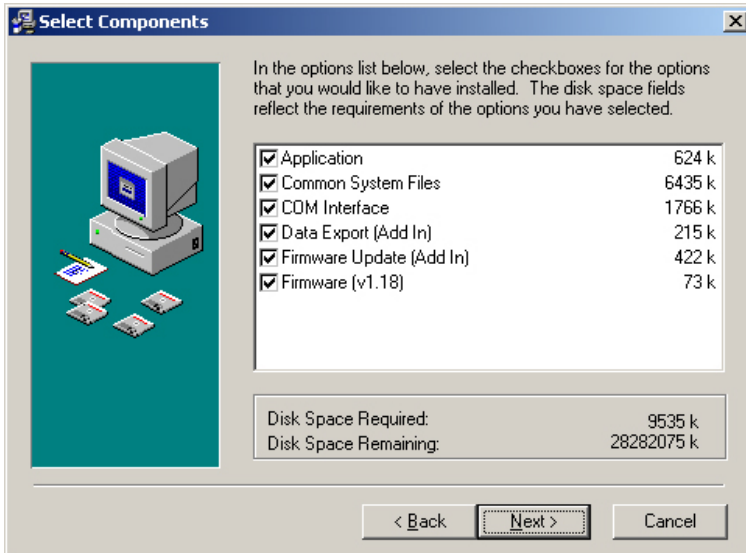


19. RetroTools (PC Software)

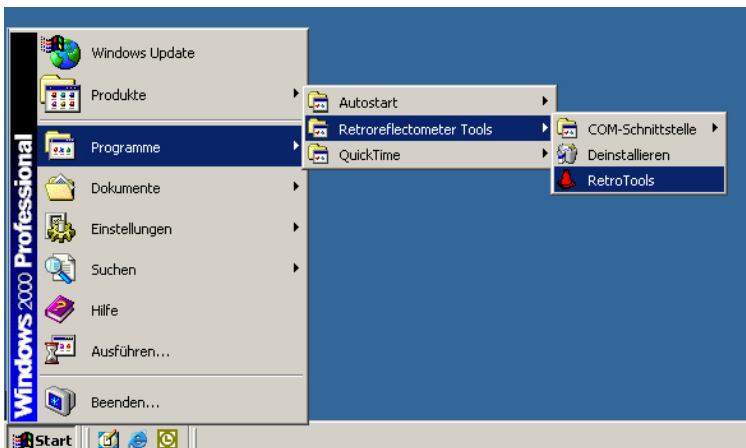
19.1 Installation

Put RetroTools CD in CD-ROM and start up the Setup-Program „Retrotools.exe“. Please follow the installation instructions and install all options:



19.2 Program start

In the menu „Start“, „Programs“ you find „Retroreflectometer Tools“ the „RetroTools“ program can be started here.



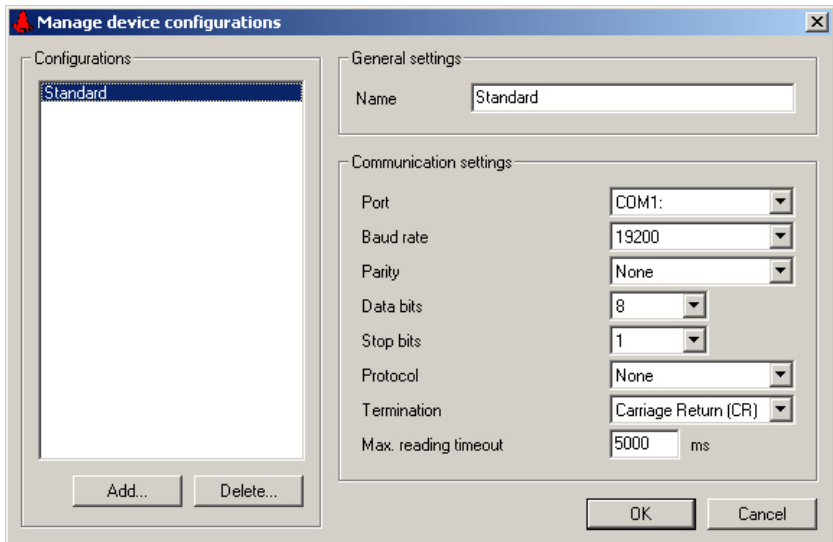
19.3 Main program

19.3.1 Choose language

Under „Extras“ and then „Options“ or directly with the F9 button the language can be changed.


19.3.2 Connection configuration

In the menu “File” and then “Connection configuration...” or with the direct button F7 the connection options can be called. The standard settings are as follows:




19.3.3 Connection set up

Before a connection to the device is possible the COM cable of the PC (Standard COM1 Port) has to be connected to the ZRM 6013 (Port PC) (see “System diagram” on page 52). Further the device must be switched on.

Under „File“ -> „open connection“ or with the Direct-icon  the connection to the device opens. This will be shown in the bottom information field:

 Not connected

Shows up when there is no connection.

 Connected to 371013xxx

If connected the serial number of the device will be shown.

19.4 Plug-Ins / Add-Ins

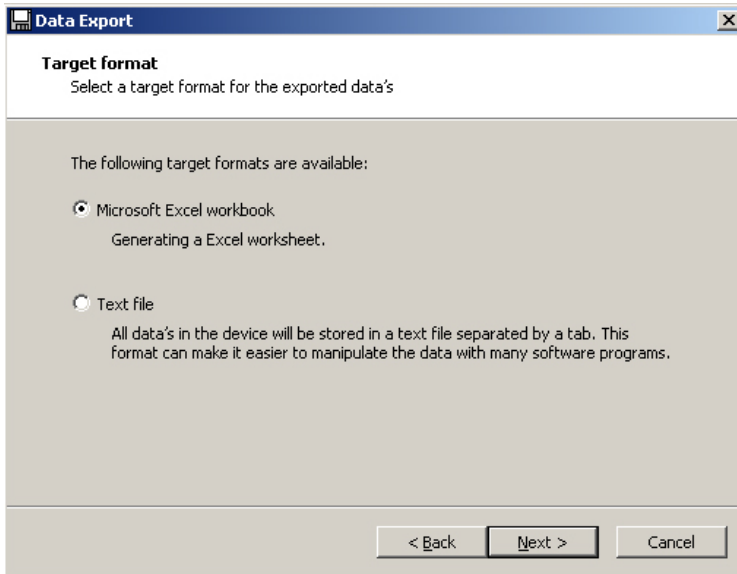
19.4.1 Data Export

- To start up Data Export the corresponding icon has to be double clicked.

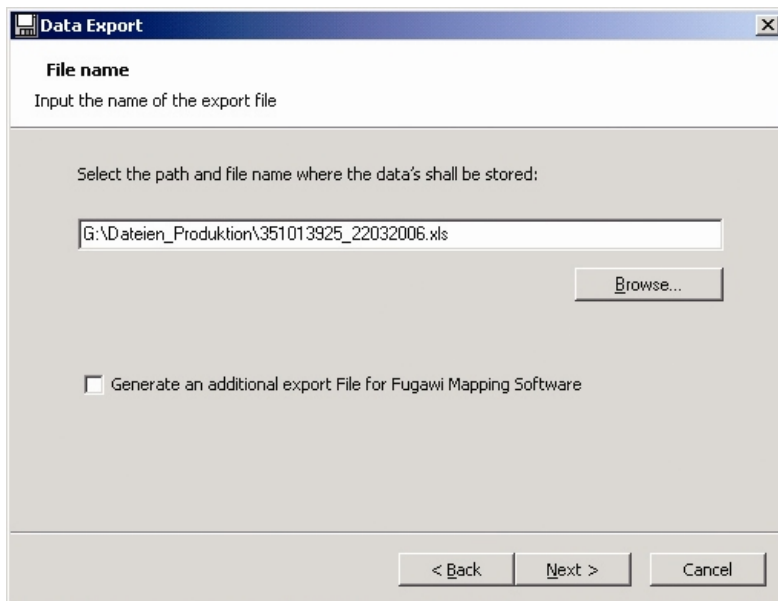


Data Export

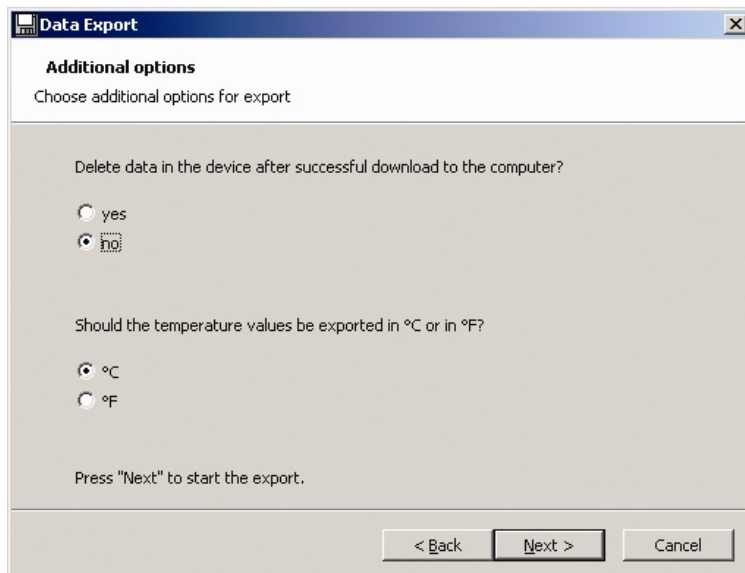
- Data Export can be made as a Text file (.txt) and as an Excel file (.xls). Please choose the needed file format, this must be confirmed with the Next button.



- Thereon the path where the data has to be saved must be indicated as well as the name of the file.
For example. c:\Programs\RetroTools\14122002_measurements.xls
This must be confirmed with the Next button again.
- If you wish to import the data into Fugawi Mapping Software, you have to choose "Generate an additional file for Fugawi Mapping Software".
- Confirm with Next button.



- Subsequently, it can be chosen if the exported data from the data bank of the ZRM 6013 should be erased or not as well as if the temperature indication should be in Celsius or Fahrenheit.

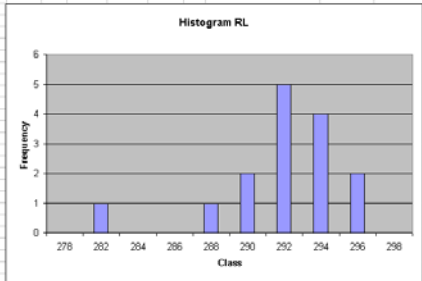
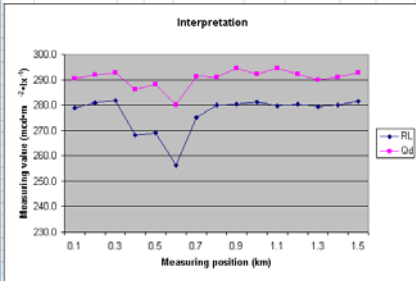


- This must be confirmed with the Next button again.
- After the export the file can be opened automatically.

The measuring data is now stored in the indicated data list.

The data can be used for making some analyses. The Excel-export file is very useful for this (see sample below).

Record	Date	Qd	RL	Average	Counter	Location	Street	Remark	Operator	RM	Section	Line	Direction	Standard	Temp °C	rh	Coordinates	Device	Serial Number
1	15.03.2006 16:10:32	276.9	290.4	2		Hoelstein	Bennwilerstr.	OK	Peter	0.1	1	Rand	Nord	Factory	10	60%	N 47 4243885 O 7 7693015	ZRM-01 2.00	406013999
2	15.03.2006 16:12:10	280.9	291.9	2		Hoelstein	Bennwilerstr.	OK	Peter	0.2	1	Rand	Nord	Factory	10	60%	N 47 4236413 O 7 7701881	ZRM-01 2.00	406013999
3	15.03.2006 16:13:40	281.7	292.9	2		Hoelstein	Bennwilerstr.	OK	Peter	0.2	1	Rand	Nord	Factory	10	60%	N 47 4243885 O 7 7693016	ZRM-01 2.00	406013999
4	15.03.2006 16:15:26	260.3	285.1	2		Hoelstein	Bennwilerstr.	OK	Peter	0.4	1	Rand	Nord	Factory	10	60%	N 47 4236413 O 7 7701882	ZRM-01 2.00	406013999
5	15.03.2006 16:17:04	269.1	288.2	2		Hoelstein	Bennwilerstr.	OK	Peter	0.5	1	Rand	Nord	Factory	10	60%	N 47 4243885 O 7 7693017	ZRM-01 2.00	406013999
6	15.03.2006 16:18:42	256.3	280.1	2		Hoelstein	Bennwilerstr.	OK	Peter	0.6	1	Rand	Nord	Factory	10	61%	N 47 4236413 O 7 7701883	ZRM-01 2.00	406013999
7	15.03.2006 16:20:20	275.2	291.2	2		Hoelstein	Bennwilerstr.	OK	Peter	0.7	1	Rand	Nord	Factory	10	61%	N 47 4243885 O 7 7693018	ZRM-01 2.00	406013999
8	15.03.2006 16:21:58	280.1	290.9	2		Hoelstein	Bennwilerstr.	OK	Peter	0.8	1	Rand	Nord	Factory	10	61%	N 47 4236413 O 7 7701884	ZRM-01 2.00	406013999
9	15.03.2006 16:23:36	280.4	294.6	2		Hoelstein	Bennwilerstr.	OK	Peter	0.9	1	Rand	Nord	Factory	11	61%	N 47 4243885 O 7 7693019	ZRM-01 2.00	406013999
10	15.03.2006 16:25:14	281.2	292.1	2		Hoelstein	Bennwilerstr.	OK	Peter	1	1	Rand	Nord	Factory	11	61%	N 47 4236413 O 7 7701885	ZRM-01 2.00	406013999
11	15.03.2006 16:26:52	279.7	294.5	2		Hoelstein	Bennwilerstr.	OK	Peter	1.1	1	Rand	Nord	Factory	11	62%	N 47 4243885 O 7 7693020	ZRM-01 2.00	406013999
12	15.03.2006 16:28:30	280.4	292.1	2		Hoelstein	Bennwilerstr.	OK	Peter	1.2	1	Rand	Nord	Factory	11	62%	N 47 4236413 O 7 7701886	ZRM-01 2.00	406013999
13	15.03.2006 16:30:08	279.4	289.8	2		Hoelstein	Bennwilerstr.	OK	Peter	1.3	1	Rand	Nord	Factory	12	62%	N 47 4243885 O 7 7693021	ZRM-01 2.00	406013999
14	15.03.2006 16:31:46	280.1	291.1	2		Hoelstein	Bennwilerstr.	OK	Peter	1.4	1	Rand	Nord	Factory	12	62%	N 47 4236413 O 7 7701887	ZRM-01 2.00	406013999
15	15.03.2006 16:33:24	281.4	292.8	2		Hoelstein	Bennwilerstr.	OK	Peter	1.5	1	Rand	Nord	Factory	12	62%	N 47 4243885 O 7 7693022	ZRM-01 2.00	406013999



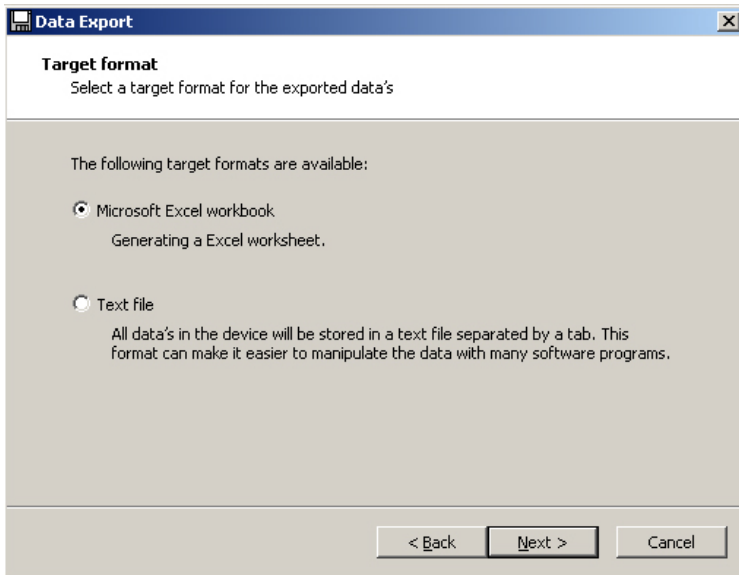
19.4.2 Firmware update

To start up the Firmware update the corresponding icon has to be double clicked.



Firmware-Update

After that , 2 different Update possibilities can be chosen:



19.4.3 Use the existing version

With this option the latest firmware file of the local saved files will be installed. This is displayed above, in this example: ZRM-D1 1.18

19.4.4 Select another firmware file

With this option a file can be chosen and installed from all local saved files. This allows installing an older version of the firmware if needed.

After choosing the option the firmware will be saved automatically and the device will be restarted, afterwards the firmware update can be closed. At the information desk of the ZRM 6013 the installed firmware version will be shown.

19.5 RetroTools Update

The RetroTools software is not updating automatically. New versions can be obtained at Zehntner e.g. on the occasion of the maintenance and calibration.

Before a new version of the RetroTools can be installed, the former version has to be uninstalled.