



# FLIR X6520sc

## High Sensitivity MWIR Performance Camera

The FLIR X6520sc thermal imaging camera provides superior thermal measurement performance paired with the most advanced connectivity. Whether your research requires short sampling times to capture high-speed processes, or you need concrete spectral information within the MWIR bandwidth, the FLIR X6520sc provides highly-sensitive temperature measurements. In addition, the camera's state-of-the-art connectivity and intuitive user experience allow researchers to focus on their experiments instead of camera controls.

### High Sensitivity Thermal Imaging

The X6520sc is equipped with a cooled mercury cadmium telluride (MCT) detector that's sensitive enough to distinguish temperature differences less than 25 mK (18 mK typical). The camera produces temperature measurements with an accuracy of  $\pm 1^\circ\text{C}/1\%$  and a wide temperature range that automatically adjusts to best fit the thermal scene. Add an optional filter to the motorized 4-position filter wheel to uncover hidden spectral detail, or attach a close-up lens to resolve details as small as  $3\ \mu\text{m}$ .

### Fast Frame Rates

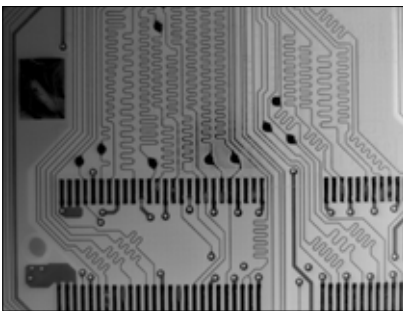
The X6520sc produces  $640 \times 512$  full-frame imagery at speeds up to 146 Hz, with integration times as short as 80 ns for accurate measurement of high-speed processes. User-defined subwindowing allows for even faster frame rates, up to 3,699 Hz. View thermal imagery live on the detachable touchscreen LCD monitor, or stream high-speed 14-bit data to a computer for live viewing, analysis, or recording.

### Connectivity and Compatibility

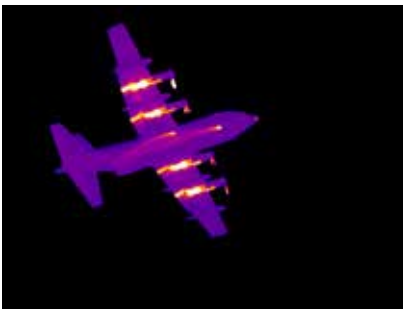
This camera works seamlessly with the supplied FLIR ResearchIR Max software for both viewing and processing thermal data. Connect over Camera Link for full-bandwidth data acquisition, Gigabit Ethernet for simple connectivity, or BNC for frequently-used features such as detector sync, acquisition trigger, and analog lock-in input. Each user can save camera configurations, including button programming, to the microSD card for fast and flexible exchange between users.

### Key Features

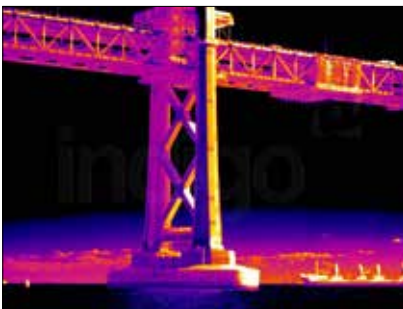
- Mercury cadmium telluride (MCT) detector
- Excellent image quality:  $640 \times 512$  pixels
- High sensitivity and fast frame rates
- Motorized 4-position filter wheel
- Range of connectivity options including Camera Link and Gigabit Ethernet
- Low-cost, cooled camera solution with no export/usage restrictions



Captures crisp, detailed macro images of printed circuit boards



Freezes motion on fast-moving subjects



Accurately focuses and measures temperature, even at a distance

## Specifications

System Overview	X6520sc
IR Resolution	640 x 512
Sensor Material	Mercury cadmium telluride (MCT)
Pitch	15 µm
Spectral Range	3.7 - 4.8 µm
Thermal Sensitivity/NETD	< 25 mK (18 mK typical)
Sensor Cooler Type	Closed cycle (rotary) Stirling cooler
Operability	> 99%
Electronics/Imaging	
Synchronization Modes	IRIG-B, Sync In, Trigger In
Integration Time	80 ns to 20,000 µs
Max Frame Rate (Full Frame)	146 Hz
Subwindow Modes	320 x 256 160 x 128 Arbitrary size, down to 132 x 8
Max Frame Rate (Subwindow Mode)	320 x 256: 528 Hz 160 x 128: 1510 Hz 132 x 8: 3699 Hz
Dynamic Range	14-bit, 16-bit with DRX
Digital Data Streaming	Simultaneous Gigabit Ethernet and Camera Link Base / Camera Link Medium
Video Output	DVI 1080p
Command & Control	Gigabit Ethernet, Camera Link, detachable LCD display, WiFi
Measurement	
Accuracy	±1°C or ±1% of the reading
Standard Temperature Range	5°C to 150°C (41°F to 302°F)
Optics	
Camera f/number	f/4.0
Available Lenses	12 mm - 44° x 34° - USL Motorized 25 mm - 22° x 17° - USL Motorized 50 mm - 11° x 8.8° - USL Motorized 100 mm - 5.5° x 4.4° - USL Motorized 200 mm - 2.75° x 2.2° - USL Motorized Close up x1 WD=300 mm - 9.6 mm x 7.68 mm Close up x3 - 3.2 mm x 2.56 mm Close up x5 - 1.92 mm x 1.53 mm
Focus	USL mechanism, manual
Filtering	4-slot filter wheel
Image Presentation	
On-Camera Display	Detachable touchscreen LCD display (800 x 480 pixel)
Analog Palettes	Selectable 8-bit
Automatic Gain Control	Manual, Linear, ROI
Display Overlay	Temperature measurement & scale
Image Analysis	On-camera temperature analysis
General	
Operating Temperature Range	-20°C to 50°C (-4°F to 122°F)
Shock / Vibration	Operational 6 ms, 25 g, IEC 68-2-29 Operational 2 g, IEC 68-2-26
Power	24 VDC
Weight w/o Lens	4.80 kg (10.58 lbs) with LCD 4.3 kg (9.47 lbs) without LCD
Size (L x W x H) w/o Lens	23 x 15 x 22 cm (9 x 6 x 8.6 in) with LCD 23 x 15 x 18 cm (9 x 6 x 7 in) w/o LCD
Mounting	UNC ¼"-20 + 3 x M5 threads

Specifications are subject to change without notice.

For the most up-to-date specifications, go to [www.flir.com](http://www.flir.com)

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**PORTLAND**  
Corporate Headquarters  
FLIR Systems, Inc.  
27700 SW Parkway Ave.  
Wilsonville, OR 97070 USA  
PH: +1 866.477.3687

**EUROPE**  
FLIR Systems  
Luxemburgstraat 2  
2321 Meer Belgium  
PH: +32 (0) 3665 5100

**UK**  
FLIR Systems UK  
2 Kings Hill Avenue, Kings Hill  
West Malling, Kent ME19 4AQ  
United Kingdom  
PH: +44 (0)1732 220 011

[www.flir.com](http://www.flir.com)  
NASDAQ: FLIR