

FASTCAM SA-2

FASTCAM SA-2: High-Speed Video System

2,048 x 2,048 (4M pixel) resolution,
developed for a broad range of applications
including automotive safety testing, defence,
fluid dynamics and materials research



The FASTCAM SA-2 has been developed to permit detailed observation and analysis of large spatial areas in the fields of automotive safety testing, fluid dynamics and solid mechanics. With full HD (1920 x 1080 pixels) resolution at up to 2,000fps this system has also the potential to be applied to broadcast applications in Sports, Advertising and Entertainment.

- A light sensitive CMOS imaging sensor allowing images to be captured in the field with little or no additional lighting
- 12-bit A-D yields excellent dynamic range
- Simple to operate via the intuitive Photron Fastcam Viewer (PFV) software
- Integration with existing motion analysis, PIV or DIC systems is achieved through use of the supplied SDK
- Optional RS422 remote keypad control offers added versatility with built-in 5-inch LCD color display
- GigE interface to user networks

FEATURES

- ❑ 2,048 x 2,048 pixels @ 1,000fps
- ❑ 1,920 x 1,080 pixels @ 2,000fps (Full HD 1080p)
- ❑ 12-bit A-D
- ❑ Monochrome or colour sensor
- ❑ 8,16 or 32GB memory options
- ❑ Gigabit Ethernet (1000BASE-T) interface
- ❑ Optional handheld remote controller with integrated video monitor for simple control of all functions and viewing of live and recorded images.
- ❑ Low-light mode for initial set up of camera position and focus
- ❑ Rugged design for use in industrial environments
- ❑ Intuitive Photron Fastcam Viewer (PFV) software with comprehensive range of functions for camera set-up, image acquisition, replay and storage.

Photron

NOTE: Specifications subject to change without notice

Frame rate / resolution table:

(for clarity some options have been omitted)

Horizontal resolution

Vertical resolution

PIXELS	2048	1792	1536	1280	1024	768	512	256
2048	1,080	1,125	1,250	1,440	1,600	1,800	2,160	2,500
1920	1,125	1,250	1,350	1,500	1,600	1,875	2,250	2,700
1792	1,200	1,350	1,440	1,600	1,800	2,000	2,400	2,880
1664	1,250	1,440	1,600	1,600	2,000	2,250	2,500	3,000
1536	1,440	1,500	1,600	1,875	2,160	2,400	2,880	3,375
1408	1,500	1,600	1,875	2,000	2,250	2,700	3,000	3,750
1280	1,600	1,875	2,000	2,250	2,500	2,880	3,375	4,000
1152	1,875	2,000	2,250	2,500	2,880	3,200	3,750	4,500
1088	2,000	2,160	2,400	2,700	3,000	3,375	4,000	4,800
1024	2,160	2,250	2,500	2,880	3,200	3,600	4,000	5,000
896	2,400	2,700	2,880	3,200	3,600	4,000	4,800	5,400
768	2,880	3,000	3,375	3,750	4000	4,800	5,400	6750
640	3,375	3,750	4,000	4,500	5,000	5,400	6,750	8,000
576	3,750	4,000	4,500	5,000	5,400	6,250	7,500	8,000
512	4,000	4,500	5,000	5,400	6,250	7,200	8,000	9,600
384	5,400	6,000	6,750	7,500	8,000	9,000	10,800	12,500
256	8,000	9,000	9,600	10,800	12,000	13,500	16,000	18,000
128	16,000	16,000	18,000	20,000	22,500	25,000	28,800	30,000
32	50,000	54,000	54,000	62,500	64,000	72,000	80,000	86,400

Sensor	12-bit CMOS (Bayer system color, single sensor) with 10µm pixel
Shutter	Global electronic shutter from 16.7ms to 2.7µs independent of frame rate
Lens Mount	Interchangeable F-mount and C-mount using supplied adapters, optional PL and B4 lens mounts
Extended dynamic range	Four presets prevent pixel over-exposure
Memory	8GB (standard) 16GB (option) 32GB (option)
Video Output # 1	HD SDI Ability to zoom, pan and tilt within image via keypad. Live video during recording.
Camera Control	Through optional keypad with integrated viewfinder and Gigabit Ethernet or RS-422A
User preset switches	4 camera mounted user defined function buttons
Low light mode	Low light mode selection for simple camera adjustment when working in low ambient light, high frame rate or short exposure modes
Triggering	Selectable positive or negative TTL 5Vp-p or switch closure
Trigger delay	Programmable delay on selected input and output triggers, 100ns resolution
Timing	Internal
Phase Lock	Enables cameras to be synchronized precisely together to a master camera or external source
Event markers	Ten user –entered event markers mark specific events within the image sequence in real time. Immediately accessible through software
Dual Speed Recording	Yes
Recording Modes	Start, End, Center, Manual, Random, Random Center, Random Manual
Saved Image Formats	JPEG, AVI, TIFF, BMP, RAW (compressed or uncompressed) PNG and FTIF. Images can be saved with or without image or comment data
Data Display	Frame Rate, Shutter Speed, Trigger Mode, Date or Time, Status (Playback/Record), Real Time, Frame Count and Resolution
Partitioning	Yes
Data Acquisition	Yes
Cooling	Actively cooled
Operating Temperature	0-40 degrees C
Mounting	1x ¼-20 UNC, 1x 3/8-16 UNC, 6x M6
Dimensions and Weight	286mm L x 156mm W x 191mm H, weight 6.9kg
Power requirements	100V - 240V AC ~ 1.5A, 50-60Hz optional DC operation 18-36 VDC, 100VA

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