

RETIGA-SRV *FAST1394*

Deep-Cooled, High-Sensitivity IEEE 1394 FireWire® Digital CCD Camera

The **QImaging® Retiga-SRV** CCD digital camera has been specially engineered for low-light, high-speed, high-sensitivity applications. A three-stage Peltier device and an all-metal, hermetic-vacuum-sealed CCD chamber provide state-of-the-art cooling to -30°C; the camera's software-selectable, regulated cooling enables precise control in single-degree increments. The Retiga-SRV features a 1.4-megapixel CCD, 12-bit digital output, and an IEEE 1394 interface for enhanced connectivity and noise-shielding performance. Additionally, the camera comes with iGlo™ Technology, which features an Organic Light Emitting Diode (OLED) display that provides users with key information about camera settings in a convenient, ergonomic way.

camera models

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

■ Monochrome Retiga-SRV:

Model: RET-SRV-F-M-12-C

camera options

- Removable IR-Cutoff Filter
- RGB Color Filter for monochrome cameras (F-mount interface required), refer to data sheet for more details
- Extended Warranty



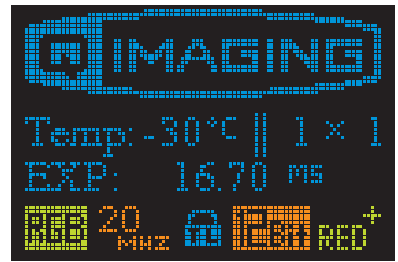
Note: Lens shown for illustration only and is not included.

| features | benefits |
|---|---|
| iGlo™ | <ul style="list-style-type: none"> ■ OLED display for easy-to-verify key camera information in a simple, ergonomic design |
| Black-Out Mode | <ul style="list-style-type: none"> ■ Turns all lights off for low-light imaging applications |
| High Quantum Efficiency | <ul style="list-style-type: none"> ■ Very high sensitivity for demanding low-light & fluorescent imaging; "High Sensitivity" mode provides increased QE in the 500 to 1000nm spectral range and is easily switched on/off through software control |
| High-Resolution, 1.4-Million-Pixel Sensor | <ul style="list-style-type: none"> ■ Highly detailed, sharp images |
| High-Speed Readout | <ul style="list-style-type: none"> ■ Previewing & focusing in real time ■ 110fps with 8x8 binning & ROI ■ 11fps full resolution @ 12 bits ■ Ideal for automated imaging applications |
| Low-Noise Electronics | <ul style="list-style-type: none"> ■ Quantitation & imaging of low light levels |
| Optional/Removable IR-Cutoff Filter | <ul style="list-style-type: none"> ■ High-contrast visible-range images with IR filter in place ■ Removable for IR applications |
| Flexible Exposure Control from 1µs to 17.9min | <ul style="list-style-type: none"> ■ Optimal integration over a wide range of light levels |
| External Sync & Trigger | <ul style="list-style-type: none"> ■ Tight synchronization with flashlamps, automated filters, shutters, & microscope stages |
| Three-Stage Peltier Cooling w/ Vacuum Seal | <ul style="list-style-type: none"> ■ Reduced thermal noise for low-light, long exposures |
| Binning | <ul style="list-style-type: none"> ■ Increases sensitivity for quantitation & imaging of very low light levels ■ Increases frame rate |
| Extended IR Sensitivity | <ul style="list-style-type: none"> ■ High-performance imaging outside the visible range |
| IEEE 1394 FireWire Connection | <ul style="list-style-type: none"> ■ 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 | <ul style="list-style-type: none"> ■ Choose from a large selection of life science & industrial software for microscopy, machine vision, & video-streaming functions |

RETIGA-SRV FAST1394 Specifications

| ccd sensor | |
|------------------------------|--|
| Enhanced Sensitivity | Software controlled to provide enhanced QE from 500 to 1000nm |
| 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 | 1µs to 17.9min in 1µs increments |
| Sensor Type | Sony® ICX285 progressive-scan interline CCD (monochrome or color) |
| Pixel Size | 6.45µm x 6.45µm |
| Linear Full Well | 18,000e- (22,000e- with 2x2 binning) |
| Read Noise | 8e- |
| Dark Current | 0.05e-/pix/s |
| Cooling Technology | Three-stage Peltier cooling with all-metal hermetic-vacuum-sealed chamber assembled in a Class 1,000 cleanroom |
| Cooling Type | Down to -30°C, regulated, with software control in 1°C increments |
| Digital Output | 12 bits |
| Readout Frequency | 20, 10, 5MHz |
| Frame Rate | 11fps full resolution @ 12 bits (165fps maximum with binning and ROI functions) |

| camera | |
|---------------------------------------|---|
| Black-Out Mode | Turns all camera lights off to reduce light reflection during low-light applications; software controlled |
| iGlo™ Display | Provides key camera information to the user, allowing easy verification of camera settings |
| Computer Platforms/ Operating Systems | Windows® & Mac OS* |
| Digital Interface | IEEE 1394 FireWire |
| External Trigger | TTL Input (optically coupled) |
| Trigger Types | Internal, Software, External |
| External Sync | TTL Output (optically coupled) |
| Gain Control | 0.817 to 39 times |
| Offset Control | -2048 to 2047 |
| Optical Interface | 2/3", C-mount optical format |
| Threadmount | 1/4" – 20 mount |
| Power Requirements | 30W; 12–24VDC |
| Weight | 1.1kg |
| Warranty | 2 years |
| Operating Environment | 10 to 40°C |
| Storage Temperature | -10 to 50°C |
| Humidity | Less than 50% relative humidity |

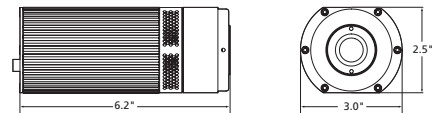
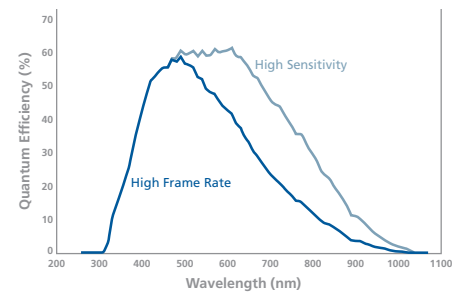


iGlo™ Technology features essential information about camera settings.

applications

- Quantitative Fluorescence Microscopy
- FRET
- Live-Cell Fluorescent Protein Imaging
- Ratiometric Analysis (Ca²⁺, pH, etc.)
- Whole Animal Fluorescence
- FRAP
- FISH

spectral response



ISO 9001:2000



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

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