

The Perfect Balance of Speed, Size, and Memory



3,985fps @ 1920x1080 | 8GPx/s throughput | 10,000fps @ 1064x768

FEATURES + OPTIONS

- HD resolution 1920 x1080 pixel sensor, more pixels = greater accuracy
- Full resolution to 3,980 frames/second, maintaining higher res at higher speeds
- 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
- Impressive 8.3 GP/sec throughput
- Global electronic shutter to 250 ns*
- Compatible with all Nikon F and Canon EF mount lenses
- Record up to 500,000 fps
- App-based tablet control via Controller Display Unit (CDU) for simple operation
- 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

Sublime ease-of-use coupled with full feature functionality



SPECIFICATIONS

i-SPEED.508

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) |
| ISO (12232-2:2006, D, sat) | Mono ISO 8,500D (sat) / 68,000D (sat) Color ISO 3,060D (sat) / 24,480D (sat) |
| Maximum frame rate | 500,000 fps |
| Shutter type | Global exposure |
| Shutter time, standard | 1 µs min (standard) |
| Shutter time, fast mode | 250 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) RoHS directive |
| Lead free | Compliant |
| 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) / 250 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

| FPS | Resolution | 18GB | 36GB | 72GB | 96GB | 144GB |
|---------|------------|----------|----------|----------|----------|----------|
| 100 | 1920x1080 | 30.4 sec | 60.9 sec | 122 sec | 162 sec | 243 sec |
| 200 | 1920x1080 | 15.2 sec | 30.4 sec | 60.9 sec | 81.1 sec | 122 sec |
| 300 | 1920x1080 | 10.1 sec | 20.2 sec | 40.5 sec | 54 sec | 81 sec |
| 500 | 1920x1080 | 6.1 sec | 12.2 sec | 24.3 sec | 32.5 sec | 49 sec |
| 1,000 | 1920x1080 | 3 sec | 6.1 sec | 12.2 sec | 16.2 sec | 24 sec |
| 2,000 | 1920x1080 | 1.5 sec | 3.1 sec | 6.1 sec | 8.1 sec | 12 sec |
| 3,000 | 1920x1080 | 1 sec | 2 sec | 4.1 sec | 5.4 sec | 8.1 sec |
| 3,985 | 1920x1080 | 0.8 sec | 1.5 sec | 3.1 sec | 4.1 sec | 6.1 sec |
| 4,980 | 1512x1081 | 0.8 sec | 1.6 sec | 3.2 sec | 4.2 sec | 6.3 sec |
| 5,000 | 1512x1080 | 0.8 sec | 1.6 sec | 3.2 sec | 4.2 sec | 6.3 sec |
| 6,382 | 1344x966 | 0.8 sec | 1.6 sec | 3.1 sec | 4.2 sec | 6.2 sec |
| 7,500 | 1232x888 | 0.8 sec | 1.6 sec | 3.1 sec | 4.2 sec | 6.3 sec |
| 10,000 | 1064x768 | 0.8 sec | 1.6 sec | 3.2 sec | 4.2 sec | 6.3 sec |
| 15,000 | 840x630 | 0.8 sec | 1.6 sec | 3.2 sec | 4.3 sec | 6.5 sec |
| 20,000 | 728x540 | 0.8 sec | 1.6 sec | 3.3 sec | 4.4 sec | 6.6 sec |
| 50,000 | 448x324 | 0.9 sec | 1.8 sec | 3.6sec | 4.7 sec | 7.1 sec |
| 100,000 | 336x198 | 1 sec | 1.9 sec | 3.9 sec | 5.2 sec | 7.7 sec |
| 200,000 | 336x84 | 1.1 sec | 2.3 sec | 4.6 sec | 6.1 sec | 9.1 sec |
| 300,000 | 336x48 | 1.3 sec | 2.7 sec | 5.3 sec | 7.1 sec | 10.6 sec |
| 500,000 | 392x18 | 1.8 sec | 3.7 sec | 7.3 sec | 9.7 sec | 14.6 sec |

Note: Other resolutions and speeds are available.



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Specifications subject to change
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