FLIR SYSTEMS

ThermaCAM® SC 3000

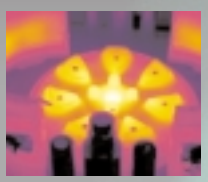
High Performance QWIP FPA Infrared Imaging and Measurement System for Advanced Thermal Analysis

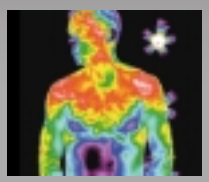
THE THERMACAM® SC 3000 INCORPORATES LEADING EDGE COOLED QUANTUM WELL INFRARED PHOTODETECTOR (QWIP) TECHNOLOGY, PROVIDING OUTSTANDING IMAGE RESOLUTION AND UNPARALLED PRECISION TEMPERATURE MEASUREMENT CAPABILITIES.

Ultra-high thermal sensitivity, extremely wide dynamic range, and revolutionary longwave imaging performance make the SC 3000 the most advanced solution for IR temperature measurement and thermal analysis.

QWIP technology represents the longwave focal plane array (FPA) of the future, delivering advances in thermal sensitivity unrivalled by any other commercial IR camera. With its outstanding image stability and uniformity, the SC 3000 is ideal for applications where precision temperature measurements from -20˚to 2000˚C and high sensitivity are required. Crisp high-resolution images and thermal data are captured and stored on high capacity PC cards. Ruggedly built, the SC 3000 provides resistance to dust and moisture. With a wide variety of optics and post–processing software, the SC 3000 is ideal for detailed temperature measurement and thermal testing in non-destructive evaluation, research and development, product design validation, quality control, target signature analysis and medical applications.

Partnered with FLIR's ThermaCAM Researcher or Reporter Software, the SC 3000 allows a portable research solution. Simply connect the SC 3000 to a notebook PC for in-depth, extensive thermal analysis of dynamic or digitally stored images. FLIR also offers Tracer Plus, a PC-based real-time digital recording and temperature analysis package capable of storing 14-bit images up to the rate of 60Hz (NTSC)/50Hz (PAL).





The SC 3000 features broad dynamic range, ultra-high sensitivity and outstanding image quality.

ADVANCED COOLED QUANTUM WELL INFRARED PHOTODETECTOR (QWIP)
Proprietary-designed (QWIP) FPA sensor, the most modern IR detector technology available, provides outstanding image resolution of 320 x 240 pixels.

SUPERIOR THERMAL SENSITIVITY
QWIP sensor technology delivers ultra high sensitivity of less than 20 mK at 30˚C ensuring low thermal noise.

REVOLUTIONARY LONGWAVE IMAGE QUALITY
Longwave (8 to 9 µm) performance provides superb high definition image quality, ultra precise measurement accuracy and low atmospheric attenuation.

BROAD DYNAMIC RANGE
Analyze individual frames that cover extremely wide temperature measurement ranges and still be able to detect minute thermal differences.

REAL TIME 14-BIT DIGITAL OUTPUT, STORAGE AND ANALYSIS
Utilizing the 14-bit digital output connector, the SC 3000 feeds real-time data directly to your notebook or desktop PC for recording and analysis. Static 14-bit images can also be stored on the camera's removable PC cards.

EASY DATA MANIPULATION
Export data seamlessly to Excel®, MatLab® and other common analysis packages.

THERMACAM SC 3000 TECHNICAL SPECIFICATIONS

IMAGING PERFORMANCE

Field of view/min focus distance	20˚x15˚ /0.3m
Spatial resolution (IFOV)	1.1 mrad
Thermal sensitivity	20 mK at 30˚C
Image frequency	50/60 Hz non-interlaced
Electronic zoom function	4X continuous

DETECTOR

Type	GaAs, Quantum Well Infrared Photodetector (QWIP), 320x240 pixels
Spectral range	8 to 9 µm
Detector Cooling	Stirling cooled to 70K, cool down time <6 minutes

IMAGE PRESENTATION

Video output	RS170 EIA/NTSC or CCIR/PAL composite, S-video, and 14-bit digital serial link

MEASUREMENT

Temperature range	-20˚C to +1500˚C (-4˚F to 2732˚F), 4 ranges Up to +2000˚C (+3632˚F), optional
Accuracy	±1% or ±1˚C (for measurement ranges up to +150˚C) ±2% or ±2˚C (for measurement ranges above +150˚C)
Atmospheric transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from 5 internal sensors
Automatic emissivity correction	Variable from 0.1 to 1.0 or select from listings in pre-defined materials list

IMAGE STORAGE

Type	High capacity PC-Card, ATA compatible (160MB min)
File formats	14-bit radiometric IR digital image (IMG), includes header file with all radiometric data 8-bit standard bitmap (BMP), image only or image with screen graphics Every image stored in both formats

LENSES (OPTIONAL)

Field of view	2.5˚ x 1.88˚• 5.0˚ x 3.75˚• 10˚x 7.5˚ 34mm x 26mm /90mm (close-up) 10mm x 7.5mm/25mm (close-up)
Lens identification	Automatic

POWER INPUT

Voltage	12V DC, nominal
Power Consumption	22 watts
AC Adapter	Included

ENVIRONMENTAL SPECIFICATION

Operating temperature range	-15˚C to +50˚C (5˚F to 122˚F)
Storage temperature range	-40˚C to +70˚C (-40˚F to 158˚F)
Humidity	Operating and storage: 10% to 95%, non-condensing
Encapsulation	IP 54 IEC 529 (metal casing)
Shock	Operational: 25G, IEC 68-2-29
Vibration	Operational: 2G, IEC 68-2-6

PHYSICAL CHARACTERISTICS

Weight	3.2 kg (7.0 lbs.)
Size	220mm x 135mm x 130mm (8.7” x 5.3” x 5.1”)

INTERFACE

Remote-control options	Remote focus (standard), RS-232 (standard) Remote control panel (optional)
Sync	Gen Lock input

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

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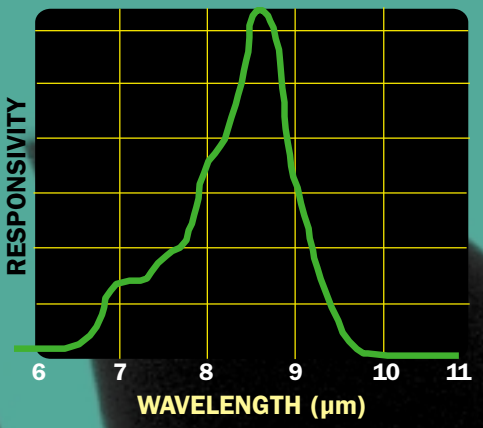
QWIP SPECTRAL RESPONSE (NOMINAL)



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