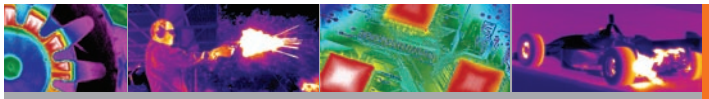
FLIR™
The Global Leader in Infrared Cameras

NEW! FLIR SC660

R&D INFRARED CAMERA SYSTEM



Highest sensitivity and most advanced feature set available. Supplies a combination of infrared and visible spectrum images of superior quality and temperature measurement accuracy – plus GPS, voice annotation, and a host of other advanced features.

- Uncooled 640×480 IR Detector Array
- Thermal Sensitivity ≤45mK
- Built-in 3.2 Mpixel visual camera
- Temperature Range: –40°C to 1500°C
- Full Radiometric Real-time Video to PC
- Automatic GPS Data
- Text and Voice Annotation
- Optional Wireless Remote Operation

Features both thermal and visual camera capabilities – at the touch of a buttor

Highest Sensitivity

The SC660's high-definition 640×480 infrared detector delivers exceptional sensitivity, resolution, and image quality for scientific and research applications. Its 0.04°C sensitivity and ±1°C (1.8°F) accuracy means precise readings, taken on smaller objects, at safer distances. The Dynamic Detail Enhancement (DDE) feature further improves thermal image sharpness.

Visual Image Integration

The SC660 includes an integrated 3.2 megapixel digital video camera to aid in data presentation. Infrared and visual images can also be stored in standard JPEG formats. The visual camera includes a matching Field Of View (FOV) lens, so IR and visual images correlate over various distances. Moreover, full flexibility in the fusion of images allows user adjusted sizing and location of a picture-on-picture (PoP) view.

Multifunction Video Capture

The SC660's 5.6" widescreen LCD allows on-camera viewing of images. Its FireWire interface can transfer 14-bit radiometric or RAW data directly into a PC for real-time analysis of captured images. Furthermore, radiometric sequences can be stored on high capacity (1 GB) SD-cards, an advantage when viewing moving targets. MPEG-4 non-radiometric video sequences can also be streamed to a PC via USB.

Voice and Text Annotation

The user can record a full 30 seconds of digital voice and embed it with each IR image. This allows a full description of the target and situation to be recorded and then documented in a data presentation. In addition, data from the built-in GPS system can be used to denote the camera's location. For added flexibility, text comments for each image can be entered manually or preloaded from a PC. Similarly, thermal and visual images, temperature measurements, and annotations can be transferred to the PC via USB.

Productivity Features

An abundance of features enhance the convenience and productivity of the SC660. Its tiltable viewfinder provides high-resolution color imagery. The multi-angle handle has an integrated joystick and buttons and for easy point-and-shoot operation – functions like auto-focus, freeze-frame, and image storage are just a button click away. Manual focus allows operators greater flexibility, while the auto-focus is helpful in hard-to-focus situations, and allows new users to become productive sooner. A visual target illuminator (lamp) ensures good visual reference images, even under low lighting conditions.

Safety Enhancements

The laser locator on the SC660 helps associate a spot on the IR image with the exact location of the target object. This greatly enhances user safety by eliminating the tendency to "finger point" at hazardous areas. The camera's large target-distance to spot-size ratio allows users to do accurate measurement and analysis, while quickly and safely conducting IR studies in dangerous environments. An optional wireless remote control unit is very useful in hard to access areas, or when the operator needs to be away from the camera for safety reasons. This feature is WLAN based, and allows MPEG video to appear on the remote display.

Lightweight and Rugged

The ergonomic magnesium housing is designed for rugged portability and meets the IP54 standard, thereby protecting internal parts from shock, vibration, dust and water-splash. The result is a camera that weighs only 1.7kg (3.8lb) with battery, for the comfort of users that need to carry a camera several hours a day.

3-hour Run Time Battery

The SC660 can run up to three hours on a single, fully charged battery. It comes with an intelligent charging station capable of conditioning and charging two batteries at a time. In addition, you can plug the SC660 into an AC outlet or optional 12V cable and charge the battery while still in the camera.

Optional Research Package

The optional SC660 Research Package consists of the SC660 camera and the ThermoVision ExaminIR analysis software. FLIR's ThermoVision ExaminIR Software seamlessly stores, retrieves, and analyzes IR images and temperature data directly from the SC660 camera, allowing in depth and precise evaluation of thermal performance. This powerful Windows®-based package for R&D professionals is easy to use for both static and real-time image analysis. It includes temperature display and analysis functions such as isotherms, line profiles, area histograms, and much more. Its high-speed data acquisition capabilities add another level of power and flexibility to thermal imaging and temperature measurements.

Infrared Certification Training and Support

In addition to worldwide service and support, FLIR Systems offers Thermographer certification classes at its state-of-the art facilities near Boston, Massachusetts. The FLIR Systems Infrared Training Center (ITC) is the Global leader in IR Thermography Training.

FLIR SC660 Technical Specifications

Imaging Performance	
Thermal	
Field of view/min focus distance	24° × 18° / 0.3m
Spatial resolution (IFOV)	0.65 mrad
Thermal sensitivity @ 50/60Hz	45mK at 30°C
Electronic Zoom	1–8× continuous, including pan
Focus	Automatic or manual
Digital image enhancement	Normal and enhanced
Detector type	Focal plane array (FPA) uncooled microbolometer; 640 × 480 pixels
Spectral range	7.5 to 13µm
Visual	
Built-in digital video	3.2 Mpixel, full color / built-in Target Illuminator / exchangeable lens
Standard lens performance	f=8mm / FOV 32°
Image Presentation	
Viewfinder	Built-in, tiltable, high-resolution color viewfinder (800 × 480 pixels)
External display	Built-in 5.6˝ LCD (1024 × 600 pixels)
Video output	RS170 EIA/NTSC or CCIR/PAL composite video
Measurement	
Temperature ranges	–40°C to +1500°C, in 3 ranges; up to +2000°C, optional (–40°F to 2732°F with option to 3,632°F)
Accuracy (% of reading)	±1°C or ±1% of reading (object within +5°C to to 120°C, ambient within +9°C to 35°C); otherwise ±2°C or ±2%.
Measurement modes	3 Spots/Areas (Boxes, Circles), Isotherms (above, below, interval), Delta T
Menu controls	Palettes, load custom palletes, auto adjust (manual/continuous/based on histogram equilazation), image gallery, sequence storage, programmable storage, on-screen live and reference image (PoP)
Emissivity correction	Variable from 0.1 to 1.0 or select from listings in pre-defined material list
Measurement features	Automatic corrections based on user input for reflected ambient temperature, distance, relative humidity, atmospheric transmission, and external optics
Optics transmission correction	Automatic, based on signals from internal sensors
Atmospheric transmission correction	Automatic, based on inputs fpr distance, atmospheric temperature and relative humidity
Reflected ambient temperature correction	Automatic, based on input of reflected temperature
External optics/window correction	Automatic, based on input of optics/window transmission and temperature
Alarm functions	Automatic alarm on any selected measurement function, audible/visible alarm above/below
Image Storage	
Type	Removable SD-card (1GB)
File format – THERMAL	Standard JPEG; 14 bit thermal measurement data included
File format – VISUAL	Standard JPEG inked with corresponding thermal image
Voice annotation of images	30 sec. of digital voice "clip" stored together with the image wired headset
Text annotation of images	Predefined by user and stored with image
Laser LocatIR™	
Classification type	Class 2, Semiconductor AlGaInP Diode Laser: 1 mW/635 nm (red)
Power Source	
Battery type	Li-Ion, rechargeable, field-replaceable
Battery operating time	3 hours continuous operation
Charging system	In camera (AC adapter or 12V from car) or 2 bay intelligent charger
External power operation	AC adapter 110/220 VAC, 50/60Hz or 12V from car (cable with standard plug optional)
Power saving	Automatic shutdown and sleep mode (user-selectable)
Environmental	
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
Shock	Operational: 25G, IEC 68-2-29
Vibration	Operational: 2G, IEC 68-2-6
Physical Characteristics	
Weight	1.7kg (3.8 lbs) w/battery
Size	120mm × 145mm × 220mm
Tripod mounting	1/4˝– 20

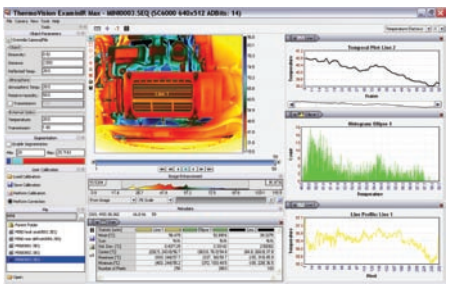
Camera includes:
Camera with visual and IR lens
Power supply
2 batteries (3 hours operating time on each)
2 bay charging station
QuickReport software
Manual and Quick Reference Card
Headset
Cables

Lenses (optional)
Automatic lens identification **Field of view/minimum focus distance**
12° × 9° / 0.9m telelens
45° × 34° / 0.1m wide angle lens
Close-up 32 mm × 24 mm / 75 mm

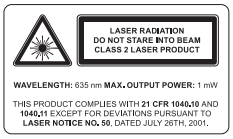
Interfaces	
1394 Firewire	Fully radiometric 14bit real time image video to PC
USB	Image (thermal and visual), measurement data, voice and text transfer to PC
IrDA	Wireless communication
SD-card (2)	I/O slot; storage slot

NEW!

RUGGED & LIGHTWEIGHT **MAGNESIUM** HOUSING!



ThermoVision ExaminIR example display



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