

GARMIN

Forerunner® 910XT

owner's manual



October 2011

190-01371-00_0A

Printed in Taiwan

© 2011 Garmin Ltd. or its subsidiaries

All rights reserved. Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Garmin. Garmin reserves the right to change or improve its products and to make changes in the content of this manual without obligation to notify any person or organization of such changes or improvements. Go to www.garmin.com for current updates and supplemental information concerning the use of this product.

Garmin®, the Garmin logo, Auto Lap®, Auto Pause®, Forerunner®, and Virtual Partner® are trademarks of Garmin Ltd. or its subsidiaries, registered in the USA and other countries. ANT+™, ANT Agent™, Garmin Connect™, GSC™, USB ANT Stick™, and Virtual Racer™ are trademarks of Garmin Ltd. or its subsidiaries. These trademarks may not be used without the express permission of Garmin.

Firstbeat and Analyzed by Firstbeat are registered or unregistered trademarks of Firstbeat Technologies Ltd. New Leaf® is a registered trademark of the Angeion Corporation. Other trademarks and trade names are those of their respective owners.

Table of Contents

Introduction.....	3	Swim Features.....	19
Getting Started	3	Using the Countdown Timer	21
Charging the Forerunner	3	ANT+ Sensors	21
Turning on the Forerunner.....	4	Pairing Your ANT+ Sensors	22
Using the Backlight.....	4	Heart Rate Monitor	22
Keys.....	5	Foot Pod	24
Icons.....	5	Bike Sensors	26
About the Barometric Altimeter.....	6	Power Meters	26
Training with Your Forerunner	7	Weight Scales.....	27
Changing Sports.....	7	Fitness Equipment.....	28
Running Basics.....	7	History	29
Multisport Workouts.....	8	Viewing History.....	29
Alerts	9	Deleting History	30
Auto Lap.....	10	Using Garmin Connect	30
Pausing Your Run Automatically.....	12	Goals	31
Using Auto Scroll	12	Navigation	31
Running With a Virtual Partner	12	Adding the Map Page.....	31
Virtual Racer.....	13	Marking Your Location	32
Interval Workouts.....	14	Navigating to a Location	32
Custom Workouts	15	Editing or Deleting a Location.....	33
Courses	16	Navigating Back to Start.....	33
Training Indoors.....	18	Stopping Navigation	33
Biking Options	18	Viewing GPS Information	33

Customizing Your Device.....	34
System Settings.....	34
User Profiles	35
Data Fields	36
Device Information	42
Caring for Your Device.....	42
Specifications	43
Heart Rate Monitor Battery.....	44
Appendix	44
Registering Your Device	44
Wheel Size and Circumference.....	45
Troubleshooting	46
Index	50

Introduction

WARNING

Always consult your physician before you begin or modify any exercise program.

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

Getting Started

When using your Forerunner the first time, complete these tasks.

- 1 Charge the Forerunner ([page 3](#)).
- 2 Turn on the Forerunner ([page 4](#)).
- 3 Put on the optional heart rate monitor ([page 22](#)).
- 4 Go for a run ([page 7](#)).
- 5 Save your run ([page 8](#)).

Charging the Forerunner

WARNING

This product contains a lithium-ion battery. See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

NOTICE

To prevent corrosion, thoroughly dry the contacts and the surrounding area before charging.

- 1 Plug the USB connector on the charging clip cable into the AC adapter.
- 2 Plug the AC adapter into a standard wall outlet.
- 3 Align the charging clip posts with the contacts on the back of the Forerunner.
- 4 Clip the charger securely over the face of the Forerunner.



Using the Backlight

- 1 Select **ENTER** to turn on the backlight.

TIP: You can double-tap the device screen to turn on the backlight. This feature is only available in “Run” and “Other” sport modes.

- 2 Select **ⓘ**, and use **▲** and **▼** to adjust the backlight level.



This window also displays several status icons.

- 5 Charge the Forerunner completely.

A fully charged battery will last up to 20 hours, depending on usage.

Turning on the Forerunner

The first time you use the Forerunner, you are prompted to choose your system settings and enter user profile information.

- 1 Hold **ⓘ** to turn on your Forerunner.
- 2 Follow the on-screen instructions.
- 3 Go outdoors to an open area.
- 4 Wait while the Forerunner searches for satellites.

It may take 30–60 seconds to locate satellite signals.

The time of day and date are set automatically.

Keys



①	⏻	<p>Hold to turn the device on and off.</p> <p>Select to adjust the backlight.</p> <p>Select to view status icons (page 5).</p> <p>Select to search for a compatible weight scale.</p>
②	▲ ▼	<p>Select to scroll through menus and settings.</p> <p>Hold to scroll quickly through the settings.</p> <p>Select to scroll through training pages during a workout.</p>

③	ENTER	<p>Select to turn on the backlight.</p> <p>Select to choose an option and to acknowledge a message.</p>
④	START/STOP	<p>Select to start and stop the timer.</p>
⑤	LAP/RESET	<p>Select to mark a new lap.</p> <p>Hold to save your activity and reset the timer.</p>
⑥	MODE	<p>Select to view the timer and the menu. The map and the compass also appear if they are active.</p> <p>Select to exit a menu or a page. Your settings are saved.</p> <p>Hold to switch sport modes.</p>

Icons

A solid icon means the feature is active.
A flashing icon means the device is searching.

	GPS is on.
	GPS is off.
	Timer is running.
	Multiple sport activity is in progress.
	Battery charge level.

	Battery is charging.
	Heart rate monitor is active.
	Foot pod is active.
	Bike sensor is active.
	Power sensor is active.
	Fitness equipment is active.
	Run sport is active.
	Bike sport is active.
 	Swim (open or pool) sport is active.
	Other sport is active.

Locking the Keys

You can lock the keys on your Forerunner. This decreases the chance of accidentally pressing a key when taking the device on and off.

- 1 Select **MODE** and **▲** simultaneously to lock the keys.
- 2 Select **MODE** and **▲** simultaneously to unlock the keys.

About the Barometric Altimeter

NOTE: The barometric altimeter does not function in swim mode.

Your Forerunner calculates elevation using the barometric altimeter. The barometric altimeter is sensitive to weather events and pressurized areas such as airplane cabins and cars. If the barometric altimeter starts to report false readings due to environmental conditions, the Forerunner will use GPS elevation data.

You can customize your data fields to include elevation ([page 36](#)).

Calibrating the Barometric Altimeter

You can calibrate the barometric altimeter manually using a saved location.

- 1 Go to a location with a known elevation.
- 2 Select **MODE** > **GPS** > **Save Location**.
- 3 Enter the elevation in the **Elevation** field.
- 4 Select **OK**.

The Forerunner will automatically calibrate the barometric altimeter if you are within 50 meters of a saved location with elevation data. Otherwise, the Forerunner calibrates the barometric altimeter using GPS elevation data.

Training with Your Forerunner

This section describes training features and settings for your device. Many of the tasks have instructions for run mode, but most of the training features can be used in all of the sport modes.

- Changing sports ([page 7](#))
- Running basics ([page 7](#))
- Multisport workouts ([page 8](#))
- Alerts ([page 9](#))
- Auto Lap® ([page 10](#))
- Auto Pause® ([page 12](#))
- Auto scroll ([page 12](#))
- Virtual Partner® ([page 12](#))
- Virtual Racer™ ([page 13](#))
- Interval workouts ([page 14](#))

- Custom workouts ([page 15](#))
- Training indoors ([page 18](#))
- Biking options ([page 18](#))
- Countdown timer ([page 21](#))

Changing Sports

- Hold **MODE**.
- Use **Auto Multisport** ([page 8](#)).

Running Basics

Going for a Run

Before you can record history, you must locate satellite signals ([page 4](#)) or pair your Forerunner with an optional foot pod ([page 24](#)).

- 1 Select **START** to start the timer ①.



History is recorded only while the timer is running. Your pace ② and distance ③ appear on the timer page.

The data fields shown are the defaults. You can customize the data fields (page 36).

- 2 After completing your run, select **STOP**.

Saving Your Run

- 1 Hold **RESET** to save your run and reset the timer.
- 2 Transfer saved activities to your computer (page 30).

Multisport Workouts

Triathletes, duathletes, and other multisport competitors can take advantage of the multisport workouts. When you set up a multisport workout, you can switch between sport modes and still view your total time and distance for all sports. For example, you can switch from biking mode to running mode and view your total time and distance for biking and running throughout your workout.

The Forerunner stores multisport workouts in history and includes total time, distance, average heart rate (optional heart rate monitor required), and calories for all

sports in the workout. It also includes specific details for each sport.

You can use multisport workouts manually, or you can preset multisport workouts for races and other events.

Creating a Manual Multisport Workout

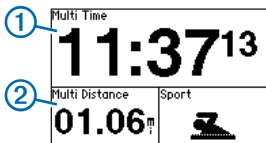
- 1 Start a workout in any sport.
- 2 When you are ready to switch sport modes, hold **MODE**.
- 3 Select another sport mode.
The timer automatically resets for the new leg of your workout.
- 4 Use ▲ or ▼ to view the multisport timer.

Creating an Auto Multisport Workout

If you are participating in a triathlon, you can use **Auto Multisport** to quickly transition to each sport segment. You can also customize the sport segments.

- 1 Select **MODE > Training > Auto Multisport**.

- If necessary, select **Include Transition** to record transition time separately from the sport segments.
- Select **Start Multisport > START**.



Your total event time ① and total event distance ② appear on the first page in the training page loop. You can use ▲ and ▼ to view additional training pages for each sport segment.

- Select **LAP** when you complete a segment or transition.

Stopping Auto Multisport

- Select **MODE > Training > Stop Multisport**.
- Select **STOP**, and hold **RESET**.

Alerts

NOTE: Alerts do not function during interval or custom workouts.

You can use alerts to train toward specific time, distance, calorie, heart rate, cadence and power goals.

NOTE: To turn on alert tones and vibrations, see [page 34](#).

Setting Time, Distance, and Calorie Alerts

NOTE: Calorie alerts are not available in swim mode.

- Select **MODE > Training > Run Alerts**.
- Select **Time Alert, Distance Alert, or Calorie Alert**.
- Select **On**.
- Select **Alert At**, and enter a time, distance, or calorie amount.

Each time you reach the alert amount, the device beeps or vibrates and displays a message.

Setting Advanced Alerts

If you have an optional heart rate monitor, foot pod, GSC™ 10, or power meter, you can set up advanced alerts for heart rate, cadence, and power.

NOTE: Advanced alerts are not available in swim mode.

- 1 Select **MODE > Training > Run Alerts**.
- 2 Select an option:
 - Select **HR Alert** to set the high and low heart rate values in beats per minute (bpm).
NOTE: For more information about heart rate zones, see [page 23](#).
 - Select **Cadence** to set the minimum and maximum cadence amounts in steps per minute (spm) or revolutions of the crank arm per minute (rpm).
 - Select **Power Alert** to set the minimum and maximum power in watts.
NOTE: For more information about power zones, see [page 27](#).

- 3 Set the parameters for your alerts.

Each time you exceed or drop below the specified heart rate or cadence amount, the device beeps or vibrates and displays a message.

Setting Walk Break Alerts

Some running programs use timed walking breaks at regular intervals. For example, during a long training run, the program may instruct you to run for four minutes, then walk for 1 minute, and repeat. Auto Lap functions correctly while you are using the run/walk alerts.

NOTE: Walk alerts are available only in run mode.

- 1 Select **MODE > Training > Run Alerts**.
- 2 Select **Run/Walk Alert > On**.
- 3 Select **Run Alert**, and enter a time.
- 4 Select **Walk Alert**, and enter a time.

Each time you reach the alert amount, the device beeps or vibrates and displays a message. The run/walk alerts will repeat until you stop the timer.

Auto Lap

NOTE: Auto Lap does not function during interval or custom workouts or pool swim mode.

Default Settings

Sport Mode	Default Distance
Run	1 mile or 1 kilometer
Bike	5 miles or 5 kilometers
Open water swim	0.25 mile or 0.5 kilometer
Other	1 mile or 1 kilometer

Marking Laps by Distance

You can use Auto Lap to automatically mark the lap at a specific distance. This feature is helpful for comparing your performance over different parts of a run.

- 1 Select **MODE > Settings > Run Settings > Auto Lap**.
- 2 Select **Auto Lap Trigger > By Distance**.
- 3 Select **Lap At**, and enter a distance.

Marking Laps by Position

You can use Auto Lap to automatically mark the lap at a specific position. This feature is helpful for comparing your performance over different parts of a run (for example, a long hill or training sprints).

- 1 Select **MODE > Settings > Run Settings > Auto Lap**.
- 2 Select **Auto Lap Trigger > By Position > Lap At**.
 - Select **Lap Press Only** to trigger the lap counter each time you select **LAP** and each time you pass any of those positions again.
 - Select **Start and Lap** to trigger the lap counter at the GPS location where you select **START** and at any location **DURING** the run where you select **LAP**.
 - Select **Mark and Lap** to trigger the lap counter at a specific GPS location marked before the run (use **Mark Position**) and at any location during the run where you select **LAP**.

NOTE: When doing a course ([page 16](#)), use **By Position** to mark laps at all of the lap positions marked in the course.

Pausing Your Run Automatically

You can use Auto Pause to pause the timer automatically when you stop moving or when your speed drops below a specified value. This feature is helpful if your run includes stop lights or other places where you need to slow down or stop.

NOTE: The paused time is not saved with your history data.

NOTE: Auto Pause does not function during interval or custom workouts or swim mode.

- 1 Select **MODE > Settings > Run Settings > Auto Pause**.
- 2 Select an option:
 - To pause the timer automatically when you stop moving, select **When Stopped**.
 - To pause the timer automatically when your speed drops below a specified value, select **Custom Speed**.

Using Auto Scroll

You can use the auto scroll feature to automatically cycle through all of the training data pages while the timer is running.

- 1 Select **MODE > Settings > Run Settings > Auto Scroll**.
- 2 Select **Slow, Medium, or Fast**.

Running With a Virtual Partner

Your Virtual Partner is a training tool designed to help you meet your goals.

NOTE: Virtual Partner is not available in swim mode.

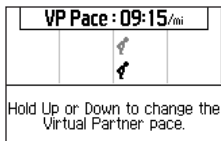
- 1 Select **MODE > Settings > Run Settings > Virtual Partner**.
- 2 Select **Virtual Partner > On**.

Changing the Virtual Partner Pace

If you make changes to the Virtual Partner pace before you start the timer, those changes are saved. Changes made to the Virtual Partner pace after the timer has started are applied only to the current session, and are not saved when the timer is reset. If you make changes to

the Virtual Partner during an activity, the Virtual Partner uses the new pace from your location.

- 1 Select **MODE** to view the training page.
- 2 Use ▲ or ▼ to view the Virtual Partner page.



- 3 Hold ▲ or ▼ to increase or decrease the Virtual Partner pace.

Virtual Racer

Your Virtual Racer is a training tool designed to help you improve your performance. You can race against your own activity or one transferred from your computer (page 14). For example, you can practice running the actual race route and save it to your Forerunner. On race day, you can race against that practice run. The Virtual Racer pushes you to beat your previous pace including hills where

you might slow down and the final sprint to the finish line.

NOTE: Virtual Racer is not available in swim mode.

Running With a Virtual Racer

Before you can create a race, you must have at least one saved activity.

- 1 Select **MODE** > **Training** > **Virtual Racer**.
- 2 Select **New**, and select an activity.
- 3 Select the race.
- 4 Select **Do Race**.

Editing a Virtual Race

- 1 Select **MODE** > **Training** > **Virtual Racer**.
- 2 Select the race.
- 3 Select **Edit Race** to change the name and view statistics from the previous activity.

Deleting a Virtual Race

- 1 Select **MODE** > **Training** > **Virtual Racer**.
- 2 Select the race.
- 3 Select **Delete Race** > **Yes**.

Racing Against an Activity From the Web

You must have a Garmin Connect™ account, and you must pair the Forerunner with your computer using the USB ANT Stick™ (page 30).

- 1 Go to www.garminconnect.com, and find an activity.
- 2 Click **Send to Device**, and wait for ANT Agent™ to send the activity.
- 3 Select **MODE > Training > Virtual Racer**.
- 4 Select the race.
- 5 Select **Do Race > START**.

Interval Workouts

You can create interval workouts based on distance or time. Your custom interval workout is saved until you create another interval workout. Open intervals can be used for track workouts when you are running a known distance but want to keep track of how many intervals you have completed.

NOTE: Interval workouts are not available in swim mode.

Creating and Doing an Interval Workout

- 1 Select **MODE > Training > Workouts > Interval**.
- 2 Select **Type**, and select **Time** or **Distance**.
- 3 Enter a distance or time interval value.
- 4 Select **Rest Type**, and select **Time** or **Distance**.
- 5 Enter a distance or time value for the rest interval.
- 6 Select **More** for additional options.
- 7 Select **Reps** and enter the number of repetitions.
- 8 If necessary, select **Warm Up** to add an open-ended warmup to your workout.
- 9 If necessary, select **Cool Down** to add an open-ended cooldown to your workout.
- 10 Select **Do Workout > START**.
If your interval workout has a warm up, you must select **LAP** to begin the first interval.
- 11 Follow the on-screen instructions.

When you complete all of the intervals, a message appears.

Stopping a Workout

- At any time, select **LAP** to end an interval or workout step.
- At any time, select **STOP** to stop the timer.
- If your interval workout has a cool down, you must select **LAP** to end the interval workout.

Custom Workouts

Custom workouts can include goals for each workout step and varied distances, times, and calories. You can create custom workouts using Garmin Connect (page 30), and transfer them to the Forerunner. However, you can also create and save a custom workout directly on your Forerunner.

You can also schedule custom workouts using Garmin Connect. You can plan workouts in advance and store them on your Forerunner.

NOTE: Custom workouts are not available in swim mode.

Creating a Custom Workout

- 1 Select **MODE > Training > Workouts > Custom > New**.
- 2 Enter a workout name in the top field.
- 3 Select **1. Open No Target > Edit Step**.
- 4 Select **Duration** to specify how the step will be measured.

For example, select **Distance** to end the step after a specific distance.

If you select **Open**, you can end the step during your workout by selecting **LAP**.

- 5 Below **Duration**, enter a value.
- 6 Select **Target** to choose your goal during the step.
For example, select **Heart Rate** to maintain a consistent heart rate during the step.
- 7 If necessary, select a target zone or enter a custom range.
For example, you can select a heart rate zone. Each time you exceed or drop below the specified heart rate, the device beeps and displays a message.

- 8 When you are finished with the step details, select **MODE**.
- 9 Complete an action:
 - To add another step, select **<Add New Step>** and repeat steps 4-8.
 - To mark any step as a rest step, select the step and select **Mark as Rest Step**.

Rest steps are noted in your workout history.

Repeating Steps

Before you can repeat a workout step, you must create a workout with at least one step.

- 1 Select **<Add New Step>** > **Duration**.
- 2 Select an option:
 - Select **Repeat** to repeat a step one or more times.
For example, you can repeat a 1-mile step 4 times.
 - Select **Repeat Until** to repeat a step for a specific duration.
For example, you can repeat a 5-minute step for thirty minutes or until you reach heart rate zone 5.

- 3 Select **Back to Step**, and select a step to repeat.
- 4 Select **MODE** to continue.

Starting a Custom Workout

- 1 Select **MODE > Training > Workouts > Custom**.
- 2 Select the workout.
- 3 Select **Do Workout > START**.

Deleting a Custom Workout

- 1 Select **MODE > Training > Workouts > Custom**.
- 2 Select the workout.
- 3 Select **Delete Workout > Yes**.

Courses

Another way you can use the Forerunner for custom training is to follow courses based on a previously recorded activity. You can follow a saved course simply because it is a good route. For example, you can save a bike friendly commute to work. You can also follow a saved course, trying to match or exceed previously set performance goals. For example, if the original course was completed in 30

minutes, you will race against a Virtual Partner trying to complete the course in under 30 minutes.

You can create a course from your own activity, or you can send a course from Garmin Connect to your device.

NOTE: Courses are not available in swim mode.

Creating Courses with Your Forerunner

- 1 Select **MODE > Training > Courses > New**.
- 2 From the History page, select an entry on which to base your course.
- 3 Select **MODE** to exit.

Editing a Course

- 1 Select **MODE > Training > Courses**.
- 2 Select the course.
- 3 Select **Edit Course** to change the name and view statistics from the previous activity.

Starting a Course

- 1 Select **MODE > Training > Courses**.
- 2 Select the course.
- 3 Select **Do Course > START**.

History is recorded even if you are not on the course.

Following a Course From the Web

You must have a Garmin Connect account, and you must pair the Forerunner with your computer using the USB ANT Stick ([page 30](#)).

- 1 Go to www.garminconnect.com, and find an activity.
- 2 Click **Send to Device**, and wait for ANT Agent to send the activity.
- 3 Select **MODE > Training > Courses**.
- 4 Select the course.
- 5 Select **Do Course > START**.

Tips for Training with Courses

- If you include a warmup, select **START** to begin the course, and then warm up as normal.
- Stay away from your course path as you warm up. When you are ready to

begin, head toward your course. When you are on any part of the course path, a message appears.

NOTE: As soon as you select **START**, your Virtual Partner starts the course and does not wait for you to warm up.

- Select **MODE** to view the course map or use the compass to find your way back to the course.

Changing the Course Speed

- 1 Select **MODE > Training > Courses**.
- 2 Select the course.
- 3 Select **Do Course**.
- 4 Use ▲ or ▼ to view the Virtual Partner page.
- 5 Hold ▲ or ▼ to adjust the percentage of time to complete the course.

For example, to improve your course time by 20%, enter a course speed of 120%. You will race against the Virtual Partner to finish a 30-minute course in 24 minutes.

Stopping a Course

Select **MODE > Training > Courses > Stop Course**.

Deleting a Course

- 1 Select **MODE > Training > Courses**.
- 2 Select the course.
- 3 Select **Delete Course > Yes**.

Training Indoors

If the Forerunner cannot locate satellites, a message appears asking if you are indoors. You can also manually turn off GPS when you are training indoors.

While the Forerunner is trying to locate satellites, select **ENTER > Yes**.

TIP: For more information about GPS settings, see [page 33](#).

Biking Options

- For information about the GSC 10, see [page 26](#).
- For information about power meters, see [page 26](#).

Saving Your Bike Profiles

You can customize up to five bike profiles.

- 1 In bike mode, select **MODE > Settings > Bike Settings > Bikes**.

- 2 Select up to five bikes, and select **Done**.
- 3 Select **Bike 1 > Bike Details**.
- 4 Enter a name for the bike profile, the bike weight, and the odometer value.
- 5 If you are using a speed and cadence sensor or power sensor, select **Wheel Size**.
 - Select **Auto** to calculate your wheel size using GPS distance.
 - Select **Custom** to enter your wheel size. For a table of wheel sizes and circumferences, see [page 45](#).
- 6 Hold **MODE** to switch bikes.
- 7 Repeat steps 1–5 for additional bikes.

Swim Features

NOTICE

The Forerunner is intended for surface swimming. Scuba diving with the Forerunner may damage the product and will void the warranty.

Swimming in Open Water

You can use the Forerunner for open water swimming. You can record your

swim data including distance, pace, and stroke count.

NOTE: The Forerunner cannot record heart rate data while swimming.

- 1 Hold **MODE**.
- 2 Select **Swim > Open Water Swim**.
- 3 If necessary, select **MODE > Settings > Open Water Settings > Data Fields** to customize the swim training pages. For a complete list of the available data fields, see [page 36](#).
- 4 Select **START**.
- 5 After completing your swim, select **STOP**.
- 6 Hold **RESET** to save your data and reset the timer.

Swimming in a Pool

You can record your swim data including distance, pace, stroke count, and stroke type (pool swim only).

NOTE: The Forerunner cannot record heart rate data while swimming.

- 1 Hold **MODE**.
- 2 Select **Swim > Pool Swim**.

- 3 Select your pool length or enter a custom length.
- 4 If necessary, select **MODE > Settings > Pool Swim Settings > Data Fields** to customize the swim training pages.
For a complete list of the available data fields, see [page 36](#).
- 5 Select **START**.
- 6 If you stop to rest, select **LAP**, and select **LAP** again when you resume swimming.
This creates a rest interval separate from your swim interval.
- 7 After completing your swim, select **STOP**.
- 8 Hold **RESET** to save your data and reset the timer.

Stroke Types

Stroke type identification is available only in pool swim mode. Your stroke type is identified at the end of a length.

Free	Freestyle
Back	Backstroke
Breast	Breaststroke
Fly	Butterfly

Mixed	More than one stroke type in an interval
--------------	--

Swim Terminology

- A *length* is one trip down the pool.
- An *interval* in swimming is like a lap in running. You can break your swim into swim intervals and rest intervals.
- A *stroke* is counted every time your arm wearing the Forerunner completes a full cycle.
- Your *swolf* score is the sum of the time for one length and the number of strokes for that length. For example, 30 seconds plus 15 strokes equals a swolf score of 45. Swolf is a measurement of swimming efficiency and, like golf, a lower score is better.
- Your swim *efficiency index* is the sum of the time and the number of strokes that it takes to swim 25 meters. This allows you to compare your swim efficiency to another pool or an open water workout. A lower swim efficiency index is better.

Swim Tips

The Forerunner cannot record strokes or lengths during drill strokes or kick sets. Garmin recommends that you record drills as a separate swim interval using the **LAP** key.

Similarly, use the **LAP** key to record rest intervals separately. This improves the accuracy of your swim data. If you do not use the **LAP** key for rest intervals or stop the timer, the Forerunner may take 7-8 seconds to display data for the last completed length.

Using the Countdown Timer

You can use the countdown timer to automatically start the Forerunner timer after a specified countdown.

For example, you can use a 30-second countdown before you start a timed sprint. You can also set a 5-minute countdown before starting a boat race. During the countdown, history is not recorded.

NOTE: The countdown timer is only available in “Other” sport mode.

1 Hold **MODE > Other**.

- 2** Select **MODE > Settings > Other Settings > Countdown Timer**.
- 3** Select **Countdown Timer > On**.
- 4** Enter the countdown time.
- 5** Select **START** to begin the countdown timer.

You will hear 5 beeps before the timer starts automatically.

ANT+ Sensors

The Forerunner is compatible with these ANT+ accessories.



- Heart rate monitor ([page 22](#))
- Foot pod ([page 24](#))
- Bike sensors ([page 26](#))
- Power meters ([page 26](#))
- Weight scales ([page 27](#))
- Fitness equipment ([page 28](#))



For information about purchasing additional accessories, go to <http://buy.garmin.com>.

Pairing Your ANT+ Sensors

Before you can pair, you must put on the heart rate monitor or install the sensor. See the quick start manual or the accessory instructions.

If your Forerunner does not show data from the accessory, you may need to pair the accessory to your Forerunner. Pairing is the connecting of ANT+™ wireless sensors, for example, connecting your foot pod with a Forerunner. After you pair the first time, your Forerunner automatically recognizes your foot pod each time it is activated.

- Make sure the ANT+ sensor is compatible with your Forerunner.
- Bring the Forerunner within 3 m of the ANT+ sensor.
- Stay 10 m away from other ANT+ sensors while pairing.
- If  is off, select **MODE > Settings > Run Settings > Heart Rate > ANT+ HR > Yes > Restart Scan.**
- If  is off, select **MODE > Settings > Run Settings > Foot Pod > Yes > Restart Scan.**

- If  is off, select **MODE > Settings > Bike Settings > bike name > ANT+ Spd/Cad > Yes > Restart Scan.**
- If  is off, select **MODE > Settings > Bike Settings > bike name > ANT+Power > Yes > Restart Scan.**
- If you still cannot pair the accessory, replace the accessory battery (see [page 44](#) or accessory instructions).

When the accessory is paired, a message appears, and the accessory icon ([page 5](#)) appears solid on the screen.


Heart Rate Monitor

NOTE: The Forerunner cannot record heart rate data while swimming.

Putting on the Heart Rate Monitor

NOTE: If you do not have a heart rate monitor, you can skip this task.

Wear the heart rate monitor directly on your skin, just below your breastplate. It should be snug enough to stay in place during your run.

- 1 Connect the heart rate monitor module  to the strap.




- 2 Wet both electrodes ② on the back of the strap to create a strong connection between your chest and the transmitter.



- 3 Wrap the strap around your chest, and connect it.
The Garmin logo should be right-side up.
- 4 Bring the device within range (3 m) of the heart rate monitor.

TIP: If the heart rate data is erratic or does not appear, you may have to tighten the strap on your chest or warm up for 5–10 minutes.

After you put on the heart rate monitor, it is on standby and ready to send data. When the heart rate monitor is paired, a message appears, and  appears solid on the screen.

Setting Your Heart Rate Zones

Before you can customize your heart rate zones, you must enable the heart rate monitor.

The Forerunner uses your user profile information from the initial setup to determine your heart rate zones. For the most accurate calorie data during your activity, set your maximum heart rate, resting heart rate, and heart rate zones.

- 1 Select **MODE > Settings > Run Settings > Heart Rate > HR Zones**.
- 2 Follow the on-screen instructions.
- 3 Repeat for each sport mode.

About Heart Rate Zones

Many athletes are using heart rate zones to measure and increase their cardiovascular strength and improve their level of fitness. A heart rate zone is a set range of heartbeats per minute. The five commonly accepted heart rate zones are numbered from 1 to 5 according to increasing intensity. Generally, heart rate zones are calculated based on percentages of your maximum heart rate.

Fitness Goals

Knowing your heart rate zones can help you measure and improve your fitness by understanding and applying these principles.

- Your heart rate is a good measure of exercise intensity.
- Training in certain heart rate zones can help you improve cardiovascular capacity and strength.
- Knowing your heart rate zones can prevent you from overtraining and can decrease your risk of injury.

If you know your maximum heart rate, you can use the table ([page 49](#)) to determine the best heart rate zone for your fitness objectives.

If you do not know your maximum heart rate, use one of the calculators available on the Internet. Some gyms and health centers can provide a test that measures maximum heart rate.

More Heart Rate Options

- Heart rate alerts ([page 9](#))
- Heart rate zone calculations ([page 49](#))

- Heart rate data fields ([page 36](#))
- Heart rate troubleshooting ([page 48](#))

Foot Pod

Your Forerunner is compatible with the foot pod. You can use the foot pod to send data to your Forerunner when training indoors, when your GPS signal is weak, or when you lose satellite signals. The foot pod is on standby and ready to send data as soon as you install it or start moving. You must pair the foot pod with your Forerunner ([page 22](#)).

When the battery is low, a message appears on your Forerunner. Approximately five hours of battery life remain.

Choosing Your Speed Source

If you plan to train outdoors, you can set the Forerunner to use foot pod data to calculate pace rather than using GPS.

- 1 Select **MODE > Settings > Run Settings > Foot Pod > Yes.**
- 2 Select **Speed Source > Foot Pod.**

About Foot Pod Calibration

Calibrating your foot pod is optional and can improve accuracy. There are three ways to adjust the calibration: distance, GPS, and manual.

Calibrating Your Foot Pod by Distance

For best results, the foot pod should be calibrated using the inside lane of a regulation track. A regulation track (2 laps = 800 m) is more accurate than a treadmill.

- 1 Select **MODE > Settings > Run Settings > Foot Pod > Calibrate > Distance**
- 2 Select a distance.
- 3 Select **Continue > START** to begin recording.
- 4 Run or walk the distance.
- 5 Select **STOP**.

Calibrating Your Foot Pod by GPS

You must have GPS signals to calibrate the foot pod using GPS.

- 1 Select **MODE > Settings > Run Settings > Foot Pod > Calibrate > GPS**.
- 2 Select **Continue > START** to begin recording.
- 3 Run or walk approximately 1000 m.

The Forerunner informs you that you have traveled far enough.

Calibrating Your Foot Pod Manually

If your foot pod distance seems slightly high or low each time you run, you can manually adjust the calibration factor.

- 1 Select **MODE > Settings > Run Settings > Foot Pod > Calibration Factor**.
- 2 Adjust the calibration factor.
 - Increase the calibration factor if your distance is too low.
 - Decrease the calibration factor if your distance is too high.

Bike Sensors

Your Forerunner is compatible with the GSC 10 speed and cadence bike sensor. For a list of third-party ANT+ sensors that are compatible with the Forerunner, go to www.garmin.com/intosports.

Training with a Bike Sensor

Before you start training, you must be in bike sport mode, and you must pair the GSC 10 with your Forerunner.

- 1 Select **MODE > Settings > Bike Settings > *bike name* > ANT+Spd/Cad**.
- 2 Select **Yes** in the **Bike sensors present** field.
- 3 If necessary, select **More** to select the sensor type.

About the GSC 10

Cadence data from the GSC 10 is always recorded. If there is no GSC 10 paired, GPS data is used to calculate the speed and distance.

Cadence is your rate of pedaling or “spinning” measured by the number of revolutions of the crank arm per minute (rpm). There are two sensors on the

GSC 10: one for cadence and one for speed.

For information about cadence alerts, see [page 9](#).

Non-Zero Averaging for Cadence Data

The non-zero data-averaging setting is available if you are training with an optional cadence sensor. The default setting is to include zero values that occur when you are not pedaling.

To turn the non-zero averaging on or off, select **MODE > Settings > Bike Settings > Data Averaging > Cadence**.

Power Meters

For a list of third-party ANT+ sensors that are compatible with the Forerunner, go to www.garmin.com/intosports.

Calibrating Your Power Meter

Before you can calibrate your power meter, it must be properly installed and actively recording data. You must be in bike sport mode.

For calibration instructions specific to your power meter, refer to the manufacturer's instructions.

- 1 Select **MODE** > Settings > **Bike Settings** > *bike name* > **ANT+Power**.
- 2 Select **Yes** in the **Power meter present** field.
- 3 Select **Calibrate**.
- 4 Keep your power meter active by pedaling until the message appears.

Setting Your Power Zones

Before you configure power zones, you must be in bike sport mode.

You can set seven custom power zones (1=lowest, 7=highest). If you know your functional threshold power (FTP) value, you can enter it and allow the Forerunner to calculate your power zones automatically.

- 1 Select **MODE** > Settings > **Bike Settings** > *bike name* > **Power Zones**.
- 2 Select an option:
 - Select **% FTP** to view and edit the zones as a percentage of your functional threshold power.

- Select **Watts** to view and edit the zones in watts.

Non-Zero Averaging for Power Data

The non-zero data-averaging setting is available if you are training with an optional power meter. The default setting is to include zero values that occur when you are not pedaling.

To turn the non-zero averaging on or off, select **MODE** > **Settings** > **Bike Settings** > **Data Averaging** > **Power**.

Data Recording

When a third-party power meter ([page 26](#)) is paired, the Forerunner records points every second. Recording points every second uses more of the available memory on the Forerunner, but creates a very accurate record of your ride.

Weight Scales

Using the Weight Scale

If you have an ANT+ compatible weight scale, the Forerunner can read the data from the weight scale.

- 1 Select **MODE** > Settings > **System** > **Weight Scale ANT+**.

2 Select **Yes** in the **Enabled** field.

3 Select **i**.

A message appears when the weight scale is found.

4 Stand on the scale.

NOTE: If using a body composition scale, remove shoes and socks to ensure that all body composition parameters are read and recorded.

5 Step off the scale.

TIP: If an error occurs, step off the scale, and try again.

Weight, body fat, and body hydration readings display on your device. Additional weight scale readings are stored on the device, and all readings are automatically sent to your computer when you transfer history (page 30).

About Lifetime Athletes

The lifetime athlete setting affects certain weight scale calculations. A lifetime athlete is an individual who has trained intensely for many years (with the exception of minor injuries) and has a resting heart rate of 60 beats per minute (bpm) or less.

Fitness Equipment

ANT+ technology automatically links your Forerunner and heart rate monitor to fitness equipment so you can view your data on the equipment console. Look for the ANT+ Link Here logo on compatible fitness equipment.



Go to www.garmin.com/antplus for more linking instructions.

Pairing With Fitness Equipment

1 Select **MODE** > **Settings** > **System** > **Fitness Equipment**.

2 Select **Yes** in the **Enabled** field.

3 Select **MODE** to view timer page.

The “i” flashes indicating that pairing is ready.

4 Move the Forerunner near the ANT+ Link Here logo.

A message appears. The “i” is solid when your device is paired with the equipment.

- 5 Start the timer on the fitness equipment to begin your workout.

The timer on your Forerunner starts automatically.

If you have trouble pairing, reset the Forerunner and fitness equipment and try again.

History

Your Forerunner stores data based on the type of activity, the accessories used, and your training settings. When the Forerunner memory is full, your oldest data is overwritten. A warning message appears on the Forerunner before any data is deleted.

NOTE: History is not recorded while the timer is stopped or paused.

Estimated Memory	Activity Description
220 hours	Smart recording with no ANT+™ accessories
160 hours	Smart recording with ANT+ accessories
48 hours	Every second recording with no ANT+ accessories

42 hours	Every second recording with ANT+ accessories
----------	--

Viewing History

The history displays the date, time of day, distance, activity time, calories, and average and maximum pace or speed. Swim activities also display stroke and efficiency data. The history can also display heart rate, cadence, and power data if you are using the heart rate monitor, foot pod, cadence sensor, or power meter (optional accessories).

- 1 Select **MODE > History > Activities**.
- 2 Use ▲ and ▼ to view your saved activities.
- 3 Select an activity.
- 4 Select **View More** to view averages and maximums.
- 5 Select an option:
 - Select **Show Map** to view the activity on a map.
 - Select **View Legs** to view parts of a multisport activity.
 - Select **View Laps** to view lap details.

- Select **View Ints.** to view interval details.

6 Select ▲ or ▼ to scroll through laps.

Viewing History Totals by Sport

- 1 Select **MODE > History > Totals.**
- 2 Select a sport.

Viewing the Amount of Memory Used

Select **MODE > History > Memory Details.**

Deleting History

- 1 Select **MODE > History > Delete > Individual Activities.**
- 2 Use ▲ and ▼ to select an activity.
- 3 Select **Delete Activity.**

Deleting Old Activities

- 1 Select **MODE > History > Delete > Old Activities.**
- 2 Select **Yes** to delete activities older than one month.

Using Garmin Connect

Garmin Connect is web-based software for storing and analyzing your data.

- 1 Go to www.garminconnect.com.
- 2 Select **Getting Started.**
- 3 Follow the on-screen instructions.

Sending History to Your Computer

You must have a Garmin Connect account, and you must pair the Forerunner with your computer using the USB ANT Stick ([page 30](#)).

- 1 Plug the USB ANT Stick ① into a USB port on your computer.



- 2 Bring your device within range (3 m) of your computer.
When the ANT Agent finds your device, the ANT Agent displays the unit ID and asks you if you want to pair.
- 3 Select **Yes.**
- 4 Follow the on-screen instructions.

Sending All Your Forerunner Data

By default, your Forerunner sends only new activities to your computer. You can send all of your saved activities to your computer.

Select **MODE > History > Transfer All**.

Preventing Data Transfer

You can prevent transferring data to and from any computer, even a paired computer.

Select **MODE > Settings > System > Data Transfer > Enabled > No**.

Goals

You can create training goals in Garmin Connect and send them to your Forerunner.

Sending Goals to your Forerunner

You must have a Garmin Connect account, and you must pair the Forerunner with your computer using the USB ANT Stick ([page 30](#)).

- 1 Go to www.garminconnect.com, and create a goal.

- 2 Click **Send to Device**, and wait for ANT Agent to send the goal.
- 3 Select **MODE > History > Goals**.

Navigation

Use the GPS navigation features on your Forerunner to view your path on a map, save locations you want to remember and find your way home.

Adding the Map Page

Before you use the navigation features, you may want to configure the Forerunner to display the map.

- 1 Select **MODE > Settings > System > Map**.
- 2 Select **Yes** in the **Show Map** field.

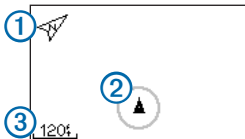
Viewing Your Track During a Run

- 1 Select **MODE** until the map appears.
- 2 Select **START**.

When you start the timer and begin to move, a dotted line appears on the map, showing you exactly where you have traveled. This dotted line is called a track.

- 3 Select ▲ or ▼ to zoom in or out on the map.

Map Features



①	Points to North
②	Your current location
③	Zoom level

Marking Your Location

A location is any point that you store in memory. If you want to remember landmarks or return to a certain spot, you can mark a location. The location appears on the map with a name and a symbol. You can find, view, and go to locations at any time.

- 1 Go to the place where you want to mark a location.
- 2 Select **MODE > GPS > Save Location**.
- 3 Enter a name in the top field.

- 4 Select **OK**.

Marking a Location Using Coordinates

- 1 Select **MODE > GPS > Save Location**.
- 2 Enter the coordinates in the **Position** field.
- 3 Select **OK**.

Navigating to a Location

- 1 Select **MODE > GPS > Go to Location**.
- 2 Select a location.
- 3 Select **Go To**.

When you are navigating to a location, the map and compass are automatically added to the page loop.

- 4 Select **START**.
- 5 Select **MODE** to view the map.
- 6 Follow the line on the map to the location.

Compass Features

On the compass, the arrow ① points toward the location. The compass also displays the distance ② and time ③ to the location.



Editing or Deleting a Location

- 1 Select **MODE > GPS > Go to Location**.
- 2 Select a location.
- 3 Edit the information or select **Delete**.

Navigating Back to Start

Before you can navigate to your starting location, you must be training with GPS, and you must start the timer.

At any point during your run, you can return to your starting point.

During your run, select **MODE > GPS > Back to Start**.

NOTE: If you are using every second recording (page 34), it may take several seconds to determine your starting location.

The map appears. A line appears on the map from your current location to your starting point.

Stopping Navigation

Select **MODE > GPS > Stop Navigation**.

Viewing GPS Information

- 1 Select **MODE > GPS > Satellites**.

The satellite strength information appears. The black bars represent the strength of each satellite signal received (the number of the satellite appears below each bar).

- 2 Select ▲ or ▼ to view the satellite page.

The satellite page displays information about the GPS signals the Forerunner is currently receiving.

For more information about GPS, go to www.garmin.com/aboutGPS.

Customizing Your Device

You can customize your settings for each sport.

- 1 If necessary, hold **MODE** to change your sport.
- 2 Select **MODE > Settings**.
- 3 Select a setting based on your active sport.
For example, if the Forerunner is set to bike, select **Bike Settings**.
- 4 Customize your settings.
The settings are saved for the active sport.

System Settings

System settings apply to all sport modes.

Select **MODE > Settings > System**.

- **Language**—sets the device language. Changing the text language does not change the language of user-entered data, such as course names.
- **Tones and Vibration**—sets the device to use audible tones for key presses and audible tones or vibration for messages.

- **Display**—[page 35](#)
- **Map**—[page 35](#)
- **Time**—sets the time format and time zones. **NOTE:** Each time you locate satellites, the device automatically detects your time zone and the current time of day.
- **Units**—sets the units of measure for distance, elevation, weight and height, pace and speed, and position format. **NOTE:** When pool swimming, distance and speed are automatically changed to match the units of the pool length. The units for the other sport modes are preserved.
- **Weight Scale ANT+**—[page 27](#)
- **Fitness Equipment**—[page 28](#)
- **Data Recording**—controls how the device records activity data.
 - **Smart Recording**—records key points where you change direction, speed, or heart rate.
 - **Every Second**—records points every second. It creates a very detailed record of your activity; however, it greatly increases the size of the activity.

Data Transfer—page 30

Initial Setup—allows you to run the configuration wizard the next time you turn on the device.

Adjusting the Display

- 1 Select **MODE > Settings > System > Display**.
- 2 Select an option:
 - To set the amount of time the backlight stays on, select **Backlight Timeout**.
Use a short backlight setting to conserve battery power.
 - To set the amount of screen contrast, select **Contrast**.

Map Settings

Select **MODE > Settings > System > Map**.

- **Orientation**
 - **North Up**—orients the map with North at the top of the screen.
 - **Track Up**—orients the map with your direction of travel at the top of the screen.

- **User Locations**—displays locations on the map.
- **Show Map**—displays the map as part of the **MODE** page loop.

User Profiles

Setting Your User Profile

The Forerunner uses information that you enter about yourself to calculate accurate data. You can modify the following user profile information: gender, age, weight, and height.

- 1 Select **MODE > Settings > User Profile**.
- 2 Modify the settings.

About Calories

Calorie expenditure and heart rate analysis technology is provided and supported by Firstbeat Technologies Ltd. For more information, go to www.firstbeattechnologies.com.

About Training Effect

Training Effect measures the impact of an activity on your aerobic fitness. Training Effect accumulates during the activity. As the activity progresses successfully, the

Training Effect value increases, telling you how the activity has improved your fitness. Training Effect is determined by your user profile information, heart rate, duration, and intensity of your activity.

It is important to know that your training effect numbers (1.0–5.0) may seem abnormally high during your first few runs. It takes several activities for the device to learn your aerobic fitness.

Training Effect	Description
1.0–1.9	Helps recovery (short activities). Improves endurance with longer activities (more than 40 minutes).
2.0–2.9	Maintains your aerobic fitness.
3.0–3.9	Improves your aerobic fitness if repeated as part of your weekly training program.
4.0–4.9	Highly improves your aerobic fitness if repeated 1–2 times per week with adequate recovery time.

5.0	Causes temporary overload with high improvement. Train up to this number with extreme care. Requires additional recovery days.
-----	--

Training Effect technology is provided and supported by Firstbeat Technologies Ltd. For more information, go to www.firstbeattechnologies.com.

Data Fields

You can customize data fields on up to four training pages for each sport. The data fields you customize are saved for the active sport. Some data fields are not available because they are specific to a sport mode.

Data fields with the * symbol display statute or metric units. Data fields with the ** symbol require an ANT+ sensor.

Data Field	Description
Cadence **	For running, cadence is measured in steps per minute (spm). For cycling, cadence is measured in revolutions of the crank arm per minute (rpm).

Data Field	Description
Cadence – Avg. **	Average cadence for the duration of your current activity.
Cadence – Lap **	Average cadence during the current lap.
Cadence – Last Lap **	Average cadence during the last completed lap.
Calories	Amount of total calories burned.
Calories – Fat	Amount of fat calories burned. Requires a New Leaf® assessment.
Distance *	Distance traveled during the current activity.
Distance – Interval *	Distance traveled during the current swim interval.
Distance – Lap *	Distance traveled during the current lap.
Distance – Last Interval *	Distance traveled during the last completed swim interval.
Distance – Last Lap *	Distance traveled during the last completed lap.
Distance – Nautical *	Distance traveled in nautical miles or nautical kilometers.

Data Field	Description
Efficiency – Avg.	Average swim efficiency index during the current activity (page 20).
Efficiency – Interval	Swim efficiency index during the current interval.
Efficiency – Last Interval	Swim efficiency index during the last completed interval.
Efficiency – Last Length	Average swim efficiency index during the last completed pool length.
Elevation *	Distance above or below sea level.
GPS Accuracy *	The margin of error for your exact location. For example, your GPS location is accurate to within +/- 12 feet.
Grade	Calculation of rise over run. For example, if for every 10 feet you climb (elevation) you travel 200 feet (distance), your grade is 5%.
Heading	The direction you are moving.

Data Field	Description
Heart Rate **	Heart rate in beats per minute (bpm).
Heart Rate – %HRR **	Percentage of heart rate reserve (maximum heart rate minus resting heart rate).
Heart Rate – %Max. **	Percentage of maximum heart rate.
Heart Rate – Avg. **	Average heart rate for the duration of your current activity.
Heart Rate – Avg. %HRR **	Average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the activity.
Heart Rate – Avg. %Max. **	Average percentage of maximum heart rate for the activity.
Heart Rate – Lap **	Average heart rate in the current lap.
Heart Rate – Lap %HRR **	Average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the lap.

Data Field	Description
Heart Rate – Lap %Max. **	Average percentage of maximum heart rate for the lap.
Heart Rate – Last Lap **	Average heart rate during the last completed lap.
Heart Rate Graph **	Line graph showing your current heart rate zone (1 to 5).
Heart Rate Zone **	Current range of heart rate (1 to 5). The default zones are based on your user profile, maximum heart rate, and resting heart rate.
Laps	Number of laps completed.
Lengths	Number of pool lengths completed.
Lengths – Interval	Number of pool lengths completed during the current interval.
Lengths – Last Interval	Number of pool lengths during the last completed interval.
Pace	Current pace.

Data Field	Description
Pace – Average	Average pace for the duration of your current activity.
Pace – Interval	Average pace during the current swim interval.
Pace – Lap	Average pace during the current lap.
Pace – Last Lap	Average pace during the last completed lap.
Pace – Last Length	Average pace during the last completed pool length.
Pace – Last Interval	Average pace during the last completed swim interval.
Power **	Current power output in watts.
Power – 30s Avg. **	The 30-second moving average of power output.
Power – 3s Avg. **	The three-second moving average of power output.
Power – Average **	Average power output for the duration of your current ride.

Data Field	Description
Power – Kilojoules **	Total (cumulative) amount of power output in kilojoules.
Power – Lap **	Average power output during the current lap.
Power – Last Lap **	Average power output during the last completed lap.
Power – Max. **	Top power achieved during the current activity.
Power – Max. Lap **	Top power achieved during the current lap.
Power – Watts/kg **	Amount of power output in watts per kilogram.
Power Zone **	Current range of power output (1 to 7) based on your FTP or custom settings.
Speed *	Current speed.
Speed – Avg. *	Average speed for the activity.
Speed – Lap *	Average speed during the current lap.
Speed – Last Lap *	Average speed during the last completed lap.

Data Field	Description
Speed – Max. *	Top speed achieved during the current activity.
Speed – Nautical	Current speed in knots.
Speed – Vertical *	Rate of ascent or descent in feet/meters per hour.
Speed – VS 30s *	The 30-second moving average of vertical speed.
Sport	Symbol for the current sport mode.
Steps *	Amount of steps for the duration of your current activity.
Steps – Lap *	Amount of steps during the current lap.
Steps – Last Lap *	Amount of steps during the last completed lap.
Stroke Dist. – Avg. *	Average distance traveled in one stroke.
Stroke Dist. – Interval *	Average stroke distance during the current interval.
Stroke Dist. – Last Int.	Average stroke distance during the last completed interval.

Data Field	Description
Stroke Rate	Average strokes per minute (spm) for a swim activity. This is similar to cadence for running or biking.
Stroke Rate – Interval	Stroke rate during the current interval.
Stroke Rate – Last Int.	Stroke rate during the last completed interval.
Stroke Rate – Last Length	Stroke rate during the last completed pool length.
Stroke Type	Stroke type determined during the current interval (page 20).
Stroke Type – Last Interval	Stroke type determined during the last completed interval.
Stroke Type – Last Length	Stroke type during the last completed pool length.
Strokes	Amount of strokes for the duration of your current activity.
Strokes – Average	Average number of strokes per length for the duration of your current activity.

Data Field	Description
Strokes – Interval	Amount of strokes during the current interval.
Strokes – Last Interval	Amount of strokes during the last completed interval.
Strokes – Last Length	Amount of strokes during the last completed pool length.
Strokes/Length – Last Interval	Average amount of strokes per pool length for the last completed interval.
Sunrise	The time of sunrise based on your GPS position.
Sunset	The time of sunset based on your GPS position.
Swolf – Average	Swolf score is the sum of the time for one length plus the number of strokes for that length (page 20). The average score is for the entire activity.
Swolf – Interval	Swolf score during the current interval.

Data Field	Description
Swolf – Last Interval	Swolf score during the last completed interval.
Swolf – Last Length	Swolf score during the last completed pool length.
Time	Stopwatch time.
Time – Avg. Lap	Average time to complete the laps so far.
Time – Elapsed	Total time recorded. For example, if you run 10 minutes, then stop the timer for 5 minutes, then start the timer again and run for 20 minutes, your elapsed time is 35 minutes.
Time – Interval	Amount of time during the current swim interval.
Time – Lap	Amount of time during the current lap.
Time – Last Interval	Amount of time during the last completed swim interval.
Time – Last Lap	Amount of time during the last completed lap.

Data Field	Description
Time of Day	Current time of day based on your time settings (format, time zone, and daylight saving time).
Total Ascent	Total elevation gain for the current activity.
Total Decent	Total elevation lost for the current activity.
Training Effect (TE) **	Current impact (1.0 to 5.0) on your aerobic fitness (page 35).

Device Information

Caring for Your Device

NOTICE

Do not store the device where prolonged exposure to extreme temperatures can occur, because it can cause permanent damage.

Do not use a sharp object to clean the device.

Avoid chemical cleaners and solvents that can damage plastic components.

Cleaning the Device

- 1 Use a cloth dampened with a mild detergent solution.
- 2 Wipe it dry.

Caring for the Heart Rate Monitor

NOTICE

You must unsnap the module before cleaning the strap.

- Rinse the strap after every use.
- Hand wash the strap in cold water with a mild detergent after every five uses.
- Do not put the strap in a washing machine or a dryer.
- To prolong the life of your heart rate monitor, unsnap the module when not in use.

Specifications

Forerunner Specifications

Battery type	620 mAh prismatic, lithium-ion battery
Battery life	Actual battery life depends on use of GPS, backlight, and ANT+ devices. With a fully charged battery, the Forerunner can operate up to 20 hours with GPS on.
Water resistance	Water resistant to 164 ft. (50 m)
Operating temperature range	From -4°F to 140°F (from -20°C to 60°C)
Radio frequency/protocol	2.4 GHz ANT+ wireless communications protocol

Heart Rate Monitor Specifications

Battery type	User-replaceable CR2032, 3 volts (page 44)
Battery life	Approximately 4.5 years (1 hour per day)

Water resistance	98.4 ft. (30 m) This product does not transmit heart rate data to your GPS device while swimming.
Operating temperature	From 23°F to 122°F (from -5°C to 50°C) NOTE: In cold conditions, wear appropriate clothing to keep the heart rate monitor near your body temperature.
Radio frequency/protocol	2.4 GHz ANT+ wireless communications protocol

USB ANT Stick Specifications

Power source	USB
Operating temperature	From 14°F to 122°F (from -10°C to 50°C)
Radio frequency/protocol	2.4 GHz ANT+ wireless communications protocol
Transmission range	Approximately 16.4 ft. (5 m)

Heart Rate Monitor Battery

WARNING

Do not use a sharp object to remove user-replaceable batteries.

Contact your local waste disposal department to properly recycle the batteries. Perchlorate Material – special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Replacing the Heart Rate Monitor Battery

- 1 Use a small Phillips screwdriver to remove the four screws on the back of the module.
- 2 Remove the cover and battery.



- 3 Wait 30 seconds.
- 4 Insert the new battery with the positive side facing up.

NOTE: Do not damage or lose the O-ring gasket.

- 5 Replace the back cover and the four screws.

After you replace the heart rate monitor battery, you must pair it with the device again ([page 22](#)).

Appendix

Registering Your Device

Help us better support you by completing our online registration today.

- Go to <http://my.garmin.com>.
- Keep the original sales receipt, or a photocopy, in a safe place.

Wheel Size and Circumference

The wheel size is marked on both sides of the tire. To modify your bike profile, see [page 18](#).

Wheel Size	L (mm)
12 × 1.75	935
14 × 1.5	1020
14 × 1.75	1055
16 × 1.5	1185
16 × 1.75	1195
18 × 1.5	1340
18 × 1.75	1350
20 × 1.75	1515
20 × 1-3/8	1615
22 × 1-3/8	1770
22 × 1-1/2	1785
24 × 1	1753
24 × 3/4 Tubular	1785
24 × 1-1/8	1795
24 × 1-1/4	1905
24 × 1.75	1890
24 × 2.00	1925
24 × 2.125	1965

Wheel Size	L (mm)
26 × 7/8	1920
26 × 1(59)	1913
26 × 1(65)	1952
26 × 1.25	1953
26 × 1-1/8	1970
26 × 1-3/8	2068
26 × 1-1/2	2100
26 × 1.40	2005
26 × 1.50	2010
26 × 1.75	2023
26 × 1.95	2050
26 × 2.00	2055
26 × 2.10	2068
26 × 2.125	2070
26 × 2.35	2083
26 × 3.00	2170
27 × 1	2145
27 × 1-1/8	2155
27 × 1-1/4	2161
27 × 1-3/8	2169
650 × 35A	2090
650 × 38A	2125
650 × 38B	2105

Wheel Size	L (mm)
700 × 18C	2070
700 × 19C	2080
700 × 20C	2086
700 × 23C	2096
700 × 25C	2105
700 × 28C	2136
700 × 30C	2170
700 × 32C	2155
700C Tubular	2130
700 × 35C	2168
700 × 38C	2180
700 × 40C	2200

- 2 Follow the on-screen instructions.
- 3 Keep your device in range (3 m) of the computer during the update process.

Getting More Information

You can find more information about this product on the Garmin web site.

- Go to www.garmin.com/intosports.
- Go to www.garmin.com/learningcenter.
- Go to <http://buy.garmin.com>, or contact your Garmin dealer for information about optional accessories and replacement parts.

Troubleshooting

Updating the Software Using Garmin Connect

You must have a Garmin Connect account, and you must pair the Forerunner with your computer using the USB ANT Stick ([page 30](#)).

- 1 Go to www.garminconnect.com.

If there is new software available, Garmin Connect alerts you to update the software.

Forerunner Troubleshooting

Problem	Solution
The keys do not respond. How do I reset the device?	<ol style="list-style-type: none">1 Hold I until the screen goes blank.2 Hold I until the screen turns on. <p>NOTE: This does not erase any of your data or settings.</p>
I want to clear all the user data from my device.	<p>NOTE: This deletes all user-entered information, but it does not delete your history.</p> <ol style="list-style-type: none">1 Turn off the device.2 While holding MODE, turn the device on.3 Select Yes.
How do I reset the device to the original factory settings?	<ol style="list-style-type: none">1 Hold MODE and ENTER, and then hold I.2 Release I, and then release MODE and ENTER.
My device does not locate satellite signals.	<ol style="list-style-type: none">1 Take your device out of parking garages and away from tall buildings and trees.2 Remain stationary for several minutes.
Some of my data is missing from the history.	When the device memory is full, your oldest data is overwritten. Transfer data to your computer regularly to avoid losing data.
Where is the software version information?	Select MODE > Settings > About Forerunner to display important software information and your unit ID.
How do I quickly change sports?	Hold MODE .
How do I get a New Leaf assessment?	Go to www.newleaffitness.com . Some gyms and health centers can provide an assessment.

ANT+ Sensor Troubleshooting

Problem	Solution
I have a third-party ANT+ sensor.	Make sure that it is compatible with the Forerunner (www.garmin.com/intosports).
I changed the battery in my accessory.	You must pair the sensor to your Forerunner again (page 22).
The heart rate data is inaccurate or erratic.	<ul style="list-style-type: none">• Make sure that the heart rate monitor is snug against your body.• Warm up for 5–10 minutes.• Reapply moisture to the electrodes. Use water, saliva, or electrode gel.• Clean the electrodes. Dirt and sweat residue on the electrodes can interfere with heart rate signals.• Wear a cotton shirt or wet your shirt if suitable for your activity. Synthetic fabrics that rub or flap against the heart rate monitor can create static electricity that interferes with heart rate signals.• Move away from sources of strong electromagnetic fields and some 2.4 GHz wireless sensors, which can interfere with your heart rate monitor. Sources of interference may include high-voltage power lines, electric motors, microwave ovens, 2.4 GHz cordless phones, and wireless LAN access points.

Heart Rate Zone Calculations

Zone	% of Maximum Heart Rate	Perceived Exertion	Benefits
1	50–60%	Relaxed, easy pace, rhythmic breathing	Beginning-level aerobic training, reduces stress
2	60–70%	Comfortable pace, slightly deeper breathing, conversation possible	Basic cardiovascular training, good recovery pace
3	70–80%	Moderate pace, more difficult to hold conversation	Improved aerobic capacity, optimal cardiovascular training
4	80–90%	Fast pace and a bit uncomfortable, breathing forceful	Improved anaerobic capacity and threshold, improved speed
5	90–100%	Sprinting pace, unsustainable for long period of time, labored breathing	Anaerobic and muscular endurance, increased power

Index

A

- alerts 9–10
- ANT+
 - bike sensors 26
 - fitness equipment 28
 - foot pod 24
 - heart rate monitor 22
 - pairing 22
 - power meters 26
 - USB ANT Stick 30
 - weight scale 27
- Auto Lap 11–12
- Auto Pause 12
- auto scroll 12

B

- backlight 4, 5, 35
- back to start 33
- barometric altimeter 6
- battery 3, 43
 - heart rate monitor 44
- bike sensors 26

C

- cadence
 - alerts 9
 - data fields 36
 - sensors 26
 - training 26

- calibrating
 - barometric altimeter 6
 - foot pod 25–26
- calorie
 - alerts 9
 - data fields 37
 - expenditure 35

- charging 3
- cleaning 42
- clearing user data 47
- compass 33
- computer pairing 30
- coordinates 32
- corrosion 3
- countdown timer 21
- courses 16–18
- customizing
 - data fields 36
 - settings 34

D

- data fields 36
- data recording 27, 33, 34
- distance
 - alerts 9
 - data fields 37
- drill strokes 21

E

- efficiency index 20
- elevation
 - barometric altimeter 6

- data fields 37

F

- fitness equipment 28
- foot pod 24, 25–26

G

- Garmin Connect 30, 46
- goals 31
- GPS 4, 18, 33
 - accuracy 37
 - navigation 31
- grade 37
- GSC 10 26

H

- heart rate
 - alerts 9
 - data fields 38–39
 - zones 23–24
- heart rate monitor 43
 - battery 44
 - pairing 22
- history 29
 - missing 47
 - viewing 47

I

- icons 5
- indoor training 18
- intervals, swimming 20
- interval workouts 14

K

- keys 5
- locking 6
- tones 34
- kick sets 21

L

- language 34
- lifetime athlete 28
- locating satellite signals 47
- locations 32, 35

M

- map 31, 35
- memory in hours 29
- multisport 8

N

- navigating
 - back to start 33
- New Leaf 37, 47
- non-zero data-averaging 26, 27

P

- pace 38
- pairing ANT+ sensors 22
- power
 - data averaging 27
 - data fields 39
 - meters 26
 - zones 27

- profile 35

R

- registering your device 44
- resetting the device 47

S

- safety 3
- satellite signals 47
- saving activities 8
- settings 34
- smart recording 34
- software updates 46
- specifications 43
- speed 24, 39
- sport modes
 - changing 7
- stroke types 20
- swimming 19
- swolf score 20

T

- time
 - alerts 9
 - data fields 41
 - zones 34
- timer 7
 - countdown 21
- tire size 45
- tones
 - keys 34

- tracks 31
- Training Effect 35, 42
- transferring data 31
- triathlon training 8
- troubleshooting 46, 47
 - ANT+ accessories 48

U

- units of measure 34
- USB ANT Stick 30, 43
- user profile 35

V

- Virtual Partner 12
- Virtual Racer 13

W

- walking breaks 10
- water resistance 19, 43
- weight scale 5, 27
- wheel sizes 45
- workouts
 - custom 15
 - interval 14
 - multisport 8

www.garmin.com/support



913-397-8200
1-800-800-1020



0808 238 0000
+44 870 850 1242



1-866-429-9296



43 (0) 3133 3181 0



00 32 2 672 52 54



00 45 4810 5050



00 358 9 6937 9758



00 331 55 69 33 99



0180 5 / 42 76 46 - 880



00 39 02 3669 9699



0800-0233937



815 69 555



00800 4412 454
+44 2380 662 915



00 35 1214 447 460



00 34 902 007 097



00 46 7744 52020

Garmin International, Inc
1200 East 151st Street,
Olathe, Kansas 66062, USA

Garmin (Europe) Ltd.
Liberty House, Hounsdown Business Park
Southampton, Hampshire, SO40 9LR UK

Garmin Corporation
No. 68, Zhangshu 2nd Road, Xizhi Dist.
New Taipei City, 221, Taiwan (R.O.C.)

