INFRARED SOLUTIONS
IR SnapShot® Thermoelectric Infrared Imaging Radiometer
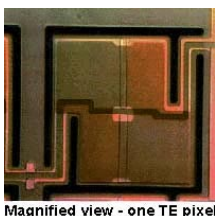
Features

- Patented *uncooled* Honeywell thermoelectric (TE) detector array
- 120x120 resolution, 50 µm pixels, 16 bit digital data
- Longwave 8 to 12 µm infrared wavelengths
- 4.0 Mbyte ATA Flash Card stores up to 144 images
- Ultra-wide dynamic range (0 to 350°C standard)
- Crisp 4.0 inch LCD display panel
- Selectable NTSC/PAL video output
- IR SnapView™ Windows® 95/98/NT based image analysis software standard
- Optional RS-232 communications package includes IR SnapView™ Pro for remote control

Description

The Infrared Solutions IR SnapShot® camera is a precision portable *uncooled* infrared imaging radiometer based on the Honeywell thermoelectric (TE) sensor. The thermoelectric sensor is inherently radiometric and exhibits excellent dynamic range. Accurate temperature measurement combined with low cost make the IR SnapShot® ideal for cost-sensitive applications such as predictive and preventive maintenance, quality control and new product development. The intuitive user interface and controls make learning and using this revolutionary camera a snap.

Lowest Cost *Uncooled* Technology

The core technology in our *uncooled* camera systems is the patented Honeywell thermoelectric (TE) detector

Magnified view - one TE pixel

array. This low-cost sensor is fabricated using advanced silicon micro-machining technology. It is composed of 120 pixels arranged in a line. By moving this linear array of pixels behind the lens, a two-dimensional image is produced. Infrared Solutions has a worldwide exclusive license to market this breakthrough technology.

- Operates at room temperature
- Requires significantly less ongoing maintenance than cooled detectors
- Sensitive to thermal radiation and responds well to 8 to 12 µm infrared wavelengths, the most desired operating region
- Requires no bias current or radiation chopper
- Characterized by a very large dynamic range, allowing temperatures differing by hundreds of degrees to be read and displayed at the same time

Point and Click

Taking infrared pictures is a snap with the IR SnapShot® camera. Push the snapshot button and a crisp infrared image is produced in less than 1.5 seconds—complete with temperature data. Hold down the snapshot button and the camera enters a real-time sweep mode for focusing or scanning large areas for trouble spots. Push the snapshot button again to acquire the image.

On-board Image Analysis and Storage

Image temperature data can be instantly analyzed on the camera by maneuvering the cursor over the image with the user interface buttons. Emissivity can be easily adjusted to ensure accurate temperature readings. Images can be stored on the built-in PCMCIA memory card. Store up to 144 images on the standard 4.0 Mbyte ATA flash card or hundreds or even thousands on optional high-density cards.

IR SnapView™ Windows® Software

IR SnapView™ for Windows® 95/98/NT (included) provides all of the tools you need to archive, organize and analyze your infrared images. Draw regions of interest and create custom Word 97 reports to document your heat-related problems. Compare "before" and "after" images to ensure the problem has been fixed.
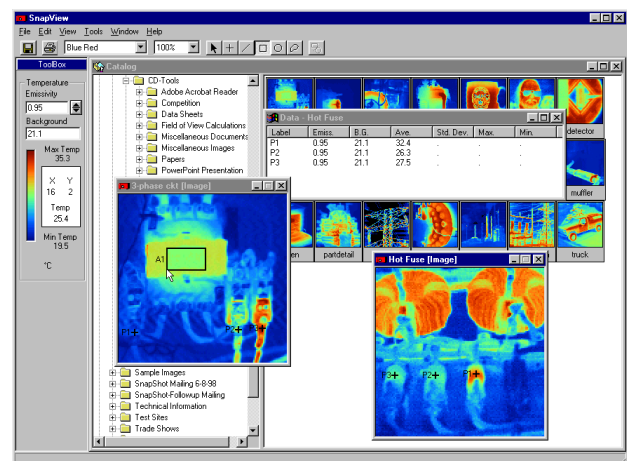
Camera Controls

Simple camera controls allow you to get up and running fast. Pictured below is the back of the IR SnapShot® camera, which shows all the user controls except the

snapshot button (front side). Located below the color 4.0 inch LCD display is the RS-232 communications port and the NTSC/PAL video output.

SnapShot Button

Located on the front side, the snapshot button is normally used to snap images. If the button is held down, the camera enters a real-time sweep mode for focusing or scanning large areas for trouble spots.

Up, Down, Left, Right Buttons

Maneuver the cursor over the image to display temperatures in temperature mode or navigate the menu in menu mode. Push the right and left buttons in menu mode to instantly cycle through the color palettes.

Enter Button

Select menu items with the enter button in menu mode or easily change the emissivity in temperature mode.

Escape Button

Escape toggles between menu and temperature modes. It can also be used to back out of the menu system one screen at a time or to exit histogram mode.

Power Button

Turn the IR SnapShot® camera on and off with the power button located at the bottom of the control panel.

Specifications

Detector	120 element linear array of *uncooled* thermoelectric detectors, 50 µm square pixels
System Dynamic Range	12 bits usable with digitizing resolution of 16 bits
FOV	17.2 degrees horizontal and 17.2 degrees vertical
Lens	Germanium 20mm, F/0.8, focus 10" to infinity
Spectral Band	8 µm to 12 µm, anti-reflection coated Germanium optics
NETD	<0.35°C @ 30°C
Accuracy	2°C or 2% of reading
Measurement Temperatures	0 to 350°C (custom range available)
Operating Temperature	0 to 40°C
Power Input	NP-98 compatible camcorder battery, 3 AH
Image Scan Time	<1.5 seconds
Battery Operating Time	>60 minutes with 3 AH battery, up to 12 hours with optional 14.4 AH battery belt
Image Storage	4.0 Mbyte ATA Flash PC Card stores 144 images
Communication	RS-232, 300 to 115K baud selectable
Display	102mm/4.0 inch active matrix color LCD, high luminance
Video Output	Selectable NTSC/PAL
Functions	Focus, snap, store, recall, hot spot, histogram, and setup menu
Setup Menu Options	Emissivity, background temperature, temperature units, color palette, autoscale and fixed ranges, focus width, time, date, RS-232 baud rate, NTSC/PAL select
Size	240 x 100 x 130mm/9.4 x 3.9 x 5.1 inches, L x W x H, not including lens
Weight	<2.0Kg/4.4 lbs with lens and battery
Standard Accessories	3 AH camcorder battery, battery charger, video cable, padded neck strap, manual, IR SnapView™ image analysis tool for Windows® 95/98/NT, 4.0 Mbyte ATA flash card
Options	IR SnapView™ Pro, 35 degree FOV lens, AC power adapter, 14.4 AH battery belt