extended Blue Sensitivity

IEEE 1394 FireWire™ QImaging Fast 1394 Technology

Integrated Gen III Intensifier

User Controlled Exposure & Gate Controls

BENEFITS

- Super high sensitivity for demanding low-light, fluorescent imaging and detection of single photon events

- Previewing & focusing in real time
- 10fps full resolution @ 12-bits
- 85fps in 2x2 binning & ROI
- Precise analysis of rapidly changing specimens

- Quantitation & imaging of wide ranges of light levels

- Accurate quantitation of wide ranges of light levels

- Optimal Integration over a wide range of light levels

- 4096 grey levels for precise light intensity discrimination

- Capture of high-speed events without distortion or blurring

- High sensitivity down to 300nm

- 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

- Out-of-the-box intensified imaging
- No finicky lens couplers required
- No external gate control required

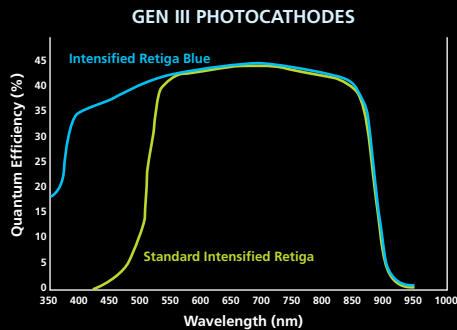
- Capability to capture complex exposure sequences
- Capture of multiple events in a single frame

INTENSIFIED RETIGA FAST1394 SPECIFICATIONS

APPLICATIONS

- High Speed, Low Light Imaging
- Low Excitation Fluorescence Microscopy
- Chemiluminescence
- Bioluminescence
- Single Molecule Fluorescence
- Flow Analysis
- Stop Action Imaging

SPECTRAL RESPONSE



INTENSIFIER

Type	18mm Gen III image intensifier tube fiber-optically coupled to CCD
Sensitivity	Extended Blue: sensitive from 350nm to 900nm; > 40% QE at 500nm Standard: sensitive from 475nm to 900nm; > 40% QE at 550nm
Intensifier Luminous Gain	Up to 80,000
Intensifier Gate Control Electronics	External TTL or internally controlled
Independent Trigger & Gate Control	Allows multiple high-speed exposures within a single frame
Gating Pulse	From 50ns to 17.9 min. in 50ns increments

CCD SENSOR

Type	2/3" ICX285 progressive scan interline CCD monochrome
Light Sensitive Pixels	1.4 million; 1392 x 1040
▪ Size	6.45µm x 6.45µm
▪ Quantum Efficiency	70% at 545nm
Digital Output	12-bit
Readout Frequency	20, 10, 5, 2.5MHz
Frame Rate	10fps full resolution @ 12-bits, higher speeds with binning and ROI
Gain Control	0.7 to 30 times
Offset Control	Controlled in software
Binning Modes	2x2, 4x4, 8x8
ROI (Region of Interest Selection)	From 1x1 pixels up to full resolution, continuously variable in single pixel increments
External Trigger/Sync	Optically coupled TTL input / TTL output

CAMERA

Computer Platform/Operating Systems	Microsoft Windows® & Mac® OS*
Digital Interface	IEEE 1394 FireWire™
Sustained Image Data Rate	40MB/s**
Optical Interface	C-mount, 18mm image format
Thread Mount	1/4" – 20 mount
Weight	800g
Warranty	2 years warranty on camera and 1 year warranty on intensifier.***

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

**20MB/s when used with Mac® OS.

*** Special restrictions apply for the Intensifier Tube. Refer to the QImaging Warranty.

Note: Specifications are nominal and subject to change.

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