

## Extreme Performance for Research, Ballistics and Testing



**6,642fps @ 2048x1536 | 20GPx/s throughput | 10,000fps @ 1680x1242**



**i-SPEED 720R  
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. When the fastest camera is required to capture the fastest events, the i-SPEED 7 is up to the task.



**The i-SPEED 720  
camera is controlled  
both by PC and  
the new 7 Series  
touchscreen CDUe**

## FEATURES

- High resolution 2048x1536 pixel sensor (3.1MPx)
- 1080p resolution at 9,942 frames/second
- Up to 288 GB of on-board memory for long recordings
- Internal or external SSD drive for fast data transfer
- Microlens sensor for exceptional light sensitivity
- Wide Dynamic Range recording
- Global electronic shutter to 293 ns\*
- 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
- Upgrade path between models

\* Subject to export regulations, shorter shutter speeds are available by request. Contact iX Cameras for more information.

## IMAGER

<b>Sensor type</b>	Custom CMOS
<b>Sensor resolution</b>	2048 x 1536 pixel
<b>Sensor size</b>	27.972 mm x 20.736 mm
<b>Sensor diagonal</b>	34.82 mm
<b>Pixel size</b>	13.5 µm
<b>Bit depth</b>	12 bit (36 bit color)
<b>Light sensitivity Mono (Gain off/on)</b>	4,000 / 32,000
<b>Light sensitivity Color (Gain off/on)</b>	1,000 / 8,000
<b>Maximum frame rate</b>	1,000,000 fps
<b>Shutter type</b>	Global exposure
<b>Shutter time, standard</b>	1 µs minimum
<b>Shutter time, fast mode</b>	293 ns
<b>WDR</b>	Wide Dynamic Range

## SYNCHRONIZATION and CAPTURE

<b>Trigger</b>	TTL T0 to 0-100%
<b>Trigger modes</b>	Circular, ROC, BROCC
<b>Sync</b>	10 Hz – 200 kHz
<b>Luminance histogram</b>	Iris setting aid tool
<b>i-CHEQ 360</b>	Camera status LEDs
<b>i-FOCUS</b>	Focusing aid tool
<b>i-EXPOSE</b>	High/low exposure highlight
<b>Control</b>	PC or CDUe
<b>IRIG input</b>	IRIG – B to sub 1 µs
<b>IRIG sync</b>	Camera sync to IRIG
<b>Internal memory</b>	72 GB standard, upgrade to 288 GB

## PHYSICAL and ENVIRONMENTAL

<b>Dimensions</b>	
<b>Instrumentation package</b>	
inches	14.3 (W) x 6.2 (H) x 6.2 (L)
mm	363 (W) x 157 (H) x 154 (L)
<b>Rugged package</b>	
inches	14.75 (W) x 6.0 (H) x 5.75 (L)
mm	374 (W) x 150 (H) x 143.5 (L)
<b>Weight</b>	18.7 lb (8.5 kg) with battery
<b>Input voltage</b>	12-36 V
<b>Power consumption</b>	150 W nominal, 200 W max
<b>Mounting</b>	¼x20 and 3/8x16 tripod plate
<b>Battery</b>	2x 14.4 V 90 Wh
<b>Battery life</b>	1 hour
<b>Lens mount</b>	Custom, swappable lens plate
<b>EMC</b>	EN55032-A, EN55024
<b>Safety</b>	BS EN61010-1 (camera), IEC60950 (PSU)
<b>CE marking</b>	EMC directive (camera), EMC directive, LV directive (PSU)
<b>Lead free</b>	RoHS directive
<b>WEEE</b>	Compliant
<b>IP Rating</b>	IP 20
<b>Temperature °F</b>	32 to 104 operation, -4 to 140 storage
<b>Temperature °C</b>	0 to 40 operation, -20 to 60 storage
<b>Pressure</b>	71 kpa to 106 kpa
<b>Relative humidity</b>	95% at 104°F non-condensing
<b>G-shock, Instrumentation package</b>	10 G
<b>G-shock, Rugged package</b>	30 G @ 11 ms IEC 68-2-27 Ea, 30 G @ 2 ms IEC 68-2-29 Eb
<b>Power input connector</b>	6 pin Lemo
<b>Trigger input</b>	BNC 75 Ω
<b>Feature connector</b>	18 pin Lemo, trigger in / sync / sync out / exposure out / remote power

## CONNECTIVITY

<b>Video outputs</b>	2x HD-SDI, HDMI
<b>USB</b>	USB 3
<b>Network</b>	1 Gb RJ45
<b>Video</b>	IXV, AVI (compressed or uncompressed)
<b>Image sequence</b>	TIFF, JPG, RAW
<b>Ethernet control</b>	1 Gb
<b>Remote control</b>	Via supplied software

## PC SOFTWARE

<b>Standard control</b>	Control ONE
<b>Premium control</b>	Control MULTI-DAQ
<b>Editing</b>	i-SPEED Movie Maker
<b>Analysis</b>	ProAnalyst <sup>®</sup> Lite by Xcitem
<b>Viewer</b>	i-SPEED Viewer
<b>Utilities</b>	i-SPEED Lens Calculator, i-SPEED Viewer
<b>Software Developers Kit</b>	C++, LabView
<b>Synchronized data acquisition</b>	USB DAQ, 8 options

## PURCHASING OPTIONS

<b>CDUe</b>	Portable Control Unit
<b>Sensor</b>	Color / Mono
<b>Memory</b>	72 GB / 96 GB / 144 GB / 288 GB
<b>Shutter time</b>	1 µs (std) / 293 ns (subject to export restrictions)
<b>Internal SSD</b>	500GB / 1TB / 2TB
<b>External SSD</b>	250GB / 500GB / 1TB / 2TB
<b>Lens mounts</b>	F mount (Nikkor D) / F mount (Nikkor G) C mount / EF mount
<b>Package type</b>	Instrumentation / Rugged
<b>Warranty</b>	1 yr (std) / 2 yr / 3 yr
<b>Internal Batteries</b>	Set of 2 batteries

## FRAME RATES, RESOLUTION and DURATION

Frame Speed	Resolution	72GB	96GB	144GB	288GB
1,000	2048x1536	16.2 sec	21.6 sec	32.4 sec	64.8 sec
2,000	2048x1536	8.1 sec	10.8 sec	16.2 sec	32.4 sec
5,000	2048x1536	3.2 sec	4.3 sec	6.5 sec	12.9 sec
6,642	2048x1536	2.4 sec	3.2 sec	4.9 sec	9.7 sec
7,500	1960x1428	2.5 sec	3.3 sec	4.9 sec	9.8 sec
9,942	1920x1080	2.4 sec	3.3 sec	4.9 sec	9.8 sec
10,000	1680x1242	2.5 sec	3.3 sec	4.9 sec	9.9 sec
15,000	1344x1008	2.5 sec	3.4 sec	5.1 sec	10.1 sec
20,000	1176x864	2.5 sec	3.4 sec	5.1 sec	10.1 sec
30,000	952x696	2.6 sec	3.5 sec	5.2 sec	10.4 sec
50,000	840x462	2.7 sec	3.5 sec	5.3 sec	10.6 sec
100,000	840x216	2.8 sec	3.8 sec	5.7 sec	11.4 sec
200,000	840x96	3.2 sec	4.3 sec	6.4 sec	12.8 sec
500,000	896x24	4.8 sec	6.4 sec	9.6 sec	19.2 sec
750,000	448x36	4.3 sec	5.7 sec	8.5 sec	17.0 sec
1,000,000	448x24	4.8 sec	6.4 sec	9.6 sec	19.2 sec

*Note: Other resolutions and speeds are available.*



Specifications subject to change  
Document: DS-720-1.7.20  
Copyright © 2020 IX Cameras Ltd.

**United Kingdom**  
Bradley House  
Locks Hill  
Rochford  
Essex, SS4 1BB  
T: +44 (0) 1702 540 669

**United States**  
8 Cabot Rd.  
Suite 1800  
Woburn,  
MA, 01801  
T: 339 645 0778

**China**  
Room 1402, Unit 65,  
No 399 Hangting Road,  
Oriental Hong Jing Garden,  
ZhuQiao Town, Shanghai,  
T: +86 186 215 60553

**India**  
C-207, Twin Arcs  
Legacy Life Spaces  
Punwale Bazar  
Punawale, Pune-411033  
Maharashtra, India  
T: +91 955 256 5021