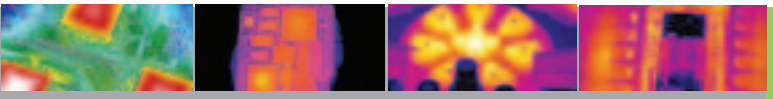
FLIR™
The Global Leader in Infrared Cameras

ThermaCAM™ Researcher

RESEARCHER



Analyze thermal performance with ThermaCAM® Researcher™, the most robust real-time digital storage, measurement, and analysis software available. Extremely versatile, Researcher digitally stores and retrieves static and real-time infrared images, live IR digital video sequences, dynamic high-speed events and data directly from ThermaCAM IR cameras allowing in-depth and precise analysis of thermal events.

- Powerful Temperature Analysis
- Image Subtraction
- Fully Control IR Camera From a PC
- Custom Formulas
- Static Image, High-speed IR Video & Data Analysis
- Automatic Temperature vs. Time Plotting
- Easy Data Export to AVI, BMP, CSV or Matlab Formats
- OLE-2 Automation

Powerful Temperature Analysis

Built-in measurement functions provide fast and extensive temperature analysis including: isotherms, spot measurements, line and area measurements, and custom formulas–add up to 100 individual measurement tools to a single IR image. Create line profiles and histogram charts for more in-depth analysis of area and line tools. Object parameters such as emissivity, distance, reflected temperature, etc., can be modified, even after an image or sequence has been stored to disk. All measurement tools allow independent emissivity and distance settings.

Static Image Analysis

Analyze static images or sequences stored on the IR camera's removable PC Card–no additional hardware is required. Burst recording (available on ThermaCAM S and P series cameras) allows you to store up to 30 seconds of calibrated digital video on the camera's PC Card; you can then easily import that video into Researcher software for further study.

High-speed IR Video and Data Analysis

Analyze fully calibrated real-time digital video by simply connecting the IR camera to a PC. Record sequences to the PC's hard drive for post processing–ideal for evaluating highly dynamic and fast moving events. Three hardware interface options (determined by IR camera type) for real-time data acquisition are available: Firewire, frame grabber or PC Card.

Image Subtraction

A recorded sequence can be subtracted from a base reference image, or vice versa, using the Image Subtraction function. The resulting sequence after subtraction shows the difference in temperature between the sequence and reference image for every pixel. Ideal for monitoring very small temperature changes in a recorded sequence.

Easy Data Export

Automatically convert IR images or sequences to Bitmap, AVI, Matlab, or FLIR Public Format files. Export entire images as well as all area and line measurement tools to CSV (comma separated values) files which contain every pixel value in the images, area or line. Easily import into Excel or other programs for in-depth analysis.

Open Interface for User-Customized Applications

Researcher saves images in a FLIR Public File Format (.fpf) which allows users to perform analysis on the raw image data using custom thermal analysis software. The FPF format consists of a header followed by a matrix of single precision IEEE floating point values, each representing one point on the image.

Automatic Temperature vs. Time Plotting

Perform time vs. temperature trending in real-time or with recorded images and sequences. Several measurement tools can be plotted simultaneously and at different sample rates. Plot files can be saved and imported into Excel for more detailed analysis.

Fully Control the IR Camera from a PC

When connected to a PC displaying a live image, Researcher can fully control all IR camera functions. Focus, level and span adjustment, temperature range adjustment, color palette, etc. can all be controlled from the PC without touching the camera. A button interface also can be used to simulate pressing the camera buttons in the event that you need to access the camera menus.

Custom Formulas

Create and apply custom mathematical formulas to analysis results. All temperature results and image properties are available for use in formulas.

OLE-2 Automation

Using OLE-2, a Microsoft standard for linking and embedding data between applications, you can link image and temperature information from Researcher into other compliant applications like Excel or Word. The linked data will update automatically, so if a temperature value changes in Researcher it will automatically change in the linked application. In addition, Researcher provides an automation interface that can be used to programmatically control the software using Visual Basic or VBA. All Researcher functions, image and temperature data, and camera controls are available, making Researcher ideal for integration into automation/machine vision applications.

Two configurations: Basic and Professional

Choose the best for your requirements

Researcher Basic

Study images or sequences stored to the camera's PC Card.

Researcher Professional

Full-featured package featuring real-time image analysis, advanced measurement capabilities, and data storage.

Four real-time data acquisition hardware options available

FireWire Interface

Connect the new A and S Series IR cameras to a PC's FireWire port. Acquire data at rates up to 60/50Hz.

Gigabit Ethernet Interface

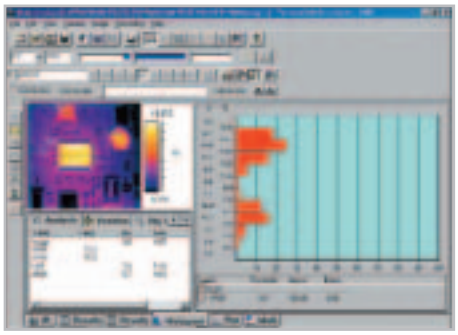
Connect a FLIR Merlin camera to a PC's Gigabit Ethernet port for data acquisition at up to 60 Hz.

Frame Grabber Interface

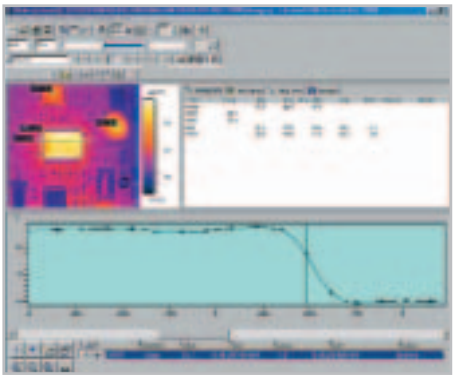
Connect ThermaCAM SC Series (SC-2000, SC-500, etc.) to a PCI frame grabber on a desktop PC. Acquire data at rates up to 60/50 Hz (up to 900/750 Hz with the SC 3000 camera).

PC Card Interface

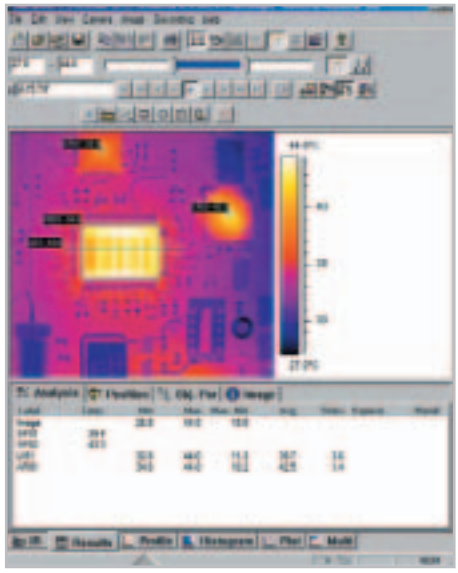
Connect ThermaCAM SC Series (SC-2000, SC-500, etc.) to a laptop PCMCIA socket. Acquire data at approximately 5 to 7 Hz.



Histogram chart shows relative distribution of temperature within a user-defined area.



Temperature vs. time data analyzed using the Plot module.



ThermaCAM Researcher measurement tools allow extensive thermal analysis.

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