

The New Class of High-Speed



The i-SPEED 713 is the ultimate entry point into cutting-edge high-speed capture. Packed with all of the industry-leading features of the i-SPEED 7 Series camera, such as internal battery power, external xSSD recording, remote touch-screen accessibility - and driven by the same massive 3.1 Megapixel sensor, the i-SPEED 713 camera takes you into a whole new league of resolution and speed without sacrificing functionality.

All i-SPEED 7 Series cameras benefit from the industry leading i-SPEED Software Suite 2.0 PC software for control, motion analysis, video editing and playback, which works seamlessly to provide a complete high-speed capture experience.



**i-SPEED 713R
shown in heavy
duty, rugged
environmental
package**

Choose from the sleek new instrumentation package or elect to upgrade your camera to the high-G rated rugged package with its environment resistant aluminum casing.



**Save and Store
your video quickly
and securely with
1TB hot-swappable
xSSDs**

FEATURES + OPTIONS

- High resolution 2048x1536 pixel sensor
- Full resolution to 4,260 frames/second
- 1080p resolution at 6,380 frames/second
- Up to 288 GB of on-board memory for long recordings
- Internal or external SSD drive for fast data transfer
- Ultra-fast 13 GP/sec throughput
- Microlens sensor for exceptional light sensitivity
- Wide Dynamic Range recording
- Global electronic shutter to 1 μ s
- 1 hour battery life
- Compatible with all Nikon F and Canon EF mount lenses
- Maximum frame rate – 500,000 fps
- Flexible frame synchronization from 10 Hz to 200 kHz
- Environmentally rugged package available
- 32 point integrated real-time health monitoring system

IMAGER

Sensor type	Custom CMOS
Sensor resolution	2048 x 1536 pixel
Sensor size	27.972 mm x 20.736 mm
Sensor diagonal	34.82 mm
Pixel size	13.5 µm
Bit depth	12 bit (36 bit color)
ISO (Maximum)	Mono 40,000 • Color 14,400
Maximum frame rate	500,000 fps
Shutter type	Global exposure
Shutter time, standard	1 µs minimum
Shutter time, fast mode	313 ns
WDR	Wide Dynamic Range

SYNCHRONIZATION and CAPTURE

Trigger	TTL T0 to 0-100%
Trigger modes	Circular, ROC, BROCC
Sync	10 Hz – 200 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 sub 1 µs
IRIG sync	Camera sync to IRIG
Internal memory	36 GB standard, upgrade to 288 GB

PHYSICAL and ENVIRONMENTAL

Dimensions inches	14.3 (W) x 6.2 (H) x 6.2 (L)
Dimensions mm	363 (W) x 157 (H) x 154 (L)
Weight	18.7 lb (8.5 kg) with battery
Input voltage	12-36 V
Power consumption	150 W nominal, 200 W max
Mounting	¼x20 and 3/8x16 tripod plate
Battery	2x 14.4 V 90 Wh
Battery life	1 hour
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) RoHS directive
Lead free	Compliant
WEEE	IP 20
IP rating	32 to 104 operation, -4 to 140 storage
Temperature °F	0 to 40 operation, -20 to 60 storage
Temperature °C	71 kpa to 106 kpa
Pressure	95% at 104°F non-condensing
Relative humidity	10 G
G-shock, Instrumentation package	30 G @ 11 µs IEC 68-2-27 Ea, 30 G @ 2 µs IEC 68-2-29 Eb
G-shock, Rugged package	6 pin Lemo
Power input connector	BNC 75 Ω
Trigger input	18 pin Lemo, trigger in / sync / sync out / exposure out / remote power
Feature connector	

CONNECTIVITY

Video outputs	2x HD-SDI, HDMI
USB	USB 3
Network	1 Gb RJ45
Video	AVI (compressed or uncompressed)
Image sequence	TIFF, JPG, RAW
Ethernet control	1 Gb
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 Xcitetx
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	Portable Control Unit
Sensor	Color / Mono
Memory	36 GB (std) / 72 GB / 96 GB / 144 GB / 192 GB / 288 GB
Shutter time	1 µs (std) / 313 ns (subject to export restrictions)
Internal SSD	500 GB / 1 TB
External SSD	250 GB / 500 GB / 1 TB
Lens mounts	F mount (Nikkor D) / F mount (Nikkor G) C mount / EF mount
Package type	Instrumentation / Rugged
Warranty	1 yr (std) / 2 yr / 3 yr
Internal Batteries	Set of 2 batteries

FRAME RATES, RESOLUTION and DURATION

FPS	Resolution	36GB	72GB	96GB	144GB	288GB
100	2048x1536	81 sec	162 sec	216 sec	324 sec	648 sec
200	2048x1536	40 sec	81 sec	108 sec	162 sec	324 sec
300	2048x1536	30 sec	54 sec	72 sec	108 sec	216 sec
500	2048x1536	16.2 sec	32 sec	43 sec	65 sec	130 sec
1000	2048x1536	8.1 sec	16.2 sec	22 sec	32 sec	65 sec
2000	2048x1536	4 sec	8.1 sec	10.8 sec	16.2 sec	32 sec
4260	2048x1536	1.9 sec	3.8 sec	5.1 sec	7.6 sec	15.2 sec
6380	1920x1080	1.9 sec	3.8 sec	5.1 sec	7.6 sec	15.3 sec
10,000	1344x984	1.9 sec	3.9 sec	5.2 sec	7.8 sec	15.6 sec
15,000	1664x798	2 sec	4 sec	5.4 sec	8.1 sec	16.2 sec
20,000	952x672	2 sec	4 sec	5.4 sec	8.1 sec	16.1 sec
30,000	728x546	2.2 sec	4.3 sec	5.8 sec	8.6 sec	17.3 sec
50,000	560x420	2.2 sec	4.4 sec	5.8 sec	8.8 sec	17.5 sec
100,000	560x198	2.3 sec	4.6 sec	6.2 sec	9.3 sec	18.6 sec
200,000	560x84	2.7 sec	5.5 sec	7.3 sec	11 sec	21.9 sec
300,000	560x48	3.2 sec	6.4 sec	8.5 sec	12.8 sec	25.6 sec
500,000	560x18	5.1 sec	10.2 sec	13.6 sec	20.5 sec	41.0 sec

Note: Other resolutions and speeds are available.