



# Photron

HIGH-SPEED CAMERAS FOR SLOW MOTION ANALYSIS



DESCRIPTION	Pharsighted E9 • 50S / E9 • 80S / E9 • 100S / E9 • 150S	FASTCAM Orion S40	FASTCAM NOVA S20	FASTCAM NOVA S6 / S9 / S12 / S16	FASTCAM NOVA R3-4K / R5-4K	FASTCAM Mini R3-4K / R5-4K	FASTCAM MINI W2 / W5	FASTCAM MINI AX 50 / 100 / 200	FASTCAM MINI UX 50 / 100	FASTCAM MH6 with HD Camera Head	FASTCAM MH6 ST Camera Head	INFINICAM Streaming Camera
Speed at full image resolution (fps)	164K / 272K / 326K / 489K	31,250	18,750	6.4K / 9K / 12.8K / 16K	750 / 1250	750 / 1250	2K / 5K	2K / 4K / 6.4K	2K/ 4K	750 / 1,000	1,000	988
Maximum image resolution (pixels)	640 x 480	1280 x 1024	1024 x 1024	1024 x 1024	4096 x 2304	4096 x 2304	2048 x 1152	1024 x 1024	1280 x 1024	1920 x 1400 1920 x 1080	800 x 600	1246 x 1024
Maximum speed at reduced image resolution (fps)	1,980,000 2,457,000 2,720,000 2,720,000	312,500	1,100,000	800,000 900,000 1,000,000 1,100,000	150,000 200,000	150,000 200,000	150,000 200,000	170,000 540,000 900,000	160,000 800,000	10,000	10,000	31,157
Sensitivity (excluding IR response) Mono (Color)	200,000 (80,000)	40,000** (12,500)	64,000 (16,000)	64,000 (16,000)	3,200 (640)	4,000 (800)	10,000 (2,000)	50,000 (25,000)	10,000 (5,000)	12,500 (5,000)	12,500 (5,000)	4,000 (est.)
Minimum shutter speed (µs)	1	1	1	1	2	2	2	1	3.9	4	4	6.5
Free optional sub-microsecond shutter – Subject to export control	0.098µs / 0.098µs 0.059µs / 0.034µs	x	0.2µs	0.2µs	x	x	x	260ns (AX200)	x	x	x	x
Memory capacity (Gigabytes)	54GB - 648GB (dependent on camera model)	32 GB - 128GB	8GB - 128GB	8GB - 128GB	16GB - 128GB	16GB - 64GB	16GB - 64GB	8GB - 32GB	8GB - 32GB	4GB /channel (6 heads) to 24GB /channel (single head) shared memory	2GB /channel (12 heads) to 12GB /channel (1 to 2 heads) shared memory	NA
Base memory capacity (frames)	187,000 375,000 375,000 562,000	17,470	6,524	5,437	1,213	1,213	4,830	5,457	4,365	1 camera head: 12,600 2 camera heads: 5,400 3-4 camera heads: 2,700 5-6 camera heads: 1,800	1-2 camera heads: 26,843 1-4 camera heads: 13,421 1-8 camera heads: 6,710 1-12 camera heads: 4,473	NA
Recording duration (seconds) @ max fps and full image resolution (with minimum memory)	1.14 / 1.38 / 1.15 / 1.15	0.56	0.348	0.85 / 0.61 / 0.43 / 0.34	1.617 / 0.97	1.617 / 0.97	2.415 / 0.966	2.73 / 1.36 / 0.85	1.09 / 0.54	1.8 (FHD 6 heads) to 12.6 (FHD single head)	4.40 (SVGA 12 heads) to 26.8 (SVGA 12 heads)	NA
Non-volatile storage	NVMe SSD	x	4TB external FAST Drive	4TB external FAST Drive	4TB external FAST Drive	x	x	x	x	1TB non-removable SSD	1TB non-removable SSD	x
Pixel size (µm)	52	16	20	20	6.5	6.5	13	20	10	6.6	6.6	10
Bit-depth	9	12	12 / 10	12	12	12	12	12	12	8	8	8
Variable region of interest (ROI)	x	✓	✓	✓	✓	✓	✓	✓	✓	x	x	x
Multi-head support	x	x	x	x	x	x	x	x	x	6	12	x
Lens mounts	Nikon F/G, EF, C	Nikon F/G, EF, C	M42, Nikon F/G, EF, RF, C	M42, Nikon F/G, EF, RF, C	Nikon F/G, EF, C	M42, Nikon F/G, EF, RF, C	M42, Nikon F/G, EF, RF, C	Nikon F/G, EF, C	Nikon F/G, EF, C	C	M10.5	C
Closed Case "Range Version"	✓	x	✓	✓	✓	✓	✓	x	x	x	x	x
High-G operation	x	x	x	x	x	100g	100g	100g	100g	160g	160g	x
Fan Stop Function	x	✓	✓	✓	✓	✓	✓	✓	✓	x	x	x
Gigabit Ethernet Connection	✓ (1/10-Gigabit)	✓ (10-Gigabit)	✓ (1/10-Gigabit)	✓ (1/10-Gigabit)	✓ (1/10-Gigabit)	✓ (1/10-Gigabit)	✓ (1/10-Gigabit)	✓ (1-Gigabit)	✓ (1-Gigabit)	✓ (& USB3)	✓ (& USB3)	x (USB3)
PC-Less operation with keypad	x	x	Optional	Optional	Optional	x	x	x	x	x	x	x
Supports Photron DAQ plugin	x	✓	✓	✓	✓	✓	✓	✓	✓	✓ incld. built-in accelerometer	✓ incld. built-in accelerometer	x

\* Ask us about the long record time version of the MH6 high-speed camera designed for vehicle road testing.

\*\* Exposure Index (E.I.): Mono E.I. 25,000 – 64,000; Color E.I. 8,000 – 20,000

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## CREDIBILITY AND REPUTATION BUILT ON TECHNOLOGICAL INNOVATION

For more than 50 years, Photron has pioneered advances in imaging technology that power today's high-speed camera systems across scientific and industrial applications. Through significant investment in proprietary, advanced CMOS image sensors - the core technology of high-speed photography - Photron has driven dramatic improvements in camera performance. These innovations have expanded the possibilities of high-speed imaging, enabling new and critical application areas.

## UNCOMPROMISING QUALITY IN DESIGN, MANUFACTURING, AND SUPPORT

As an ISO 9001:2008 certified manufacturer, Photron designs and manufactures its complete line of high-speed camera systems at its dedicated facility in Yonezawa City, Yamagata Prefecture, Japan. Global technical support centers in the United States, Europe, Japan, and China provide responsive, expert local support to Photron users worldwide.

## A WORLDWIDE LEADER IN HIGH-SPEED IMAGING

Trusted by leading research institutions in more than 30 countries, Photron FASTCAM high-speed cameras deliver reliable, high-quality results in the most demanding environments. By continually integrating the latest technological advancements, Photron ensures its products meet—and exceed—the evolving needs of users around the globe.

## DEEP EXPERTISE IN HIGH-SPEED IMAGING APPLICATIONS

With over 30 years of dedicated focus on high-speed imaging, Photron offers unmatched application expertise. Photron's application engineers bring extensive experience in complex imaging challenges, guiding both new and experienced users in selecting the right solutions and techniques to achieve optimal results.

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