

Operating Instructions ergoRacer[®] 3.0

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1. Installation and General Information

1.1 First Installation

- Double click the file „ergoRACER_SETUP.exe“.
- Select the drive (e.g. “C:\”) and the directory (e. g. “C:\Programs\”) of your computer where ergoRacer®3.0 should be installed.
- Finally press the Install button. The software starts automatically after finishing the installation process.
- The next time you want to start ergoRacer®3.0 just double click on the file “ERGORACER_30.exe”.
- The program automatically creates extra files (e. g. “DATA”). Do not move, rename or change these folders! These are the data files for ergoRacer®3.0. Delete folder only if you are sure you don't need them anymore.
- This program can run on USB sticks or any other mobile storage devices. No registry entries are created during installation and usage. So you can easily carry the software, including all of your training files, on a portable device such as a USB stick, whenever you go on holiday, vacation or a trainings camp.

1.2 Download from internet

- Go to www.ergomo.net
 - Downloads à PC Software Update à click on “get file”
- Save the zip folder with the new version of ergoRacer® Software on your PC
- Unpack the folder and save the new ERGORACER_30.exe in the same folder like the old *.exe.
- Now you can delete the old ERGORACER_30.exe. Don't do anything with the DATA-folder!!! Inside all your data!

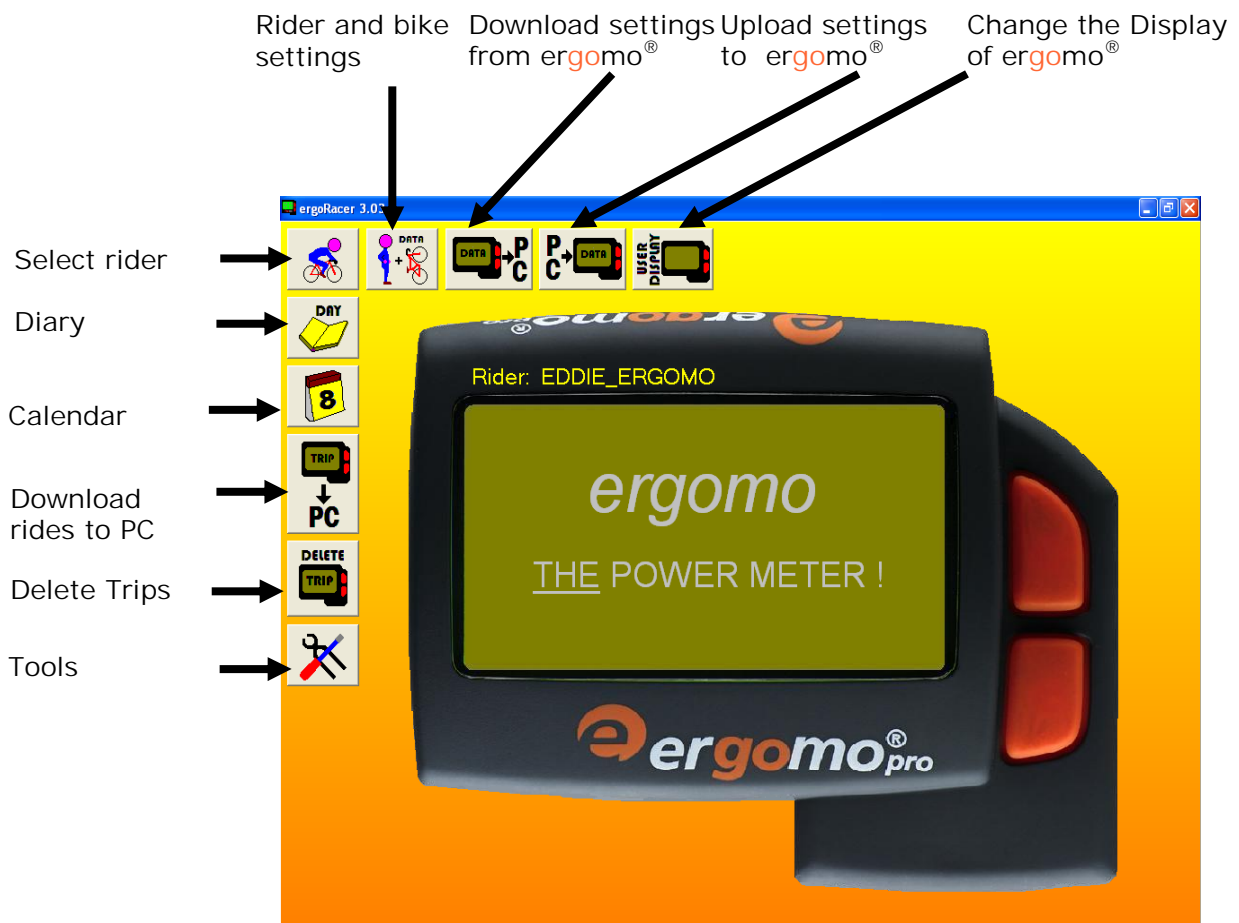
1.3 System requirements

- Recommended PC configuration:
 - CPU: Pentium® 4, 1,6 GHz
 - Memory: 512 MB of RAM
 - Screen resolution: 1024x768, 1280x1024
 - Color settings: 32 Bit
 - Operation systems: Windows® XP or Vista
 - Release: 96 dpi
- Firmware version to be run on the ergomo® computer:
 - ERGOMO_PN_20070831.mot or higher

1.4 General Information

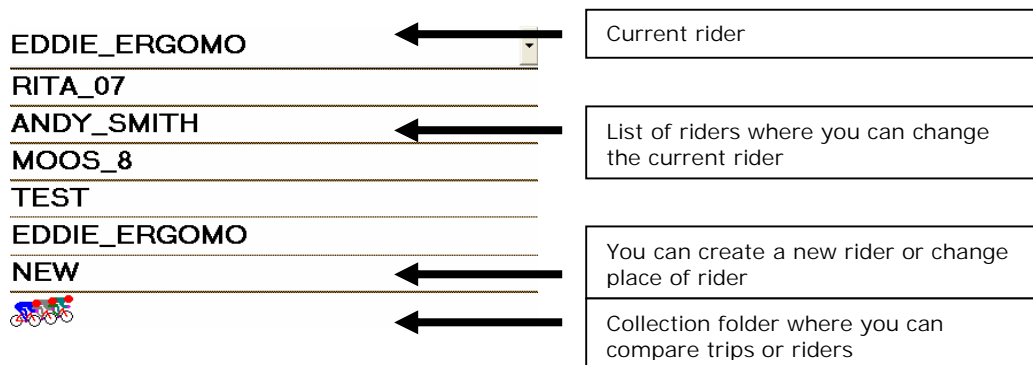
- The memory interval of the ergomo® computer settings should be set to as few seconds as possible in order to get an exact recording of the data.
- Battery: Ni-MH 800 mAh
 - Operating time: ca. 12h
 - Standby time: 2 weeks
 - The battery power will decrease over time
- Help: F5 (instructions for the open window)

2. Main menu



2.1 Select rider

- Input name, weight and threshold power



- Creating a new rider
- Select an existing rider
- Select "Collection" (folder for comparing riders)
- Files and folders will be created by this program. Please do not change or move them!



- Definition of training zones
- Change place: "NEW" à CH"number of place(1-5)"_"name"

CH5__ERGOMO_08

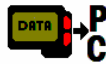
- When one rider is deleted (menu tools), a new rider will take his/her place.



2.2 Rider and bike settings

All ergomo[®] settings can be changed and save on a PC. If a rider is chosen the existing values stored in their profile will be instantly displayed.

Weight	65	KG	Altitude [m]	100
Threshold power [W]	200		Distance	METER , KM
Display power	WATT		Display time	23:59
Data memory [s]	1		Display date	TT.MM:JJ
Rate power	3		Temperature	CELSIUS
Rate HR	Normal			
BIKE 1	OFFSET	1136.6	Accept + save	
K-factor		179	Discard	
Wheelsize [mm]		2133		



- Download settings from ergomo[®]
 - All settings of the ergomo[®] computer (BIKE 1 to BIKE 5) can be download to a PC and displayed on the screen.



- Upload settings to ergomo[®]
 - All settings for BIKE 1 to BIKE 5 can be sent to the ergomo[®] computer.

2.3 Diary



Date / Time	Comment	Comment2	Time	Distance [km]	Speed [km/h]	HR [1/min]	Power 1 [EXC 0 W]	Power 2 [INC 0 W]	NP [W]	RPM
21.10.2007 - 08:20	MB: Waldrunde	MB	01:09:17	23.88	20.6	155	189	173	211	71
22.10.2007 - 15:01	OR, Brandau, Hutzelstraße, Fran	RR	01:11:43	32.49	27.2	156	189	173	202	74
27.10.2007 - 13:21	OR; Lindenfels, Reichelsheim, Gro	RR	02:18:26	64.35	27.9	162	181	171	196	74
28.10.2007 - 09:32	OR; Lindenfels, Reichelsheim, Gro	RR	02:13:59	64.35	28.8	165	189	181	201	74
29.10.2007 - 10:30	Laufstrecke		00:00:00	0.00		0				
31.10.2007 - 14:15	OR, Ernsthofen, Neutsch, Niede	RR	01:29:14	41.07	27.6	163	188	174	204	71
01.11.2007 - 13:26	OR, Ernsthofen, Neutsch, Niede	RR	01:28:39	41.07	27.8	167	184	175	201	73
04.11.2007 - 10:43	OR, Reinheim, Reichelsheim, Linde	CB	02:16:01	63.61	28.0	162	172	166	183	71
05.11.2007 - 09:51	OR, Rohrbach, FBT, Brandau, OR	RR	01:27:43	40.94	28.0	162	191	181	207	73
11.11.2007 - 09:22	Gemeinderunde auf Straße	MB	00:37:30	13.32	21.3	159	181	163	213	71
18.11.2007 - 08:45	OR, Rohrbach, Groß-Bierberau, FRR		02:23:44	65.21	27.2	166	171	164	189	72
24.11.2007 - 09:46	Eberstadt, Pfungstadt, Biebeshe	RR	01:56:24	50.82	26.2	164	163	149	172	72
28.11.2007 - 13:44	OR, Brandau, Hutzelstraße, Nier	RR	01:32:37	40.30	26.1	160	168	156	181	66
06.12.2007 - 10:30	Laufen		00:00:00	0.00		0				
09.12.2007 - 09:31	OR, Ernsthofen, OR (Regen)	CB	01:01:22	27.44	26.8	164	162	157	176	67
07.02.2008 - 07:55	no comment		01:29:14	41.07	27.6	163	188	174	204	71

2.3.1 Select a trip

Left click on the Date/ Time field.

Date/ Time field will then be colored yellow.

2.3.2 Select several trips

Left click (hold) and pull the cursor over the desired Date/ Time fields.

2.3.3 Remove selection

Left click on any field in the line except the Date/ Time cell. This is also available for several trips by holding down the left mouse button and drawing the cursor over the desired Date/ Time fields.

The following functions start without any (yellow) marked Date/ Time fields:

- Trip in numbers
- Trip as graphic
- Sum evaluation of the trip
- Power – Heart rate
- Power – Time

- Runner – Swimmer
- Delete ride.

2.3.4 Edit comments

- Left click opens the Comment window.



- The combined Save/ Close button  at the top right corner of the Comment window saves your changes and will close the window afterwards.
- To see all of the first line, right-click on Comment headline, it will make the whole field bigger.

2.3.5 Writing training schedule

With the function Runner/ Swimmer, you can write a training schedule. Click on the button to fill in the workout (date, time, distance, HR, comment) you have done. Once completed, click on accept.

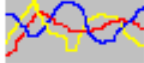
2.3.6 Buttons

Display trip numerically



Trip data is displayed in numbers, see chapter 4, Data correction.

Display trip as a graph



The complete trip is represented as a graph, see chapter 3.1, Analyzing a trip.

Compare two trips on one graph



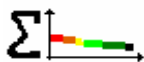
See chapter 3.2, Compare trips.

Analysis



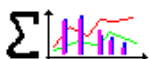
The selected trip is presented as a table, see chapter 3.2.4, Analyzing complete trip.

Statistic of training zones



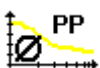
All selected trips will be analyzed by training zones. At least 2 rides must be selected. See also chapter 3.3 Statistic of training zones.

Numerical and statistic graphs



All marked trips (at least two) will be analyzed, see also chapter 3.3, Statistics.

Power Profile



The power will be analyzed with respect to time (Average of max power). A minimum of 1 trip has to be selected.

Send data by e-mail



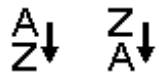
Selected data will be sent by e-mail. Setting: see Tools, chapter 2.7 and chapter 5 for transferring trips.

Select all



All trips are selected (left-click). Click the button again and the selection will be deselected.

Sort



A left-click opens a selection window, allowing a column to be selected and sorted (e. g. Speed, Date, Distance, etc.). You can choose between ascending and descending order by clicking the button with the right mouse button.

Runner/ Swimmer



Insert a training session manually (date, time, duration, distance, average heart rate, temperature and comments).

Delete (X)

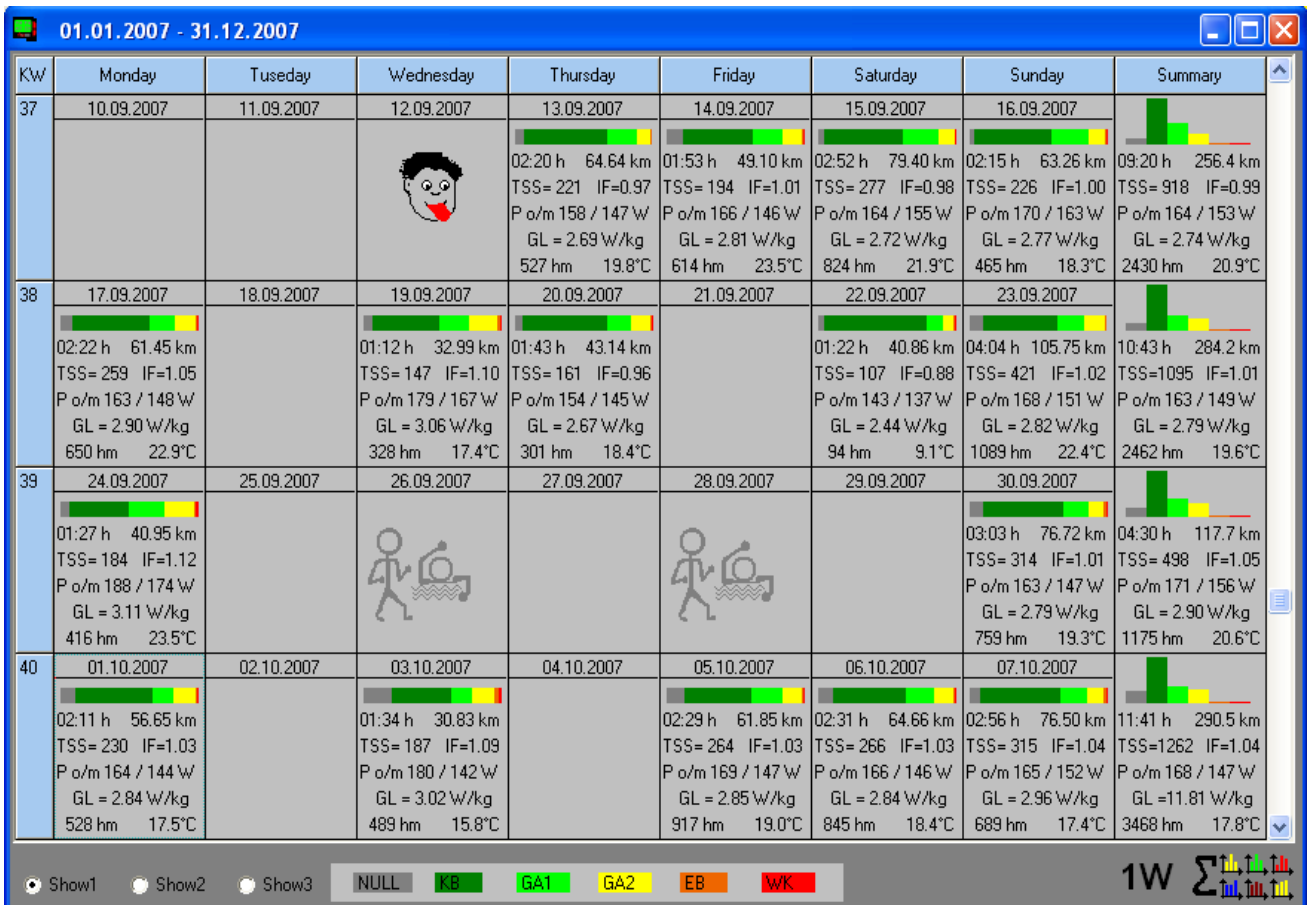


The selected trip/ session will be deleted.

2.3.7 Change the order of the columns in the diary

- To move a column left-click on a column, hold the mouse button and drag to your preferred location.

2.4 Calendar



2.4.1 Views

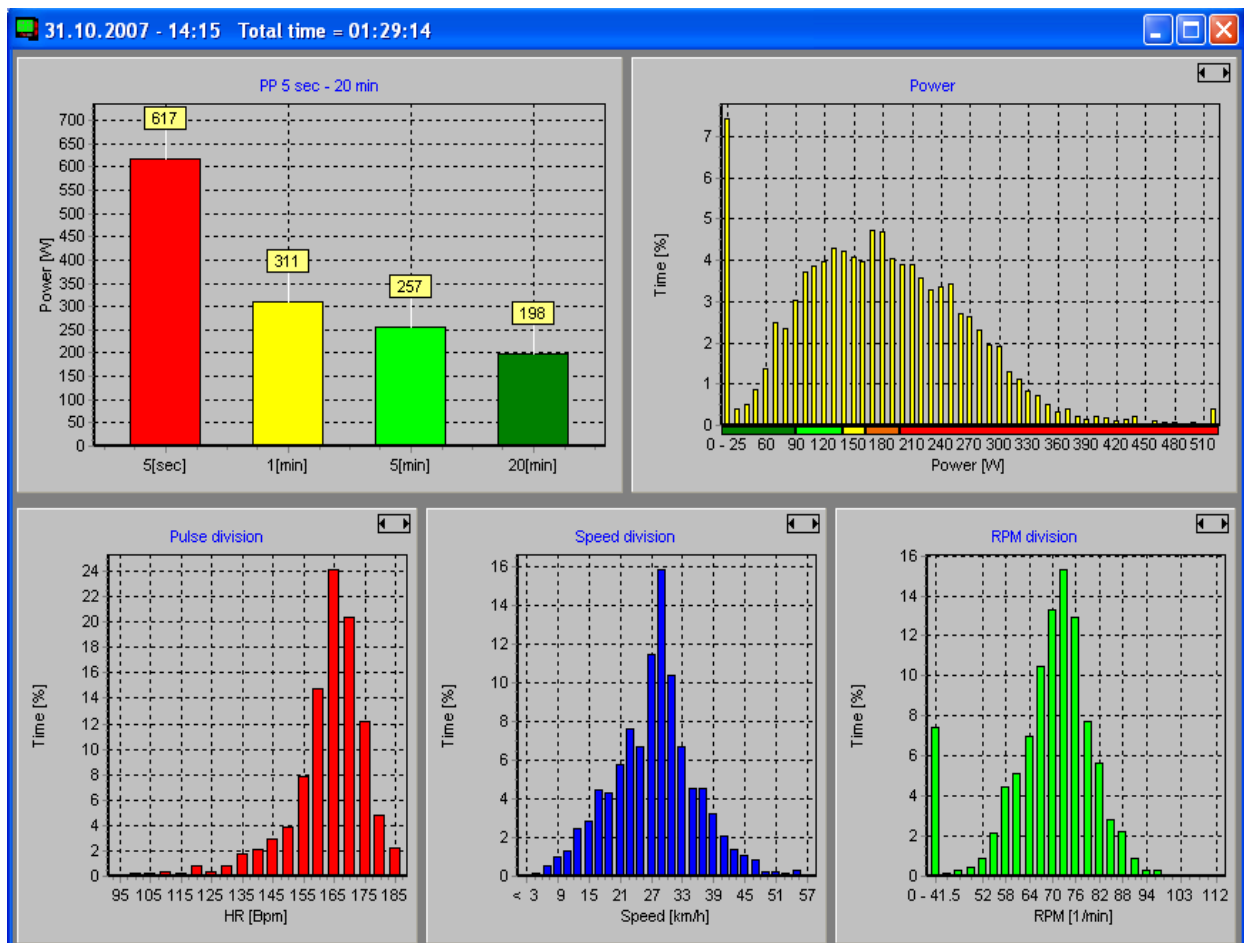
- You have three different views to choose from. To change between the views click on Show1, Show2 or Show3. The setting for the views is in Tools à , see chapter 2.7. In the calendar charts you will see the values set for each day.
- The legend button shows the training zones, which you can view as a daily graph and also in the summary.
- The picture of the Runner/ Swimmer shows that you have filled in a workout manually. By clicking on it you will see the workout in the diary.

2.4.2 View trip in diary

One click in the appropriate part of the calendar will open up the diary and reveal that workout. If you click in the summary of the week area of calendar all the workout for that week will be shown in the diary.

2.4.3 Statistics of days and weeks

Click on the date or on a particular calendar week to open up the statistics of that day or week.



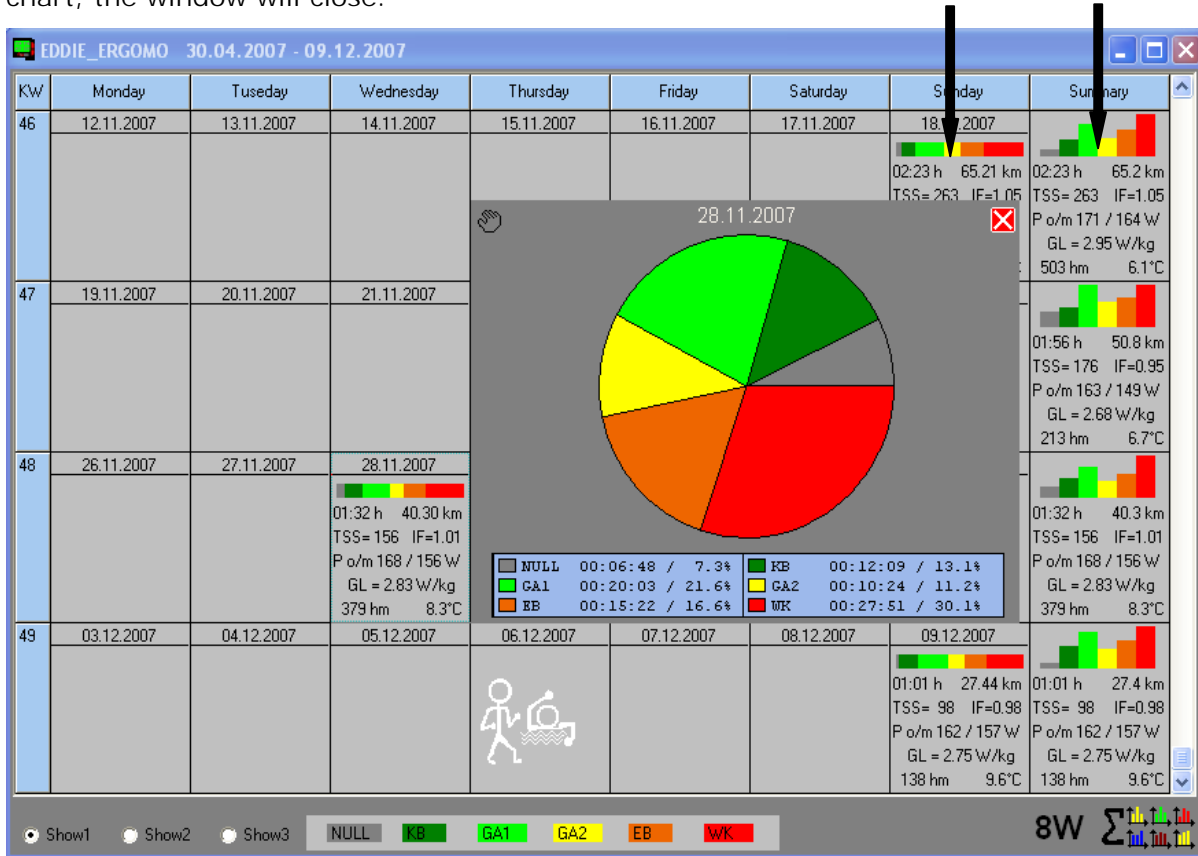
To increase the size of the graph click on the symbol. To open a text field right click in the top left. This will allow you to change the maximum value of the scale.

2.4.4 Analyzing a week

With the left-click on you can change between the weeks you would like to see (1, 2, 4 or 8 weeks). Click on opens the analyzing window with 6 different charts. To change the measurements you see, go to Tools, see chapter 2.7 Tools.

2.4.5 Pie Chart

To show a pie chart analyzing your training zones, click on the bar showing the training zones. You can also view this in the summary too. If you click on the red cross of the pie chart, the window will close.



2.5 Data transfer







- To download trips from the ergomo[®] computer onto a PC.
- Automatic selection of COM ports.
- Easy selection of a trip from the drop-down menu.
- The trip is then transferred automatically to the diary of the chosen rider.

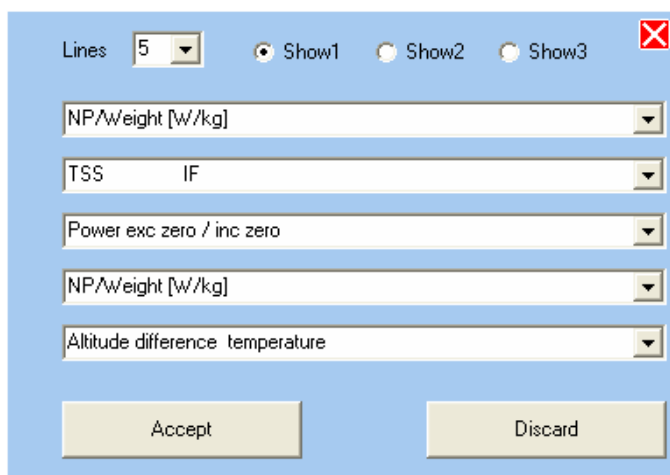
2.6 Delete Trips

Delete all trips in the ergomo[®] computer memory.

2.7 Tools

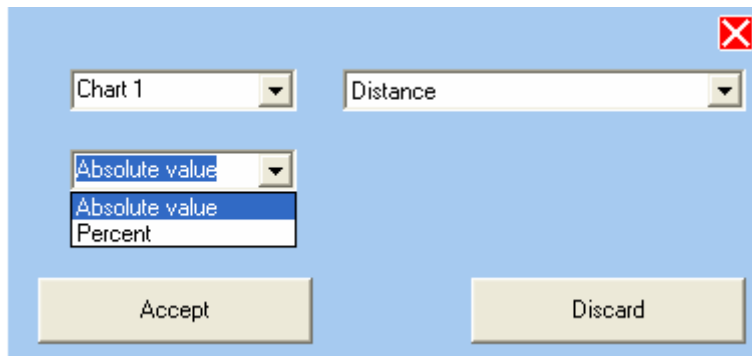


- 
SET TIME: Transfer of PC system time and date to the ergomo® computer
- 
UPDATE ERGOMO: The ergomo® computer software is updated
- 
LANGUAGE/ UNITS: Setting of language, units, format of time and date
- 
DEFINE COLORS: Change the colors of the graphs, training zones and the user interface
- 
DELETE DRIVER: Delete a driver
- 
CHANGE CALENDAR SETTINGS:



You can set what you would like to appear in the individual windows on the site (Show1-3). To save your settings click on Accept.

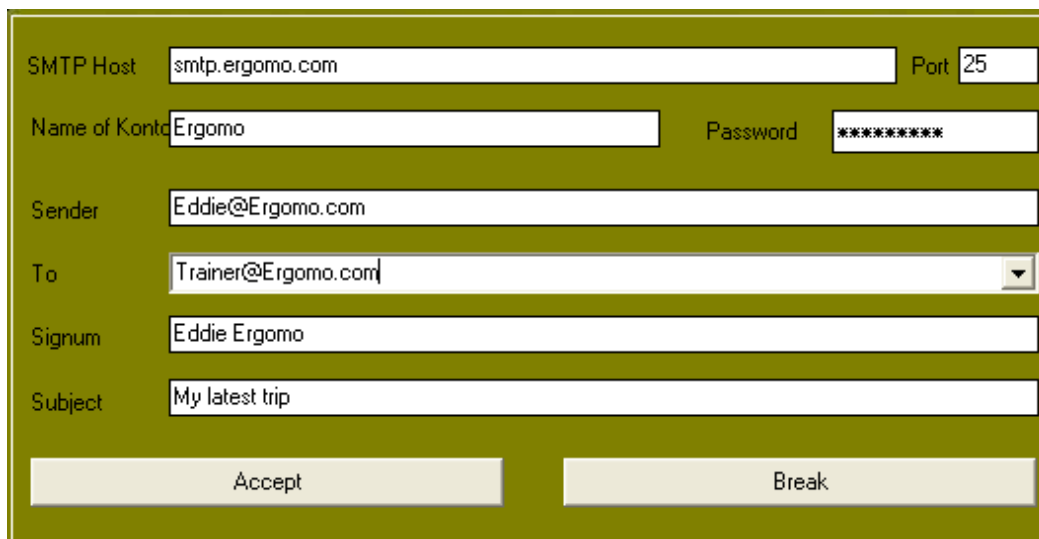
-  TO CHANGE THE DESCRIPTION OF CHARTS:



You can define up to 6 different charts.

1. Choose the chart to be changed
2. Choose between the percentage and the absolute value
3. Choose the value you would like to analyze


-  MAIL SETTINGS:




Use this window to configure the settings for sending E-Mails. The settings SMTP-Host, Port, user name and password are the same as your standard pop e-mail account. It can be set for up for 10 receivers ("To"). Should you need to send the email to more than one person, fill out all the addresses in one line, each separated with a semi colon (ie ;). You only have to configure this once, the settings will then be saved. They can then be used for all user profiles.

- TXT
↓

• **DEO** WKO à TXT à DEO: See Addition 1, page 32
- DEO
↓

•  DEO à COLLECTION: Trips of different riders can be collected here.
- DEO
↓

•  DEO à DIARY: Trips, e. g. received by e-mail are copied to the rider's diary.
- DEO
↓

• **CSV** DEO à CSV: Converts *.DEO files into *.CSV files.
- DEO
↓
CSV
↓
(WKO)

• DEO à CSV (WKO): Converts *.DEO files into *.CSV files for the cycling peak software.
- CSV
↓

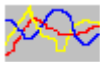
• **DEO** CSV à DEO: Converts *.CSV files into *.DEO files.
- DEO
+

• **DEO** DEO + DEO: Two trips can be joined together.
- **COM-SPEED =** COM SPEED: Set the transfer speed (ergomo® β à PC) using the left-click.

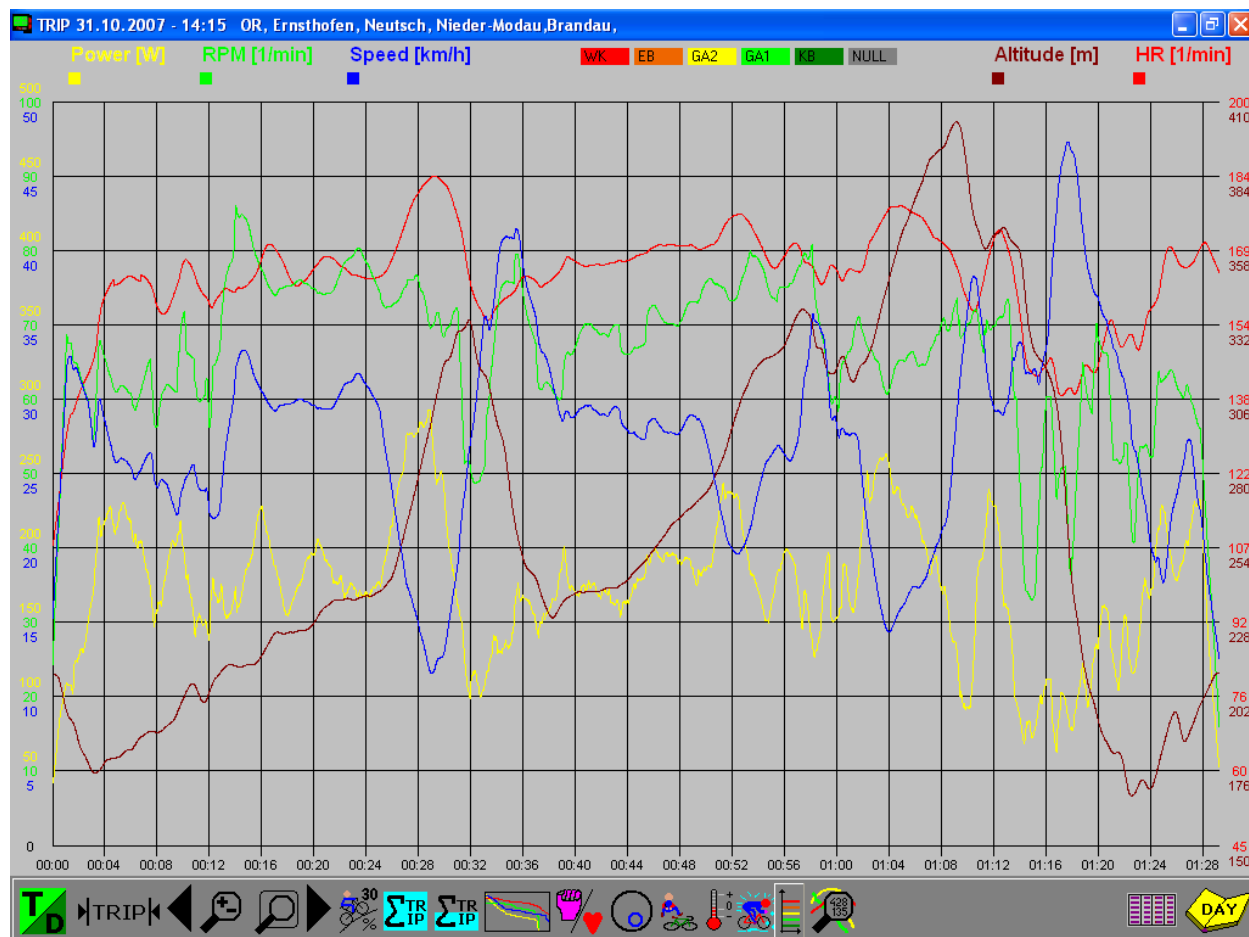
3. Workout Analysis

An introduction to power-based training, and many of the explanations of terms like NP or TSS can be found in the manual of your ergomo® pro system and at www.ergomo.net.

3.1 Analyzing a trip



It appears a graphical description of the trip:



3.1.1 Selection of graphs



- Right-click on the button switches the corresponding graph on/ off
- Left-click opens up the input field to a maximum size.

The smoothing of the curves can be set on/ off. The time values in the smoothing field apply only rides recorded with a record interval of one second (e. g. a record with intervals of two seconds doubles the time values).

3.1.2 Scrolling

Scrolls forward or backwards (Scrolling only while the Zoom function is activated).

3.1.3 Description

Change the scale of the X-axis (Time/ Distance).

3.1.4 Trip

Display the whole trip on the screen (when zoom is turned off).

3.1.5 Zoom in/ out

- Left-click for zoom in: The marked area is increased in size for easier viewing.
- Right-click for zoom out: The marked area is decreased in size.

3.1.6 Loupe

- An area of interest can be selected.
- Left-click on the button creates a vertical blue bar which you can position with the mouse. The distance and time of this “start bar” is displayed on the upper edge of the screen.
- Another left-click stores the start bar and reveals an “end bar” which works in the same way.
- While moving the “end bar” the time and distance are also visible between the two bars at the top of the screen.
- Both bars can also be moved with the following keys and set with the Enter-key:
 - Arrow right/ left (1 second forward/ back)
 - Arrow up/ down (15 seconds forwards/ back)
 - Page up/ down (60 seconds forwards/ back)


Note: These time values refer to a recording interval of 1 second (e. g. a record with intervals of two seconds doubles the time values).

3.1.7 Elevation

- Displays the elevation [%] of the selected time.
- Right-click: change viewing interval (15, 30, 60 seconds). These time values refer to a recording interval of 1 second (e. g. a record with intervals of two seconds doubles the time values).
- Additional smoothing of the altitude graph is recommended.

3.1.8 Analyzing total trip


Show an analysis of the complete trip in table form.






	Total distance [km]	=	41.069	Time	01:29:13
	NP [W]	=	204.2	IF =	1.134
				TSS =	191.3
	Power (INC 0 W/ EXC 0 W)	=	174.3 / 187.7	max =	751.0
	Speed [km/h]	Average=	27.6	max =	56.3
	RPM	Average=	71.3	max =	114.0
	HR	Average=	163.3	max =	187.0
	Work	[kJoule]=	933.5	[kcal]=	1007.3
	Altitude [m]	min =	166.5	max =	403.8
	Altitude difference [m]	=	454.7		
<hr/>					
	Gradient > 2.00%		Power (EXC 0 W)=	240.0	
	Distance [km]	=	6.887	Time	00:21:37
	Speed [km/h]	Average=	19.1	HR =	173.6

- Read Power, Speed, RPM, Heart Rate and Altimetry line after line (average value and maximum value)!
- Power INC 0 W presents the average Power including zero values (for example when coasting).
- Power EXC 0 W presents the average Power without zero values.
- All values underneath the horizontal bar refer only to distance at an inclination larger than the given value (e. g. in the example above, it is > 2.00%).
- Left-click and hold the hand symbol in the upper left corner of the window to move the whole window itself.



3.1.9 Analyzing part of a trip


Show an analysis of a selected part of a trip in a table form.

	Select distance [km]	=	16.389	Time	00:36:01
	NP [W]	=	205.3	IF =	1.140
				TSS =	78.1
	Power (INC 0 W/ EXC 0 W)	=	182.2 / 187.4	max =	639.0
	Speed [km/h]	Average=	27.3	max =	47.6
	RPM	Average=	71.9	max =	97.0
	HR	Average=	168.3	max =	187.0
	Work	[kJoule]=	393.8	[kcal]=	425.0
	Altitude [m]	min =	229.3	max =	338.0
	Altitude difference [m]	=	214.7	Gradient[%]=	0.43
<hr/>					
	Gradient > 2.00%		Power (EXC 0 W)=	243.7	
	Distance [km]	=	2.943	Time	00:09:24
	Speed [km/h]	Average=	18.8	HR =	176.6


Clip1 
Clip2 
 
 Set INT 1

- To select a part of the trip for analyzing, see chapter 3.1.6 Loupe.
- The analysis is the same as the one for the whole trip. Furthermore you can see the average elevation between start and finish easily above the horizontal bar.

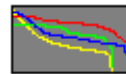
- Clip 1 and Clip 2  
 - You can save a part of a trip in one clip
 - You can also save another part of a trip in second clip, so that you can

compare both  (see 3.2 Compare trips)

- Both clips can be from different trips or different diaries (different riders).
- Left-click and hold the hand symbol in the upper left corner of the window to move the whole window itself.

- Add interval 
 - With a right-click you can change the number of intervals (S1 – S31)
 - A left-click on the button will create an interval for the selected area. This will open up a data table. In this table you can save the interval.
 - If intervals are visible on the graph, you can jump from interval to interval with the right-click on the interval button in the main window.

3.1.10 Training zones/ values arranged



The individual graphs are arranged: larger values on the left, smaller values on the right. The total time (including breaks) that you ride with a certain power is displayed (e.g. during a trip you ride 3x for 5 minutes with at least 250 W power then the analysis shows 15 minutes with power of 250 W or more).

3.1.11 Power/ Heart rate



- The power and heart rate readings are normalized to the average values
- Analyze and compare the development of power and the heart rate.
- Deactivating of remaining graphs and setting of a high level of smoothing (e. g. 1 minute) is recommended.

3.1.12 Speed/ PRM



- Displays the mechanical conversion.
- Visualization of Speed/ RPM, idle time or selected gear.

3.1.13 Breaks

Display on the graph the exact time and duration of anytime you stop.


3.1.14 Temperature

Display the changes in temperature.

3.1.15 Interval

- Displays intervals.
- Intervals can be set manually (see also chapter 4, Date correction and chapter 3.1.9, Analyzing part of trip)
- If the intervals are shown on the graph, you can jump from interval to interval with the right-click. At the same time you can see a summary of each individual (allowing analysis of only a part of a trip).
- In the graph, the smoothing can be set for all curves at once, using the shortcut F1 and one number (0 without smoothing, 9 smoothes 240 one second recording intervals to one recording interval of 4 minutes).

3.1.16 Threshold

- Shows the threshold (watt)
 - Left-click: line graph only
 - Right-click: bar chart
- This only runs if Power/ HR  is off!

3.1.17 Data loupe

The data loupe shows selected data. You can move the selection with the mouse or the arrow keys.

3.1.18 Table

- Displays the trip in numerically.
- To alter the data see also chapter 4, Data correction.

3.1.19 Diary



Quits the workout analysis and takes you back to the diary (see chapter 2.3, Diary).

3.2 Compare Trips



- This function helps you to compare two sessions. We suggest that you either compare data from two sessions that took place on the same route or a session that two riders cycled together (see also chapter 5.3, Collection).
- To select the trips/sessions see chapter 2.3, Diary.
- Date, time and notes of trip 1 are shown on the left side of the headline of the window whereas the respective issues of trip 2 are shown on the right side.

Attention: Only trips with an identical storage interval (e. g. 1 second) can be compared.



Brown: graph of altitude of trip 1
 Black: graph of altitude of trip 2



Red: graph of heart rate of trip 1
 Green: graph of heart rate of trip 2






3.2.1 Navigation



The following functions are identical to the tools of the trip analysis:








3.2.2 Compare data



- A maximum of two measurements can be compared at the same time.
- To choose the desired color for the first measurement just left-click on  for the comparison file 1 and 2, or use these colors .
- Select one of the following measurements:

- Power 
- Heart rate 
- Speed 
- Cadence 
- Gear ratio 

- To choose the desired color for the second measurement just left-click on , or if you used those colors for the first measurement then use . Right-click on the corresponding button to hide the first or second parameter, depending which colors you used.
- Select one of the following measurements:

- Power 
- Heart rate 
- Speed 
- Cadence 
- Gear ratio 

3.2.3 Additional information

In addition, breaks  and temperature  of both trips can also be displayed (independently from the selected measurements in chapter 3.2.2, Compare data).

- Following measurements are added together:
 - Number of trips
 - Total distance
 - Time
 - TSS
 - Work (kJ and kcal)
 - Climbed altimeter
 - Distance with inclination higher than X%
 - Time with inclination higher than X%
- The following are shown as averages and/ or a maximum value:
 - NP
 - F
 - Power
 - Speed
 - RPM
 - Heart rate

3.4.2 Graph of Power **Power**

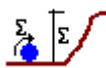
- Shows a graphical analysis of the selected trips:
 - NP (Normalized Power)
 - Power at inclinations
 - Power EXC 0 W (average power without zero values)
 - Power INC 0 W (average power including zero values)
- A rectangle can be drawn from the upper left to the lower right corner by holding the right mouse-key to zoom the marked area. If you draw any other rectangle the whole trip will be shown on the screen.
- Any data point can be clicked upon to show a pie chart of the real power within the different ranges including date/ time, comments, total time and distance.

NP TSS

3.4.3 Graph of workout **IF HR**

- Shows a graphical analysis of the selected trips:
 - NP (Normalized Power)
 - Average Heart rate
 - TSS (Training Stress Score)
 - IF (Intensity Factor)
- A rectangle can be drawn from the upper left to the lower right corner by holding the right mouse-key to zoom the marked area. If you draw any other rectangle the whole trip will be shown on the screen.
- Any data point can be clicked upon to show a pie chart of the real power within the different ranges including date/ time, comments, total time and distance.

3.4.4 Graph of Distance/ Speed



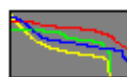
- Shows a graphical analysis of the selected trip:
 - Distance (distance of the trip)
 - Distance ST (distance at elevations)
 - Speed (average speed)
 - Accumulated height
- A rectangle can be drawn from the upper left to the lower right corner by holding the right mouse-key to zoom the marked area. If you draw any other rectangle the whole trip will be shown on the screen.
- Any data point can be clicked upon to show a pie chart of the real power within the different ranges including date/ time, comments, total time and distance.

3.4.5 Range of performance graph



- Shows a graphical analysis of the selected trip with respect to different ranges of performance in percentage for the total period.
- A rectangle can be drawn from the upper left to the lower right corner by holding the right mouse-key to zoom the marked area. If you draw any other rectangle the whole trip will be shown on the screen.
- Any data point can be clicked upon to show a pie chart of the real power within the different ranges including date/ time, comments, total time and distance.

3.4.6. Training zones/ values arranged



- This shows a graphical analysis of the selected sessions with respect to the different measurements (e.g. power, heart rate, speed and frequency), arranged by time or as a percentage. The total time (including breaks) that you ride with a certain power will be displayed (e.g. if during a session you ride 3x for 5 minutes with a power of at least 250 W then the analysis will show that you have ridden for 15 minutes with power of 250 W or more).
- A rectangle can be drawn from the upper left to the lower right corner to zoom the marked area. If you draw any other rectangle the whole session will be shown on the screen
- Only the first 8 rides are shown if more than 8 trips are selected.
- To open up an input field in order to configure the maximum value of the power axis, right-click on the upper power value (please confirm with the Enter-Key).
- To immediately show the specific values Power and Time at any position, left-click on the desired position within the graph.

3.4.7 Description of the different measurements (6 Charts)

- Shows a graphical analysis of the maximum values of the selected sessions. The measurements that will be shown can be defined in tools, see chapter 2.7 Tools, Change description charts.
- To change the maximum value of scale, right-click on the top left.



4. Data correction

This button opens a table of the selected session with a complete list of data entries.

TRIP 31.10.2007 - 14:15									
Time	Distance	Power	Speed	HR	RPM	Altitude	Temp.	Interval	Break
	[km]		[km/h]	[1/min]		[m]	[°C]		[sec]
00:00:01	0.000	0	6.2	99	0	210.0	19.3		
00:00:02	0.004	0	7.0	102	0	209.8	19.3		
00:00:03	0.006	0	9.3	104	0	209.8	19.3		
00:00:04	0.008	128	10.9	105	32	209.8	19.3		
00:00:05	0.013	128	12.0	107	32	209.8	19.3		
00:00:06	0.015	87	12.5	108	40	209.8	19.3	1	
00:00:07	0.019	25	13.7	109	39	209.6	19.3	1	
00:00:08	0.023	25	14.5	110	39	209.6	19.3	1	
00:00:09	0.027	39	14.8	110	34	209.6	19.3	1	
00:00:10	0.031	39	17.2	111	34	209.6	19.3	1	
00:00:11	0.036	0	17.2	111	0	209.6	19.3		
00:00:12	0.040	0	14.4	0	0	209.6	19.3		
00:00:13	0.044	0	13.4	111	0	209.6	19.3		
00:00:14	0.048	0	10.6	110	0	209.6	19.3		
00:00:15	0.052	0	10.1	107	0	209.6	19.3		
00:00:16	0.054	0	9.1	105	0	209.6	19.3		
00:00:17	0.057	0	8.9	101	0	209.8	19.3		
00:00:18	0.059	0	9.3	98	0	209.8	19.3		
00:00:19	0.061	0	7.0	98	0	209.8	19.3		
00:00:20	0.063	0	7.0	98	0	209.8	19.3		
00:00:21	0.063	0	7.0	99	0	209.8	19.3		
00:00:22	0.063	0	7.0	99	0	209.8	19.3		
00:00:23	0.063	0	5.7	96	0	209.6	19.3		
00:00:24	0.067	0	7.0	99	0	209.6	19.3		
00:00:25	0.069	0	7.9	102	0	209.6	19.3		
00:00:26	0.071	0	12.1	104	0	209.5	19.3		


56.8
~~78.2~~

56 55
78 56
65 58


 MAX 

Set INT 1

4.1 Correcting single data/ value

- Each value of a field / cell can be easily changed.
- To change a cell, left-click on the desired cell and then press the  button to enter the new value. Confirm with the Enter-key.
- Finally press SAVE to store the corrected data.

4.2 Correcting the data range

- Connected ranges can all be changed at the same time.
- Left-click on the highest field of the range to be changed. Press the  button and enter the new value for the first cell. Confirm with the Enter-key.
- A yellow information field „Determine end of area“ will appear.
- Left-click on the lowest field of the range to be changed. Enter the new value and confirm with the enter-key.
- All the values between the two entered values will be arranged in descending order (e.g. if the value “135” is entered in the first field and “130” in the last field, the values in between are set automatically to “134, 133, 132, 131”).
- Finally press SAVE to store the corrected data.

4.3 To delete the end of the table

- The lowest lines of the table can be removed at any time (e.g. if the bike was pushed at the end of a trip, this data should not appear in the analysis).
- To do this, left-click the last part of the field which should NOT be deleted, then press and hold the Ctrl-key, and then press the DEL-key to delete all lines below the marked field.
- Finally press SAVE to store the corrected data.

4.4 Delete an area

- Any area in the table can be deleted. First, left-click on Time/Date of the beginning of the data you wish to delete, then hold Ctrl and press “s”.
- “Select end of area,” will then appear
- Now, left-click on Time/Date of the end of the data you wish to delete, then hold Ctrl and press “e”.
- Accept the security check.
- Then at the end save all the measurements.

4.5 Correcting heart rate

- This symbol only appears if there are zero values in the heart rate column.
- To jump to the first zero value right-click on the button. Another right-click jumps to the next zero value and so on.
- To replace all the zero values automatically with estimated values based on the last realistic values (e.g. original values: “135, 0, 0, 0, 0, 130”, corrected values: “135, 134, 133, 132, 131, 130”), left-click
- Finally press SAVE to store the corrected data.

4.6 To correct the altimetry

- You can change the altimetry profile after your ride.
- To change the values in the column HEIGHT see chapter 4.1, Correcting single data / value.
- To raise or lower the whole trip, change the first value (i.e. The starting point height). For example if the original values were "100, 100, 101, 101," these can be corrected to 200: "200, 200, 201, 201", by changing the starting height).
- You can also change the height at the end of the trip. For example, if the air pressure has changed during a longer trip, different height will be displayed when you return to the starting point (e.g. original values: "100, 105, 110, 106, 101", corrected values after changing the end height into 100: "100, 105, 110, 105, 100").
- Finally press SAVE to store the corrected data.

4.7 To correct the distance

- Even if you only change the last value in the Distance column, the entire distance will be converted to the new value.
- For example: A reference distance of 20.00 km is ridden. However, because of a change in wheel size or the pressure of the tire being incorrect, a distance of 20.85 km is displayed. By setting the last value to 20.00 km you can correct the whole distance and accordingly the speed values for the complete trip are recalculated.
- Finally press SAVE to store the corrected data.

4.8 To correct the weight and threshold power (IAS)



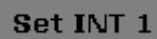
- To open an input window and enter new values, left-click on the button.
- Finally press SAVE to store the corrected data.

4.9 To do a search for maximum values



- To activate this function, left-click on the button, the button will turn gray.
- To jump automatically to the corresponding maximum value, left-click on any column.


4.10 To add intervals




- To activate the function, left-click on the button, it will then turn gray.
- To change the interval number right-click on the button.
- To assign the marked data to the selected interval, left-click into any field of the Interval column.
- To delete the assignment of the data just type in the interval number "0".
- Finally press SAVE to store the corrected data.

4.11 To change the power

- You can change power ratings after riding (e.g. if there are incorrect power values because of an incorrect "Offset" value).

- Go to the first line of the Power column and press  to open an input field. For example, to increase all watt values by 20%, enter "M=1.2" and confirm with the Enter-key.




- To open another input field in order to enter the correct "K-Factor" and "Offset value",

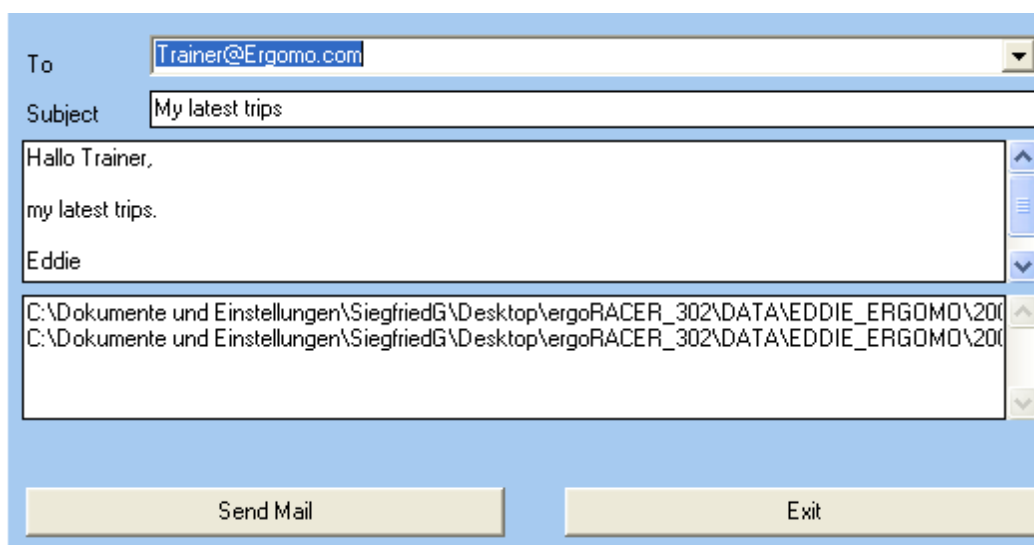
go to the first line of the Power column, press  and enter "BAD_O", and confirm with the Enter-key.

- Finally press SAVE to store the corrected data.

5. Transferring trips

5.1 Sending trips


- Select the rider whose data is to be sent from the diary.
- Open the tools menu  and LEFT-CLICK the button  for mail settings (see chapter 2.7. Tools).
- Select the sessions you want to send (the DATE / TIME fields are colored yellow).
- To transfer your selection, LEFT-CLICK the button  in the diary.



- To: Choose receiver
Subject: Fill in subject
Comment: You can alter the comment



In the last window, you see the selected sessions. To send the data click on Send Mail.


5.2 Receiving trips

- Copy the received mail attachment(s) into the program's TRANSFER folder.
- In Tools, click on  select the *.deo-file you would like to put into the diary. Accept the selection and the session will then be added to the diary.
- Coach function: We recommend that you should create a particular rider for each athlete on your computer, especially if a coach receives sessions from different athletes regularly.
 - e. g. folder TRANSFER/ subfolder "EDDIE_ERGOMO"

5.3 Collection

- The Collections helps you to compare the sessions from different riders, e.g. two athletes participating in the same competition.
- Select the rider(s) you would like to add to the COLLECTION.



- Open the tools menu  and left-click the button  to open the rider's diary.
- Select the sessions that you would like to transfer (the DATE/ TIME fields are colored yellow).

- To transfer your selection, left-click on the button .
- Finally you will find all the selected sessions in the one Collection, where it can easily be viewed and analyzed.
- To add sessions of other riders to the Collection just follow the steps described above.

5.4 Converting trips

5.4.1 DEO à CSV



- Converts files of ergoRacer® (*.deo) into *.csv files, which can then be opened and edited easily with spread sheet programs (e.g. Microsoft® Excel or OpenOffice Calc).
- Select the rider whose trips you would like to convert.

- Open the tools menu  and left-click the button  to open the rider's diary. Select the trips you would like to convert (these will then be marked with a blue bar).

- To create a *.csv file in the folder of the selected rider, left-click the button .

5.4.2. DEO à CSV (WKO)

- This converts files from ergoRacer® (*.deo) into *.csv files for use in CyclingPeaks software.
- Select the rider of the trips you would like to convert.



- Open the tools menu  and left-click the button  to open the rider's diary. Select the trips you would like to convert (these will then be marked with a blue bar).

- To create a *.csv file in a selected rider's folder, left-click the button .

5.4.3 CSV à DEO

CSV
↓
DEO

- This converts a *.csv file into a *.deo file (the file format of ergoRacer®). Important: The *.csv file you would like to import must have the identical file format as the *.csv files created with ergoRacer® 3.0 itself.
- Select the rider whose trips you would like to convert.

- Open the tools menu  and left-click the button  to open a new window where you can select the file to be converted. Left-click the OPEN button to confirm your selection.
- The rider's diary will open and the selected trip will become added. The COMMENTS field is automatically filled with "No comment".

5.4.4 WKO à TXT à DEO



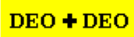
TXT
↓
DEO

See attachment.

5.5 Connecting trips

DEO
+
DEO

- You can connect two trips to become one larger trip (For example, if you performed TRIP DELETE on the ergomo® computer to delete a particular session).
- Select the rider whose trip you would like to connect.

- Open the tools menu  and left-click the button  to open the rider's diary. Select the two trips you want to connect (the DATE/ TIME fields are colored yellow).
- To open the data table of the connected trips left-click the button . Then left-click the SAVE button to confirm your action.
- The complete trip will be displayed with the starting time and date of the first of the connected trip in the diary.
- A break of 55 seconds is inserted between the two trips, so that you can recognize the original two trips, before they were connected. Breaks are not considered in the analysis.

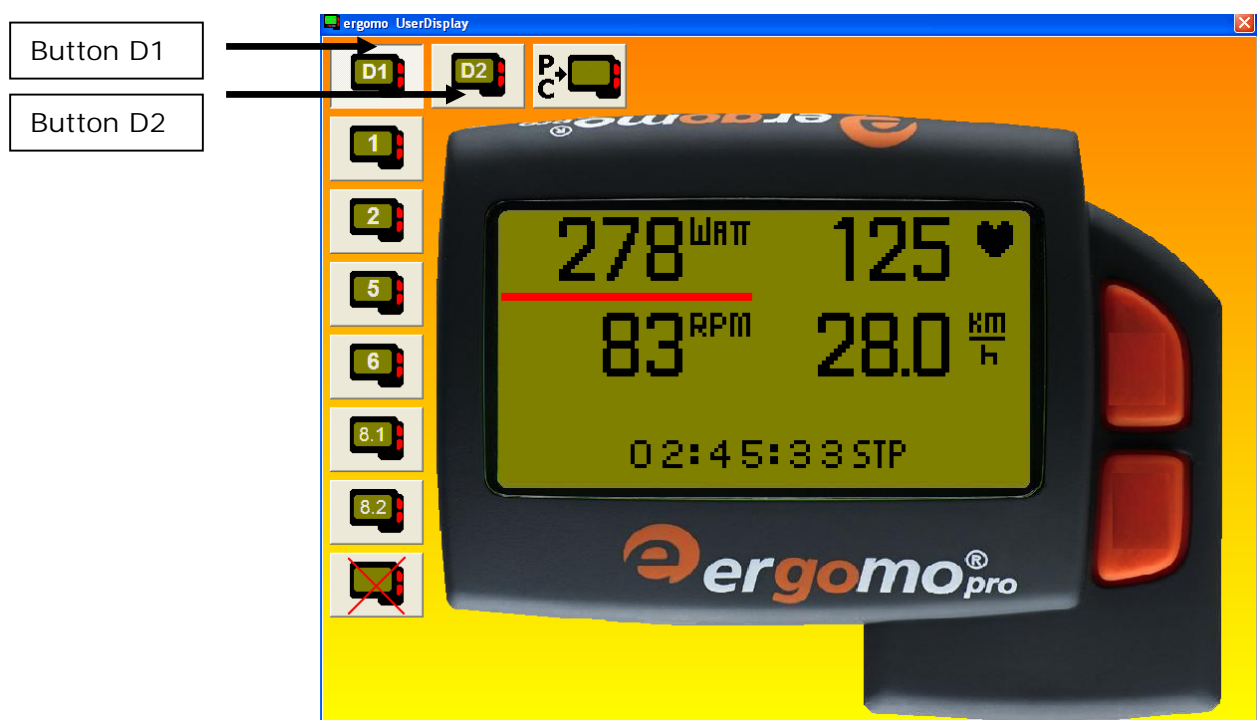
6. Operation Instructions ergomo[®] User Display



The ergomo[®] user display allows you, the user, to customize both the main screen and the activity screen (which is viewable by pressing the upper key on the ergomo[®] unit)

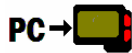
- Up to the eight users defined measurements can be indicated on both the main and the activity screens.
- The screen display can also be set to view just one measurement, so that important readings (e. g. power) can be easily viewed while riding.

6.1 Customizing your User Display



1. Select the display that you would like to configure. (D1=Main Screen/ D2=Activity Screen by clicking on the buttons D1 and/ or D2).
2. Select the number of measurements that you would like (for example 1, 2, 5, 6 or 8). Please be aware that if you decide to have all 8 showing, the lowest line cannot be changed to different measurements (for example: 8.1 = stop watch and time, 8.2 = stop watch and trip distance) because of technical reasons.
3. Use the upper "ergomo[®] key" to position the "red bar" under the data you wish to select.
4. With the lower ergomo[®] key select the measurement you wish to have displayed. (left mouse button: next measurement, right mouse button: previous measurement)

5. Transfer your settings to your ergomo® for the visible screen using this button

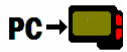


6. Repeat steps 1-5 for D2.

- 1,2 or 6 Measurements
 - On the display the number of adjustable measurements will appear.
- 5 Measurements
 - On the display five measurements will appear (four configurable measurements and also the trip time)
- 8 Measurements
 - On the display eight measurements will appear (six configurable measurements, and travel time and time when you select 8.1 or travel time and trip distance when you select 8.2).



The altered user display (D1/ D2) will be deleted. The default D1/ D2 screen will be shown. This must then be transferred from the PC to the ergomo®.

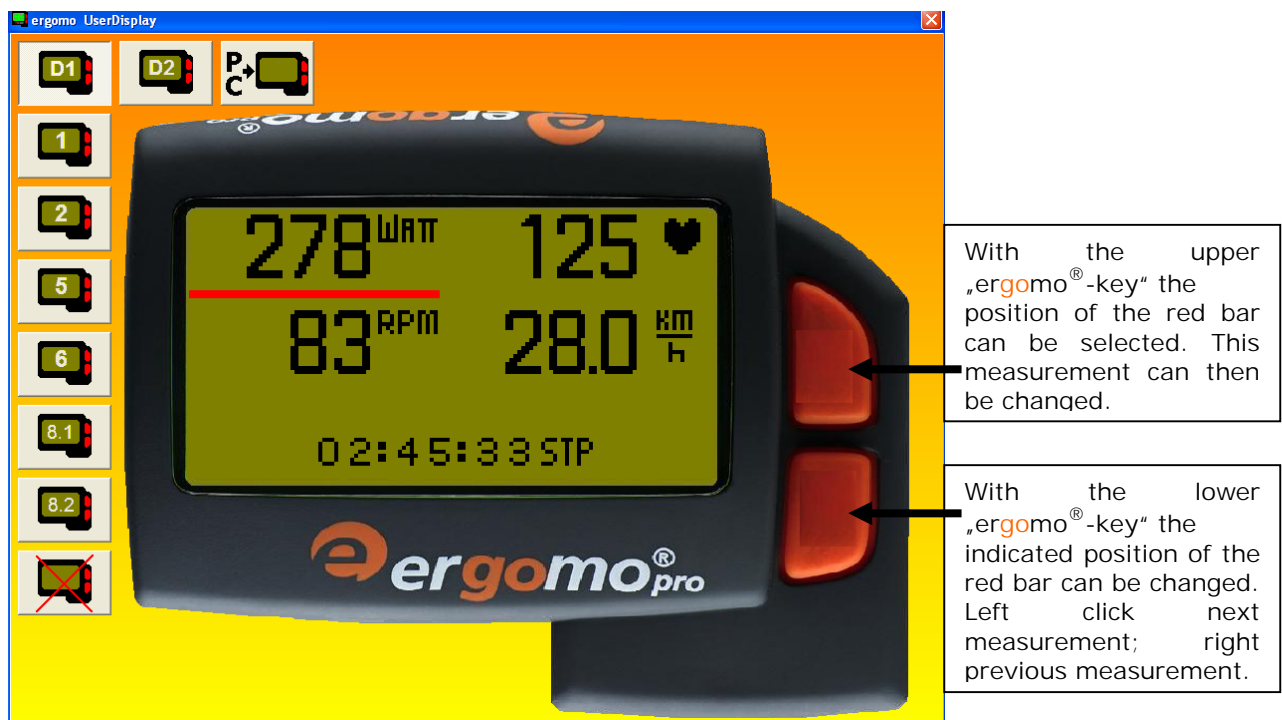


The selected user display (D1 or D2) will be sent to your ergomo®. The two displays must be transferred separately in each case.



When clicking the button the detected serial interfaces (COM1 to Com9) are displayed and tested.

6.2 Description of the program buttons



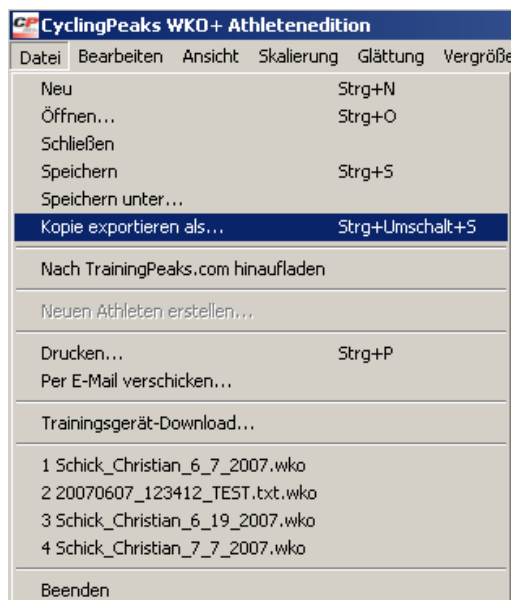
- Order:
 - Power (Watt)
 - Heart Rate (♥)
 - Cadence (RPM)
 - Speed (km/h)
 - Actual Height (Δ)
 - Acclivity [%]
 - Altimetry (↙)
 - Average Power (Watt | Ø)
 - Average Heart rate (♥|Ø)
 - Average Cadence (RPM | Ø)
 - Average Speed (km/h | Ø)
 - Maximum Power (Watt | max)
 - Maximum Heart rate (♥| max)
 - Maximum Cadence (RPM | max)
 - Maximum Speed (km/h | max)
 - Kilojoule (KJ)
 - Kilo calories (KC)
 - Trip Distance (Trip | km)
 - Normalized Power (Watt | NP)
 - Training Stress Score (TSS)
 - Intensity Factor (IF)

- D1/ D2
 - You can configure the two displays individually. The display (D1) is set in place of the main screen. The display (D2) is set in place of the activity screen. To choose the display you require click on the respective button. Please note only display 1 can be selected when you are using interval modes.

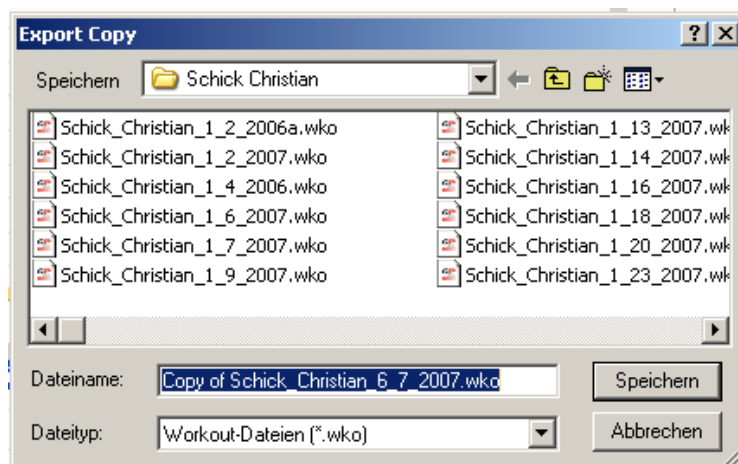
Attachment

WKO -> TXT -> DEO

In the CyclingPeaks software you will have to export all *.wko-Files to *.txt-Files individually. To do this, open every trip separately in the PC software and then go to folder/ copy export as ... Please do the changes as follows:

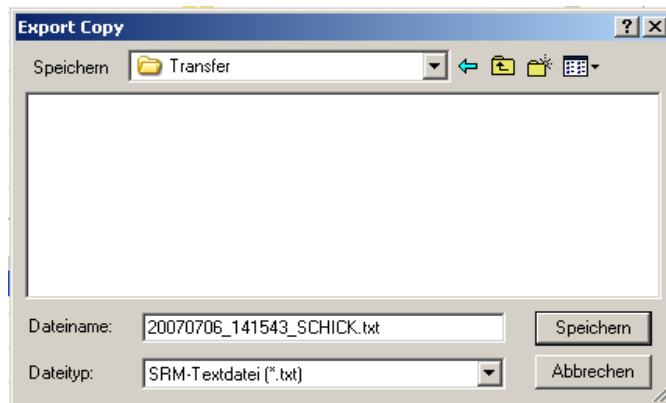


Change the name of the opening window as below:



- First select the folder (Transfer) you would like to save the data.
- Now, change the name of folder: yymmdd (year, month, day)
- Then underline the time in H Min and Sec. If you have performed more than 1 trip a day, you can select and view the trips by their different times. After underlining again, assign the name of folder.

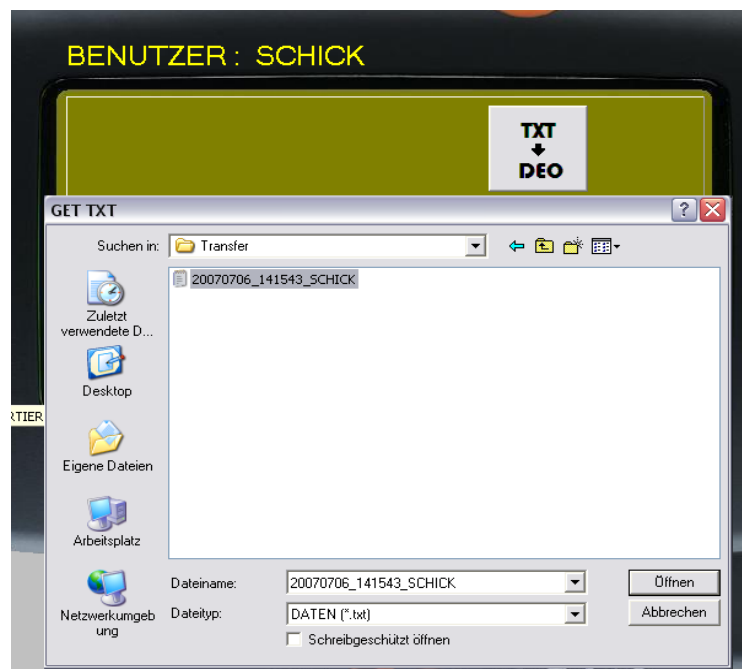
- The spelling of the name of the folder is very important. Look at your DATA folder, and check it is the correct name for the data you are saving. Then just add a period (called a full stop in the UK) then add the letters txt.
- Finally, you will have to press save to accept the SRM-text folder.
- You will have to repeat this for every trip.



- If you export all your files as *.txt-files, you can then import the *.txt files individually as *.deo files into the diary in the ergoRacer® 3.0 software. Please make sure you choose the correct rider before you begin.

TXT
↓
DEO

- Then press the button
- This will open a window where you will be able to choose the *.txt - files.



- Accept this process with open ("Öffnen" in this picture)
- This will then open up the diary from the ergoRacer® software and shows the new trip that has just been imported.
- Each one has to be done individually.