

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

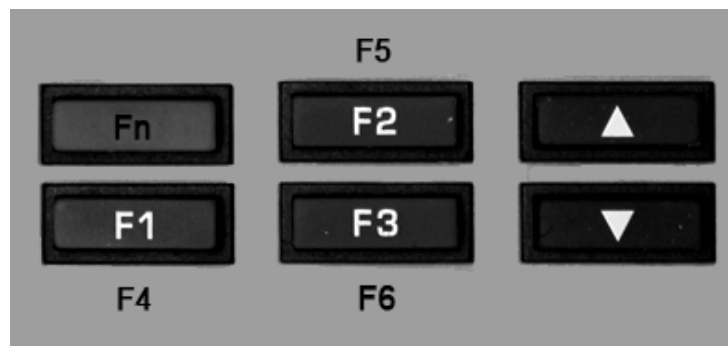
[Pick Ergo Course](#)

[Pick Riders](#)

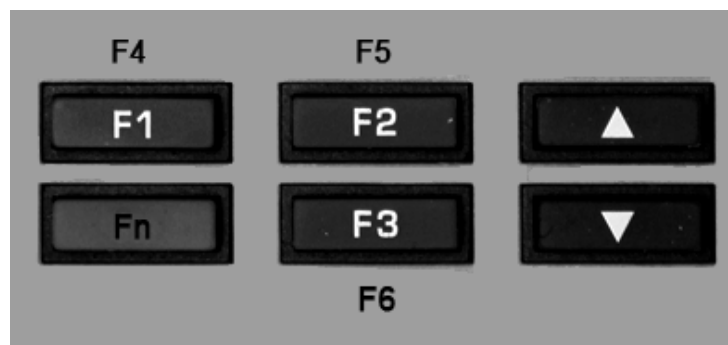
Key press shortcuts

The following are the available key presses and shortcuts for each application:

CompuTrainer keypad: (older CompuTrainers have RESET printed on the Fn Key.)



VeloTron keypad:



3D Cycling

F1 or G	Start Timer; Pause Race
F2 or S	Display SpinScan data for single riders or personal data for riders in a split screen display
F2 or M*	Press and Hold - Enable split screen on multiple live rider races.
F3 or P*	Select a Pacer to adjust
F4 or C*	Select Camera position
F5 or R	Reset timer
F6 or B	Velotron Emergency Brake

Related Topics

[3D Cycling](#)

[Real Course Video](#)

[Classic MultiRider Help](#)

[SpinScan](#)

[Power Training](#)

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Last updated 2011 Aug 31

[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration - CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Up / Down keys	Velotron Gear shifting
Fn + Up / Down or	Adjust Pacer if selected

Real Course Video

F1 or G	Start Timer; Pause Race
F2 or S	Display SpinScan data for single riders or personal data for riders in a split screen display
F2	Press and Hold - Enable split screen on multiple live rider races.
F3	Not used
F4	Not used
F5 or R	Reset timer
F6 or B	Velotron Emergency Brake
Up / Down keys	Velotron Gear shifting
Fn + Up / Down	Not used

Power Training

F1 or G	Start Timer; Pause Race
F2	Not used
F2	Not used
F3	Not used
F4	Not used
F5 or R	Reset timer
F6 or B	Velotron Emergency Brake
Up / Down keys	Velotron Gear shifting
Fn + Up / Down	Adjust any manual controlled course

SpinScan

F1 or G	Start Timer; Pause Race
F2 or S	Display SpinScan data for single riders or personal data for riders in a split screen display
F2	Alternate the SpinScan image large to small
F3	Not used
F4	Not used
F5 or R	Reset timer

F6 or B	Velotron Emergency Brake
Up / Down keys	Velotron Gear shifting
Fn + Up / Down	Increase/Decrease Grade values in manual controlled course

Classic MultiRider

coming soon...

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)[Classic MultiRider Help](#)[Course Creator](#)[Power Training](#)[Real Course Video](#)[SpinScan](#)[Velotron Accuwatt Help](#)

Home

[Definitions](#)[Welcome to RacerMate One](#)[Misc.](#)[3rd Party Partners](#)

Options

[Advanced Options](#)[Display Options](#)[File Saving Options](#)[Hardware Setup](#)[Reports](#)[Rider Setup](#)

Setup

[Application Launchpad](#)[Course Profile Editing](#)[DragFactor](#)[Hardware Setup](#)[Pick Ergo Course](#)[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)

3D Cycling



Features

- 3D Cycling allows 1-8 riders or pacers.
- Pacer choices for any position not occupied by a live rider.
- Smart Pacers can be assigned to a rider causing the pacer to react only to that rider.
- Adjustment of any pacer during the race by the rider they are assigned to.
- 3-second time-sequenced data-bar rotation to reduce space required to display multiple user data.
- Split screens for all live riders and performance-based pacers. Rider view, SpinScan, Laps, All-data, can be cycled through by any rider.
- SpinScan for each live rider in split screen.
- Multiple lap timers for each rider. Current, last and best lap times always displayed.
- Drafting among all riders and pacers, though Smart Pacers will favor their rider assignment.
- Easy to read rider position markers on profile.
- Multiple Camera Views selectable by any live rider.
- Pace-line drafting with multiple riders or pacers.
- Course sorting by distance, total climbing, number of laps, or name.
- Start-from and End-at, multiple laps, course reversing.
- Multiple scenes.

Setup

Related Topics

[DragFactor](#)[Pick Riders](#)[Course Profile Editing](#)[Rider Setup](#)[Display Options](#)[File Saving Options](#)[Pick Road Course](#)[Definitions](#)[Key press shortcuts](#)

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[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration - CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)



1. To setup a 3D ride, select 3D Cycling from the [Launchpad](#). This will take you to the 3D Cycling setup screen as shown above.
2. Choose your riders and pacers first by selecting Riders [Edit](#) button.
3. Select or browse for a [course](#) to ride. Note: Selecting a [previous performance rider](#) in Riders Edit will override the need for the course selection process. Selecting a course will, in fact, disable the performance pacer selection. You can also type any letters you think are in a course name to narrow the course list.
4. Select the background scene.
5. Choose the [Start and End sliders](#) (if you choose to).
6. Add Laps and direction choices.
7. Save your [course edits](#) as a new course by choosing Save as (Optional)
Note: Just be sure not to save the new course as the same name of the original, unless you intend to have two courses by the same name. Courses are saved in two different locations, so it is possible to have two courses of the same name, but they are different in some way.
8. Choose the custom Databar selection - if you've created any. Note: This selection widget will only appear after you have made a custom selection in the [Display Options](#) tab.
9. Choose Start to launch the 3D ride.
10. The rider in position 1 can start the ride using their F1 key or a non-rider can use the "G" on the PC keyboard to start the ride.

Databar selection

You can set your data display selections in the [Options - Display](#) tab. When you change a default you can save it as a new preset and it will appear as a selection in the 3D Cycling setup screen.

Note: If no custom selections are created for an application, the Databar selection option is not displayed.

Race Functions

3D Cycling has many modes of operation depending upon the number of riders and pacers. Because you can now have more than two riders on the screen at any point in time, some decisions needed to be made as to how best to deal with displaying data for so many rider. Here are the two ways data can be displayed:

Full Screen - All riders are shown in one window and focus on each rider is in a "cycle of time" - roughly 3 seconds per rider.



In this example Shannon (rider 5) is in focus and her name is highlighted in red. You see the back of Shannon and the data bar is Shannon's data. The profile still shows each rider and their relative position to each other, which aids if drafting is enabled. Click on the picture to show a larger view and you will see a few things: 1) Taylor is about to get the focus, 2) Jesse is leading, 3) Four riders are in drafting mode, 4) one rider (Bailey) who is in second place is either just coming into the draft window or just exiting it @ 6' behind Jesse, 5) Jesse is in first, followed by Bailey, Taylor, Ashton, DoubleOh7, and Shannon in last place, 6) on the far right you see a number, which indicates what lap of the two total laps they are on.

Split Screen - All riders are shown in their own window with a "Basic" display of performance data.



Activated by any live rider pressing and holding the [F2] key for one full second, the profile is still the same as with Full Screen, but in this mode there is no scrolling of the rider performance statistics. Each rider is now in control of what is displayed in their individual window by quick-use of the [F2] key. (see Split Screen functions - below).

Note: Velotron users will see a "Gearing" widget in their window.

The Profile



The profile in 3D and other applications will have an indicator showing progress along the course. Each rider, if there are many, will have their own progress indicator.

Gap versus Lead

One key change made to RacerMate One over previous RacerMate software is the change from showing "lead" [showing how far the leading rider was away from their opponent] to now using the word "gap" [assigned to the trailing rider to show the distance behind the closest rider in front of them]. This subtle change was needed to help account for the multiple riders and to aid in the draft function.

What am I seeing on the profile now?

- The Profile itself is a white line in the shape of the course to allow the rider position indicator to overlay without getting lost.
- The Indicator bar shows the progress of each rider. Shows exact position on the profile and relative position over the length of the course.
- The Lead-most rider will display the word "Leading" and this will shift as other riders or pacers jockey for the lead.
- A white number shows the gap (in feet or meters) between you and the opponent or pacer in front of you.
- A blue number being preceded with a "D" indicates you are drafting off the opponent or pacer in front of you. Drafting must be turned on in the setup screen (See "Drafting functions" below for more details).
- To the left is the rider user name followed by the place of this rider in the race. This number will change. The next number is the "rider assignment number" as selected on the [Rider Edit screen](#) and this number, and the number over the rider's head, will match.
- On the far right of the profile is a number showing the lap this rider is on (not present on single lap courses).
- If you are in split screen mode you will see the timer in the center of this profile section of the screen.
- The course name is in the upper left corner.
- Course details are on the upper right corner; showing, Laps (if applicable), Single Lap Course Length (if applicable), and Total Course Length (if multiple laps).

Note: the numbers for Leading, Gap, Drafting, will start in front of the rider position at the start of the ride and then shift to behind the rider position after there is space to do so. This will hopefully keep everyone clear as to where they are on the course.

Key Presses and their functions

For a complete list of all applications, go to: [Key press Shortcut Page](#)

Starting/Pausing/Reset

Keys used: [F1] and [F5]

- Start and Pause the race using [F1] on the controller.
- Reset uses [F5] (that is: Fn + F2).

- If you are a single rider with no pacers; you have the screen to yourself and you are in control of everything.
- If you have two live riders and no pacers, the rider in position #1 controls starting the timer, pausing, and resetting a race and activating split screen.
- Both Rider #1 and Rider #2 can adjust their pacer and camera views and activate their SpinScan.
- If you have any number of live riders and pacers, the rider in position #1 is still in control of starting the timer, pausing, and resetting the race.

Split Screen functions; including SpinScan display

Key used: [F2]

- Hold down for more than one second by Rider #1 to activate Split Screen
- Press quickly by any rider once in Split Screen for additional features available to each rider.
 - If you are a single rider with no pacers, you can cycle through the SpinScan widget, laps widget, and "all performance stats" widget.
 - If you are two live riders and no pacers, the rider in position #1 can activate split screen by pressing and holding F2 for one second, then releasing it. Once split screen is active either rider can cycle through their available widgets with quick F2 key presses. When rider 2 isn't displaying a widget, like SpinScan, the split screen can be disabled again by the rider in position #1.
 - If you have any number of live riders and pacers, the rider in position #1 activates split screen by pressing and holding the F2 key for one second, then releasing it. Split screen is for live riders and performance pacer only, not standard pacers or Smart Pacers so the screen will divide based upon the number of these types of riders. Once split screen is active any live rider can cycle through their available widgets with quick presses of their F2 key. When no other rider is displaying SpinScan, the split screen can be disabled again by the rider in position #1.

Display Widgets

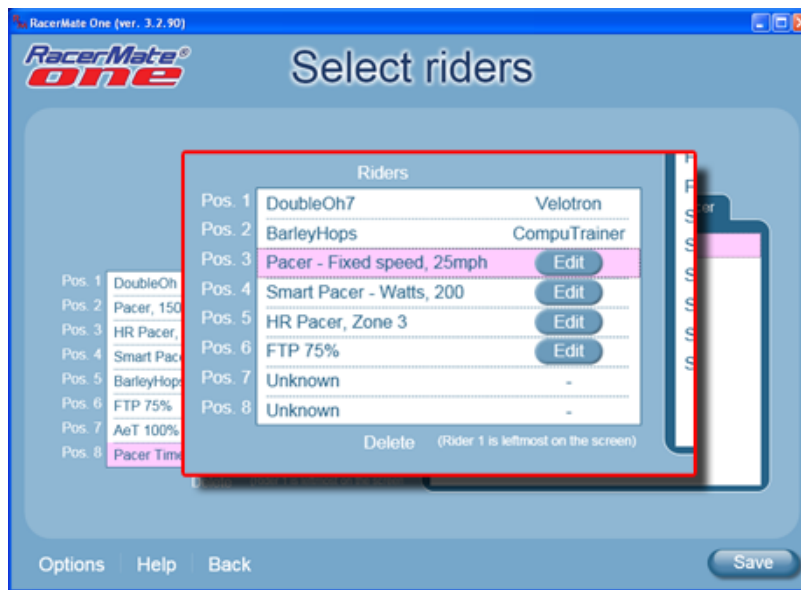
There are 5 split screen display modes:

1. Basic data - This is 8 data points preset as Speed, Distance, Watts, Average Watts, RPM, Heart Rate, Grade, Gap.
2. All data - This is a widget displaying all the data you have available to you, regardless of what you select in the Display Options
3. Lap times - All the lap information - if the course is setup with laps; otherwise this mode is skipped.
4. Bar Graph SpinScan
5. Polar SpinScan

Pacer functions

Keys used: [F3] -and- [Fn] followed by [up]/[down] keys

Pacer functions are based upon rider assignment as seen below. In this example DoubleOh7 has 2 pacers he can adjust and BarleyHops has 2 he can adjust.



- Pacers are assigned to Riders in the order they are seen in the list in a "leap-frog" fashion. So the first rider gets the first and third pacer seen and the second rider gets the second and fourth pacer seen, and so on. Pacers are always assigned to riders found above them (see image above). As in the example above this means: DoubleOh7 owns a Fixed 25MPH Pacer and a Zone 3 HR Pacer keying off of him and BarleyHops owns a Smart 200 Watt Pacer and an 75% FTP pacer keying off him. If a pacer was added to position 7, DoubleOh7 would own it and a pacer in position 8 would be owned by BarleyHops.

Adjusting Pacers

- Any live cyclist can use their [F3] key to cycle through the pacers shown on the profile until they highlight the pacer they want to adjust. Then pressing the [Fn] key followed by [up] or [down] key adjusts the value for that pacer.
- You will have 10-seconds to adjust a pacer before the automatic scroll through rider performance data resumes.
- Remember: Any rider can have as many pacers as they have open positions for them. If every rider wants a pacer, you are limited to the 8 positions, or 4 riders and 4 pacers.

Pacer Types

Fixed Pacers

Fixed Pacers react to the changes made to their setting by the rider they have been assigned to, but unlike smart pacers, they don't react to a riders movement. This means a rider can adjust the setting and make the pacer go slower or faster, but the result of the change is fixed and the pacer will go as fast as it can for the setting given. Pacers now use the rider weight (if needed) from the cyclist assigned to them.

Making best use of a Fixed Pacer

Using a fixed pacer (currently Speed and Watts) will cause the pacer to maintain a speed or wattage. Because a wattage pacer may vary speed dependent upon the grade, a fixed wattage pacer may be better used on a flat course. Likewise a speed pacer will maintain speed regardless of the grade, it may be better suited for hill workouts where you want to pace at a known speed.

SmartPacers

SmartPacers react to the rider they have been assigned to. They may ignore their preset value at times and just hover close-by to their master rider (a few meters fore or aft) until the rider produces a value matching that of the pacer preset. At this point the pacer will "come to life" and begin interacting with the rider.

Making best use of a SmartPacer

Though the use of a SmartPacer is left up to the imagination of the rider, one very unique thing you can do is to set up multiple pacers with varying degrees of change; like, 200 watts, 225 watts, and 250 watts. Then you can vary your wattage during the ride and each pacer will know when it is their turn to engage you. But because they are not ever very far behind or in front of you, their engagement is quite swift. You can do the same with a smart speed pacer of; say, 22, 24, 26 mph and alternate drafting at each of these speeds by engaging one pacer at a time.

Performance Pacers

Performance Pacers react based upon the data stored in a previous performance. They are not smart, in the sense they react to a live rider. They are more similar to a fixed pacer and are controlled by fixed values. Performance pacers are now adjustable to allow a weaker rider to ride against a stronger rider performance or to allow you to race your own previous performance at a higher or lower rate than it was saved as.

Making best use of a Performance Pacer

A performance pacer is best used when you want to share performances with other riders or when you want to ride against your own previous ride. You can use a performance pacer "as ridden" or adjust the performance playback rate up or down to allow you to ride against your own previous performance at an easier or harder rate than you originally rode. This will also allow you to ride against a significantly faster or slower rider and not loose pace with them.

One key element to remember is that a previous performance contains the course file. Any adjustment to the pre-loaded course other than choosing a "Start at" or "End at" will disable the performance pacer because it no longer has a valid course selected to match the performance data. There can be subtle changes made to courses even if the course selected is the same course [name] as the course found in the performance file. So you must use the course saved within the performance file.

Saving a course from the performance file

You may want to extract the course from a performance file if the course isn't in your library. Load the performance and choose the "Save as" button on the setup screen to save the course

to your library. Once saved out of a performance, you can [modify the course](#) as any other.

Drafting functions

Key used: None on Controller. F7 on PC.

- This option is selected before race on the 3D Setup page and is defaulted to "ON", but you can toggle drafting during the ride using the PC keyboard F7 key.

- You can use drafting in any race where two or more riders are present. The draft window is between 6-16 feet (about 2-5 meters). Riders must closely match speed of the rider they intend to draft or they will not move into the draft zone.
- Multiple riders can draft each other to set up a pace-line draft. The same rules apply regarding the 6-16' (2-5m) draft window.
- Smart Pacers will automatically enter the draft zone of their master rider when the master rider produces the value similar to the setting given to the pacer.

Camera Views

Key used: [F4]

- Any rider can select their camera view when riding singularly or with split screens. The views include 1) First person; 2) Behind the rider; 3) In front of the rider; 4) Random movement.

- Any rider can select their rider using [F3] and while selected press their [F4] key to change to their preferred camera view.
- In multiple rider view (no split screen) as the data scrolls from rider to rider the camera view can be changed to the selected mode when that rider has the focus. The view will stick to this setting until the rider changes it.
- In split screen display you do not need to select your rider first. In this view the software treats each live rider screen as a mini-full screen assigned to each rider. You can change the camera view at any time using F4 while in split screen view.

Lap Counters

Key used: None if in Full Screen. Momentary press of [F2] key in split screen.

- If Rider #1 presses [F2] for more than a second, split screen will occur and riders can select/view their lap counters using the Split Screen functions mentioned above.

Each rider will be presented with a lap counter showing their last lap time and their fastest (best) lap time when their performance statistic cycle passes through (full screen view). In split screen, lap times are selected as part of the rotation through the SpinScan data, laps, and "all performance stats" widgets.

The entire lap time history is saved in the performance and the Report at the end of the race.

Race-end functions

- At the end of a race or after a reset, the performance files for each rider will be saved in the users\documents\racermate\performances folder.
- if you enabled reports or exports, these will occur based upon the selections made in [Options - File Saving](#)

Demo Mode

You can use the software in demo mode, which is useful to show it to friends and family, or at an event. To use demo mode, do the following:

1. Load a course and riders as you normally would and press Start to enter the race screen.
2. Press the PC key letter "D" to enter Demo mode. A small letter "D" appears in the bottom corner of the screen.
3. If you selected only one or two riders, you can run with those or add more as "demo riders" by pressing the PC key letter "A". Each press will add a rider, up to the maximum of 8 riders.
4. Press the number keys 1-8 and each number you press you can adjust that rider's speed using the left/right mouse key. This will be true even after the timer starts.
5. Press the PC key letter "G" to start the timer.
6. Press the PC number key to select a rider, then "F" to change their camera view.
7. Press the PC key "V" to switch to split screen views. While in split screen views you can still select a rider using 1-8 and use the "F" key to change the camera views, etc.
8. Press the PC key "R" to reset the race.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Classic MultiRider

Coming Soon

Classic MultiRider, when released in RacerMate One, will not functionally change much from the legacy versions. Apart from a polish work they will behave the same as previous versions of MultiRider. To make them RacerMate One compatible, many of the current rider setup screens were already changed to accommodate MultiRider inclusion.

When we have included Classic MultiRider, we will update this page with specifics on how to use this part of RacerMate One. For now, you can run the 3D Cycling application with 8 riders, if you want to add a new dimension to your MultiRider studio.

Related Topics

[Application Launchpad](#)

[Pick Riders](#)

[Course Profile Editing](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

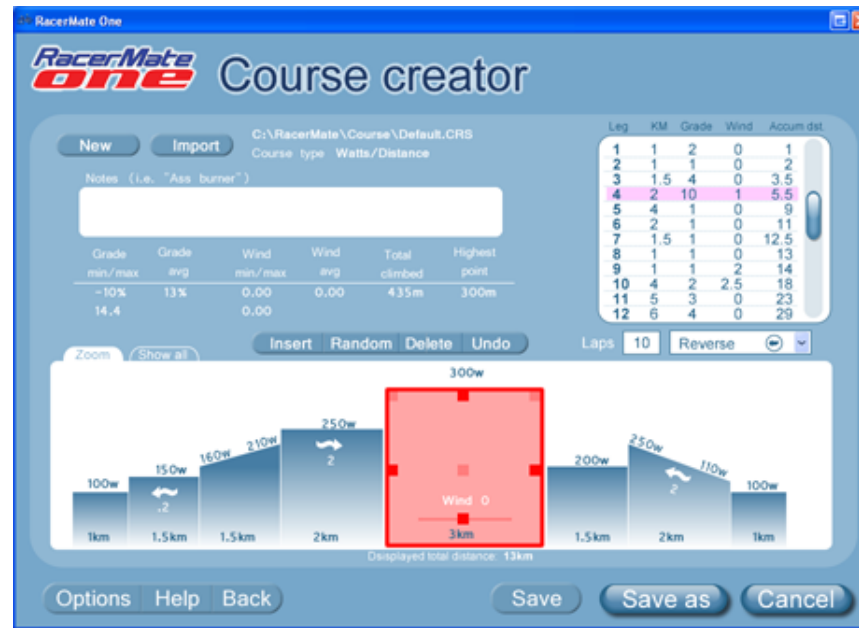
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Course Creator



Coming Soon

Course Creator within RacerMate differs greatly from previous versions of Courses Creator. It will have many of the same functions, but will present courses in every imaginable view to aid in changing and creating them.

Features

- Profile viewer breaking the course into "legs" to allow you to edit any leg.
- Import data containing distance and elevation data (GPX; KLM; CSV; etc.).
- Edit existing courses.
- Create new courses in grade, watts, and %AT.
- Insert sections into existing courses.
- Delete sections from existing courses.
- Undo allows you to back out of changes made.
- Reverse and loop new and existing courses.
- Select a section of course then select Zoom to view this section more closely.
- Add wind to existing courses
- Save existing courses as a new course to edit - leaving the original untouched.

When the software is completed and included within RacerMate One - this page will be updated to provide full instruction on its use.

Related Topics

[Course Profile Editing](#)

[3D Cycling](#)

[Power Training](#)

[SpinScan](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Power Training

Power Training allows for single-rider training in either grade or watt mode.



Setup a Power Training ride using a course

1. Select the drop-down menu above the courses and select Course (watts) or Course (grade) or Course (%AT)
2. Select a course from the list. For details on course selection options, click [here](#) for Erg courses and [here](#) for Grade courses.
3. Choose a [rider](#).
4. Choose Start to launch Power Training.
5. Press [F1] to start the timer.
6. Press [F5] ([Fn] plus [F2]) to Reset the ride at any time. If Exporting is to occur, it will at this time.

Setup a Power Training ride using manual course mode.

1. Select the drop-down menu above the courses and select Course (watts) or Course (grade) or Course (%AT)
2. Choose a [rider](#).
3. Select the manual control option as noted in the [Manual Erg page](#), [Manual Grade page](#) or [Manual %AT page](#).
4. Choose Start to launch Power Training.
5. Press [F1] to start the timer.
6. Press the [Fn] plus the [Up] and [Down] keys to change the wattage, grade,

Related Topics

[Pick Riders](#)

[Pick Ergo Course](#)

[Pick Road Course](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Rider Setup](#)

[Definitions](#)

[Key press shortcuts](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration - CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

or %AT.

7. The course will "create" on the fly based upon the changes you make.

Pausing a Ride

1. Pressing F1 will both stop and start the timer.

Resetting a Ride

1. Press [F5] ([Fn] plus [F2]) to Reset the ride at any time. If Exporting is to occur, it will at this time.

Using the Power Training application to view a previous performance

1. Select the drop-down menu above the courses and select a Performance type (Watts/AT, Grade).
2. The available performance files will be searched for and the list will grow as they are added. This may take a minute as the performance files are added.
3. Select a performance file from the list or browse to a location where the performance resides.
Note: You can also use Find to sort the list by a user, course, date - anything within the file name will filter in a search.
4. Select a Start or End section to set a zone (this will determine the averaging and peaks of the section when viewed).
5. Choose Start to launch Power Training.
6. You can now left-click anywhere on the profile or the chart window and move the mouse to show the data.
7. If laps are present, you can only move to a new lap within the chart section, but use the profile marker as a movement tool within that lap.

Using Power Training to determine your Drag Factor

Keys used: Fn and up/down key.



Complete instructions for determining Drag Factor is found [here](#).

Drag Factor can only be used on grade courses and will not work on ERG-based courses. Drag Factor can be adjusted and determined using Power Training before you start the timer when using a grade-based course in Power Training.

1. Select the drop-down menu above the course list and select a grade-based course type (Distance/Grade or Time/Grade).
2. Select any course from the list or select the Manual Course feature.
3. Make sure your rider is selected in the [Riders Edit](#) screen.
4. Press Start to load the Power Training application.
5. Begin your warm-up by pedaling the bike. Using the instructions found [here](#) duplicate the speed and gearing from your road test after your heart rate has stabilized.
6. Using the Fn and up/down keys adjust the Drag Factor value while maintaining the same speed and gearing until your heart rate stabilizes at the value you determined on the road.
7. Make note of the Drag Factor setting and record it. This is the Drag Factor value for you to match the outdoor conditions.
8. If you press F1 at this time to start the timer you will be asked whether you want to append your Drag Factor value in your rider profile. This will set the value for future rides.

Setting up the Channels of data

Some data can be viewed in the channel view window or turned off to simplify the

view. Check the boxes to the left of the data to display that data in the window.

To set the range of the window for each channel of data (to avoiding conflicts - i.e., data grouped all in the same part of the window), you can set these up in [Advance Options](#).

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

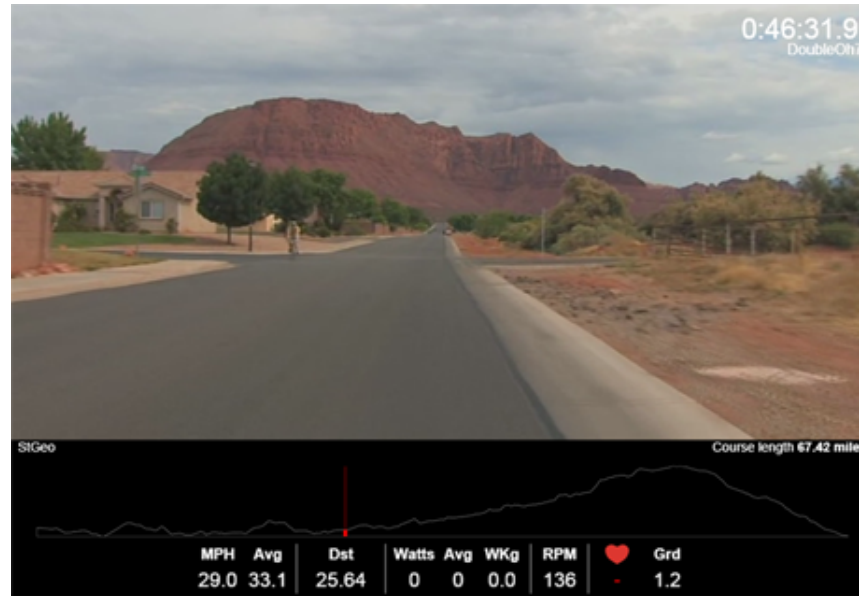
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Real Course Video



Real Course Video will eventually come in two versions. Home version and MultiRider version.

Home - Home use is limited to two riders or one rider and one performance file. In a single-rider ride you will have a screen like the one you see above. In a two-rider ride each rider will have a wide screen view stacked on top of each other and the dual databar and profile below.

MultiRider - (Coming Soon) - When using more than two riders there is a single video screen and the lead rider controls the video playback speed. All other live riders will travel the distance their speed takes them - regardless of the original course distance - as dictated by the speed of the fastest (control) rider. If you want two riders on one screen operating in this mode, choose a performance rider as a pacer to force the single-screen mode.

Setup a Real Course Video ride

1. Select Real Course Video from the Launchpad.
2. Select riders - Select [Riders \(Edit\)](#).
3. Select Course - Choose a course from the list and [edit the start and end](#) if required.
4. Select Start - Loads the video and the riders selected.

Course Locations - Browse

Related Topics

[Rider Setup](#)

[Advanced Options](#)

[Pick Riders](#)

[Real Course Video Registration](#)

[Definitions](#)

[Key press shortcuts](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

By default RacerMate One looks in the default location of the original Real Course Video software ([C:\Real Course Video](#)), but if you install and then move the video folders after they are registered (to regain hard-drive space on the C:\ drive), then you can use the "Browse" button to look for the video files in the new location. Doing this also sets the Advanced option for the alternative path for your video.

Rider selection is unique to Real Course Video

As mentioned above, the number of riders you choose will determine how Real Course Video operates. Because the video can't be in two places at once, and because two or more riders are rarely, if ever, able to pace each other exactly, something has to give. Real Course Video will allow split screen for up to two riders and anything above this will create a single video ride controlled by the lead rider (MultiRider version only - coming soon).

Starting and ending a ride in Real Course Video

Keys used: [F1] and [F5]

- The rider in position one starts the ride and pauses a ride using [F1].
- The rider in position number one can end the ride at any time using [F5] (Press [Fn] followed by [F2])

Using SpinScan in Real Course Video

Key used: [F2]

SpinScan is available only while doing one and two rider Real Course Video.

- To enable SpinScan anytime during the ride, either rider can display their SpinScan in their screen by pressing the [F2] key from their controller.

Drafting in Real Course Video

Drafting is not enabled in Real Course Video.

Demo Mode

You can use the software in demo mode, which is useful to show it to friends and family, or at an event. To use demo mode, do the following:

1. Load a video course and one rider as you normally would and press Start to enter the race screen.
2. Press the PC key letter "D" to enter Demo mode.
3. Press the PC key letter "G" to start the timer.
4. Use the left or right mouse key to change speed of video playback.

5. Press the PC key "R" to reset the race.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

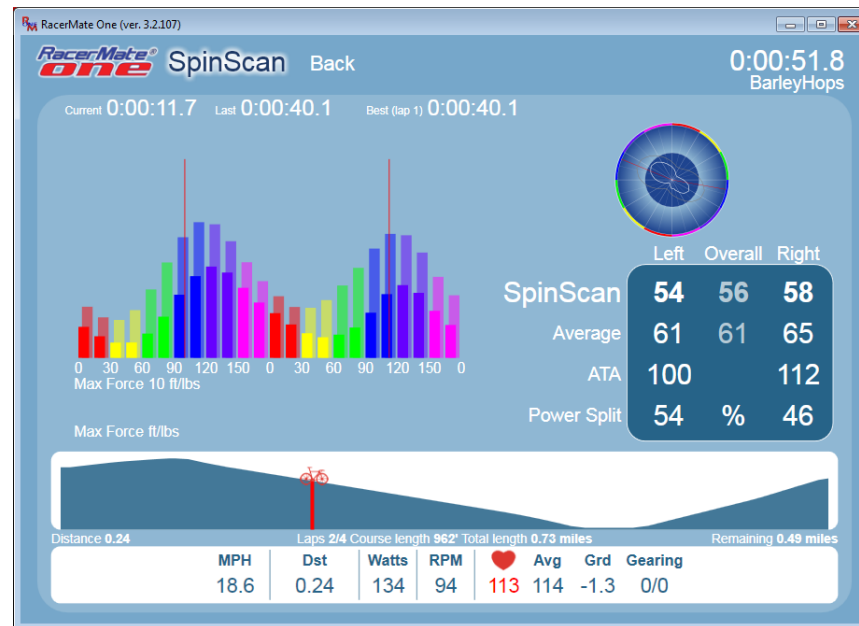
[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

SpinScan

SpinScan comes in two forms -- Bargraph and Polar. They are now both presented on the same screen.



What is SpinScan

The SpinScan number is defined as: Average Torque divided by Maximum Torque multiplied by 100. The SpinScan graphs represent torque output throughout the pedal stroke. The more efficiently you use your leg muscles to "pedal in circles", the higher the SpinScan values will become and the flatter (bargraph) or rounder (polar) the SpinScan Torque Profile will become. If your legs could produce power like an electric motor, the graphs would be perfectly flat or round and the SpinScan values would be 100, as in 100% efficient. But, of course, we are not electric motors, so we can't achieve 100% efficiency - and it would be silly to think we could.

Why be efficient? Will it help my cycling?

Debates abound on both sides regarding the benefits of being efficient. Or even whether SpinScan shows efficiency at all. It is not our goal to have you produce a specific value and it is impossible to predict how much improvement you can see on the road if you could pedal in circles. How you pedal is a long-developed thing known as "muscle memory" and the goal of SpinScan is to show you what you do at the pedals. Without this knowledge you will continue to pedal just like you learned it when you were a child on your first bike.

Related Topics

[3D Cycling](#)

[Power Training](#)

[Definitions](#)

[Key press shortcuts](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration - CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Most studies on pedaling efficiency have attempted to show that changes don't help. Any study we've been presented as proof of this appear to be pedaling technique changes momentarily made and analyzed as to how they effect wattage output. Most of these tests show wattage decreases as a result of a cyclist consciously modifying their pedal stroke. They offer these tests as proof that changes to improve the balance and shape of the torque curve to not apply directly to better results in overall power.

We suggest these studies only prove what happens in the short-term. No study has been presented showing proof that improvements in pedaling technique made over long-term training do not improve wattage output. Though RacerMate has never conducted a test on how improving your SpinScan will help you improve your cycling, there have been countless users offering positive feedback showing that it, in fact, has improved their wattage. But overcoming muscle memory and power split imbalances is not something you can achieve overnight and SpinScan has become the single most popular RacerMate feature because it helps reset the clock on some bad habits.

Bottom-line is: SpinScan is not a magic-bullet. It is a tool you can use to change how you pedal both instantaneously and over time. If the SpinScan numbers show an increase at a lower heart rate - and without a decrease in power -- you can't deny this is a good thing. If it helps you take a 70/30 power split and balance that to be 50/50 without a decrease in power - I'm sure the 70% leg will be very thankful to you for relieving it of its burden. It goes without saying that a power split where, one leg is carrying 70% of the load over a century ride or an 112 mile bike split, balancing out this work will be of great help - as long as you are improving the power of the 30% leg.

Key metrics to focus on

SpinScan offers efficiency improvements a few ways.

The SpinScan number (SS) - showing torque efficiency as defined above. Ranges from low 30's to high 80's (typical). There is no ideal number, but the goal is to make this number grow, over time, while maintaining the same wattage/RPM/Speed relationships.

Power Split (% split) - shows balance between the left and right legs. This only focuses on the power stroke, where the larger muscle groups play.

Average Torque Angle (ATA) - shows where you produce your average torque. Helps to determine when the muscles fire in relation to the crank-arm of the bike. 90-120 degrees is typical. Balanced values may be more important that a particular value.

SpinScan requirements

SpinScan requires having a cadence reading from the bike. The Cadence sensor triggers the starting point of the SpinScan graph and its position should be at or near the end of the crank-arm on the left side of the bike. If you have other cadence devices on the bike, these probably can be triggered at any position including from the down-tube of the bike or from the right side of the bike. You should consider these options for your other cadence devices if you intend to use SpinScan effectively.

SpinScan also will not read below a cadence of 30 RPM.

Using SpinScan with a trainer

You can use SpinScan in manual control or by using a course.

1. Select Rider - Select [Riders \(Edit\)](#) and choose the rider for Position 1 (SpinScan only uses a single rider).
2. Using manual grade control - Select Use handlebar controller to change grade. Instructions for using manual grade are found [here](#). You change grades manually using the [Fn] key followed by [up] and [down] and the grade will change in the increments you selected.
3. Using a course - Select the [Course \(Grade\)](#) or browse to find a course you want to use. If you choose, set a Start and End for the course.
4. Pressing the Start button - This will load the SpinScan Screen using the selections made on the SpinScan setup. page.
5. Start and pause the timer - Press [F1] to start or pause the timer. This will begin the course or allow you to change grade manually, if this option was chosen.
6. Pause/calibrate - If you pause the timer, you can enter Stand-alone mode and quickly check your calibration. To do so, press [F1] to pause the timer, press [F3] to disconnect temporarily from RacerMate One. Speed-up to 25 mph as displayed on the controller, stop, and let the trainer coast to a stop. Repeat if needed - otherwise press [F3] on the controller to save the new calibration value and return to the software. Press [F1] again to restart timer and continue the ride.
7. Swap between Polar and Bar - you do this at any time using the [F2] key.
8. Reset/End ride - To End the ride, press the [F5] key ([Fn] followed by [F2]). If you have Exporting and Reporting turned on, you may be prompted to save these at at race-end.

Using SpinScan with a performance file

You can playback any grade based performance file in SpinScan. The performance selection list will replace the course list when you select this option and will automatically filter on the performance files available to use this tool.

1. Select Performance (Grade).

2. Select a performance file from the list.
3. Set Start and End on the course loaded to choose the section of the performance file to begin at.
4. Select Start to load the performance.
5. Press the [G] key on the PC keyboard to start/pause the performance playback.
6. [F2] on the PC keyboard will swap the graph from Polar to Bar.
7. You can grab hold of the bike marker on the course profile (click and drag) to move the performance file though time more quickly.
8. If the course was lapped, you can select the lap button at any time (useful to pause [G] first to do a comparison one lap to another).

Further reading

You can read a page written by Bill Edwards on his [SpinScan](#) page.

For more information on Bill Edwards, you can purchase the following book. Bill's technique at improving a cyclist performance is revolutionary.

http://www.computrainer.com/rm_inc/Stories/bill_edwards.htm

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

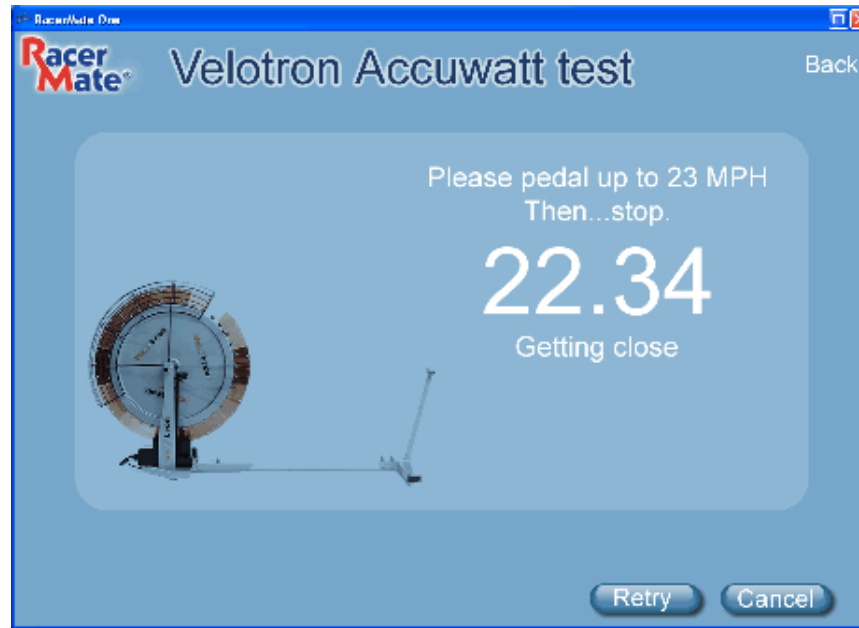
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Accuwatt for Velotron



Accuwatt allows a Velotron user to rest assured their Velotron is as accurate as the day it left the factory. Accuwatt is like looking back-in-time to the day the Velotron was first calibrated. If your Accuwatt results are good, your tests will be accurate.

You were issued a "factory calibration" sheet when you received the Velotron and this value was entered into the Velotron at the factory and will be used for these test. If you need to update or enter your factory calibration value, you will need to use the special application, not part of RacerMate One, supplied with the Velotron to do this.

Running Accuwatt

1. Launch Accuwatt from the start-up request or from the Hardware Setup options.
2. To begin, slowly pedal up to 23 miles per hour and stop.
3. Allow the flywheel to slow down on its own.
4. The test occurs when the flywheel reaches 22 miles per hour and ends very quickly.

You will see the following display.

Related Topics

[Velotron Accuwatt Tips](#)

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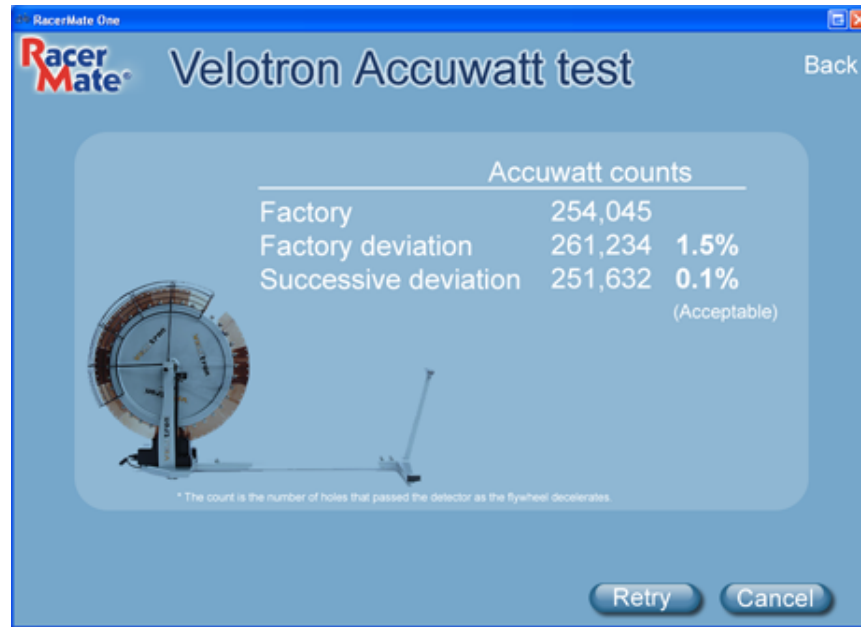
Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

The results include the following:

Factory Calibration number

Current Deviation from factory values

Successive Deviation (compare this run to the last)

Success or Failed display based upon a +/- 1.5% accuracy range

The Factory Calibration is the number found in the Velotron firmware.

The Current Deviation is how far off from factory calibration (in percent)

The Successive Deviation is how far off this run was from the run immediately before; also in percent. This will help show the trend.

Success or Failure is based upon whether the test was within the 1.5% accuracy range (Success) or outside the 1.5% accuracy range (Failed).

- If Success, you are good to run your tests.
- If Failed, [click here](#) for troubleshooting tips.

[Table of Contents](#)

[Shortcuts](#)

[Key press shortcuts](#)

[Applications](#)

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

[Home](#)

[Definitions](#)

[Welcome to RacerMate One](#)

[Misc.](#)

[3rd Party Partners](#)

[Options](#)

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

[Setup](#)

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)



Useful Definitions to terms used within RacerMate hardware and software.

Anaerobic Threshold - Anaerobic exercise is exercise intense enough to trigger anaerobic metabolism. For more information:

http://sportsmedicine.about.com/od/anatomyandphysiology/a/LT_training.htm

Anaerobic Threshold Heart Rate - The heart rate reached at the point of reaching your anaerobic threshold.

Anaerobic Threshold Wattage - The wattage reached at the point of reaching your anaerobic threshold. Used in RacerMate One to determine what %AT operates by.

Average Torque Angle - (also known as: ATA) Average Torque Angle values shown in the Polar and Bar SpinScan screen. These are the red lines shown within the SpinScan graphs. Not peak torque as some have surmised, but rather average torque angle. Best used as a comparison between the left and right legs as to how the muscles are firing. Ideally, you would want the average torque to be where the crank arms of the bike can best utilize the effort.

DragFactor - A RacerMate function to adjust the workload on a cyclist produced by adjusting the riders frontal area. Similar to inputting your aerodynamic drag coefficient (if you were lucky enough to know it), but instead uses a comparison between outdoor cycling efforts - as seen as speed and heart rate on a flat course - and adjusting the trainer to mimic the same efforts to produce the same speed and heart rate.

ERG File - An erg file (short for ergometer file) is a watt-based test used to maintain a constant wattage. Ergometers were typically devices that were purported to be able to maintain a constant torque, so it was assumed if the rider could hold a constant RPM - the wattage would be fixed. In an electronic trainer, torque adjusts with RPM to hold the watt-constant, but holding a steady RPM is still advised to minimize any variation in wattage caused by the computer having to vary the torque as fast as the cyclist is changing.

PulsePower - A RacerMate function. PulsePower is defined as the ratio of watt-seconds per heart beat, or heart energy output, in ft.-lbs. per beat divided by the body weight times 1000. PulsePower is the relation between heart rate and watts. The efficiency at which a cyclist produces power for a given heart rate is what determines the PulsePower value. By adding rider weight into this equation (as we did) the coach or athlete can accurately compare multiple riders, regardless of

[Related Topics](#)

[Definitions](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -](#)

[CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

weight, to determine who, for a given physiological makeup, will be most apt to excel in a specific cycling function -- be it sprinter or endurance. The higher this PulsePower number, the better.

SpinScan - A RacerMate tool for displaying torque output at the tire as it relates to your input at the pedals. Includes SpinScan value, which is defined as: Average Torque divided by Maximum Torque multiplied by 100.

TSS/IF/NP - A TrainingPeaks/PeaksWare function. TSS = Training Stress Score; IF = Intensity Factor; NP = Normalized Power. These will only function if the user entered a valid FTP value (functional threshold power) in their rider profile. For more information, go to <http://www.trainingpeaks.com>

Wind Load - (also know as: wind resistance) The effect of wind creating work against a moving object. Resistance = aerodynamic drag constant x velocity²

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)



Welcome to RacerMate One.

RacerMate One is a completely new experience for CompuTrainer and Velotron users. Though the software has been written with ease of use, it contains a depth of features you may still need instruction with.

Your CompuTrainer and Velotron has gone green with RacerMate One and this is the operation manual in the form of a help system. No more chopping down trees to make software manuals. Though there is a small assembly manual with the trainer, every feature and function of RacerMate One is always at your fingertips while using the software. With no manuals to dig through, click on the Help button, on any page supplied with one, for help with that feature.

How to use this help system

- You will find a complete table of contents to your left on any page within the Help system. Click on the subject you are needing help with.
- Links can be found to related topics for the page you are viewing to your right.
- Links to other pages can be found from within the body of text you read in the middle. These will help you follow themes in more detail; items common to all pages - rather than putting the same information on every page. Keeping it simple for you.

Another beauty of this system is the ease of updating the documentation with every update to RacerMate One. No longer will you need to worry about new features being added and having to download another manual separately. It will be automatic.

We hope you enjoy using RacerMate One. We have built in a ton of flexibility into its design - making it easier to use and update with new features over the years to come.

If you find bugs, want to recommend new features - please feel free to contact us anytime by [emailing us](#).

Related Topics

[RacerMate One First-use Wizard](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

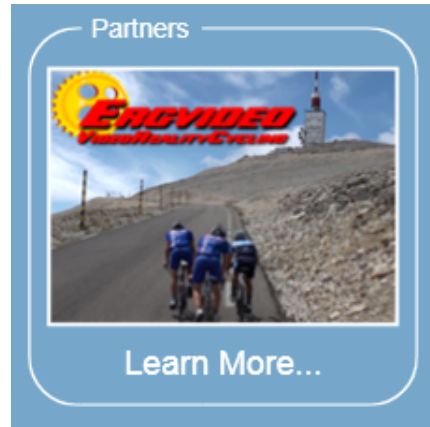
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Third Party Partners



Third party development is limited to post race analysis applications. With the advent of RacerMate One we have now one key third party application different from all others - ErgVideo (www.ergvideo.com). ErgVideo's developer Paul Smeulders was a key player in the development of RacerMate One and in return he has been given sole rights to develop software directly compatible with RacerMate hardware.

One goal of RacerMate One was to also make it easier for third-party developers to use the race performance files. To accomplish this we have changed the performance files to be more compatible with these applications and to allow for third-party applications to develop software we can connect with automatically after the race is over.

Developers should contact RacerMate directly with their interest in becoming a partner. Send a request to: development@racermateinc.com

Related Topics

[File Saving Options](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

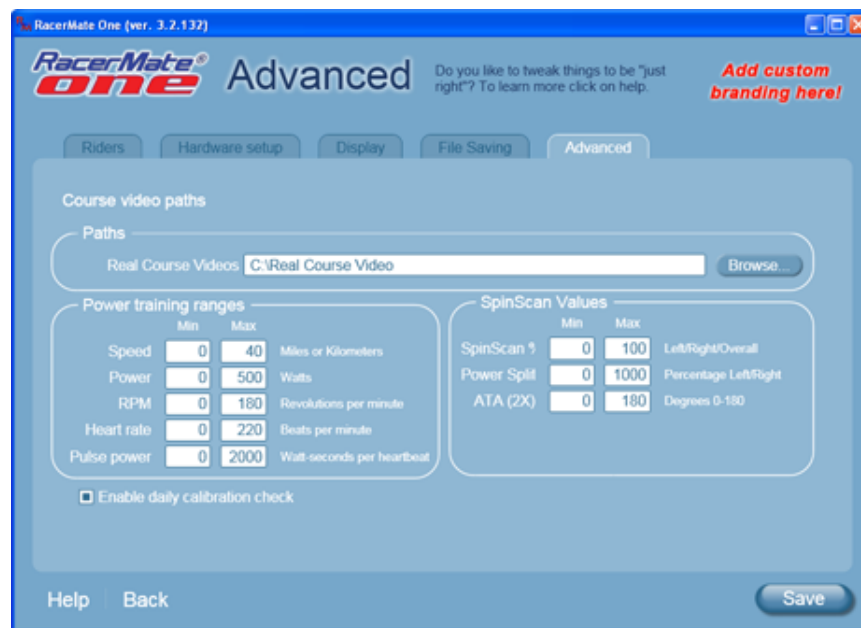
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Options - Advanced



The Advanced Options tab is where all the rarely changed settings are kept. Here you'll find where to establish the range of window scaling used in Power Training as well as where you might have moved your Real Course Videos.

Real Course Videos - Where my video are:

Enter the path where the "browse" button on the [Real Course Video setup](#) screen points to. By default this will be: C:\Real Course Video\

Note: Selecting the Browse button in the Real Course Videos application will likewise change this setting to the last location selected.

Power Training Ranges

The Y-axis scaling on the [Power Training](#) screen is set using this scaling option. In this dialog are a list of Minimum and Maximum values that determine the location within the Power Training window where the channels of data will reside and how high or low the numbers will go. The importance of these settings are to keep data on the Power Training "graph window" from piling up all in the same spot on the window.

When you adjust the scale of any value, this not only increases the maximum range any data can be shown, but the location in the window the channel will run.

Related Topics

[Power Training](#)

[Rolling Resistance Calibration -](#)

[CompuTrainer](#)

[Real Course Video](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -](#)

[CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Examples:

- If you are producing 150 watts displayed on the screen set, with a 0 Min and 300 Watts Max setting in the Power section, this will show exactly 1/2 way up in the middle of the screen.
- If you set the scale to 600 Watts Max, your 150 watt value will show 1/4 of the way up the scale.
- If you set 300 watt max and produce 450 watts, the maximum "displayed" data channel for watts will be 300 watts and the wattage graph will not show. The data bar below will still show the correct value.

Enable daily calibration check

If you checked "[Do not ask me this again](#)" in regard to checking calibration on startup, this option will turn it back on again.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Display Options



Customizing each application's databar

Each application has a custom databar display - with the exception of Power Training, which will display all the data available based upon the grade or watts course selection.

There are default settings created you can use - or you can create, and save, a variety of setting groups for each application as well.

To create a new databar group setting

Related Topics

[3D Cycling](#)

[Real Course Video](#)

[SpinScan](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

1. First select the Application you want to set a new group for. This will display the original default group.
2. Select or deselect items as needed. The first change made will display the Save as button.
3. Click on Save as to display a dialog where you can name this group. The group is internally connected to the application, so no need to worry giving the group an application specific name -- though you can name the group anything you choose.

Deleting a databar group

1. Select the Name drop-down menu to select the group you want to delete
2. Click Delete

Using the custom databar group

1. If you have created a custom databar group, you will see them displayed on the Setup screen for the application you choose. Select it there to make it the active databar.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

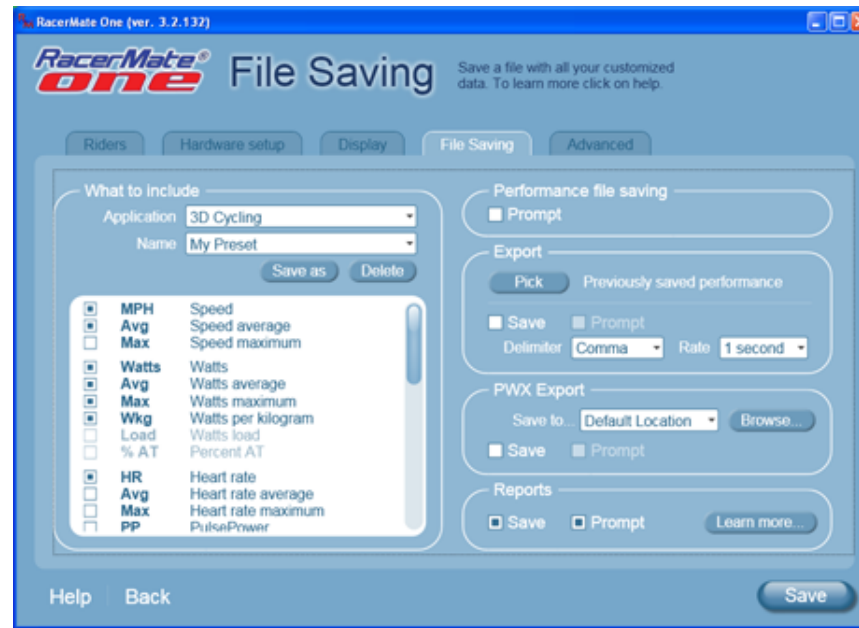
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

File Saving - Exports and Reports



The File Saving page is for setting up all the files saved in your RacerMate One applications. This applies to performance files, export files, and reports. You can customize exports in this screen, but performance files and reports are pre-defined and you can only enable or disable saving or prompting a save from this page. You can customize the branding of a report outside RacerMate One, but this is the only customization available.

Performance File Saving

By default we save everything with no user intervention. Every ride, regardless of length, gets saved. This will eliminate the potential for you to accidentally skip saving an important ride. But we did give you the option to be prompted to before saving, which puts this option back into your hands. RacerMate One does make it harder to close a race without saving it, but if you press No to save instead of Yes [Prompt enabled], you will not be able to recover the ride.

- To enable being prompted for saving performance files - check mark the Prompt box. This will present you with a dialog at the race end for saving the performance file.
- If you want to save every ride you do automatically - un-check the Prompt box.

Exports and Reports are different

Related Topics

[Real Course Video](#)

[Classic MultiRider Help](#)

[SpinScan](#)

[Power Training](#)

[3rd Party Partners](#)

[Reports](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

An export is an output file extracted from your performance file. Your performance file is a raw format of every millisecond of every piece of performance data, whereas an export is just selected bits and pieces of the performance file at the interval you select. You get to choose the bits and pieces.

We have preset some default export settings in the "What to include" section of the File Saving tab, but you can customize these as shown below. These default and custom Export settings are application and course type specific, so you do not need to worry about accidentally selecting "Grade" on an "ERG-based" course. If an item can't be selected in a list, it does not apply to that type of course.

A report is an even smaller sample of the performance file. It is formatted for viewing in a web browser or printed as a hand-out. It has a pre-formatted layout and the only thing you can edit is the graphics - if you want to change them. Detail on this can be found [here](#).

Customizing each application's export settings

Each application has a custom export setup.

There are default settings created you can use - or you can create, and save, a variety of setting groups for each application as well.

To create a new export group

1. First select the Application you want to set a new group for. This will display the original default group.
2. Select or deselect items as needed. The first change made will display the Save as button.
3. Click on Save as to display a "Name for this report:" dialog where you can name this new export group. Note: The group is internally connected to the application, so there is no need to give this new group an application specific name. You can name the group anything you choose.

Deleting an export group

1. Select the Name drop-down menu to select the group you want to delete.
2. Click Delete. Note: There is no warning when deleting these custom groups.

Using the custom export group

The last selected export group per application determines the export template.

Export settings

Why Save and Prompt?

Unlike Performance file saving, Exports and Reports are optional. You can elect to save them or not save them. If you do everything automatically, you can select "Save" only or add the "Prompt" selection to be asked prior to saving - otherwise, just expect it to happen without your intervention. Prompt is only available when you select Save first. This is present you with the question at the race completion as to whether to save - or not to save.

Export options

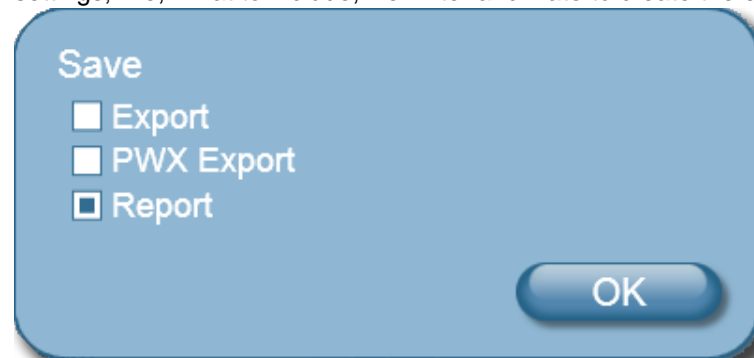
The standard Export allows you to select the style of file and the frequency of the data. This applies only to Exports of the generic kind.

- Delimiter: You can decide whether the export delimiter (the character separating each piece of performance data. The options are Comma; tab, Semicolon; Period, or Quote. Historically, comma is most common, but if you have a special need, choose your option.
- Rate: This determines the approximate frequency of data in the export. RacerMate performance files save as fast and as often as possible (often computer limited - not application limited) so you may find an export becoming 10-times larger on your computer hard-drive than the performance file it was created from. Selecting a Rate will help reduce the size of the file, but may be enough to show the trend in your performance analyzing software.

Note: PWX format is preset as defined by TrainingPeaks.com.

Export selections

- Pick - Select [Pick] Previously saved performance to search for a performance file to export. These would be any performance file not automatically exported - or an performance file you want to export differently than before; perhaps using a different export group selection. This will ask you what type of file you want to create. The export function will look at the settings; like, What to include, Delimiter and Rate to create the export file.



- PWX Export - this is a preformatted export for use with Training Peaks WKO. For more information on using this format, go to TrainingPeaks.com. You can choose to export these files to a specific location. Choose Browse

and select a location/folder.

- Reports - These are HTML-based reports with a summary of the race results. For more information on these, you can press the Learn more button on the File Saving page - or by clicking [here](#).

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

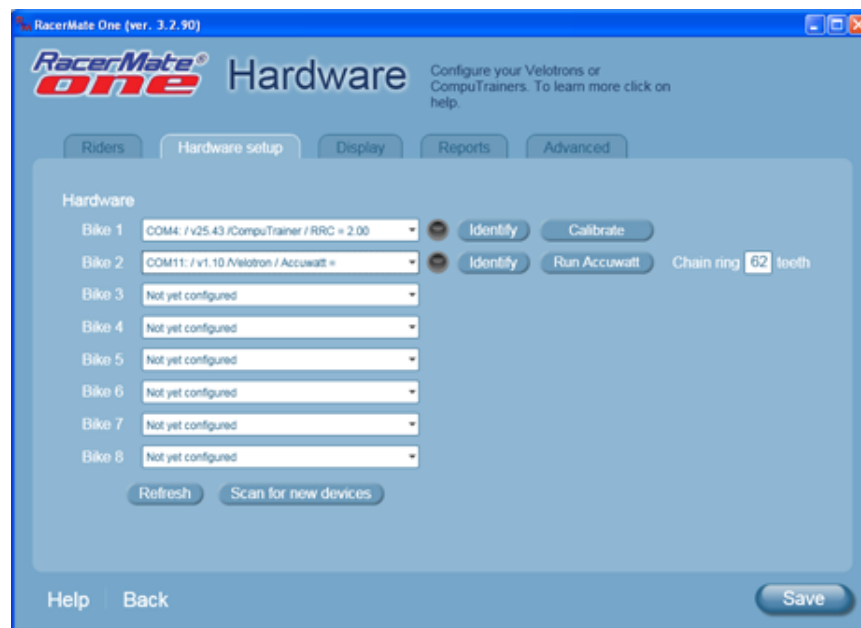
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Hardware Setup Options



The Hardware Options page features:

- Eight bike positions shown
- Indication of hardware found with display of Comm port addresses, trainer firmware versions, trainer types, calibration status
- The ability to "shuffle" trainers around virtually without changing cables using "Identify"
- A control feedback indicator to show which trainer is connected where
- Access to the rolling calibration and Accuwatt tools
- Access to the Velotron "front sprocket" setting
- A deep search function to detect new hardware just installed
- A shallow search function to reestablish communication if you accidentally launch RacerMate One with hardware turned off or disconnected

Hardware detection

[Hardware detection](#) occurs when RacerMate One launched. There is no On/Off switch for this as in years past. The difference with RacerMate One is that the assignment of hardware is determined by the user if there is more than one trainer found.

Scan for all hardware - This will do a "deep search" for any new hardware installed onto the computer not previously detected. Press this button to start the scan - then use the Bike# dropdown to verify the new hardware is found.

Related Topics

[Velotron Accuwatt Help](#)

[Hardware Setup](#)

[Troubleshoot Hardware](#)

[RacerMate One Hardware Detection](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

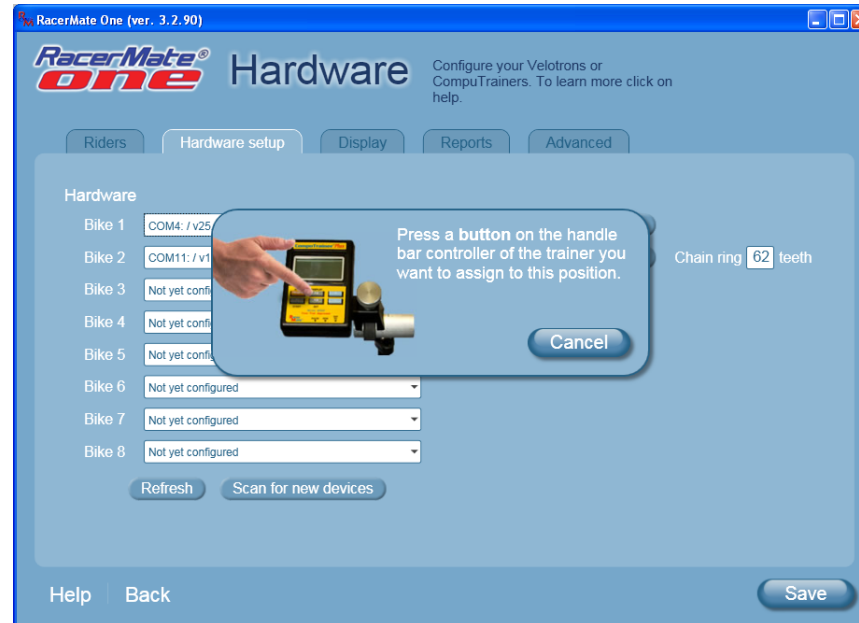
Refresh connections - This will do a "shallow search" to reestablish previous discovered connections. This is useful if you launched RacerMate One with trainers unplugged or powered OFF. Turning on the trainers or plugging in the trainer, then pressing Refresh connections, will set these up again.

Hardware assignment

Hardware assignment can be done two ways. If you know for sure what trainer is connected to what comm port, then you can click on the drop-down arrow (in the white box) and select the appropriate trainer.

Identify button - The second option for assigning trainers (as indicated in the image below) is done by pressing the "Identify" button followed by pressing a key on the controller of the trainer you want assigned to that spot.

Swapping hardware - Using Identify will swap the assignments. So if you have two trainers in spots 1 and 2, assigned as Bike 1 and 2, you can easily swap them by selecting Identify for Bike 1 and selecting the controller on trainer #2.



Verify assignments

When you are finished assigning hardware, you can walk down the line of trainers and press any key on the controller and verify the assignment by looking at which light (to the right of the Identify button) shows on the Hardware options screen. If any trainer is out of sequence, you'll have the opportunity to change it using one of the two assignment options above.

Running calibration or Accuwatt

Depending on the trainer hardware you own and the selection of this hardware for a Bike position, you will see a Calibrate or Accuwatt button to the right of the hardware displays. You can press these buttons to do a single-session [calibration](#) or [Accuwatt](#) test.

Using the Hardware setup screen as a diagnostic tool

The display within the bike selection drop-down will display not only the type of trainer, but information about comm ports, Trainer firmware versions, calibration values (CompuTrainer), and factory Accuwatt values (Velotron). These are all quickly seen and can clue you into a trainer that is uncalibrated, running an older firmware version - or just simply a bike that was once connected, but no longer is. You can provide and may be asked for the information found in this display window when contacting service. You can learn more about troubleshooting your trainers [here](#).

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Reports

A Report consists of performance statistics from a ride. The format provides for all the basic performance data and this format can not be changed. If you want more substantial report data, you should use the export feature and a third party application; like, TrainingPeaks.com or Performance Pro.

Reports are html-based files, which means they will open using the same browser you use for browsing the Internet.

Example report

Item		Min	Avg	Max
Watts		110.5	246.8	657.9
Watts Per KiloGram		1.4	3.1	4.4
Heart Rate		80	126.5	176
MPH		19.5	22.4	26.8
RPM		62	86	96
Overall SpinScan		66	72	79
Left SpinScan		65	72	82
Right SpinScan		72	73	84
Power Split Left		44	48	52
Power Split Right		56	52	48
Left ATA		95	96	102
Right ATA		96	95	104

Course Data	
Name:	C:\Users\Documents\RacerMate\Courses\1 Mile Test.3dc
Distance:	1.00 Miles
Units:	English
Min Grade:	-4.5%
Min Wind:	0.0 mph
Laps:	0
Avg Grade:	3.5%
Avg Wind:	0.0 mph
Total Climbing Feet:	675
Lap Length:	0.0 feet
Max Grade:	6.1%
Max Wind:	0.0 mph

Rider Data	
First:	Sam
Last:	Adams
Age:	44
Total Weight:	160
AeT (Watts):	200
FTP (Watts):	210
HR-Resting:	48
HR-Maximum:	176
Zone 1 (50-60%):	112
Zone 2 (60-70%):	125
Zone 3 (70-80%):	138
Zone 4 (80-90%):	151
Zone 5 (80-100):	164
Username:	Barleyhops
Gender:	M
DragFactor:	100%
HR-Anaerobic:	160

Performance Statistics	
Total Miles Ridden:	0.00
Rolling Calibration:	11: 2.00 U
Finish Time:	00:00:00.0
Lap Avg:	None
Calories:	0.0

RacerMate one		PERFORMANCE REPORT	
		Date/Time: 2010-12-23 10:33:00	

Related Topics

[File Saving Options](#)

[3rd Party Partners](#)

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Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

You can customize the branding of a report to make it applicable to your needs.

Customized Reports

Report formatting is currently preset as mentioned above, but you can change the branding on the report to represent your home, team, bike shop, MultiRider center, etc.

Image editing

To change the branding on the report, you must edit the images found within the Reports folder. These images are linked to the report from within the folder they exist - so the intent is to print them or view them from the Report subfolder. If you move the report to a different folder, be sure to copy the images as well. These images are as follows:

- top_left.png
- bottom_left.png
- bottom_right.png

You can edit these images with any image editing application. You should pay close attention to the following:

- Make a copy of the original files (don't worry if you forget, we've zipped up another set just in case)
- Keep the file names and file extensions the same
- Keep the images the same size as the originals

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Riders setup

The Riders tab is where you add and edit riders in RacerMate One.

Selecting riders

You may have added a couple of riders or even imported riders from MultiRider when you installed and ran RacerMate One the first time. This first-run creation of rider data didn't populate every field or fields that were not available in the older software. You will want complete the creation of your rider data.

To select a rider, select the Username drop-down and scroll through the user names until the rider is found and highlight it to select it. You can then edit the data in this page as needed and click Save to append the rider database folder.

Adding riders

To add riders, do the following:

- Create a Profile - Click Add rider to clear the fields and begin anew. You will be asked to first choose a Username. Enter this and click OK. Now enter your First and Last name, age, and gender.
- Height/Weight - Set whether the data you will enter is in English or Metric values, then enter your weight, the bike weight, your height, and your [DragFactor](#) (when you know it).
- Personalize - This section addresses specifically the rider you will see of

Related Topics

[RacerMate One First-use Wizard](#)

[Heart rate zone settings](#)

[Pick Riders](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

yourself in 3D Cycling. Your Male/Female selection has already set the image accordingly, but you can choose colors for all the clothing as well as the type of bike and colors for the bike. Clicking on any color selector will open a color selection tool.

- Personalize with a "bot" image - If you select the Silver or Gold bot rider for your image (popular selection will be a silver rider for an Ironman triathlete). Be aware these images are also used, at random, for pacers.
- Heart rate - This is where you set and calculate your [heart rate zones](#). Enter your Anaerobic, Resting, and Maximum heart rate then select Calculate to populate the 5 heart rate zones.
- Set Heart rate alarms - Select a [low or high alarm](#) if you want a warning when you exceed this setting on either end. If you don't select a high or low alarm, none will sound.
- Power - Enter your Anaerobic Threshold wattage and your Functional Threshold Power.

When finished with your rider settings, press Save.

Pacer specific settings

Some settings in the Rider setup page function as a "drive" for Smart Pacers used in 3D Cycling. Smart Pacers are "owned" by individual cyclists and will react based upon these settings. You should verify the following values are correctly set before assigning a Smart Pacer to you.

- Heart Rate Maximum - used to drive the Heart Rate Smart Pacer.
- FTP (Functional Threshold Power) - this is a well known function as created by the Training Peaks / Peakware group. If you want to find out more regarding FTP, please go to www.trainingpeaks.com for more information.
- AeT wattage - This is your anaerobic threshold wattage. If you don't know what your anaerobic threshold wattage is, there are many tests and instructions for conducting this test on the Internet.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

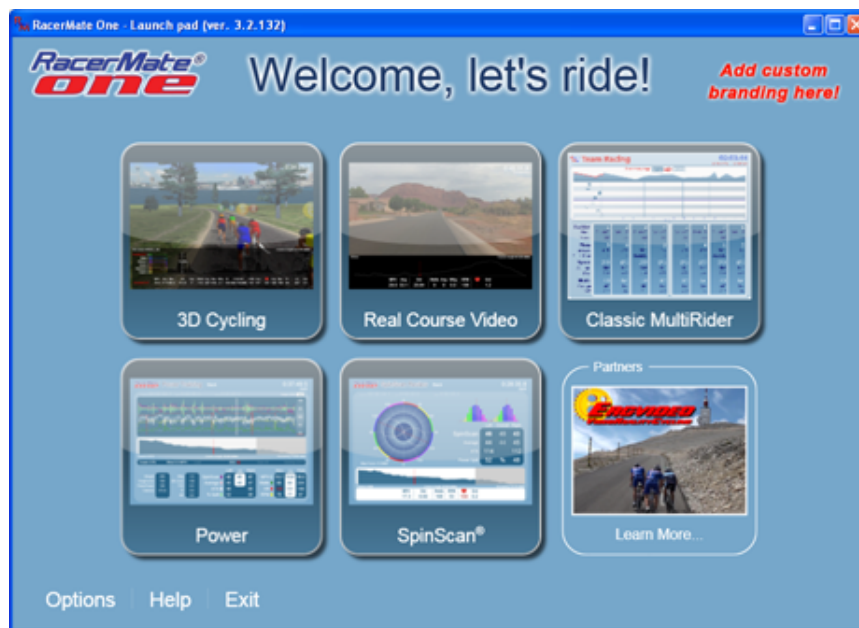
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Application Launchpad



The Application Launch pad is where you launch RacerMate One applications. From here you can go to any application created specifically for and linked to RacerMate One. The following actions are possible:

- Hover your mouse over any button for a quick description of the application.
- Click an any button to load the setup screen for that application.
- Enter Options or Help by clicking on those buttons on the bottom left of the screen.
- Click on [Partners](#) to load a local help page where you can find out about 3rd party applications friendly to RacerMate.
- Exit will close the application.

Note the version number of the software you are running is shown in the title-bar. Please refer to this version when calling or emailing for service.

Add Custom Branding to your RacerMate One copy

In the top-right corner of the screen is a location where you can add a brand or logo of your choice. A bike shop may want a store logo. A coach may want their logo. There isn't a lot of space, but you can fill what there is with whatever you want.

Changing the art

1. Browse to C:\Program Files\RacerMate Inc\RacerMateOne\Art\Training Gym

Related Topics

[3D Cycling](#)

[Classic MultiRider Help](#)

[Real Course Video](#)

[Power Training](#)

[SpinScan](#)

[3rd Party Partners](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Logo\GymLogo-170x70.png

2. Open this file in an image editor.
3. You will note this file is currently blank and has a transparency layer. If you want to maintain this transparency, be sure to use a graphics program capable of maintaining this transparency. If you don't you will have a 170x70 rectangle. It's OK to do so, if you choose.
4. Edit the image, but do not change its size or filename. It must remain 170x70 and the filename is hard-coded and will not appear in the application if changed.
5. When done, save the file to overwrite the existing [blank] image.
6. Launch RacerMate One to enjoy your handy-work. It will appear on the Launchpad and all the application setup screens, but will not appear on the race screens.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Editing a Course using the Profile Editor

Every application uses a course of some type. Though the images presented here indicate they are from 3D Cycling, courses can be grade-based or watt-based and the application you select will present only the course type available to it.

RacerMate One also introduces 3 new course types over the previous offerings.

Here are the now available course types and the applications they are available to:

- Distance and Grade: 3D Cycling; Power Training; SpinScan; Classic MultiRider
- Time and Grade - NEW - Power Training; SpinScan; Classic MultiRider
- Distance and Watts - NEW - Power Training
- Time and Watts - Power Training
- Distance and %AT - NEW - Power Training; Classic MultiRider
- Time and %AT - Power Training; Classic MultiRider

Note: Real Course Video (RCV) courses are of a special type and only run with the real course video. You may find a converted RCV course in the list, but these are not the same courses that actually drive the RCV. Because of the nature of RCV courses, you can only edit the start and end and ride it one time this way. RCV requires saving the course and the video from within the same folder and they must be the same name as well. So saving edits is disabled for RCV.

Selecting a course will load it immediately into the profile section so you can view basic information about the course. If you want to make more than just a simple edit to the course, you can click on the Edit button to load the course into the [Course Creator](#) and edit it further and save it as a new course.

Course editing is non-destructive to the original data. The course editor merely creates a list of "read points" to tell the application running the course where to read from. This means a course previously edited and saved as a new name still contains the original course and you can re-edit the course back to its original state or make minor tweaks to it if you ever wanted to do so.

The Profile - What can I do with it?

The course profile has many tools available to it depending upon the course type (i. e., RCV will not allow reversing or out and back):

- Start slider
- End slider
- Course data preview balloon
- Course reversing
- Laps/Intervals
- Zoom
- Access directly to Course Creator (when available)

Related Topics

[Course Creator](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Course Profile Editing](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

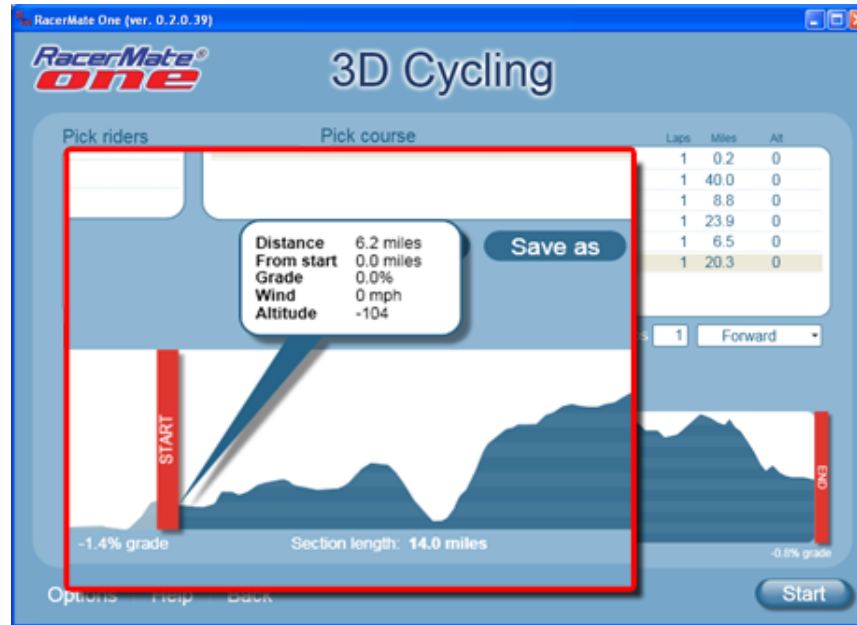
Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

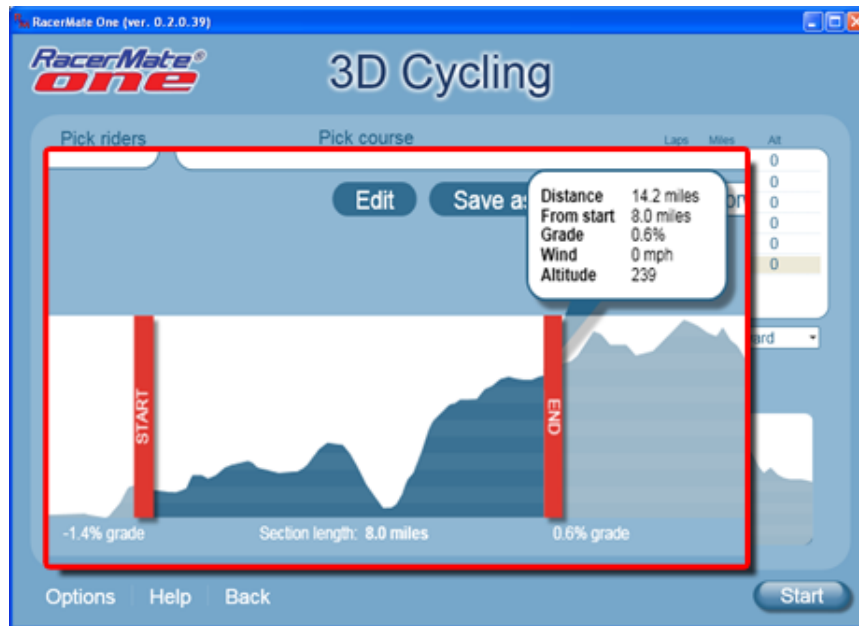
[Troubleshoot Hardware](#)

The Start slider



When you left-click and drag the Start slider inward a data balloon appears to indicate where you are at and what the current grade is. You can see from the Section length at the bottom of the profile the current length of the course with the adjustment accounted for.

The End slider



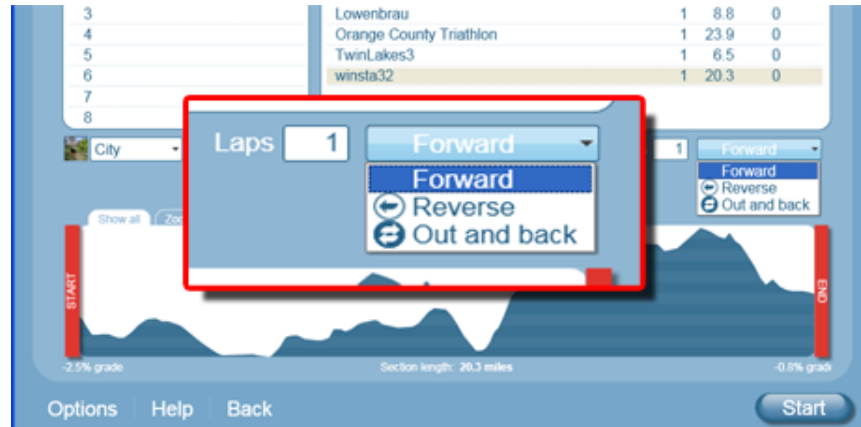
The End slider will allow you to define the ending part of your ride, or where you want the next lap to begin - if you set more than one lap. Again a data balloon will help you position the End slider where you want it and the Section length will show you the current course length with this adjustment accounted for.

The Data preview balloon



By placing your mouse cursor over the profile and moving it left and right it will display the statistics for this course. Unless the course has a known starting elevation all courses begin a zero elevation and you can tell elevation gain on a course by moving the balloon. You can also see distances, grade, wind, watts, time - all depending on the course type. The Data preview also helps in placement of the Start and End slider as noted above.

The Reversing tool



The Reversing tool will allow you to take a course, or a selection of a course, and reverse it.

Out and back

This allows you to do an out and back on the course or a selection of a course.

Laps/Intervals

This tool will change to Intervals when doing watt tests. This tool tells the software how many times you want to do the course or the selection of a course.

Zoom



If you want a closer look into the course you are editing, you can click on the Zoom tab to change the view of the course. You can drag the Start or End sliders [MISSING in the image] to make small tweaks to get the course exactly the way you want it.

Course Creator (Coming Soon)

If you would like to edit a course more than the above edits allow, the new Course Creator will allow these. When available you will be able to open any course loaded by selecting the Edit button to load it into the [Course Creator](#) tool. From there you can do anything, including all the above edits, all in one place. The Course Creator tool will also create courses from outside sources, like GPS-based GPX files.

RacerMate One

RacerMate ONE Course creator

C:\RacerMate\Course\Default.CRS
Course type: Watts/Distance

Notes (i.e. "Ass burner")

Grade min/max	Grade avg	Wind min/max	Wind avg	Total climbed	Highest point
-10%	13%	0,00	0,00	435m	300m
14,4		0,00			

Leg	KM	Grade	Wind	Accum dist
1	1	2	0	1
2	1	1	0	2
3	1,5	4	0	3,5
4	2	10	1	5,5
5	4	1	0	9
6	2	1	0	11
7	1,5	1	0	12,5
8	1	1	0	13
9	1	1	2	14
10	4	2	2,5	18
11	5	3	0	23
12	6	4	0	29

Zoom:

Laps: 10

Displayed total distance: 13km

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

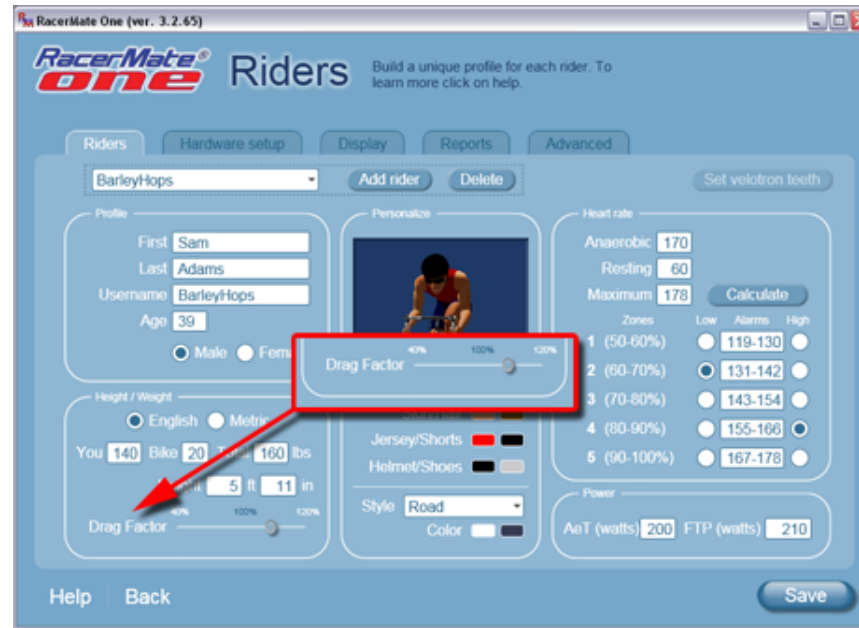
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

DragFactor



DragFactor is set in the [Rider Options](#) page as shown in the image above.

DragFactor is similar to adjusting your aerodynamic drag coefficient without actually having to know what your aerodynamic drag coefficient is. Most of us have never been in a wind-tunnel, but all of us have ridden on the road. We use the latter as the gage to determine how to adjust DragFactor .

Any course based upon "grade" uses your weight, the road grade, and wind, which increases with your speed and any value for wind set in the course, to determine the forces you feel at the pedals. The wind component uses frontal area to determine this force. RacerMate has used a preset "frontal area" for all riders regardless of their height and weight. But frontal area determines how much wind you have to push when riding a bike down the road, and many riders spend countless amounts of money to be aerodynamic while riding - because it is the one thing they have some control over. With a fixed frontal area a smaller or more aerodynamic rider may not push as much wind as the larger, less aerodynamic cyclist, who would push more wind. On the RacerMate trainer they were treated equally. Using this tool you can increase or decrease the frontal area component, which will adjust the wind-load curve for you when using courses with grade. This will adjust the feel of the training system to match the effort of you also feel on your actual bike when riding outside.

Determining your DragFactor

Related Topics

[SpinScan](#)

[3D Cycling](#)

[Power Training](#)

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Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration - CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

To set DragFactor requires knowing what to adjust it to. This is best accomplished by first doing on-the-road testing to calculate what your speed-to-heart rate is on a one-mile flat time-trial and then duplicating the same thing indoors. Here's what to do:

The outdoor test

1. Find as flat a mile-long section of roadway you can
2. Choose a calm windless day to do the test.
3. Select a gear on the bike you can maintain for the entire test so your speed and RPM are not changing.
4. Ride at a steady state in one direction while monitoring your heart rate. Record your heart rate when it has stabilized at a fixed speed.
5. Now repeat the ride in the opposite direction and record your heart rate. This will eliminate any grade or wind variations, if any.
6. Average these two readings to determine what your heart rate is at a given speed on a flat road.

The indoor test

Keys used: Fn and up/down keys.



You can only adjust DragFactor in the Power Training, using a grade-based course selection, before the timer has been started.

1. Launch the Power Training application.
2. Select the rider you want to determine DragFactor for. You want to make

- sure the weight is set correctly for this rider.
3. Select a Distance and Grade course. Course selection does not matter, we will be adjusting the DragFactor before the timer or course begins and the warm-up grade is preset at 0%.
 4. Press the Start button on the Setup screen to enter the Power Training screen.
 5. DragFactor can only be adjusted on-the-fly prior to starting a race timer when you are in a grade-based course. Do NOT start the timer.
 6. Start riding as you did on the outdoor test, but don't worry about distance. Speed will display, as well as heart rate. Just bring your speed and cadence to the same as it was used on the outdoor ride and allow your heart rate to stabilize.
 7. Adjust the DragFactor value, as shown in the image above, using the Fn key followed by the up/down arrow keys until your speed and heart rate match what you noted for the outdoor test. Adjusting DragFactor will increase or decrease your work effort, so a lower DragFactor will lower your heart rate for the same speed (less wind effect) and raising it will raise your heart rate for the same speed (more wind effect).
 8. When your speed and heart rate match the outdoor conditions on the trainer, then make note of the final DragFactor value. If you press F1 now to start the timer, you will be asked to append your rider profile with this new value, which will then be set for all future rides.
 9. You are done.

Notes:

DragFactor values are saved within performance files to allow verification of whether the wattage output is, or isn't, based upon a Drag Factor adjustment.

Lower DragFactor numbers will show a lower wattage for a given speed -- the same way any aerodynamic changes on the bike can lower wattage output on the road.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Hardware Setup

Setting up your hardware is documented in the Hardware Manual and the Setup PDF file supplied on the setup disc you received in your CompuTrainer or Velotron. This page deals mostly with the assignment of your training hardware.

If the trainer(s) were turned on when the software was launched, the software will do most of the setup for you. Where this may not be true is if you didn't have the trainer connected or you are a MultiRider Center and you want to reassign the locations of the trainers. We have made every attempt in RacerMate One to minimize any questions regarding setup of your trainer in the software to get you riding with minimal effort on your part. If you need to add or change settings, go to the [Riders](#) and [Hardware](#) pages.

RacerMate One and Autodetection of trainers

Detecting trainers will begin when you launch RacerMate One. Looking at the image below you will see both Velotron and CompuTrainer coexisting. Both can coexist in the same ride, but most users will have only one or the other.

Manually detecting hardware

If for any reason your trainer hardware was not detected when RacerMate One started, you may find the need to manually detect trainers. RacerMate One has two depths of detection. One is to Scan for all new devices and the other is a simple refresh of previously found connections. Scanning for new devices is a deep scan and will look for any "new hardware" never before detected - like a 5-rider MultiRider center adding 3 more trainers. Refresh connections will do a shallow detection to re-enable connections previously found - like when you forgot to turn the trainer on and launched the software.

Switching trainer positions

The autodetection routine can easily find hardware, but it assigns them based upon the addresses assigned to the ports by the Windows operating system. This may not be how you have the trainer situated in your room -- assuming you have more than one trainer.

You could easily switch their positions by clicking the Identify button next to the "position" you which to assign the trainer to. When prompted, press a key on the Handlebar Controller of the trainer you want in that position and RacerMate One will reassign the trainer to that place. This will mean if you had another trainer assigned to that position, it was also be moved to fill up the vacancy. Just proceed bikes 1-8 until they are all assigned the way you want.

Switching trainers for special situations

Related Topics

[RacerMate One Hardware Detection Troubleshoot Hardware](#)

[Rider Setup](#)

[Velotron Gearing Setup](#)

[Pick Riders](#)

[Rolling Resistance Calibration -](#)

[CompuTrainer](#)

[Velotron Accuwatt Help](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

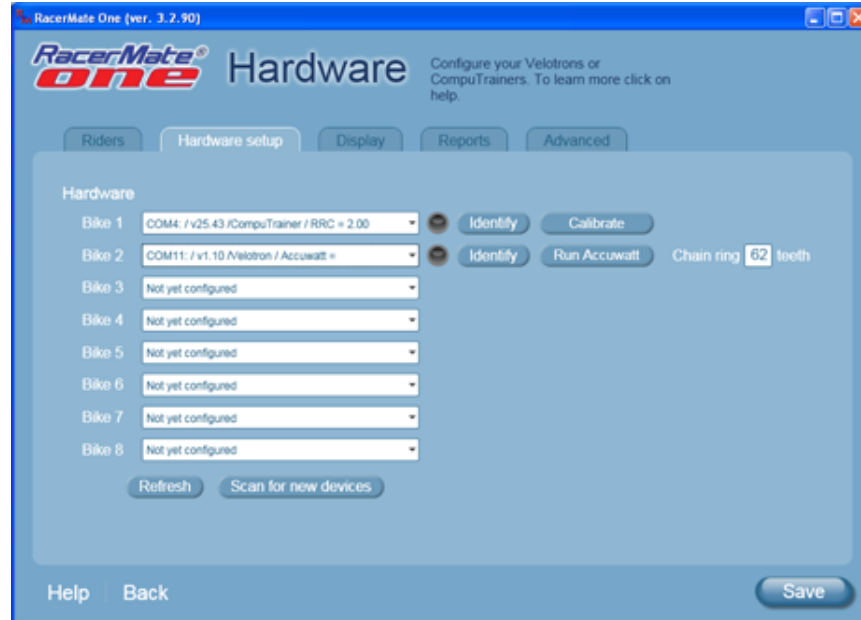
Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

In some cases, like racing pacers in 3D software, you may want to temporarily reassign trainer positions. The reason for this is to accommodate the ownership of smart pacers. In short, you may have a situation where you have 2 live riders and want 6 pacers - 3 assigned and owned by each live rider. It is then necessary to move rider #2 to position 5 so you can assign 3 pacers on the pick rider screen to positions 2-4 and positions 6-8. You just need to select Identify for position 5 and press a key on the second controller, and you're done. This need is outlined in full on the [pick rider page](#).





Using the Hardware options as a diagnostic tool

The drop-down menu for each position shows the Com Port address assigned to it by Windows, the version of the firmware in the trainer, the type of trainer, and the calibration of Accuwatt value. This is a quick view of hardware statistics and can be called upon if you are not communicating to the software.

- If nothing shows in the dropdown menu, then the chance is the USB connector is not installed.
- If only the Com address shows, but no trainer, then the communication cable between the USB adapter and trainer may be faulty.
- If you need to know the firmware version for service needs -- it is easy to see.
- Calibration and Accuwatt values are shown to make sure you know what they are at any time.

Running the Calibration or Accuwatt test

You can run either of these tests on the appropriate trainer by pressing the Calibrate or Run Accuwatt buttons.

The Calibration screen will appear for CompuTrainer and allow you to warm-up for 10 minutes and then instruct you what to do next. This is outlined on the [Calibration help page](#).

The Accuwatt screen will use the Accuwatt value saved in the Velotron onboard memory to display the correct results. Instructions will display to instruct you on

what to do. This is also outline on the [Accuwatt help page](#).

Setting the Velotron front chain ring size

The Velotron has a fixed front sprocket and the software needs to know the tooth count of this sprocket. This is set on this page. By default Velotron comes with a 62-tooth front sprocket, but you may also have the 85-tooth sprocket used on Wingate software.

This setting differs from the [Rider Tab Velotron gear settings](#) because this is an actual hardware setting and the Riders tab setup is for the "virtual" gearing setup.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Pick an Erg or %AT Course

Erg and %AT courses are available in Power Training. %AT will also be available in Classic MultiRider (Coming Soon).



Related Topics

[Manual Watts Changes](#)

[Pick Road Course](#)

[Course Creator](#)

[Course Profile Editing](#)

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Last updated 2011 Aug 31

What is an Erg or %AT course?

Erg and %AT are "watt-based" test courses of either "time and watts" or "distance and watts" and "time and %AT" or "Distance and %AT." In a watt-based tests, the load is controlled by adjusting torque to maintain the wattage, so things like SpinScan and gear shifting generally do not work the same way as they would on a wind or grade-based courses. %AT courses are watt-based as well, but work off a preset wattage you set up in your [rider profile](#) called AeT wattage ([Anaerobic Threshold](#) wattage).

To change the list sort

1. Click on a header (Laps, Miles/Kms, or Wa) and the course will sort using that selection and will bolden to show they are active.
2. To reverse sort, press the same header again.
3. To return to alpha-numeric again, click a 3rd time to unbolden a selected header.

Selecting a watt course

1. Select the drop-down menu above the course list and choose Course (watt).

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration - CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

2. Scroll through the courses and click on any course to select it and display the profile and course data.
3. If you are satisfied with the selection, press Start to load the course.

Change Start and End points

RacerMate One takes course manipulation to another level. You can now select start points, end points, reverse selections, add out and backs to a selection and save all your changes as a new course. No longer do you need to create courses that loop to have multiple laps. Just select the start and end points and set the number of laps. You are done.

The following section shows how to change the start and end points only. The complete details on manipulating and creating new courses from within existing courses can be found in the link show below.



1. Hover over the Start post and left-click/hold/drag the Start post to the new start position.
2. Hover over the End post and left-click/hold/drag the End post to the new end position.
3. Pay attention to the distances and values in the balloon to help zero in on the correct place you want to set these at.
4. You will notice as soon as you drag either the Start or End post, the Save as button will appear to all you to save this "edit" as a new course.

Zoom into a shortened course



When you have set a new Start and End point, you can click on the Zoom tab above the course profile to zoom into the course. You will be able to fine-tune the Start and End points from this new vantage point.

Editing a course before riding it

You can edit a course before riding it. This is explained in detail on the [Course Profile edit](#) page.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Pick Riders



Every application has a Rider (Edit) option. Some applications let you choose multiple riders, some let you choose only one rider (Power Training and SpinScan), some let you choose Pacers.

To pick your riders

First select Rider (Edit) to proceed to the following screen.

Related Topics

[Rider Setup](#)

[Hardware Setup](#)

[3D Cycling](#)

[Real Course Video](#)

[Classic MultiRider Help](#)

[SpinScan](#)

[Power Training](#)

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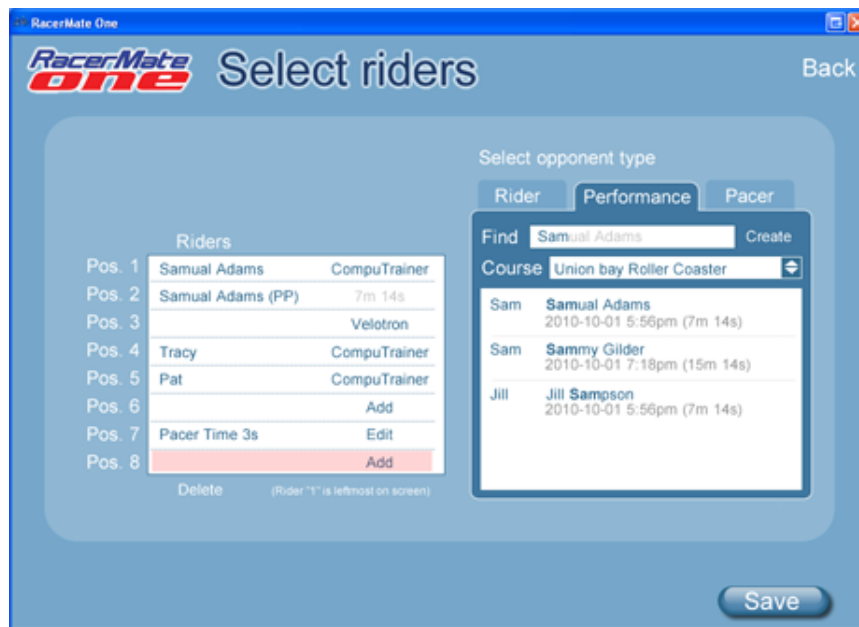
Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration - CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

1. From this screen you can choose Riders for any position 1-8.
2. Select to highlight a position number in the left group. You will see trainers, if any, already assigned for that position and you should only place performance files and pacers in open positions or they will override a live rider.
3. Select the tab in the right-hand group to choose a Rider, Performance, or Pacer (when applicable).
 - Rider tab - If you have only a short list of riders you'll have no trouble seeing your rider, but if you have dozens of riders in your rider database, you can type either some part of their name or username into the Find box to sort the list. As you begin to type the program will search the rider database and start offering riders to choose from. When you select the rider in the right list, it will fill in the position on the left.
 - Performance tab - Performance files of a certain type can be used as a pacer in 3D Cycling. The software will filter out any performance files not compatible with 3D pacer use. Loading a compatible performance file will allow you to choose the (Edit) button to play the performance back "as ridden" with some percentage of change to make the pacer slower or faster than the original performance file.
 - Pacer tab (3D only) - Select the Pacer tab and choose a pacer. This will load the pacer into the left position chosen. You will also see an (Edit) button to adjust the setting for the pacer selected. More on pacers below.

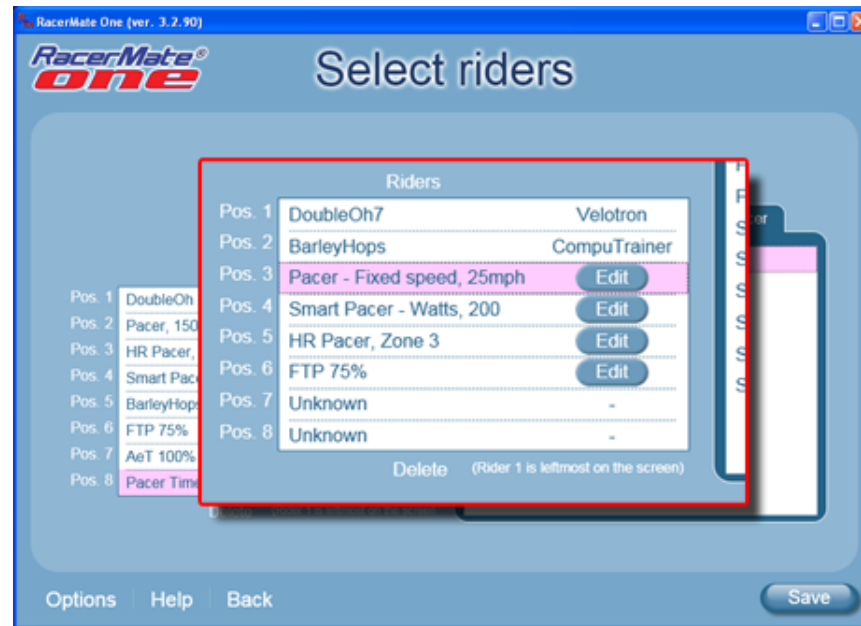
Note: Selecting a Performance as a rider/pacer will disable course selection on the course setup screen. The course shown on the setup screen will come from the performance file. If this is a course you do not have (say you downloaded the

performance or a friend supplied it to you), you can click the Save as button on the course setup screen to save the course into your course list.

Assigning ownership to Pacers - 3D software only

Every rider can own pacers until all 8 positions are occupied. Owning a pacer means the rider who owns it can adjust it. Anyone can draft another riders pacer, but ownership of a pacer also means the pacer will react to the master rider and another user trying to draft it may not be an ideal experience.

The important thing to know about pacer assignments is the order in which you select them relative to your rider. With a single rider it is simple - you own all of them. It gets more complex if you have multiple live riders and pacers for each rider. See the following image:



In the above example you see two live riders, one with a CompuTrainer and the other with a Velotron - each with 2 pacers.

Pacers are assigned to Riders in the order they are seen in the list in a "leap-frog" fashion. So the first rider gets the first and third pacer seen and the second rider gets the second and fourth pacer seen, and so on. Pacers are always assigned to riders found above them.

In the example above DoubleOh7 owns a Fixed 25MPH Pacer in Pos. 3, and a Zone 3 HR Pacer in Pos. 5. Each of these are keying off of him. BarleyHops owns a Smart 200 Watt Pacer in Pos. 4, and a 75% FTP pacer in Pos. 6. Each of these are keying off him. If a pacer was added to position 7, DoubleOh7 would own it and

a pacer in position 8 would be owned by BarleyHops.

Adjusting Pacers

Pacers can be fixed or smart. Fixed pacers go as fast as they can based upon the setting given them, but SmartPacers, or pacers keying on of rider data, will attempt to stay with their owners regardless of their setting. They will hover nearby their owner in sort-of a vacuum to hold them near until you begin to operate again within their range of operation. Then they will spring to life again, move into a slight lead position, and hold their setting.

You can adjust all pacers, both Fixed and Smart, initially and dynamically (as you ride). Initially, when selected, you can click the Edit button for the pacer and give it a preset. This will be where it will be at the start of the ride. You can then adjust them using the [Fn] [up/down] keys during the ride as described in the [3D Cycling](#) section.

Note: Some pacers, like the Heart Rate, FTP or %AT, require a setting to be made in the [Rider Setup](#) screen. We have created default settings in you Rider Setup screen to make sure features work, but you will want to adjust these to be accurate for you before using these pacers.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Pick a Road Course - Grade style

Depending on the application you choose, you will have a variety of pre-loaded courses to choose from. Some applications, like 3D Cycling (shown below), SpinScan, and Real Course Video, have pre-filtered courses types. Power Training, on the other hand, can run any course type and will have a slightly different course selection tool.

Course selection has been greatly improved in RacerMate One. Not only are we capable of filtering out courses that don't apply to an application, you can also sort the courses by name, and distance and total climbing (Alt/Elev). This will help you narrow your search for the specific course or difficulty level. You can also type into the Find command to search for a specific course.



Power Training, because it is not limited to a specific graphic requirement (showing a physical road that hopefully looks realistic) can run any course or test imaginable. All courses have a profile - and that is what drives Power Training. Course selection starts first with a selection of the course style (in the course drop-down selector) and this will filter on that course type.

Related Topics

[Manual Watts Changes](#)

[Pick Ergo Course](#)

[Course Creator](#)

[Course Profile Editing](#)

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Last updated 2011 Aug 31

[Pick Riders](#)[Pick Road Course](#)[RacerMate One First-use Wizard](#)[RacerMate One Hardware Detection](#)[Real Course Video Registration](#)[Rolling Resistance Calibration -
CompuTrainer](#)[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)[Manual Grade Changes](#)[Manual Watts Changes](#)[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Grade courses are "windload-based" courses of either "time and grade" or "distance and grade." As you see in the images above, the course selection methods are slightly different in the Power Training application. Power Training allows you to select all course file types available, whereas 3D, as shown in the first example, is only capable of running distance and grade courses. Regardless of the application, the courses will filter to show only the courses compatible with the given application.

Changing the list sort



By default the courses are shown alpha-numerically, but you can sort the list by how many laps have been pre-saved into the course, the course length, or total climbing or altitude gain as well.

To change the list sort

1. Click on a header (Laps, Miles/Kms, or Alt/Elev) and the course will sort using that selection and will bolden to show they are active.
2. To reverse sort, press the same header again.
3. To return to alpha-numeric again, click a 3rd time to unbolden a selected header.

Selecting a grade course

1. If using Power Training select the drop-down menu above the course list and choose Course (grade).
2. Sort the list as indicated above.
3. Scroll through the courses and click on any course to select it and display the profile and course data.
4. If you are satisfied with the selection, press Start to load the course.

Change Start and End points

RacerMate One takes course manipulation to another level. You can now select start points, end points, reverse selections, add out and backs to a selection and save all your changes as a new course. No longer do you need to create courses

that loop to have multiple laps. Just select the start and end points and set the number of laps. You are done.

The following section shows how to change the start and end points only. The complete details on manipulating and creating new courses from within existing courses can be found in the link show below.



Set a start and end point

1. Select a course to load it into the profile viewer.
2. Hover over the Start post with your mouse and left-click/hold/drag the Start post to the new start position.
3. Hover over the End post and left-click/hold/drag the End post to the new end position.
4. Pay attention to the distances and values in the balloon to help zero in on the correct position you want these set to.
5. You will notice as soon as you drag either the Start or End post, the Save as button will appear. You can opt to save this "edit" as a new course.
6. You can select the Zoom tool to help zero in on exactly where you want to start or end.

Zoom into a shortened course



When you have set a new Start and End point, you can click on the Zoom tab above the course profile to zoom into the course. You will be able to fine-tune the Start and End points from this new vantage point.

Editing a course further before riding it

As described above, you can edit a course quite a bit before riding it. This is explained in detail on the [Course Profile edit](#) page.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

RacerMate One First-use Wizard

The First Use Wizard was designed specifically to handle the home user who might have one or two trainers. Users with more than this many trainer are considered a professional client and will be directed to the location where they can setup their hardware - skipping the remaining part of the First-use wizard.

The First Use wizard steps

Hardware detection

This screen will occur on First-use as well as every subsequent use.



- "Hardware" consists of a USB adapter and/or corresponding port address, and the trainer plugged into it.
- The trainer must be turned on and plugged into the computer to be detected.
- When found, the trainer and the port addressed to it will be stored in a database and subsequent runs of the software will only check for this previously detected hardware. This will speed-up the software launch process on a daily basis.
- If new hardware is added later the daily check will not look for it, but there is a provision in the [Hardware](#) tab to search for this newly installed hardware - be it USB adapter or trainer.

Can't find hardware message

Related Topics

[RacerMate One Hardware Detection Troubleshoot Hardware](#)

[Velotron Accuwatt Help](#)

[Hardware Setup](#)

[Hardware Setup](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

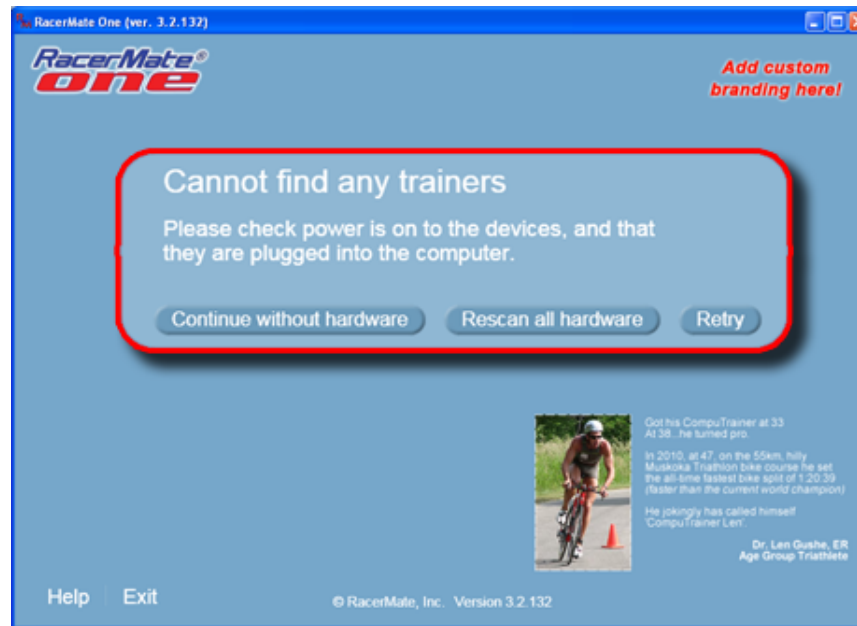
[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

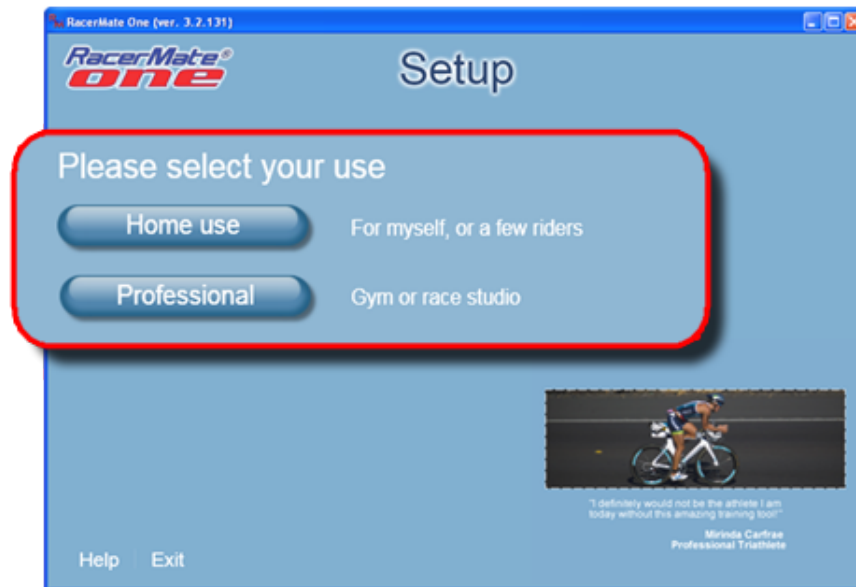


- Continue without hardware: If you are running the software without your trainer connected, this is the message you will see. You can press the Continue without hardware button to enter the software and play with settings, courses, or run some of the software applications in demo mode. If you think your hardware is connected and you are receiving this message, you should first [check your connections](#) and click Retry.
- Rescan all hardware: If you plugged your USB into another port, or replaced it, the communication port address will change. You will need to press this button to search for any newly installed hardware.
- Retry: If you discovered a cable was unplugged or the trainer was turned off when you started the software, you can press this button to refresh the connections.

Note: If a cable was unplugged or the trainer was off when the software launched, you can press Continue without hardware, load the race screen of any application, and then plug in the cable or turn on the hardware and if the port address was set correctly, it will begin communicating.

User type

If a one or two of the same type of trainer is found, you will be asked what type of user you are. If more than two trainers are found during the search you will be sent directly to the Hardware Options tab to allow you to setup the hardware manually.



- If you are a home user it will ask you to enter at least one user to get you started.
You can setup as many riders as you choose with this method, but this is a basic setup intended to provide just enough information to get you riding on the bike with no failures. You are encouraged to complete your rider data entry in the [Riders](#) tab within Options to improve the function of other RacerMate functions.
- If you own a Gym or race studio, you will first be eventually asked whether you want to upload an existing riders.csv from an existing MultiRider application. This tool will become available when the [Classic MultiRider](#) applications are completed and part of RacerMate One.
You will then be taken directly to the [Hardware setup](#) options page where you can setup all the hardware as they are placed in your studio.

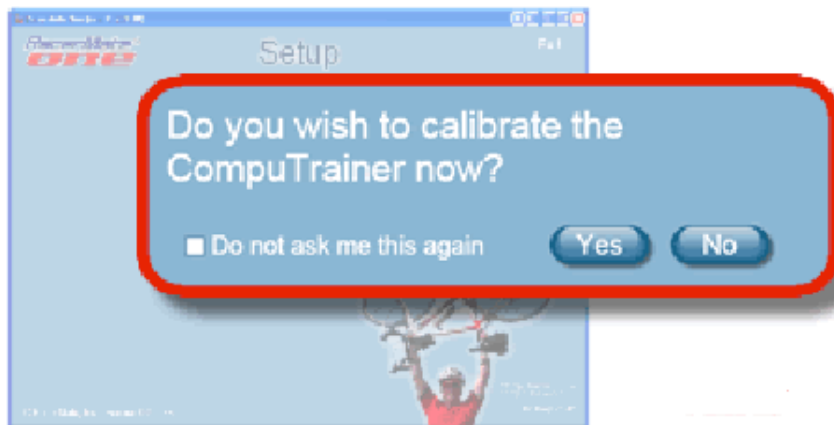
Create your riders

The entire reason for a "first-use" tool is to get you riding as quickly as possible. The first-use rider setup allows you to add a few riders into the database and do the starting Calibration routine. Some features use more information about you than we ask for in the First-run wizard, so be sure to complete your user profile from the [Riders tab](#) within Options.



Calibrate your system?

When you are done adding riders, you will be asked if you want to [calibrate your CompuTrainer](#) or verify your [Accuwatt \(Velotron\)](#). It is advised to calibrate or check the Velotron on first-use.



If you answer yes to the question it will take you to the correct application based upon the hardware found.
[Calibrate CompuTrainer](#)
[Check Velotron Accuwatt](#)

If you answer no to the request to calibrate, it will take you directly to the Application

[Launchpad](#).

Daily calibration checks

After the "First-use" of the software, like Hardware detection, you will still be asked to calibrate a CompuTrainer every time you launch RacerMate One. As indicated above, click Yes to be taken to the Calibrate CompuTrainer screen.

Skip daily calibration request (CompuTrainer only)

Calibration can be accessed many ways. You may prefer to calibrate your trainer before launching the software using Stand-Alone mode; or you may prefer to do it from the [Hardware tab](#), or you may prefer to do it in the middle of a real ride using the in-ride calibration. However you choose to do it, you can check the option "Do not ask me this again" and this screen will be skipped and the software will take you directly to the [Launchpad](#).

You can turn on daily calibration requests again within the [Advanced options](#) tab if you ever decide to.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

Definitions

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

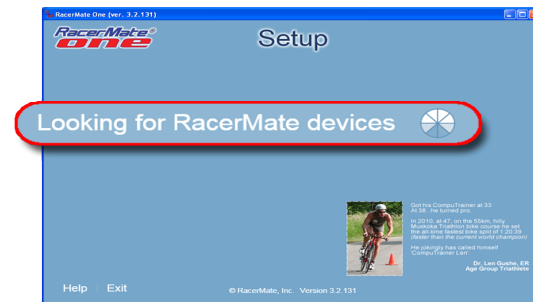
[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

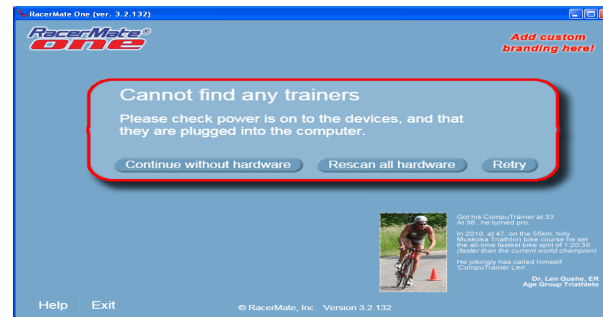
Hardware Detection

Hardware detection is always on. The purpose is to setup the trainers connected to the computer and alert you of any problems before you go any further.



When you launch RacerMate One auto-detection will do a "deep search" to look for all trainers connected to the computer.

If it doesn't find a trainer, it will display this message:



If you think your hardware is connected you would now [check your connections](#) and try again, or choose to continue without hardware connected.

On all subsequent runs of RacerMate One auto-detection will do a "shallow search" to look only at the hardware it previously detected and make sure those are still connected. If you have added new hardware (for example, a new USB adapter) the port address may now be different and you will need to search for new hardware; i. e., the deep search.

Assigning your trainer hardware to a position

You can assign trainers to positions within the applications (if you have more than one) within the [Hardware setup](#) tab in Options. From here you can run both the shallow and deep searches to install new hardware.

Related Topics

[RacerMate One First-use Wizard](#)
[Troubleshoot Hardware](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

RacerMate One Registration and Activation

Registering activates RacerMate One and this is performed using an Internet-based user account system to help minimize the need for RacerMate intervention in the registering process. If you received RacerMate One as part of your CompuTrainer or Velotron purchase, you may not have an account on our RacerMate One registration system.

If you purchased RacerMate One as an upgrade, you likely did so on our secure server and you would have created your account at that time. This server acts as both our shopping cart for RacerMate One as well as the registration database for tracking registration attempts. It is important only to know how you purchased the software.

Note: At this writing the shopping cart system used for purchasing RacerMate One as an upgrade is different from the shopping cart used with all other RacerMate products. We are in the process of moving all RacerMate products over to the new system. So if you purchased your CompuTrainer on-line, you will need to create a new account to register RacerMate One.

Do I already have an account?

Here is a likely list of who may or may not already have an account:

- Purchased RacerMate One as an upgrade on-line - You should have a user account and you will use this account to register RacerMate One.
- Purchased a new trainer and RacerMate One was included with the trainer or RacerMate One was sent to me after receiving the trainer - You will NOT have a user account at this time and you will need to create one during the registration process.

Direct versus remote registration

You may be using your trainer on a computer with no Internet access. Because of this we have allowed for two ways of registering your software. One is from the computer the software is installed on - if the computer does have Internet access. The other way is registering remotely using a different computer. Both procedures are found listed below. But in either case, you will need an account on the RacerMate server to track your registration attempts to allow you to reregister again, if the need arises. We will address both scenarios in the registration processes shown below.

Registering RacerMate One

Related Topics

[Real Course Video Registration](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Registration Instructions - Computer connected to the Internet

1. Install RacerMate One.
2. Launch RacerMate One. The software will attempt to detect the Internet. If it can, you will be presented with this screen.

RacerMate One (ver. 3.2.147)

RacerMate[®] one Registration

Please fill in the form below in order to complete the registration process for your RacerMate products.

New account Already have an account

First name:

Last Name:

CD Key:

Account information

Email:

Password:

Confirm password:

Online

Help

New Account

1. Enter your First and Last name.
2. From the software disc sleeve, type the CD Key found printed on the label.
3. Enter the remaining account information (Email twice and Password twice) for future use.
Note: This is the information needed to access the RacerMate server for future purchases or registration attempts. Remember this information!
4. Click "Register now." The software will contact the registration server, create your account, and look for previous registration attempts for cross-check and verification.
5. If everything is valid - you will see a confirmation of registration thanking you for registering



Existing Account

1. If you already have an account on the server, enter the CD key found printed on the software disc sleeve.
2. Enter your account information Email and password.
3. Click Register now. The software will contact the registration server, verify your account, and look for previous registration attempts for cross-check and verification.
4. If everything is valid - you will see a confirmation of registration thanking you for registering

Registration Instructions - Remote Internet computer



Doing a manual registration requires providing a hardware ID to the registration server. This ID is found only on the manual registration page, as shown above.

1. Install RacerMate One.
2. Launch RacerMate One. The software will attempt to detect the Internet. If it can't, you will be presented with the screen shown above.
3. Write down the Hardware ID number
4. Take the Hardware ID number and the CD Key to a computer connected to the Internet
5. Go to: <http://www.racermateinc.com/reg.htm> (redirect made to <http://store.racermateinc.com/store/register.php>)
6. If you have an account (if you purchased RacerMate One as an upgrade online) sign in and enter the Hardware ID followed by the CD Key. If you do not have an account, you will be able to create one and register on this registration web page at the same time.
7. Press Submit after entering your registration information to receive your Keycode.
8. Return to the computer you want to register the software and enter the CD Key and the Keycode received from the registration site.
9. Press Register now to apply the registration.
10. If everything is valid - you will see a confirmation of registration thanking you for registering.

Registration Errors

If you try to register using invalid information, or a user not in the database, you may see an error code when you attempt to register.

CDKEY not available

- If you are using a CD Key already used by another account holder, you will receive this error.

USERID not found

- If you are using account information that can't be found in the registration server database, you will receive this error. If you think the account information is correct, try again. If you continue receiving this error, try to login to store.racermateinc.com/store/registration.php directly.

The following errors are self-explanatory, but may also occur:

- CD Key required
- Keycode required
- First name required
- Last name required
- Email required
- Confirm ema

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

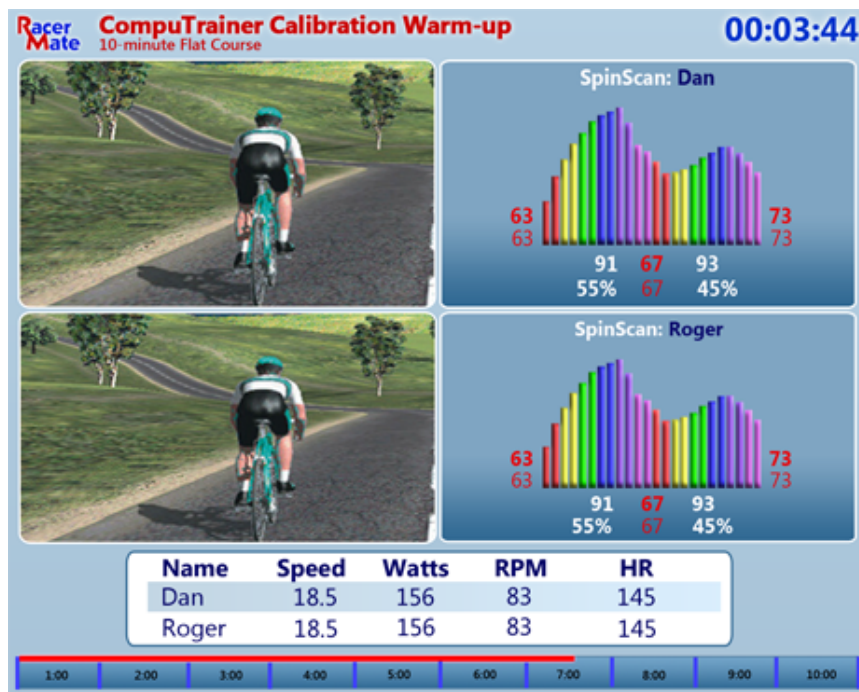
[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

CompuTrainer Rolling Resistance Calibration



If you choose to begin a daily ride with a quick warm-up and calibration, the above application will allow you and another rider (if applicable) to warm-up on a preset course for 10-minutes. At the end of the 10-minutes the program will disconnect from the trainer and allow you to calibrate.

Regardless of whether you calibrate before or during a ride, since both options are available, calibration is done using only the Handlebar Controller (as noted below). The application of conducting a calibration in RacerMate One is primarily for the warm-up part.

What is Rolling Resistance, or Rolling Drag?

Rolling Resistance, or rolling drag, is the effort required to spin the tire against the roller of the CompuTrainer. It can vary based upon press-on force, bearing friction, tire pressure, tire type, spoke windage, and temperature

What is Rolling Resistance Calibration?

Rolling Resistance Calibration is used to measure this Rolling Resistance (or drag). Its value is measured in pounds. The software uses this value along with other mathematical formulas to accurately produce workloads and display wattages in both Stand-Alone Operation and while using RacerMate One.

Related Topics

[RacerMate One First-use Wizard](#)
[Hardware Setup](#)

Learn more about RacerMate One in our [Racermate Forum](#)

Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Using the Rolling Resistance Calibration Program before every training session will insure accuracy and high repeatability from one training session to the next. Once measured and saved, the rolling resistance value will remain in the Handlebar Controller memory until the power is turned off. When the power is turned off and then on again, the measured rolling resistance value will be replaced by the default rolling resistance value of 2.00 lbs and recalibration will again become necessary.

A common misconception

Because we default to a value of 2.00 pounds, many think this to be an optimum value. This is not true. With conventional road tires 2.00 lbs. might be considered an absolute minimum value when riding flat courses, but higher values may be needed to eliminate tire slip if grades exceed that of a level road. Tire slip is an enemy to accuracy.

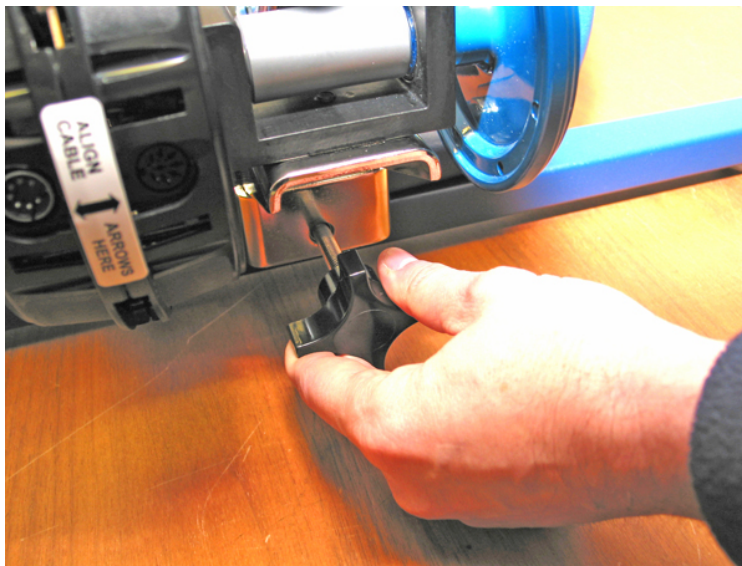
Setting Press-on Force

Press-On Force is the amount of contact pressure between the tire and the friction roller of the Load Generator. Lack of adequate Press-On Force will cause the tire to slip and too much will add unnecessary friction making load levels (the work you do) seem difficult and unrealistic. The amount of Press-On Force will determine "minimum rolling drag." If set too high, the bike will always have to work against this rolling drag and will likewise feel as though you are climbing a hill, when in fact you may be descending. If set too low, the tire will slip and you will not be able to climb steep hills without a cogging effect, where you can overcome the contact of the tire to the roller of the trainer with the forces you apply at the pedals.

Tips to prepare for and properly adjust Press-on Force

1. You should clean the tire daily with an evaporating cleaner such as Isopropyl Alcohol (found at any drug store). This will remove the waxy mold release (a compound used to allow easy removal of tire from its mold during manufacture), or road oils. We advise cleaning the tire before every training session and especially after riding outdoors.
2. Daily check and inflate your tire to its maximum rated tire pressure.
3. Use an indoor training tire, like the Continental HomeTrainer tire. At the very least use a tire with the least amount of visible tread. This will provide for the most "tire to friction roller" contact. Smooth tires are preferable.
4. Set the Press-On according to the anticipated maximum workload. More press-on for hill climbing and less for time-trial (flat) courses.

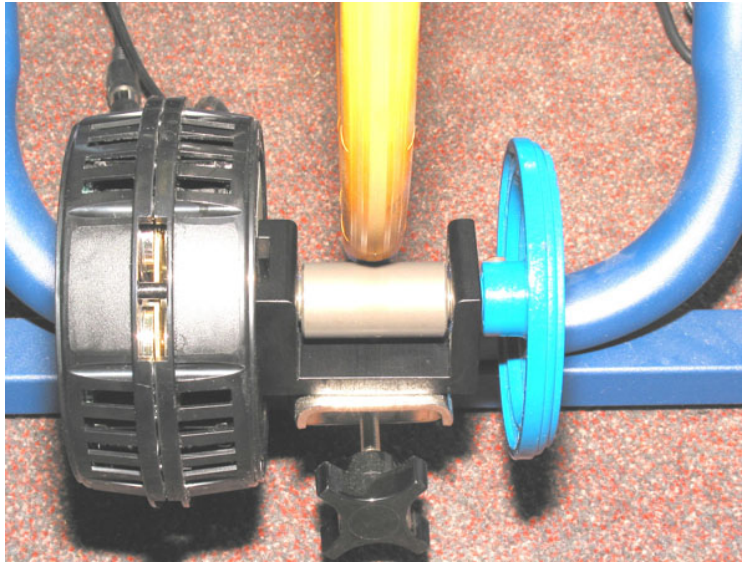
Turn the Rear Adjusting Knob located on the Hinge to adjust the *Press-On Force*.



Do so until, while holding the Flywheel stationary with one hand and using the other hand to pull the tire across the friction roller, the tire no longer slips when reasonably strong force is applied.



Next, check to insure the tire is running true on the friction roller. Do this by rotating the tire by hand forwards and then backwards a foot or so. The footprint of the tire should stay in the same spot on the friction roller in both directions. If the tire moves left and right across the roller when it is rotated forth and back, the Load Generator Assembly is slightly twisted on the Hinge. Slightly loosen the Allen Screw and straighten the Load Generator assembly until the tire tracks perfectly.

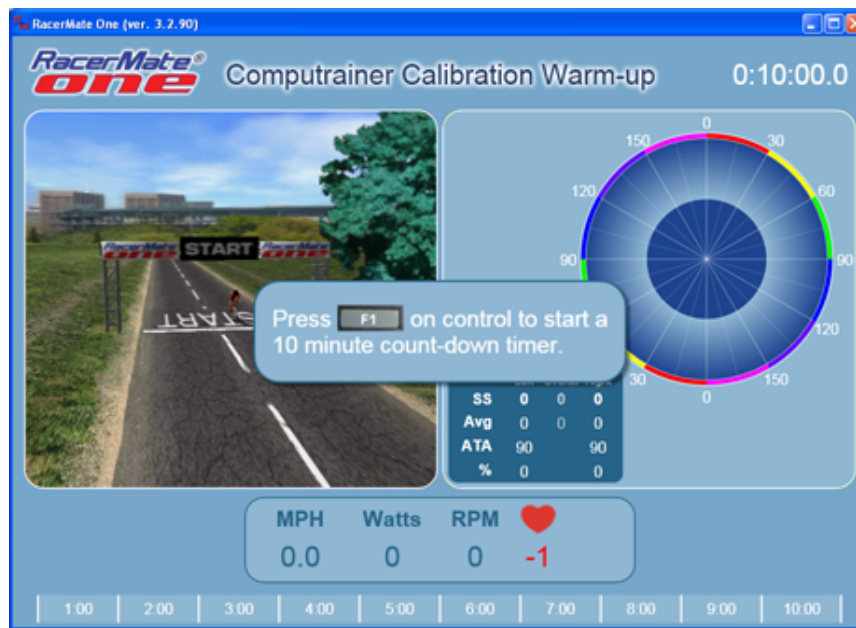


Calibration Routine

The calibration procedure involves pedaling the bike up to 25 M.P.H. (about 40 K.P. H.) and then coasting to a stop. During the coast down, the Rolling Resistance is measured electronically. You can calibrate a few ways as described below.

Using the Calibration Warm-up software

1. If you are using RacerMate One to calibrate, turn your CompuTrainer ON and launch RacerMate One. You will be asked if you want to calibrate. If you have turned this option off, go to Options and then to the Hardware setup tab and select Calibrate for the bike you wish to calibrate. This will launch the Calibration Warm-up application.



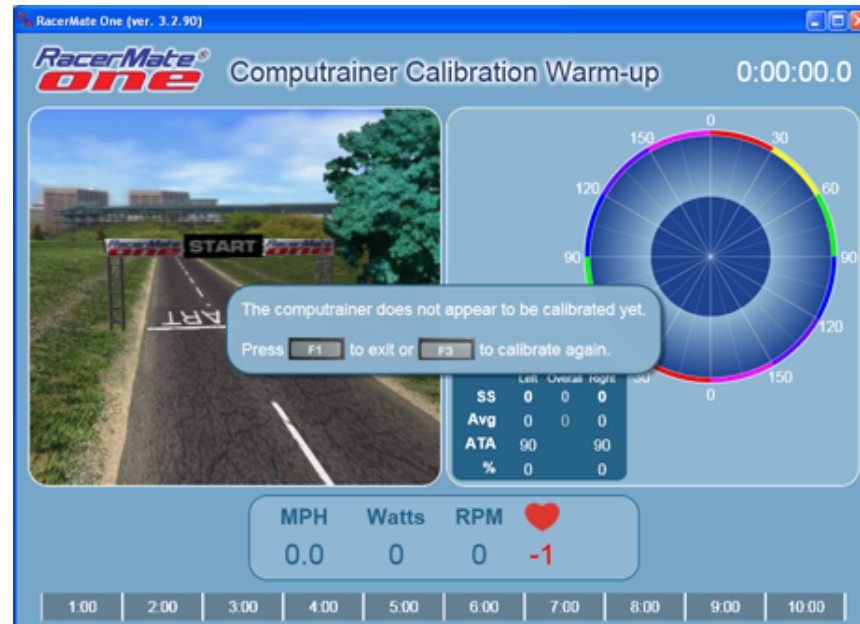
2. Press F1 to begin the timer. At the end of 10 minutes you will be instructed to follow the steps as shown below.



3. As noted you will want to repeat the calibration speed-up/slow-down procedures a few times. When satisfied you can press F3 to save the value - or if you need to increase or decrease the Press-on Force at the Load Generator, you can do so and then press F1 to warm-up 2 more minutes at

this setting.

- Once you have saved a calibration value you will get the following image showing the value you are saving.
- If you have not calibrated (didn't speed up to 25, or something) and press F3 to save, the software will display the following message.



Calibrating during a ride

- During any training session within RacerMate One (timer is running) Press F1 to pause the timer and then press F3 to enter Calibration mode on the Handlebar Controller.
- Now pedal the bike and as soon as you reach 12 m.p.h. the word "UP" will appear on the bottom right hand corner of the display. Continue pedaling faster. When the speed reaches 25 mph the word "UP" disappears and you should stop **all** pedaling and let the wheel coast to a stop. The rolling resistance measured during this test will appear in the top half of the screen. Repeat this step about 2 or 3 times to make sure the number repeats +/- a few hundredths of a pound.
- When satisfied, save the calibration value by pressing F3. The number will automatically replace the default value of 2.00 at the bottom of the screen. Calibration is now complete.
- Now press F1 on the Controller to resume the timer at this new calibration setting.

Calibrating without the use of external software

1. If you are not connected to RacerMate One or a computer, turn your CompuTrainer on and Press F2 to enter Ergometer mode and ride for about 10 minutes after increasing the wattage to 150 watts using the [up] key.
2. After the warm up using step 1b, press the [up] and [down] keys simultaneously to return to the Calibration Program. In RacerMate One, you will automatically enter Calibration mode. In Calibration Mode the display will show "U 2.00" (*uncalibrated and defaulted at 2.00 lbs.*) in the lower half of the display and 0.00 in the top half of the display.
3. Now pedal the bike and as soon as you reach 12 m.p.h. the word "UP" will appear on the bottom right hand corner of the display. Continue pedaling faster. When the speed reaches 25 mph the word "UP" disappears and you should stop ***all*** pedaling and let the wheel coast to a stop. The rolling resistance measured during this test will appear in the top half of the screen. Repeat this step about 2 or 3 times to make sure the number repeats +/- a few hundredths of a pound.
4. When satisfied. save the calibration value by pressing F3. The number will automatically replace the default value of 2.00 at the bottom of the screen. Calibration is now complete.

Once saved, the calibration number will remain in memory until the CompuTrainer power switch is turned OFF.

Note: A value above 5.00 is considered excessive by the software and cannot be saved. In this case check for low tire pressure, high press-on force, etc. Make adjustments to reduce the rolling resistance to below 5.00 lbs.

Important Notes:

An error during calibration of 0.01 lb. equates to a change in load of 1/2 watt at a speed of 25 m.p.h.. You may wish to repeat Step 3 more than once to confirm your rolling resistance value repeats to within .05-.10 lbs. If the value continues to drop for two consecutive measurements, this indicates that the tire and Load Generator may have not yet reached a stabilized operating temperature. Warm up the system several more minutes and repeat Step 3.

It is not necessary that the calibration numbers read *exactly* the same on a daily basis, this assuming the values don't vary too much, i.e. 2.00 pound compared with 3.00 pounds. Because rolling drag is "always there", setting too much rolling drag for a flat course would make loads feel like hill climbs. You should always set the press-on force appropriate to the workload to be encountered. If a flat course, then less press-on force. Hill climbs will require more. For advice on setting an optimum Press-On Force number, see the technical appendix on page 23 of this manual.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

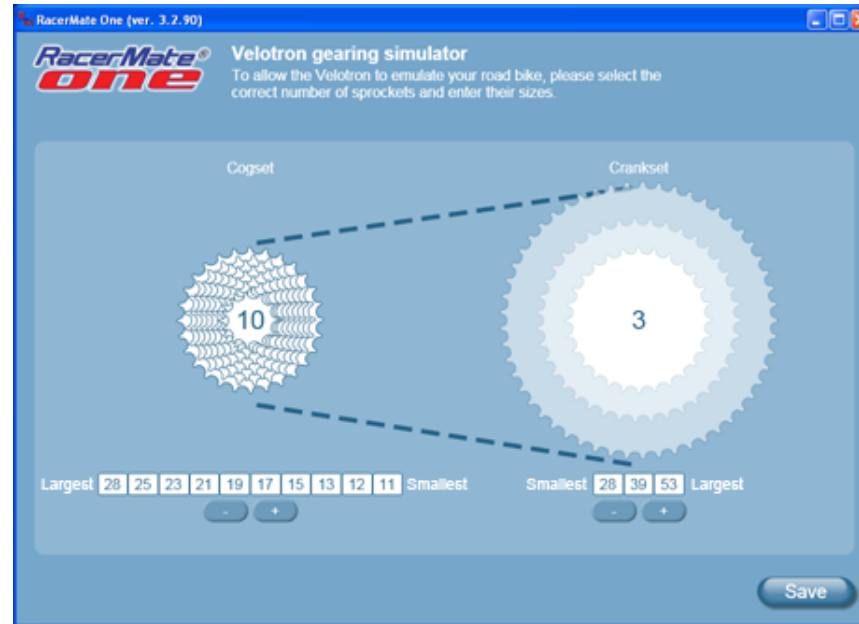
[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Velotron Gearing Setup

Setting up your Velotron hardware is documented in the Hardware Manual and the Setup PDF file supplied on the setup disc you received in your Velotron. This page deals with the assigning your real-life bike gears to the Velotron-based RacerMate One software.



Velotron gearing is rider specific, which is why it is in the Riders tab. To setup gearing for a specific bike, you will first need to know the gearing on your bike. If you do not know this, you will have to count them.

Setting up gears

- Be sure you are on the correct profile page for the rider you want to assign gearing.
- Velotron allows for a 30-gear bike. 10 rear and 3 front. Pressing the [+] or [-] button below each sprocket set will add or subtract sprockets.
- Be sure to place the correct gear sizes - largest to smallest - in each group. Failure to do so may make gear shifting erratic.
- When satisfied, press Save to return to the Riders tab.

One rider, more than one bike to emulate

If you want to create more than one bike profile for a rider, you have two options. The first is to create an alternate rider (same name, different Username) and the second is to change and save the gear table manually between rides.

Related Topics

[Troubleshoot Hardware](#)

[Rider Setup](#)

[Pick Riders](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Using Gearing as a diagnostic tool

You can use the Velotron gearing as a tool to determine optimum gearing on your road bike without the expense and hassle of swapping out real bike components. Just plug in your new numbers and ride as you normally would and the Velotron will mimic the new gearing. When satisfied, you can then do the same setup on your real bike.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

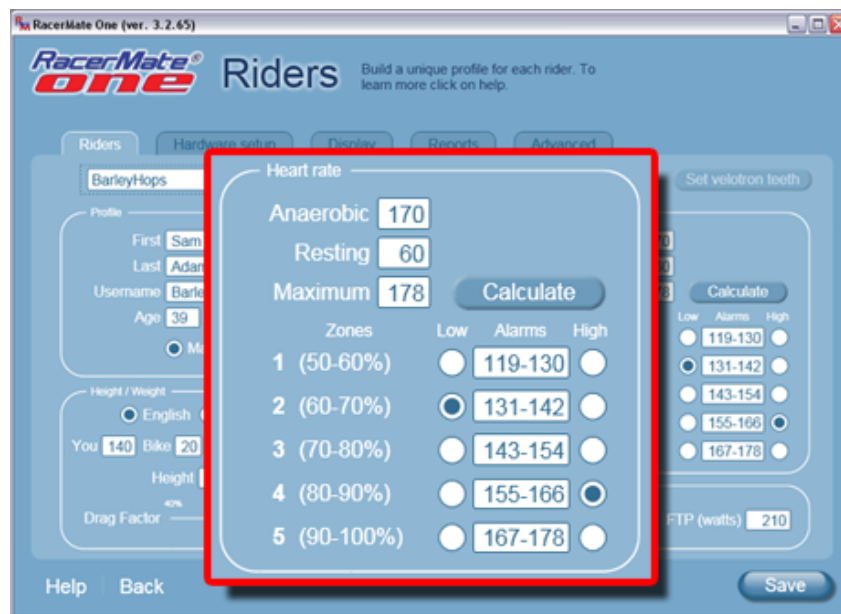
[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

[Pick Riders](#)

Setting Heart Rate Zones



To setup heart rate zones on RacerMate One you should hopefully know your Anaerobic, Resting, and Maximum heart rates. If you don't know these values you'll have opportunity to change these in your profile at any time.

- Anaerobic (threshold heart rate) - enter this value to populate reports and to save it with your performance files.
- Resting (heart rate) - enter this value to be used in the calculation of the 5 heart rate zones.
- Maximum (heart rate) - enter this value to be used in the calculation of the 5 heart rate zones.
- Zones - these are calculated from your resting and maximum heart rates.
- Setting Zone Alarms - you can set both low and high alarms. If the trainer detects you are outside the ranges you set, you may be warned (hardware dependant). You are not required to set alarms. Enable or disable the low and high alarms by clicking an alarm to activate it or a second time to clear it.
- Calculate - press to use the resting and maximum heart rate settings to populate the 5 zones.

How are zones calculated

There are many zone calculators, but we chose the following called the Karvonen formula:

- MHR=Maximum Heart Rate
- RHR=Resting Heart Rate

Related Topics

[Rider Setup](#)

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Last updated 2011 Aug 31

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -](#)

[CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

$$\text{MHR-RHR} = \text{_____} \times \% = \text{_____} + \text{RHR} = \text{Zone Value}$$

For Example: MHR=180 & RHR=60

$$180 - 60 = 120 \times 70\% = 84 + 60 = 144\text{bpm}$$

How are zones used

Heart rate zones are used for alarms if the hardware supports it and for reports. The zones are also passed out as part of the user profile and can be used by third-party analysis software.

Setting zone alarms

Once you have calculated your heart rate zones, you can set the low and high alarms by clicking on the appropriate radio button. You can set a low and not a high, or a high and not a low - or both for low and high alarms. You can turn alarms off altogether by not selecting either a low or high setting.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

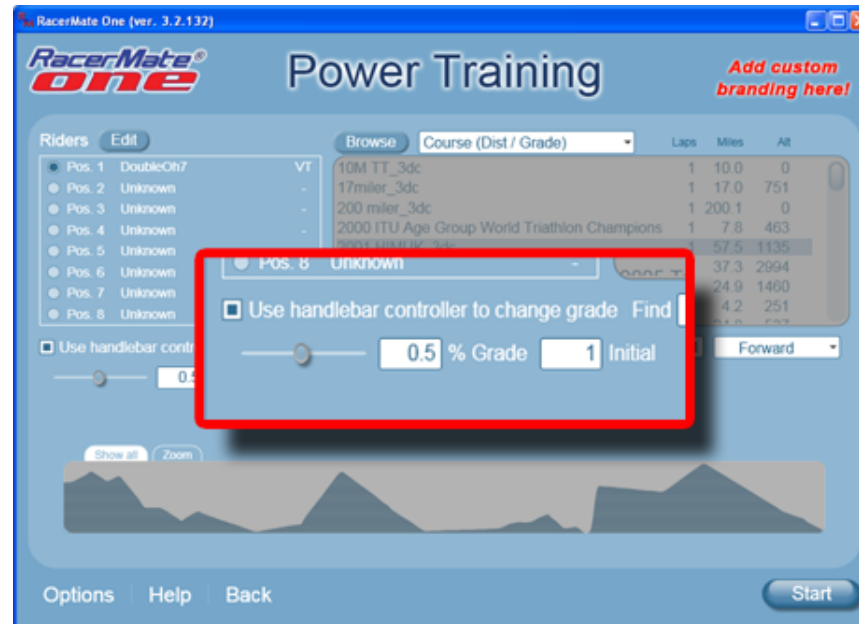
[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Manually Edit Grade Changes

On the Power Training application you can create courses while you are riding them. This course can then be saved after the ride for future use.



Manual Grade Change Option

1. Select Course (Distance/Grade or Time/Grade) above the course list.
2. Select "Use Handlebar controller to change Grade." Selecting this option disables the course selection and the course profile.
3. Adjust the slider to choose how much the grade will change per key press. Each key press of the Handlebar Controller changes the grade, up or down; from 0.1 to 1.0% grade.
4. Enter an Initial grade. This will be the grade you feel the instant the timer starts.
5. Press the Start button to enter Power Training mode. The course shown will be flat and empty.

How to adjust grade manually

Keys used: [Fn] and [up] or [down]

1. Press F1 on the Controller to start the timer.
2. A course will be created on-the-fly based upon your changes.
3. Adjust the grade on the Handlebar Controller holding down the Fn key followed by the up-or-down key.

Related Topics

[Manual Watts Changes](#)

[Pick Ergo Course](#)

[Pick Road Course](#)

[Course Creator](#)

[Course Profile Editing](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration - CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Saving the course after the ride

1. Exit the Power Training ride screen using the "R" key or the "Back" button on the screen.
2. The course you rode will appear in the profile (though it will still appear as grayed-out).
3. Press the Save as button to bring up the course save dialog. Point it to the Courses folder folder in My Documents\RacerMate\Courses and type in a name.
4. Press Save and the course should now appear in the course list.

Creating a manual course using Power Training without riding the bike

Time-based courses do not require you to pedal the bike for the functions of the key-presses of the trainer to change the grade. In this case you can start the timer and press the keys to create a course.

1. Select Course (Time/Grade)
2. Set the Grade value and the Initial Grade.
3. Press Start to load the Power Training mode. The course shown will be flat and empty.
4. Press F1 on the controller to start the timer. The course will start moving because it is time-based.
5. Press Fn followed by the up/down keys to adjust the grades as needed. The course will continue as long as you want.
6. When finished building the course, press F5 (Fn plus F2) or the PC "R" key to stop the timer. You do not need to save any reports or performances if asked to do so.
7. Exit the Power Training ride screen using the "R" key or the "Back" button on the screen.
8. The course you rode will appear in the profile (though it will still appear as grayed-out).
9. Press the Save as button to bring up the course save dialog. Point it to the Courses folder folder in My Documents\RacerMate\Courses and type in a name.
10. Press Save and the course should now appear in the course list.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

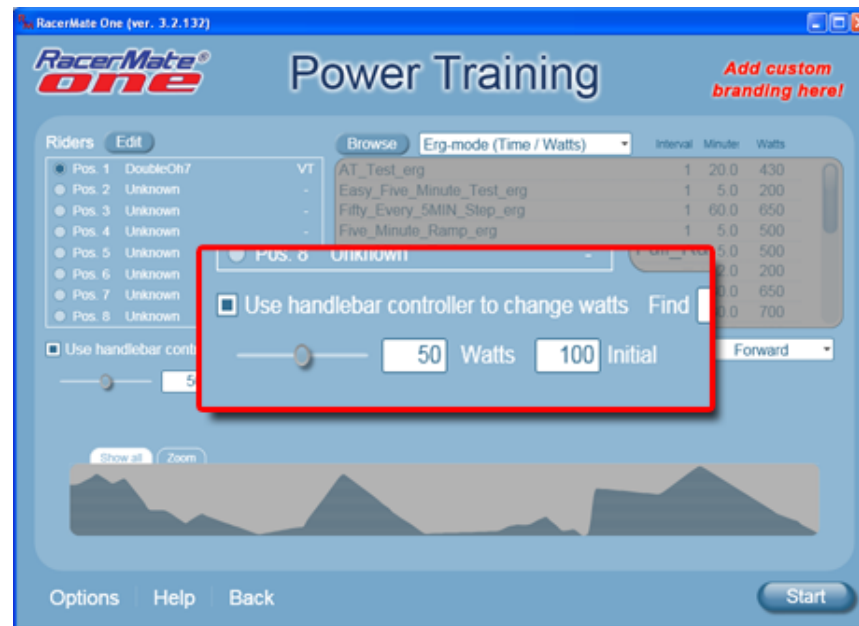
[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Manually Edit Watt Changes

On the Power Training application you can create courses while you are riding them. This course can then be saved after the ride for future use.



Manual Wattage Change Option

1. Select Course (Distance/Watts or Time/Watts) above the course list.
2. Select "Use Handlebar controller to change watts." Selecting this option disables the course selection and the course profile.
3. Adjust the slider to choose how much the grade will change per key press. Each key press of the Handlebar Controller changes the grade, up or down; from 1 to 100 watts.
4. Enter an Initial wattage. This will be the wattage you feel the instant the timer starts.
5. Press the Start button to enter Power Training mode. The course shown will be flat and empty.

How to adjust wattage manually

Keys used: [Fn] and [up] or [down]

1. Press F1 on the Controller to start the timer.
2. A course will be created on-the-fly based upon your changes.
3. Adjust the wattage on the Handlebar Controller holding down the Fn key followed by the up-or-down key.

Related Topics

[Manual Grade Changes](#)

[Pick Ergo Course](#)

[Pick Road Course](#)

[Course Creator](#)

[Course Profile Editing](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Saving the course after the ride

1. Exit the Power Training ride screen using the "R" key or the "Back" button on the screen.
2. The course you rode will appear in the profile (though it will still appear as grayed-out).
3. Press the Save as button to bring up the course save dialog. Point it to the Courses folder folder in My Documents\RacerMate\Courses and type in a name.
4. Press Save and the course should now appear in the course list.

Creating a manual course using Power Training without riding the bike

Time-based courses do not require you to pedal the bike for the functions of the key-presses of the trainer to change the grade. In this case you can start the timer and press the keys to create a course.

1. Select Course (Time/Watts)
2. Set the Watt step value and the Initial wattage.
3. Press Start to load the Power Training mode. The course shown will be flat and empty.
4. Press F1 on the controller to start the timer. The course will start moving because it is time-based.
5. Press Fn followed by the up/down keys to adjust the wattages as needed. The course will continue as long as you want.
6. When finished building the course, press F5 (Fn plus F2) or the PC "R" key to stop the timer. You do not need to save any reports or performances if asked to do so.
7. Exit the Power Training ride screen using the "R" key or the "Back" button on the screen.
8. The course you rode will appear in the profile (though it will still appear as grayed-out).
9. Press the Save as button to bring up the course save dialog. Point it to the Courses folder folder in My Documents\RacerMate\Courses and type in a name.
10. Press Save and the course should now appear in the course list.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Accuwatt tips for Velotron



Accuwatt tells a Velotron user they can trust their results and their tests will be accurate. Should you find the results from an Accuwatt test are reported as unacceptable, then this page will help you check for the obvious things - shy of sending parts of your Velotron to the factory for repair.

Thing to check

Chain tension

Chain tension on a Velotron, if too tight, can slow the flywheel faster than intended. Adjust the chain tension as indicated in the drawing below.

[Chain tension image]

Incorrectly entered Factory Accuwatt value

Verify whether the Velotron is storing the correct factory value into the Velotron. Check the serial number on the Velotron load generator to the sheet supplied with the Velotron to make sure they match.

Computer issues

All of the control of Velotron depends on the condition and speed of the computer you are using. The Accuwatt test doesn't use the same level of resources as some

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[Velotron Accuwatt Help](#)

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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

of the other applications (like 3D Cycling), but you may still want to make sure your computer is running well by having an IT specialist look it over.

Table of Contents

Shortcuts

[Key press shortcuts](#)

Applications

[3D Cycling](#)

[Classic MultiRider Help](#)

[Course Creator](#)

[Power Training](#)

[Real Course Video](#)

[SpinScan](#)

[Velotron Accuwatt Help](#)

Home

[Definitions](#)

[Welcome to RacerMate One](#)

Misc.

[3rd Party Partners](#)

Options

[Advanced Options](#)

[Display Options](#)

[File Saving Options](#)

[Hardware Setup](#)

[Reports](#)

[Rider Setup](#)

Setup

[Application Launchpad](#)

[Course Profile Editing](#)

[DragFactor](#)

[Hardware Setup](#)

[Pick Ergo Course](#)

Hardware Troubleshooting

Because it would be difficult to diagnose hardware causes in a document, the following only offers the items to focus on. You should post your hardware problems on the [RacerMate forum](#) or by sending an [email to technical support](#).

Every RacerMate product connects to the computer using an FTDI USB adapter like the one seen below. These adapters require driver installation.



FTDI Adapter

You can check for new drivers [here](#).

Stereo style extension cable

Connected to the above adapter is also a data cable with double-ended "stereo connectors." If this has failed, it can only be replaced.

Both of these items can be found [here](#).

Software Troubleshooting

RacerMate One System Requirements

Minimum System Requirements:

- Processor: Intel Pentium 4 (or equivalent) and higher
- System RAM: minimum as required by the operating system used.
- Operating System: Windows XP/Vista/Win7
- Data Communication: One Serial Port or USB Port per trainer.
- Video: DirectX 9 compatible video card with 256MB Video RAM or higher.
Note: Running 3D Cycling with more than one pacer will require more video RAM. Ideally 512MB or higher.
- CD-ROM drive (needed for application software installation purposes only)
- DVD-ROM drive (needed for Interactive Real Course Video installation)

Related Topics

[RacerMate One First-use Wizard](#)
[RacerMate One Hardware Detection](#)
[Hardware Setup](#)
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Last updated 2011 Aug 31

[Pick Riders](#)

[Pick Road Course](#)

[RacerMate One First-use Wizard](#)

[RacerMate One Hardware Detection](#)

[Real Course Video Registration](#)

[Rolling Resistance Calibration -
CompuTrainer](#)

[Velotron Gearing Setup](#)

Tips

[Heart rate zone settings](#)

[Manual Grade Changes](#)

[Manual Watts Changes](#)

[Velotron Accuwatt Tips](#)

Troubleshooting

[Troubleshoot Hardware](#)

Error reports

RacerMate One will generate an error report on more severe crashes - when it can capture the event. These are stored in your My Documents\RacerMate\Errors folder. You can also generate a report when requesting support via email by doing the following:

1. Launch RacerMate One
2. While on the Launchpad or any other screen within RacerMate One, press the PC "Shift" key followed by the "~" key to open the diagnostic screen.
3. Press "Write test report" to create a report in the Errors folder.
4. You can send this error report to our service department via [email to technical support](#).

Clear Settings

If there is a corruption in the settings file, it may cause RacerMate One to fail in some way. RacerMate One uses the settings file for every function on every page, so if a corruption does occur it may be easier to clear these settings and start fresh before calling for service. Though this is a last-resort and should be limited to a home-user and not a user with 100 riders saved in the file. Users with more than one or two riders should contact support as noted above.

1. Launch RacerMate One
2. While on the Launchpad or any other screen within RacerMate One, press the PC "Shift" key followed by the "~" key to open the diagnostic screen.
3. Press "Clear Settings"
4. The software will clear the settings and close.
5. Restart the software and you will be presented with the software as it was seen on its [first use](#).
6. Reenter your user data and try the software again. If problems persist, generate an error report as noted above and contact technical support.