

The Perfect Balance of Speed, Size, and Memory



6,382fps @ 1920x1080 | 13GPx/s throughput | 10,000fps @ 1344x984

FEATURES + OPTIONS

- HD resolution 1920 x1080 pixel sensor (2.1MPx), more pixels = greater accuracy
- 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
- Global electronic shutter to 277 ns*
- Compatible with all Nikon F and Canon EF mount lenses
- Record up to 1,000,000 fps
- Fully compatible with the i-SPEED Software Suite 2.0 for more advanced functions
- Upgrade path between models

* subject to export regulations

**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

**The i-SPEED 5 Series is
controlled both by PC and
the touchscreen CDUE.**



SPECIFICATIONS

i-SPEED.513

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)
Light sensitivity Mono (Gain off/on)	16,000 / 125,000
Light sensitivity Color (Gain off/on)	4,000 / 32,000
Maximum frame rate	1,000,000 fps
Shutter type	Global exposure
Shutter time, standard	1 µs min (standard)
Shutter time, fast mode	277 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	14-36 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	4 pin Lemo
Trigger input	BNC 75 Ω
I/O connector	10 pin Lemo, trigger in / sync / exposure out / remote power

CONNECTIVITY

Video outputs	HD-SDI, HDMI
USB	USB 3
Network	1Gb/s RJ45 / 10 pin Lemo
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 Xcitex
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) / 277 ns (subject to export restrictions)
Internal SSD	500 GB / 1 TB / 2 TB / 4 TB / 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 [in seconds]

FPS	Resolution	18GB	36GB	72GB	96GB	144GB
100	1920x1080	60.85	121.70	243.40	324.53	486.80
200	1920x1080	30.43	60.85	121.70	162.27	243.40
300	1920x1080	20.28	40.57	81.13	108.18	162.26
500	1920x1080	12.17	24.34	48.68	64.91	97.36
1,000	1920x1080	6.09	12.17	24.34	32.45	48.68
2,000	1920x1080	3.04	6.09	12.17	16.23	24.34
3,000	1920x1080	2.03	4.06	8.11	10.82	16.22
3,985	1920x1080	1.53	3.05	6.11	8.14	12.21
4,980	1920x1080	1.22	2.44	4.89	6.51	9.77
5,000	1920x1080	1.22	2.43	4.87	6.49	9.74
6,382	1920x1080	0.95	1.91	3.81	5.08	7.62
7,500	1624x1080	0.98	1.96	3.92	5.22	7.83
10,000	1344x984	0.97	1.95	3.90	5.19	7.79
15,000	1064x798	1.01	2.02	4.04	5.39	8.08
20,000	952x678	1.00	1.99	3.98	5.31	7.96
50,000	560x420	1.10	2.19	4.38	5.84	8.76
100,000	504x216	1.18	2.36	4.72	6.29	9.44
200,000	504x96	1.33	2.66	5.32	7.09	10.64
300,000	560x54	1.42	2.84	5.68	7.57	11.36
500,000	560x24	1.92	3.83	7.66	10.21	15.32
750,000	112x78	3.93	7.86	15.72	20.96	31.44
1,000,000	112x48	4.79	9.58	19.16	25.55	38.32

Note: Other resolutions and speeds are available.



Specifications subject to change
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