

The Perfect Balance of Speed, Size, and Memory



Designed with value in mind, the model 508 strikes the perfect balance between speed, size, and memory. With a full HD sensor running at 8 GPx/second, the 508 has plenty of power for laboratories, research, and test range applications. We have packed up to 144 GB of memory into a compact package so you can record for long durations and still fit the camera into tight areas and lab spaces.

The model 508 also incorporates a truly innovative internal cooling system that makes the camera an environmentally sealed unit and the first camera in its class designed for use in highly demanding environments.



High performance high-speed camera in a compact and durable form-factor

The sealed electronics design of the i-SPEED 5 utilizes an innovative internal cooling system—drawing heat from the inside of the camera and venting it to the atmosphere



Sublime ease-of-use coupled with full feature functionality

FEATURES + OPTIONS

- HD resolution 1920 x1080 pixel sensor, more pixels = greater accuracy
- Full resolution to 3,980 frames/second, maintaining higher res at higher speeds
- Huge 8 TB internal SSD capacity
- Up to 144 GB of on-board memory for long recordings or multiple buffers
- Internal or external SSD drive for fast data transfer
- Impressive 8.3 GP/sec throughput
- Global electronic shutter to 250 ns*
- Compatible with all Nikon F and Canon EF mount lenses
- Record up to 500,000 fps
- App-based tablet control via Controller Display Unit (CDU) for simple operation
- Fully compatible with the i-SPEED Software Suite 2.0 for more advanced functions
- Upgrade path between models

* subject to export regulations

IMAGER

Sensor type	Custom CMOS
Sensor resolution	1920 x 1080 pixel
Sensor size	25.920 mm x 14.580 mm
Sensor diagonal	29.74 mm
Pixel size	13.5 µm
Bit depth	12 bit (36 bit color)
ISO (12232-2:2006, D, sat)	Mono ISO 8,500D (sat) / 68,000D (sat) Color ISO 3,060D (sat) / 24,480D (sat)
Maximum frame rate	500,000 fps
Shutter type	Global exposure
Shutter time, standard	1 µs min (standard)
Shutter time, fast mode	250 ns min (export restricted)

SYNCHRONIZATION and CAPTURE

Trigger	TTL T0 to 0-100%
Trigger modes	Circular, ROC, BROCC
Sync	10 Hz – 350 kHz
Luminance histogram	Iris setting aid tool
i-CHEQ 360	Camera status LEDs
i-FOCUS	Focusing aid tool
i-EXPOSE	High/low exposure highlight
Control	PC or CDUe
IRIG input	IRIG – B to 1 µs
Internal memory	18 GB standard, upgrade to 144 GB

PHYSICAL and ENVIRONMENTAL

Dimensions inches	5.0 (W) x 5.1 (H) x 12.0 (L)
Dimensions mm	127 (W) x 129 (H) x 305 (L)
Weight	9.9 lb (4.5 kg)
Input voltage	12-36 V
Power consumption	110 W nominal, 150 W max
Mounting	1/4 x 20 and 3/8 x 16 tripod plate
Lens mount	Custom, swappable lens plate
EMC	EN55032-A, EN55024
Safety	BS EN61010-1 (camera), IEC60950 (PSU)
CE marking	EMC directive (camera), EMC directive, LV directive (PSU)
Lead free	RoHS directive
WEEE	Compliant
Temperature °F	14° to 122° operation, -4° to 140° storage
Temperature °C	-10° to +50° operation, -20° to 60° storage
Pressure	71 kpa to 106 kpa
Relative humidity	95% at 104°F non-condensing
Power input connector	6 pin Lemo
Trigger input	BNC 75 Ω
Feature connector	11 pin Lemo, trigger in / sync / exposure out / remote power

CONNECTIVITY

Video outputs	HD-SDI, HDMI
USB	USB 3
Network	1Gb/s RJ45
Video	IXV, AVI (compressed or uncompressed)
Image sequence	TIFF, JPG, RAW
Ethernet control	1 Gb/s
Remote control	Via supplied software

PC SOFTWARE

Standard control	Control ONE
Premium control	Control MULTI-DAQ
Editing	i-SPEED Movie Maker
Analysis	ProAnalyst [®] Lite by Xcitech
Viewer	i-SPEED Viewer
Utilities	i-SPEED Lens Calculator, i-SPEED Viewer
Software Developers Kit	C++, LabView
Synchronized data acquisition	USB DAQ, 8 options

PURCHASING OPTIONS

CDUe	Controller Display Unit
Sensor	Color / Mono
Memory	18 GB (std) / 36 GB / 72 GB / 96 GB / 144GB
Shutter time	1 µs (std) / 250 ns (subject to export restrictions)
Internal SSD	500 GB / 1 TB / 2 TB / 4TB / 8 TB
External SSD	500 GB / 1 TB / 2 TB
Lens mounts	F mount (Nikkor D) / F mount (Nikkor G) C mount / EF mount
Warranty	1 yr (std) / 2 yr / 3 yr
IRIG	IRIG-B

FRAME RATES, RESOLUTION and DURATION

FPS	Resolution	18GB	36GB	72GB	96GB	144GB
100	1920x1080	61 sec	122 sec	243 sec	324 sec	487 sec
200	1920x1080	30 sec	61 sec	122 sec	162 sec	243 sec
300	1920x1080	20 sec	41 sec	81 sec	108 sec	162 sec
500	1920x1080	12 sec	24 sec	49 sec	65 sec	97 sec
1,000	1920x1080	6.1 sec	12 sec	24 sec	32 sec	49 sec
2,000	1920x1080	3.0 sec	6.1 sec	12 sec	16 sec	24 sec
3,000	1920x1080	2.0 sec	4.1 sec	8.1 sec	11 sec	16 sec
3,980	1920x1080	1.2 sec	2.4 sec	4.9 sec	6.5 sec	9.8 sec
5,000	1512x1080	1.5 sec	3.1 sec	6.2 sec	8.2 sec	12 sec
7,500	1232x894	1.6 sec	3.1 sec	6.2 sec	8.3 sec	12 sec
10,000	1064x768	1.6 sec	3.1 sec	6.3 sec	8.4 sec	13 sec
15,000	840x636	1.6 sec	3.2 sec	6.4 sec	8.5 sec	13 sec
25,000	672x462	1.6 sec	3.3 sec	6.6 sec	8.8 sec	13 sec
50,000	560x264	1.7 sec	3.4 sec	6.8 sec	9.1 sec	14 sec
100,000	504x138	1.8 sec	3.6 sec	7.3 sec	9.7 sec	15 sec
200,000	336x90	2.1 sec	4.2 sec	8.4 sec	11 sec	17 sec
300,000	280x60	2.4 sec	4.8 sec	9.7 sec	13 sec	19 sec
500,000	280x38	2.3 sec	4.7 sec	9.4 sec	12 sec	19 sec

Note: Other resolutions and speeds are available.



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Specifications subject to change
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