

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, 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 – 1,000,000 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 (12232-2:2006, D, sat)	Mono 5,000 / 40,000 (max) Color 1,800 / 14,400 (max)
Maximum frame rate	1,000,000 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	
Instrumentation package	
inches	14.3 (W) x 6.2 (H) x 6.2 (L)
mm	363 (W) x 157 (H) x 154 (L)
Rugged package	
inches	14.75 (W) x 6.0 (H) x 5.75 (L)
mm	374 (W) x 150 (H) x 143.5 (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)
Lead free	RoHS Directive
WEEE	Compliant
IP rating	IP 20
Temperature °F	32 to 104 operation, -4 to 140 storage
Temperature °C	0 to 40 operation, -20 to 60 storage
Pressure	71 kpa to 106 kpa
Relative humidity	95% at 104°F non-condensing
G-shock, Instrumentation package	10 G
G-shock, Rugged package	30 G @ 11 ms IEC 68-2-27 Ea, 30 G @ 2 ms IEC 68-2-29 Eb
Power input connector	6 pin Lemo
Trigger input	BNC 75 Ω
Feature connector	18 pin Lemo, trigger in / sync / sync out / exposure out / remote power

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 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	Portable Control Unit
Sensor	Color / Mono
Memory	36 GB (std) / 72 GB / 96 GB / 144 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
	1,000	2048x1536	8.1 sec	16.2 sec	21.6 sec	32.4 sec	64.8 sec
	2,000	2048x1536	4.0 sec	8.1 sec	10.8 sec	16.2 sec	32.4 sec
	4,260	2048x1536	1.9 sec	3.8 sec	5.1 sec	7.6 sec	15.2 sec
	5,000	1904x1416	1.9 sec	3.8 sec	5.1 sec	7.6 sec	15.3 sec
	6,380	1920x1080	1.9 sec	3.8 sec	5.1 sec	7.6 sec	15.3 sec
	7,500	1568x1134	1.9 sec	3.9 sec	5.1 sec	7.7 sec	15.4 sec
	10,000	1344x984	1.9 sec	3.9 sec	5.2 sec	7.8 sec	15.6 sec
	15,000	1064x798	2.0 sec	4.0 sec	5.4 sec	8.1 sec	16.2 sec
	20,000	952x672	2.0 sec	4.0 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	11.0 sec	21.9 sec
	500,000	560x18	5.1 sec	10.2 sec	13.6 sec	20.5 sec	40.9 sec
	750,000	280x24	5.1 sec	10.2 sec	13.6 sec	20.5 sec	40.9 sec
	1,000,000	280x18	5.1 sec	10.2 sec	13.6 sec	20.5 sec	40.9 sec

Note: Other resolutions and speeds are available.



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