

# HIGH RESOLUTION HIGH-SPEED IR CAN'T BE WRONG



Go Thermal!

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## FLIR X6900sc MWIR Science-Grade

Extraordinary high-speed infrared with 1,000 fps at full resolution – 640 x 512.  
3x faster minimum gating & 2x the horizontal resolution of the nearest competition.  
Record breaking IR speeds over 29,000 fps.

**Experience the Invisible.™**

Contact us for more information or to schedule a demo today.

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For more information  
Call 1-888-43HADLAND (1-888-434-2352) or email, [sales@hadlandimaging.com](mailto:sales@hadlandimaging.com)  
about high-speed visible, infrared & Flash X-ray imaging solutions.  
FLIR on the web: [www.flir.com](http://www.flir.com)



FLIR X6900sc High-Speed MWIR Camera

- 1,000 fps full-frame – 640 x 512
- On-camera RAM recording
- Synchronization with other instruments & events
- Full GenICam support over GigE & CXP interfaces
- Filter wheel with auto filter recognition

DATASHEET FLIR X6900SC

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# FLIR X6900sc – MWIR Science-Grade

Extraordinary high-speed infrared with over 1,000 fps at full resolution – 640 x 512. 3x faster minimum gating & 2x the horizontal resolution of the nearest competition. Record breaking IR speeds over 29,000 fps.

## Go thermal with the fastest full resolution MWIR camera.

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. The X6900sc captures full 640 x 512 images at 1,000 frames per second, making it the world's fastest full resolution, commercially-available thermal imaging camera.

## Tech Specs

### System Overview

<b>Detector Type</b>	FLIR Indium Antimonide (InSb)
<b>Spectral Range</b>	3.0–5.0µm or 1.5–5.0µm
<b>Resolution</b>	640 x 512
<b>Angular tracking accuracy</b>	better than 0.1°
<b>Detector Pitch (pixel)</b>	25µm²
<b>Thermal Sensitivity/NETD</b>	< 20mK
<b>Well Capacity</b>	11.0M electrons
<b>Operability</b>	> 99.8% (> 99.95% typical)
<b>Sensor Cooling</b>	Closed cycle rotary

### Electronics

<b>Readout Type</b>	Snapshot
<b>Readout Modes</b>	Asynchronous integrate while read Asynchronous integrate then read
<b>Synchronization Modes</b>	Genlock, Sync-in, Sync-out
<b>Image Time Stamp</b>	Internal IRIG-B decoder clock, TSPI accurate time stamp
<b>Integration Time</b>	270ns to 687 sec
<b>Pixel Clock</b>	355MHz
<b>Frame Rate (Full Window)</b>	Programmable; 0.0015Hz to 1004Hz
<b>Subwindow Mode</b>	Flexible windowing down to 64 x 4 (steps of 32 columns, 4 rows)
<b>Dynamic Range</b>	14-bit
<b>On-Camera Image Storage</b>	RAM (volatile): 16GB, up to 26,000 frames, full frame SSD (non-volatile): > 4TB
<b>Radiometric Data Streaming</b>	Simultaneous Gigabit Ethernet (GigE Vision), Camera Link, CoaXPress (CXP)
<b>Standard Video</b>	HDMI, SDI, NTSC, PAL
<b>Command &amp; Control</b>	GigE, USB, RS-232, Camera Link, CXP (GenICam protocol supported over GigE or CXP)

### Temperature Measurement

<b>Standard Temperature Range</b>	-4° to 662° F (-20° to 350° C)
<b>Optional Temperature Range</b>	Up to 2,732° F (1,500° C), Up to 3,632° F (2,000° C)
<b>Accuracy</b>	± 2% of reading or ± 2° C

### Optics

<b>Camera f/Number</b>	f/2.5 or f/4.1
<b>Available Lenses</b> (Uses FLIR HDC Optics)	3-5µm: 17mm, 25mm, 50mm, 100mm, 200mm Broadband (1-5µm): 25mm, 50mm, 100mm
<b>Close-up Lenses/Microscopes</b>	1x, 4x (3-5µm, requires f/4.1 camera)
<b>Lens Interface</b>	FLIR HDC (4-tab bayonet)
<b>Focus</b>	Manual
<b>Filtering</b>	Filter wheel, standard 1" filters

### Image/Video Presentation

<b>Palettes</b>	Selectable 8-bit
<b>Automatic Gain Control</b>	Manual, Linear, Plateau equalization, ROI, DDE
<b>Overlay</b>	Customizable (IRIG-B, Date, Integration time, Internal temp, Frame rate, Sync mode, Cooler hours)
<b>Video Modes</b>	HD: 720p / 50 / 59.9 Hz, 1080p / 25 / 29.9 Hz
<b>Digital Zoom</b>	1x, 4x, 4:3

### General

<b>Operating Temperature Range</b>	-4° to 122° F (-20° to 50° C)
<b>Storage Temperature Range</b>	-40° to 176° F (-40° to 80° C)
<b>Shock/Vibration</b>	40 g, 11msec 1/2 sine pulse/4.3 g RMS random vibration, all axes
<b>Power</b>	24VDC (< 50W steady state)
<b>Weight w/handle, w/o lens</b>	14 lbs (6.35 kg)
<b>Size (LWH) w/o handle, lens</b>	9.8 x 6.2 x 5.8" (249 x 158 x 147 mm)
<b>Mounting</b>	2 x 1/4–20, 1 x 3/8–16, 4 x #10–24, Side: 3x 1/4–20 (each side)

**BETTER GEAR.  
BETTER RESULTS.**  
We've got the gear you need to get the job done right

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