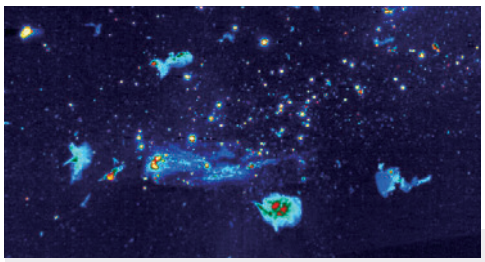
HIGH-SPEED MWIR SCIENCE-GRADE CAMERA

FLIR X6800™

The FLIR X6800 is a fast, highly sensitive MWIR camera designed for scientists, researchers, and engineers. With advanced triggering and on camera RAM/SSD recording, this camera offers the functionality to stop motion on high-speed events both in the lab and at the test range.

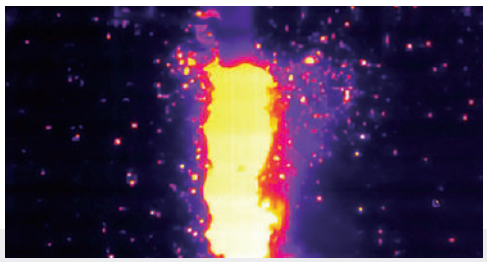
www.flir.com/science



HIGH SPEED, HIGH SENSITIVITY

Record crisp thermal images, even at high speeds

- Capture full 640 x 512 pixel resolution data at 520 Hz
- Achieve frame rates up to 23,076 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 to 51 seconds 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 and CameraLink

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)

SPECIFICATIONS

	FLIR X6800 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	>99.8% (>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 TSPI accurate time stamp
Minimum Integration Time	270 ns
Pixel Clock	355 MHz
Frame Rate (Full Window)	Programmable; 0.0015 Hz to 520 Hz
Subwindow Mode	Flexible windowing down to 32 x 4 (steps of 32 columns, 4 rows)
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	SSD (non-volatile): 512 GB (supports >4 TB)
Standard Video	HDMI, SDI, NTSC, PAL
Command and Control	GigE, USB, RS-232, and Camera Link (GenICam protocol supported over GigE)
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 (0°C to 3,000°C on standard lens configurations only)
Optics	
Camera f/Number	f/2.5 or f/4.1
Available Lenses (Uses FLIR HDC Optics)	3-5 µm: 17 mm, 25 mm, 50 mm, 100 mm, 200 mm Broadband (1-5 µm): 25 mm, 50 mm, 100 mm

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com

Optics Continued	
Lens Interface	FLIR HDC (4-tab bayonet)
Focus	Manual
Filtering	Filter wheel, standard 1-inch filters
Image/Video Presentation	
Palettes	Selectable 8-bit
Automatic Gain Control	Manual, Linear, Plateau equalization, ROI, DDE
Overlay	Customizable (Timestamp, Date, Integration time, Internal temp, Frame rate, Sync mode, Cooler hours)
Video Modes	HD: 720p/50/59.9 Hz, 1080p/25/29.9 Hz
Digital Zoom	1x, 4x, 4:3
General	
Operating Temperature Range	-20°C to 50°C (-4°F to 122°F)
Shock/Vibration	40 g, 11 msec ½ sine pulse/4.3 g RMS random vibration, all 3 axes
Power	24 VDC (< 50 W steady state)
Weight w/Handle, w/o Lens	6.35 kg (14 lbs)
Size (L x W x H) w/o Lens, Handle	249 x 156 x 147 mm (9.8 x 6.2 x 5.8 in.)
Mounting	2 x ¼ in. -20 1 x 3/8 in. -16 4 x #10 -24 Side: 3x ¼ in. -20 (each side)

ADVANCED FILTERING OPTIONS

The FLIR X6800sc incorporates an easy access, four-position motorized filter wheel that permits the user to change filters. 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.