## HIGH SPEED MWIR CAMERA FOR RANGE & SCIENCE APPLICATIONS

FLIR RS8500™

The FLIR RS8500 MWIR camera is a high-performance thermal science camera and infrared telescope combined in a single weatherproof housing that's specifically designed for long range tracking and measurement applications. Built around a high-resolution 1280 × 1024 midwave indium antimonide detector with the ability to deliver data at up to 180 frames per second, the RS8500 provides 24% more pixels and a 46% faster frame speed than the previous model. Multiple simultaneous data and video outputs allow users to easily integrate the camera into existing data acquisition systems. The camera's 120–1200 mm continuous metric zoom lens provides focal length and focus position data at every lens location which can be embedded along with other critical camera metadata in the header of each frame with TSPI-accurate timestamping. This makes the RS8500 an ideal thermal camera solution for military range, aerospace, and outdoor research applications.

www.flir.com/rs8500
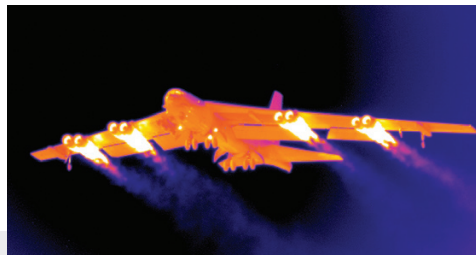
ADVANCED FEATURES FOR OPTIMAL FLEXIBILITY

High-performance infrared camera and telescope combined in a single weatherproof housing

- Maximize the number of pixels on any target at any distance with the 10x metric zoom lens, offering wide fields of view and long focal lengths

- Embed TSPI-accurate timestamping of lens and camera data into each image header with automatic synchronization to standard IRIG-B analog time signal inputs

- Protect the camera in the harshest environments with the single weatherproof housing and optional motorized lens cover

SUPERIOR RESOLUTION AND MEASUREMENT ACCURACY

Acquire meaningful thermal data on long-range and high temperature targets

- Record crisp, large format SXGA (1280 × 1024) thermal images with the 1.3 megapixel MWIR indium antimonide detector

- Capture high-speed events in full HD resolution at rates up to 180 frames per second, or more than 6,000 fps in sub-windowed mode

- Accurately image high-temperature targets using neutral density filters and the built-in 4-position warm filter wheel

SIMPLIFIED DATA ANALYSIS, SHARING, & COLLABORATION

Connect, collect data, and share analyses easily with simplified connections to the latest FLIR software

- Capture the data you need when you need it with advanced triggering and synchronization capabilities

- Employ FLIR Research Studio's simple Connect–View–Record–Analyze workflow to obtain and analyze thermal results quickly

- Work with the operating system you prefer and share data globally with colleagues in their preferred language

SPECIFICATIONS

Imaging data	RS8513	RS8523
Detector	Indium antimonide	
Spectral range	3.0–5.0 µm	
Resolution	1280 × 1024	
Detector pitch	12 µm	
Thermal sensitivity/ NETD	25 mK typical	
Operability	>99.5% (99.9% typical)	
Sensor cooling	Closed cycle linear	

Optical data		
Camera f/number	f/5	
Lens	120–1200 mm zoom (low-latency metadata, metric)	
Focus	Motorized FOV/focus	
Lens cover	Optional, motorized	
ND filter wheel	4-position motorized filter wheel, standard 1-inch ND filters must be factory installed	

Electronics		
Readout type	Snapshot	
Readout modes	Asynchronous integrate while read Asynchronous integrate then read	
Synchronization modes	Sync In, Sync Out, Trigger In	
Image time stamp	Internal IRIG-B timestamp clock, TSPI accurate	
Integration time	270 ns to ~full frame	
Pixel clock	355 mHz	
Frame rate (full window)	Programmable; 0.0015 Hz to 181 Hz	
Subwindow mode	Flexible	
Dynamic range	14-bit	
Radiometric data streaming	Gigabit Ethernet (GigE Vision), CXP (5 Gb dual link)	Gigabit Ethernet (GigE Vision), Camera Link Full Fiber, CXP (5 Gb dual link)
Standard video	HD-SDI	
Command and control	Gigabit Ethernet, RS-232 Serial, CoaXPress	Gigabit Ethernet, RS-232 Serial, CoaXPress (Optional CameraLink Full over fiber)

Image presentation	RS8513	RS8523
Palettes	Selectable 8-bit	
Automatic gain control	Manual, Linear, Plateau Equalization, ROI, DDE	
Analog overlay	Customizable	
Video modes	HD: 720p/59.9/50 Hz, 1080p/29.9/25 Hz	
Digital zoom	1x, 4x, 4:3	

Additional data		
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	
Chassis IP rating	IP65	
Power	24 V nominal, 20-28 V acceptable	
Weight (without motorized lens cover)	Approximately 43.2 kg (95 lbs)	
Mounting	15 x 3/8"-16 tapped holes	
Size (L × W × H)	889 × 308 × 312 mm (35 × 12.125 × 12.3 in.)	

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

FLIR® | The World's Sixth Sense®