Operating Instructions / User manual

ERSA *IRSoft*

Version 2.0

Documentation software for ERSA Rework Systems

ERSA GmbH

Wertheim / Main
July 2002

Date: July 2002

Contents

1. Welcome to IRSoft

1.1. Introduction

IRSoft is the ultimate tool for documentation of repeatable soldering processes in SMT Rework.
IRSoft has been developed especially for this purpose and can be used together with an ERSA IR 550 A Microprocessor controlled Rework System. By using IRSoft the operator has the ability to visualize soldering profiles, edit soldering parameters and store those information in order to fulfil the documentation requirements of modern industrial organisations. The operator will be able to handle soldering parameters within IRSoft very easily and download them to the IR 550 A unit.
By this any settings on the unit itself are not necessary. Some functions of the IR 550 A can be remote controlled by IRSoft.

1.2. The Elements of IRSoft

1.2.1. State window

IRSoft contains a separate window to display the actual state and values of the connected IR 550 A unit. Within this window actual temperatures, switches and actions as well as error messages and states of operation are clearly arranged (*The state window of IRSoft*).

1.2.2. IRSoft view

Within this view the profiles of the activated temperature channels are displayed, the state of all active elements can be recorded. Additionally Reference lines can be visualized. The temperature range and the displayed recording time can be set freely. A scale and grid can be defined to achieve high-grade temperature plots. (*The view of IRSoft*).

1.2.3. Operator defined input

The Operator defined input window displays the actual programmed temperature profile. It is possible to edit terms for the operated printed circuit board and the used component as well as the shutter settings, the type of process and the orientation of the component in the PCB holder. Additionally the name of the operator can be inserted and all information can be saved for future use. (*The operator defined input window of IRSoft*).

1.2.4. Process values

All transferred and stored temperature and process values are displayed in this table and will be stored together with the actual plot in one file. (*The value table*).

1.2.5. Parameter sets

This table contains all parameters for temperature profiles, shutter settings and as well as the corresponding board and component names. This data can be transmitted to the IR 550 A. It is also possible to upload parameters from the IR 550 A and add the board and component name, before saving the parameters for later use. Thus a high repeatability of the soldering process is guaranteed. (*The parameter sets*). This table can be protected by a password.

2. Installation of IRSoft

2.1. System requirements

IRSoft is running on IBM compatible computer systems meeting the minimal system requirements listed below. For optimal operation you should adapt your computer system to those requirements and upgrade the system if you are working with large files.

Minimal system requirements:

Processor:	Pentium Class (300MHz)
Operating systems:	Windows XP, ME, NT4.0, WIN2000
RAM:	64 MB
Available hard disk space:	30 MB

Optimum Operation:

Processor:	Pentium > 500 MHz
RAM:	>= 128 MB

The screen resolution is recommended to be not below 1024 * 768 pixel.

Note: IRSoft is running also on systems with the older operating systems windows 95 and 98. The performance on those computers might be limited.

2.2. Installation of IRSoft

Close all applications before you start the installation of IRSoft on your computer system. Insert the installation CD to the CD-ROM drive and start "IRSoftSetup.exe". Now the set up program will be executed. Please follow the instructions.

2.3. Connection PC and IR 550 A

Connect the IR 550 A unit to a free RS232 COM port (serial port) on your. Please use the included null modem cable. Now the communication between IR 550 A and IRSoft is possible. Maybe you have to select the proper COM port within the software package. Doing this please refer to section *Set up communication.*

2.4. Starting IRSoft

After installation of IRSoft you can choose several ways to start the software. The easiest way is to use the IRSoft icon, which will be set up to your desktop during installation. When you double click on the IRSoft icon, the software will be started.

2.5. Using the integrated help topics

To receive online help the user has various possibilities.
Press the F1 key
Press the help button
Open the online help via the menu help

Context sensitive help:

In some windows you can receive help for a certain item by pressing the  button. Click this button and move the mouse over the item you are looking for additional information. Click once again and the corresponding help topic will be displayed.

The main toolbar

3. The user interface

3.1. The IRSoft user interfaces

IRSoft is based on a main view to display temperature profiles. In addition to this main view the operator can open further windows to get more information about the state of the connected IR 550 A unit and has the ability to edit and change parameters of temperature profiles. Detailed information to these windows you receive here.

The toolbars of IRSoft
The view of IRSoft
The state window of IRSoft
The operator defined input window of IRSoft

3.2. Adaption

IRSoft allows an individual adaption of the toolbars and the arrangement of the docking windows. So IRSoft can be adjusted to the users individual preferences and habits. More information you will find in the following sections.

Adaption and creating of toolbars
Setting of options

3.3. Usage of docking windows

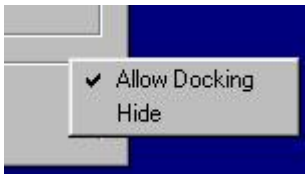
Docking windows are windows belonging to a special application. Docking windows have no fixed position within the main window. The user can arrange them freely within the application. He is able to vary sizes and positions of a docking window. IRSoft contains two docking windows, the state window and the operator defined input window.

Positioning of docking windows
A single docking window can be arranged within the application by clicking on the double line and moving it around via drag and drop.

A double click on this bar changes the docking window into a so-called flying window. This window is movable exceeding the boarders of the main window.

If a flying window gets in contact with the applications frames during movement it switches back to a docking window. More features about docking and flying window you

receive in the pop up menu of the docking window. The pop up menu opens by pressing the right mouse button over the window.



Change size

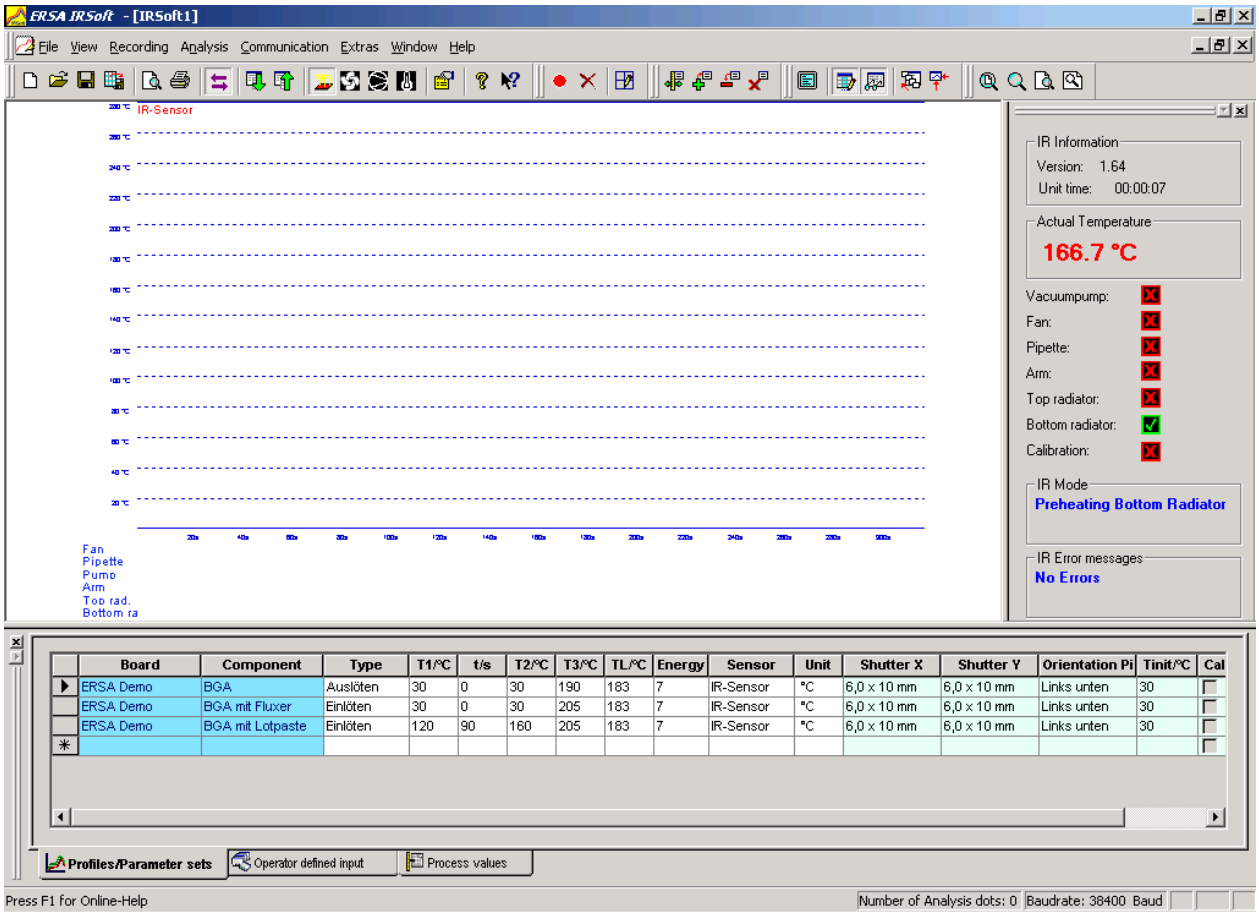
To change the size of a docking window you have to move the mouse over the frame of a docking window until the cursor changes its shape to  . Now the size of the window can be modified by drag and drop.

All changes to a docking window are saved and remain during a restart of the software.

4. The elements of IRSoft

4.1. The main view of IRSoft

After the first start of IRSoft the user faces the following view on the screen.



On the top the menu bar is located. Below you will find the toolbars. On the right side the state window is docked. At the bottom of the screen you will find the windows “process values”, “operator defined input” and “parameter sets”. They are displayed as three functional indices. A more detailed description will be given in the following sections.

The view of IRSoft
The toolbars of IR Soft
The state window of IR Soft
The operator defined input window of IRSoft

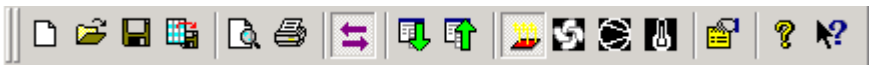
4.2. The toolbars of IRSoft

All functions of IRSoft can be activated very easy by the use of toolbars, containing the correlated buttons. In the basic set up IRSoft contains four separate toolbars divided by their function.

The main toolbar
The zoom toolbar
The view toolbar
The record toolbar
The analysis toolbar

4.2.1. The main toolbar

The main toolbar contains the basic functions. It is displayed in the following way.



The function of the symbols are explained below:

 These are standard functions for a new worksheet, to open an already saved profile or to save the actual view.

 This button converts the actual values of a soldering process to an Excel format and exports the data.

 This button activates the communication to the connected IR 550 A system.

 This button is used to switch the bottom radiator of the IR 550 A system on and off.

 This button downloads the selected set of parameters in the parameter sets table to the IR 550 A unit and activates the parameter set immediately. (*Download of parameter sets*).

 This button uploads the actual set of parameters from the IR 550 A and writes it into the parameter sets table (*Upload of profile parameters*). At the same time settings from the operator defined input window will be transferred.

 This button activates the dialogue with IRSoft Options. The configuration of the interface and the selected language can be set as well as further general options.

These buttons are used to activate the dialogue with information about IRSoft and the context sensitive online help.

4.2.2. The zoom toolbar

The zoom toolbar contains all zoom functions of IRSoft.

This button changes the image in the working area to original size.

This button changes the zoom step by step. The user can change the zoom factor manually by clicking the left mouse button for zooming in and the right button for zooming out.

This button activates the zoom to selected window function. The user has to press the left mouse button and create a frame. The zoom will be fit to the selected window.

This button optimises the view to the size of the working area.

4.2.3. The view toolbar

The view toolbar allows fading in and out of the docking windows. Additional a full screen preview and a minimized view are possible.

This button activates the full screen preview for the actual working area. Pressing the ESC key the program returns to normal view.

This button shows or hides the operator defined input window. The same result will be achieved by pressing the **F2** key.

This button shows or hides the state window. The same result will be achieved by pressing the **F3** key.

This button hides all docking windows (state window and operator defined input window) at once. It is equivalent to the **F5** key.

 This button hides all docking windows (state window and operator defined input window) and at the same time minimizes the window of the application and positioned in the upper left corner of the screen. It is equivalent to the **F6** key.

4.2.4. The record toolbar

This toolbar contains functions for recording temperature profiles and their parameters.

 This button starts the recording of a temperature profile.

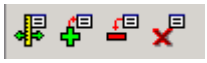
 This button deletes the actual recording. All values and temperature plots get lost.

 This button opens the layout settings dialogue. Here changes regarding the visualization of temperature profiles can be made.

Settings of main view

4.2.5. The analysis toolbar

This toolbar contains functions for further analysis of the recorded temperature profile.



 This button activates the analysis cursor and shows it on the screen. (See ***Activating Analysis Cursor*** *and* ***Moving the analysis cursor***).

The other buttons of this toolbar are used to set a new analysis dot or to erase either the last or all analysis dots. (See ***Setting analysis dots***)

4.3. The pop up menu of the empty main window

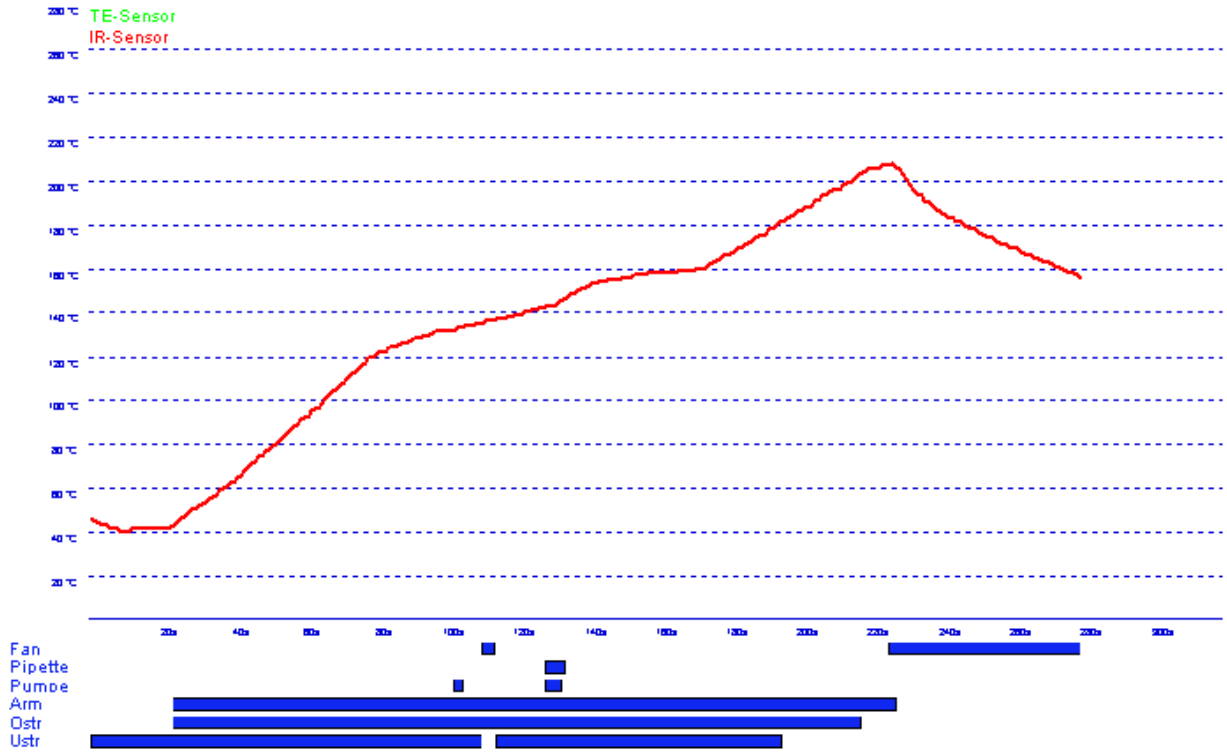
If no view is opened, the user faces an empty working area. To open a new view the button New has to be pressed.
Alternatively the user can open the pop up menu by clicking into the free space with the right mouse button.

Here the most important functions of IRSoft are summarized and sorted by their function.

The toolbars of IRSoft

4.4. The view of IRSoft

The basic view of IRSoft shows temperature profiles and process parameters, recorded from a connected IR 550 A Rework system.



The user can select scale, channels and colours. How to do this will be explained in the next sections.

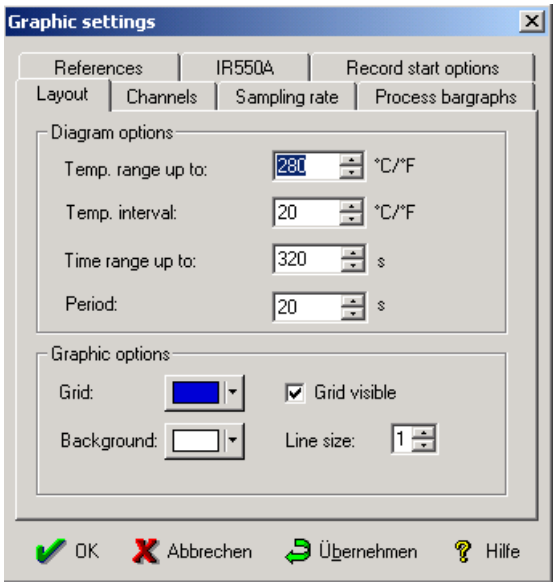
4.4.1. Depict able channels

In this section information about selecting and depicting temperature channels will be given.
The IR 550 A includes two different temperature sensors. With both of them temperature profiles can be recorded. One is the integrated infrared sensor the other one is an optional available thermocouple.
The display of the IR 550 A always shows the reading of the activated sensor. At the same time this temperature reading is used to control the soldering process. Both sensors are detecting the surface temperature of the component or the PCB. To transfer this information to the temperature at the solder joint, the calibration function has been implemented to the IR 550 A. When the user detects the melting of the used solder he can calibrate the sensor reading to a specific liquid temperature.
The IR 550 A always displays the calibrated reading of the selected sensor. Using IRSoft more possibilities open up.
All temperature sensors are recorded permanently. The operator can choose which channels should be displayed or printed.
Settings of main view

4.4.2. Settings of main view

4.4.2.1. Layout settings

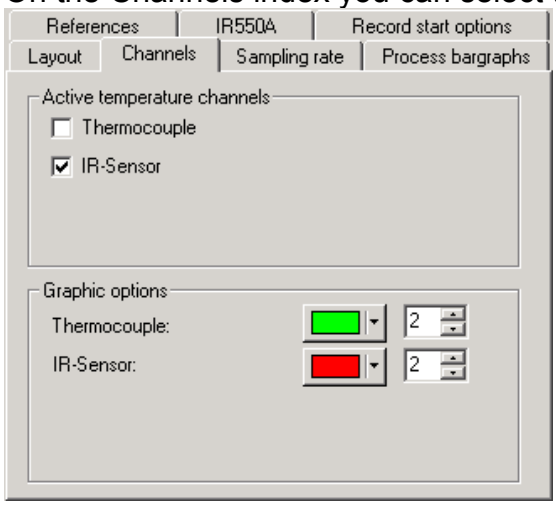
Pressing the Layout settings button opens the selection window for settings of the main view.



On the Layout index you will find settings for visualisation the temperature profile. The user can set the temperature range and the time range to be displayed. Additionally settings for the grid can be made.

4.4.2.2. Channel selection

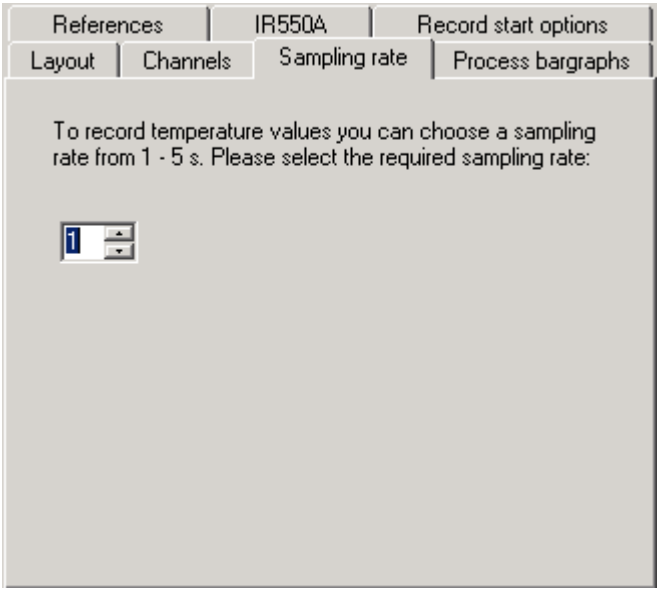
On the Channels index you can select the displayed temperature channels.



Additionally for the selected channels colours and line sizes can be set.

4.4.2.3. Setting the sampling rate

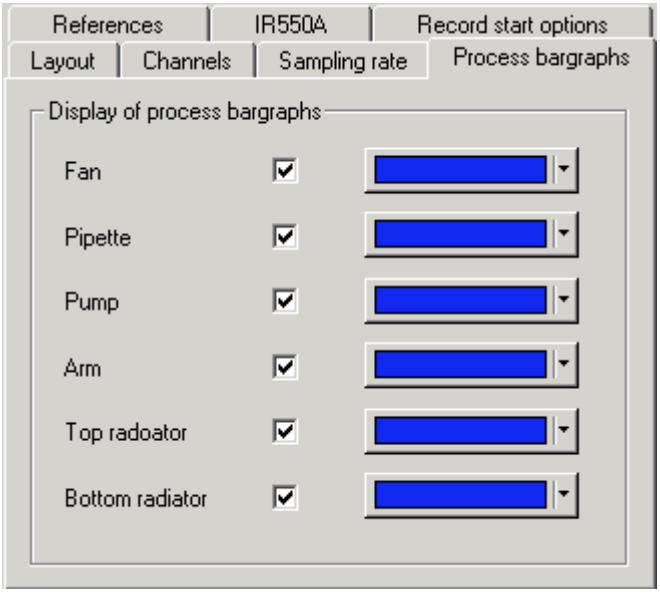
On this index page the sampling rate for the temperature recording can be set.



The sampling rate can be set in a range from 1 - 5 s. It defines the equidistant time slices when a new value for recording is requested from the IR 550 A. The default setting is 1 second and should not e modified without need.

4.4.2.4. Process parameter settings

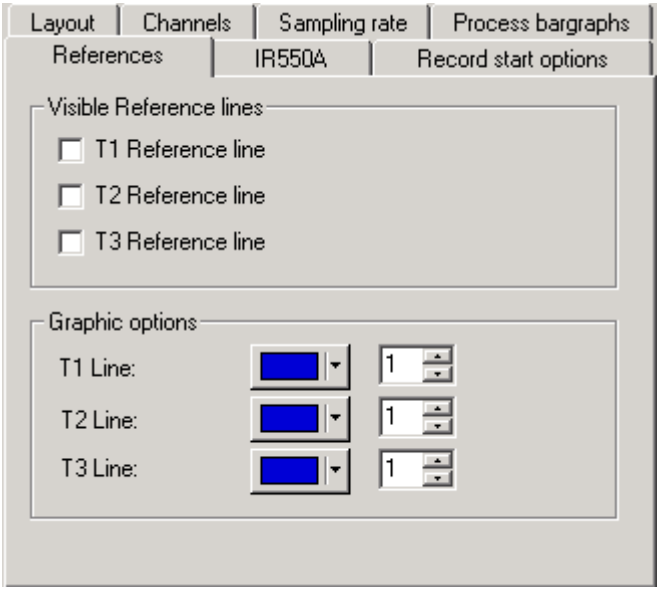
On this index the settings for the process parameter display can be modified.



The user can select, which parameter will be displayed and can set the colour of each bar graph line.

4.4.2.5. Reference lines settings

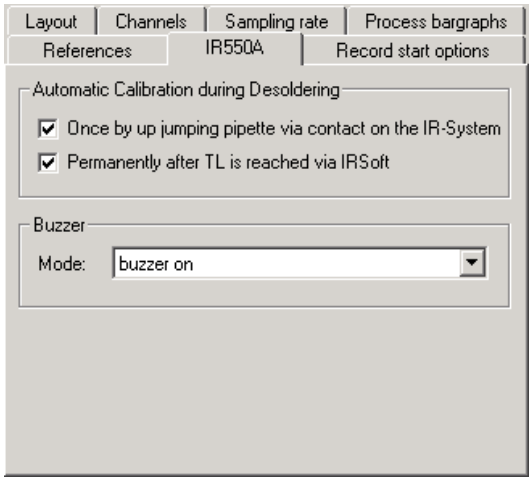
On the last index page three reference lines can be selected. They can be displayed in the main window and represent the parameters T1, T2 and T3.



To achieve a better contrast, also colours and line sizes can be selected.

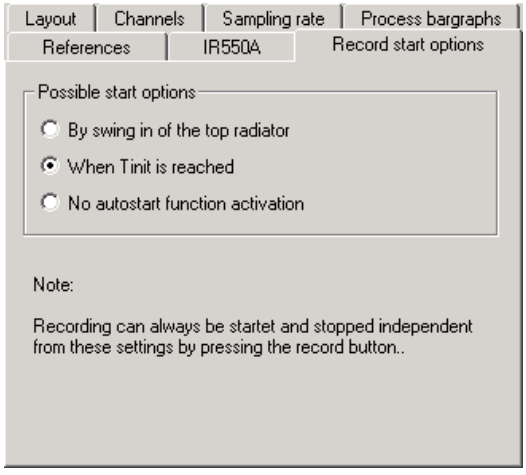
4.4.2.6. IR 550 A options

Starting with firmware version 1.63 (IR 550 A), the IR 550 A unit is prepared for further functions. The behaviour of the integrated buzzer can be modified via IRSoft. It is possible to deactivate the automatic calibration procedure during desoldering.
Or you can set the automatic calibration to permanent trigger via IRSoft during desoldering. In this mode the sensor signal will be calibrated automatically as soon as the liquidus temperature is reached. The calibration will proceed until the vacuum pipette lifts the component from the PCB.



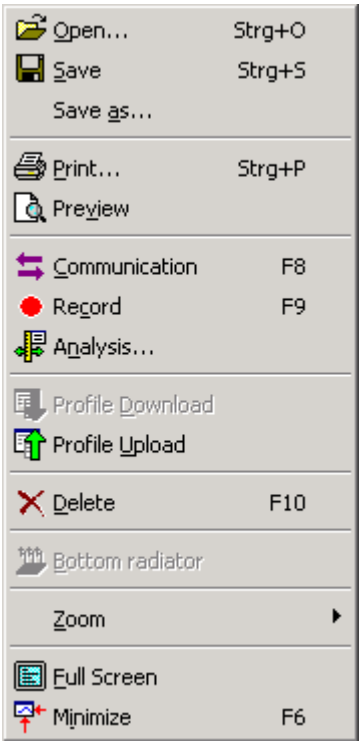
4.4.2.7. Record start options

The start options for recording of process parameters can be modified in this index. The recording has not to be started manually by the operator. The software delivers the following choices:
By swing in of the top radiator; starts recording when the top radiator reaches its working position.
When Tinit is reached: Starts recording when the sensor detects the temperature Tinit during rising temperatures.
No auto start function activation; Manual recording start.



4.4.3. The pop up menu of IRSoft view

In the IRSoft view, when a profile is displayed pressing the right mouse button can activate a pop up menu.



Here the most important functions of IRSoft are summarized and sorted by their function.

The toolbars of IRSoft

4.4.4. The hotkeys of the main view

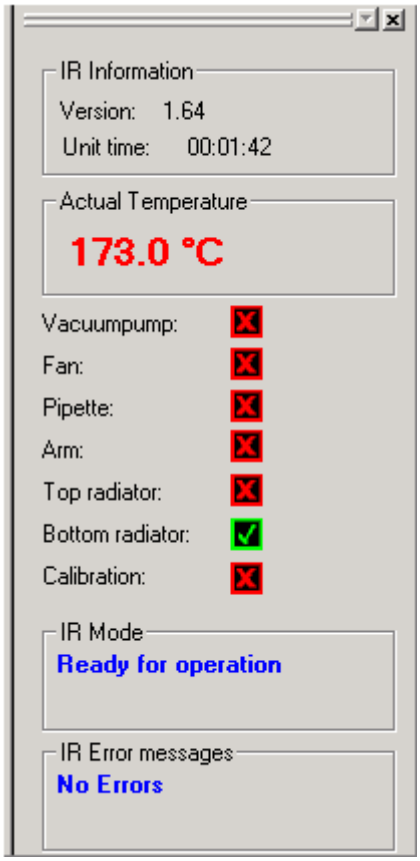
Functions that are used very often can be activated by keys of the keyboard. IRSoft contains the following hotkeys:

F2	show / hide operator defined input window
F3	show / hide state window
F5	hide operator defined input window and state window
F6	minimized view on / off
F8	communication on / off
F9	start recording
F10	delete recording

The toolbars of IRSoft

4.5. The state window of IRSoft

The State window contains the actual online state of the connected IR 550 A. It can be shown or hided by pressing a hotkey or the corresponding button in the toolbar. (*The hotkeys of the main view*).



Messages and the display of the actual mode are shown as well as the calibrated temperature from the IR 550 A system (*Depict able channels*).

4.6. The operator defined input window of IRSoft

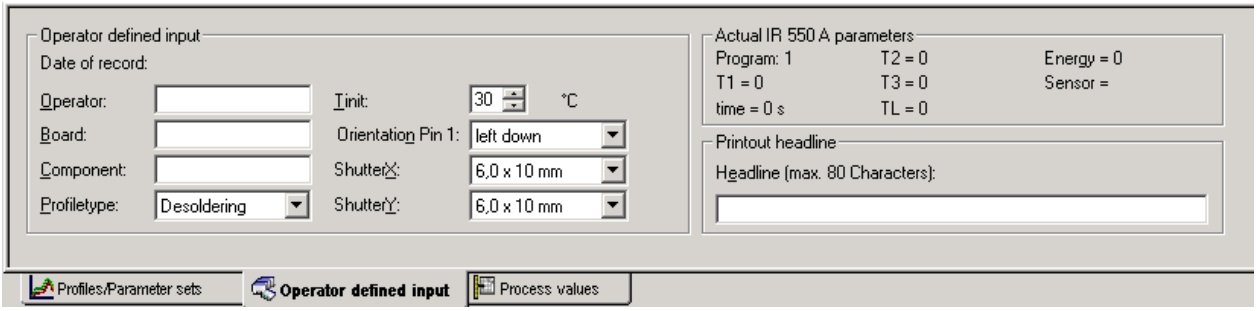
The operator defined input window contains all information belonging to parameters of temperature profiles. The window can be shown or hidden by pressing a hotkey or the corresponding button in the toolbar. (*The hotkeys of the* main view).

The parameter view

The value table
The profile table

4.6.1. The parameter view

The parameter view of the operator defined input window is activated with the first index “Operator defined input”.



The user is able to edit the actual board and the correlated component, the profile type, the orientation of the component and the shutter settings. On the right side the actual parameters of the selected program of the IR 550 A unit are displayed. This information is automatically updated; changes on the IR unit are possible all the time. In this view the user gets quick information about the units parameter set.
The parameters T1, T2 und T3 can be shown as reference lines. To do this refer to Settings of main view.

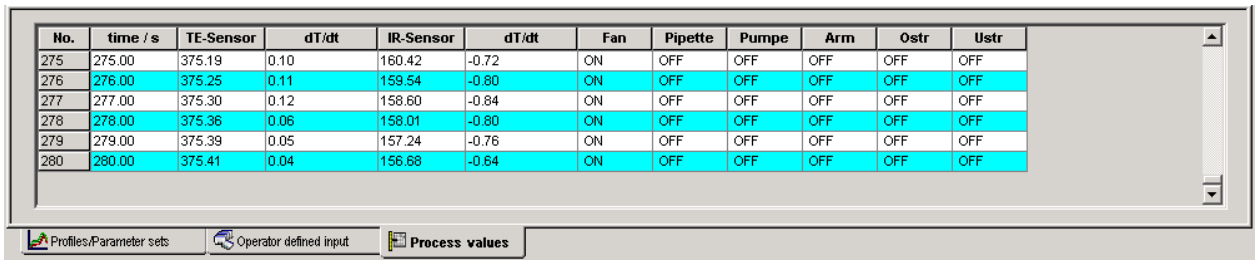
Download of parameter sets
Upload of profile parameters

4.6.2. The parameter Tinit

Tinit is the initial temperature for the soldering process. Tinit is a virtual parameter and not influencing the real temperature curve. Tinit has been created to define a fixed temperature for the process’ start and the beginning of recording. If Tinit is the same for every single process on the same type of board, the soldering results will be very precisely comparable. The recorded profiles will differ very little. Tinit marks the temperature, when the soldering process should be started by swinging in the top radiator of the IR 550 A.

4.6.3. The value table

In the value table (Process values) all recorded values are listed.



No.	time / s	TE-Sensor	dT/dt	IR-Sensor	dT/dt	Fan	Pipette	Pumpe	Arm	Ostr	Ustr
275	275.00	375.19	0.10	160.42	-0.72	ON	OFF	OFF	OFF	OFF	OFF
276	276.00	375.25	0.11	159.54	-0.80	ON	OFF	OFF	OFF	OFF	OFF
277	277.00	375.30	0.12	158.60	-0.84	ON	OFF	OFF	OFF	OFF	OFF
278	278.00	375.36	0.06	158.01	-0.80	ON	OFF	OFF	OFF	OFF	OFF
279	279.00	375.39	0.05	157.24	-0.76	ON	OFF	OFF	OFF	OFF	OFF
280	280.00	375.41	0.04	156.68	-0.64	ON	OFF	OFF	OFF	OFF	OFF

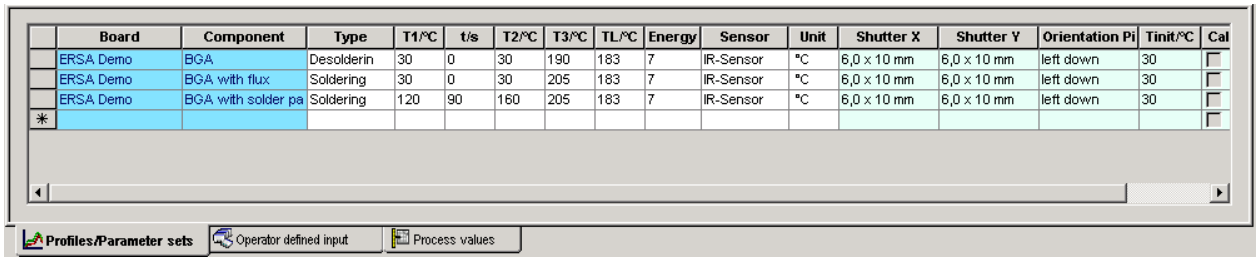
Profiles/Parameter sets | Operator defined input | **Process values**

All values of the activated channels are shown. But although some channels may not be selected for depiction, all values and parameters will be listed. The shown values can be exported by pressing the  button to an Excel format. The filename can be selected freely.

Recording
Save recording

4.6.4. The profile table

To receive repeatable soldering and desoldering results every single set of profile parameters can be stored in the profile table. A set of parameters can be easily transferred to the connected IR 550 A unit in order to use the same parameters for the same soldering application.



Board	Component	Type	T1/°C	t/s	T2/°C	T3/°C	TL/°C	Energy	Sensor	Unit	Shutter X	Shutter Y	Orientation Pi	Tinit/°C	Cal
ERSA Demo	BGA	Desolderin	30	0	30	190	183	7	IR-Sensor	°C	6,0 x 10 mm	6,0 x 10 mm	left down	30	
ERSA Demo	BGA with flux	Soldering	30	0	30	205	183	7	IR-Sensor	°C	6,0 x 10 mm	6,0 x 10 mm	left down	30	
ERSA Demo	BGA with solder pa	Soldering	120	90	160	205	183	7	IR-Sensor	°C	6,0 x 10 mm	6,0 x 10 mm	left down	30	

Profiles/Parameter sets | Operator defined input | Process values

A certain set of parameters can be correlated to a specific application, defined by the board and the component. Moreover it is possible to define a profile to be used for soldering or desoldering a component.
At the same time orientation of pin 1 and the settings for the shutter system and Tinit can be modified.
In the 'Cal.' Column the operator gets the indication wether a calibration value has been stored or not. The calibration value itself cannot be changed. It will be transferred to IRSoft by uploading from the IR 550 A system.

4.6.5. Working with the profile table

To edit data in the profile table the cursor is set to the cell you want to edit information. If you want to create a new set of parameters you have to place the cursor in the last line (*). You can edit the data by usage of your keyboard or select values by the use of the arrow buttons appearing in certain cells.

Important: Data input will be stored if the cursor leaves the actual line again!!! Do not miss to leave the line after you edited a new data set.
All profiles can be changed! By double clicking to the header the list of parameter sets can be sorted e.g. by board or component.

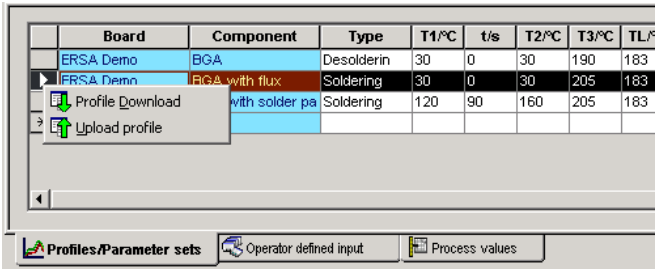
By marking one or more lines and pressing the Del (delete) key the marked parameter sets will be erased. By Marking a complete line and pressing the combination CTRL+C you can copy a complete line. To paste the complete line you have to click the first cell and then press the combination CTRL+V.
In order to protect your data, you should always make a copy of the file containing this information (IRProfil.csv).

4.6.6. The pop up menu of the profile table

The profile/parameter sets table contains a pop up menu to enable easy download and upload of profile parameters to the IR 550 A system.

4.6.7. Download of parameter sets

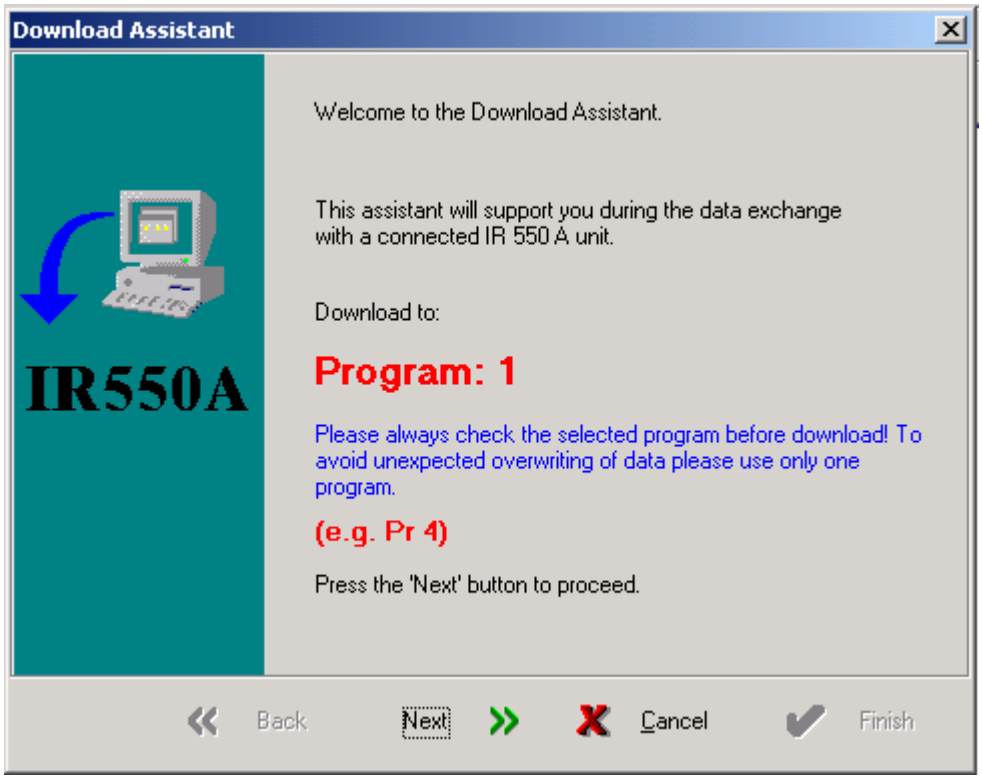
To download a set of parameters the user has to mark a certain line in the profile table. Then he has to choose the download function by pressing the button. The parameters will be downloaded to the IR 550 A system. This button is only active when the communication to the IR 550 A is set up and the machine is not running any profile.
Alternatively the user can choose the pop up menu of the profile table by clicking the right mouse button after marking the set of parameters for download.



Working with the profile table
Upload of profile parameters

4.6.8. The Download Assistant

To download a profile an assistant will guide the operator. The assistant will ask for necessary or optional inputs and runs the download to the IR 550 A.



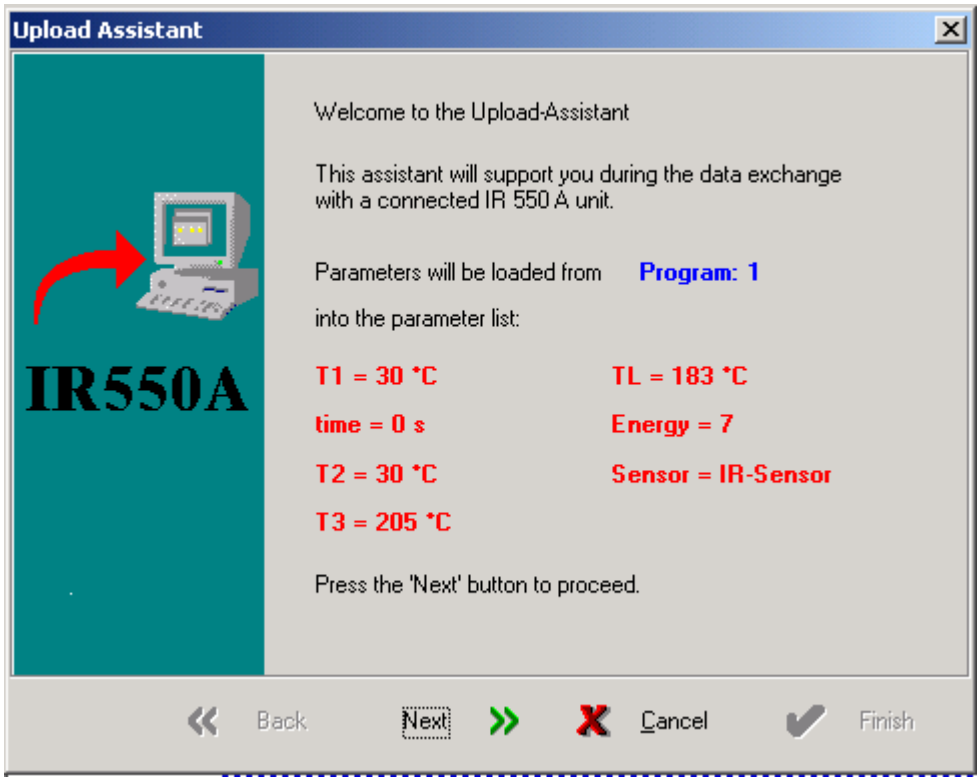
By pressing the 'Next' button all necessary steps will be carried out and checked. In the last view of the assistant you have to press the 'Finish' button and the download will take place.
If the operator follows all hints of the assistant the best possible repeatability of the process will be realized.

4.6.9. Upload of profile parameters

During upload the actual parameter set of the IR 550 A unit are transferred to the profile table within IRSoft on your computer system. For upload you have to press the button in the toolbar or in the pop up menu. (*The main toolbar* and *Download of parameter sets*). If there is no data edited in the cells board and „component“, these cells remain empty (*The parameter view*). This information can be added later without any problems.

4.6.10. The Upload Assistant

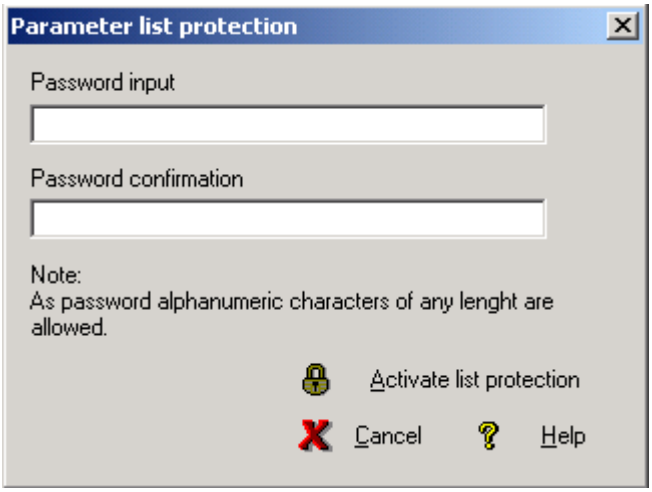
To upload a profile from the IR 550 A or out of a loaded file into the profile/parameter set table the operator will be guided by an assistant, too. The assistant will inform about all parameters the operator is going to upload.



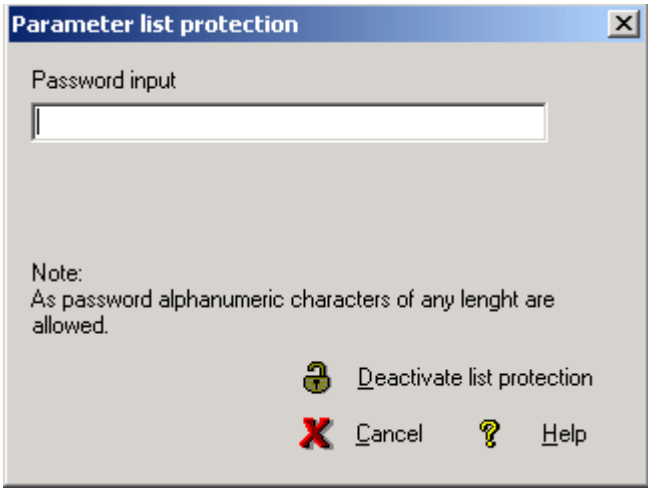
By pressing the 'Next' button all necessary steps will be carried out and checked. In the last view of the assistant you have to press the 'Finish' button and the upload will take place.
If the operator likes to modify the uploaded parameters, this is possible at any time after uploading. Make sure the parameter set table is not protected by a password before uploading.

4.6.11. Parameter list protection

To avoid unauthorized modification or erase of the parameter sets stored in the profile/parameter sets table this list can be protected. The list can be locked for changes by setting a password.
The menu *'Extras->Parameter list protection...*' the according dialogue will be opened.



As password the operator can choose any combination of alphanumerical characters. To activate the protection you have to press the *'Activate list protection*' button. Now changes on the parameter sets list are not stored.
To inactivate the password protection, the dialogue has to be opened again.



By typing in the correct password and pressing the *'Deactivate list protection* ' button the protection will be deactivated. The parameter set table can now be changed.

4.6.12. Storage of profile parameters

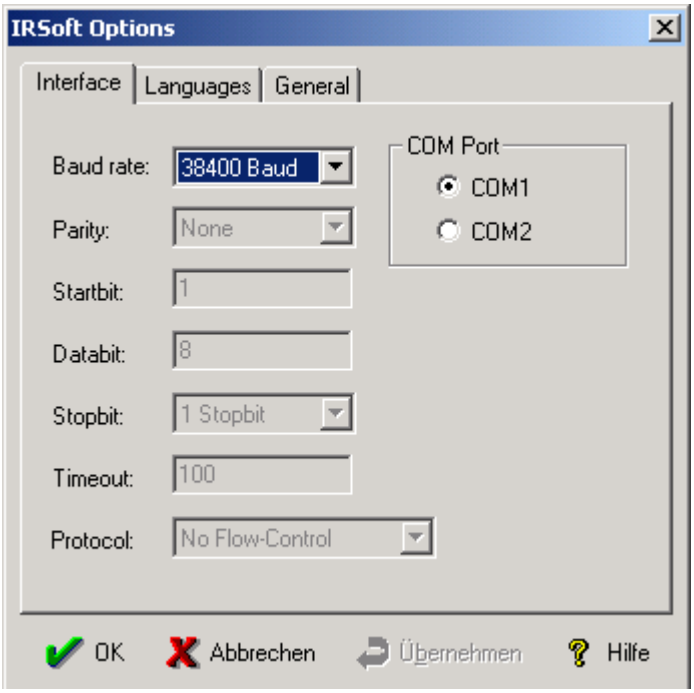
The edited profile parameter sets will be saved in a file called "IRProfil.csv". This file is located in the installation directory of IRSoft. If the user wants to protect his edited data against loss, it is sufficient to make a safety copy of this file. If data gets lost because of erased lines in the profile table, he can easily copy this file back to the installation directory.

Attention:
The file "IRProfil.csv" should never be edited manually within any other software application. All data can be lost!!!

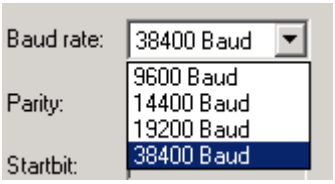
5. Working with IRSoft

5.1. Set up communication

After starting IRSoft the communication to a connected IR 550 A system can be activated by pressing the  button. If an error message occurs you have to check the connection to the IR 550 A. Maybe the wrong COM port is selected. Press the  button to open the dialogue for setting up the interface.



In this dialogue the transmission parameters of the selected COM port are displayed. The user can modify them. The user has the possibility to choose the COM port the null modem cable is connected to and set the baud rate.



It is recommended to set the baud rate to 38400 Baud. If communication problems should occur you should reduce the baud rate.

Note:
The setting of the baud rate is possible with firmware Version 1.63 at the IR 550 A unit. The actual version of the IR 550 A firmware is shown in the state window.

5.2. Control via state window

After the communication has been set up, the state of the connected IR 550 A system is displayed online in the state window.

The state window of IRSoft

5.3. Recording

To record and display temperature profiles all settings have to be arranged as described earlier. The scales for temperature and time should to be selected. These parameters can also be changed during recording. The temperature graphs will be updated automatically.
Now choose the temperature channels you want to record. Then select the sampling rate. If you want to see reference lines for the parameters T1, T2, und T3 you can select them now.
Additionally the process parameters will be displayed as bar graphs. It will be recorded when the top and the bottom radiator were switched on or when the fan or the pump have been activated. This will document the soldering process in the best possible way.
The description of these settings you will find at *Settings of main view.*

5.3.1. Automatic recording

There are three possible ways to start the recording of process profiles. In any case pressing the recording button  will start the recording. Additionally the operator can chose automatic recording functions. He can select either the automatic recording start, when the top radiator reaches its working position or recording will start automatically, when Tinit is reached during a heat up phase. The configuration can be selected in *Record start options* (see also The parameter Tinit).

5.4. Save recording

After a temperature profile has been recorded it can be saved on hard disk. All parameters, values and the sample rate will be stored in one document. If you open this file again you will find all the information again and it is possible to display, analyse and print the recording (*The main* toolbar).

5.5. Print profiles

During printing of the actually displayed temperature profile will be send to the system printer. Additionally all parameters of the actual profile will be added. Name of the operator date and board and component information also will be printed. By changing scales or adding reference lines an optimised printing of every single channel is possible (*The main toolbar*). In addition all analysis information will be printed, when the analysis function is active (see also The analysis toolbar).

5.6. Download and upload of profile parameters

During download or upload, sets of parameters are transmitted between IRSoft and the connected IR 550 A. A detailed description of these processes you will find in the following sections: *The pop up menu of the profile table*, *Download of parameter sets* and *Upload of profile parameters.*
For uploading and downloading process parameters, IRSoft offers two assistants. Thy make the use of these functions easy and guarantee a high repeatability of the processes. (see also The Download Assistant and The Upload Assistant).

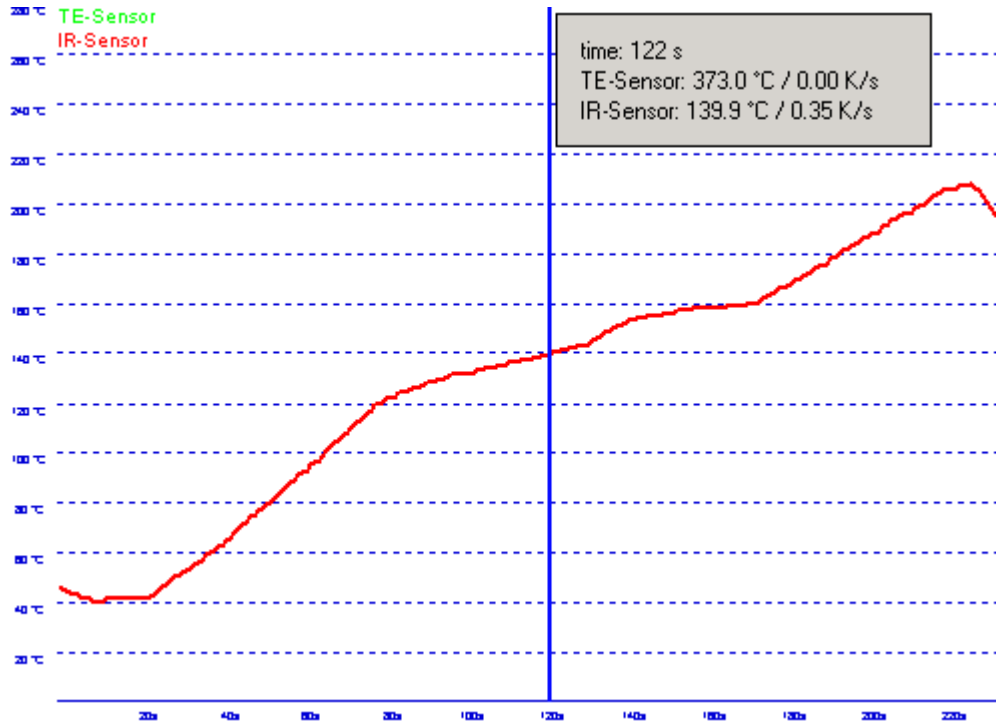
6. Analysis functions

6.1. Description of the analysis functions

The analysis functions within IRSoft are a very helpful tool. It is possible to follow the temperature and the temperature gradient throughout a recorded profile very easily. The values will be displayed online while moving the analysis cursor over the graph. Additionally analysis dots can be set at any point of time and will be marked on the screen. These analysis dots will be stored and printed out together with the values of temperature and temperature gradient.

6.2. Activating Analysis Cursor

Via this button a vertical bar will be inserted to the recorded profile in the main view of IRSoft. In a small box the actual profile data will be displayed online.



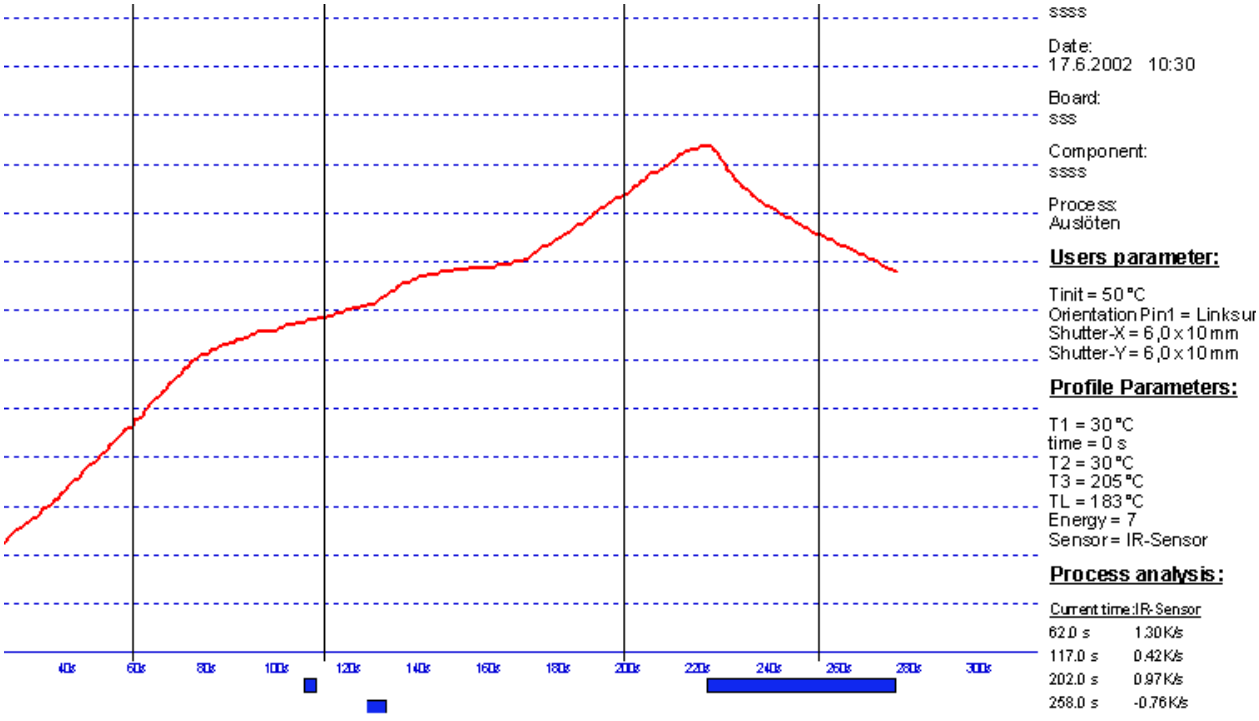
6.3. Moving the analysis cursor

After the cursor has been activated it can be moved over the complete recording period. At any point of time the corresponding temperature of the selected sensors and the temperature gradients will be shown on the screen.
To move the cursor you have to click with the left mouse key to any point of interest within the main view. Now the analysis cursor is fixed to the mouse cursor. By moving the mouse over the temperature profile, also the analysis cursor will follow this way and display the values.
To end this procedure you have to click for a second time the left mouse key at any position within this window. Now the analysis cursor stays fixed to one point again.

Note:
Is the analysis cursor active during recording of a profile it will move automatically with every new-recorded value. Manual movement of the cursor is not possible during recording.

6.4. Setting analysis dots

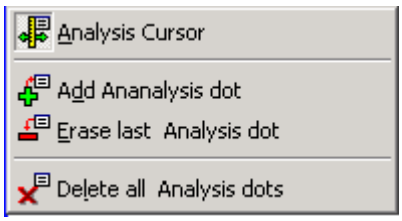
The analysis function not only allows to display temperature values during or after recording. It also allows marking four selected points of time and analysing the temperature profile by the use of this analysis dots. The user can select four points of interest and set the analysis dots. The values of these dots will be displayed and printed out together with the temperature profile.



To set and erase the analysis dots IRSoft offers three functions:

- ➔ set analysis dot
- ➔ erase last analysis dot
- ➔ erase all analysis dots

These functions are available over the analysis pop up menu. The analysis cursor has to be activated. With the left mouse key the movement of the cursor has to be activated. If the operator now is pressing the right mouse key the pop up menu of the analysis function is opening.

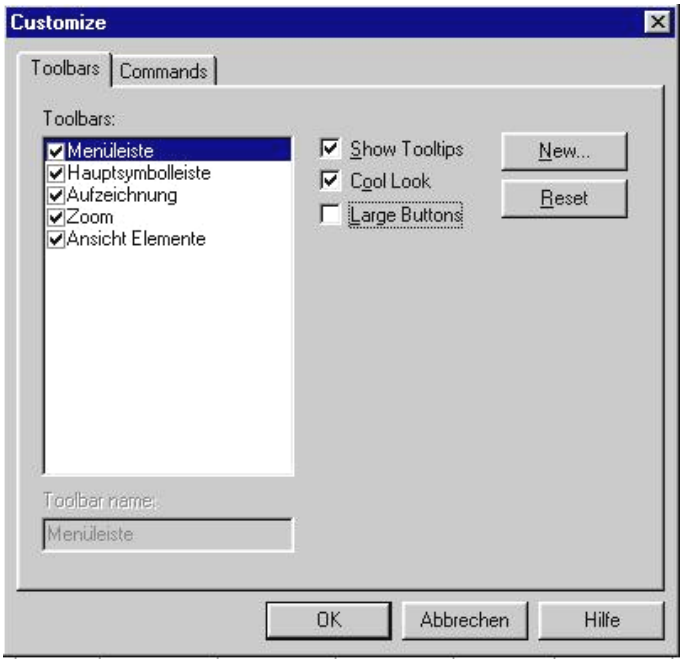


7. Adaption of IRSoft

7.1. Adaption and creating of toolbars

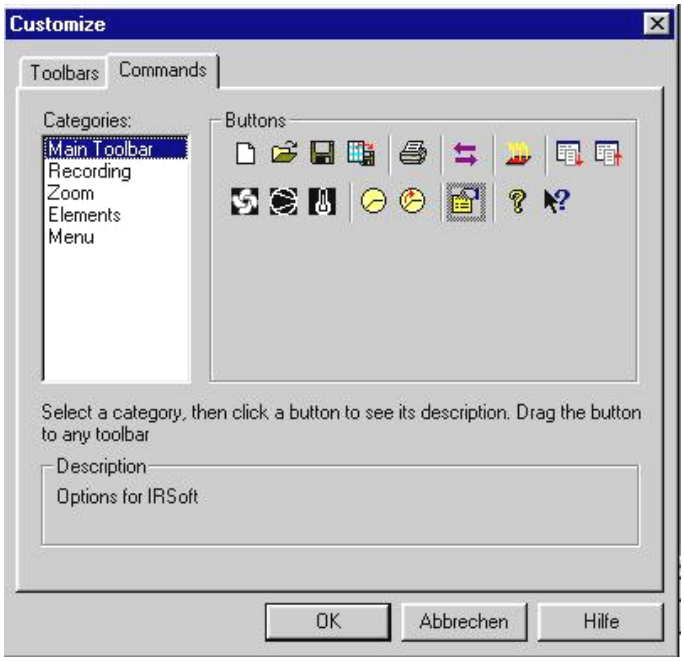
IRSoft allows the user to adapt the toolbars to his individual preferences. You can decide which buttons will be displayed in which toolbar on which position.

IRSoft allows adaption of existing toolbars and creation of new toolbars. You have to use the dialogue **Customize**. This dialogue is opened via menu bar **Extras -> Settings...**.



In the list of toolbars all existing toolbars are shown. Via the check box in this list every single toolbar can be selected to be shown or hidden. Using the button **New** the user can define new toolbars. Using the **Reset** button all toolbars can be reset to their original appearance. All user-defined toolbars will be deleted by with this operation.

On the second side of the dialogue all available commands can be found, sorted by categories.



The user can modify the actual toolbars by drag and drop of a selected command button to a certain toolbar. This operation is working vice versa. A command button can be erased from a toolbar by drag and drop. This operation is also working when the dialogue customize is not open. You have to press the ALT key and keep it pressed during drag and drop the command buttons out of the toolbar.

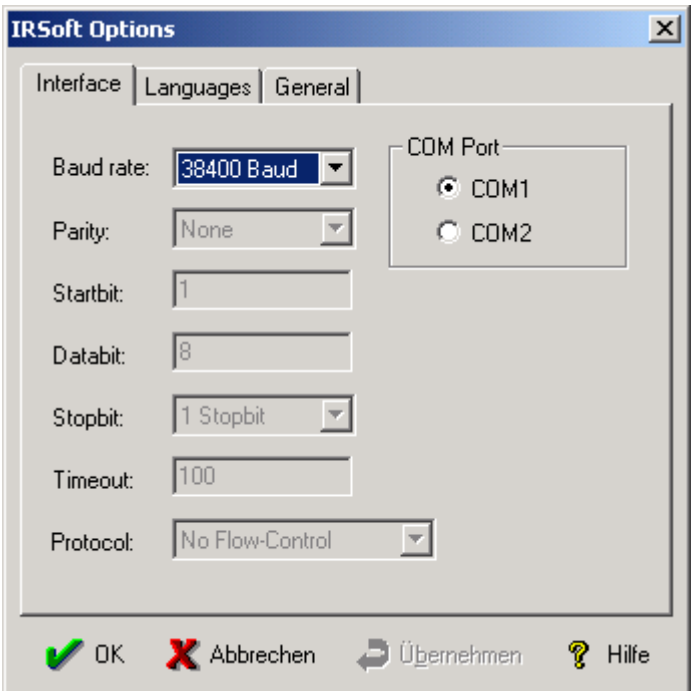
The toolbars of IRSoft

7.2. Setting of options

IRSoft includes some application specific options. They are located in the dialogue IRSoft Options. You can open this dialogue via menu **Extras -> Options** .
You can change the interface parameters as well as the actual language for the software.

7.2.1. Interface settings

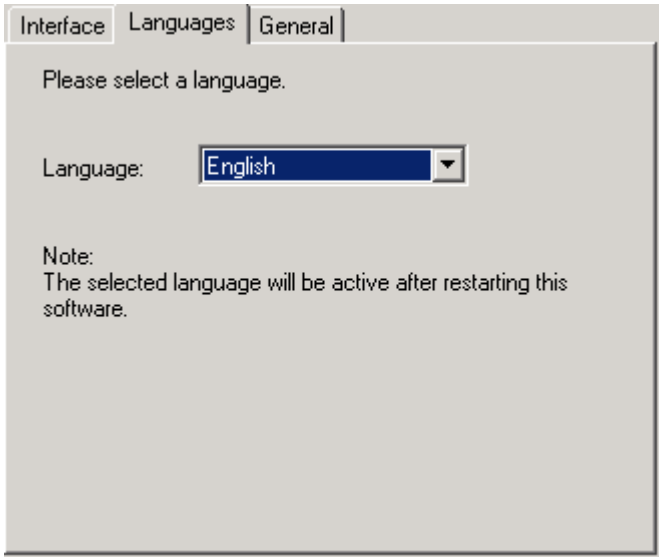
This dialogue shows the user information about the selected COM port and allows him to choose an alternative port and select the baud rate.



Set up communication

7.2.2. Language setting

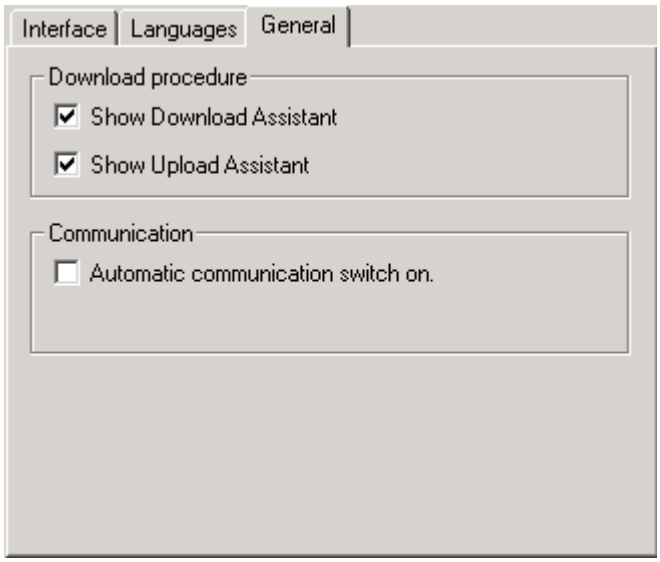
IRSoft allows the user to select a language. At the moment German and English are implemented.



After selecting a new language the dialogue has to be closed and the application has to be restarted.

7.2.3. General Settings

In the general setting the operator can choose if upload or download assistant are active or not.
As a further option he can select if the communication to the connected IR 550 A unit should be activated automatically by starting IRSoft or not.



8. Deinstallation of IRSoft

8.1. How to uninstall

To uninstall IRSoft from your computer system please execute the following steps.

Open the system settings of your windows system (ICON on the desk top or via Start->Settings->system setup).
Double click to the symbol Software. Search for „IRSoft“ in the displayed list and select this entry. Press on the button add/delete. Follow the hints of the deinstallation wizard.

9. Contact to ERSA

9.1. Ways of contact

For quick information about the product range of ERSA please contact our homepage:

www.ersa.de

or

www.ersa.com

If you have additional questions regarding IRSoft, please send an E-Mail to the following address:

service.tools@ersa.de

or

info@ersa.de

10. Glossary

10.1. Unknown words

docking window	window with the ability to dock to the structure of the main application window.
flying window	see docking window, when a window is not docked to the application main window it can be moved freely over the complete screen.
Hotkey	combination of keys to control a software application
Icon	symbol for a PC application
pop up menu	menu occurring by a certain action (e.g. click of the right mouse button)
Zoom	modification of the displayed size of an object

11. Index