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 includes 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

FEATURES

High Quantum Efficiency
High Resolution 1.4 Million pixel sensor
High Speed Readout
Low Noise Electronics
Optional/Removable IR cutoff filter
Flexible Exposure Control from 40µs to 17.9min
External Sync and Trigger
Peltier Cooling
Binning
Extended IR Sensitivity
IEEE 1394 FireWire™ MVIA Fast 1394 Technology

BENEFITS

■ Very high sensitivity for demanding low-light & fluorescent imaging
■ Highly detailed, sharp images
■ Previewing & focusing in real time
■ 110fps in 8x8 binning & ROI
■ 10fps full resolution @ 12-bits
■ Ideal for automated imaging applications
■ Quantitation & imaging of low light levels
■ Highly focused visible range images with IR filter in place, and removable for IR applications
■ Optimal Integration over a wide range of light levels
■ Tight synchronization with flashlamps, automated filters, shutters & microscope stages
■ Minimizes thermal noise during low light, long exposure imaging
■ Increased sensitivity for quantitation & imaging of very low light levels
■ Increased frame rate
■ High performance imaging outside the visible range
■ 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
■ Choose from a large selection of life science & industrial software for microscopy, machine vision, and video streaming functions

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

SCIMAX cooled
SCIMAX (non-cooled)
**SCIMAX SPECIFICATIONS**

### CCD SENSOR

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Sensitive Pixels</td>
<td>1.4 million; 1360 x 1036</td>
</tr>
<tr>
<td>Binning Modes</td>
<td>2x2, 4x4, 8x8</td>
</tr>
<tr>
<td>ROI (Region Of Interest)</td>
<td>From 1x1 pixels up to full resolution, continuously variable in single pixel increments</td>
</tr>
<tr>
<td>Exposure/Integration Control</td>
<td>40µs to 17.9min in 1 µs increments</td>
</tr>
<tr>
<td>Sensor Type</td>
<td>Sony ICX285 Progressive Scan Interline CCD, Monochrome or Colour</td>
</tr>
<tr>
<td>Pixel Size</td>
<td>6.45µm x 6.45µm</td>
</tr>
<tr>
<td>Linear Full Well</td>
<td>18,000e-; 22,000e- in 2x2 binning</td>
</tr>
<tr>
<td>Read noise</td>
<td>8e-</td>
</tr>
<tr>
<td>Dark Current</td>
<td>0.15e/pix/s cooled</td>
</tr>
<tr>
<td>Cooling Available</td>
<td>Yes (optional)</td>
</tr>
<tr>
<td>Cooling Type</td>
<td>Peltier thermoelectric cooling to 25 degrees Celsius below ambient</td>
</tr>
<tr>
<td>Digital Output</td>
<td>12-bit</td>
</tr>
<tr>
<td>Readout Frequency</td>
<td>20, 10, 5, 2.5MHz</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>10fps full resolution @ 12-bits, higher speeds with binning and ROI functions</td>
</tr>
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</table>

### CAMERA

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Platform/Operating System</td>
<td>Microsoft Windows® &amp; Mac® OS*</td>
</tr>
<tr>
<td>Digital Interface</td>
<td>IEEE 1394 FireWire®</td>
</tr>
<tr>
<td>Sustained Image Data Rate</td>
<td>40MB/s**</td>
</tr>
<tr>
<td>External Trigger</td>
<td>TTL Input (optically coupled)</td>
</tr>
<tr>
<td>Trigger Types</td>
<td>Internal, Software, External</td>
</tr>
<tr>
<td>External Sync</td>
<td>TTL Output (optically coupled)</td>
</tr>
<tr>
<td>Gain Control</td>
<td>0.7 to 23 times</td>
</tr>
<tr>
<td>Offset Control</td>
<td>Controlled in software</td>
</tr>
<tr>
<td>Optical Interface</td>
<td>2/3”, C-Mount optical format</td>
</tr>
<tr>
<td>Threadmount</td>
<td>1/4”; - 20 M. Mount</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>6 watts non-cooled; 11 watts cooled; B-24V</td>
</tr>
<tr>
<td>Weight</td>
<td>595g non-cooled; cooled 865g</td>
</tr>
<tr>
<td>Warranty</td>
<td>2 years</td>
</tr>
<tr>
<td>Operating environment</td>
<td>0 to 35 degrees Celsius (32 to 95F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>Less than 80% at 35 degrees Celsius (95F)</td>
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</tbody>
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*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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**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**

- With IR Filter (Standard Configuration)
- Without IR Filter (Optional - Removable)

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MVIA Scientific Imaging