

Extreme Performance for Research, Ballistics and Testing



The i-SPEED 720 utilizes the same high-resolution 3 megapixel image sensor of the high-end i-SPEED 7 Series camera line, but at tempered speeds. Clocking at 20 gigapixels per second throughput, this camera can stop the world's fastest events. With internal memory options up to 144GB, the i-SPEED 720 is the ideal instrument for the test engineer, scientist or researcher.

This camera is loaded with innovative features, from the heralded i-CHEQ on-board performance monitoring system to the multi-point internal hardware designed to reduce vibrations during critical testing. The multiple on-board computers move data quickly into internal or external hot-swappable SSD cards for quick review of data.

Each camera is supplied with the industry leading i-SPEED Software Suite 2.0 PC software for control, analysis, editing and playback.



**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 homogenous aluminum frame.



**Multiple HDSDI,
HDMI and other
outputs allow data
to flow freely**

FEATURES

- High-resolution 2048x1536 pixel sensor
- Full resolution to 6,220 frames/second
- 1080p resolution at 9,280 frames/second
- Up to 144GB of on-board memory
- Ultra-fast 20GP/sec throughput
- Microlens sensor for exceptional light sensitivity
- Wide Dynamic Range recording
- Global Electronic Shutter to 250 ns*
- 1 hour battery life
- Internal or external SSD drive for fast data transfer
- Compatible with all F and EF mount lenses
- Maximum frame rate – 750,000 fps
- Flexible Frame Synchronization from 24 Hz to 500kHz
- Environmentally rugged package available

* Upgrade

IMAGER

Sensor type	Custom CMOS
Sensor resolution	2048 x 1536 pixel
Sensor size	27.972mm x 20.736mm
Sensor diagonal	34.82mm
Pixel size	13.5 µm
Bit depth	12bit, 10 bit, 8 bit
ISO	Mono 5000 / 40000 • Color 1800 / 14400
Maximum Frame Rate	750,000 fps
Shutter type	Global Exposure
Shutter time, standard	1µs minimum
Shutter time, fast mode	250ns
WDR	Wide Dynamic Range

SYNCHRONIZATION and CAPTURE

Trigger	TTL T0 to 0-100%
Trigger modes	Circular, ROC, BROCC
Sync	24Hz – 500kHz
Luminance histogram	Iris setting aid tool
iCHEQ 360	Camera status LEDs
iFocus	Focusing aid tool
iExposure	High/low exposure highlight
Control	PC or CDU
IRIG Input	IRIG – B to sub 2µs
IRIG Sync	Camera sync to IRIG
Internal Memory	72GB standard, upgrade to 144GB

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	18.7lb (8.5kg) with battery
Input Voltage	12-36V
Power Consumption	150w Nominal, 200w Max
Mounting	¼x20 and 3/8x16 tripod plate
Battery	2x 14.4v 90Wh
Battery life	1 hour
Lens mount	Custom lens plate
EMC	CISPR22 (BS EN55022), CISPR24 (BS EN55024)
Safety	BS EN61010-1
CE Marking	EMC Directive (Camera), LV Directive, EMC 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 160 storage
Pressure	71 kpa to 106 kpa
Relative Humidity	95% at 104°F non-condensing
G-shock, Instrumentation package	10G
G-shock, Rugged package	30G @ 11ms IEC 68-2-27 Ea, 30G @ 2ms IEC 68-2-29 Eb
Power input connector	6pin Lemo
Trigger input	BNC 75ohm
Feature input	18pin Lemo, Trigger in / Sync in / Sync out / Exposure out / Remote power

CONNECTIVITY

Video outputs	2x HD-SDI, HDMI
USB	USB 3
Network	1Gb RJ45
CDU	BNC 75ohm
Video	AVI (JPG, BMP), HSV
Image sequence	TIFF, BMP, JPG, RAW
Ethernet control	1GB
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

Sensor	Color / Mono
Memory	72GB (Std) / 96GB / 144GB
Shutter time	1µs (std) / 250ns (upon request)
Internal SSD	500 GB / 1TB
External SSD	250 GB / 500 GB / 1TB
Lens mounts	F mount (Nikkor D) / F mount (Nikkor G) C mount / EF mount
Package Type	Instrumentation / Package
Warranty	1 yr (std) / 2 yr / 3 yr

FRAME RATES, RESOLUTION and DURATION

FPS	Resolution	36GB	72GB	96GB	144GB
100	2048x1536	-	232 sec	308 sec	464 sec
200	2048x1536	-	116 sec	154 sec	232 sec
300	2048x1536	-	77 sec	102 sec	154 sec
500	2048x1536	-	46.3 sec	61.7 sec	93 sec
1000	2048x1536	-	23.1 sec	30.9 sec	46 sec
2000	2048x1536	-	11.6 sec	15.4 sec	23.2 sec
5,000	2048x1536	-	4.6 sec	6.2 sec	9.2 sec
6,350	2048x1536	-	2.8 sec	3.8 sec	5.7 sec
9,600	1920x1080	-	2.4 sec	3.2 sec	4.8 sec
12,500	1440x1080	-	2.5 sec	3.3 sec	5.0 sec
20,000	1280x720	-	2.8 sec	3.7 sec	5.6 sec
30,000	1000x568	-	2.8 sec	3.7 sec	5.6 sec
50,000	676x480	-	2.5 sec	3.4 sec	5.8 sec
100,000	560x277	-	2.5 sec	3.4 sec	5.8 sec
200,000	560x127	-	2.7 sec	3.6 sec	6.2 sec
300,000	560x82	-	2.9 sec	3.8 sec	6.6 sec
500,000	560x37	-	3.2 sec	4.2 sec	6.4 sec
750,000	560x22	-	2.9 sec	3.8 sec	5.8 sec

Note: Other resolutions and speeds are available.