The FLIR X6900sc is an extraordinarily fast, highly sensitive MWIR camera designed for scientists, researchers, and engineers. With advanced triggering, on-camera RAM/SSD recording, and a four-position motorized filter wheel, this camera offers the functionality to stop motion on high speed events, whether they’re in the lab or on the test range.

www.flir.com/science

**HIGH-SPEED MWIR SCIENCE-GRADE CAMERA**

FLIR X6900sc™

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**HIGH SPEED, HIGH SENSITIVITY**

- Record crisp thermal images, even at high speeds
- Capture full 640 x 512 pixel resolution data at 1004 Hz
- Achieve frame rates up to 29,134 Hz in subwindow mode
- Detect temperature differences down to <20 mK with very low noise

**ON-CAMERA RAM/SSD RECORDING**

- Stop motion on high-speed events, both in the lab and at the test range
- Save up 26,000 frames of full-resolution data to on-camera RAM with zero dropped frames
- Play back from RAM or save to removable solid-state drive in 90-seconds, so you can quickly rearm for a new recording
- Stream high-speed 14-bit data simultaneously over Gigabit Ethernet, CameraLink, and CoaXpress
- Capture full 640 x 512 pixel resolution data at 1004 Hz
- Achieve frame rates up to 29,134 Hz in subwindow mode
- Detect temperature differences down to <20 mK with very low noise

**SYNCHRONIZATION, TRIGGERING, AND SOFTWARE**

- Capture every moment by synchronizing with external events or instrumentation
- Triggers with external BNC input, a software trigger, or an IRIG-B time stamp for maximum versatility
- Integrates seamlessly with FLIR ResearchIR Max or third-party software such as MathWorks® MATLAB
- Stream data directly to a PC running software for live viewing, recording, analysis, and sharing
- Integrate with your proprietary software through optional Software Developers Kit (SDK)
### FLIR X6900sc MWIR

**Detector Type:** FLIR indium antimonide (InSb)

**Spectral Range:** 3.0–5.0 µm or 1.5–5.0 µm

**Resolution:** 640 x 512

**Detector Pitch:** 25 µm

**Thermal Sensitivity/NETD:** <20 mK

**Well Capacity:** 11.0 M electrons

**Operability:** >98.8% (>99.95% typical)

**Sensor Cooling:** Closed cycle rotary

**Electronics**

- **Readout Type:** Snapshot
- **Readout Modes:** Asynchronous integrate while read, Asynchronous integrate then read
- **Synchronization Modes:** Genlock, Sync-in, Sync-out
- **Image Time Stamp:** Internal IRIG-B decoder clock, TSI, accurate time stamp
- **Minimum Integration Time:** 270 ns
- **Pixel Clock:** 355 MHz
- **Frame Rate (Full Window):** Programmable; 0.0015 Hz to 1004 Hz
- **Dynamic Range:** 14-bit
- **On-Camera Image Storage:** RAM (volatile): 16 GB, up to 26,000 frames, full frame, SSD (non-volatile): 512 GB (supports >4 TB)
- **Radiometric Data Streaming:** Simultaneous Gigabit Ethernet (GigE Vision), Camera Link, CoaXPress (CXP)
- **Standard Video:** HDMI, SDI, NTSC, PAL
- **Command and Control:** GigE, USB, RS-232, Camera Link, CXP (GenICam protocol supported over GigE or CXP)

**Temperature Measurement**

- **Standard Temperature Range:** -20°C to 350°C (-4°F to 662°F)
- **Optional Temperature Range:** Up to 3,000°C (5,432°F)
- **Accuracy:** ±1°C or ±1% of reading (10°C to 3,000°C on standard lens configurations only)

**Temperatures**

- **Camera f/Number:** f/2.5 or f/4.1
- **Available Lenses:** FLIR HDC Optics
- **Lens Interface:** FLIR HDC (4-tab bayonet)
- **Focus:** Manual
- **Filtering:** 4-Position warm filter wheel, standard 1-inch filters

**ADVANCED FILTERING OPTIONS**

The FLIR X6900sc incorporates an easy access, four-position motorized filter wheel that allows the user to easily change filters as needed. With automatic filter recognition, the camera knows the filter location, spectral band, and associated calibrations, making it easy to select a filter and load a custom calibration and configuration to the camera. FLIR also supports custom cold filters for more tailored spectral filtering requirements.