

FocusScope SV200-i

Designed specifically for high speed microscopy, the *FocusScope SV200-i* incorporates the latest Generation III image intensifier technology to offer enhanced image resolution and broad spectral response



Providing recording rates of up to 2,000fps at 512x512 pixel image resolution the FocusScope SV200-i utilizes the high resolution performance and broad spectral response of Generation III image intensifier technology to provide an integrated imaging solution for high speed microscopy applications.

To obtain the highest optical efficiency the FocusScope SV200-i camera head incorporates a 512x512 pixel advanced CMOS imaging sensor fiber-optically coupled to an 18mm Generation III image intensifier module. The camera head provides a C-mount thread for attachment to standard optical microscopes and objective lenses. Image intensifier controls are conveniently located on the camera head.

A single 6 meter cable connects the SV200-i camera head to a standard PCI format control card. Incorporated on the control card is 2.6GB recording memory allowing a recording time of 8.2 seconds at 1,000fps with 512x512 pixel image resolution.

System control is achieved through Photron *FASTCAM* Viewer software providing an intuitive operation environment. *FASTCAM* SDK software provided with the system allows user specific control commands to be integrated within other environments.

FEATURES

- ❑ System designed for extreme low light fluorescence and microscope recording at high frame rates.
- ❑ Advanced CMOS imaging sensor offering 512 x 512 pixel image resolution at frame rates up to 2,000frames per second.
- ❑ 10 bit sensor dynamic range.
- ❑ Global electronic shutter providing exposure durations from 1/frame rate to 4 μ s independent of frame rate.
- ❑ Extreme light sensitivity provided through a fiber optically coupled Generation III high resolution image intensifier. [luminous gain 2.2×10^4 (lm/m²)/lx]
- ❑ GaAsP photocathode providing broad spectral response over the range 280 – 720nm (peak sensitivity 530nm).
- ❑ Intensifier over brightness protection through phosphor surface current detection.
- ❑ Small and lightweight camera head suitable for integration with standard optical microscopes.
- ❑ User selectable Start, Centre, End and Manual trigger modes.
- ❑ Integrated system operation through *FASTCAM* Viewer control software and *FASTCAM* SDK.

Photron

Sensor, Camera and Control/Memory Card:

Frame Rate (fps)	Max. Image Resolution (pixels)	Exposure Time	Recording Time (seconds)	Recording Time (frames)
60	512 x 512	1/frame rate to 4µs	136.5	8,192
125			65.3	
250			32.8	
500			16.4	
1,000			8.2	
2,000			4.1	

Sensor Advanced CMOS, 512 x 512 pixels, 10 bits, monochrome
Sensor size 2/3 inch (pixel size 16µm x 16µm)
Frame rate 60 to 2,000fps at full pixel resolution
Shutter Global electronic shutter from 1/frame rate to 4µs (independent of frame rate)
Sensor Gain x1, x2, x4 or x8 selectable through software
Lens mounting C mount
Live image display On PC monitor
External Sync. Enables cameras to be synchronized precisely together to a master camera or external source
Timing Internal clock or external source
Triggering Selectable positive or negative TTL 5Vp-p, switch closure
Recording Modes Start, End, Center, Manual, Random, Random Reset, Random Center, Random Manual
Recording Memory 2.6GB DRAM memory (on PCI control card)
Memory Partitioning Up to 8 memory segments for multiple recordings in memory
Dual Frame Rate mode Changes frame rate during recording through signal input to 2x, 4x or 8x initial frame rate
Data Display Frame Rate, Shutter Speed, Trigger Mode, Date or Time (can be switched), Status (Playback/Record), Real Time, Frame Count and Resolution
Saved Image Formats AVI, JPEG, TIFF, BMP, PNG, RAW (compressed or uncompressed)
Camera cable 5m standard (option 10m)
Control/Memory card PCI standard single slot (rev 2.1)
Camera Control Through supplied Photron FASTCAM Viewer software or FASTCAM SDK
Camera Head Dimensions H x W x D 110.7mm x 85.4mm x 76.5mm

Image Intensifier:

Spectral Response

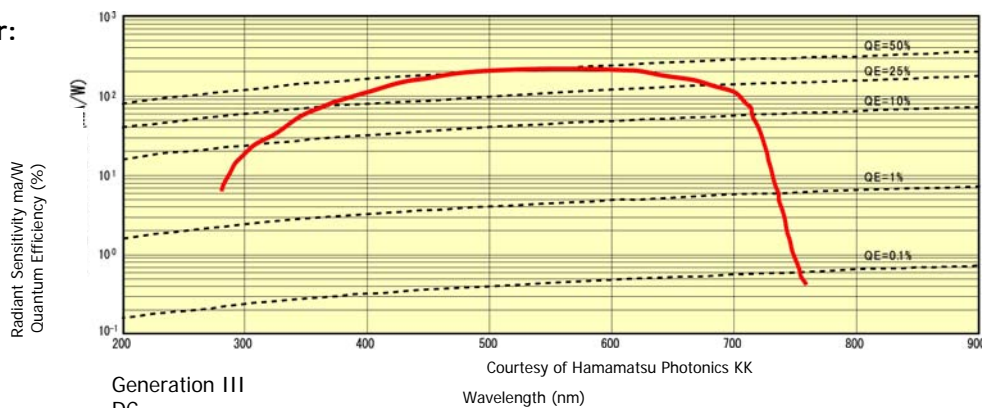


Image Intensifier type Generation III
Operation mode DC
Input/output size 18mm
Input window material Borosilicate Glass (transmission to 300nm)
Photocathode material GaAsP
Photocathode sensitivity 280 – 720nm
Photocathode peak sensitivity 530nm
Phosphor material P43
Phosphor decay time 1ms (to 10%)
Coupling to sensor Fiber optic
Luminous gain 22,000 (lm/m²) lx
Radiant gain 14,000 (W/m²)/ (W/m²)
Intensifier protection Overload cut-out function incorporated

Specifications subject to change without notice.

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