

Thermal Images Analysis Report Software
Infrared Reporter

User Manual



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1. Introduction

Welcome to Infrared Reporter Software!

1.1. System requirements

The files which involved in the **Infrared Reporter** software are thermal images, CCD pictures and graphics. Those three kinds of files are far larger than the ordinary file; therefore the PC system should have large memory capacity, hard disc space and also the high processing capability and high screen resolution.

- **Recommend hardware configuration**

- PENTIUM □ 1.4GHzT CPU or higher
- 256 Mbytes or higher system memories
- 20G or higher hard disc space
- 1024×768 or higher for the screen resolution


- **Operating system**

This software is compatible with Microsoft Windows2000, Windows XP.

1.2. Software installation

Before installation, find the installation CD and insert it into PC.



Step 1: Find and double click the  in the CD directory. It will pop up the below interfaces:

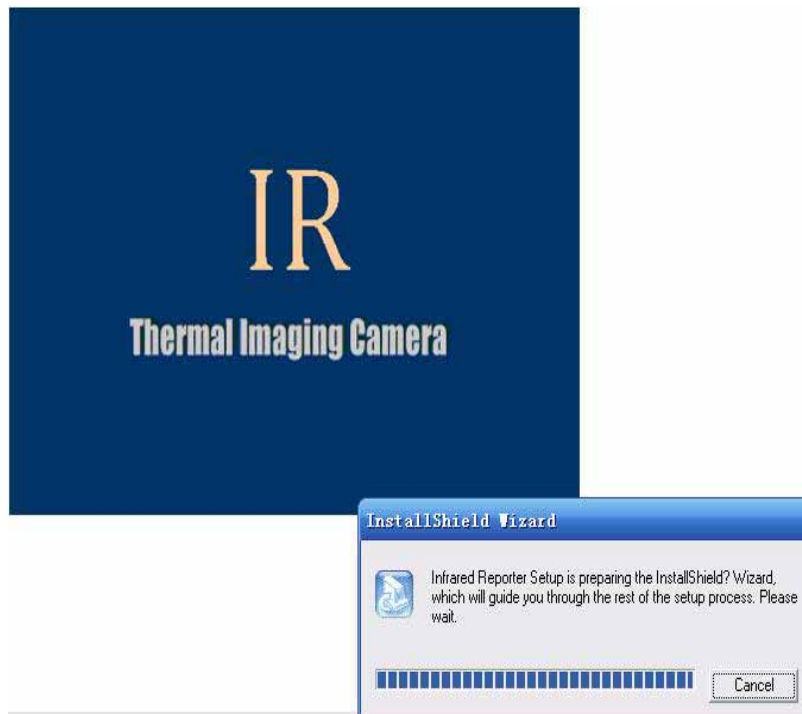


Figure.1.2.1 Infrared Reporter software installation

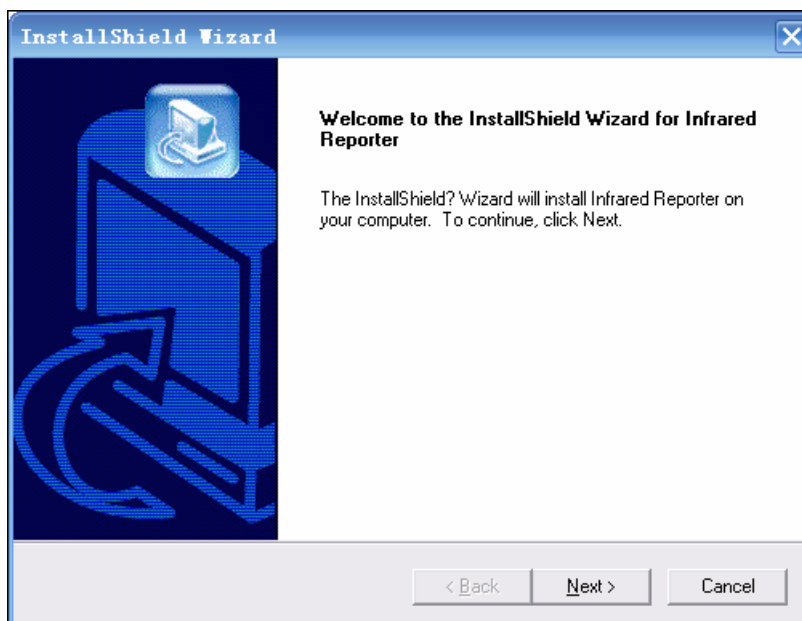


Figure.1.2.2 Welcome interface

Step 2: Press “Next” button and it will pop up the below interface, where the system will ask to enter the user name, company name and the serial number.

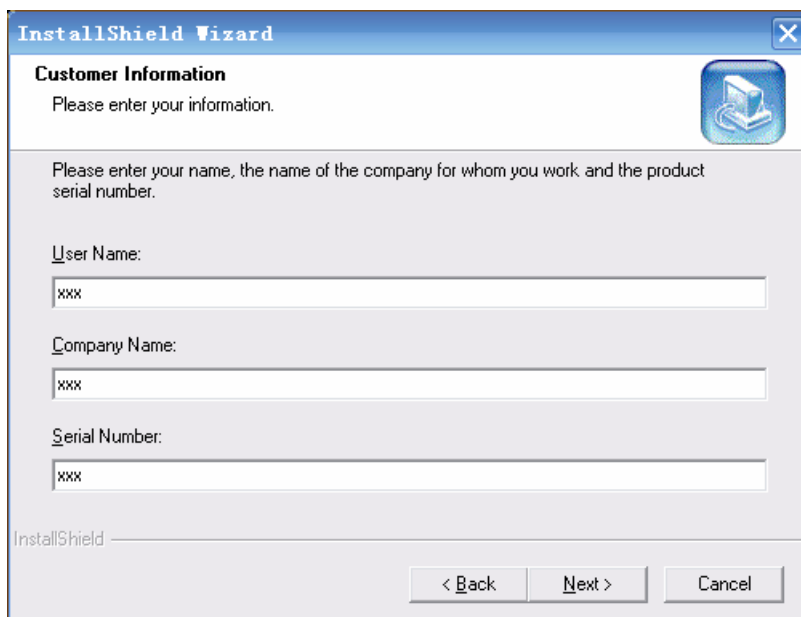


Figure.1.2.3 Enter customer information

Note: All those three items must be entered, or the “next” button will not be active. Please find the serial number on the cover of the installation CD.

Step 3: Press “Next” button and it will pop up the below interface. Select the installation path via **Browse** button.

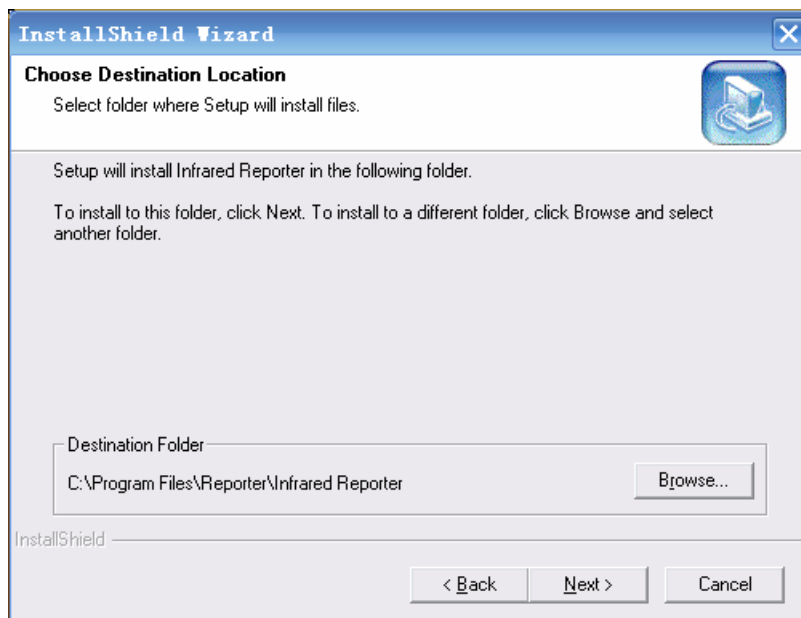


Figure.1.2.4 Installation path

Step 4: After installation path is selected, press “Next” button and it will pop up the below interface. It allows you to double check the previous installation selection.

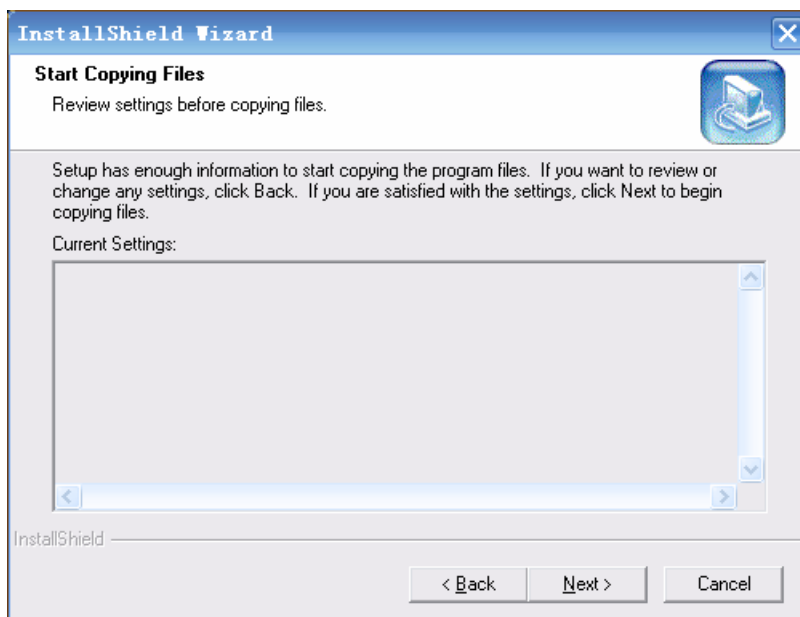


Figure.1.2.5 Start Copying Files interface

Step 5: Press “Next” button and it will pop up the below interface which is installation is in processing.

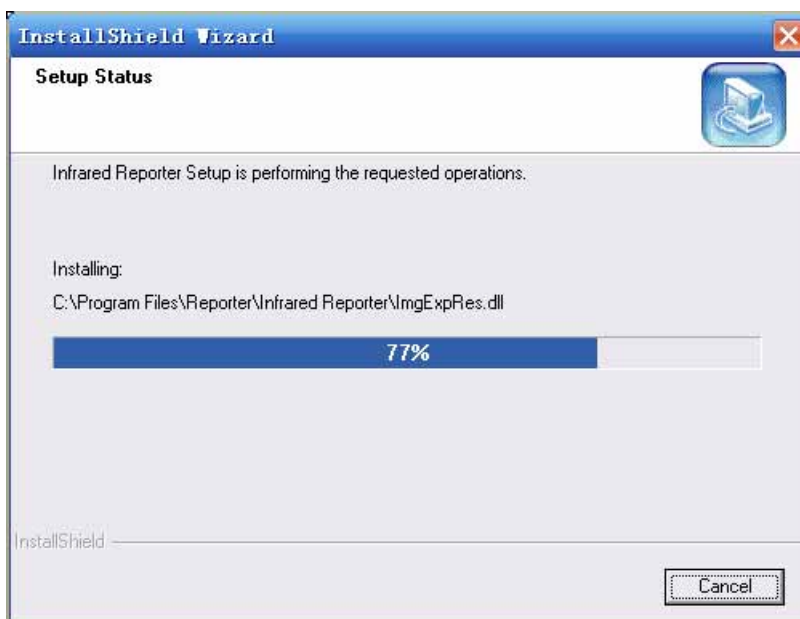


Figure.1.2.6 Installation is in processing

Step 6: When installation is finished, it will pop up the below interface. Press “Finish” button to complete the installation. After that, you can use the infrared reporter software.

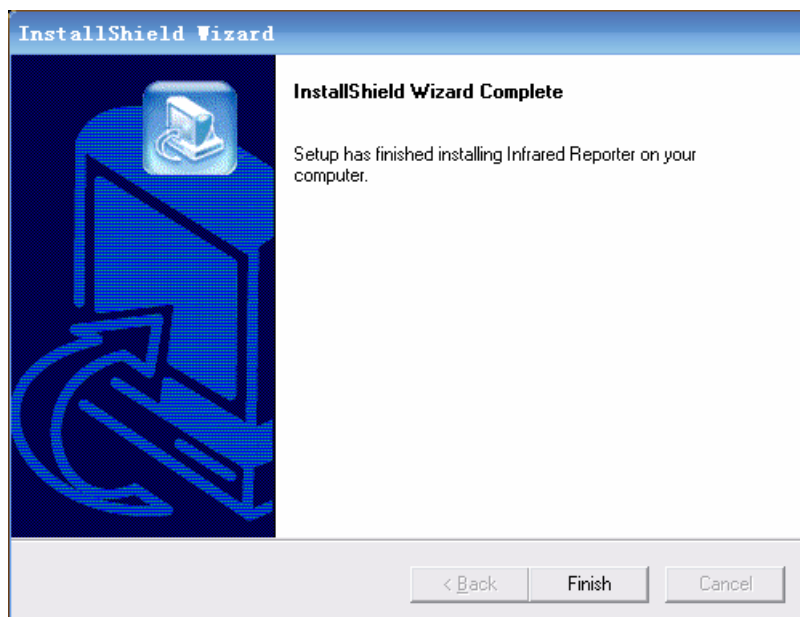


Figure.1.2.7 Installation is finished

1.3. Start the software

After installation, there is a below icon existed on the PC desktop.



Figure.1.3.1 Shortcut of infrared reporter

Double click on the icon and then the infrared reporter software will be started.

You can also go to Start menu to run the **Infrared Reporter** software. See below **Figure.1.3.2.**



2. Software interface

Infrared Reporter Software is a standard WINDOWS application program; it works under the Windows XP or Windows 2000 system and tally with the operating of Windows application program. This manual is based on the assumption of that you are familiar with the Windows system, if it is necessary please refer to the Windows operation manual, although some of the characteristics for Windows are also been explained in this manual.

2.1. The main interface of Infrared Reporter

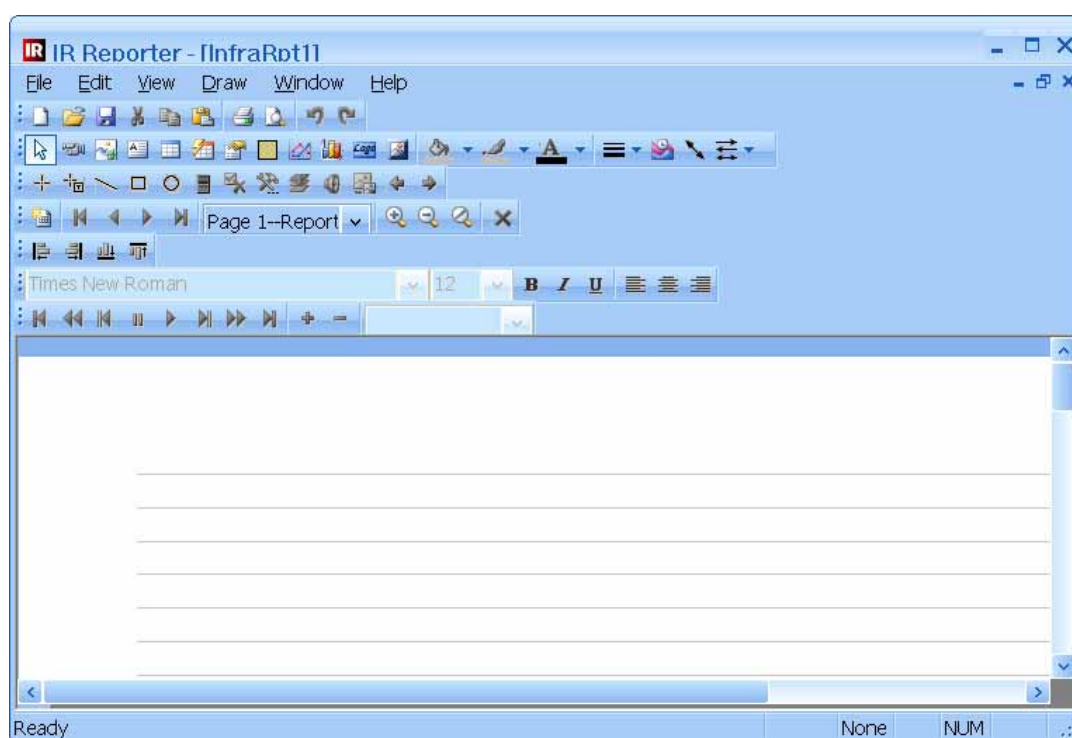
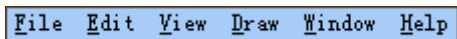


Figure.2.1.1 Main interface of Infrared Reporter

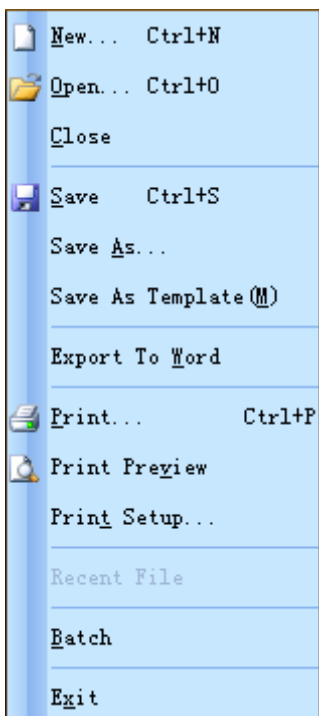
When **Infrared Reporter** software has been started, the file window will also be opened up. The window size, shape and toolbar position will open as it had when you last time exited the program. The window could be changed in size, minimize/maximize and move over.

The top of the software interface is the title bar, underneath is the menu bar, at bottom is the state bar. User can choose to display or hide the state bar. There are six toolbars underneath the menu bar. The area below the toolbar is the working space, where you can work on your report in this space.

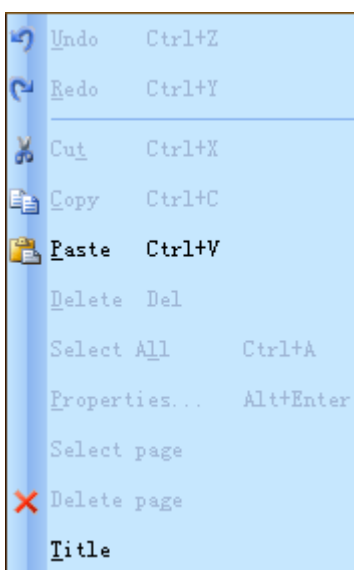
2.2. Menu bar



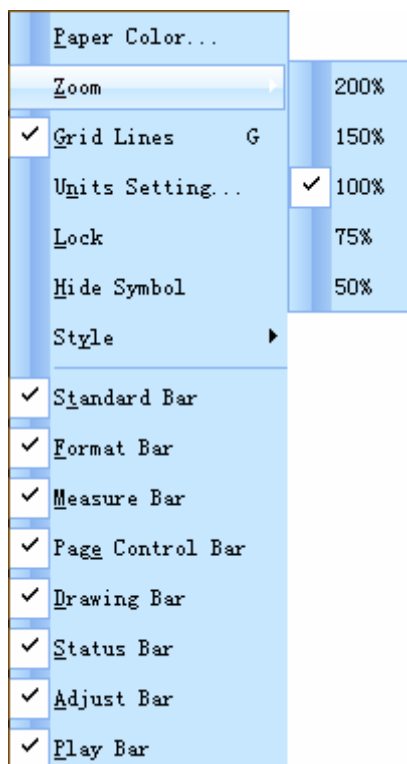
2.2.1. File menu



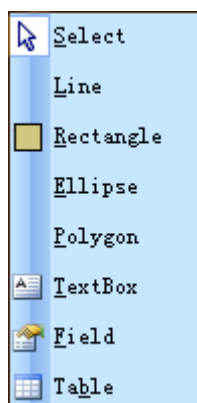
2.2.2. Edit menu



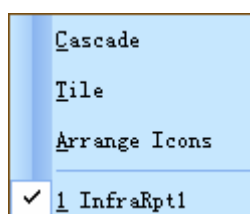
2.2.3. View menu



2.2.4. Drawing menu



2.2.5. Windows menu



3. Getting started

3.1. Create new report



After starting the software, a new report has been setup by default. If another report needs to be created, it can be created by directly press the  button in the toolbar and also by selecting the “file → new” in the submenu.



Figure.3.1.1 Create new report

In this dialog space, user can choose to create a plain report or use the prior made template to create a report.

3.2. Open up saved reports

If the amendments or verifications need to be done on saved reports, please press  icon on toolbar or by selecting file menu “file → open” in submenu, the standard Windows file dialog box will pop up. By changing the file path or others to choose the file required, and then press the open button to open. The extension of the report file is .rpt or rpm. When the file has been opened, a new sub-window will be opened up automatically. The window looks as below:

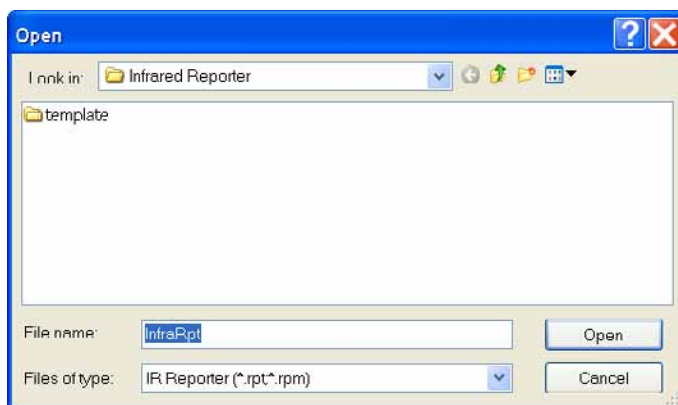



Figure.3.2.1 Open files

3.3. Save report

After the new amendments or verifications when report need to be saved, the  button on the toolbar can be pressed or to select the “file → save” in submenu, the standard “file saving” dialog box will pop up. By changing the file path or so to choose the needed saving path and input the file name, press the “save” button to save. The extension of the report file is rpt or rpm.

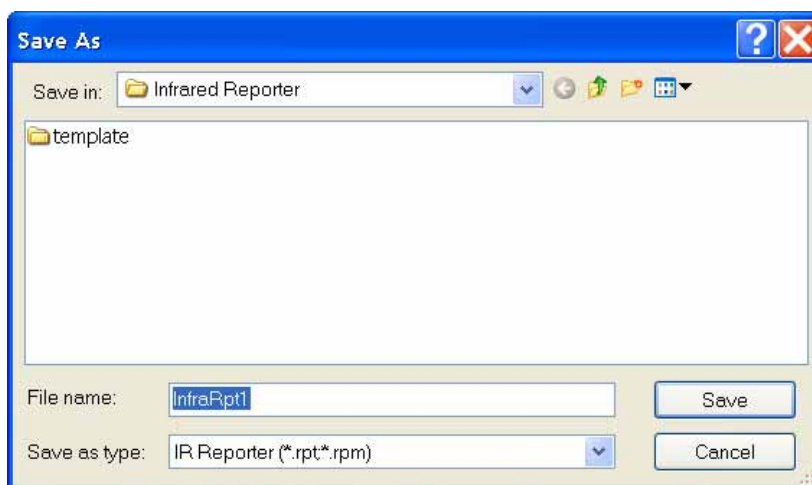


Figure.3.3.1 Save files

3.4. Save as report

If the files have to be saved without over writing the saved report, the “save as” can be used. By selecting “file → save as” in submenu, the standard “save as” dialog box will popup. By selecting the file path to put in the file name you want, press the “save as” button to save. If the new file name is same as the one of the saved file name, the system will remind you. The extension of the report file is rpt and rpm.

3.5. Save as templates

The system is capable of save any report as a template; the function of the template is to save the same or similar report contents. When a new similar report is needed, the corresponding template can be used. On the base of the templates, to create a new report will be more efficient. The detail operate process is, select “File → save as” in submenu, the standard file “save as” dialog box will popup. By changing the file path or so to choose the saving path needed and input the file name, press the “save” button to save. If the new file name is same as the one of the saved file name, the system will remind you. The extension of the report file is rpt and rpm.

3.6. Export the report as WORD file

The system can convert the current operating pager into WORD file. Select the “File → Export” in current pager into WORD submenu, the standard file “Save” Windows dialog box will pop up. By changing the file path or so to choose the saving path needed and input the file name, press the “Save” button to save.

After the WORD file been converted, system will automatically pop up the enquire dialog Windows. If “Yes” is chosen, the system will open up the converted WORD file.

Note:

If you want to use this function, the Microsoft Word software should be installed in your PC.

The system convert the infrared images analysis report into WORD file, because of the operate system, there might be some different of typesets and fonts and those will need adjusted by user.

3.7. Print setup

The user can change the size of the pager to suit your needs, select “File → Print setup” in submenu, the standard Windows print setup dialog box will popup, such as below:

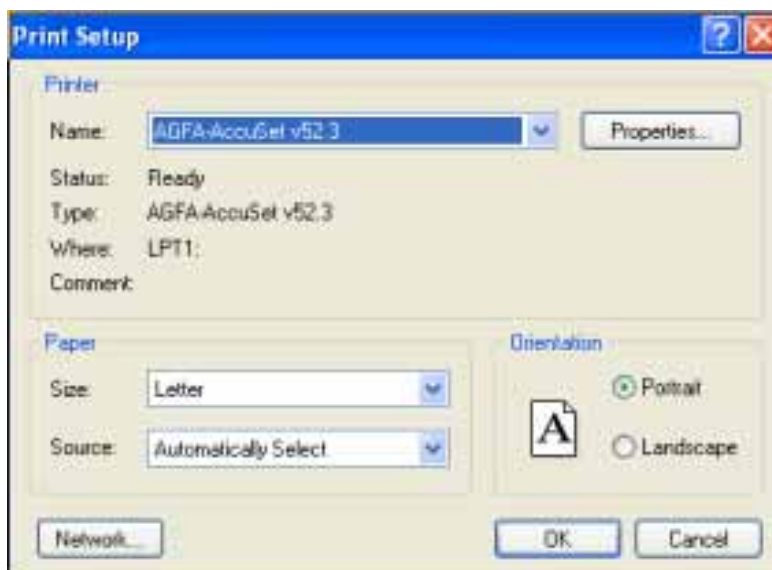



Figure.3.7.1 Print Setup

3.8. Print preview

User can view the created report in two ways:

1. Click on the  button on the toolbar;
2. By select “file → print preview” in submenu, the preview interface is as below.

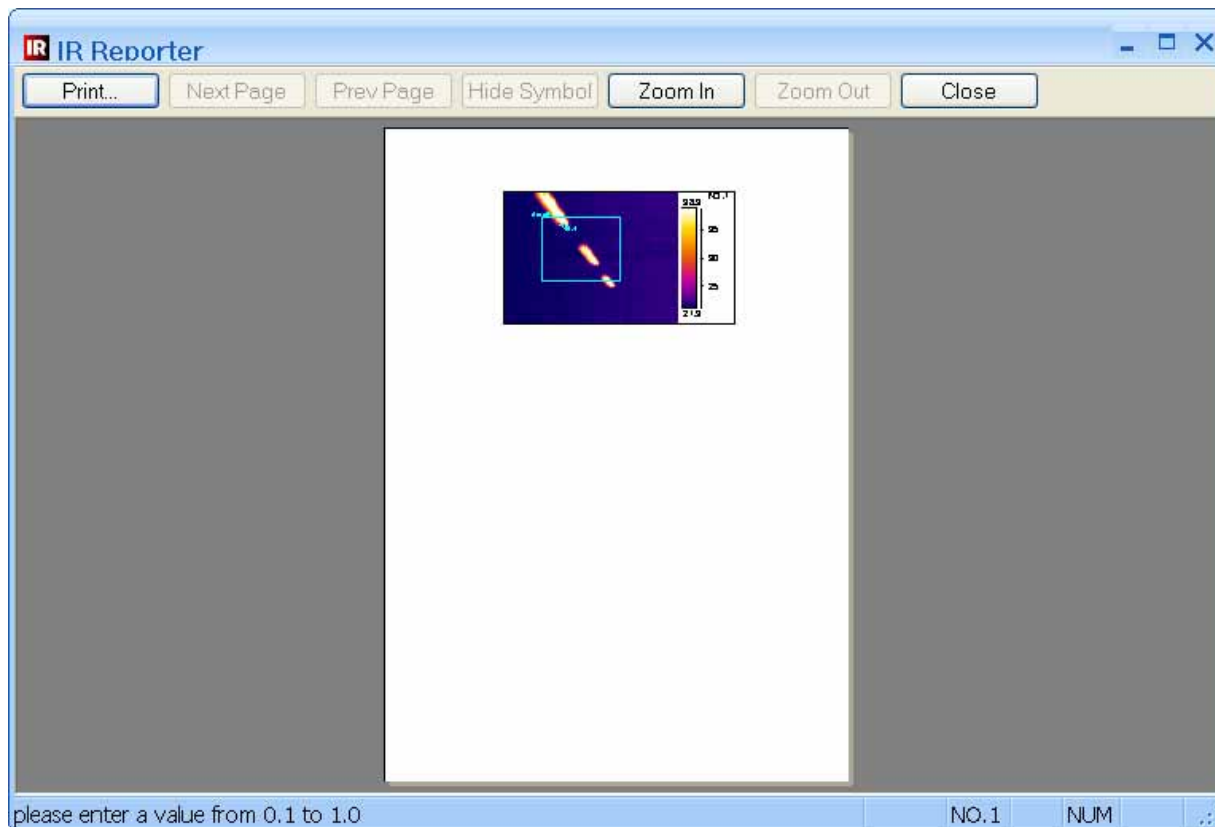


Figure.3.8.1 Print preview

3.9. Print report

User can print out the report in three ways:


1. Click on the  button;
2. By selecting “file → print” in submenu;
3. On the preview interface, click on “print” directly, the standard print dialog box will popup, show as below.



Figure.3.9.1 Print report

3.10. Batch process

The system can process a serial of images if the requirements are similar, and based on a template to create a batch of same type of reports. This will improve the work efficient enormously.

By select “File → Batch” in submenu, the dialog box will appear, such as below.



Figure.3.10.1 Batch process interface

By selecting “Report” or “Picture”, a batch setting dialog box will appear as below.

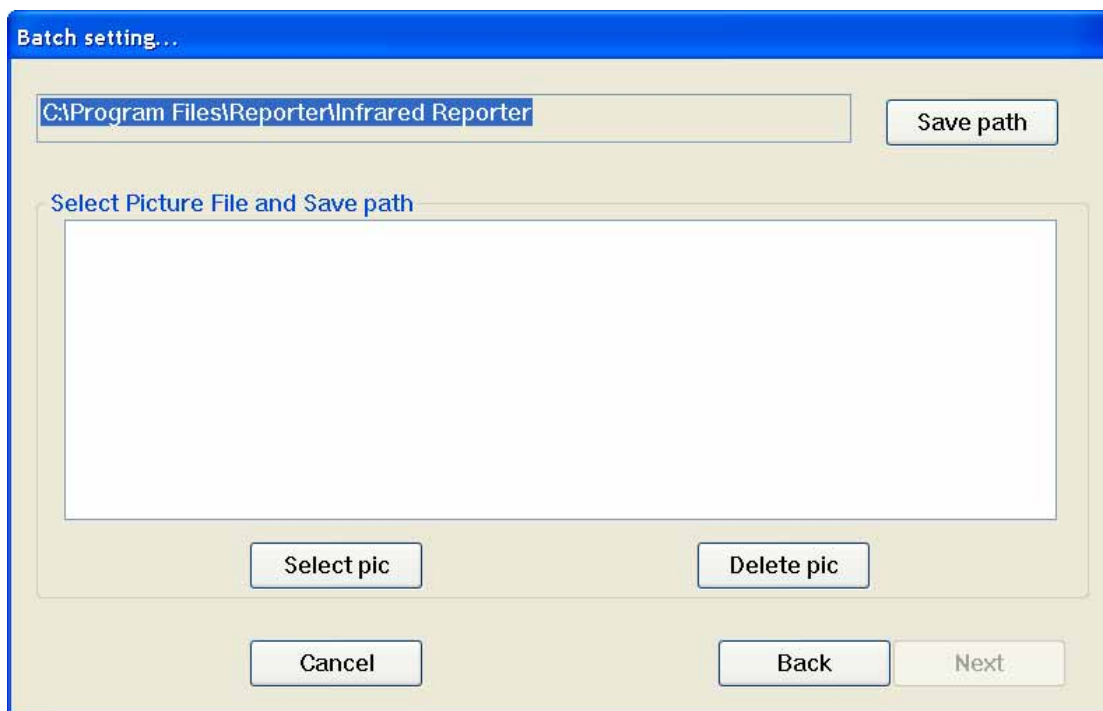


Figure.3.10.2 Batch setting

A saving path or pictures that need to process can be selected.

If “Picture” is selected, click on “Next”, the picture setting dialog will appear as below.

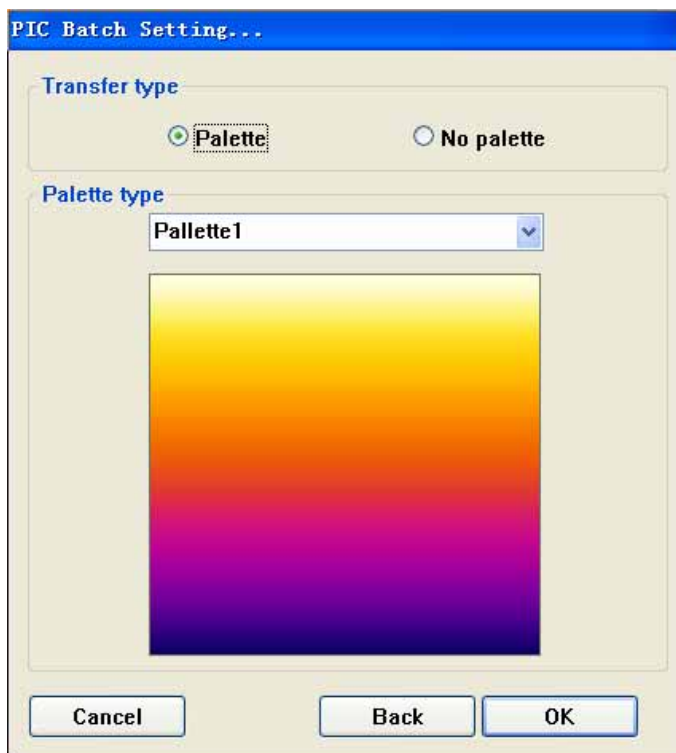


Figure.3.10.3 Picture batch setting

The “Palette” or “No palette” is selectable for pictures and also the palette type is selectable.

Click on “OK” to confirm, this will automatically create the pictures that has been set.

If the “report” has been selected, click on “next”, the “select template path” dialog box will appear as below.

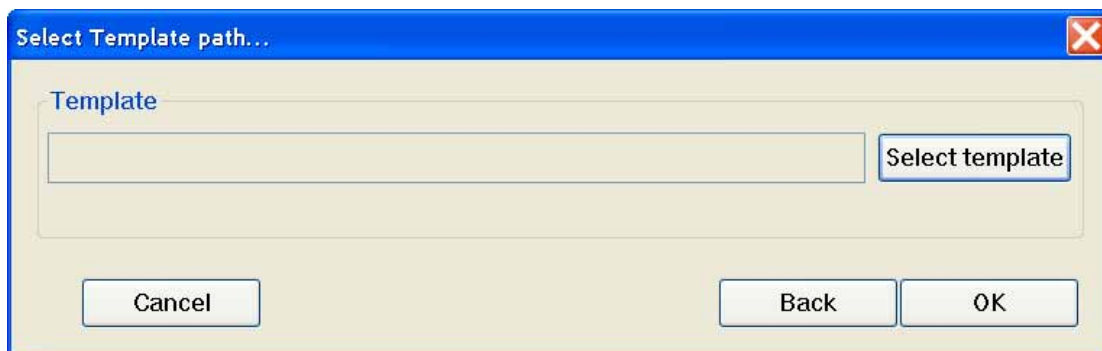


Figure.3.10.4 Select template path

After the template has been selected, click on “OK”, the corresponding report will be automatically created according to the selected template.

3.11. Exit

By select “File → Exit” in submenu, the system will popup the confirming dialog box, click on “OK” to exit from the system.

4. Use report

4.1. System interface

The main system interface is showed in the picture as below, on the top it contains main menu, common operate toolbar, page toolbar, word processing toolbar, objects toolbar and analysis toolbar. The plain space in the interspaces is report working area. The best resolution for this software is 1024*768.

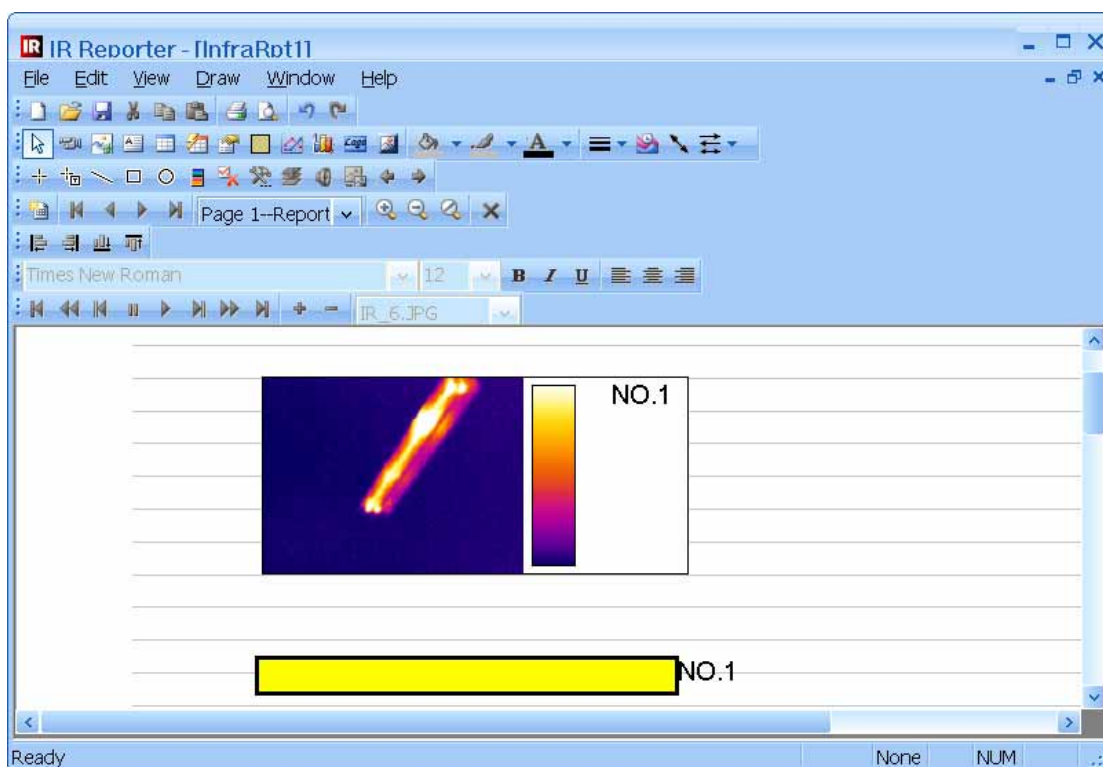


Figure.4.1.1 Main interface

4.2. Composing of report contents


The report mainly compose of infrared thermal images and analysis, CCD pictures, formatted text, result lists, tables and objects image linear analysis, histograms and decorate frames. The design of this report is also aimed on arranging the operations of those contents.

4.3. Operations of IR object

The IR object is used to display the infrared thermal pictures, it can also be used to analyze and show the temperature of spots, lines and area (rectangular and circle) and data such as highest

or lowest temperature. It can be used to playback the voice on the saved infrared thermal images and display the corresponding CCD pictures. The system is focusing on creating reports for infrared thermal images. This is the main subject of this software.

4.3.1. Create IR object

Use the mouse to click on  infrared thermal image button in the objects toolbar and allow the button in active, draw the mouse and move it to the plain space on the page, the mouse symbol will become a cross-hair, click the left mouse button and held the button, draw the mouse, a changing size rectangular will show on the page, release the mouse, a new IR object will be created on the page. Such as showed below, the large rectangular with eight black small rectangular is the new IR object without the infrared thermal image. (There is no amounts limit to create object, but it will be limited by the capacity of system memory).

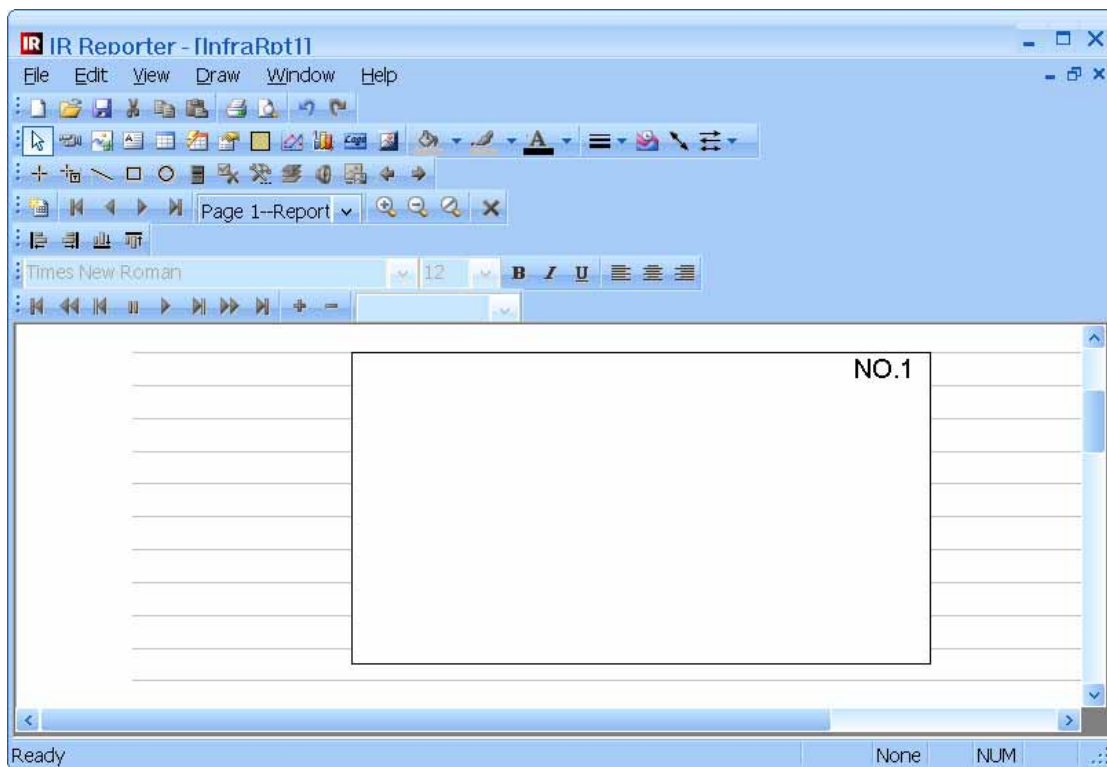


Figure.4.3.1.1 Create IR report

4.3.2. Link IR object

The new IR object must link with the needed infrared files to be able to display the infrared thermal image and do all kinds of analysis, if a previous infrared image has been linked on, the new image will replace the previous one. There are two ways to do the link.

1. By menu

Move the mouse into the IR object and click on the right button, an analysis submenu will pop up as below.

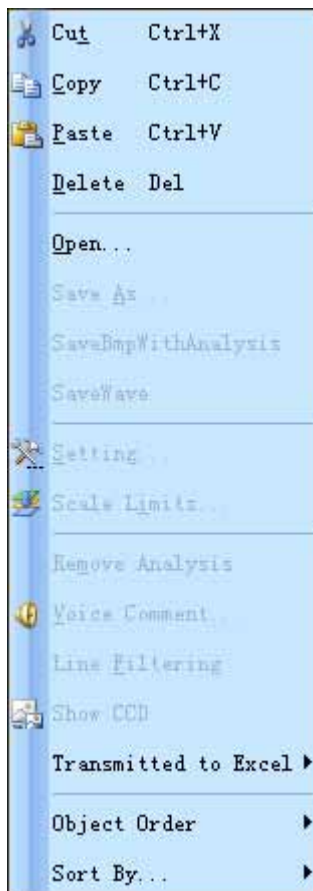


Figure.4.3.2.1 By menu

Click on “Open” in the submenu, the window with the DLI extension infrared thermal image files will popup for preview, show as below, change the file path or select the relative infrared file, click on “Open”, the extension of the infrared thermal images is “DLI”.

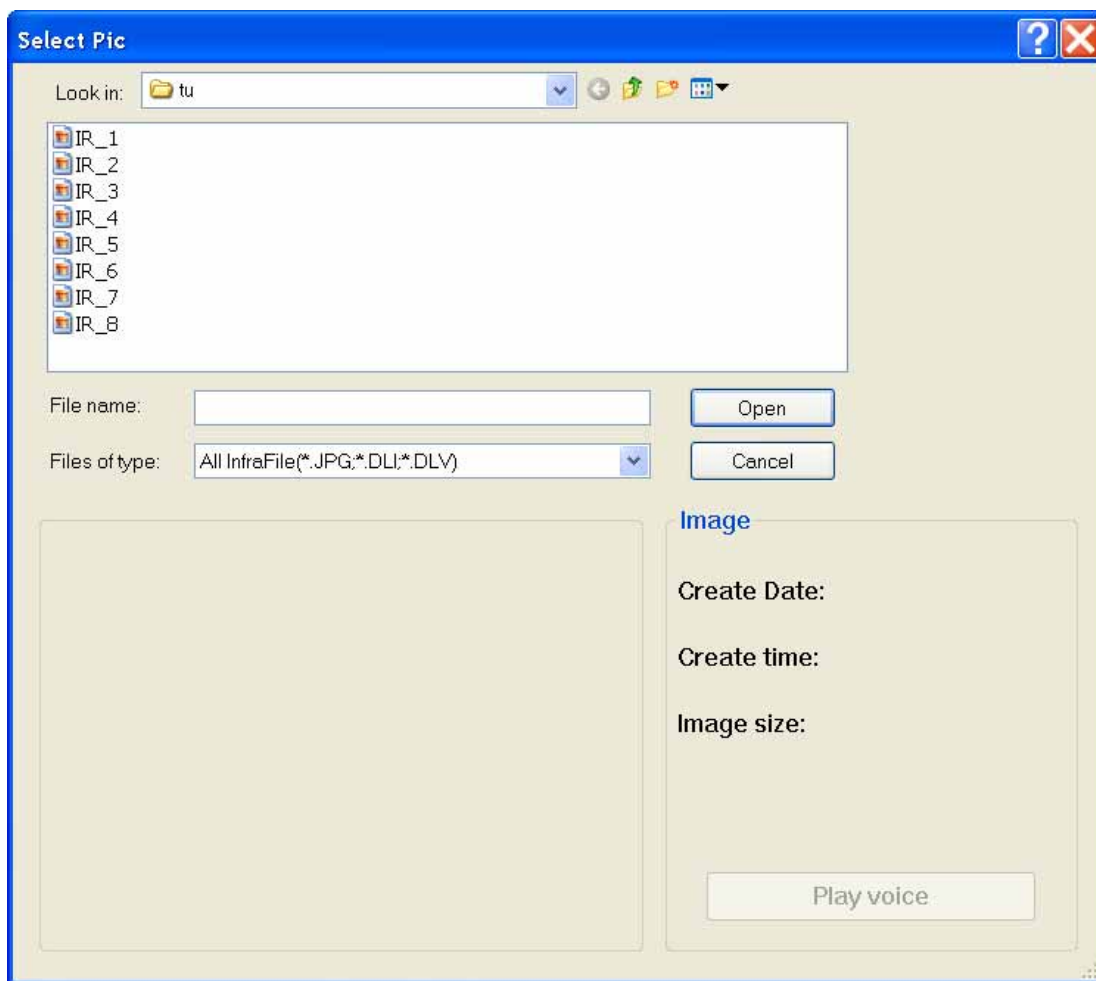


Figure.4.3.2.2 Select image


2. By double click on left button to open


In IR object area double click on left mouse button, the image selection window such as above will popup, select file which need to link on and press “open”.


4.3.3. Analyze IR object


4.3.3.1. Setup analysis


The analysis can be done after importing the infrared thermal image. The analysis toolbar mainly include:


- 1,  Spots analysis (additional spots); after clicking on this button, move the mouse to the corresponding thermal image and select the position need to be analysis (mouse symbol as cross-hair), click on left mouse button to add on a new analytic spot. There is no limit on analytic spot amount, and the system will title the spot in order (Point01, Point02, Point03...) and calculate and record the spot temperature automatically.

2,  Instantaneous spot analysis; this button is similar with the spot analysis. The main difference is when you use this function and make the mouse move inside the infrared thermal image area, the instantaneous spot temperature will show on the point that mouse pointed to.

3,  Line analysis; after activating this button, move the mouse to the corresponding thermal image and select the starting position of the analytic line (mouse symbol as cross-hair), hold on the left mouse button, move the mouse and draw a line, release the mouse button and a new analytic line will be created. There is no amount limit on analytic line and the system will title the line in order (Line01, Line02, Line03...) and calculate and record the highest, lowest and average temperature on this line automatically.

4,  Rectangular analysis; after activating this button, move the mouse to the corresponding thermal image and select the starting position of the analytic rectangular (mouse symbol as cross-hair), hold on the left mouse button, move the mouse and draw a rectangular, release the mouse button in suitable position and a new analytic rectangular will be created upon the diagonal of the start position and release position. There is no amount limit on analytic rectangular, the system will title the line in order (Area01, Rect02, Rect03...) and calculate and record the highest, lowest and average temperature on this line automatically.

5,  Circle analysis; after activating this button, move the mouse to the corresponding thermal image and select the position of the centre of analytic circle (mouse symbol as cross-hair), hold on the left mouse button, move the mouse and draw a circle, release the mouse button in suitable position and a new analytic circle will be created upon the start position as the centre of the circle and the distance to release position as radius, there is no amount limit for analytic circle, the system will title the circle in order (Area01, Area 02, Area 03...) and calculate and record the highest, lowest and average temperature on this line automatically.

6,  Isotherm analysis; after activating this button, click on the palette in right side of IR object, the results will show as the picture.

Isotherm analysis is the same color will be used to show the temperature range in the infrared thermal image an analytic method that in the setup temperature range (for example between 10□ and 30□).

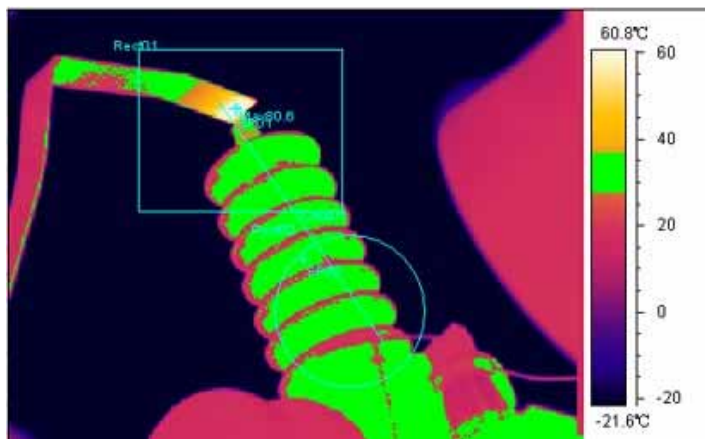










Figure.4.3.3.1.1 Isotherm analysis

4.3.3.2. Modify analysis

To modify the infrared object analysis, the  button in the object toolbar must keep in active, and the infrared object is activated (the frame of the object will have eight sizing handles look like black small rectangular. If the object is not active, click on the object to make it active.). Move around the mouse on the infrared image, the state of the change can be determined by the sharp of the mouse symbol, click and hold on the left mouse button, draw the mouse to modify and move each analysis. When the analysis in the active the sharp of the mouse symbol will sort as:

-  Move spot
-  Move line: move the line entirely
-  Modify line: set another spot as centre of the circle to rotate or flex
-  Move rectangular: move rectangular entirely or change size
-  Modify rectangular: change rectangular size according to arrow direction
-  Move circle: move circle entirely or change size
-  Change circle: change circle size according to arrow direction



Isotherm analysis: Move the mouse inside the palette of isotherm area, the symbol of mouse shows in different sharp, there are three ways:



- 1, Mouse in the middle of the palette, hold on left mouse button and draw, whole section will move along with the mouse, the effect will show on the image instantly.
- 2, Mouse in the top of the palette, hold on left mouse button and draw, whole section will

move along with the mouse, the palette will change the upper position.

3, Mouse in the bottom of the palette, hold on left mouse button and draw, whole section will move along with the mouse, the palette will change the lower position.

4.3.3.3. Delete analysis

To delete the corresponding infrared object analysis, the  button in analysis toolbar must be in active, the infrared object is in active as well, use mouse to move around the infrared image. When the mouse symbol change into  sharp, this analysis can then be deleted, click on left mouse button to delete. After deletion operation system will update the analyze result and linear analysis object automatically.

Delete isotherm analysis: click  button in analysis toolbar, move mouse to the isotherm area of palette, click on cursor to make symbol become , click on left mouse button to delete.

Clear all analyses: move mouse to corresponding infrared image, click on mouse right button to pop up infrared image analysis submenu, select the “remove analysis”, this will clear all the analysis one-off (does not delete isotherm analysis), after this operation system will update the analyze result and linear analysis object automatically.

4.3.4. Infrared image parameters setup

The system allows user to setup their own entirely parameters of relative infrared object, such as emissivity, ambient temperature, distance and humidity. It also allows user to setup the individual analytic parameters such as emissivity, distance and pattern of display. Move mouse to corresponding infrared image, click on mouse right button to pop up infrared image analysis submenu, and select the “setting”, which will allow user to get into the parameters setting window. There are Image, Object Parameters, Analysis, Palette settings.

4.3.4.1. Image display setup

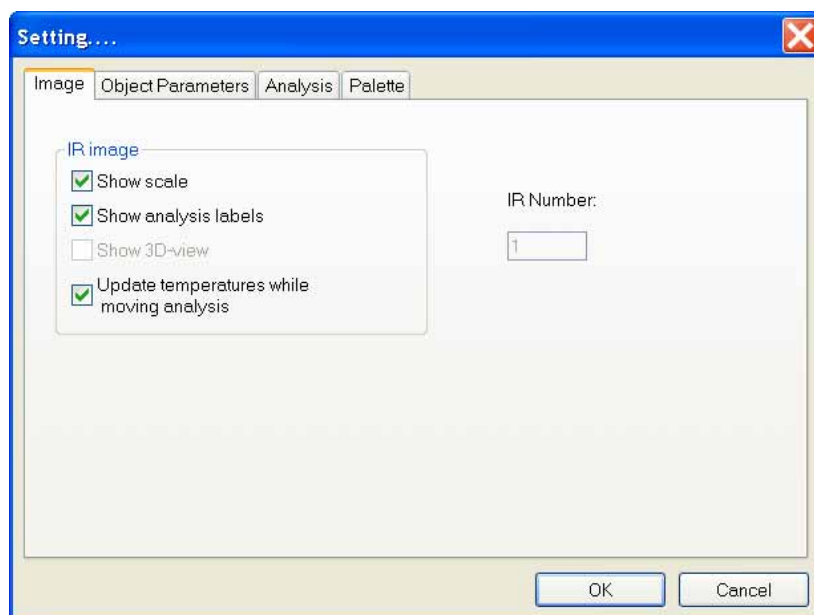


Figure.4.3.4.1.1 Image display setup

There are three selections for image display as above.

4.3.4.2. Thermal images parameters setup

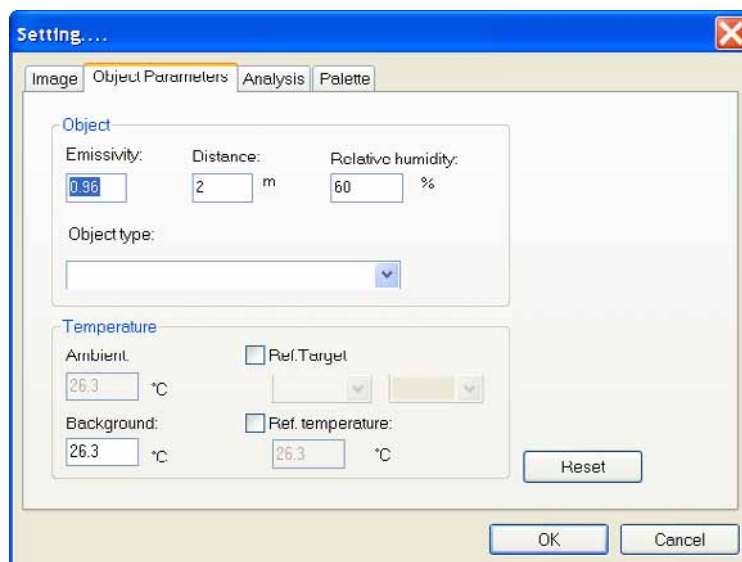


Figure.4.3.4.2.1 Object parameter setup

The setup for thermal images parameters setup is for all images one-off, if the individual images do not have the individual setup, changing of thermal image parameters will affect all analysis, which has been solely setup will not be changed.

4.3.4.3. Analysis parameters setup

Click on “Analysis” in setting window will allow user to setup each parameter, the interface is as below.

User can change the setup of each parameter to select different display effect of analytic image, which include color, display maximum, minimum, and average date and also adjust the emissivity or distance of analytic image. If the emissivity and distance select box has been chosen, the corresponding analytic objects will possess of their own sole analytic parameters. (When objects possess of their own sole analytic parameters, the changing of entire thermal image parameters will not change the emissivity and distance of analytic object) , press “Ok” to confirm, all setup will take effect, or press “Cancel” to cancel setup.

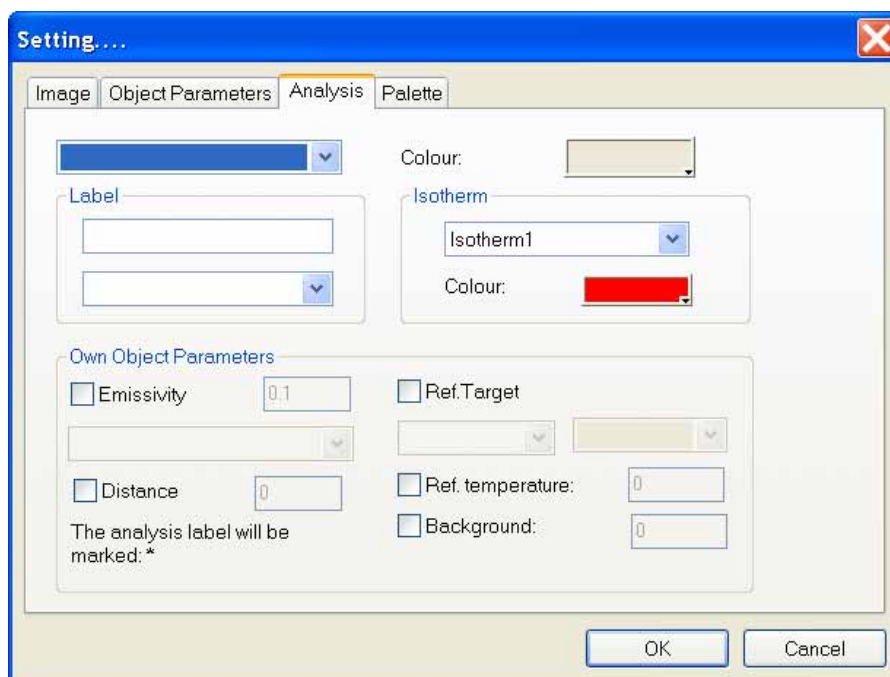


Figure.4.3.4.2.1 Analysis setup

4.3.4.4. Palette setup

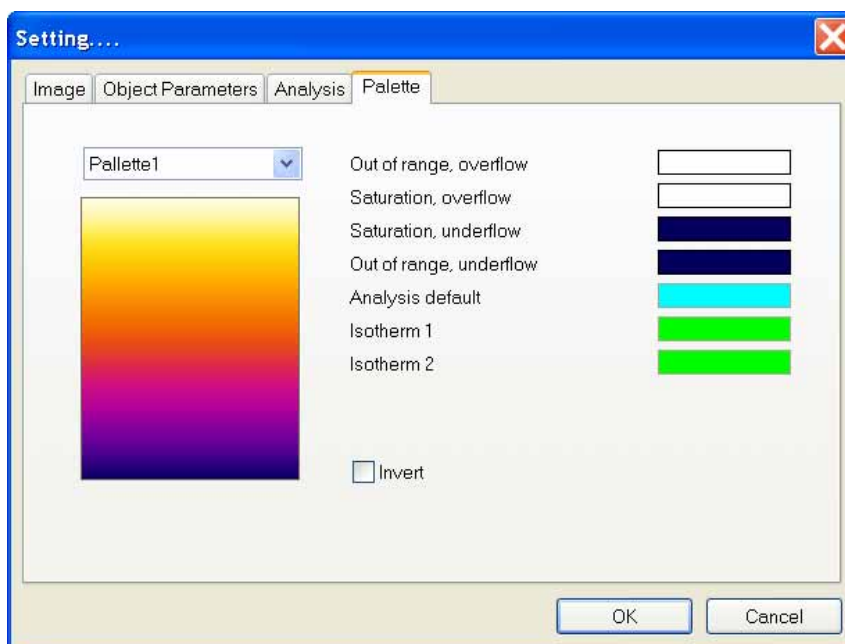



Figure.4.3.4.4.1 Palette setup

User can select suitable palette. Select the needed palette in drop down window, press “Ok”, the corresponding infrared object will display the infrared thermal image in the pattern of selected palette.


If “Invert” has been selected, the infrared image will display the reverse of high and low temperature mode.

4.3.5. Voice playback

If the selected image object has a voice involved in, the voice button  in analysis toolbar will be in implement state, press this button to playback the voice.

4.4. Use CCD image object

CCD images are mainly for displaying the pictures and can be displayed in “BMP” or “JPG” format. By putting the infrared image and CCD image together, your report will be more clear and aesthetic.

Click on CCD image button  in object toolbar and make it in active, move the mouse to plain space on the page, the mouse symbol become a cross-hair, press mouse left button and hold on, the changing box which indicate the position and size of the object will appear, release the button, a new CCD picture will be created. (There is no amount limit for CCD pictures, the

quantity only limited by the system memory capacity.). After creating the object, move mouse on the object, click on mouse right button to pop up the submenu, select “Open”, (also achievable by double click on left mouse button), system popup the standard Windows picture dialog box, select the picture file needed and confirm, the CCD picture will show on the page, such as below.

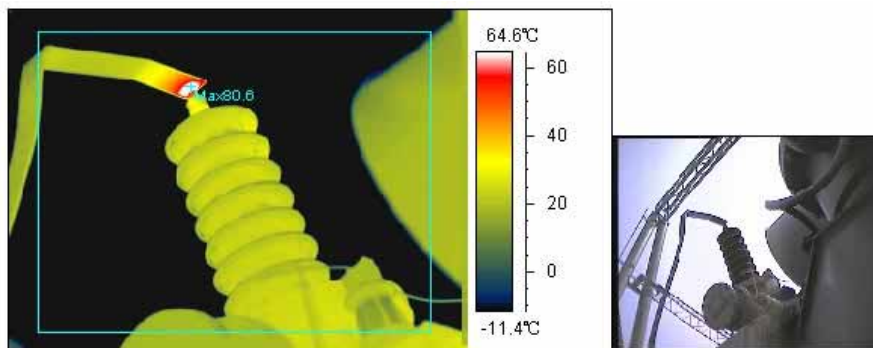



Figure.4.4.1 CCD image setup

Additional CCD picture can be created by click right mouse button on infrared object to pop up submenu, select “Show CCD”. (If there is no CCD picture linked with this infrared image, the item in the submenu will not be active.)

4.5. Use formatted text object

Formatted text object is a powerful text edition function, it support multi-formatted text in same object, also support change text font, align mode and so on. By this it is very easy to create an aesthetic text report. Click on text tool  in object toolbar to make it in active, move the mouse to plain space on the page, the mouse symbol become a cross-hair, press mouse left button and hold on, the changing box which will appear, release the button, a new text object has been created. (There is no amount limit for text object, the quantity only limited by the system memory capacity.). You can then work on the object to input or edit the text.

4.5.1. Change font and align mode

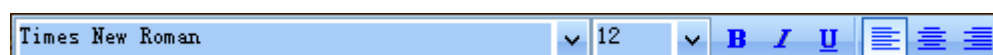


Figure.4.5.1.1 Font and align setup


Blacked the needed text content, use the drop down interface in main interface to select the text font, size, bold, italic, underline and align.



4.5.2. Copy, paste text contents


Formatted text object can use to paste the files from Clipboard and Microsoft Word, copy the

file from Word, and click on mouse right button to popup text submenu, select “Paste”. It also can copy the contents in the object, blacked the needed text content and click on mouse right button to popup text submenu, select “Copy”.

4.5.3. Change font color, frame and background

Blacked the text content that need change, use  button in main interface toolbar to select the font color you want;

Select the object, if frame color need to be changed, use  button in main interface toolbar; if frame thickness need to be changed, use  button in main interface toolbar;

Select text object, if text object background color need to be changed, use  button in main interface toolbar; select the background color needed.

The color selections show as below;

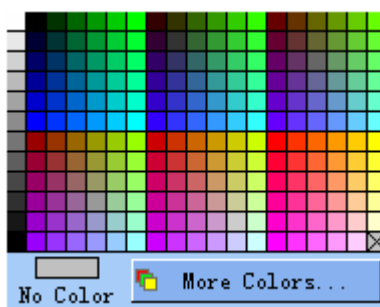



Figure.4.5.3.1 Color selection

4.6. Use properties

The result table is used to show the infrared object parameters. Click on result table button  in object toolbar and make it in active, move the mouse to plain space on the page, the mouse symbol become a cross-hair, press mouse left button and hold on, the changing box which indicate the position and size of the table will appear, release the button, a new result table will be created.

The result table has to link with the corresponding infrared object to show the result, move mouse on the result table, double click left mouse button, a dialog box will pop up as below.

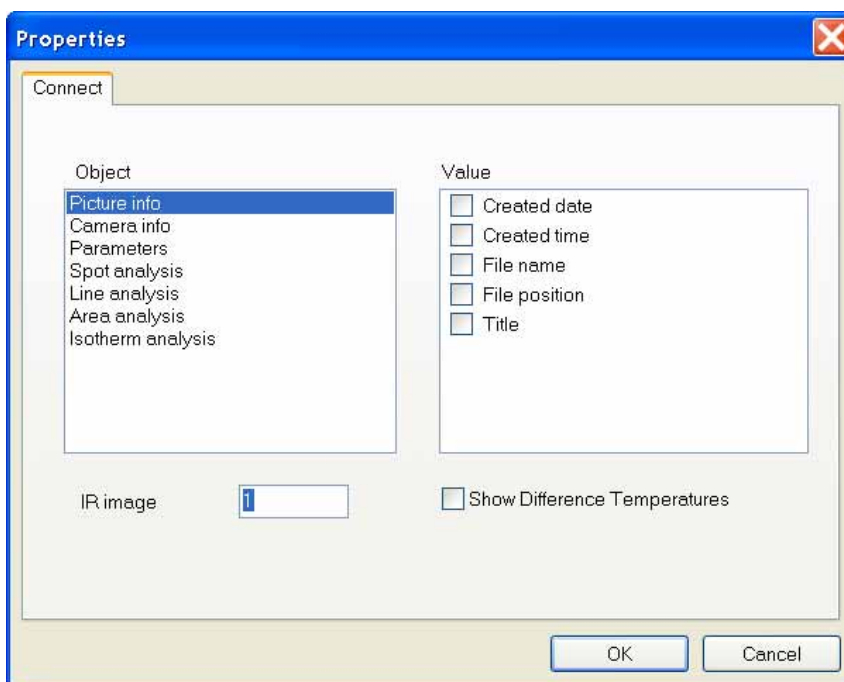


Figure.4.5.3.1 Use properties

Select relative items. Object message type will show in left, and available messages items for this type show in right. Click on “OK” to confirm, the relative parameters will display in the main interface. Press “Cancel”, the setup will not take effect. The result after selection shows as below.

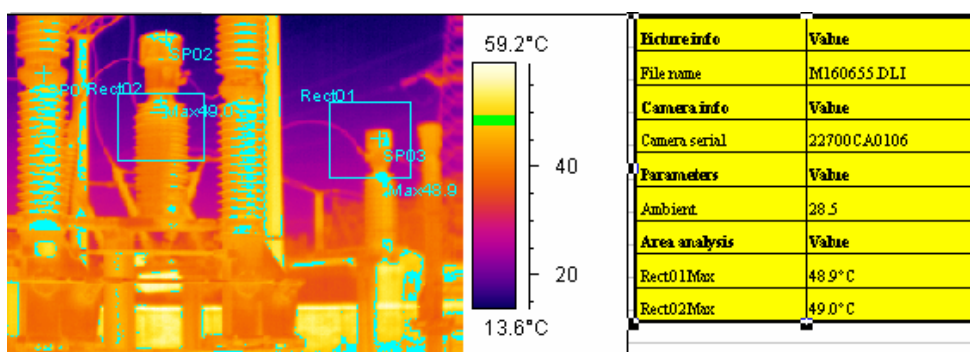


Figure.4.6.1 Example of use properties

4.7. Use table tool

Click on table tool button in object toolbar and make it in active, move the mouse to plain space on the page, the mouse symbol become a cross-hair, press mouse left button and hold on, the changing box which indicate the position and size of the table will appear, release the button, a new table will be created.

There are two ways to fill the contents in the table;

- 1, user fills in contents and text by themselves;
- 2, link with some infrared object parameters;

Click mouse right button in the table cell, a menu will pop up as below. By selecting

“Properties”, a configuration dialog box will pop up.

C <u>u</u> t	Ctrl+X
C <u>o</u> py	Ctrl+C
P <u>a</u> ste	Ctrl+V
Properties...	Alt+Enter
Add <u>R</u> ow/ <u>C</u> olumn...	

Figure.4.7.1 Use table tool

In configuration dialog box, the cell type and background color can be affirmed, show as below.

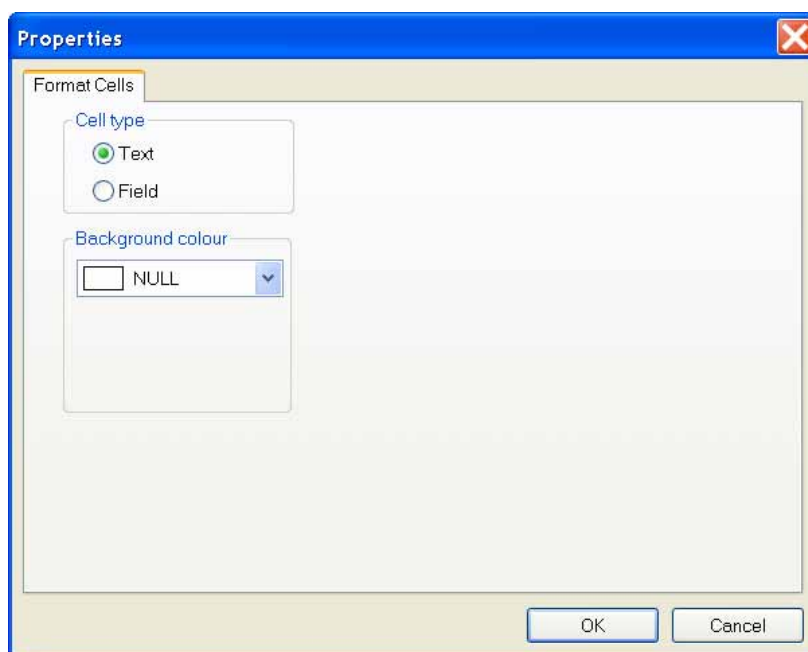


Figure.4.7.1 Properties of table tool

If select “Text”, a text needed can be fill in by yourself; if select “Field”, an appointed property will automatically connect on according to your selected infrared image and object, show as below.

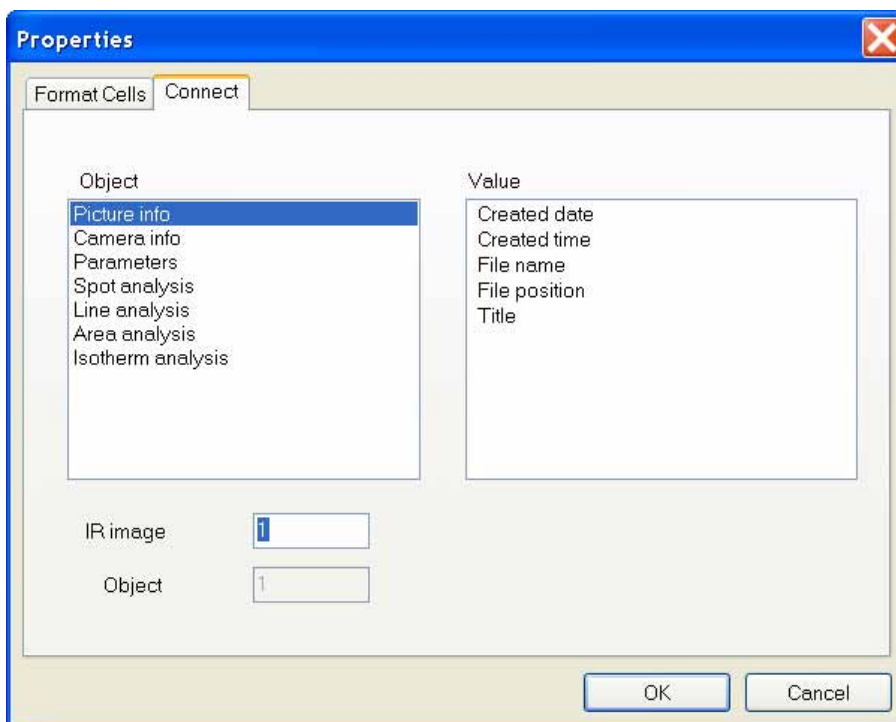



Figure.4.7.2 Connect dialog box of properties of table tool

4.8. Profile tool

The profile tool is use for linear analysis of beeline in infrared object. Click on profile tool button  in object toolbar and make it in active, move the mouse to plain space on the page, the mouse symbol become a cross-hair, press mouse left button and hold on, the changing box which indicate the position and size of the object will appear, release the button, a new linear analysis object will be created.

The linear analysis object has to link with the corresponding infrared object to show the result, move mouse on the linear analysis object, click right mouse to popup menu, and select “Setting” to enter into connecting window as below.

Characters setting can be used to setup the display effect, such as whether to show gridline and legend, whether to display the linear maximum and minimum temperature or the instant messages.

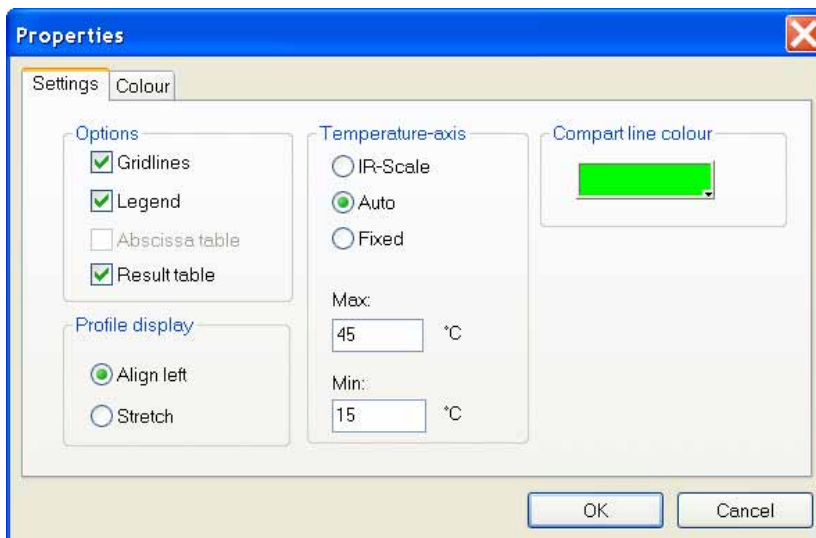


Figure.4.8.1 Properties of profile tool

Color setup: choose the infrared object that needed to be analyzed and the beeline in the object as well as the corresponding color. Show as picture below, select relative infrared object number and line number and, press “Ok” to confirm. User can choose several lines to analyze at one time.

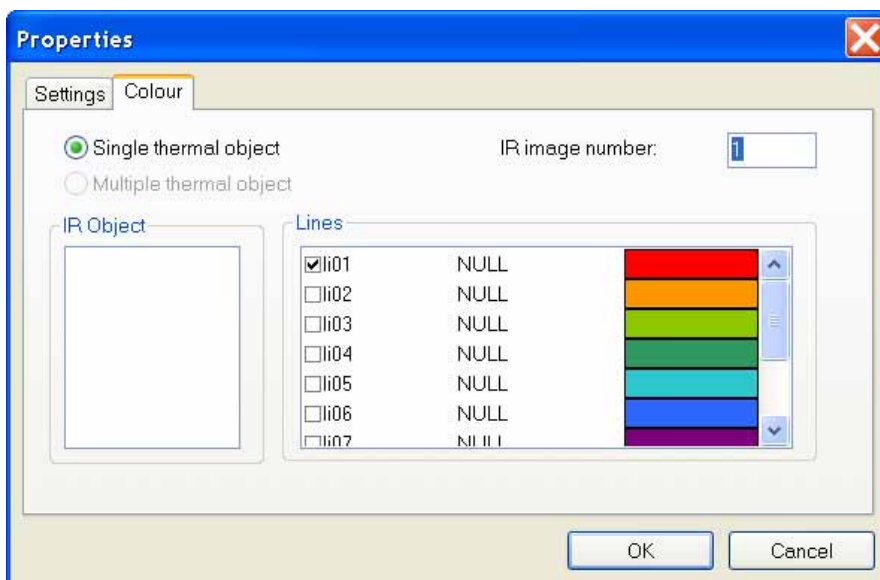


Figure.4.8.2 Color selection of profile tool

The corresponding linear analysis result should show on the main interface. Show as below, there will be line maximum, minimum and instant temperature and line number on the object.

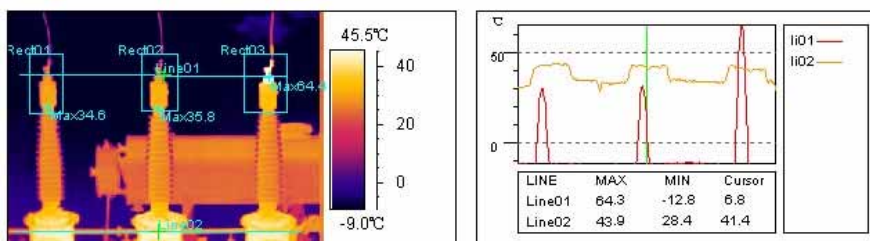



Figure.4.8.2 Linear analysis result

In the linear analytic result, move the green instant temperature line, the instant temperature will change accordingly; the position of the point will also changed.

4.9. Use histogram analytic tool

The histogram tool is applies to analyze the histogram of beeline and measurement area, it indicate the distributing of analytic beeline and measurement area more visually.

Method to use:

- **Create object:** Click on profile tool button  in object toolbar and make it in active, move the mouse to plain space on the page, the mouse symbol become a cross-hair, press mouse left button and hold on, the changing box which indicate the position and size of the object will appear, release the button, a new histogram analysis object will be created.
- **Create link:** The default linking object in histogram is the first line in first infrared object. Double click mouse inside the histogram, a dialog box for histogram linking selection will popup. User can change the infrared object number, choose the line number and display color of histogram.

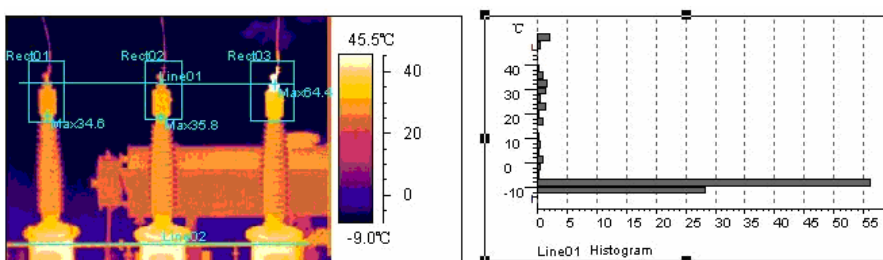



Figure.4.9.1 Histogram analytic tool



Figure.4.9.2 Properties of histogram

4.10. General operations of object

- **Select object**

Click on  in toolbar; make it in active; click on needed object; eight sizing handles (small black rectangular) will appear in the frame; the object has now been in active.

Please note: Use mouse to click on the frame to select text object.

- **Move object**

All object can be move around the page optionally; after select the object hold on mouse left button; move the mouse; system will show a rectangular to indicate the current position; release mouse to confirm.

- **Change object size**

After selecting the object; use mouse to activate the sizing handle; hold on mouse right button; move the mouse; system will show a rectangular to indicate the current size; release mouse to confirm.

- **Copy**

Copy is use for copy the object content into clipboard in form of picture or text. After selected the object; click on mouse right hand button; a submenu will pop up; select “Copy” to copy. It also can carry out by select “Edit” – “Copy” in main interface.

- **Cut, paste**

Cut, paste is used as following: after select the object, click on mouse right button, popup the submenu, select “Cut” or “Paste” to work out. It also can carry out by select “Edit” – “Cut” or “Paste” in main interface.

- **Delete**

Used to delete object directly, click on mouse right button to popup the submenu, select “Delete” to delete. It also can carry out by select “Edit” – “Delete” in main interface.

4.11. Multi-frames overlay image process







The system can build up the multi-frames overlay IR image. System display with single page. The tool on the main interface can be used to process the single frame content of the image.





First frame



Fast backwards

-  Previous frame
-  Stop
-  Play
-  Next frame
-  Fack forwards
-  Last frame
-  Add one frame
-  Delete current frame

Single click  to pop up the below dialogue. Double click the added IR file to make multi-frames IR image overlay. Single click  to delete the current single frame IR image.

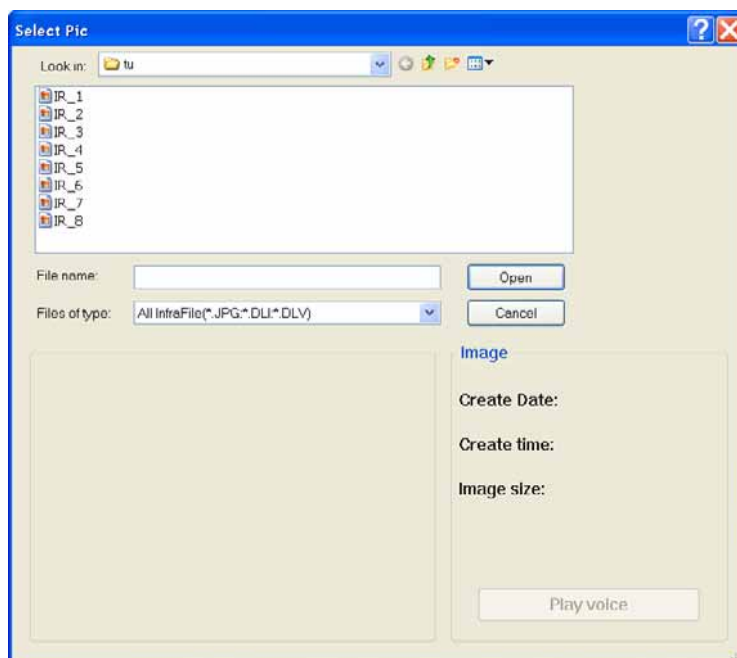



Figure.4.11.1 Select Pic

4.12. Temperature trend chart

The temperature trend chart can indicate the temprature change of multi-frames image in one point or one line or one area. Single click the  button and then drag the mouse cursor to the black area in the page and release the mouse cursor will generate a new trend chart. Right click on the chart and select "Setting (设置)" to pop up the below dialogue:

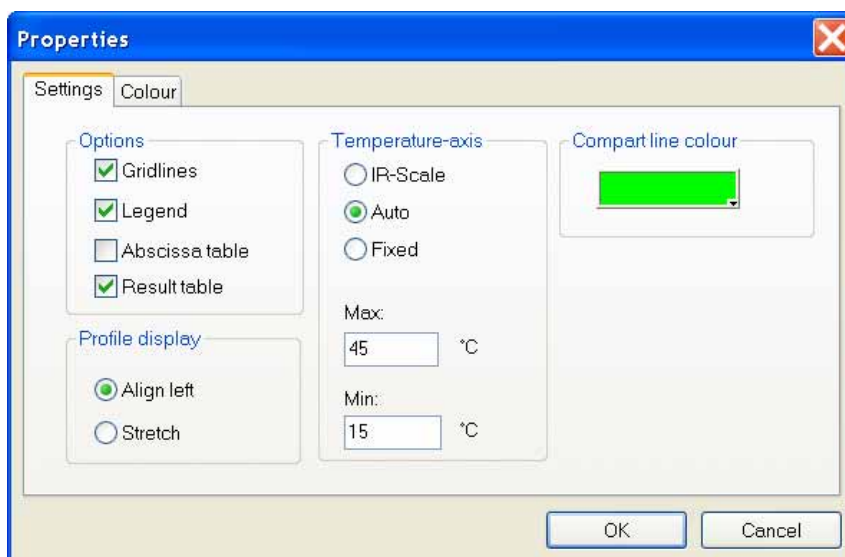


Figure.4.12.1 Properties


Only when the temperature coordination is selected to "customized ", the maximum and minimum values can be revised. Single click "Color setting " to select which point,line and area need temperature change trend line to indicate and the colors to revise the temperature changing line, as shown in below:

After setting finished, single click on "Confirm ", there will be related temperature change line shown in the temperature trend chart.

4.13. Page operations

System can create new page optionally for multi-page operation.

- **Add page**

Click on “Add page” button  in main interface, system will popup Add Page dialog box, such as below. By settings in the box, user can make new page Add at last, Add at first, Before current, After current.

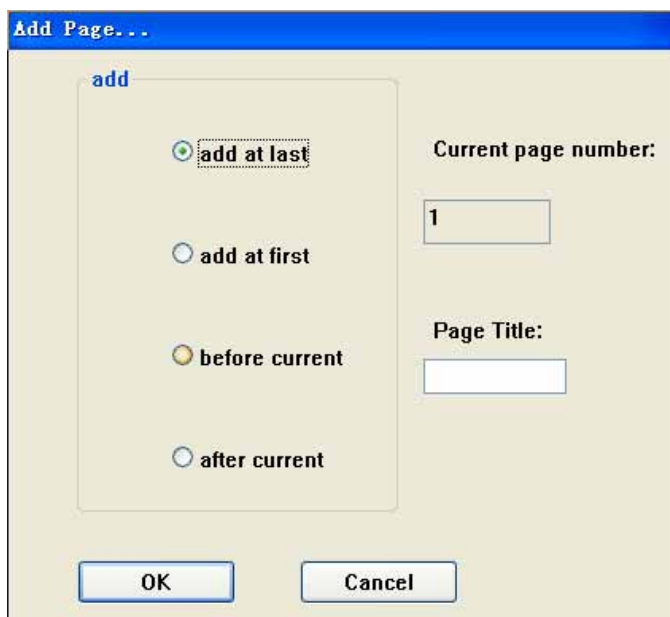



Figure.4.11.1 Add [age

- **Delete page**

On plain space of the page click on mouse right button to popup submenu, select “Delete” or click on  button in control toolbar to delete current page.

Please note: delete the page will also delete all contents in the page.

- **Move page**

System displays in single page. If user wants to work on another page, another page should be switch on. It can be done through page management toolbar.



First page



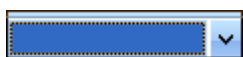
Previous page



Next page



Last page



Go to

- **Zoom on, out page**

Using the page management toolbar in main interface to zoom in or out the page and adjust the vision.



Zoom in



Zoom out



Zoom fit

5. Use USB

For DL-700 serial products, connect on USB, tune on the camera, system configuration will set storage medium as “Flash”, it can be used directly. If setup as “CF” card, please make sure the CF card is inserted in the port, and the computer system will recognize it as movable USB disc. Please use infrared thermal image analysis report software to process.

For DL-770 serial products, connect the USB, tune on the camera, open the infrared thermal image analysis report software, the movable USB disc will show up, the data then can be operate on.

DL-770 detail operation process:

Driver Installation Instruction for Windows XP

Installation process:

- 1) Install the thermal Image Analysis Report Software
- 2) Connect the device to PC by USB, the system will remind as below;



Figure.5.1 Found hardware

Follow the instructions circled by red.

Click on “Next” and the system will pop up a security warning as below:



Figure.5.2 Warning

Click on “Continues Anyway” until the finish interface appeared.



Figure.5.2 Installation finished

- 3) Click on “finish”, the installation has been successful.
- 4) After about 30 seconds (depends on the configuration of the PC), In the Windows Explore of the Windows system, there will be a “removable hard disc” available, therefore the saved images in the device will be available to use.

Please note: 1、 Each USB port need a installation individually.

- 2、 If showing “Unknown Device”, the USB port is not working. Please try it late or try another USB port.

Please note: When the removable hard disc appears in the Windows Explore please wait for about 30 seconds before visit this disc, otherwise it might cause PC system collapse or the files in the device can not been read.