

PHARSIGHTED

THE FIRST BACKSIDE-ILLUMINATED FULL-FRAME HIGH-SPEED CAMERA

E9•80S

KEY CAMERA FEATURES

Backside-Illuminated CMOS Image Sensor:

640 x 480 pixels at 272,000fps
640 x 384 pixels at 336,000fps
640 x 256 pixels at 492,000fps
640 x 128 pixels at 918,000fps

Maximum Frame Rate:

640 x 32 pixels at 2,457,000fps

Class Leading Light Sensitivity:

ISO 12232 daylight

ISO 160,000 monochrome

ISO 40,000 color

Global Electronic Shutter:

98ns minimum exposure time

342ns straddle time

Camera Size:

240mm (H) x 212mm (W) x 175mm (D)

9.45" (H) x 8.35" (W) x 6.89" (D)

Weight: 10kg (22.04 lbs.)

Fast, In-Camera Storage:

Removable U.2 NVMe SSD

Internal Recording Memory:

216GB or 432GB

Fast 10-Gigabit Ethernet Interface:

Provides camera control and high-speed image download to standard PC or MAC and Linux systems.



FRAME RATE CHART

Width x Height	Max Frame Rate	Max Exposure Time (us)	Time (sec) 216GB	Frames 216GB	Time (sec) 432GB	Frames 432GB
640 x 480	272,000	3.33	2.77	753,000	5.54	1,507,000
640 x 448	290,000	3.09	2.78	808,000	5.56	1,616,000
640 x 416	311,000	2.86	2.78	868,000	5.57	1,737,000
640 x 384	336,000	2.62	2.80	941,000	5.59	1,883,000
640 x 352	365,000	2.39	2.81	1,028,000	5.62	2,056,000
640 x 320	400,000	2.15	2.82	1,127,000	5.64	2,255,000
640 x 288	441,000	1.92	2.84	1,245,000	5.68	2,508,000
640 x 256	492,000	1.68	2.87	1,412,000	5.73	2,825,000
640 x 240	523,000	1.56	2.88	1,507,000	5.76	3,015,000
640 x 224	557,000	1.45	2.90	1,616,000	5.80	3,233,000
640 x 192	641,000	1.21	2.92	1,876,000	5.85	3,753,000
640 x 160	755,000	0.980*	2.98	2,255,000	5.97	4,510,000
640 x 128	918,000*	0.549*	3.07	2,825,000	6.15	5,650,000
640 x 96	1,172,000*	0.509*	3.18	3,727,000	6.36	7,455,000
640 x 64	1,619,000*	0.274*	3.45	5,591,000	6.91	11,182,000
640 x 48	2,000,000*	0.156*	3.73	7,455,000	7.46	14,910,000
640 x 32	2,457,000*	0.098*	4.55	11,182,000	9.10	22,365,000
640 x 16	2,457,000*	0.098*	9.10	22,365,000	18.20	44,730,000

Camera Performance Specifications

Model	E9-80S
Full Frame Performance	272,000fps 640 x 480 pixels
Example Frame Rates	640 x 384 pixels at 336,000fps 640 x 256 pixels at 492,000fps 640 x 128 pixels at 918,000fps
Minimum Exposure Time	Global electronic shutter to 98ns selectable independent of frame rate
Dynamic Range (ADC)	9-bit
Memory Capacity	216GB or 432GB
Memory Partitions	Up to 1024 memory segments
Sensor Size / Pixel Size	33.28 x 24.96mm / 52µm
Camera Control Interface	1 / 2.5 / 5 / 10G Ethernet
Video Output	HD-SDI signal
Video Conversion	Conversion of .SLOW to common video and image formats such as .AVI & .TIFF
Operating System Compatibility	Windows, MAC OS, and Linux

Mechanical and Environmental Specifications

Mechanical	
Lens Mount	Nikon F / G type compatible, 1" C mount
Internal Filter	58mm threaded
Minimal Flange Distance	8.0mm
Mechanical Shutter	Internal, rugged
Camera Body (excluding protrusions)	240mm (H) x 212mm (W) x 175mm (D) 9.45" (H) x 8.35" (W) x 6.89" (D)
Camera Body	10kg (22.04lbs)
Mounting	3/8-16, top, bottom, left side
Power	Primary and backup 24-28VDC 200W, SSD up to +30W Input: 100-240VAC, 50/60Hz Output: 24VDC, 280W
Environmental	
Operating Temperature	0 to 40C, 32° to 104° F

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SCAN ME

FLEXIBLE I/O

- Six 5V TTL, I/O BNCs, each settable as a Output, Input, or Open Drain Bi-Directional.
- Signal polarity, pulse delay, & pulse width are all configurable.
- Signals such as Trigger, Frame Sync, Ready, Shutter, and Event are available.
- Dedicated trigger, SDI, and analog BNCs.

10G ETHERNET

- Supports IEEE 1588 (PTPv2) time code.
- Rugged IP68 RJ45 connector.

NVMe SSD

- U.2 NVMe drives provide for fast, long-term, and cost-effective storage that is readily available.
- Write speeds allow for either immediate backup of the image buffer or significant capture rates directly to the SSD.
- The .SLOW files stored on a drive can be viewed in a standard OS environment.
- Every E9-80S includes a ~1.6TB drive, drive tray, and USB-C dock.

SLOW SOFTWARE

- Clean, intuitive control and monitoring of live cameras.
- Playback from the image buffer, on-board SSD, or local .SLOW files.
- Windows, MAC OS, and Linux Compatible.
- The .SLOW format contains both RAW image data and metadata.
- Conversion of .SLOW to common video and image formats such as .AVI and .TIFF

