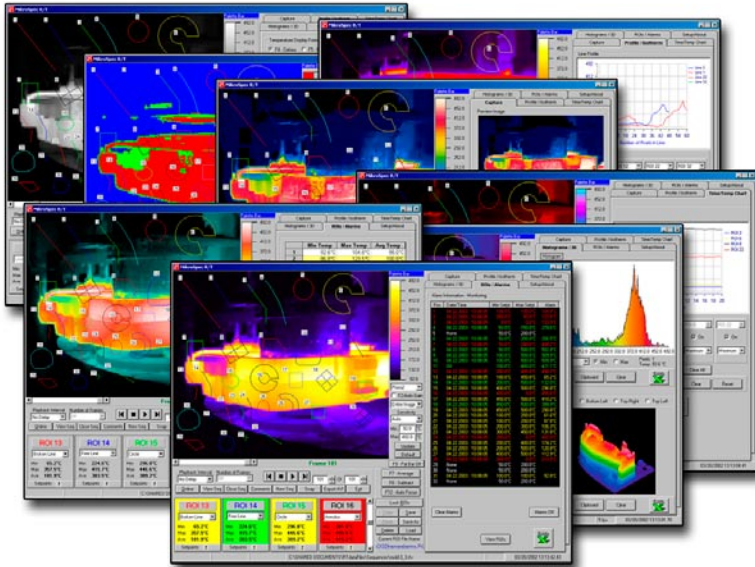


## Real-Time Thermal Data Acquisition and Analysis Software

**M**IKRON's MikroSpec™ R/T software is a windows-based software program that offers high-speed, real-time data acquisition and image analysis capabilities. By using one or more MIKRON Infrared cameras connected to the software, processes can be measured accurately to ensure production quality where individual images are insufficient. The software allows you to view thermal images in real-time as well as those that have been captured and stored to the computer's hard disk drive.

By creating up to 32 Regions of Interest (ROIs) in one of ten shapes, you can retrieve details as to the temperature range within the ROIs. Sophisticated graph tools allow you to create graphs of the real-time image temperature analysis, while the export to Excel™ feature allows you to analyze the real-time image temperature data in a numerical context.



- **Monitor processes in real-time**
- **Eliminate or Reduce Downtime**
- **Lower Production Costs**
- **Save Time**
- **Increase Quality**
- **Reduce Safety Hazards**

### Features

**Remote Camera Control Functionality via FireWire™ or Ethernet Interface** allows you to select the camera type, mode, range, temperature scale and lens. It also allows you to perform non-uniformity correction (NUC) as well as make adjustments for focusing, emissivity, ambient calibration, and percentage of transmission loss.

**Real-time Image Acquisition** allows you to capture large amounts of data at a user-adjustable capture rate of up to 30 frames per second via FireWire or one frame per second via Ethernet. Live images can be captured with full temperature data and stored to a sequence file. The maximum number of frames is dependent upon the amount of available memory in the computer. Individual snap shot images can also be stored to files with full temperature data for later analysis.

**Multiple Regions of Interest (ROIs)** allow you to process and compute the Minimum, Maximum and Average Temperatures for up to 32 Regions of Interest (ROIs). The ROIs can be resized and moved on the live image display. There are 10 different ROI shapes (Point, Line, Broken Line, Free Line, Circle, Annulus, Rectangle, Rotated Rectangle, Polygon, and Region). A custom formula ROI type is also available which allows temperatures to be computed using typical Excel™ formulas.

Each ROI has a minimum and a maximum alarm set point that can be configured to generate software and digital output alarms. These alarms can be recorded to a Text or Comma Separated log file for later review.

**Multiple Color Palettes** offer flexibility for optimal image clarity.

**Off-line Analysis** allows you to replay image sequence files that had been previously captured and saved to disk. Sequence files can be loaded into MikroSpec R/T and played back using all of the R/T tools.

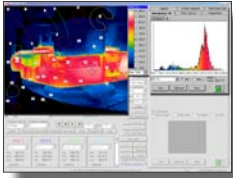
**Image Averaging and Subtraction** allows you to compare the current input image with a snapped or loaded reference image.

**Windows™ Compatibility** ensures flawless operation in Windows 2000 or Windows XP .

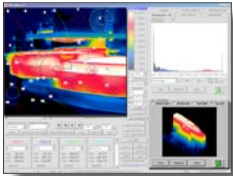
**Industry-Leading Documentation and Support** ensures easy start-up and continued access to technical assistance and support.

**Free Updates for 12 Months** provides you access to the latest advancements and improvements as soon as they are available — at no charge.

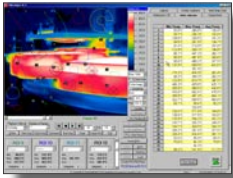
## MikroSpec R/T Tools



**Histogram View** graphically displays the temperature distribution of pixels in an image. This data can be exported to Excel™ for further analysis.



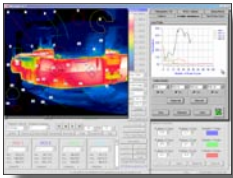
**3D Display** shows the temperature data on an image in the Z axis to provide a three-dimensional view of the image.



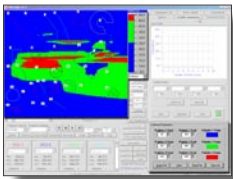
**Regions of Interest (ROIs) Chart** displays all 32 temperature values in a spreadsheet view. The ROI shape data can be exported to Excel™ to provide detailed pixel temperatures for each shape.



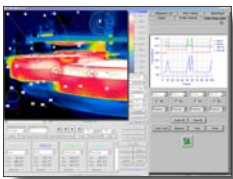
**Alarms Chart** displays all 32 Alarms on a single display. The display will show the set point for each ROI and will color code each channel when an alarm occurs. These alarms can be recorded to a Text or Comma Separated log file for later review.



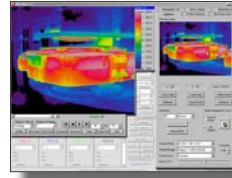
**Line Profile Graph** displays a two-dimensional line graph showing the temperature profile of up to four line, broken line, or free line ROIs. Each of the line profiles can be exported to Excel™ for further analysis.



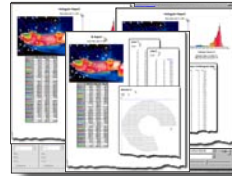
**Isotherm Overlay** provides a visual representation of the temperature breakdown on the image. MikroSpec R/T offers 3 Isotherm channels where temperature ranges can be set to display specific colors on the image display.



**Time vs. Temperature Graph** displays the minimum, maximum, or average temperature of up to four ROI channels on a two-dimensional graph. The graph data can be exported to Excel™ for further analysis.



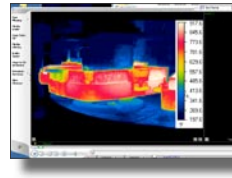
**Captured Image** allows a single image frame to be captured from the main image display and loaded into the preview image display where it can be viewed, copied, saved, and reloaded for further analysis.



**Export to Excel™** allows data taken from the ROI Chart, the Line Profile Graph, the Time vs. Temperature Graph, the Histogram and the 3D Display to be exported to Excel™ for further analysis.



**Export to ASCII** allows the entire pixel temperatures for each frame in a sequence to be exported as a tab delimited text file for analysis with statistical software packages.



**.AVI Export** allows sequence files to be exported to an AVI video file that can be viewed using any Windows™ media player software which supports the AVI format.

### System Requirements

MikroSpec R/T is designed to operate on a Windows™ based computer with the following (minimum) components:

#### Computer

- Pentium 900 MHz or higher processor (2 GHz or higher recommended)
- 128 MB Ram (256 MB or higher recommended)
- VGA 16 bit (64K colors) or higher
- 100 MB Free Hard Disk Space

#### Operating System

- Microsoft Windows™ 2000 Professional Software (if using IEEE 1394 FireWire™ or Ethernet Interface)
- OR
- Microsoft Windows™ XP Professional Software (if using IEEE 1394 Firewire™ or Ethernet Interface)