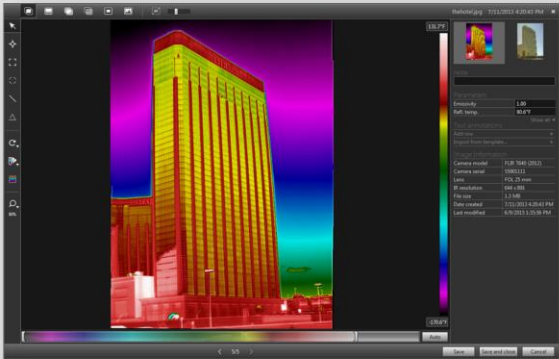




FLIR Tools +

Advanced PC software for creating Microsoft Word templates and reports, panoramas, and sequence recordings.





What is FLIR Tools?

FLIR Tools is a versatile software suite for importing and analyzing images and creating inspection reports.


- Import images, videos, and CSQ files from FLIR cameras.
- Analyze IR images and save changes.
- Adjust object parameters globally and locally.
- Create text annotation templates.
- Create and save inspection reports and export to PDF.
- View live radiometric video and save JPEGs.
- Play and analyze SEQ and CSQ files.
- Create temporal plots from measurement results.



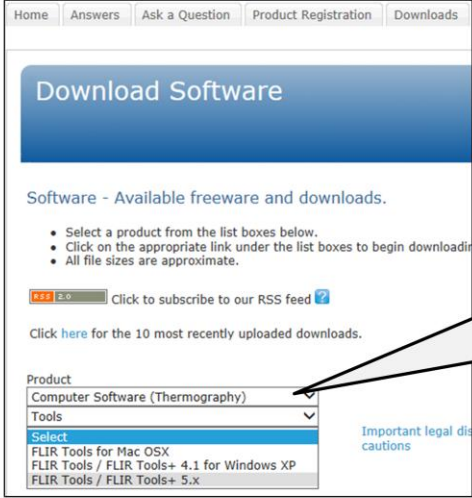
What is FLIR Tools+?

The FLIR Tools+ License Adds:

- Panorama stitching.
- SEQ recording (real-time and interval) and playback.
- Word Reporting using the FLIR add-in.
 - Create custom templates and Word reports.
 - Save documents for post-processing at a later time as a Word document.



Type **support.flir.com** into the address bar and press Enter.
You will need an account to download the software.



Navigate to **Downloads, Software**, and then select **Tools** from **Computer Software (Thermography)**.

Note: Windows XP users must use version 4.1.

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Install FLIR Tools

Home | Answers | Ask a Question | Product Registration | Downloads

Download Software

Software - Available freeware and downloads.

- Select a product from the list boxes below.
- Click on the appropriate link under the list boxes to begin downloading.
- All file sizes are approximate.

Click to subscribe to our RSS feed

Click [here](#) for the 10 most recently uploaded downloads.

Product

Computer Software (Thermography)

Tools

Select

FLIR Tools for Mac OSX

FLIR Tools / FLIR Tools+ 4.1 for Windows XP

FLIR Tools / FLIR Tools+ 5.x

Important legal dis
cautions

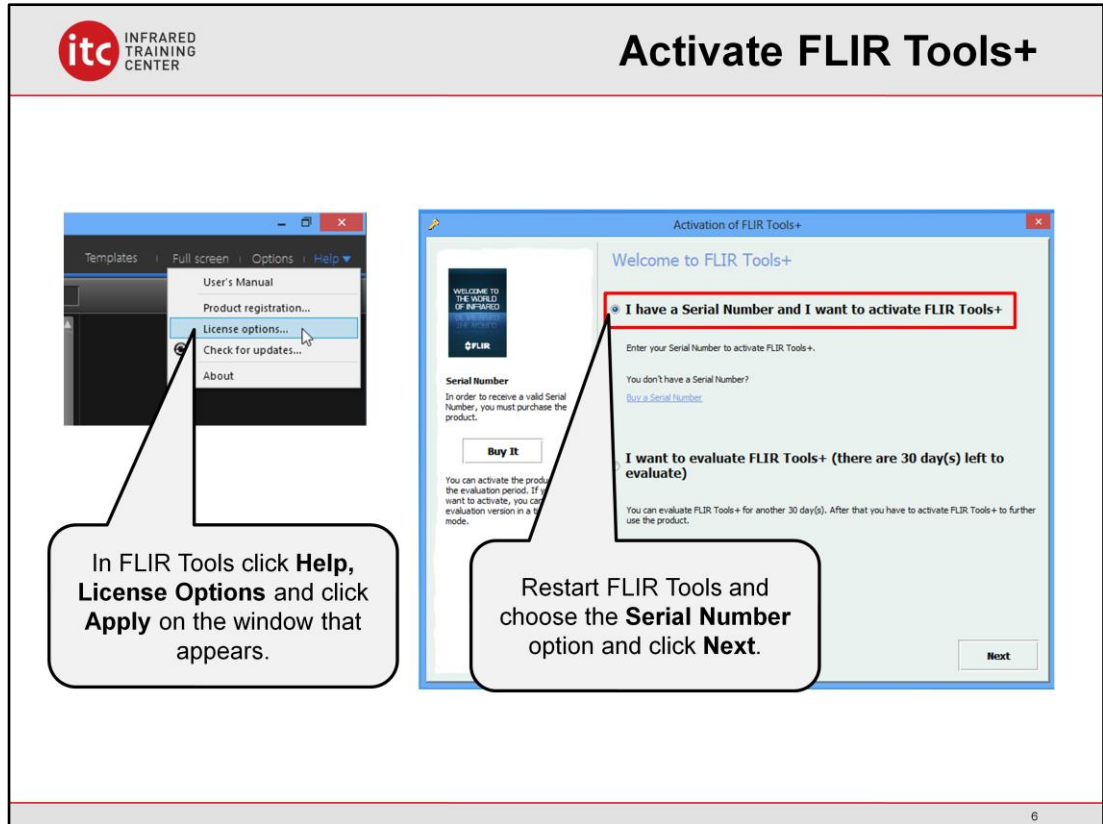
4

FLIR Tools can be downloaded from the FLIR Support Center website. A user account is needed to download software and manuals.



FLIR Tools + Activation

- Incorporated in the same download as FLIR Tools.
- To enable the features a purchased license is required, or a 30 day trial can be used to temporarily activate the software.
- The Word Add-in requires a 32-bit edition of MS-Office 2007, 2010, or 2013.
 - If using Office 365 Word must be installed locally on the PC. The “cloud-only” version does not support add-ins.



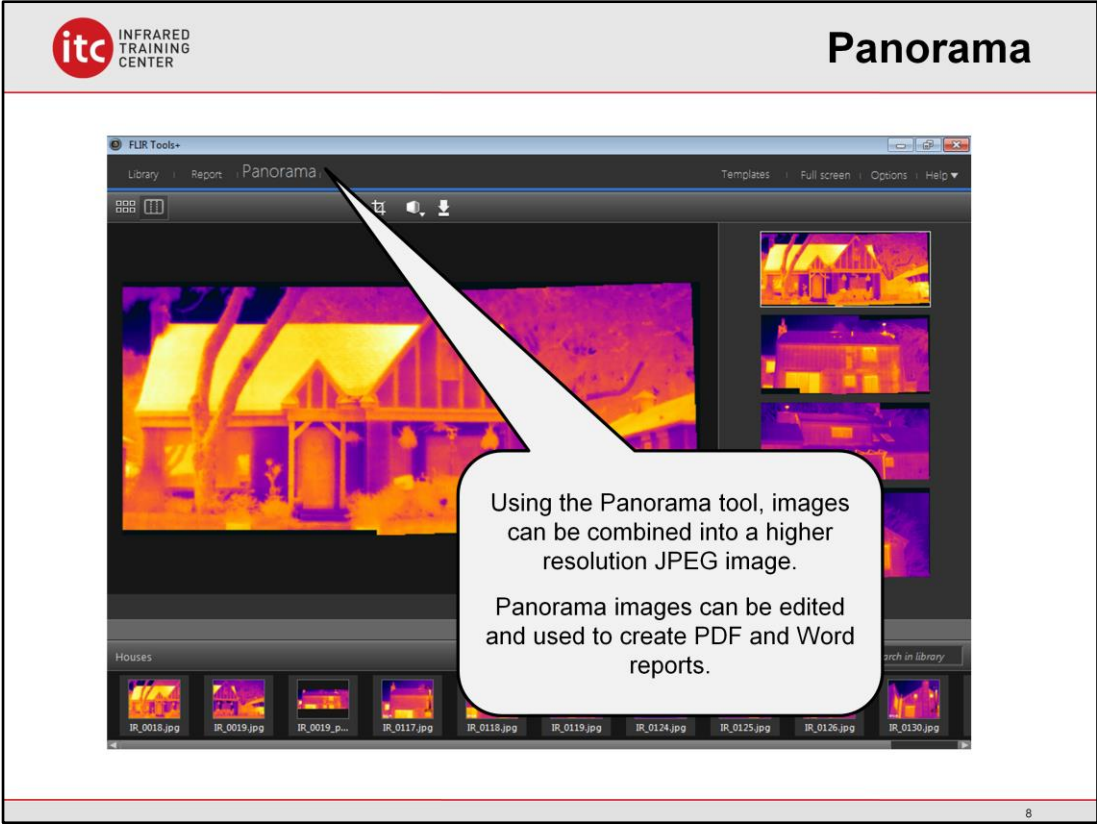
FLIR Tools+ can be activated from FLIR Tools, no additional software needs to be downloaded. From FLIR Tools click **Help**, **License Options**, and click **Apply**. Now close and re-start FLIR Tools. A new window will appear with two options:

1. If you have a serial number select the option "I have a Serial Number...." and click Next to activate online.
2. If you want to try for 30-days chose the "I want to evaluate..." option and click Next. This is a fully functional version of FLIR Tools+ that will expire in 30-days unless activated.

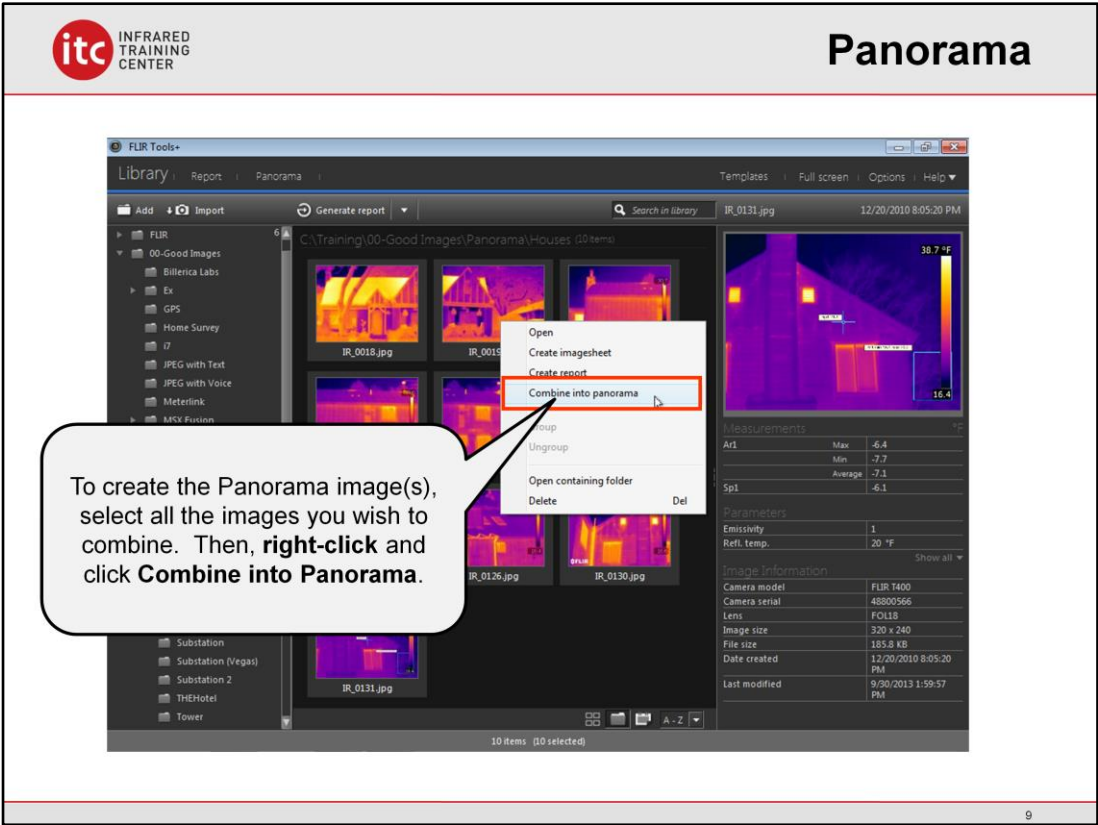


Objectives

- Create a Panorama image.
- Record sequences.
- Create a new Microsoft Word template:
 - Page layout tips that will help with the design process.
 - Use FLIR Tools+ objects such as the IR and DC Viewer, Tables, and Fields.
 - Add a Cover Page and Summary Page.
- Send selected images to a new Word report.



The **Panorama Tool** allows you to combine several radiometric JPEG images into a single, high-resolution JPEG image. The resulting image can be saved and used in FLIR Tools reports (REPX) and Microsoft Word reports.



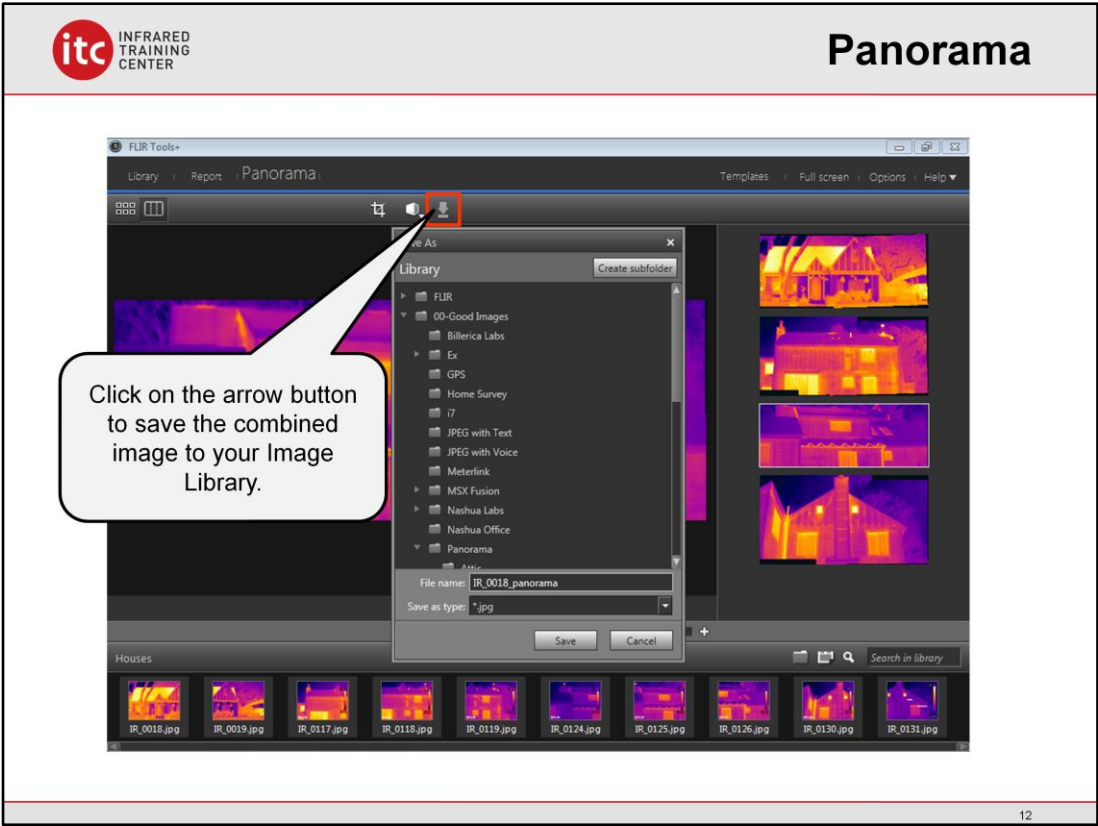
The process of creating the Panorama image starts in the Image Library. First, find and select the images you wish to combine. You can use the CTRL key or SHIFT key on the keyboard to select multiple images. Right-click on one of the selected images and click **Combine into Panorama**.



The software will automatically detect matching images and combine them into a Panorama. If multiple Panorama's exist, the software will sort out which images go together and create more than one image. In this example four Panorama images were created from the selected images.



Panorama images can be cropped to remove some of the jagged edges that can occur. Some perspective adjustments can also be made.



The arrow button can be used to save the panorama image to the library.

Panorama

IR_0018_panorama.jpg 6/24/2015...

80.3°F

87.6°F

Note

Measurements

Parameters

Text annotations

Image Information

Sp1

71.7

Sp2

72.6

Emissivity

1.00

Ref. temp.

68.0°F

Camera model

FLIR T400 Western

FOL 18 mm

570 x 236

346.3 KB

6/24/2015 3:39:14 PM

6/24/2015 3:40:13 PM

Save

Save and close

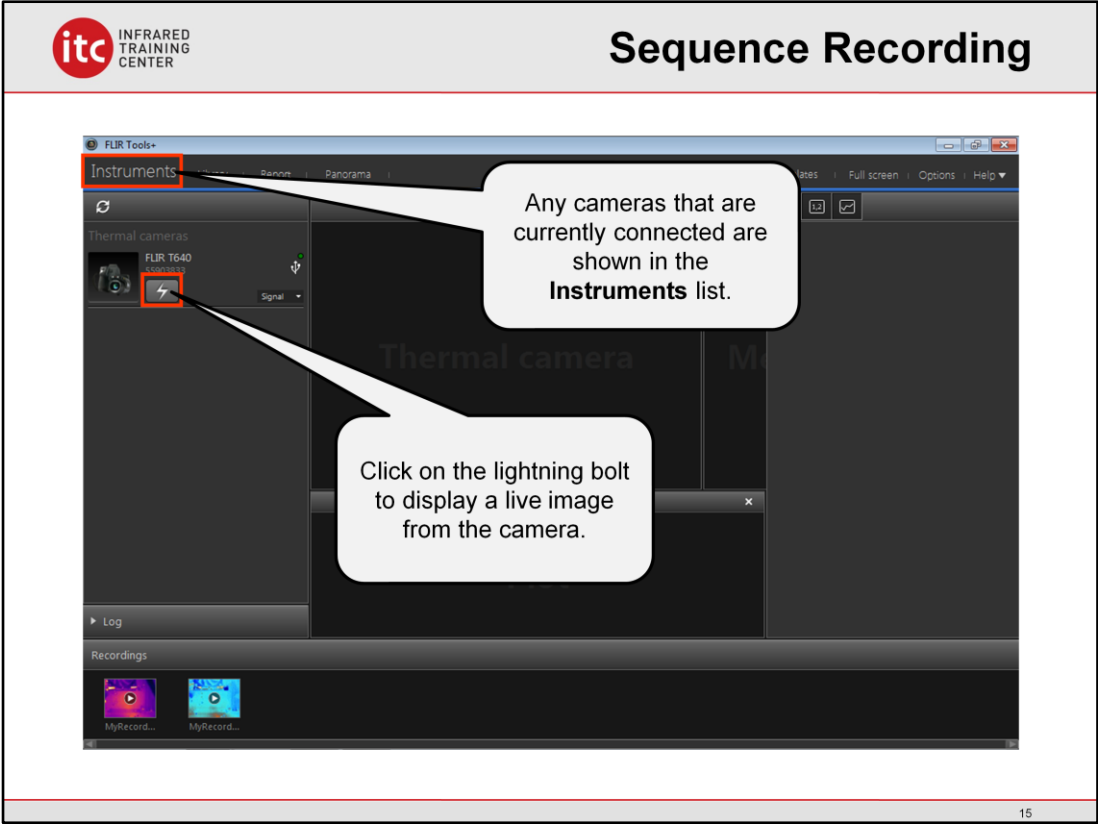
Cancel

Since the Panorama image is radiometric you can open it from the Image Library, measure temperatures, save changes, and send the image to a report.

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Panorama images created using Tools+ retain all of the temperature information, allowing you to process the images, measure temperatures and create inspection reports.





FLIR Tools+ can record radiometric sequences from compatible USB and Ethernet cameras. You can also control the focus, change range, and measure temperatures on the live image. Any cameras that are currently connected can be seen in the Instruments list.

Click the lightning bolt button to display a live image.

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Sequence Recording

Thermal cameras

FLIR T640

55903833

Signal

Camera capture

Measurement Range: -40 - 302 °F

Frame rate: 30 fps

Recording speed: 30 fps

☐ Time interval:

41%

36 min

Use these buttons to adjust focus (for cameras that have motorized focus capabilities) and NUC.

Set the measurement range, frame rate, and recording speed. The recording speed matches the frame rate unless the 'time interval' box is checked.

This shows the longest recording possible, depending on available disk space and recording speed.

Most of the camera control functions are the same as with FLIR Tools. If the camera has electronic focus you can adjust the near/far focus, and you can auto-focus. You can also perform a NUC, which is a good idea before a recording is started.

The measurement range can be changed, the range limits depend on the camera model. You can also adjust the frame rate for certain cameras.

By default the recording will be at the selected frame rate, however this can be reduced using the 'time interval' checkbox. For example, you can choose to record one image every second. This can save disk space in cases where the highest frame rate is not needed. The total duration of the recording (based on available disk space and recording speed) is shown at the bottom of the window.


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Sequence Recording






Thermal cameras



FLIR T640
55903833

Signal

Camera capture



Measurement Range: -40 - 302 °F

Frame rate: 30 fps

Recording speed: 30 fps

☐ Time interval:

41%

36 min

Options

ReportUnitsLanguage

RecordingViewLibrary

File saving options

File name prefix: MyRecord

Image format: FLIR JPEG (*.jpg)

Video format: FLIR Sequence (*.seq)

C:\Users\Gagnon\Documents\FLIR\Recordings

Browse...

Disk space (C:)

Maximum amount of disk usage: 141.5 GB of 148.9 GB disk

95%

OKCancel

The Gear button allows you to name the recording and choose the location for the recording.

You can also set the maximum amount of disk space used by FLIR Tools+ for recordings.

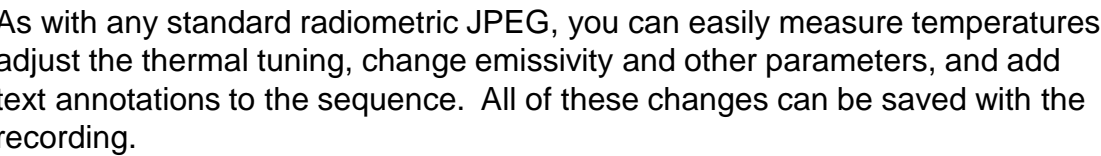
17


The gear button allows you to set the name of the recording and also select a location. The default location is \My Documents\FLIR\Recordings.

17

13

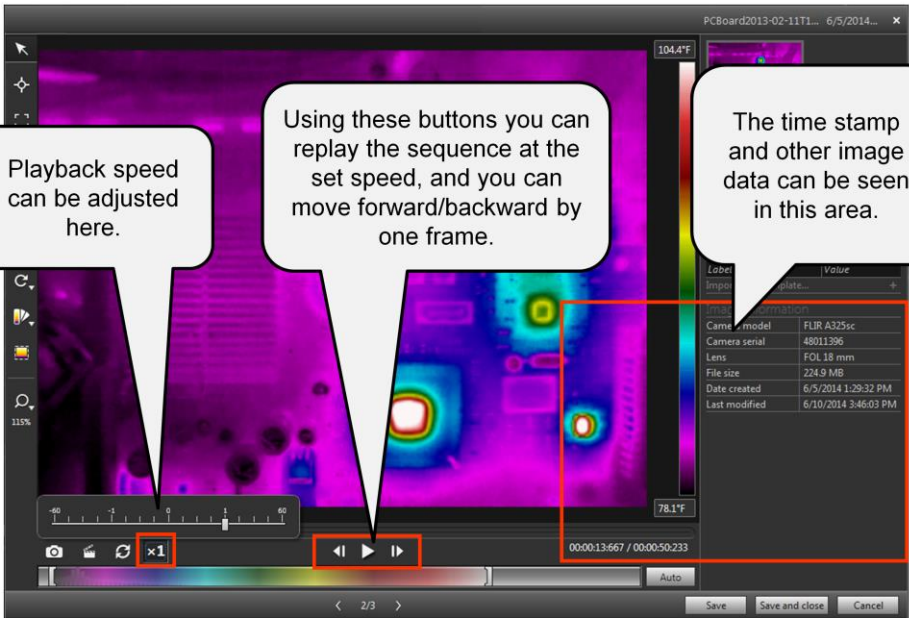
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Play and Analyze SEQ and CSQ Files



Playback speed can be adjusted here.


Using these buttons you can replay the sequence at the set speed, and you can move forward/backward by one frame.

The time stamp and other image data can be seen in this area.


Label	Value
Image information	
Camera model	FLIR A325sc
Camera serial	48011396
Lens	FOL 18 mm
File size	224.9 MB
Date created	6/5/2014 1:29:32 PM
Last modified	6/10/2014 3:46:03 PM


20


If you click the **x1 button** the playback speed can be adjusted to play forward or backward up to 60x times the original speed. The play buttons in the center of the toolbar will play the recording, and you can step forward/backward by one frame. The camera type, date, time, and other data shows in the panel to the right of the image.




Play and Analyze SEQ and CSQ Files



The **Camera button**  allows you to save the current frame to your image library as a JPEG.

The **Clipboard button**  can convert the sequence to an AVI file.

The **Loop button**  will replay the sequence automatically.

Sequence: PCBoard2013-02-11T1... 6/5/2014... x

Duration: 50sec
Frame rate: 30fps

Parameters:
Emissivity: 0.95
Ref. temp.: 68.0°F

Snapshot text annotations:
Label: Value

Import from template: +

Image Information:
Camera model: FLIR A325sc
Camera serial: 48011396
Lens: FOL 18 mm
File size: 224.9 MB
Date created: 6/5/2014 1:29:32 PM
Last modified: 6/10/2014 3:46:03 PM

115% 104.4°F 78.1°F

00:00:13.667 / 00:00:50.233

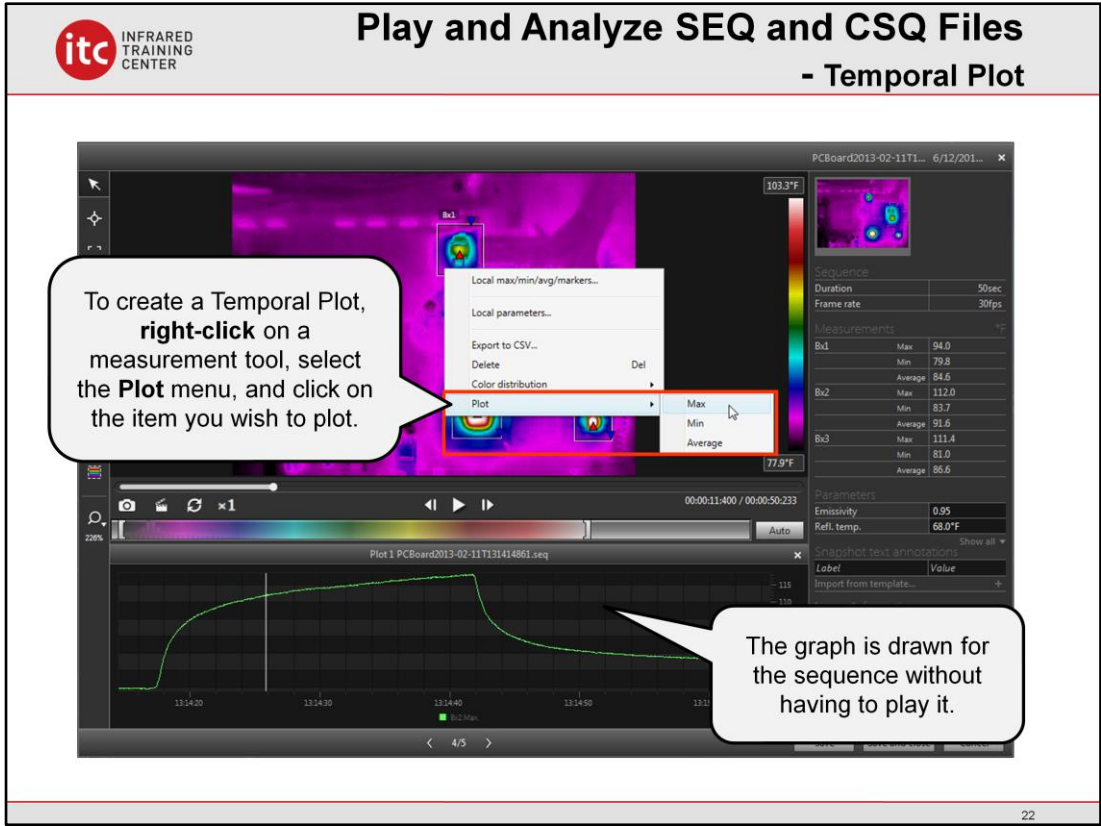
< 2/3 > Save Save and close Cancel

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The camera button below the image allows you to extract any frame from the recording to your image library as a radiometric JPEG. This can be analyzed using FLIR Tools and can be used in a report.

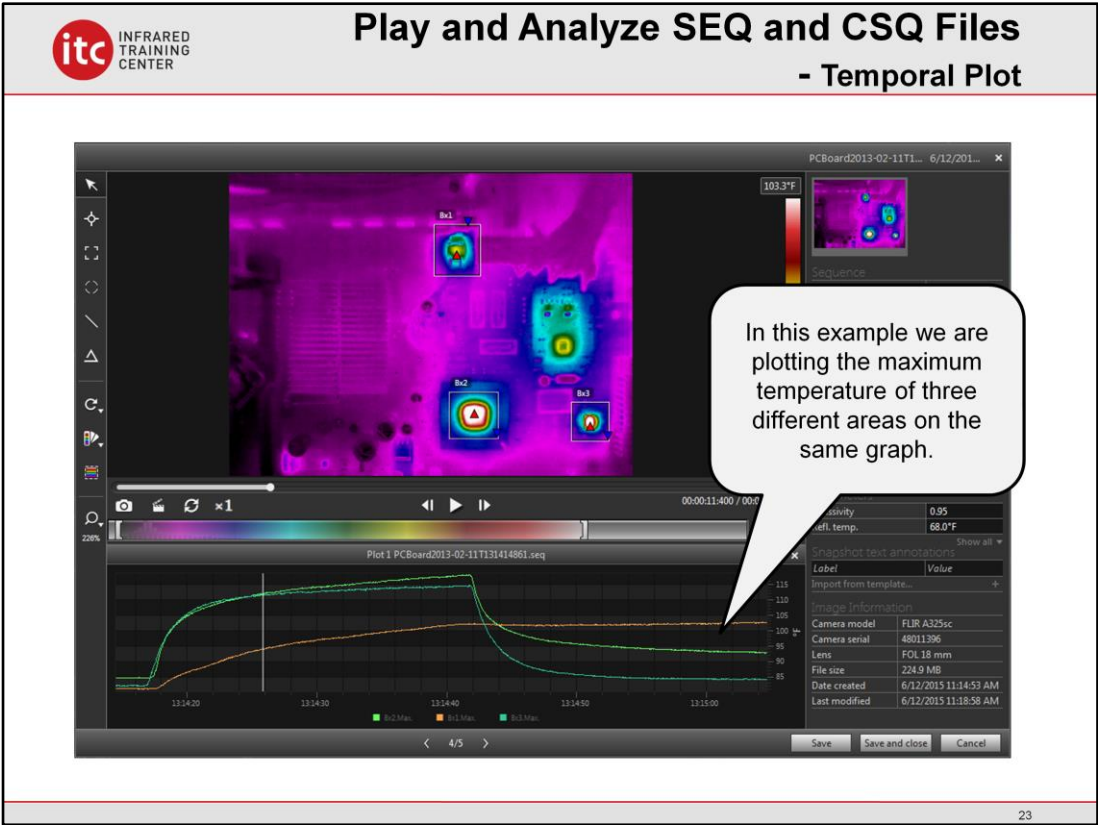
You can also convert the sequence to an AVI file, which is handy for sharing with others who do not have the FLIR software.

The loop button will automatically replay the sequence.



Temporal Plots can be a convenient way to analyze transient events.

Plots can be created using any measurement tool. Just **right-click** on the tool, click **Plot**, and then click the item you wish to plot. In this case we are plotting the maximum temperature of Area 1. The graph is drawn automatically without having to replay the entire sequence.



More than one tool can be plotted on the same graph. To add more tools simply right-click on the next tool and choose the Plot menu again. Repeat this process for each tool you wish to plot.

This graph is plotting the maximum temperature of three different areas.

12							
13	Date	Time	Milliseconds	Relative time	Ar1.Max.	Ar3.Max.	Ar2.Max.
14	2/11/2013	1:14:14 PM	433	0	84.64529	81.2286	82.02937
15	2/11/2013	1:14:14 PM	433	0	84.6184	81.183	81.9567
16	2/11/2013	1:14:14 PM	466	0.033	84.6632	81.17388	82.07476
17	2/11/2013	1:14:14 PM	500	0.067	84.62736	81.14651	82.03844
18	2/11/2013	1:14:14 PM	533	0.1	84.62736	81.08265	82.03844

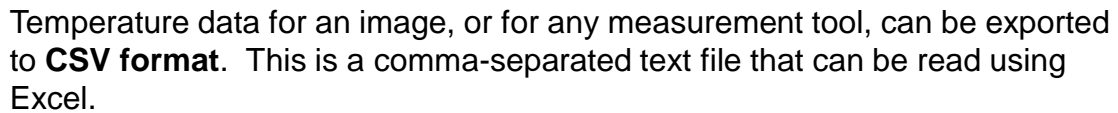
Excel shows detailed information about each plot point.

Plot data can be easily copied from FLIR Tools as text and pasted into other programs like Microsoft Excel for more detailed analysis.

Just **right-click** anywhere on the graph, click **Copy**, and click **Data** to copy the plot data to the Windows Clipboard. Now you can start Excel and paste the data into a new spreadsheet.


Each row represents a plot point in the graph. The data is broken up into columns showing the date, time, and temperature for each measurement tool.

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When exporting from an SEQ or CSQ, each frame from the recording is exported to a single CSV file. Column A contains the frame differentiator.



FLIR Tools+ The MS Word Add-In



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The Microsoft Word add-in expands the reporting capabilities by allowing you to create custom Word templates.



Tools+ Add-In

Use the Word Tools+ Add-In to automate the report generation and:

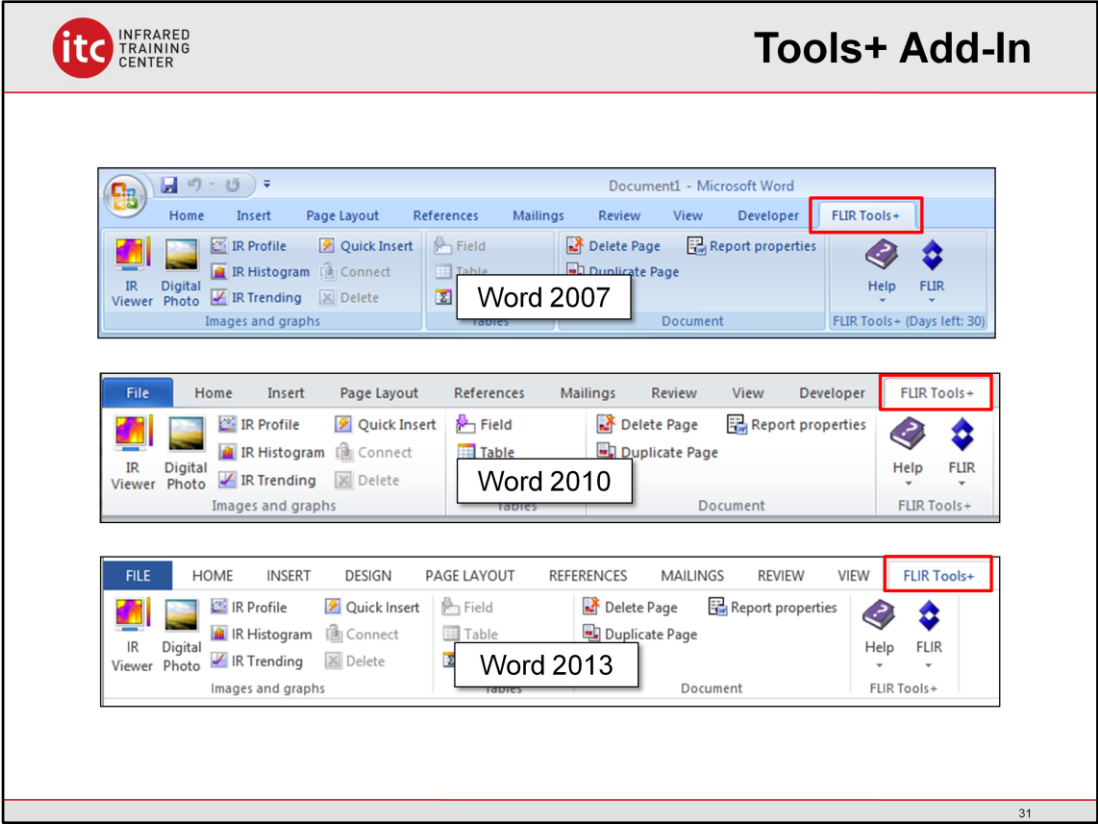
- Conduct the *Same* analysis on each image in the report.
- Use a consistent color palette through out the report.
- Multiple Logos.
- “Customize” the report with customer specific information from the same template.



Tools+ Add-In


- Use formulas for complex analysis such as severity determination.
- Automatically generate a summary table of the “findings” within the report.
- Create “fused” images (PnP, Fusion, MSX) from individual Infrared and Visual (Digital) sources.

A page with an IR and Photo placeholder.
A page with a Summary table.
A cover page with Document Properties.




The FLIR Tools+ add-in appears as a tab in Microsoft Word. This tab is always present in Word unless you uninstall or de-activate Tools+.

It is best to set the page layout, size and margins before beginning the design process. If you need to insert extra pages insert a blank page, or insert a page break.



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Use the Word Header and Footer



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You can insert any
standard picture as
your logo.

Infrared Training Center
25 Esquire Road
Billerica, MA 01862, USA
Thermographer:

Header

Double-click at the Top or Bottom of the
Page to Edit the Header or Footer.


Footer

Page 3 of 3

10/2/2008

33

The Word header and footer are ideal for displaying information that you would like to show on all pages. By utilizing the header and footer space you reserve more page space for IR data, tables, and text boxes.



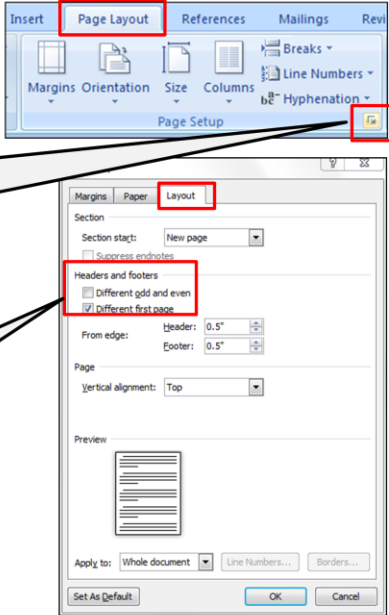
Use the Word Header and Footer

- Different First Page

Change the Page Layout to use a different Header and Footer for the cover page.


Click here to show the **Page Setup** dialog box.

Click the **Different First Page** checkbox on the **Layout** tab.



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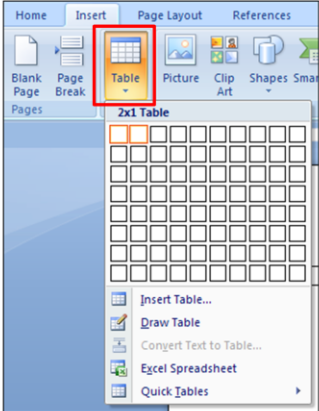
If needed you can alter the page layout to display a different header and footer on the cover page.

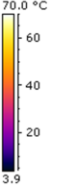



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Use Word Tables to Help with Page Layout

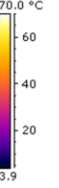

Insert a New Word Table






Date	9/30/2009
Image Time	6:07:49 PM
Max Temperature	70.0 °C
Emissivity	1.00

Example 1: IR Next to a Result Table






Example 2: IR Next to a Photo

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When adding items to a Word page it is good practice to insert them into Word tables. This allows you to easily place an IR Viewer next to a photo or a Result Table.



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Insert an IR and Photo Box

Add a placeholder for an **IR image** and **digital photo**. Remember to add a Word table to the page first. Then insert the IR objects inside the table.

File

Home

Insert

Page Layout

References



Mailings

Review

View

Developer

FLIR Tools+



IR Profile

Quick Insert

Field

Delete Page

Report properties

IR Histogram

Connect

Table

Duplicate Page

IR Trending

Delete

Summary Table

Images and graphs


Tables

Document

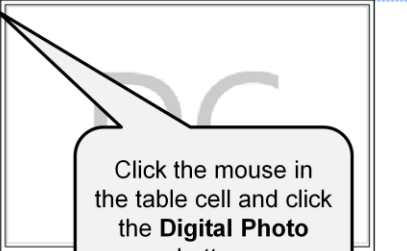
Help

FLIR

FLIR Tools+



Click the mouse in the table cell and click the **IR Viewer** button.



Click the mouse in the table cell and click the **Digital Photo** button.

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Add a Word table to the page with 1 row and 2 columns. Insert the IR Viewer into the first column, then insert the Digital Photo into the second column. You can resize either box by clicking and dragging the corners.


36

Set Temperature and Distance Units

If you set your preferred units in the template then you will not need to change them for each report.

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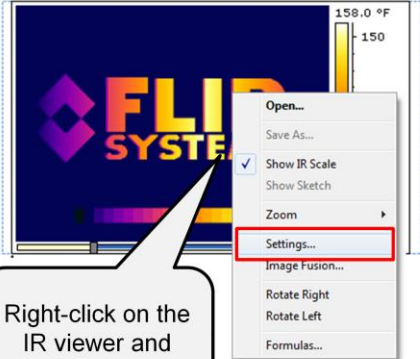
Since the temperature and distance units are typically the same for all reports it is best to set them in the template. You can always change them in the report if needed.



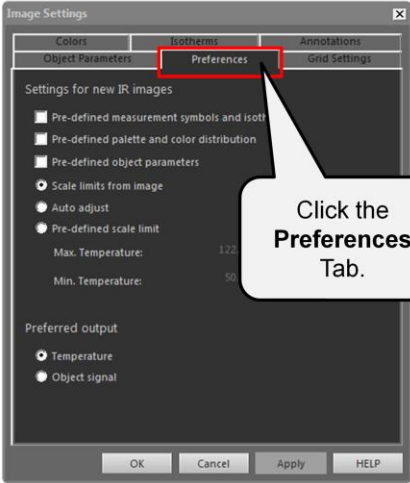
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Set IR Preferences

Use the **IR Preferences** tab to pre-define measurement tools, color palette, and temperature scale settings for your template. These settings define the default behavior for your template.




Right-click on the IR viewer and click **Settings**.



Click the **Preferences** Tab.

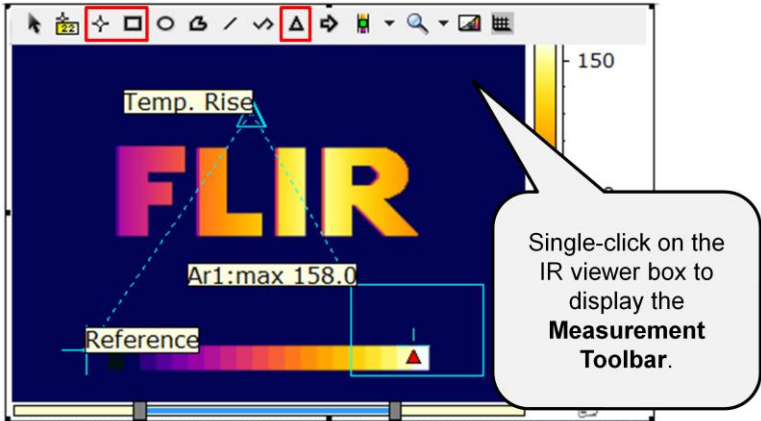
38

You can pre-define measurement tools in the template if you would like them to appear on all reports (e.g.: a spot meter and area box). You can pre-define other settings such as the color palette and scale limits.



Add Pre-Defined Measurement Tools


Measurement Tools can be pre-defined in your template. This example shows a Spotmeter, Area box, and Delta T. Note that you must have "Pre-defined measurement symbols..." checked in the IR Preferences.



Single-click on the IR viewer box to display the **Measurement Toolbar**.

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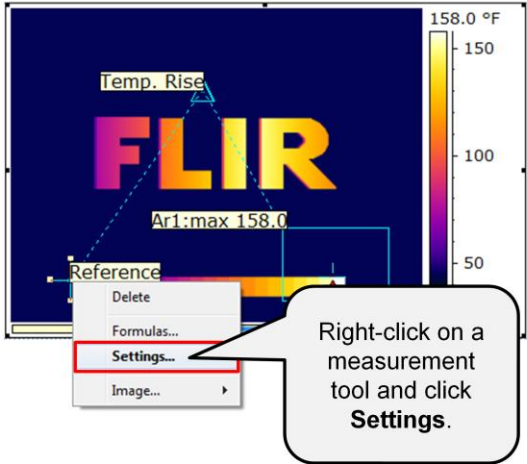
If you click on the IR Viewer box the Measurement Toolbar will appear, allowing you to select from a variety of measurement tools.



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Customize Measurement Tools

Measurement tools parameters can be customized. For example, you can change the label from “Sp1” to something more descriptive, like “Reference Temp” or “Max Temp”.



Right-click on a measurement tool and click **Settings**.

Measurement Settings

General

Object Parameters

Size/Color

Label

☒ Show label

Reference

Show value:

Font s

none

☒ Include value description

Color

Measurement symbol:

Text:

Text background:

☐ Set as default

OK


Cancel

Type a new label.

Show the temperature on the image.

Change tool and label colors.

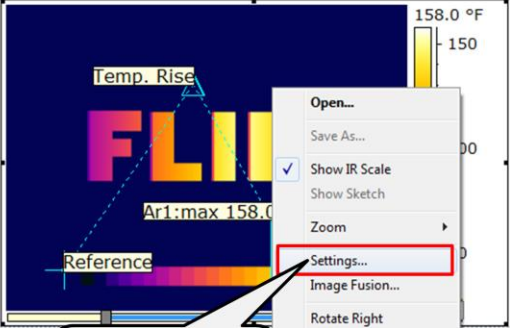
You can override the generic tool label and color for any measurement tool once it is placed on the IR Viewer. This can be done in the template and in the report.



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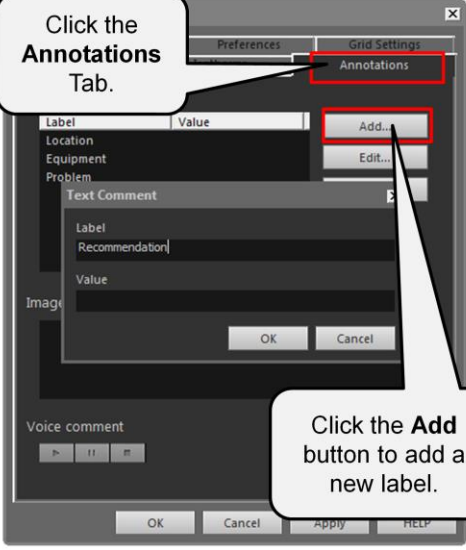
Add Text Annotation Labels

Text Annotations can be used to annotate each IR image with text labels and values.



Right-click on the IR viewer and click **Settings**.

Click the **Annotations** Tab.



Click the **Add** button to add a new label.

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Text Annotation labels can be pre-defined in the template, as a formal way to “tag” the IR images with certain information. This data can be displayed using the IR tables and fields, including the Summary table.

If the same labels are used in a Text Annotation Template, the values will auto-populate the fields when the report is created.

Another advantage of pre-defining the labels is that they become available for use in the Summary Table.

Add a Result Table

The screenshot shows the Microsoft Word ribbon with the 'References' tab selected. The 'Field' button is highlighted with a red rectangle. The 'Field' button is located in the 'References' tab, under the 'Field' group. The 'Field' button is represented by a small icon of a document with a field symbol. The 'Field' button is located in the 'References' tab, under the 'Field' group. The 'Field' button is represented by a small icon of a document with a field symbol.



Date 9/30/2009
 Filename Max Temperature
 Max Temperature 158.0 °F
 Min Temperature 39.0 °F

A Result Table will be added to the page with some default values.

42

Add a Result Table

Result Tables can be easily customized in the template to display specific information related to your reports.

Date	9/30/2009	Image Description	-
Image Time	6:41:11 PM	Location	
Max Temperature	158.0 °F		
Emissivity	1.00		
Ar1 Max. Temperature	158.0 °F		
Ref T	Borders and Shading...		
Temp	Spelling...		
	Contents...		
	Refresh		

To customize the table right-click and select **Contents**.

Table Contents

Table Items

Objects

- Image
- Object Parameters
- Text Comments
- Line
- Area
- Spotmeter
- Formula
- DeltaT
- Isotherm
- Page Number

Values

- ☒ Date
- ☒ Time
- ☐ File name
- ☐ Path
- ☐ Title
- ☒ Max. Temperature
- ☒ Min. Temperature
- ☐ Camera Type
- ☐ Serial Number
- ☐ Camera Lens
- ☐ Camera Filter
- ☐ Camera Level
- ☐ Camera Span

Preview

Date	8/20/2012
Image Time	1:30:31 PM
Emissivity	1.00
Max Temperature (Max. Temperature)	158.0 °F
Area Max. Temperature	Auto
Spotmeter Temperature	Auto

☐ Set as default

Delete

Check the items you want to display.

Delete the items you want to remove.

The Table Contents window is divided into two sections; the Objects are the categories, the Values are associated with the selected Object. Simply check the items that you want to display to add them to the table.

Add a Field

A **Field** can be used to show a single IR parameter anywhere on the page.


Click the **Field** button.

Choose to show or hide the label.

Select the item from the list and click **OK**.

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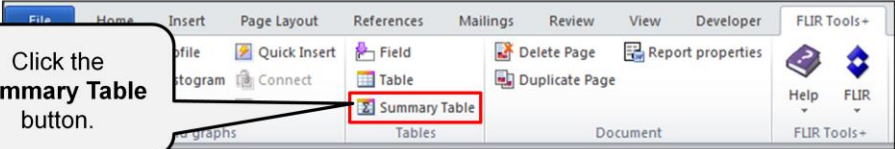
A Field can be used to show a single IR value on the page.



Add a Summary Table

A **Summary Table** is typically added to a front or back page and can be used as a table of contents, or as an inspection summary.

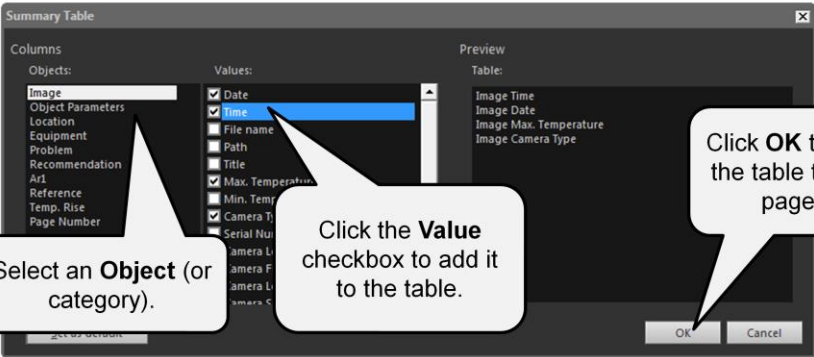
Click the **Summary Table** button.




Click the **Value** checkbox to add it to the table.

Select an **Object** (or category).

Click **OK** to add the table to the page.



A Summary Table can be used on a front or back page. Similar to the Result Table, it is divided into Objects and Values. Select the desired checkboxes to create the table columns. Note that any Text Annotations created in the IR Viewer are shown in the Objects list.



Add Document Properties

Document Properties can be used to enter report information such as Thermographer name, Company name, etc. When you send images from FLIR Tools+ to a Word template a window will appear prompting you to enter the values which will then automatically populate the report fields.

Report properties

Label	Value
_Customer	[customer]
_Address	[address]
_Contact Person	[contact]
_Phone	[phone]
_E-mail	[e-mail]
_Thermographer	[thermographer]
_Inspection Date	[date]

☐ Do not show this dialog during report creation

Import Save Reset

OK Cancel

FLIR

Thermography Inspection at:
ITC

Inspection Date:
[date]

Thermographer:
[thermographer]

Description:

Document Properties are a standard Word feature that is utilized by FLIR Tools+ when creating Word reports. The purpose is to allow the user to enter information about the report that would typically appear on the cover page. Word fields are used to display this information. Note that this information is not image-specific. Text Annotations should be used for image information.

The process of adding Document Properties varies depending on your Office version.



Add Document Properties (Label Configuration)


The **Document Property** labels must adhere to a certain format in order for FLIR Tools+ to identify them.

First you must add this label and value:
FLIR_ReportPropertyPrefix = _

All FLIR Tools+ labels must begin with the _ character.

For example, a label for "Customer" should be entered this way: **_Customer**.

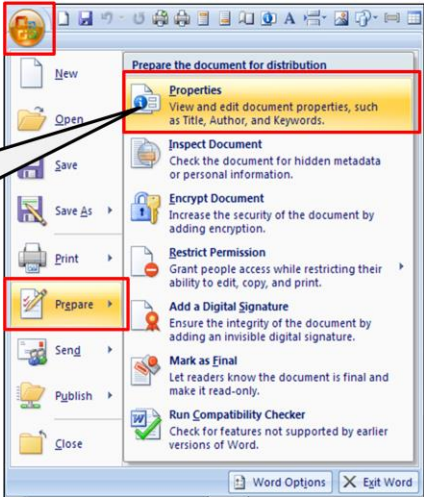
Name	Value	Unit
FlirTempUnit	1	
FlirDistUnit	1	
_Customer	[customer]	T
_Address	[address]	T
_Contact Person	[contact]	T
_Phone	[phone]	T
_E-mail	[e-mail]	T
_Thermographer	[thermogra...]	T



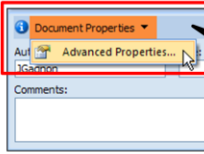
Add Document Properties

(Office 2007)

To add Document Properties click the **Office button**, then **Prepare**, then **Properties**.



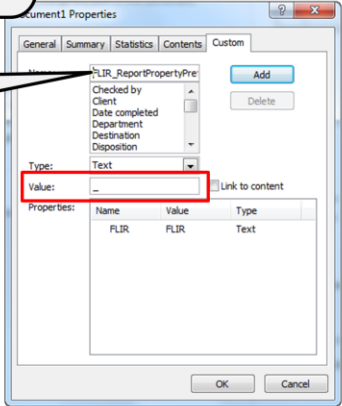
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To create custom labels click **Document Properties**, then **Advanced Properties**.

Start by typing this label:
FLIR_ReportPropertyPrefix with a value of **_**.
Click the **Add** button to add the new label.


Now you can begin to enter other labels and values to the list. Each label must begin with the underscore character (**_**).



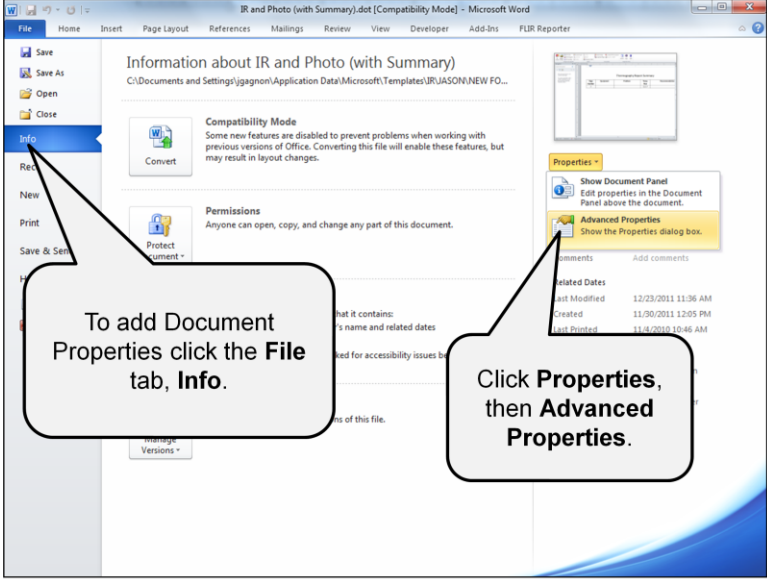
Name	Value	Type
FLIR_ReportPropertyPrefix	_	Text

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Select **Document Properties**, then **Advanced Properties**. The General tab shows some default properties, however you can easily create your own properties from the Custom tab.



Add Document Properties
(Office 2010)



To add Document Properties click the **File** tab, **Info**.

Click **Properties**, then **Advanced Properties**.

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Click the **File** tab and select **Info**. Click **Properties**, then **Advanced Properties**.



Add Document Properties (Office 2010)

Start by typing this label:
FLIR_ReportPropertyPrefix with a
value of **_**.
Click the **Add** button to add the new
label.

Now you can begin to enter other labels and
values to the list. Each label must begin
with the underscore character (**_**).

Name	Value	Type
FLIR	FLIR	Text

Add Document Properties
(Office 2013)

The screenshot shows the Microsoft Word 2013 interface. The 'File' tab is selected in the ribbon, and the 'Info' section is active. A callout points to the 'Info' section with the text: 'To add Document Properties click the File tab, Info.' Another callout points to the 'Properties' dropdown menu, which is open, showing 'Show Document Panel', 'Show and edit properties above your document', and 'Advanced Properties'. A second callout points to 'Advanced Properties' with the text: 'Click Properties, then Advanced Properties.'

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Click the **File** tab and select **Info**. Click **Properties**, then **Advanced Properties**.



Add Document Properties (Office 2013)

Start by typing this label:
FLIR_ReportPropertyPrefix with a
value of **_**.
Click the **Add** button to add the new
label.

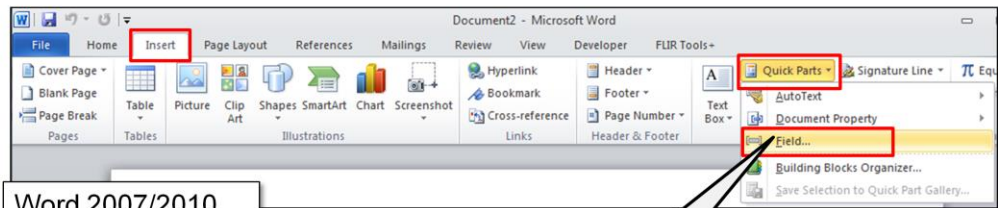
Now you can begin to enter other labels and
values to the list. Each label must begin
with the underscore character (**_**).

Name	Value	Type
FLIR	FLIR	Text



Show Document Properties

Document Properties can be shown on the page using Word's **Field** tool.




Word 2007/2010



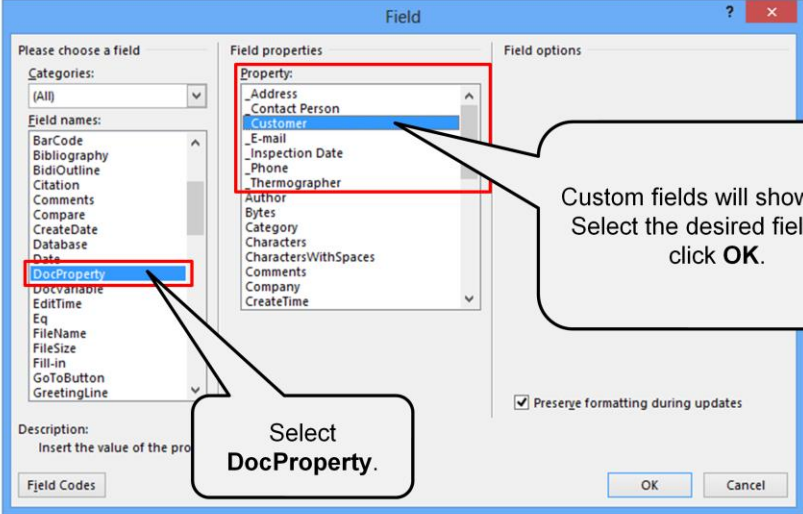
Word 2013

To insert a Word Field to show Document Properties click the **Insert** tab, then **Quick Parts**, then **Field**.



Show Document Properties

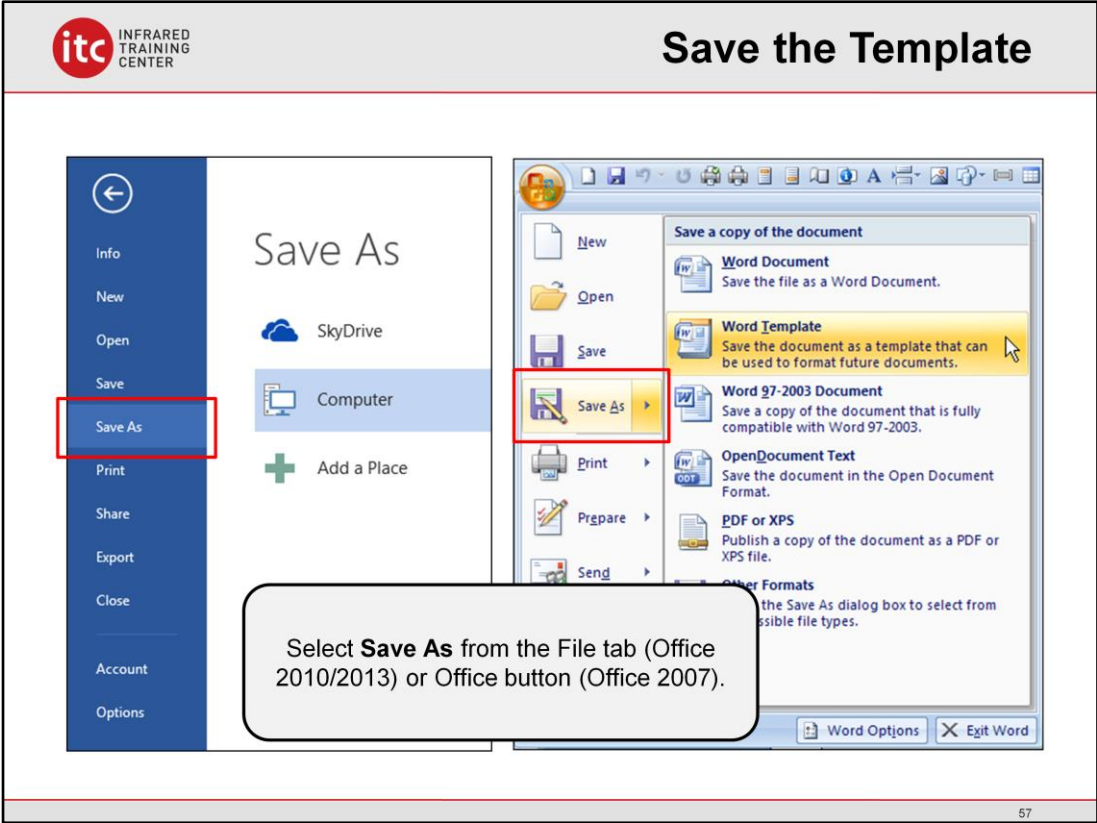
The **DocProperty** category shows all default and custom Document Properties in alphabetical order.



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DocProperty shows all default and custom Document Properties.

When you insert the selected Document Property the default value is shown on the template page. When the report is created you will have the opportunity to replace this value with text that applies to the report you are creating.



Save the template as a standard Word Template file:

Office 2007: Click the Office button, Save As, Word Template.

Office 2010/2013: Click the File tab, Save As, and choose Word Template as the document type.

Save the Template

STRONG RECOMMENDATION!
Create a new folder for your custom FLIR Tools+ templates.

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FLIR Tools+ allows you to set a user templates path. This means that you can store custom template in a folder that is easy to find, instead of using the default Microsoft folder for templates. Also, you'll be assured that the templates are secured with your back-up software!

For example, you can create a new folder in My Documents called "FLIR Tools Templates" and use this as your user templates path.

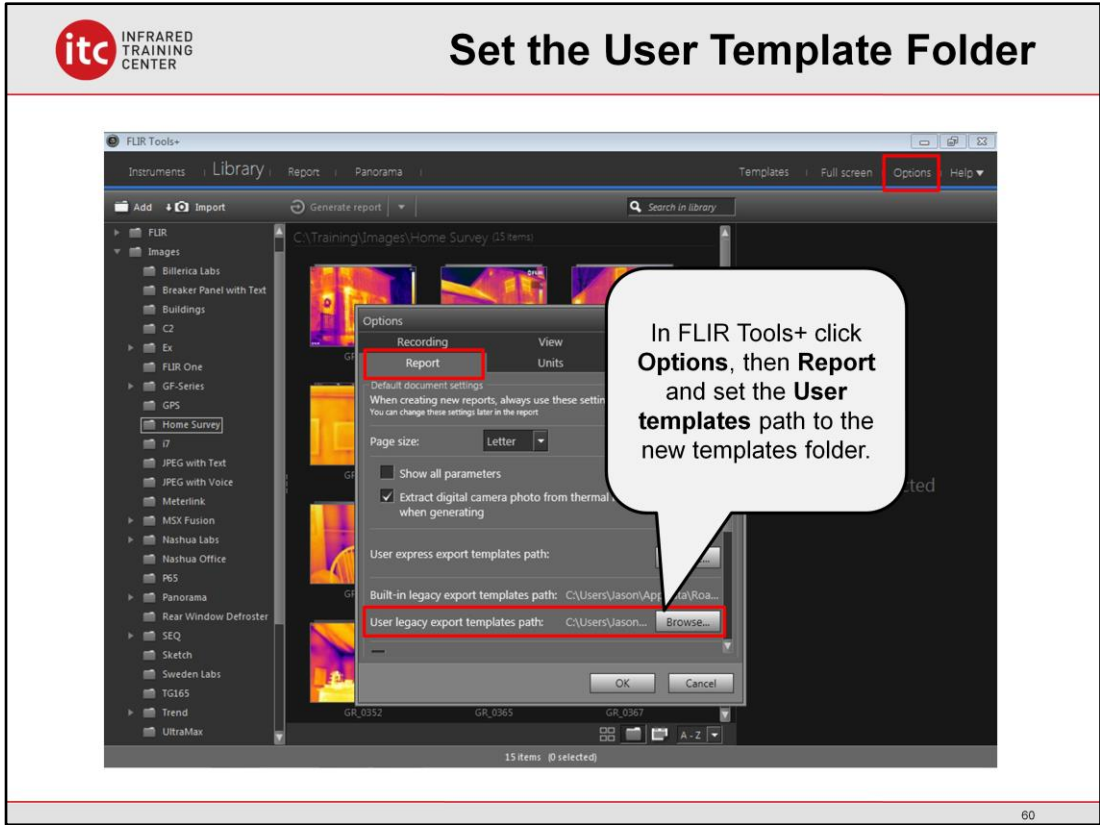
Save the Template

Save the template in the new folder.

Make sure **Word Template** is selected as the file type and click **Save** to save the new template.

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All your custom FLIR Tools+ templates can be saved in this new folder.



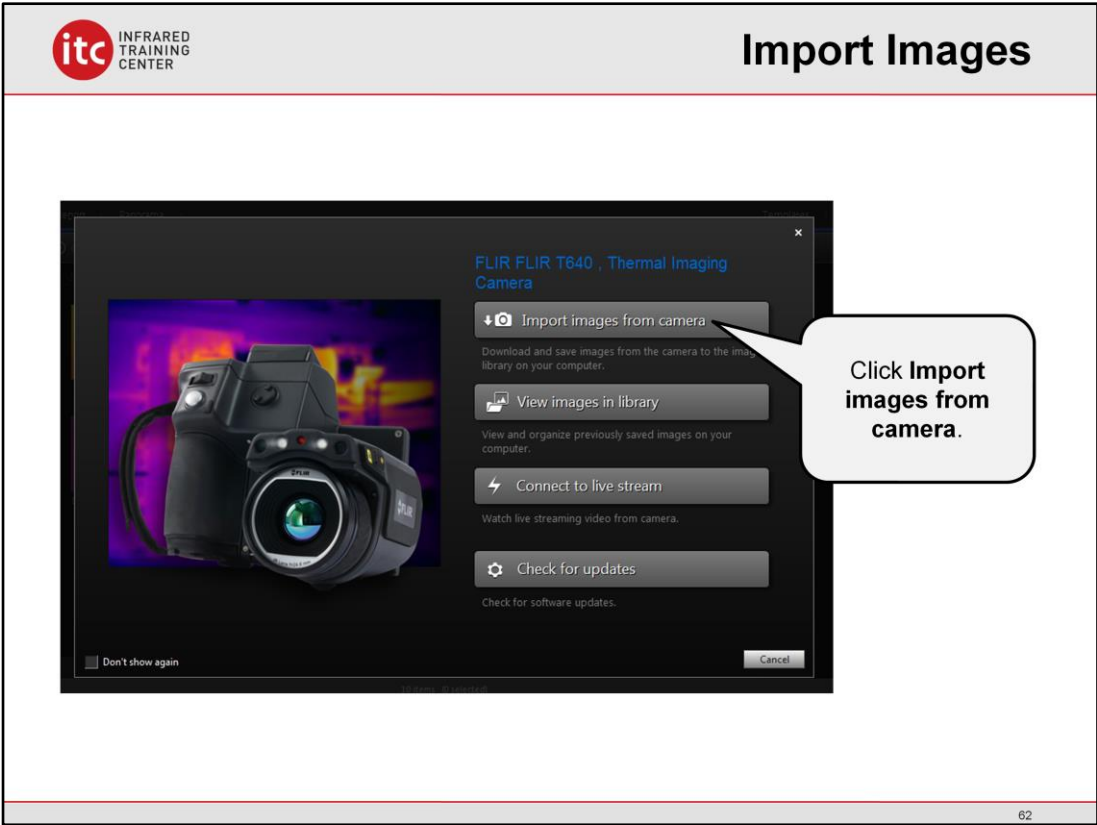
In FLIR Tools+ you must set the user templates path so you can select templates from the new folder:

Click **Options**, then **Report**.
Click **Browse** next to “user legacy export templates path” and select your new template folder (in this case \My Documents\FLIR Tools Templates).



The Report Generation Process

- Import the images from the Infrared camera into their appropriate folder.
- Modify the images if required such as:
 - Level and Span
 - Placement/modification of image measurement tools
 - Adjust object or measurement tool parameters
 - Addition or modification of text annotations
- Select the images to be used in the report.
- Select the “Word” template to generate the report.
- Fill in the “Word Document Properties” if required.
- Make any minor adjustments to the image if required.



If you connect a camera via USB while FLIR Tools is running a startup screen will appear with links to common functions. Click the button to **Import images from camera**.

View images in library will close the startup screen and show the image library.

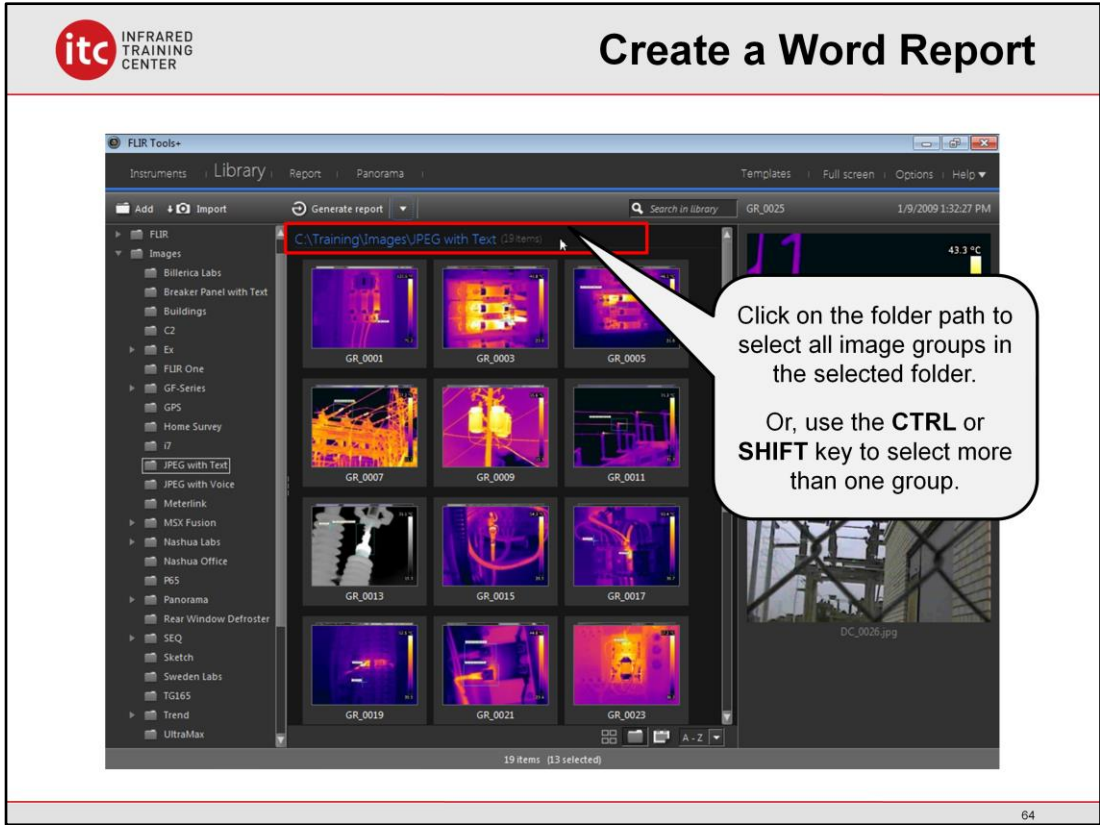
Connect to live stream will display a live image from compatible FLIR cameras.

Check for updates will check for FLIR Tools updates. It can also check for updates for certain FLIR USB cameras.

Analyze Images

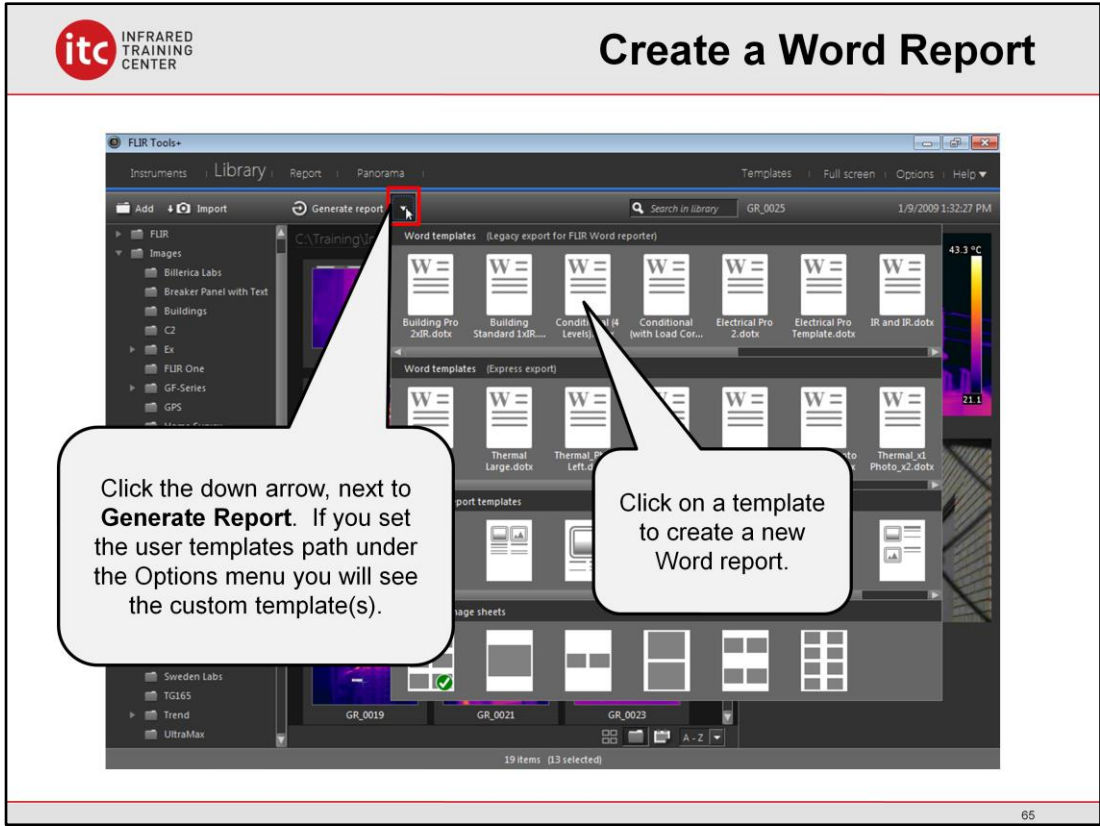
Using the FLIR Tools Image Editor you can adjust the scale, color palette and object parameters if needed. You can also measure temperatures using a variety measurement tools and save changes. See the FLIR Tools User Guide for a more detailed explanation of the analysis options.

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From the FLIR Tools library you can select the groups to send to the new report. A quick and easy way to select everything in the folder is to click on the path. This will automatically select everything in the current folder.

Another option is to use the SHIFT key to select everything in between two groups (e.g.: click on GR_0001, hold down SHIFT, and click on GR_0011). Or, hold down the CTRL key to select random groups.

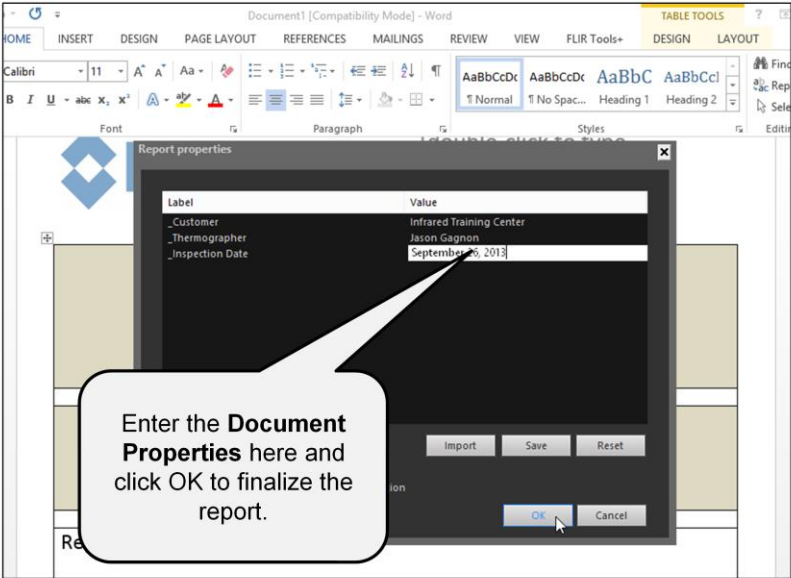


With the images selected, click the down arrow next to **Generate Report**. FLIR Tools+ will show some sample Word templates and any custom templates that have been created and saved to the user templates folder. Simply click on the template you wish to use to begin creating the Word report.

Note: Be sure to set the user templates path from **Options, Report**, otherwise the custom templates will not appear as a choice.



Create a Word Report



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Any Document Properties that were added to the template will appear in a window before the final report is made. This allows you to enter the desired values, which will then automatically populate the fields in the Word report.

Create a Word Report

Document1 [Compatibility Mode] - Word

FILE

HOME

INSERT

DESIGN

PAGE LAYOUT

REFERENCES

MAILINGS

REVIEW

VIEW

FLIR Tools+

IR Profile

Quick Insert

Field

Delete Page

Report properties

Help

FLIR

FLIR Tools+

IR Digital Viewer

Photo

IR Histogram

Connect

Table

Duplicate Page

Summary Table

Tables

Document

Images and graphs

Tables

Document

TABLE TOOLS

DESIGN

LAYOUT

Sign in

[double-click to type information here]

Thermography Inspection Report For:
Infrared Training Center


The final report contains active, editable IR images. Text annotations and other parameters can be edited, and you can use the FLIR Tools+ tab to add tables, change units, add and delete pages, and make other changes.

PAGE 1 OF 21

1051 WORDS

100%

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INFRARED
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CENTER

Save the Report and Convert to PDF

←

Info

New

Open

Save

Save As

Print

Share

Export

Close

Account

Options

Document1 [Compatibility Mode] - Word

Sign in

Save As

My ... > FLIR Tools Temp...

Search FLIR Tools Templates

Organize

New folder

Documents

Music

Pictures

Videos

Homegroup

Computer

Local Disk (C:)

CD Drive (D:) Virt

File name: New Report

Save as type: Word Document

Word Document

Word Macro-Enabled Document

Word 97-2003 Document

Word Template

Word Macro-Enabled Template

Word 97-2003 Template

PDF

XPS Document

Single File Web Page

Web Page

Web Page, Filtered

Rich Text Format

Plain Text

Word XML Document

Word 2003 XML Document

Strict Open XML Document

OpenDocument Text

Works 6 - 9 Document

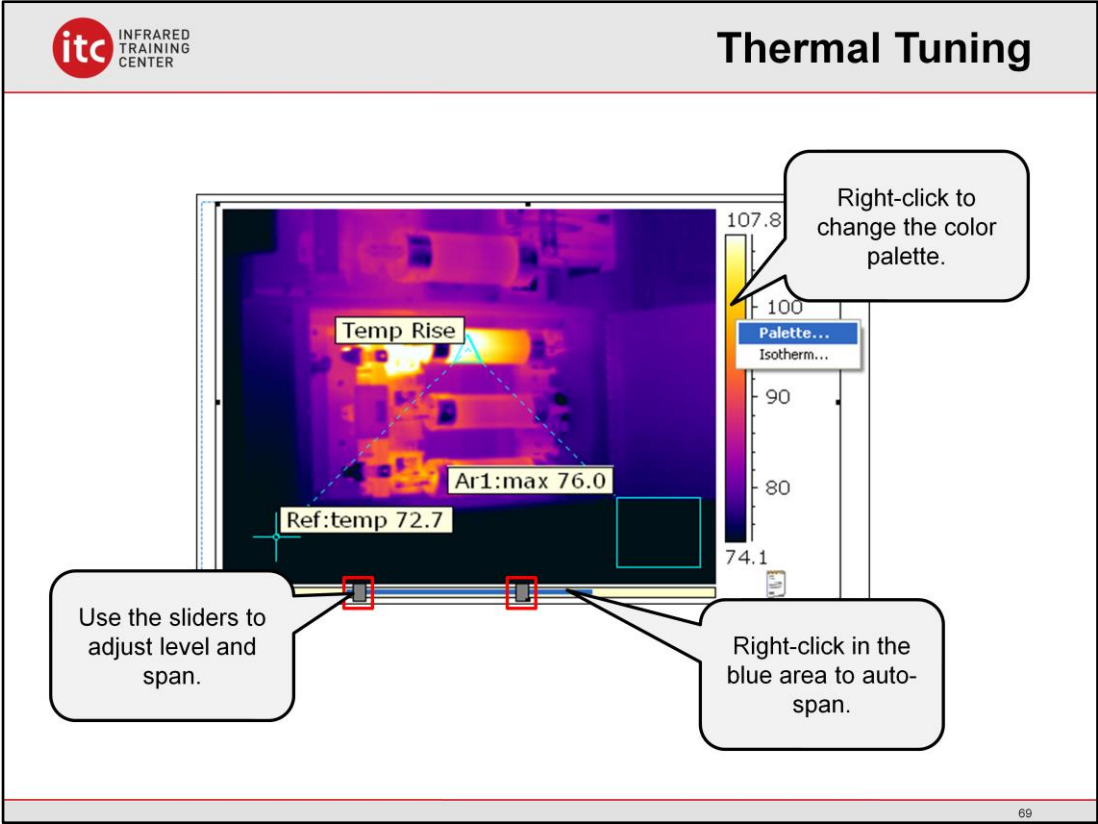
Click the **File** tab (or **Office** button), then **Save As** to save the report as a **Word Document**.

You can also save as **PDF** for sharing with others.

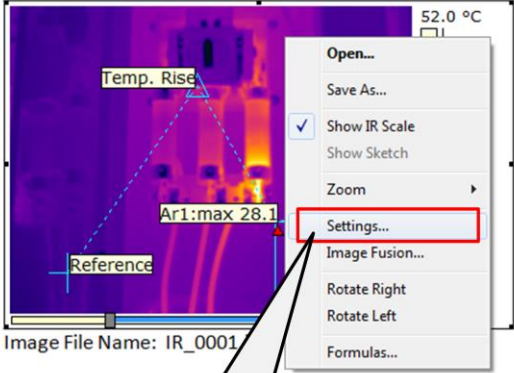
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It is important to save the report as a Word document. The Word report contains copies of all the images, allowing you to return to the report at any time to make changes. Anyone with Word can view the document, but the IR image cannot be manipulated without FLIR Tools+.

You can also save a PDF copy of the report, which is handy for sharing with customers and colleagues.

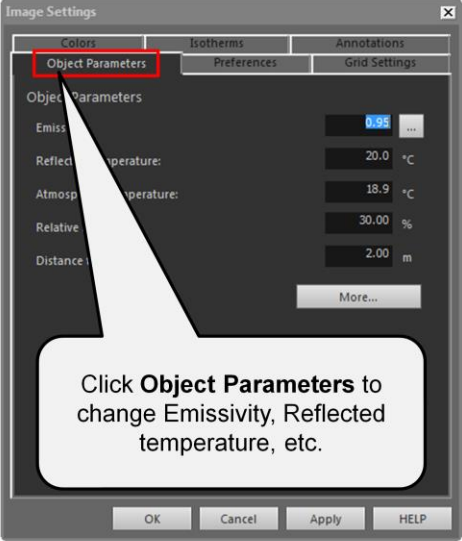


Since the infrared image is active in the Word document you can adjust the level, span, and color palette, just like you can using the FLIR Tools editor.



Right-click and click **Settings**.

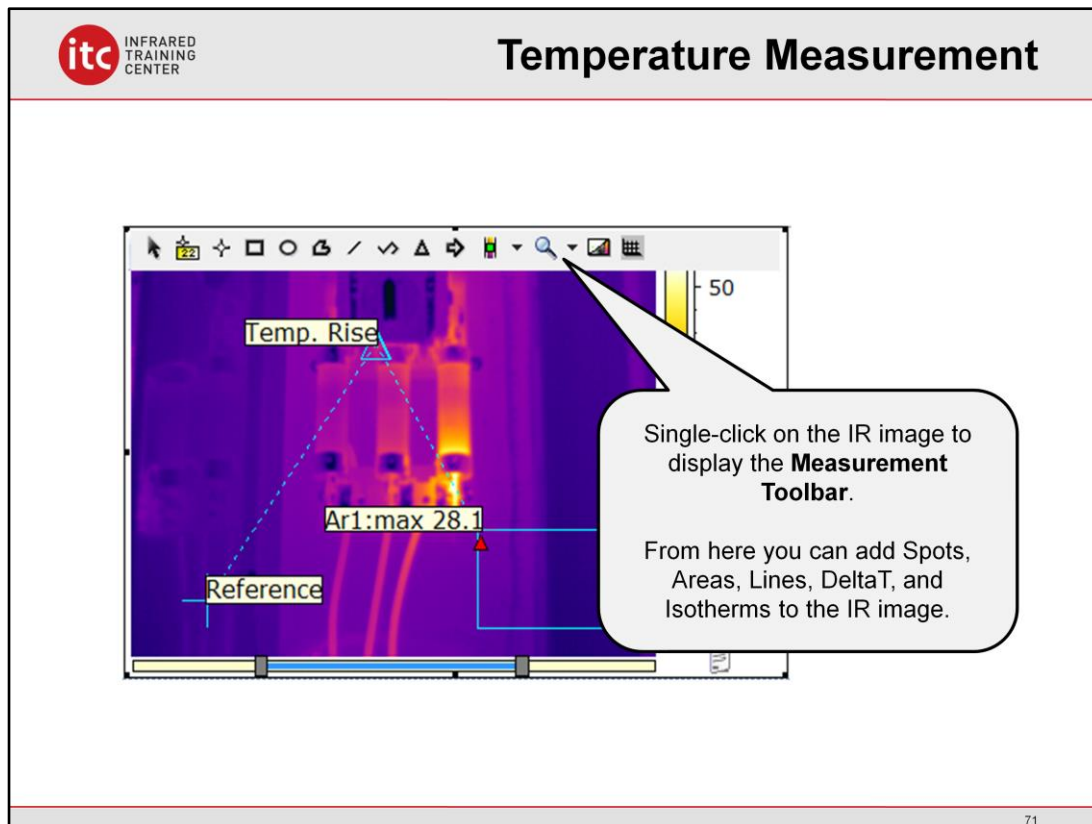
Change Object Parameters



Click **Object Parameters** to change Emissivity, Reflected temperature, etc.

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Right-click on the IR image and click **Settings** to change emissivity, reflected temperature, and other Object Parameters.



This image has a Spot Meter, Area Box, and DeltaT because these tools are pre-defined in the template. You can click and drag any of these tools to re-position them on the image. Tables linked to these tools will update automatically.

If you single left-click on the image the **Measurement Toolbar** will appear. This allows you to add new measurement tools if needed. The Word add-in provides some additional tools that are not available in the FLIR Tools editor:

- Polygon Area
- Bendable Line
- Arrow Marker
- Image Fusion
- Grid



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Edit Text Annotations

Temp Rise

Ar1: max 76.0

Ref: temp 72.7

115.0 °F

110

100

90

80

71.2

ThermaCAM™

Filename: IR_0005.jpg

Date	5/6/2002	Image Description	-
Image Time	11:47:33 AM	Location	Building A, Room 123
Max Temperature	124.7 °F	Equipment	Furnace Panel
Emissivity	0.95	Problem	Bad Connection
Ar1 Max. Temperature	76.0 °F	Recommendation	Repair
Ref Temperature	72.7 °F		
Temp Rise Value	3.4		

DO NOT TYPE INTO THE TABLE!

Text Annotations are displayed in a Result Table that is linked to the IR image on the page. DO NOT type into this table. If you type into the table everything you type will be erased the next time the table refreshes. The next step explains how to properly edit Text Annotations.

Click the Notepad icon.

Modify the value and click OK. The table will update automatically.

Date	5/6/2007
Image Time	
Max Temperature	
Emissivity	
Ar1 Max. Temperature	
Ref Temperature	
Temp Rise Value	

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Edit Text Annotations

THIRDS CAM™

Image Settings

Object Parameters | Preferences | Grid Settings

Colors | Isotherms | Annotations

Text comment

Label	Value	
Equipment	Fuse	Add...
Problem	Loose or Dirty Conn...	Edit...
Recommendation	Clean and Tighten ...	Delete
Location	Room 12	

Image Description

Voice comment

OK Cancel Apply HELP

Text Annotations values must be edited by using the Notepad icon on the IR image. The text shown in the table will update automatically.

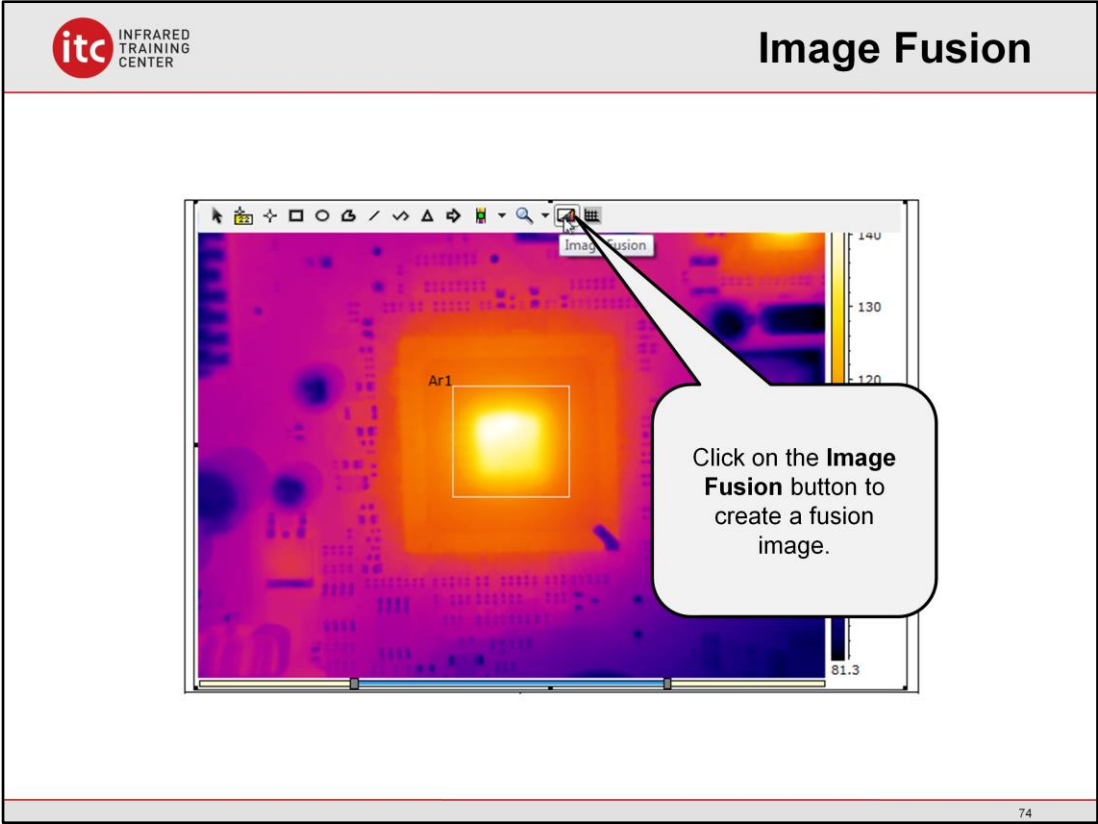
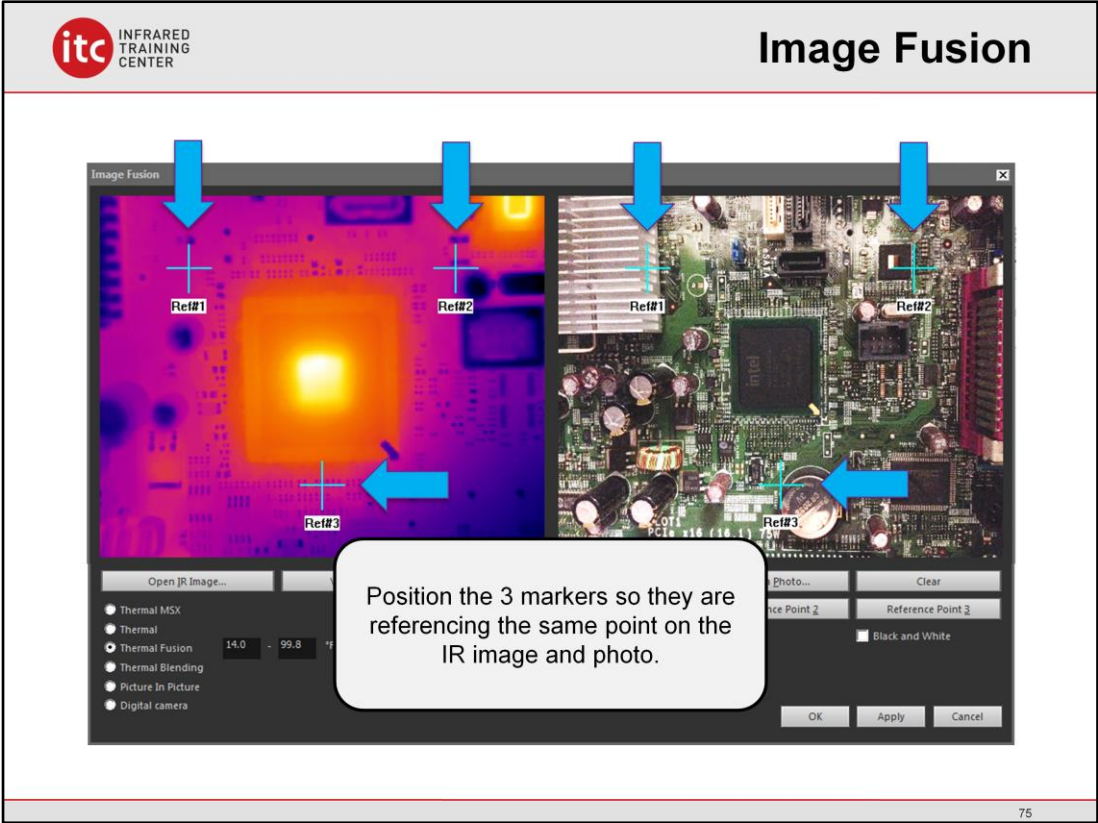


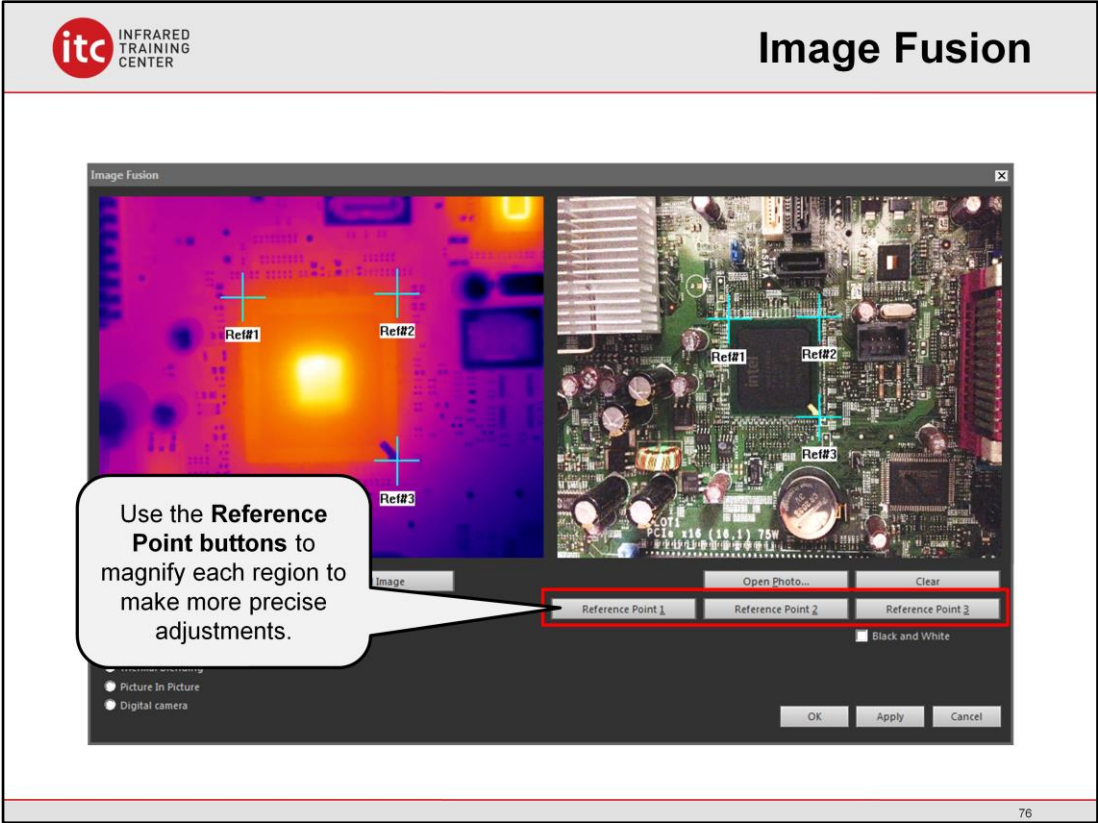
Image Fusion allows you to merge an IR image with a matching visual photo. For fusion to work you must identify 3 reference points in the IR image and visual photo. Thermal tuning can help tremendously in selecting the best reference points. By adjusting the level and span, and by using a high-contrast color palette, you can draw out parts of the image that are easy to see in the photo but have a small thermal contrast in the IR image.

Click the **Image Fusion** button to begin the process of aligning the images.

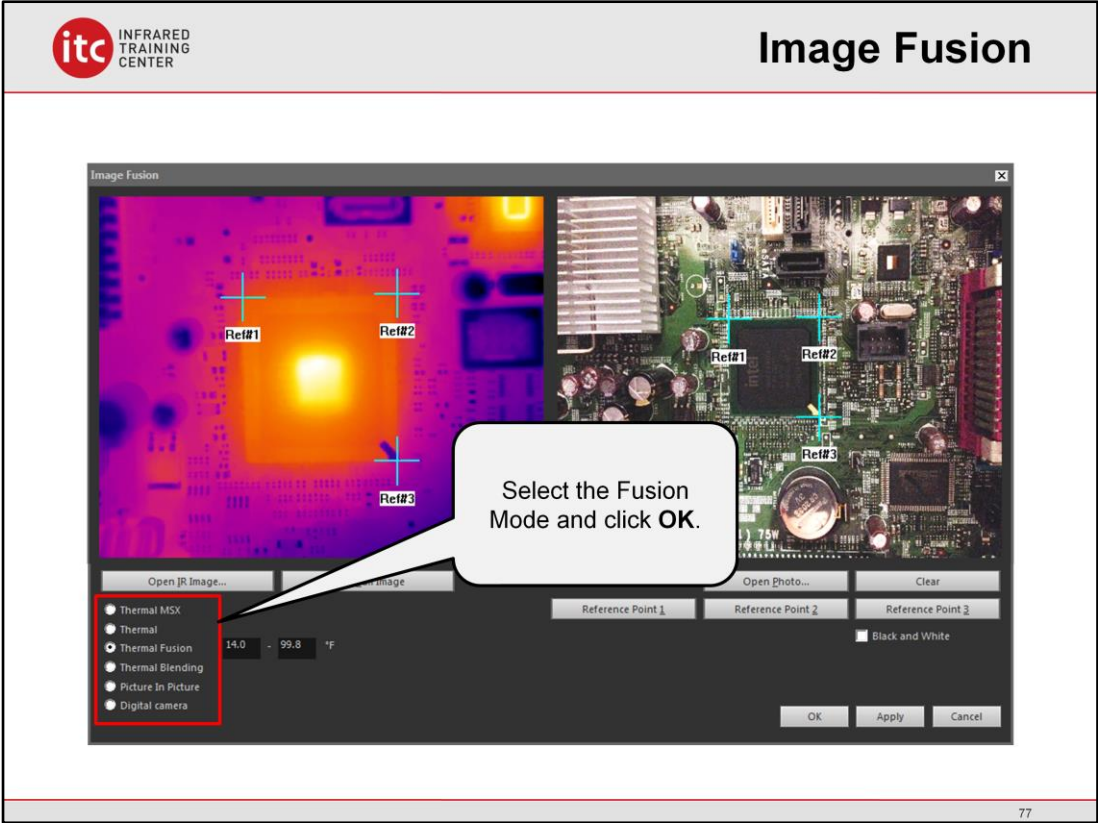


A matching photo will automatically open if one exists in the source folder. Otherwise click the **Open Photo** button to select the matching photo. It is not necessary to use a visual photo from a FLIR camera, however if your camera has this ability it is strongly recommended.

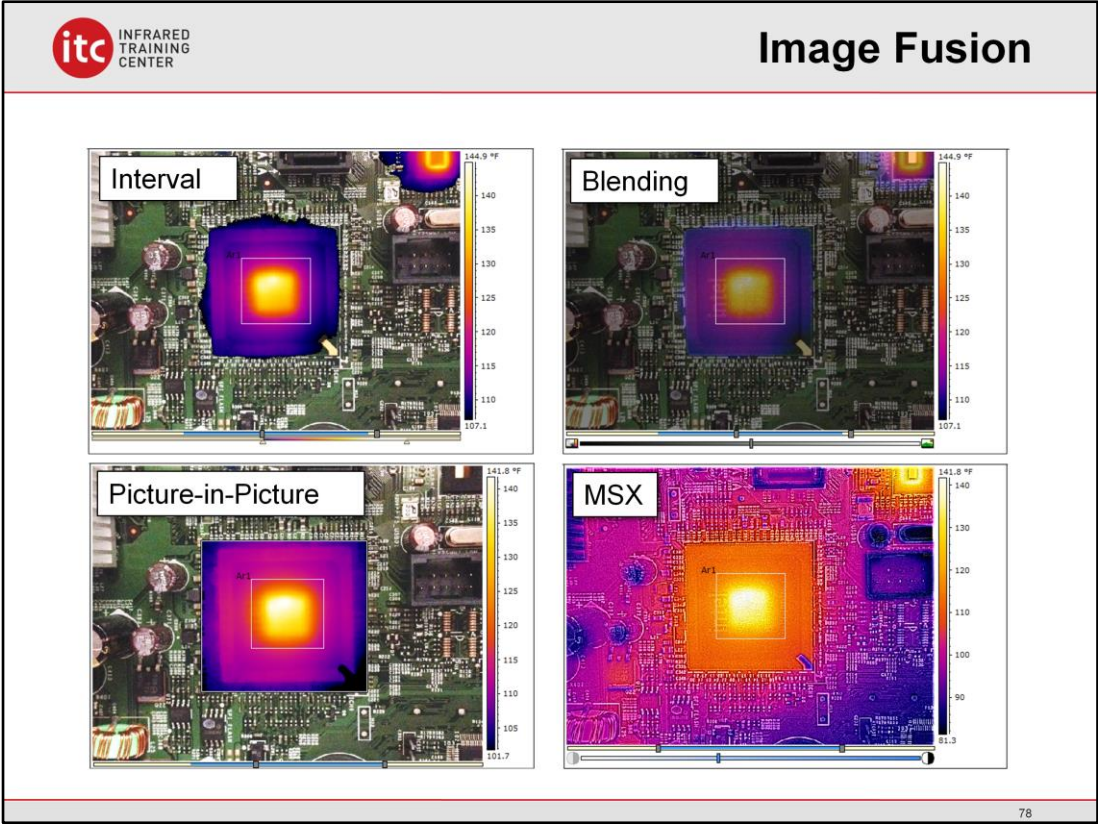
There are 3 reference points on each image. **Click and drag** on each reference point until it is in approximately the same position on the IR image and photo.



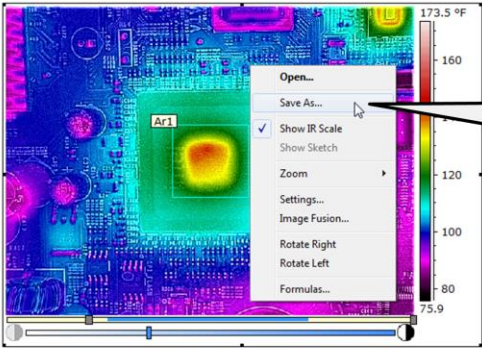
Click on each Reference Point button to magnify each region. This allows you to more precisely position the markers.



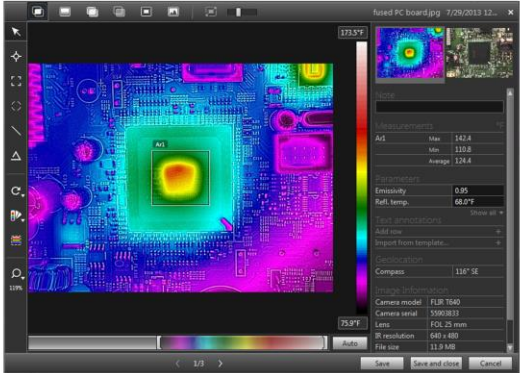
Select the desired Fusion Mode and click OK to blend the images.



This shows the same fused images in each Fusion mode. You can click on the Fusion button on the Measurement Toolbar to change modes at any time.



Fusion image in Word



Fusion image in FLIR Tools


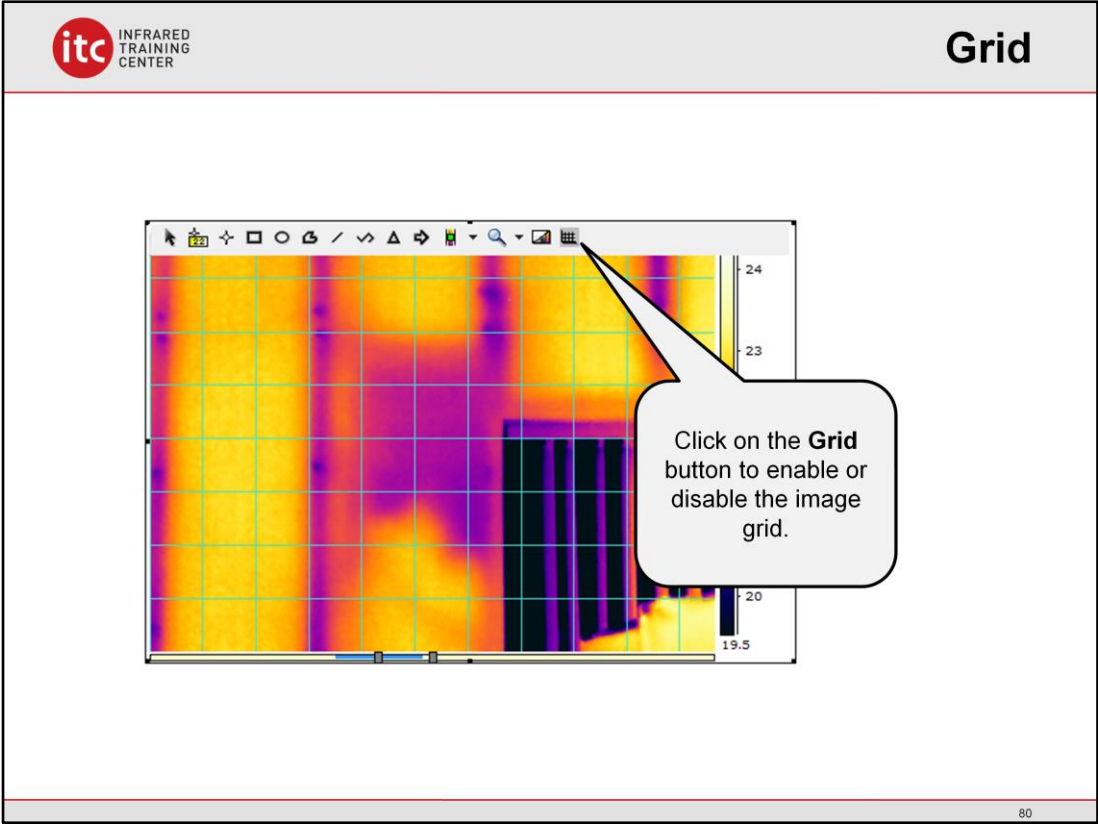
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Image Fusion

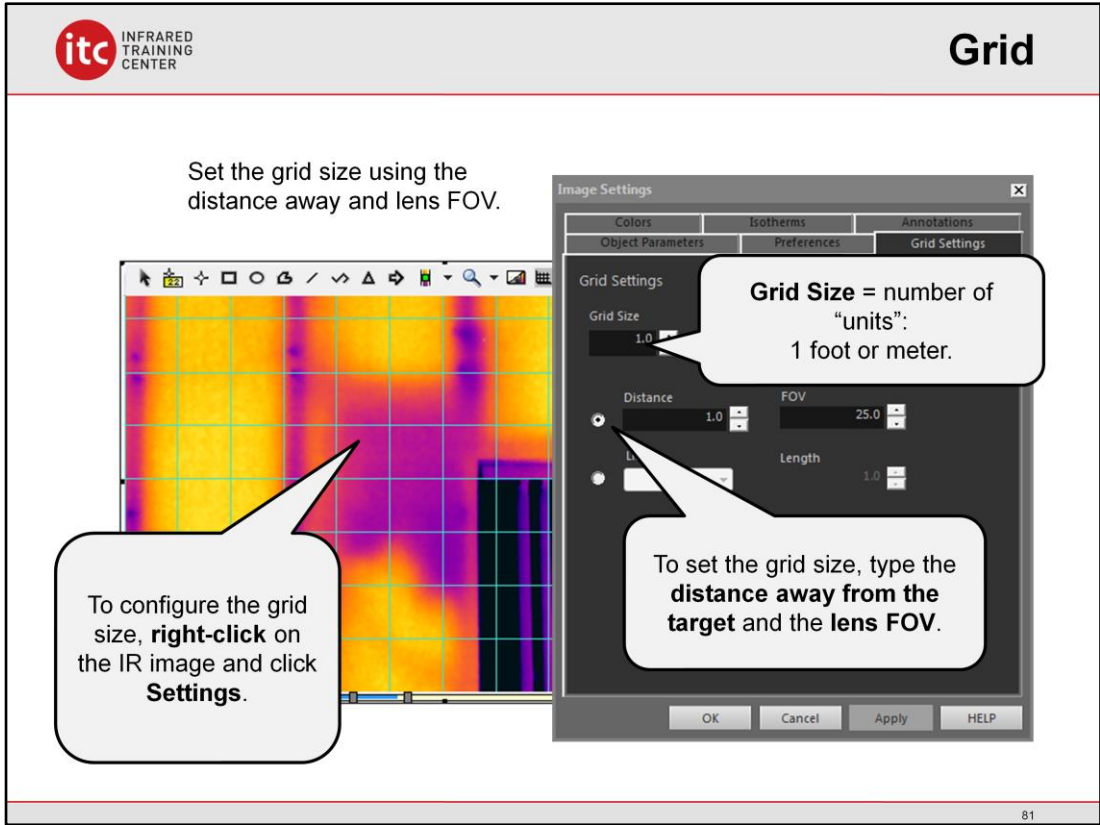
Measurements	
Max 142.4	
Min 110.2	
Average 124.3	
Emissivity 0.95	
Ref. temp. 68.0°F	
Temp. annotations	
Add new	
Import from template	
Compass	
116° SE	
Image information	
Camera model	FLIR T640
Camera serial	59001811
Lens	F04.25 mm
Resolution	640 x 480
File size	11.9 MB

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On the report page, you can right-click on the fused image and click Save As to save the image to your FLIR Tools library. This allows to you edit the image using FLIR Tools. The image mode buttons will appear just as if it was saved from a camera with MSX, thermal fusion, or picture-in-picture.



The Grid can be used as a way to calibrate the image based on the distance away and the lens field-of-view, or by using the known length of a line.



To access the Grid Settings: **right-click** on the IR image, click **Settings**, then click the **Grid Settings** tab.

The Grid Size is the number of "square units" for each grid box. For example, a Grid Size of 1 would configure each grid box to be 1x1 feet or meters.

The Distance setting is the distance away from the target (in feet or meters).
The FOV is the lens field-of-view.

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Grid

Set the grid size using a line.

Draw a line on the image at a known length...

...and set the line length in the **Grid Settings**.

Image Settings

Colors

Object Parameters

Isotherms

Preferences

Annotations

Grid Settings

Grid Settings

Grid Size

1.0

Distance

20.0

FOV

25.0

Line

U1

Length

4.0

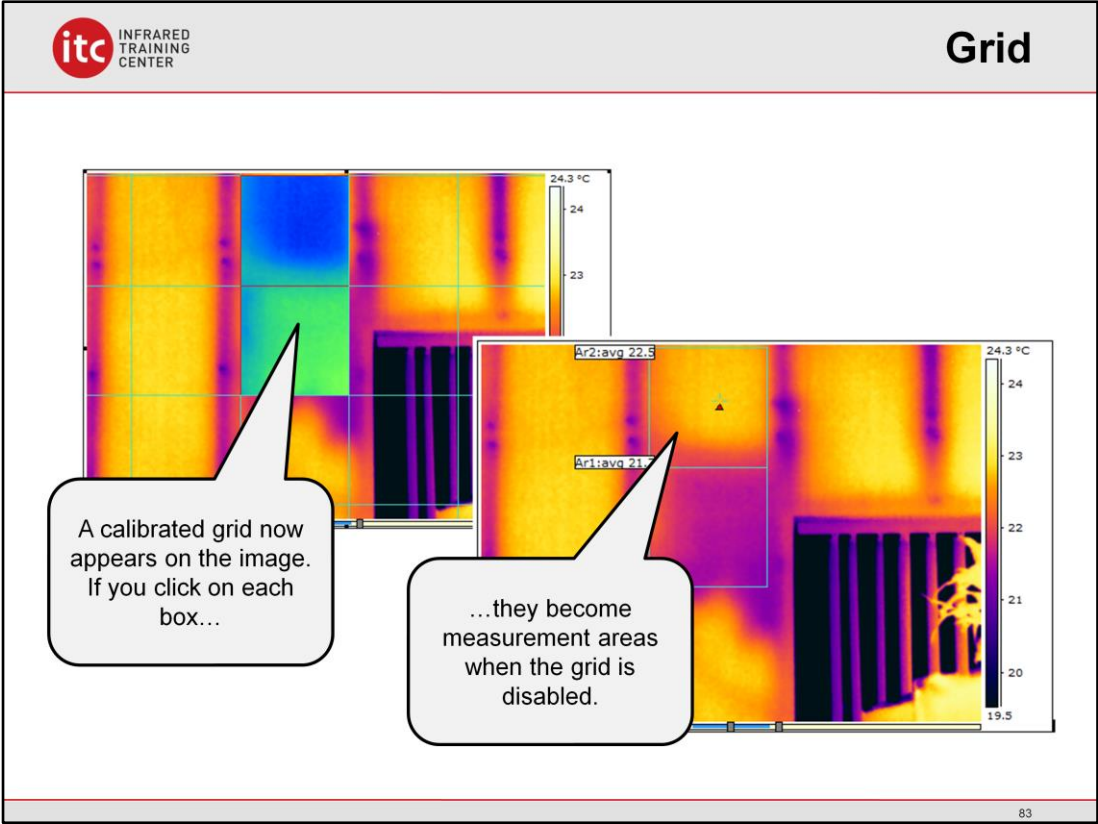
Cancel

Apply

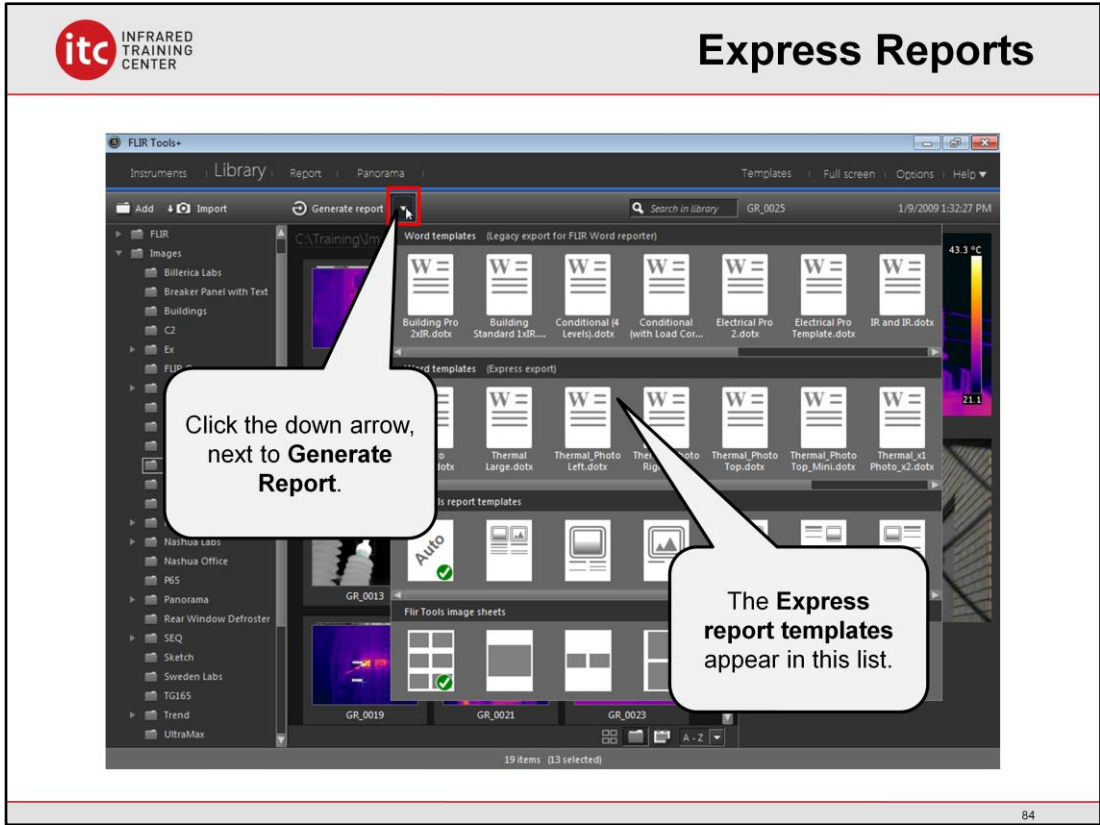
HELP

You can also draw a line of a known length, and use this to calibrate the grid.

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Once configured a calibrated grid will appear on the image, each box represents an area of 1x1 units. If you click on the grid boxes they become measurement areas once the grid is disabled.




Express report templates provide the user with the ability to create very large reports, with potentially hundreds of images. This exceeds the limitations imposed by the legacy templates.

To create an express report simply select some image groups from your image library and click on the desired express report template.



Express Reports

Express templates are located in this folder:
C:\Users\[user name]\AppData\Local\FLIR Systems\FLIR Tools\Templates\DocX



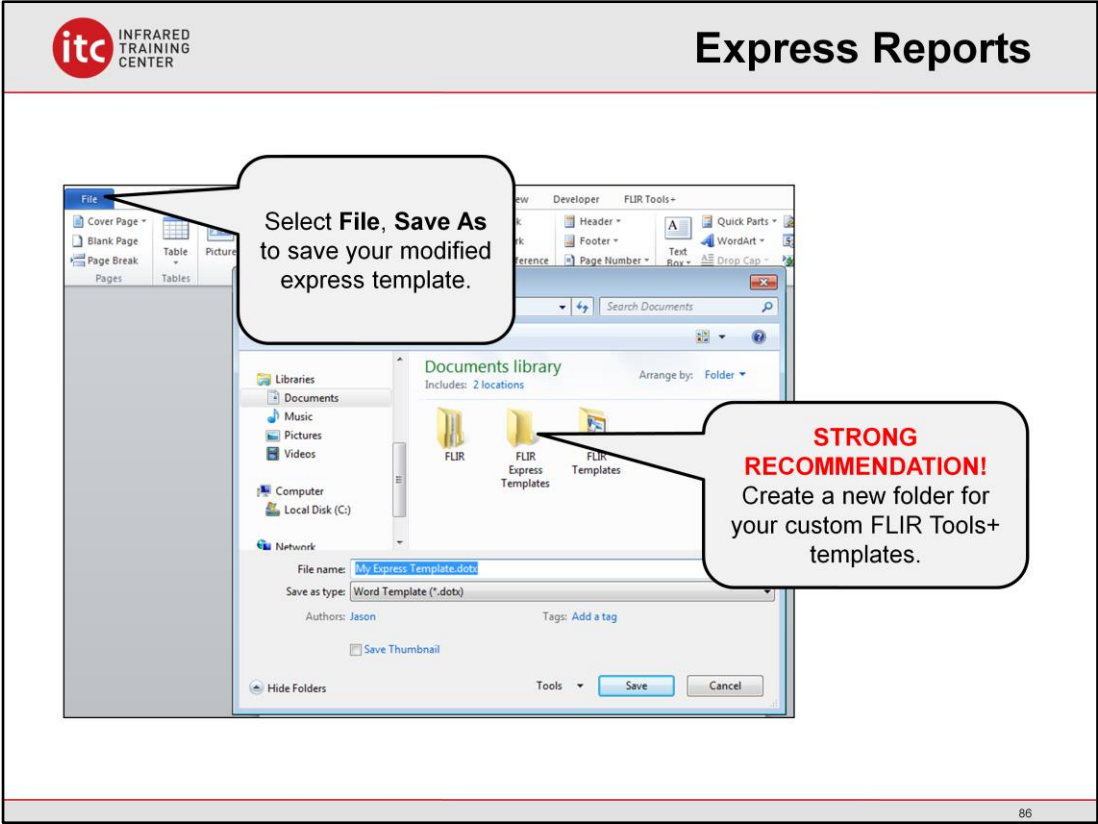
Jason's Thermography Report
for ITC

CUSTOMER / SITE:	[CUSTOMER / SITE]
ADDRESS:	[ADDRESS]
THERMOGRAPHY DATE:	[THERMOGRAPHY DATE]
THERMOGRAPHER:	[THERMOGRAPHER]

The logo and other content on front and back pages can be customized. The IR page content cannot be changed.

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Certain aspects of the express templates can be customized, such as cover and back pages. The IR page content cannot be edited.



The template can be saved to any folder as a new Word DOTX template. The custom template path can be set in FLIR Tools.

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Express Reports

Options

Recording

View

Report

Units

Default document settings

When creating new reports, always use these settings:
You can change these settings later in the report

Page size: Letter

Show all parameters

☒ Extract digital camera photo from thermal image (if available when generating)

User express export templates path: C:\Users\Jason\Documents\FLIR Express Templates

Browse...

Built-in legacy export templates path: C:\Users\Jason\Documents\FLIR Legacy Templates

Browse...

User legacy export templates path: C:\Users\Jason\Documents\FLIR Legacy Templates

Browse...

OK

Cancel

The express template path can be set under Options, Report.

Generate report

Word templates (Legacy export for FLIR Word Reports)

GR_0001

GR_0007

Word templates (Express export)

My Express Template.dotx

Photo Large.dotx

Thermal Large.dotx

Once the path is set your custom templates will become available in the Express report list.

To set the custom report path, click **Options**, then **Report** in FLIR Tools. Click Browse next to “User express export templates path” and point this to your custom template folder.

Once the path is set your custom templates become available in the express report template list.

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Support and Training

- For FLIR technical support, downloads and other resources please visit <http://support.flir.com>
- For more information about training please visit <http://www.infraredtraining.com>. Here you can find a complete list of certification courses, on-demand courses, webinars, and community forums.