

# Forerunner<sup>®</sup> 620 Owner's Manual



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<sup>®</sup>, the Garmin logo, Auto Lap<sup>®</sup>, Auto Pause<sup>®</sup>, Forerunner<sup>®</sup>, and Virtual Partner<sup>®</sup> are trademarks of Garmin Ltd. or its subsidiaries, registered in the USA and other countries. ANT+<sup>™</sup>, Garmin Connect<sup>™</sup>, Garmin Express<sup>™</sup>, and HRM-Run<sup>™</sup> are trademarks of Garmin Ltd. or its subsidiaries. These trademarks may not be used without the express permission of Garmin.

The Bluetooth<sup>®</sup> word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Garmin is under license. The Cooper Institute<sup>®</sup>, as well as any related trademarks, are the property of The Cooper Institute. Firstbeat<sup>®</sup> and Analyzed by Firstbeat are registered or unregistered trademarks of Firstbeat Technologies Ltd. Mac<sup>®</sup> is a registered trademark of Apple Computer, Inc. Windows<sup>®</sup> and Windows NT<sup>®</sup> are registered trademarks of Microsoft Corporation in the United States and other countries. Wi-Fi<sup>®</sup> is a registered mark of Wi-Fi Alliance Corporation. Other trademarks and trade names are those of their respective owners.

This product is ANT+™ certified. Visit www.thisisant.com/directory for a list of compatible products and apps.

# **Table of Contents**

Introduction
Getting Started
Keys
Status Icons
Touchscreen Tips
Viewing the Time of Day While Running
Using Garmin Connect
Garmin Connect
Bluetooth Connected Features
Wi-Fi Connected Features
Charging the Device 2
Training
Workouts
Following a Workout From the Web
Starting a Workout
About the Training Calendar
Interval Workouts
Creating an Interval Workout
Starting an Interval Workout
Stopping an Interval Workout
Personal Records
Clearing a Personal Record
Restoring a Personal Record
Clearing All Personal Records
Viewing Your Predicted Race Times
Using Virtual Partner®
ANT+™ Sensors
Putting On the Heart Rate Monitor
Running Dynamics
About VO2 Max. Estimates
Recovery Advisor
Setting Your Heart Rate Zones
Pairing Your ANT+ Sensors
Foot Pod
Going for a Run Using a Foot Pod7
History7
Viewing History
Viewing Data Totals
Deleting History
Data Management
Deleting Files 7 Disconnecting the USB Cable 7
-
Customizing Your Device
Setting Up Your User Profile
Activity Settings
Alerts
Using Auto Pause®
Marking Laps by Distance
Using Auto Scroll
Timeout Settings
System Settings
Changing the Device Language
Time Settings
Backlight Settings
Setting the Device Sounds
Changing the Units of Measure
Changing the Theme Color
Format Settings

Data Recording Settings	9
Device Information	9
Specifications	
Forerunner Specifications	9
HRM-Run Specifications	
Device Care	9
Cleaning the Device	
Caring for the Heart Rate Monitor	9
Heart Rate Monitor Battery	9
Troubleshooting	9
Registering Your Device	9
Getting More Information	9
Resetting the Device	10
Clearing User Data	10
Restoring All Default Settings	
Viewing Device Information	10
Updating the Software	10
Maximizing Battery Life	10
Switching to Watch Mode	10
Turning Off the Device	
Appendix	10
Heart Rate Zone Calculations	10
Data Fields	10
About Training Effect	11
VO2 Max. Standard Ratings	
Software License Agreement	11
Index	13

# Introduction

#### 

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

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

# **Getting Started**

When using your device for the first time, you should complete these tasks to set up the device and learn about the basic features.

- 1 Charge the device (page 2).
- 2 Put on the optional heart rate monitor (page 4).
- 3 Go for a run (page 1).
- 4 Upload your run to Garmin Connect<sup>™</sup> (page 1).
- 5 Register the device (page 9).
- 6 Get more information (page 9).

# Keys



1	പ്	Select to turn the backlight on and off.
	U U	Hold to turn the device on and off.
2	ћ	Select to start and stop the timer.
3		Select to open the main menu.
4	C	Select to mark a new lap.
	CONNECT	Select to send your run to Garmin Connect.
5	$\odot$	Select to view the time of day.
6	<b>♪</b>	Select to return to the previous screen.

#### Status Icons

Icons appear at the top of the home screen. A flashing icon means the device is searching for a signal. A solid icon means the signal was found or the sensor is connected.

H	GPS status
*	Bluetooth <sup>®</sup> technology status
=	Wi-Fi <sup>®</sup> technology status
♥	Heart rate status
	Foot pod status

# **Touchscreen Tips**

Before you go for a run, you should practice using the touchscreen.

- Select any key (except <sup></sup>), and tap the touchscreen to unlock the device.
- Tap the touchscreen to view the next data screen.
- Select the touchscreen to confirm messages and alerts.
- Select the top and bottom of the touchscreen to scroll through menus, options, and settings.
   You can also swipe to scroll though the items. You can hold the top and bottom of the touchscreen to scroll faster.
- From a data screen, hold a data field to change it.
- Select ✓ to close a message or confirm a choice.
  You can also select to close a message.
- Make each touchscreen selection a separate action.

#### Going for a Run

The device comes partially charged. You may need to charge the device (page 2) before going for a run.

- 1 Hold to turn on the device.
- 2 From the time of day screen, select any key (except <sup></sup>), and tap the touchscreen to unlock the device.
- 3 Go outside, and wait while the device locates satellites. It may take a few minutes to locate satellite signals. The satellite bars turn green, and the timer screen appears.



- 4 Select \* to start the timer.
- 5 Go for a run.
- 6 After you complete your run, select 🕉 to stop the timer.
- 7 Select an option:
  - Select Save to save the run and reset the timer. A summary appears.



NOTE: You can now upload your run to Garmin Connect.

• Select Discard to delete the run.

#### Viewing the Time of Day While Running

- **1** Select  $\bigcirc$ .
- 2 Select  $\odot$  to return to the previous screen.

# **Using Garmin Connect**

You can upload all of your activity data to Garmin Connect for comprehensive analysis. With Garmin Connect, you can view a map of your activity, and share your activities with friends.

- 1 Connect the device to your computer using the USB cable.
- 2 Go to www.garminconnect.com/start.

**3** Follow the on-screen instructions.

#### **Garmin Connect**

You can connect with your friends on Garmin Connect. Garmin Connect gives you the tools to track, analyze, share, and encourage each other. Record the events of your active lifestyle including runs, walks, rides, swims, hikes, triathlons, and more. To sign up for a free account, go to www.garminconnect.com /start.

- Store your activities: After you complete and save an activity with your device, you can upload that activity to Garmin Connect and keep it as long as you want.
- Analyze your data: You can view more detailed information about your activity, including time, distance, elevation, heart rate, calories burned, cadence, VO2 max., running dynamics, an overhead map view, pace and speed charts, and customizable reports.

**NOTE:** Some data requires an optional accessory such as a heart rate monitor.



- **Plan your training**: You can choose a fitness goal and load one of the day-by-day training plans.
- Share your activities: You can connect with friends to follow each other's activities or post links to your activities on your favorite social networking sites.

#### **Bluetooth Connected Features**

The Forerunner has several Bluetooth connected features for your compatible smartphone or mobile device using the Garmin Connect Mobile application. For more information, go to www.garmin.com/intosports/apps.

- LiveTrack: Allows friends and family to follow your races and training activities in real time. You can invite followers using email or social media, allowing them to view your live data on a Garmin Connect tracking page.
- Activity uploads to Garmin Connect: Automatically sends your activity to Garmin Connect as soon as you finish recording the activity.
- Workout and course downloads: Allows you to browse for workouts and courses in the application. You can wirelessly send one or more files to your Forerunner.
- Social media interactions: Allows you to post an update to your favorite social media website when you upload an activity to Garmin Connect.

#### Pairing Your Smartphone with Your Forerunner

- 1 Go to www.garmin.com/intosports/apps, and download the Garmin Connect Mobile application to your smartphone.
- **2** Bring your smartphone within 33 ft. (10 m) of your Forerunner.
- **4** Open the Garmin Connect Mobile application, and follow the on-screen instructions to connect a device.

The instructions are provided during the initial setup or by selecting **=** > **My Device**.

#### Turning Off Bluetooth Wireless Technology

From the Forerunner home screen, select > Settings > Wireless > Bluetooth > Status > Off.

• Refer to the owner's manual for your mobile device to turn off Bluetooth wireless technology.

#### **Wi-Fi Connected Features**

The Forerunner device has Wi-Fi connected features. The Garmin Connect Mobile application is not required for you to use Wi-Fi connectivity.

- Activity uploads to Garmin Connect: Automatically sends your activity to Garmin Connect as soon as you finish recording the activity.
- **Workouts and training plans**: If you want to send workouts and training plans to your Forerunner, connect the device to your computer using the USB cable.
- **Software updates**: Your Forerunner downloads the latest software update when a Wi-Fi connection is available. The next time you turn on or unlock the device, you can follow the on-screen instructions to install the software update.

#### Setting Up Wi-Fi Connectivity on Your Forerunner

Before you can upload an activity wirelessly, you must have a run saved to your device, and the timer must be stopped.

- 1 Go to www.garminconnect.com/start, and download the Garmin Express™ Fit application.
- 2 Follow the on-screen instructions to set up Wi-Fi with Garmin Express Fit.

TIP: You can register your device at this time.

Your device now attempts to upload your saved activity to Garmin Connect following each run. You can also select **CONNECT** on your Forerunner to start uploading your saved activities.

#### Turning Off Wi-Fi Wireless Technology

- From the Forerunner home screen, select Settings > Wireless > Wi-Fi > Off.
- Refer to the owner's manual for your mobile device to turn off Wi-Fi wireless technology.

# **Charging the Device**

#### **▲ WARNING**

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

The charging cradle contains a magnet. Under certain circumstances, magnets may cause interference with some medical devices, including pacemakers and insulin pumps. Keep the charging cradle away from such medical devices.

#### NOTICE

The charging cradle contains a magnet. Under certain circumstances, magnets may cause damage to some electronic devices, including hard drives in laptop computers. Use caution when the charging cradle is near electronic devices.

To prevent corrosion, thoroughly dry the contacts and the surrounding area before charging or connecting to a computer.

- **1** Plug the USB cable into a USB port on your computer.
- **2** Align the charger posts with the contacts on the back of the device, and press the charger ① until it clicks.



3 Charge the device completely.

# Training

### Workouts

You can create custom workouts that include goals for each workout step and for varied distances, times, and calories. You can create workouts using Garmin Connect or select a training plan that has built-in workouts from Garmin Connect, and transfer them to your device.

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

#### Following a Workout From the Web

Before you can download a workout from Garmin Connect, you must have a Garmin Connect account (page 2).

- 1 Connect the device to your computer.
- 2 Go to www.garminconnect.com/workouts.
- 3 Create and save a new workout.
- 4 Select Send to Device, and follow the on-screen instructions.
- 5 Disconnect the device.

#### Starting a Workout

Before you can start a workout, you must download a workout from Garmin Connect.

- 1 Select  $\Psi$  > My Workouts.
- 2 Select a workout.
- 3 Select Do Workout.

After you begin a workout, the device displays each step of the workout, the target (if any), and current workout data.

#### About the Training Calendar

The training calendar on your device is an extension of the training calendar or schedule you set up in Garmin Connect. After you have added a few workouts to the Garmin Connect calendar, you can send them to your device. All scheduled workouts sent to the device appear in the training calendar list by date. When you select a day in the training calendar, you can view or do the workout. The scheduled workout stays on your device whether you complete it or skip it. When you send scheduled workouts from Garmin Connect, they overwrite the existing training calendar.

#### Using Garmin Connect Training Plans

Before you can download a training plan from Garmin Connect, you must have a Garmin Connect account (page 2).

You can browse Garmin Connect for a training plan, schedule the workouts, and download the plan to your device.

- 1 Connect the device to your computer.
- 2 Go to www.garminconnect.com.
- 3 Select Plan > Training Plans.
- 4 Select and schedule a training plan.

- 5 Select Plan > Calendar.
- 6 Select 🔄, and follow the on-screen instructions.

# **Interval Workouts**

You can create interval workouts based on distance or time. The device saves your custom interval workout until you create another interval workout. You can use open intervals for track workouts and when you are running a known distance. When you select  $\mathbf{c}$ , the device records an interval and moves to a rest interval.

#### **Creating an Interval Workout**

- 1 Select **Y** > Intervals > Edit > Interval > Type.
- 2 Select Distance, Time, or Open.

**TIP:** You can create an open-ended interval by setting the type to **Open**.

- 3 If necessary, enter a distance or time interval value for the workout, and select ✓.
- 4 Select Rest.
- 5 Select Distance, Time, or Open.
- 6 If necessary, enter a distance or time value for the rest interval, and select ✓.
- 7 Select one or more options:
  - · To set the number of repetitions, select Repeat.
  - To add an open-ended warm up to your workout, select Warm Up > On.
  - To add an open-ended cool down to your workout, select Cool Down > On.

#### Starting an Interval Workout

- 1 Select  $\Psi$  > Intervals > Do Workout.
- 2 Select 🕉.
- 3 When your interval workout has a warm up, select **C** to begin the first interval.
- **4** Follow the on-screen instructions.

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

#### Stopping an Interval Workout

- At any time, select **C** to end an interval.
- At any time, select **\*** to stop the timer.

# **Personal Records**

When you complete a run, the device displays any new personal records you achieved during that run. Personal records include your fastest time over several typical race distances and longest run.

#### **Viewing Your Personal Records**

- 1 Select **> Records**.
- **2** Select a record.
- 3 Select View Record.

#### **Clearing a Personal Record**

- 1 Select > Records.
- 2 Select a record to delete.
- 3 Select Clear Record > Yes.

NOTE: This does not delete any saved activities.

#### **Restoring a Personal Record**

You can set each personal record back to the one previously recorded.

1 Select **> Records**.

- 2 Select a record to restore.
- 3 Select Previous > Yes.

NOTE: This does not delete any saved activities.

#### **Clearing All Personal Records**

Select > Records > Clear All Records > Yes.

NOTE: This does not delete any saved activities.

### **Viewing Your Predicted Race Times**

Before you can view your projected race times, you must put on a heart rate monitor and pair it with your device. For the most accurate estimate, complete the user profile setup (page 7), and set your maximum heart rate (page 6).

Your device uses the VO2 max. estimate (page 5) and published data sources to provide a target race time based on your current state of fitness. This projection also presumes you have completed the proper training for the race.

**NOTE:** The projections may seem inaccurate at first. The device requires a few runs to learn about your running performance.

- **1** Put on your heart rate monitor, and go for a run.
- 2 Select > VO2 Max. > Race Predictor.

Your projected race times appear for 5K, 10K, half marathon, and marathon distances.

# Using Virtual Partner®

Your Virtual Partner is a training tool designed to help you meet your goals. You can customize the Virtual Partner to run at a target speed or pace.

- 1 Select > Settings > Activity Settings > Data Screens > Virtual Partner > Status > On.
- 2 Select Set Pace or Set Speed.

You can use pace or speed as your running format (page 9).

- 3 Go for a run.
- 4 Scroll to the Virtual Partner screen to see who is leading.



5 If necessary, hold the Virtual Partner banner ① to adjust the pace or speed of the Virtual Partner during your run.

# ANT+<sup>™</sup> Sensors

Your device can be used with wireless ANT+ sensors. For more information about compatibility and purchasing optional sensors, go to http://buy.garmin.com.

# **Putting On the Heart Rate Monitor**

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

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

1 Snap the heart rate monitor module ① onto the strap.

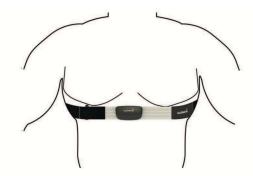


The Garmin  $^{\textcircled{R}}$  logos (on the module and the strap) should be right-side up.

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



- **3** If the heart rate monitor has a contact patch ③, wet the contact patch.
- 4 Wrap the strap around your chest, and connect the strap hook ④ to the loop ⑤.



The Garmin logos should be right-side up.

**5** Bring the device within 10 ft. (3 m) of the heart rate monitor. After you put on the heart rate monitor, it is active and sending data.

**TIP:** If the heart rate data is erratic or does not appear, see page 5.

#### **Running Dynamics**

You can use your compatible Forerunner paired with the HRM-Run<sup>™</sup> accessory to provide real-time feedback about your running form. If your Forerunner was packaged with the HRM-Run accessory, the devices are already paired.

The HRM-Run accessory has an accelerometer in the module that measures torso movement in order to calculate three running metrics: cadence, vertical oscillation, and ground contact time.

**NOTE:** The HRM-Run accessory is compatible with several ANT+ fitness products and can display heart rate data when paired. The running dynamics features are available only on certain Garmin Forerunner devices.

- **Cadence**: Cadence is the number of steps per minute. It displays total steps (right and left combined).
- Vertical oscillation: Vertical oscillation is your bounce while running. It displays the vertical motion of your torso, measured in centimeters for each step.
- **Ground contact time**: Ground contact time is the amount of time in each step that you spend on the ground while running. It is measured in milliseconds.

**NOTE:** Ground contact time is not available while walking.

#### Training with Running Dynamics

Before you can view running dynamics, you must put on the HRM-Run accessory and pair it with your device (page 6). If your Forerunner was packaged with the HRM-Run accessory, the devices are already paired, and the Forerunner is set to display running dynamics. You can put on your heart rate monitor and skip to step 4.

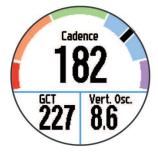
- 1 Select > Settings > Activity Settings > Data Screens > Running Dynamics > Status > On.
- 2 Select Primary Metric.
- 3 Select Cadence, Ground Contact Time, or Vertical Oscillation.

The primary metric appears as the top field on the data screen with a corresponding position on the color gauge.

#### 4 Go for a run.

#### Color Gauges and Running Dynamics Data

#### 5 Scroll to the running dynamics screen to view your metrics.



6 If necessary, hold the top field to change the primary metric during your run.

The running dynamics screen displays a color gauge for the primary metric. You can display cadence, vertical oscillation, or ground contact time as the primary metric. The color gauge shows you how your running dynamics data compares to those of other runners. The color zones are based on percentiles.

Garmin has researched many runners of all different levels. The data values in the red or orange zones are typical for less experienced or slower runners. The data values in the green, blue, or purple zones are typical for more experienced or faster runners. Less experienced runners tend to exhibit longer ground contact times, higher vertical oscillation, and lower cadence than more experienced runners. However, taller runners typically have slightly slower cadences and slightly higher vertical oscillation. Go to www.garmin.com for more information on running dynamics. For additional theories and interpretations of running dynamics data, you can search reputable running publications and websites.

Color Zone	Percentile in Zone	Cadence Range	Vertical Oscillation Range	Ground Contact Time Range
Purple	>95	>185 spm	<6.7 cm	<208 ms
Blue	70–95	174–185 spm	6.7–8.3 cm	208–240 ms
Green	30–69	163–173 spm	8.4–10.0 cm	241–272 ms
Orange	5–29	151–162 spm	10.1–11.8 cm	273–305 ms
Red	<5	<151 spm	>11.8 cm	>305 ms

#### Tips for Missing Running Dynamics Data

If running dynamics data does not appear, you can try these tips.

- Make sure you have the HRM-Run accessory.
  The HRM-Run accessory has *r* on the front of the module.
- Pair the HRM-Run accessory with your Forerunner again, according to the instructions.
- If the running dynamics data display zeros, make sure the HRM-Run module is worn right-side up.

**NOTE:** Ground contact time appears only while running. It cannot be calculated while walking.

#### Tips for Erratic Heart Rate Data

If the heart rate data is erratic or does not appear, you can try these tips.

- Reapply moisture to the electrodes and contact patch. You can use water, saliva, or electrode gel.
- Tighten the strap on your chest.
- Warm up for 5–10 minutes.
- Wash the strap after every seven uses (page 9).
- 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 that can interfere with your heart rate monitor.

Sources of interference may include strong electromagnetic fields, some 2.4 Ghz wireless sensors, high-voltage power lines, electric motors, ovens, microwave ovens, 2.4 Ghz cordless phones, and wireless LAN access points.

Replace the battery (page 9).

#### About VO2 Max. Estimates

You can use your Garmin device paired with the heart rate monitor to display your VO2 max. estimate. VO2 max. is the maximum volume of oxygen (in mililiters) you can consume per minute per kilogram of body weight at your maximum performance. In simple terms, VO2 max. is an indication of athletic performance and should increase as your level of fitness improves. VO2 max. estimates are provided and supported by Firstbeat<sup>®</sup> Technologies Ltd.

#### Getting Your VO2 Max. Estimate

Before you can view your VO2 max. estimate, you must put on the heart rate monitor and pair it with your device (page 6). If your Forerunner was packaged with a heart rate monitor, the devices are already paired. For the most accurate estimate, complete the user profile setup (page 7), and set your maximum heart rate (page 6).

**NOTE:** The projections may seem inaccurate at first. The device requires a few runs to learn about your running performance.

- 1 Run for at least ten minutes outdoors.
- 2 After your run, select Save.
- 3 Select **> VO2 Max.**

Your VO2 max. estimate is a number and position on the color gauge.



Purple	Superior
Blue	Excellent
Green	Good
Orange	Fair
Red	Poor

VO2 max. data and analysis is provided with permission from The Cooper Institute<sup>®</sup>. For more information, see the appendix (page 11), and go to www.CooperInstitute.org.

#### **Recovery Advisor**

You can use your Garmin device paired with the heart rate monitor to display how much time remains before you are fully recovered and ready for the next hard workout. The recovery advisor feature includes recovery time and recovery check. Recovery advisor technology is provided and supported by Firstbeat Technologies Ltd.

- **Recovery check**: The recovery check provides a real-time indication of your state of recovery within the first several minutes of a run.
- **Recovery time**: The recovery time appears immediately following a run. The time counts down until it is optimal for you to attempt another hard workout.

#### Turning On the Recovery Advisor

Before you can use the recovery advisor feature, you must put on the heart rate monitor and pair it with your device (page 6). If your Forerunner was packaged with a heart rate monitor, the devices are already paired. For the most accurate estimate, complete the user profile setup (page 7), and set your maximum heart rate (page 6).

- 1 Select **> Recovery Advisor > Status > On**.
- 2 Go for a run.

Within the first several minutes of your run, a recovery check appears, showing your real-time state of recovery.

3 After your run, select Save.

The recovery time appears. The maximum time is 4 days, and the minimum time is 6 hours.



#### **Setting Your Heart Rate Zones**

The device uses your user profile information from the initial setup to determine your default heart rate zones. For the most accurate calorie data during your activity, set your maximum heart rate. You can also manually set each heart rate zone and enter your resting heart rate.

1 Select Settings > User Profile > Heart Rate Zones > Based On.

- **2** Select an option:
  - Select **BPM** to view and edit the zones in beats per minute.
  - Select **%Max. HR** to view and edit the zones as a percentage of your maximum heart rate.
  - Select %HRR to view and edit the zones as a percentage of your heart rate reserve (maximum heart rate minus resting heart rate).
- 3 Select Max. HR, and enter your maximum heart rate.
- **4** Select a zone, and enter a value for each heart rate zone.
- 5 Select Resting HR, and enter your resting heart rate.

#### About Heart Rate Zones

Many athletes use 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 10) 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. The default maximum heart rate is 220 minus your age.

# **Pairing Your ANT+ Sensors**

Before you can pair, you must put on the heart rate monitor or install the sensor.

Pairing is the connecting of ANT+ wireless sensors, for example, connecting a heart rate monitor with your Garmin device.

- Bring the device within range (3 m) of the sensor.
  NOTE: Stay 10 m away from other ANT+ sensors while pairing.
- 2 Select > Settings > Sensors > Add Sensor.
- 3 Select a sensor.

When the sensor is paired with your device, a message appears. You can customize a data field to display sensor data.

# Foot Pod

Your device is compatible with the foot pod. You can use the foot pod to record pace and distance instead of using GPS when you are training indoors or when your GPS signal is weak. The foot pod is on standby and ready to send data (like the heart rate monitor).

After 30 minutes of inactivity, the foot pod powers off to conserve the battery. When the battery is low, a message appears on your device. Approximately five hours of battery life remain.

#### Going for a Run Using a Foot Pod

Before you go for a run, you must pair the foot pod with your device (page 6).

You can run indoors using a foot pod to record pace, distance, and cadence. You can also run outdoors using a foot pod to record cadence data with your GPS pace and distance.

- 1 Install your foot pod according to the accessory instructions.
- 2 If necessary, turn off GPS (page 8).
- 3 Select 🛪 to start the timer.
- 4 Go for a run.
- 5 After you complete your run, select 🕉 to stop the timer.

# History

History includes time, distance, calories, average pace or speed, lap data, and optional ANT+ sensor information.

**NOTE:** When the device memory is full, your oldest data is overwritten.

# **Viewing History**

- 1 Select **> History > Activities**.
- 2 Scroll up and down to view your saved activities.
- 3 Select an activity.
- 4 Select an option:
  - Select **Details** to view additional information about the activity.
  - Select Laps to select a lap and view additional information about each lap.
  - Select **Delete** to delete the selected activity.

# Viewing Data Totals

You can view the accumulated distance and time data saved to your device.

- 1 Select **History** > Totals.
- 2 Select an option to view weekly or monthly totals.

# **Deleting History**

- 1 Select **> History > Options**.
- 2 Select an option:
  - Select Delete All Activities to delete all activities from the history.
  - Select Reset Totals to reset all distance and time totals.
    NOTE: This does not delete any saved activities.
- 3 Confirm your selection.

# Data Management

**NOTE:** The device is not compatible with Windows<sup>®</sup> 95, 98, Me, Windows NT<sup>®</sup>, and Mac<sup>®</sup> OS 10.3 and earlier.

# **Deleting Files**

### NOTICE

If you do not know the purpose of a file, do not delete it. Your device memory contains important system files that should not be deleted.

- 1 Open the Garmin drive or volume.
- 2 If necessary, open a folder or volume.
- 3 Select a file.
- 4 Press the **Delete** key on your keyboard.

# **Disconnecting the USB Cable**

If your device is connected to your computer as a removable drive or volume, you must safely disconnect your device from your computer to avoid data loss. If your device is connected to your Windows computer as a portable device, it is not necessary to safely disconnect.

- 1 Complete an action:
  - For Windows computers, select the **Safely Remove Hardware** icon in the system tray, and select your device.
  - For Mac computers, drag the volume icon to the trash.
- **2** Disconnect the cable from your computer.

# **Customizing Your Device**

# Setting Up Your User Profile

You can update your gender, birth year, height, weight, and heart rate zone (page 6) settings. The device uses this information to calculate accurate training data.

- 1 Select > Settings > User Profile.
- 2 Select an option.

# **Activity Settings**

These settings allow you to customize your device based on your training needs. For example, you can customize data screens and enable alerts and training features.

# **Customizing the Data Screens**

You can customize data screens based on your training goals or optional accessories. For example, you can customize one of the data screens to display your lap pace or heart rate zone.

#### 1 Select **> Settings > Activity Settings > Data Screens**.

- 2 Select a screen.
- 3 Select **Status** > On to enable the data screen.
- 4 Select a data field to change it.

#### Alerts

You can use alerts to train toward specific heart rate, pace, time, distance, cadence, and calories goals and to set run/walk time intervals.

#### Setting Range Alerts

A range alert notifies you when the device is above or below a specified range of values. For example, if you have an optional heart rate monitor, you can set the device to alert you when your heart rate is below zone 2 and over zone 5 (page 6).

- 1 Select > Settings > Activity Settings > Alerts.
- 2 Select the type of alert.

Depending on your accessories, the alerts may include heart rate, pace, and cadence.

3 Turn on the alert.

For example, you must turn on the heart rate high alert before you can select a zone or enter a custom heart rate value.

4 Select a zone or enter a value for each alert.

Each time you exceed or drop below the specified range, a message appears. The device also beeps or vibrates if audible tones are turned on (page 8).

#### Setting a Recurring Alert

A recurring alert notifies you each time the device records a specified value or interval. For example, you can set the device to alert you every 30 minutes.

- 1 Select **> Settings > Activity Settings > Alerts**.
- 2 Select Time, Distance, or Calories.
- 3 Turn on the alert.

4 Select Frequency, and enter a value.

Each time you reach the alert value, a message appears. The device also beeps or vibrates if audible tones are turned on (page 8).

#### Setting Walk Break Alerts

Some running programs use timed walking breaks at regular intervals. For example, during a long training run, you can set the device to alert you to run for 4 minutes, and then walk for 1 minute, and repeat. Auto Lap<sup>®</sup> functions correctly while you are using the run/walk alerts.

- 2 Select Run Time, and enter a time.
- 3 Select Walk Time, and enter a time.

Each time you reach the alert value, a message appears. The device also beeps or vibrates if audible tones are turned on (page 8).

#### Using Auto Pause®

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

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

#### 1 Select **Settings > Activity Settings > Auto Pause**.

2 Select an option:

- Select When Stopped to pause the timer automatically when you stop moving.
- Select Custom to pause the timer automatically when your pace drops below a specified value.

#### Marking Laps by Distance

You can use Auto Lap to mark a lap at a specific distance automatically. This feature is helpful for comparing your performance over different parts of a run (for example, every 1 mile or 5 kilometers).

- 2 Select a distance.

Each time you complete a lap, a message appears that displays the time for that lap. The device also beeps or vibrates if audible tones are turned on (page 8).

If necessary, you can customize the data screens to display additional lap data.

#### Using Auto Scroll

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

- 1 Select **Settings** > Activity Settings > Auto Scroll.
- 2 Select a display speed.

#### **Timeout Settings**

The timeout settings affect how long your device stays in training mode, for example, when you are waiting for a race to start. Select **> Settings > Activity Settings > Timeout**.

**Normal**: Sets the device to enter low-power watch mode after 5 minutes of inactivity.

**Extended**: Sets the device to enter low-power watch mode after 25 minutes of inactivity. The extended mode can result in shorter battery life between charges.

# **System Settings**

Select **Settings** > System.

Language (page 8)

- Time Settings (page 8)
- Backlight Settings (page 8)
- Sound Settings (page 8)
- Unit Settings (page 8)
- Theme Color (page 8)
- GPS (page 8)
- Format Settings (page 9)
- Data Recording Settings (page 9)
- Changing the Device Language Select > Settings > System > Language.

#### **Time Settings**

#### Select **Settings** > **System** > **Clock**.

- **Time Format**: Sets the device to show time in a 12-hour or a 24-hour format.
- Set Time: Allows you to set the time manually or automatically based on your GPS position.

#### Time Zones

Each time you turn on the device and acquire satellites, the device automatically detects your time zone and the current time of day.

#### Setting the Time Manually

By default, the time is set automatically when the device acquires satellite signals.

- 1 Select > Settings > System > Clock > Set Time > Manual.
- 2 Select Time, and enter the time of day.

#### Setting the Alarm

- 1 Select = > Settings > Alarm > Status > On.
- 2 Select Time, and enter a time.

#### **Backlight Settings**

#### Select > Settings > System > Backlight.

**Mode**: Sets the backlight to turn on manually or for keys and alerts.

Timeout: Sets the length of time before the backlight turns off.

#### **Setting the Device Sounds**

The device sounds include key tones, alert tones, and vibrations.

Select **Settings** > **System** > **Sounds**.

#### **Changing the Units of Measure**

You can customize units of measure for distance, pace and speed, and weight.

- 1 Select > Settings > System > Units.
- 2 Select a measurement type.
- **3** Select a unit of measure.

#### **Changing the Theme Color**

- 1 Select **> Settings > System > Theme Color**.
- 2 Select a color.

#### **Training Indoors**

You can turn GPS off when you are training indoors or to save battery life.

#### Select > Settings > System > GPS > Off.

**TIP:** You can also select **H** at the top of the screen to turn off GPS.

When GPS is off, speed and distance are calculated using the accelerometer in the device. The accelerometer is self-calibrating. The accuracy of the speed and distance data improves after a few outdoor runs using GPS. The next time you turn on or unlock the device, it searches for satellite signals.

### **Format Settings**

#### Select > Settings > System > Format.

Running: Sets the device to display speed or pace.

Start of Week: Sets the first day of the week for your weekly history totals.

# **Data Recording Settings**

#### Select > Settings > System > Data Recording.

- Smart: Records key points where you change direction, pace, or heart rate. Your activity record is smaller, allowing you to store more activities on the device memory.
- Every Second: Records points every second. It creates a very detailed record of your activity and increases the size of the activity record.

# **Device Information**

# Specifications

### **Forerunner Specifications**

Rechargable, built-in lithium polymer battery
Up to 6 weeks in watch mode Up to 10 hours in GPS mode
164 ft. (50 m)
From -4° to 140°F (from -20° to 60°C)
From 32° to 113°F (from 0° to 45°C)
2.4 GHz ANT+ wireless communications protocol Bluetooth Smart wireless technology Wi-Fi wireless technology

# HRM-Run Specifications

Battery type	User-replaceable CR2032, 3 volts
Battery life	1 year (1 hour per day)
Water resistance	Water resistant to 98.4 ft. (30 m)
	<b>NOTE:</b> This product does not transmit heart rate data while swimming.
Operating temperature range	From -4° to 140°F (from -20° to 60°C)
Radio frequency/ protocol	2.4 GHz ANT+ wireless communications protocol

# **Device Care**

#### NOTICE

Avoid extreme shock and harsh treatment, because it can degrade the life of the product.

Avoid pressing the keys under water.

Do not use a sharp object to clean the device.

Never use a hard or sharp object to operate the touchscreen, or damage may result.

Avoid chemical cleaners, solvents, and insect repellents that can damage plastic components and finishes.

Thoroughly rinse the device with fresh water after exposure to chlorine, salt water, sunscreen, cosmetics, alcohol, or other harsh chemicals. Prolonged exposure to these substances can damage the case.

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

# **Cleaning the Device**

- 1 Wipe the device using a cloth dampened with a mild detergent solution.
- 2 Wipe it dry.

# Caring for the Heart Rate Monitor

#### NOTICE

You must unsnap and remove the module before cleaning the strap.

A build up of sweat and salt on the strap can decrease the ability of the heart rate monitor to report accurate data.

- Go to www.garmin.com/HRMcare for detailed washing instructions.
- Rinse the strap after every use.
- Machine wash the strap after every seven uses.
- Do not put the strap in a dryer.
- When drying the strap, hang it up or lay it flat.
- To prolong the life of your heart rate monitor, unsnap the module when not in use.

### Heart Rate Monitor Battery

#### 

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. Go to 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. **NOTE:** Do not overtighten.

After you replace the heart rate monitor battery, you may need to pair it with the device again.

# Troubleshooting

# **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.

# **Getting More Information**

- 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.

# **Resetting the Device**

If the device stops responding, you may need to reset it. This does not erase any of your data or settings.

- 1 Hold <sup>(</sup>) for 15 seconds. The device turns off.
- 2 Hold () for one second to turn on the device.

### **Clearing User Data**

You can restore all of the device settings to the factory default values.

**NOTE:** This deletes all user-entered information, but it does not delete your history.

- 1 Hold (), and select Yes to turn off the device.
- 2 While holding ♀, hold ♂ to turn on the device.
- 3 Select Yes.

# **Restoring All Default Settings**

**NOTE:** This deletes all user-entered information and activity history.

You can reset all settings back to the factory default values.

Select Settings > System > Restore Defaults > Yes.

### **Viewing Device Information**

You can view the unit ID, software version, GPS version, and software information.

Select **Settings** > **System** > **About**.

# **Updating the Software**

Before you can update your device software, you must have a Garmin Connect account, and you must download the Garmin Express Fit application.

- Connect the device to your computer using the USB cable.
  When new software is available, Garmin Express Fit sends it to your device.
- **2** Follow the on-screen instructions.
- **3** Do not disconnect your device from the computer during the update process.

**NOTE:** If you have already used Garmin Express Fit to set up your device with Wi-Fi networks, Garmin Connect can automatically download available software updates to your device when it connects using Wi-Fi.

# **Maximizing Battery Life**

- Shorten the backlight timeout (page 8).
- Shorten the timeout to watch mode (page 8).
- · Select the Smart recording interval (page 9).
- Turn off the Bluetooth wireless feature (page 2).
- Turn off the Wi-Fi wireless feature (page 2).

#### Switching to Watch Mode

You can put the device into a low-power watch mode that locks the touchscreen and maximizes battery life.

**NOTE:** You can select  $\odot$  to view the time of day.

Select S until appears.

The device is in watch-only mode.

2 Select any key (except <sup></sup><sub>2</sub>), and tap the touchscreen to unlock the device.

#### **Turning Off the Device**

For long-term storage and to maximize battery life, you can turn off the device.

Hold O, and select Yes to turn off the device.

# Appendix

# **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

### **Data Fields**

Some data fields require ANT+ accessories to display data.

- **%HRR**: The percentage of heart rate reserve (maximum heart rate minus resting heart rate).
- Average % HRR: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current activity.
- Average Cadence: The average cadence for the current activity.
- Average Ground Contact Time: The average amount of ground contact time for the current activity.
- Average HR: The average heart rate for the current activity.
- Average HR % Max.: The average percentage of maximum heart rate for the current activity.
- Average Pace: The average pace for the current activity.
- Average Speed: The average speed for the current activity.
- Average Vertical Oscillation: The average amount of vertical oscillation for the current activity.
- Cadence: The steps per minute (right and left combined).
- Calories: The amount of total calories burned.
- Distance: The distance traveled for the current track or activity.
- Elevation: The altitude of your current location above or below sea level.
- **Ground Contact Time**: The amount of time in each step that you spend on the ground while running, measured in milliseconds. Ground contact time is not calculated while walking.

Heading: The direction you are moving.

- **Heart Rate**: Your heart rate in beats per minute (bpm). Your device must be connected to a compatible heart rate monitor.
- HR %Max.: The percentage of maximum heart rate.

- **HR Zone**: The current range of your heart rate (1 to 5). The default zones are based on your user profile and maximum heart rate (220 minus your age).
- Lap %HRR: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current lap.
- Lap Cadence: The average cadence for the current lap.
- Lap Distance: The distance traveled for the current lap.
- Lap Ground Contact Time: The average amount of ground contact time for the current lap.
- Lap HR: The average heart rate for the current lap.
- Lap HR %Max.: The average percentage of maximum heart rate for the current lap.
- Lap Pace: The average pace for the current lap.
- Laps: The number of laps completed for the current activity.
- Lap Speed: The average speed for the current lap.
- Lap Time: The stopwatch time for the current lap.
- Lap Vertical Oscillation: The average amount of vertical oscillation for the current lap.
- Last Lap Distance: The distance traveled for the last completed lap.
- Last Lap Pace: The average pace for the last completed lap.
- Last Lap Speed: The average speed for the last completed lap.

**Last Lap Time**: The stopwatch time for the last completed lap. **Pace**: The current pace.

- Speed: The current rate of travel.
- Sunrise: The time of sunrise based on your GPS position.
- Sunset: The time of sunset based on your GPS position.
- Time of Day: The current time of day based on your current location and time settings (format, time zone, daylight saving time).

Timer: The stopwatch time for the current activity.

- **Training Effect**: The current impact (1.0 to 5.0) on your aerobic fitness.
- Vertical Oscillation: The amount of bounce while you are running. The vertical motion of your torso, measured in centimeters for each step.

#### 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, 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.

# VO2 Max. Standard Ratings

These tables include standardized classifications for VO2 max. estimates by age and gender.

Males	Percentile	20–29	30–39	40–49	50–59	60–69	70–79
Superior	95	55.4	54	52.5	48.9	45.7	42.1
Excellent	80	51.1	48.3	46.4	43.4	39.5	36.7
Good	60	45.4	44	42.4	39.2	35.5	32.3
Fair	40	41.7	40.5	38.5	35.6	32.3	29.4
Poor	0-40	<41.7	<40.5	<38.5	<35.6	<32.3	<29.4
Females	Percentile	20–29	30–39	40–49	50–59	60–69	70–79
Superior	95	49.6	47.4	45.3	41.1	37.8	36.7
Excellent	80	43.9	42.4	39.7	36.7	33	30.9
Good	60	39.5	37.8	36.3	33	30	28.1
Fair	40	36.1	34.4	33	30.1	27.5	25.9
Poor	0-40	<36.1	<34.4	<33	<30.1	<27.5	<25.9

Data reprinted with permission from The Cooper Institute. For more information, go to www.CooperInstitute.org.

#### Software License Agreement

BY USING THE DEVICE, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

Garmin Ltd. and its subsidiaries ("Garmin") grant you a limited license to use the software embedded in this device (the "Software") in binary executable form in the normal operation of the product. Title, ownership rights, and intellectual property rights in and to the Software remain in Garmin and/or its thirdparty providers. You acknowledge that the Software is the property of Garmin and/or its third-party providers and is protected under the United States of America copyright laws and international copyright treaties. You further acknowledge that the structure, organization, and code of the Software, for which source code is not provided, are valuable trade secrets of Garmin and/or its third-party providers and that the Software in source code form remains a valuable trade secret of Garmin and/or its third-party providers. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer, or reduce to human readable form the Software or any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the United States of America or the export control laws of any other applicable country.

# Index

#### Α

accessories 4, 9 alarms 8 alerts 7 ANT+ sensors 4 pairing 6 applications 2 smartphone 2 Auto Lap 8 Auto Pause 8 Auto Scroll 8

#### В

backlight 1, 8 battery charging 2 maximizing 2, 8, 10 replacing 9 Bluetooth technology 1, 2

#### С

cadence 4, 5, 7 calendar 3 calorie, alerts 7 charging 2 cleaning the device 9 clock 1, 8 color screen 8 customizing the device 7

#### D

data recording 9 storing 1, 2 transferring 1, 2 data fields 1, 7, 10 deleting all user data 7, 10 history 7 personal records 3, 4 device, registration 9 distance, alerts 7

### F

fitness 11 foot pod 6, 7

#### G

Garmin Connect 2, 3 storing data 1, 2 Garmin Express 2 GPS 1 stopping 8 ground contact time 5

#### н

heart rate 1, 7 monitor 4–6, 9 zones 6, 10 heart rate monitor 5, 9 history 2, 7, 9 deleting 7 sending to computer 1, 2

### l

icons 1 indoor training 8 intervals, workouts 3

#### Κ

keys 1, 9

#### L

language 8 laps 1 locking, screen 10

# M

menu 1

#### Ρ

pace 7, 9 pairing, smartphone 2 pairing ANT+ sensors 6 personal records 3 deleting 3, 4 power key 10 product registration 9 profiles, user 7 projected finish time 4

# R

recovery 6 registering the device 9 replacing battery 9 replacing the battery 9 resetting the device 10 running dynamics 4, 5

#### S

saving activities 1 screen 8 locking 10 settings 7–10 device 8 smartphone applications 2 pairing 2 software updating 10 version 10 software license agreement 11 specifications 9 speed 9 system settings 8

# T

time 8 alerts 7 settings 8 time of day 1 time zones 8 timer 1, 7 tones 8 touchscreen 1 training 2, 3, 8 pages 1 plans 3 Training Effect 11 troubleshooting 5, 9, 10

#### U

unit ID 10 units of measure 8 updates, software 10 uploading data 2 USB 10 disconnecting 7 user data, deleting 7 user profile 7

#### V

vertical oscillation 4, 5 vibration 8 Virtual Partner 4 VO2 max. 4, 5, 11

#### W

walking intervals 8 watch mode 8, 10 water resistance 9 Wi-Fi 10 connecting 2 workouts 3 loading 3

#### Z

zones heart rate 6 time 8

# www.garmin.com/support



**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.)



© 2013 Garmin Ltd. or its subsidiaries