MVIA, Inc
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Scientific Imaging

HIGH PERFORMANCE DIGITAL IMAGING
made easy

SCIMAX

Very High Sensitivity IEEE 1394 FireWire™ Digital CCD Camera – Monochrome or Color

The MVIA SCIMAX CCD digital camera features enhanced visible and IR quantum efficiency resulting in very high sensitivity that is ideal for demanding low light and fluorescence imaging 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 for rapid image capture. The IEEE 1394 FireWire™ digital interface allows ease of use and installation with a single wire requiring no framegrabber or external power supply. The **SCIMAX i**ncludes Capture Software for for Microsoft Windows® and Mac® OS based software systems for real time image preview and capture. A **Software Development Kit (SDK)** is available 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, Capture software and access to SDK***

- **Monochrome SCIMAX Cooled** Model: SCIMAX-M-12-C
- **Monochrome SCIMAX Non-cooled** Model: SCIMAX-M-12
  CCD Digital Camera, 12-bit

- **Color SCIMAX Cooled**
  Model: SCIMAX-CLR-12-C
- **Color SCIMAX Non-cooled**
  Model: SCIMAX-CLR-12
  CCD Digital Camera, 12-bit

CAMERA OPTIONS

- Removable **IR cutoff filter**

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

- **Extended Warranty**

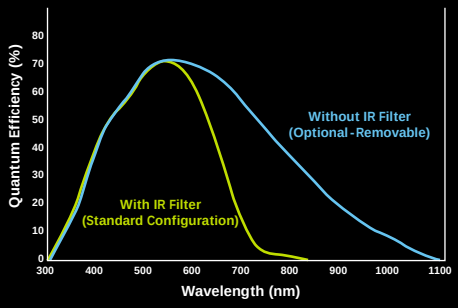
FEATURES	BENEFITS
High Quantum Efficiency	■ Very high sensitivity for demanding low-light & fluorescent imaging
High Resolution 1.4 Million pixel sensor	■ Highly detailed, sharp images
High Speed Readout	■ Previewing & focusing in real time ■ 110fps in 8x8 binning & ROI ■ 10fps full resolution @ 12-bits ■ Ideal for automated imaging applications
Low Noise Electronics	■ Quantitation & imaging of low light levels
Optional/Removable IR cutoff filter	■ Highly focused visible range images with IR filter in place, and removable for IR applications
Flexible Exposure Control from 40µs to 17.9min	■ Optimal Integration over a wide range of light levels
External Sync and Trigger	■ Tight synchronization with flashlamps, automated filters, shutters & microscope stages
Peltier Cooling	■ Minimizes thermal noise during low light, long exposure imaging
Binning	■ Increased sensitivity for quantitation & imaging of very low light levels ■ Increased frame rate
Extended IR Sensitivity	■ High performance imaging outside the visible range
IEEE 1394 FireWire™ MVIA 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 application software support	■ Choose from a large selection of life science & industrial software for microscopy, machine vision, and video streaming functions

SCIMAX SPECIFICATIONS

APPLICATIONS

- Brightfield, Phase Contrast and Dark-field Microscopy
- Fluorescence Microscopy
- Live Cell Imaging
- Pathology, Histology, Cytology
- Green Fluorescent Protein (GFP) Application
- FISH
- Ca^{++} Ratio Analysis
- Motility and Motion Analysis
- DNA Analysis
- Metallurgical Microscopy
- Semiconductor Inspection
- Manufacturing Quality Control
- Failure Analysis
- Forensic Analysis

SPECTRAL RESPONSE



CCD SENSOR	
Light Sensitive Pixels	1.4 million; 1360 x 1036
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	40µs to 17.9min in 1 µs increments
Sensor Type	Sony ICX285 Progressive Scan Interline CCD, Monochrome or Colour
Pixel Size	6.45µm x 6.45µm
Linear Full Well	18,000e^-; 22,000e^- in 2x2 binning
Read noise	8e^-
Dark Current	0.15e^-/pix/s cooled
Cooling Available	Yes (optional)
Cooling Type	Peltier thermoelectric cooling to 25 degrees Celsius below ambient
Digital Output	12-bit
Readout Frequency	20, 10, 5, 2.5MHz
Frame Rate	10fps full resolution @ 12-bits, higher speeds with binning and ROI functions
CAMERA	
Computer Platform/Operating System	Microsoft Windows® & Mac® OS*
Digital Interface	IEEE 1394 FireWire™
Sustained Image Data Rate	40MB/s**
External Trigger	TTL Input (optically coupled)
Trigger Types	Internal, Software, External
External Sync	TTL Output (optically coupled)
Gain Control	0.7 to 23 times
Offset Control	Controlled in software
Optical Interface	2/3", C-Mount optical format
Threadmount	1/4" – 20 Mount
Power Requirements	6 watts non-cooled; 11 watts cooled; 8-24V
Weight	595g non-cooled; cooled 865g
Warranty	2 years
Operating environment	0 to 35 degrees Celsius (32 to 95F)
Humidity	Less than 80% at 35 degrees Celsius (95F)

**Refer to MVIA website for detailed listing of supported operating systems.*
***20MB/s when used with Mac® OS.*
Note: Specifications are nominal and subject to change.

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