FLIR X6980-HS INSB™

High-Speed MWIR
Science-Grade Camera

Key Features:

- **Full Frame Rate Streaming** Experience unmatched image clarity and speed with 10 GigE, CXP 2.1, and CameraLink Full high-speed interfaces
- **Extended SSD Recording** Capture more than 1.5 hours of detailed thermal events directly to a 4 TB SSD with zero dropped frames.
- **Seamless Data Integration** Effortlessly transfer full recordings from SSD to computer, ensuring your thermal data is always ready for analysis.
- **Precise Timing System** Proprietary triggering, synchronization, and accurate IRIG time stamping system that ensures precise, on-time recording.

Main Applications:

- Ballistics and munitions testing
- Target signature
- Radiometry
- Airbag testing
- Non-destructive testing

www.FLIR.com/X6980HS

SPECIFICATIONS

	X6980HS	X6981HS	X6982HS	X6983HS
Part #	29447-280	29447-281	29447-282	29447-283
Detector				
Detector Type	FLIR Indium Antimonide (InSb)			
Spectral Range	1.5 – 5.0 µm	3.0 – 5.0 µm	1.5 – 5.0 µm	3.0 – 5.0 µm
Camera f/#	f/2.5	f/2.5	f/4.1	f/4.1
Resolution	640 × 512			
Detector Pitch	25 µm			
Thermal Sensitivity/ NETD, typical	20 mK, typical			
Operability	≥99.5% (≥99.95% typical)			
Sensor Cooling	Closed cycle rotary			
Electronics				
Readout Type	Snapshot			
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read			
Synchronization Modes	Sync In, Sync Out, Tri-Level Sync, Video Sync			
Image Time Stamp	Internal precision timestamp. IRIG-B AM decoder, TSPI accurate, Free wheel if sync signal is lost			
Trigger Modes	Trigger In, Software generated, Time generated			
Integration Time	270 ns to approx. Full Frame			
Pixel Clock	355.2 MHz			
Frame Rate (Full Window)	Programmable; 0.0015 Hz to 1004 Hz			
Subwindow Mode	Flexible windowing down to 32 × 4 (steps of 32 columns, 4 rows)			
Dynamic Range	14-bit			
Direct to SSD Recording	Yes, removable 4 TB NVMe SSD included, approx. 2 hours of zero dropped frames record time			

For more information and to find your local support number, visit:
FLIR.com/contact/instruments-support
www.FLIR.com

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FLIR X6980-HS_INSB_US

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SPECIFICATIONS, CONT.

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Electronics Continued				
On-Camera Image Storage	RAM (volatile): 64 GB, up to 95,000 frames full frame NVMe U.2 SSD (user-removable/non-volatile): 4 TB U.2 SSD included, up to 6 M frames full frame			
Download of On-Camera RAM/SSD Recordings	Transfer from SSD through 10 GigE, CXP, or CL to Research Studio			
Radiometric Data Streaming	Simultaneous 10 Gigabit Ethernet (GigE Vision), Camera Link Full, CoaXPress (CXP 2.1) Single link @ 10GBPS or Dual Link @ 5GBPS			
Standard Video	HDMI, SDI			
Command and Control	GigE, USB, RS-232, Camera Link, CXP (GenICam protocol supported over GigE or CXP)			
Temperature Measurement				
Standard Temperature Range (with band matched optics)	-20°C to 300°C (-4°F to 572°F)	-20°C to 350°C (-4°F to 662°F), -10°C for microscopes	-20°C to 350°C (-4°F to 662°F)	-20°C to 350°C (-4°F to 662°F), -10°C for microscopes
Optional Temperature Range (with band matched optics)	45°C to 600°C (ND1) 250°C to 2000°C (ND2) 500°C to 3000°C (ND3)			
Accuracy	≤100°C ±2°C (±1°C typical), > 100°C ±2% of reading (±1% typical)			
Ambient Drift Compensation (with factory cal)	Yes			
Optics				
Available Lenses	Manual (broadband): 25 mm, 50 mm, 100 mm Motorized (broadband): 25 mm, 50 mm, 100 mm	Manual (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm, Macro Motorized (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm	Manual (broadband): 25 mm, 50 mm, 100 mm Motorized (broadband): 25 mm, 50 mm, 100 mm	Manual (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm, 50mm Macro Motorized (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm
Close-up Lenses/Microscopes	No microscopes available	1x, 3x	No microscopes available	1x, 3x, 5x, 1 × 20 cm LWD
Lens Interface	FLIR FPO-M (4-tab bayonet, motorized)			
Focus	Motorized (compatible w/ manual)			
Filtering	4-position motorized filter wheel, standard 1-inch filters, user swappable			

Image/Video Presentation	
Palettes	Selectable 8-bit
Automatic Gain Control	Manual, Linear, Plateau equalization, DDE
Overlay	Customizable with the ability to toggle off
Video Modes	HD-SDI: 720p@50/59.9 Hz, 1080p@25/29.9 Hz, 1080p@60 Hz SD-SDI: 480i@60 Hz, 576i@50 Hz
Digital Zoom	1x, Auto (best fit)
General	
Operating Temperature Range	-20°C to 50°C (-4°F to 122°F)
Power	24 VDC (<50 W steady state)
Weight w/o Lens	6.35 kg (14 lbs)
Size (L × W × H) w/o Lens	249 mm × 157 mm × 147 mm (9.8 in × 6.2 in × 5.8 in)
Mounting	2 × ¼ in. -20, 1 × 3/8 in. -16, 4 x #10 -24, Side: 3x ¼ in. -20 (each side)

Specifications subject to change. For the most up-to-date specifications, please visit flir.com.

1	NVMe U.2 Solid State Drive (SSD)
2	10 GigE Vision (RJ45)
3	Camera Link Full (Dual MDR)
4	Record Start (BNC)
5	CoaXpress 2.1 (BNC)
6	Sync In (BNC)
7	Trigger In (BNC)
8	SDI Video Out (BNC)
9	Sync Out (BNC)
10	Tri-Level Sync (BNC)
11	IRIG Sync Input (BNC)
12	Auxiliary (DB-26)
13	DC Power

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