

## PRODUCT SPECIFICATIONS

Radiance HSX Thermal Imaging Solutions

# Radiance HSX

## THE NEW STANDARD IN HIGH-PERFORMANCE IMAGING

Introducing Raytheon's Radiance HSX, the high-performance infrared camera designed to make thermal imaging work better for you. Radiance HSX combines Raytheon's high-speed snapshot indium antimonide (InSb) focal plane array and miniaturized electronics with an ultra-reliable linear Stirling cooler into the smallest full-featured infrared camera available.



## Radiance HSX Camera

### INSB UNRIVALED IMAGE QUALITY:

InSb's high quantum efficiency (>85%) delivers unrivaled image quality. With spectral response from 3 to 5 microns, the camera provides higher scene contrast and significantly increased imaging performance over long atmospheric path lengths than systems operating in the 8 to 12 micron band.

### SNAPSHOT FOCAL PLANE ARRAY TECHNOLOGY:

Radiance HSX enables stop-action analysis of events as short as 2 microseconds, fast enough to stop a bullet in flight! Radiance HSX is ideal for applications in spectral radiometry, nondestructive testing, and the study of thermally dynamic events.

### HIGH-SPEED FRAME RATES:

Radiance HSX frame rates capture imagery at up to 140 frames per second at the FPA's full 256 x 256 resolution, or window down to a 128 x 128 area and capture images at up to 480 frames per second. Faster yet? Select the center 64 x 64 area and you'll be screaming along at up to 1800 frames per second. High-speed applications such as air bag testing, rotating equipment analysis, tracking and combustion research can now be captured and studied in detail.

### CLEAR, HIGH-DETAIL SNAPSOTS:

With snapshot integration, each of the FPA's 65,536 detector elements stares at the scene at precisely the same time and for the same duration. This powerful shuttering feature allows stop-action analysis during target signature collection, range-tracking, time-versus-temperature analysis, and provides unparalleled detail of subsurface defects during nondestructive testing.

### SEPARABLE ELECTRONICS AND LENSES:

The camera's electronics can be separated from the sensor engine by up to 10 feet. Raytheon designed a system architecture that allows OEMs to specify custom electronic and mechanical layouts to provide the ultimate in system flexibility.

To find out more about the most affordable, easiest-to-use portable camera the industry has to offer, call us today at 1-800-990-3275 (U.S.) or 972-344-4000 (Int.). Radiance HSX. The difference is easy to see.

## SEE THE UNSEEN



**Raytheon**



RAYTHEON INFRARED

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### OPTIONAL EQUIPMENT

#### LENSES:

Raytheon offers a wide selection of optics designed to bring your most demanding applications into focus. Select a microscope lens with better than 10 micron resolution or our triple field-of-view telescope featuring a narrow field of view of less than 1 degree.

Lenses are available in the following focal lengths: 13mm, 25mm, 50mm, 100mm, 75/250mm, and 60/180/500mm.

#### STANDARD OPTIONS:

PAL or RS170

RS-422

Split Kit

Plateau

Export

### CAMERA:

Detector	256 x 256 InSb
Detector Pitch	30 microns
Well Capacity	9 x 10 <sup>6</sup> electrons
QE	>85%
Spectral Response	3 to 5 microns
Uniformity, Uncorrected	<5% sigma/mean
Operability	>99.5%
Sensitivity	0.025°C NEDT
Integration Time	2 µs to 14 ms
Cooling	Linear Stirling cooler or LN <sub>2</sub>
Cooldown Time	<10 minutes
Dynamic Range	12-bit
Output Data Rate	10 M pixels/sec
Control	RS-232
Plate Enhance Picture	
Data Interface	Parallel, Serial HOTLinks
FPA Frame Sync	External TTL or internal clock
Calibration Source	Internal flag
Input Power	18 to 32 VDC
Power Consumption	<50 W nominal
Weight	9.6 lb
Dimensions	5.1 H x 5.7 W x 6.8 L (inches)
Temperature Range	
Operating	-10 to 50°C
Storage	-54 to 65°C

### SOFTWARE:

Capture all your data with ImageDesk II™, a Windows™ NT application designed to capture real-time digital data and perform sophisticated image analysis. ImageDesk provides a radiometric calibration routine and extensive thermographic analysis tools that enable comprehensive quantitative analysis. ImageDesk's powerful macro editor automates the most complex routines, and a built-in report generator allows you to professionally document your results. ImageDesk does it all!



### CALL US TODAY AT:

1.800.990.3275 (U.S.) 972.344.4000 (Int.)

or visit our web site at: [www.raytheon.com/ir](http://www.raytheon.com/ir)

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