



# FASTCAM SA8

## HIGH-SPEED CAMERA SYSTEM



### Utilizing innovative new CMOS sensor technologies the FASTCAM SA8 defines new standards in high speed camera image quality and operational flexibility

The compact size of the FASTCAM SA8 conceals powerful high speed imaging performance. A choice of two performance options provide frame rates of either 2,000 fps or 3,500 fps at 1,280 x 1,024 pixel image resolution with increased frame rates at reduced image resolution.

Innovative CMOS image sensor technology provides high quality, low noise images not previously available from high speed camera systems. True 12-bit ADC produces sharp, high contrast imaging to perfectly replicate the fine detail of subjects being recorded. Excellent light sensitivity and a 10 microsecond global electronic shutter allow the system to be employed in demanding imaging applications.

The 12.8 x 10.2mm sensor size allows the FASTCAM SA8 to utilize 1 inch format C mount lenses and F mount lenses. The camera benefits from a sealed camera body construction allowing use in harsh environments without ingress of dust and other contamination. The camera's rugged and compact design (camera body size 151(5.9") x 102 (4.0") x 195 (7.7") mm) allows positioning in space-limited locations and integration with other instrumentation systems.

#### Target applications include:

- Automotive safety testing
- Fluid dynamics
- Engineering Research
- Defense and aerospace research
- Materials Science
- Ballistic Imaging

### Benefits

- Frame Rate Performance examples:

#### FASTCAM SA8 Type 30K:

- 3,500 fps at 1,280 x 1,024 pixel resolution
- 5,000 fps at 1,280 x 720 pixel resolution
- 5,000 fps at 896 x 896 pixel resolution
- 30,000 fps at 320 x 256 pixel resolution

#### FASTCAM SA8 Type 15K:

- 2,000 fps at 1,280 x 1,024 pixel resolution
- 2,500 fps at 1,280 x 720 pixel resolution
- 5,000 fps at 640 x 584 pixel resolution
- 15,000 fps at 320 x 256 pixel resolution

- Sensitivity : ISO 12232 Ssat standard

- ISO 5,000 monochrome
- ISO 2,500 color

- Compatibility with 1 inch C mount, Nikon G type lenses and C mount remote control lenses (focusing, zoom, aperture control available)

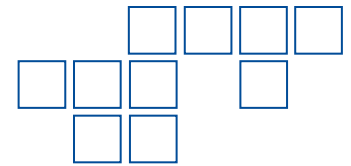
- Optional battery backup to protect data in the event of unexpected power loss

- 4GB and 8GB memory options and high performance GigaBit Ethernet interface to PC



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Specifications: Partial Frame Rate / Recording Duration Table

FRAME RATE (fps)	MAXIMUM RESOLUTION				Recording Duration (12-bit)							
					Time (Sec)				Frames			
	Type 15K		Type 30K		Type 15K		Type 30K		Type 15K		Type 30K	
	Horizontal	Vertical	Horizontal	Vertical	4GB	8GB	4GB	8GB	4GB	8GB	4GB	8GB
60	1,280	1,024	1,280	1,024	36.33	72.75	36.33	72.75	2,180	4,365	2,180	4,365
125	1,280	1,024	1,280	1,024	17.44	34.92	17.44	34.92	2,180	4,365	2,180	4,365
250	1,280	1,024	1,280	1,024	8.72	17.46	8.72	17.46	2,180	4,365	2,180	4,365
500	1,280	1,024	1,280	1,024	4.36	8.73	4.36	8.73	2,180	4,365	2,180	4,365
1000	1,280	1,024	1,280	1,024	2.18	4.37	2.18	4.37	2,180	4,365	2,180	4,365
2,000	1,280	1,024	1,280	1,024	1.09	2.18	1.09	2.18	2,180	4,365	2,180	4,365
2,500	1,280	720	1,280	1,024	1.24	2.48	0.87	1.75	3,101	6,208	2,180	4,365
3,500	1,280	512	1,280	1,024	1.25	2.49	0.62	1.25	4,361	8,730	2,180	4,365
5,000	640	584	1,280	720	1.53	3.06	0.62	1.24	7,646	15,307	3,101	6,208
7,500	512	384	800	600	1.94	3.88	0.79	1.59	14,536	29,100	5,954	11,919
10,000	320	256	800	400	3.49	6.98	0.89	1.79	34,888	69,841	8,931	17,879
15,000	320	256	1,280	128	2.33	4.66	1.16	2.33	34,888	69,841	17,444	34,920
30,000	-	-	320	256	-	-	2.33	4.66	-	-	34,888	69,841

<b>Sensor</b>	1,280 x 1,024 pixels, 10um pixel size, 12-bit ADC (Bayer system color, 36 bit single sensor )	<b>Phase Lock</b>	Enable cameras to synchronize precisely together to a master camera or external source, such as IRIG time codes
<b>Shutter</b>	Global electronic shutter from 16.6ms to 10µs independent of frame rate	<b>Trigger Modes</b>	Start, Center, End, Manual
<b>Lens Mount</b>	C-mount, F-mount (compatible with Nikon G type lens)	<b>Saved Image Formats</b>	JPEG, AVI, TIFF, BMP, RAW, PNG, MOV, WMV and FTIF. Images can be saved with or without image or comment data
<b>Memory</b>	4GB (2,180 frames @ maximum resolution) or 8GB (4,365 frames @ maximum resolution) memory options	<b>Data Display</b>	Frame Rate, Shutter Speed, Trigger Mode, Date or Time, Status (Playback/Record), Real Time, Frame Count and Resolution
<b>Video Output</b>	NTSC/PAL composite VBS (BNCx1)	<b>Memory Backup</b>	External Memory Backup Battery (Optional) secure data
<b>Camera Control</b>	High speed Gigabit Ethernet or optional handheld keypad	<b>Cooling</b>	Actively cooled using external fans
<b>User Preset Switches</b>	One user selectable camera function controls mounted on the camera's rear panel	<b>Operating Temperature</b>	0 - 40 degrees (32 - 104 degree F)
<b>Low Light Mode</b>	Low light mode drops the frame rate and shutter time to their maximum values, while maintaining other set parameters, to enable users to position and focus the camera	<b>Mounting</b>	1 x 1/4 - 20 UNC, 1 x 3/8 - 16 UNC, 4 x M5
<b>Triggering</b>	Selectable positive or negative TTL 5Vp-p or switch closure	<b>Dimensions</b>	151mm (5.9")H×102mm (4.0")W×195mm (7.7")D
<b>Timing</b>	Internal clock	<b>Weight</b>	3.9 kg (8.6 lbs)
		<b>Power Requirements</b>	100V-240V AC ~ 1.5A, 50-60Hz DC operation 22-32 VDC, 65VA

Specifications subject to change without notice

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