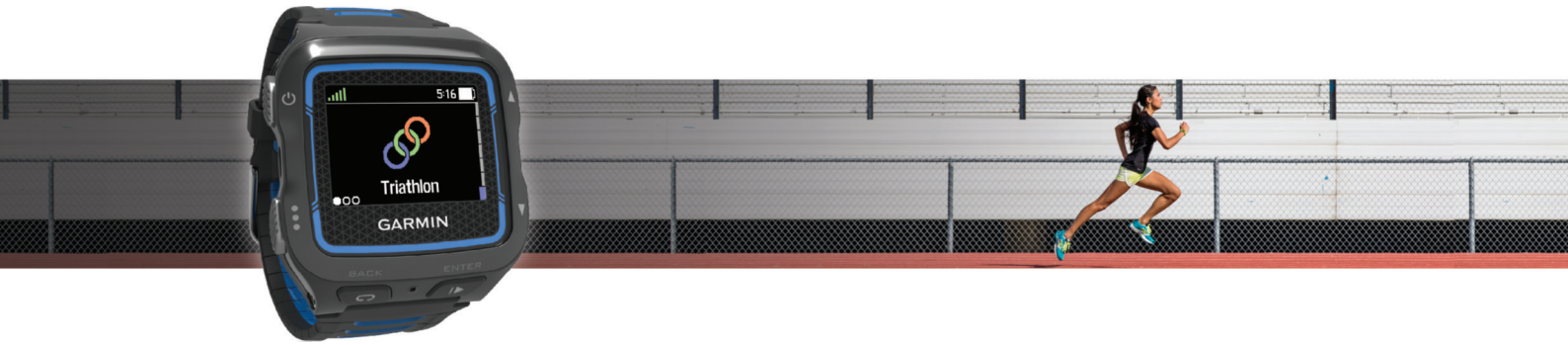
GARMIN®

Forerunner® 920XT



Owner's Manual

Petitioner Samsung Ex-1026, 0001

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M/N: F4XRGT00, A02293, B02293

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Introduction

⚠ WARNING

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.

Keys

Item	Icon	Description
①	⏻	Select to turn the backlight on and off. Hold to turn the device on and off.
②	▲ ▼	Select to scroll through activity profiles, menus, details, and settings. Hold to scroll quickly through the settings. Select to scroll through data screens during an activity.
③	▶ ENTER	Select to start and stop the timer. Select to choose an option and to acknowledge a message.
④	↩ BACK	Select to mark a new lap. Select to mark a transition during a multi-sport activity. Select to mark a rest period during a swim. Select to return to the previous screen. Select multiple times to return to the time of day screen and lock the device.
⑤	⋮	Select to unlock the device. Select to switch between the activity profile screen, main menu, and timer screen. Hold to send your activity to your Garmin Connect™ account.

Status Icons

Icons appear at the top of the activity profile and data screens. A flashing icon means the device is searching for a signal. A solid icon means the signal was found or the sensor is connected.

	GPS status
	Bluetooth® technology status
	Wi-Fi® technology status
	Heart rate status
	Foot pod status
	Speed and cadence status
	Power status
	VIRB® camera status

Going for a Run

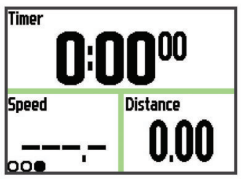
The first fitness activity you record on your device can be a run, ride, or any outdoor activity. The device comes partially charged. You may need to charge the device (*Charging the Device*, page 1) before starting the activity.

1 Hold ⏻ to turn on the device.

2 Select ▲ and ▼ to view the activity profiles.

3 Select **ENTER**.

The timer screen for the selected activity profile appears.



4 Go outside, and wait while the device locates satellites.

It may take a few minutes. The satellite bars turn green when the device is ready.

5 Select ▶ to start the timer.

6 Start your activity.

7 After you complete your activity, select ▶ to stop the timer.

8 Select **Save** to save the activity and reset the timer.

A summary appears. You can upload your activity to your Garmin Connect account (*Garmin Connect*, page 6).

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.

NOTICE

To prevent corrosion, thoroughly clean and dry the contacts and the surrounding area before charging or connecting to a computer. Refer to the cleaning instructions in the appendix.

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 connect the charging clip ① securely to the device.

3 Charge the device completely.

4 Press ② to remove the charger.

Saving Time with the Shortcut Menu

The device has shortcut menu options available for various data screens and accessory features.

NOTE: Some shortcut menu options require optional accessories.

1 Hold ⋮ to view the shortcut menu options.

2 Select an option:

Wi-Fi technology	You can send activities to your Garmin Connect account.
Data screens	You can edit data fields.
Workout screen	You can cancel the workout.
Metronome screen	You can mute the metronome and edit the settings.
Virtual Partner® screen	You can edit the pace or speed.
Training target screen	You can cancel the training target.

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During an activity	You can lock the device keys.
Racing an activity	You can cancel the race.
Map screen	You can access navigation features including Back to Start and Save Location.
Navigation screen (compass)	You can stop navigation.
Running dynamics screen	You can change the primary metric.
Power meter	You can calibrate the power meter.
VIRB action camera	You can control the camera.

Training

Multisport Activities

Triathletes, duathletes, and other multisport competitors can take advantage of the custom multisport profiles (*Creating a Custom Activity Profile*, page 13). When you set up a multisport profile, you can switch between sport modes and still view your total time for all sports. For example, you can switch from biking mode to running mode and view your total time for biking and running throughout your workout.

Changing Activity Profiles During an Activity

You can begin a multisport activity using one activity profile and manually switch to another activity profile without stopping the timer.

1. Select ⋮, and select an activity profile for your first sport segment.
2. Select ▶, and start the activity.
3. When you are ready for the next sport segment, select ⋮, and select a different activity profile.

   NOTE: If you are switching from an indoor segment to an outdoor segment, allow the device time to locate satellites.
4. After you complete your sport segments, select ▶ to stop the timer.
5. Select **Save** to save the multisport activity and reset the timer.

   A summary appears including an overall summary of the multisport activity and details about each sport segment.

Triathlon Training

When you participate in a triathlon, you can use the triathlon activity profile to quickly transition to each sport segment.

1. Select ⋮ > ▼ > **Triathlon** > **ENTER**.

2. Select ▶ to start the timer.
3. Select ⟲ at the beginning and end of each transition.
4. After you complete your activity, select ▶ > **Save**.

Swimming

NOTICE

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

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

NOTE: The device is compatible with the HRM-Tri™ accessory and the HRM-Swim™ accessory (*Heart Rate While Swimming*, page 8).

Swimming with Your Forerunner

You can use the pool swim activity profile to record your swim data including distance, pace, stroke count, and stroke type.

1. Select ⋮ > ▼ > **Pool Swim** > **ENTER**.

   The first time you select the pool swim activity profile, you must select your pool size or enter a custom size.
2. Select ▶ to start the timer.
3. Select ⟲ at the beginning and end of each rest period.
4. After you complete your activity, select ▶ > **Save**.

Swim Terminology

Length: One trip down the pool.

Interval: One or more consecutive lengths. A new interval starts after a rest.

Stroke: A stroke is counted every time your arm wearing the device completes a full cycle.

Swolf: Your swolf score is the sum of the time for one pool length and the number of strokes for that length. For example, 30 seconds plus 15 strokes equals a swolf score of 45. For open water swimming, swolf is calculated over 25 meters. Swolf is a measurement of swimming efficiency and, like golf, a lower score is better.

Stroke Types

Stroke type identification is available only for pool swimming. Your stroke type is identified at the end of a length. Stroke types appear when you are viewing interval history. You can also select stroke type as a custom data field (*Customizing the Data Screens*, page 14).

Free	Freestyle
Back	Backstroke
Breast	Breaststroke
Fly	Butterfly
Mixed	More than one stroke type in an interval
Drill	Used with drill logging (*Training with the Drill Log*, page 2)

Resting During Pool Swimming

The default rest screen displays two rest timers. It also displays time and distance for the last completed interval. The rest screen can be customized or turned off.

NOTE: Swim data is not recorded during a rest.

1. During your swim activity, select ⟲ to start a rest.

   The display reverses to white text on a black background, and the rest screen appears.
2. During a rest, select ▼ to view other data screens (optional).
3. Select ⟲, and continue swimming.
4. Repeat for additional rest intervals.

Training with the Drill Log

The drill log feature is available only for pool swimming. You can use the drill log feature to manually record kick sets, one-arm swimming, or any type of swimming that is not one of the four major strokes. The drill time is recorded, and you must enter the distance.

TIP: You can customize the data screens and data fields for your pool swim activity profile (*Customizing the Data Screens*, page 14).

1. Select ⋮ > ▼ > **Pool Swim** > **ENTER**.
2. During your pool swim activity, select ▼ to view the drill log screen.
3. Select ⟲ to start the drill timer.
4. After completing a drill interval, select ⟲.

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The drill timer stops, but the activity timer continues to record the entire swim session.

5 Select a distance for the completed drill.

Distance increments are based on the pool size selected for the activity profile.

6 Select an option:

- To start another drill interval, select ⟲.
- To start a swim interval, select ▼ to return to the swim training screens.

7 After you complete your activity, select ▶ > **Save**.

Setting the Pool Size

1 Select ⋮ > **Activity Settings** > **Pool Size**.

NOTE: The device is compatible with the HRM-Tri accessory and the HRM-Swim accessory.

2 Select your pool size or enter a custom size.

Swimming in Open Water

You can use the device for open water swimming. You can record swim data including distance, pace, and stroke rate. You can add data screens to the default open water swimming activity profile (*Customizing the Data Screens*, page 14) or create your own profile (*Creating a Custom Activity Profile*, page 13).

1 Select ⋮ > ▼ > **Open Water** > **ENTER**.

2 Go outside and wait while the device locates satellites.

It may take a few minutes. The satellite bars turn green when the device is ready.

3 Select ▶ to start the timer.

4 After you complete your activity, select ▶ > **Save**.

Activity Tracking

Turning On Activity Tracking

The activity tracking feature records your daily step count, step goal, distance traveled, and calories burned for each recorded day. Your calories burned includes your base metabolism plus activity calories.

Activity tracking can be enabled during the initial device setup, or at any time.

Select ⋮ > **Settings** > **Activity Tracking** > **Status** > **On**.

Your step count does not appear until the device locates satellites and sets the time automatically. The device may need a clear view of the sky to locate satellite signals.

Your total number of steps taken during the day appears beneath the time of day 👣. The step count is updated periodically.

TIP: From the time of day screen, you can select ▼ to view additional activity tracking data.

Using the Move Alert

Before you can use the move alert, you must turn on activity tracking.

Sitting for prolonged periods of time can trigger undesirable metabolic state changes. The move alert reminds you to keep moving. After one hour of inactivity, Move! and the red bar appear. The device also beeps or vibrates if audible tones are turned on (*Setting the Device Sounds*, page 16).

Go for a short walk (at least a couple of minutes) to reset the move alert.

Auto Goal

Your device creates a daily step goal automatically, based on your previous activity levels. As you move during the day, the device shows your progress toward your daily goal ①.

If you choose not to use the auto goal feature, you can set a personalized step goal on your Garmin Connect account.

Sleep Tracking

During sleep mode, the device monitors your rest. Sleep statistics include total hours of sleep, sleep levels, and sleep movement.

Using Sleep Mode

Using sleep mode turns off notifications. If you do not use sleep mode, your device still records sleep statistics. You can view sleep statistics on your Garmin Connect account.

1 Wear the device while sleeping.

2 From the time of day screen, select ▼ to view the activity tracking details.

3 Hold ⋮ to view the shortcut menu.

4 Select **Start Sleep Mode**.

5 When you wake, select **ENTER** > **Yes** to exit sleep mode.

Training Indoors

The device includes indoor activity profiles for running, cycling, and swimming. You can turn off GPS when you are training indoors or to save battery life.

NOTE: Any change to the GPS setting is saved to the active profile.

Select ⋮ > **Activity Settings** > **GPS** > **Off**.

When running with GPS turned 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.

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 (*Garmin Connect*, page 6).

1 Connect the device to your computer.

2 Go to www.garminconnect.com.

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 your Garmin Connect account.

1 Select ⋮ > **Training** > **My Workouts**.

2 Select a workout.

3 Select **Do Workout**.

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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 and use a training plan from Garmin Connect, you must have a Garmin Connect account (*Garmin Connect*, page 6).

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

1. Connect the device to your computer.
2. Go to www.garminconnect.com.
3. Select and schedule a training plan.
4. Review the training plan in your calendar.
5. 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 ⟲, the device records an interval and moves to a rest interval.

Creating an Interval Workout

1. Select ⋮ > **Training** > **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. Select **Duration**, enter a distance or time interval value for the workout, and select ✓.
4. Select **Rest** > **Type**.
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 ⋮ > **Training** > **Intervals** > **Do Workout**.
2. Select ▶.
3. When your interval workout has a warm up, select ⟲ to begin the first interval.
4. Follow the on-screen instructions.

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

Stopping a Workout

- At any time, select ⟲ to end a workout step.
- At any time, select ▶ to stop the timer.

Viewing Your Predicted Race Times

Before you can view your projected race times (running only), you must put on a heart rate monitor and pair it with your device. For the most accurate estimate, complete the user profile setup (*Setting Up Your User Profile*, page 13), and set your maximum heart rate (*Setting Your Heart Rate Zones*, page 10).

Your device uses the VO2 max. estimate (*About VO2 Max. Estimates*, page 11) 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 ⋮ > **My Stats** > **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 train (run, bike, other) at a target speed or pace.

NOTE: Virtual Partner is not available in swim mode.

1. Select an activity profile.
2. Select ⋮ > **Activity Settings** > **Data Screens** > **Virtual Partner** > **Status** > **On**.
3. Select **Set Pace** or **Set Speed**.

   You can use pace or speed as your format (*Format Settings*, page 16).
4. Enter a value.
5. Select ▶ to start the timer.
6. During your activity, select ▲ or ▼ to view the Virtual Partner screen and see who is leading.

Setting a Training Target

The training target feature works with the Virtual Partner feature so you can train toward a set distance, distance and time, distance and pace, or distance and speed goal. This feature can be used with the running, cycling, and other single sport activity profiles (excludes swimming). During your training activity, the device gives you real-time feedback about how close you are to achieving your training target.

1. Select ⋮ > **Training** > **Set a Target**.
2. Select an option:
   - Select **Distance Only** to select a preset distance or enter a custom distance.
   - Select **Distance and Time** to select a distance and time target.

     The time target can be entered manually, use prediction (based on your VO2 max. estimate), or use your personal record time.
   - Select **Distance and Pace** or **Distance and Speed** to select a distance and pace or speed target.

   The training target screen appears indicating your estimated finish time. Estimated finish time is based on your current performance and the time remaining.

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3 Select ▶ to start the timer.
4 If necessary, select ▼ to view the Virtual Partner screen.
5 After you complete your activity, select ▶ > **Save**.
A summary screen appears indicating that you finished ahead of or behind the target.

Cancelling a Training Target

1 During the activity, select ▲ to view the target screen.
2 Hold ⋮.
3 Select **Cancel Target** > **Yes**.

Racing a Previous Activity

You can race a previously recorded or downloaded activity. This feature can be used with the running, cycling, and other single sport activity profiles (excludes swimming). This feature works with the Virtual Partner feature so you can see how far ahead or behind you are during the activity.

1 Select ⋮ > **Training** > **Race an Activity**.
2 Select an option:
- Select **From History** to select a previously recorded activity from your device.
- Select **Downloaded** to select an activity you downloaded from your Garmin Connect account.

3 Select the activity.
The Virtual Partner screen appears indicating your estimated finish time.
4 Select ▶ to start the timer.
5 After you complete your activity, select ▶ > **Save**.
A summary screen appears indicating that you finished the race ahead of or behind the previously recorded or downloaded activity.

Personal Records

When you complete an activity, the device displays any new personal records you achieved during that activity. Personal records include your fastest time over several typical race distances and longest run or ride. For cycling, personal records also include most ascent and best power (power meter required).

Viewing Your Personal Records

1 Select ⋮ > **My Stats** > **Records**.
2 Select a sport.
3 Select a record.
4 Select **View Record**.

Restoring a Personal Record

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

1 Select ⋮ > **My Stats** > **Records**.
2 Select a sport.
3 Select a record to restore.
4 Select **Previous** > **Yes**.
NOTE: This does not delete any saved activities.

Clearing a Personal Record

1 Select ⋮ > **My Stats** > **Records**.
2 Select a sport.
3 Select a record to delete.
4 Select **Clear Record** > **Yes**.
NOTE: This does not delete any saved activities.

Clearing All Personal Records

1 Select ⋮ > **My Stats** > **Records**.
NOTE: This does not delete any saved activities.
2 Select a sport.
3 Select **Clear All Records** > **Yes**.
The records are deleted only for that sport.

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 Select an activity.
3 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 **Map** to view the activity on a map.
- Select **Delete** to delete the selected activity.

Multisport History

Your device stores the overall multisport summary of the activity, including overall distance, time, calories, and optional accessory data. Your device also separates the activity data for each sport segment and transition so you can compare similar training activities and track how quickly you move through the transitions. Transition history includes distance, time, average speed, and calories.

Swim History

Your device stores the swim summary and details for each interval or lap. The pool swim history displays the stroke type, distance, time, pace, calories, strokes per length, stroke rate, and swolf score. If the interval contains more than one length, the activity history also contains the number of lengths, stroke type, and time. The open water swim history displays the distance, time, pace, calories, stroke distance, and stroke rate.

Viewing Your Time in Each Heart Rate Zone

Before you can view heart rate zone data, you must pair your device with a compatible heart rate monitor, complete an activity, and save the activity.

Viewing your time in each heart rate zone can help you adjust your training intensity.

1 Select ⋮ > **History** > **Activities**.
2 Select an activity.
3 Select **Time in Zone**.

Viewing Data Totals

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

1 Select ⋮ > **History** > **Totals**.
2 If necessary, select the activity type.
3 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.

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NOTE: This does not delete any saved activities.

3 Confirm your selection.

Data Management

NOTE: The device is not compatible with Windows® 95, 98, Me, Windows NT®, and Mac® 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.

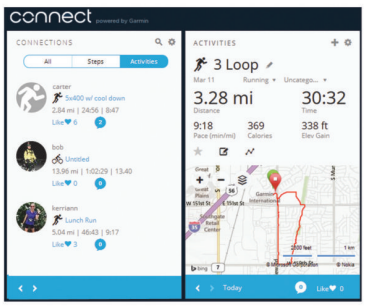
Garmin Connect

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.

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.

Bluetooth Connected Features

The Forerunner device has several Bluetooth connected features for your compatible smartphone or mobile device using the Garmin Connect Mobile app. 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: Automatically sends your activity to Garmin Connect Mobile as soon as you finish recording the activity.

Workout and course downloads: Allows you to browse for workouts and courses in Garmin Connect Mobile and wirelessly send them to your device.

Social media interactions: Allows you to post an update to your favorite social media website when you upload an activity to Garmin Connect Mobile.

Notifications: Displays phone notifications and messages on your Forerunner device.

Pairing Your Smartphone with Your Forerunner

1 Go to www.garmin.com/intosports/apps, and download the Garmin Connect Mobile app to your smartphone.
2 Bring your smartphone within 10 m (33 ft.) of your Forerunner device.
3 From the Forerunner device, select ⋮ > **Settings** > **Bluetooth** > **Pair Mobile Device**.
4 Open the Garmin Connect Mobile app, and follow the on-screen instructions to connect a device.

   The instructions are provided during the initial setup, or can be found in the Garmin Connect Mobile app help.

Turning Off Bluetooth Technology

- From the Forerunner home screen, select ⋮ > **Settings** > **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 app is not required for you to use Wi-Fi connectivity.

Activity uploads to your Garmin Connect account: Automatically sends your activity to your Garmin Connect account as soon as you finish recording the activity.

Workouts and training plans: Allows you to browse for and select workouts and training plans on the Garmin Connect site. The next time your device has a Wi-Fi connection, the files are wirelessly sent to your device.

Software updates: Your device 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 an activity saved to your device, and the timer must be stopped.

1 Go to www.garminconnect.com/start, and download the Garmin Express™ application.

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2 Follow the on-screen instructions to set up Wi-Fi with Garmin Express.

TIP: You can register your device at this time.

Your device attempts to upload your saved activity to your Garmin Connect account following each activity. You can also hold ⋮ on your device to start uploading your saved activities.

Turning Off Wi-Fi Technology

From the Forerunner home screen, select ⋮ > **Settings** > **Wi-Fi** > **Auto Upload** > **Off**.

Navigation

You can use the GPS navigation features on your device to view your path on a map, save locations, and find your way home.

Adding the Map

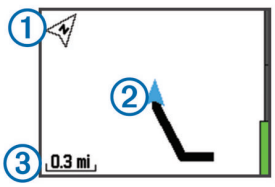
You can add the map to the data screens loop for an activity profile.

1 Select an activity profile.

2 Select ⋮ > **Activity Settings** > **Data Screens** > **Map** > **Status** > **On**.

Map Features

When you start the timer and begin to move, a black line appears on the map, showing you where you have traveled.



①	Points to north
②	Your current location and heading
③	Zoom level

Marking Your Location

Before you can mark a location, you must enable the map screen for your activity profile and locate satellites.

A location is a point that you record and store in the device. If you want to remember landmarks or return to a certain spot, you can mark a location.

1 Go to the place where you want to mark a location.

2 Select ▼ to view the map.

3 Hold ⋮.

4 Select **Save Location**.

The location appears on the map with the date and time.

Viewing Your Current Elevation and Coordinates

TIP: This procedure provides location details and another way to save your current location.

1 Select ⋮ > **Navigation** > **Where Am I?**.

Your device must locate satellites before it can display your location information.

2 If necessary, select **Save Location**.

Editing a Location

You can edit the name of the saved location.

1 Select ⋮ > **Navigation** > **Saved Locations**.

2 Select a location.

3 Select **Name**.

4 Edit the name, and select ✔.

Deleting a Location

1 Select ⋮ > **Navigation** > **Saved Locations**.

2 Select a location.

3 Select **Delete** > **Yes**.

Navigating to a Saved Location

Before you can navigate to a saved location, you must locate satellites.

1 Select ⋮ > **Navigation** > **Saved Locations**.

2 Select a location.

3 Select **Go To**.

The compass appears. The arrow points toward the saved location.

4 Select ▼ to view the map (optional).

A line appears on the map from your current location to the saved location.

5 Select ▶ to start the timer and record the activity.

Navigating Back to Start

At any point during your activity, you can return to your starting location. For example, if you are running in a new city, and you are unsure how to get back to the trail head or hotel, you can navigate back to your starting location.

NOTE: Garmin® recommends that you locate satellites and start the timer before attempting to navigate back to your starting location. If not, the device navigates you to the starting location of the last saved activity.

NOTE: Garmin recommends enabling the map screen for your activity profile in order to view your route on the map. By default, the compass screen appears to navigate you back to your starting location.

1 Select an option:

- If the timer is still running, select ⋮ > **Navigation** > **Back to Start**.
- If you stopped the timer and saved your activity, select ⋮ > **Navigation** > **Back to Start**.

  The device navigates you to the starting location of the last saved activity. You can start the timer again to prevent the device from timing out to watch mode.

The compass appears. The arrow points toward your starting point.

2 Select ▼ to view the map (optional).

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

Courses

You can send a course from your Garmin Connect account to your device. After it is saved to your device, you can navigate the course on your device.

You can follow a saved course simply because it is a good route. For example, you can save and follow 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 can race against a Virtual Partner trying to complete the course in under 30 minutes.

Following a Course From the Web

Before you can download a course from your Garmin Connect account, you must have a Garmin Connect account (*Garmin Connect*, page 6).

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1 Connect the device to your computer using the USB cable.
2 Go to www.garminconnect.com.
3 Create a new course, or select an existing course.
4 Select **Send to Device**.
5 Disconnect the device, and turn it on.
6 Select ⋮ > **Navigation** > **Courses**.
7 Select a course.
8 Select **Do Course**.
9 Select ▶ to start the timer.
   The map displays the course and status information at the top of the screen.
10 If necessary, select ▼ to view additional data screens.

Viewing Course Details

1 Select ⋮ > **Navigation** > **Courses**.
2 Select a course.
3 Select an option:
   - Select **Map** to view the course on the map.
   - Select **Elevation Profile** to view an elevation plot of the course.
   - Select **Name** to view and edit the name of the course.

Deleting a Course

1 Select ⋮ > **Navigation** > **Courses**.
2 Select a course.
3 Select**Delete** > **Yes** .

Stopping Navigation

1 During the activity, select ▲ to view the compass or map.
2 Hold ⋮.
3 Select **Stop Navigation** > **Yes**.

ANT+ 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.

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.

1 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 and Accessories** > **Add New**.
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.

Compatible Heart Rate Monitors

This device is compatible with all Garmin heart rate monitors. This device can be packaged with these premium heart rate monitors.

- HRM-Swim accessory (*HRM-Swim Accessory*, page 8)
- HRM-Tri accessory (*HRM-Tri Accessory*, page 9)
- HRM-Run™ accessory (*HRM-Run Accessory*, page 9)

HRM-Swim Accessory

Sizing the Heart Rate Monitor

Before your first swim, take some time sizing the heart rate monitor. It should be tight enough to stay in place when pushing off the pool wall.

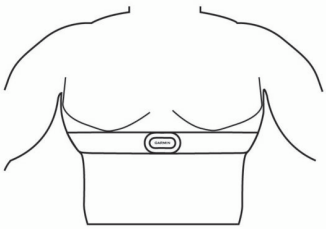
- Select a strap extender, and attach it to the elastic end of the heart rate monitor.
  The heart rate monitor comes with three extender straps to fit different chest sizes.
  TIP: The medium strap extender works for most shirt sizes (from medium to extra-large).
- Put on the heart rate monitor backward to easily adjust the slider on the strap extender.
- Put on the heart rate monitor forward to easily adjust the slider on the heart rate monitor.

Putting On the Heart Rate Monitor

You should wear the heart rate monitor directly on your skin, just below your sternum.

1 Select a strap extender for the best fit.
2 Wear the heart rate monitor with the Garmin logo facing right-side up.
   The hook ① and loop ② connection should be on your right side.

3 Wrap the heart rate monitor around your chest, and connect the strap hook to the loop.



   NOTE: Make sure the care tag does not fold over.
4 Tighten the heart rate monitor so it is snug around your chest, but not restrictive.

After you put on the heart rate monitor, it is active, storing, and sending data.

Tips for Using the HRM-Swim Accessory

- Adjust the tightness of the heart rate monitor and strap extender if the heart rate monitor slides down your chest when pushing off the pool wall.
- Stand up between intervals so that the heart rate monitor is out of the water to see your heart rate data.

Heart Rate While Swimming

The HRM-Tri accessory and the HRM-Swim accessory record and store your heart rate data while swimming. Heart rate data is not visible on compatible Forerunner devices while the heart rate monitor is underwater.

You must start a timed activity on your paired Forerunner device to view stored heart rate data later. During rest intervals when out of the water, the heart rate monitor sends your heart rate data to your Forerunner device.

Your Forerunner device automatically downloads stored heart rate data when you save your timed swim activity. Your heart rate monitor must be out of the water, active, and within range of the device (3 m) while data is downloaded. You can review your heart rate data in the device history and on your Garmin Connect account.

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Data Storage

The HRM-Tri accessory and the HRM-Swim accessory can store up to 20 hours of data in a single activity. When the heart rate monitor memory is full, your oldest data is overwritten.

You can start a timed activity on your paired Forerunner device, and the heart rate monitor records your heart rate data even when you move away from your device. For example, you can record heart rate data during fitness activities or team sports where watches cannot be worn. Your heart rate monitor sends your stored heart rate data to your Forerunner device automatically when you save your activity. Your heart rate monitor must be active and within range (3 m) of the device while data is downloaded.

Caring for the Heart Rate Monitor

NOTICE

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

- Rinse the heart rate monitor after every use.
- Hand wash the heart rate monitor after every seven uses, using a tiny amount of mild detergent, such as dishwashing liquid.

  NOTE: Using too much detergent may damage the heart rate monitor.
- Do not put the heart rate monitor in a washing machine or dryer.
- When drying the heart rate monitor, hang it up or lay it flat.

HRM-Tri Accessory

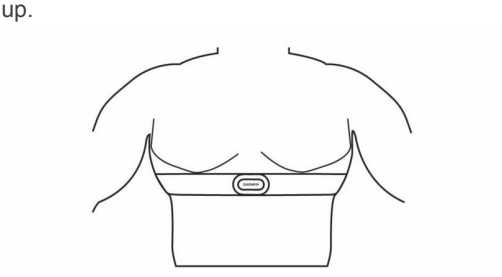
The HRM-Swim section of this manual explains recording heart rate during your swim (*Heart Rate While Swimming*, page 8).

Putting On the Heart Rate Monitor

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

1. If necessary, attach the strap extender to the heart rate monitor.
2. Wet the electrodes ① on the back of the heart rate monitor to create a strong connection between your chest and the transmitter.

3. Wear the heart rate monitor with the Garmin logo facing right-side up.



   The loop ② and hook ③ connection should be on your right side.
4. Wrap the heart rate monitor around your chest, and connect the strap hook to the loop.

   NOTE: Make sure the care tag does not fold over.

After you put on the heart rate monitor, it is active, storing, and sending data.

Pool Swimming

NOTICE

Hand wash the heart rate monitor after exposure to chlorine or other pool chemicals. Prolonged exposure to these substances can damage the heart rate monitor.

The HRM-Tri accessory is designed primarily for open water swimming, but it can be used occasionally for pool swimming. The heart rate monitor should be worn under a swim suit or triathlon top during pool swimming. Otherwise, it may slide down your chest when pushing off the pool wall.

Caring for the Heart Rate Monitor

NOTICE

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

- Rinse the heart rate monitor after every use.
- Hand wash the heart rate monitor after every seven uses or one pool swim, using a tiny amount of mild detergent, such as dishwashing liquid.

  NOTE: Using too much detergent may damage the heart rate monitor.
- Do not put the heart rate monitor in a washing machine or dryer.
- When drying the heart rate monitor, hang it up or lay it flat.

HRM-Run Accessory

Putting On the Heart Rate Monitor

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

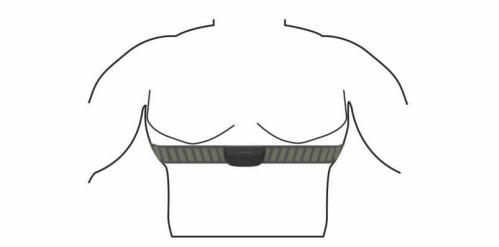
You should wear the heart rate monitor directly on your skin, just below your sternum. It should be snug enough to stay in place during your activity.

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

   The Garmin logos on the module and the strap should be right-side up.
2. Wet the electrodes ② and the contact patches ③ 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 the strap hook ④ to the loop ⑤.

   NOTE: The care tag should not fold over.



   The Garmin logos should be right-side up.
4. Bring the device within 3 m (10 ft.) of the heart rate monitor.

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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 the troubleshooting tips (*Tips for Erratic Heart Rate Data*, page 18).

Caring for the HRM-Run Accessory

NOTICE

You must unsnap and remove the module before washing 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.

Running Dynamics

You can use your compatible Forerunner device paired with the HRM-Run accessory or HRM-Tri accessory to provide real-time feedback about your running form. If your Forerunner device was packaged with the heart rate monitor, the devices are already paired.

The heart rate monitor has an accelerometer in the module that measures torso movement in order to calculate six running metrics.

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

Cadence: Cadence is the number of steps per minute. It displays the 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.

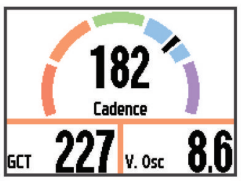
Training with Running Dynamics

Before you can view running dynamics, you must put on the HRM-Run accessory or HRM-Tri accessory and pair it with your device (*Pairing Your ANT+ Sensors*, page 8).

If your Forerunner was packaged with the heart rate monitor, the devices are already paired, and the Forerunner is set to display running dynamics.

1. Select an option:
   - If your Forerunner was packaged with the heart rate monitor, put on your heart rate monitor, and go to step 2.
   - If your heart rate monitor was purchased separately, select ⋮ > **Activity Settings** > **Data Screens** > **Running Dynamics** > **Status** > **Enable**.
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.
5. Scroll to the running dynamics screen to view your metrics.



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

Color Gauges and Running Dynamics Data

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 are using the HRM-Run accessory or HRM-Tri accessory.

  The heart rate monitor has on the front of the module.
- Pair the heart rate monitor with your Forerunner again, according to the instructions.
- If the running dynamics data display zeros, make sure the module is worn right-side up.

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

Setting Your Heart Rate Zones

The device uses your user profile information from the initial setup to determine your default heart rate zones. The device has separate heart rate zones for running, cycling, and

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swimming. For the most accurate calorie data during your activity, set your maximum heart rate. You can also set each heart rate zone and enter your resting heart rate manually. You can manually adjust your zones on the device or using your Garmin Connect account.

1 Select ⋮ > **My Stats** > **User Profile** > **Heart Rate Zones**.
2 Select **Default** to view the default values (optional).
   The default values can be applied to running, cycling, and swimming.
3 Select **Running**, **Cycling**, or **Swimming**.
4 Select **Preference** > **Set Custom** > **Based On**.
5 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).
6 Select **Max. HR**, and enter your maximum heart rate.
7 Select a zone, and enter a value for each zone.
8 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.

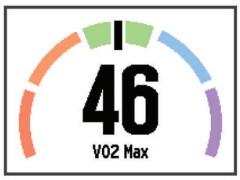
If you know your maximum heart rate, you can use the table (*Heart Rate Zone Calculations*, page 20) to determine the best heart rate zone for your fitness objectives.

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.

About VO2 Max. Estimates

VO2 max. is the maximum volume of oxygen (in milliliters) 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 Technologies Ltd. The Forerunner device has separate VO2 max. estimates for running and cycling. You can use your Garmin device paired with a compatible heart rate monitor and power meter to display your cycling VO2 max. estimate. You can use your Garmin device paired with a compatible heart rate monitor to display your running VO2 max. estimate.

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



Purple	Superior
Blue	Excellent
Green	Good
Orange	Fair
Red	Poor

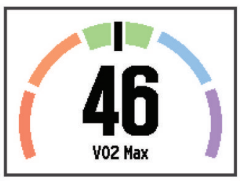
VO2 max. data and analysis is provided with permission from The Cooper Institute®. For more information, see the appendix (*VO2 Max. Standard Ratings*, page 20), and go to www.CooperInstitute.org.

Getting Your VO2 Max. Estimate for Running

Before you can view your VO2 max. estimate, you must put on the heart rate monitor and pair it with your device (*Pairing Your ANT+ Sensors*, page 8). If your Forerunner device was packaged with a heart rate monitor, the devices are already paired. For the most accurate estimate, complete the user profile setup (*Setting Up Your User Profile*, page 13), and set your maximum heart rate (*Setting Your Heart Rate Zones*, page 10).

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

1 Run for at least 10 minutes outdoors.
2 After your run, select **Save**.
3 Select ⋮ > **My Stats** > **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. For more information, see the appendix (*VO2 Max. Standard Ratings*, page 20), and go to www.CooperInstitute.org.

Getting Your VO2 Max. Estimate for Cycling

Before you can view your VO2 max. estimate, you must put on the heart rate monitor, install the power meter, and pair them with your Forerunner device (*Pairing Your ANT+ Sensors*, page 8). If your Forerunner device was packaged with a heart rate monitor, the devices are already paired. For the most accurate estimate, complete the user profile setup (*Setting Up Your User Profile*, page 13) and set your maximum heart rate (*Setting Your Heart Rate Zones*, page 10).

NOTE: The estimate may seem inaccurate at first. The device requires a few rides to learn about your cycling performance.

1 Ride at a steady, high intensity for at least 20 minutes outdoors.
2 After your ride, select **Save**.

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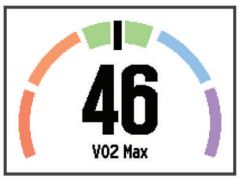
3 Select ⋮ > **My Stats** > **VO2 Max.**.

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. For more information, see the appendix (*VO2 Max. Standard Ratings*, page 20), and go to www.CooperInstitute.org.

Tips for Cycling VO2 Max. Estimates

The success and accuracy of the VO2 max. calculation improves when your ride is a sustained and moderately hard effort, and where heart rate and power are not highly variable.

- Before your ride, check that your device, heart rate monitor, and power meter are functioning properly, paired, and have good battery life.
- During your 20 minute ride, maintain your heart rate at greater than 70% of your maximum heart rate.
- During your 20 minute ride, maintain a fairly constant power output.
- Avoid rolling terrain.
- Avoid riding in groups where there is a lot of drafting.

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.

Recovery check: The recovery check provides a real-time indication of your state of recovery within the first several minutes of an activity.

Recovery time: The recovery time appears immediately following an activity. 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 (*Pairing Your ANT+ Sensors*, page 8). 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 (*Setting Up Your User Profile*, page 13), and set your maximum heart rate (*Setting Your Heart Rate Zones*, page 10).

1 Select ⋮ > **My Stats** > **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.

Recovery Heart Rate

If you are training with a compatible heart rate monitor, you can check your recovery heart rate value after each activity. Recovery heart rate is the difference between your exercising heart rate and your heart rate two minutes after the exercise has stopped. For example, after a typical training run, you stop the timer. Your heart rate is 140 bpm. After two minutes of no activity or cool down, your heart rate is 90 bpm. Your recovery heart rate is 50 bpm (140 minus 90). Some studies have linked recovery heart rate to cardiac health. Higher numbers generally indicate healthier hearts.

TIP: For best results, you should stop moving for two minutes while the device calculates your recovery heart rate value. You can save or discard the activity after this value appears.

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 Forerunner device (*Pairing Your ANT+ Sensors*, page 8).

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, select ⋮ > **Activity Settings** > **GPS** to turn on or turn off GPS.

3 Select ▶ to start the timer.

4 After you complete your run, select ▶ > **Save**.

Foot Pod Calibration

The foot pod is self-calibrating. The accuracy of the speed and distance data improves after a few outdoor runs using GPS.

Training with Power Meters

- Go to www.garmin.com/intosports for a list of ANT+ sensors that are compatible with your device (such as Vector™).
- For more information, see the owner's manual for your power meter.
- Adjust your power zones to match your goals and abilities (*Setting Your Power Zones*, page 12).
- Use range alerts to be notified when you reach a specified power zone (*Setting Range Alerts*, page 14).
- Customize the power data fields (*Customizing the Data Screens*, page 14).
- Hold ⋮ to calibrate the power meter.

Setting Your Power Zones

The values for the zones are default values and may not match your personal abilities. If you know your functional threshold power (FTP) value, you can enter it and allow the software to

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calculate your power zones automatically. You can manually adjust your zones on the device or using your Garmin Connect account.

1 From the home screen, select ⋮ > **My Stats** > **User Profile** > **Power Zones** > **Based On**.
2 Select an option:
   - Select **Watts** to view and edit the zones in watts.
   - Select **% FTP** to view and edit the zones as a percentage of your functional threshold power.
3 Select **FTP**, and enter your FTP value.
4 Select a zone, and enter a value for each zone.
5 If necessary, select **Minimum**, and enter a minimum power value.

Using Shimano® Di2™ Shifters

Before you can use Di2 electronic shifters, you must pair them with your device (*Pairing Your ANT+ Sensors*, page 8). You can customize the optional Di2 data fields (*Customizing the Data Screens*, page 14). The Forerunner device displays current adjustment values when the sensor is in adjustment mode.

Connect IQ™ Features

You can add Connect IQ features to your watch from Garmin and other providers using the Garmin Connect Mobile app. You can customize your device with watch faces, data fields, widgets, and apps.

Watch Faces: Allow you to customize the appearance of the clock.

Data Fields: Allow you to download new data fields that present sensor, activity, and history data in new ways. You can add Connect IQ data fields to built-in features and pages.

Widgets: Provide information at a glance, including sensor data and notifications.

Apps: Add interactive features to your watch, such as new outdoor and fitness activity types.

Downloading Connect IQ Features

Before you can download Connect IQ features from the Garmin Connect Mobile app, you must pair your Forerunner device with your smartphone running the Garmin Connect Mobile app.

1 From the Garmin Connect Mobile app, select ☰ > **Connect IQ Store**.
2 Select your Forerunner device.

Downloading Connect IQ Features Using Your Computer

1 Connect the device to your computer using a USB cable.
2 Go to www.garminconnect.com.
3 From your devices widget, select **Connect IQ Store**.
4 Select a Connect IQ feature.
5 Select **Send to Device**, and follow the on-screen instructions.

Widgets

Your device comes preloaded with widgets that provide at-a-glance information. Some widgets require a Bluetooth connection to a compatible smartphone.

Notifications: Alerts you to incoming calls and texts based on your smartphone notification settings.

Activity Tracking: Tracks your daily step count, step goal, distance traveled, calories burned, and sleep statistics.

VIRB Remote

The VIRB remote function allows you to control your VIRB action camera using your device. Go to www.garmin.com/VIRB to purchase a VIRB action camera.

Controlling a VIRB Action Camera

Before you can use the VIRB remote function, you must enable the remote setting on your VIRB camera. See the *VIRB Series Owner's Manual* for more information.

1 Turn on your VIRB camera.
2 Pair the VIRB camera with your Forerunner device (*Pairing Your ANT+ Sensors*, page 8).
3 On the Forerunner device, select the VIRB accessory.

   When the VIRB accessory is paired, the VIRB screen is added to the data screens for the active profile.
4 Select an option:
   - Select **Timer Start/Stop** to control the camera using the timer (▮▶).

     Video recording automatically starts and stops with the Forerunner device timer.
   - Select **Manual** to control the camera using the shortcut menu. From the VIRB screen, you can hold ⋮ to control the camera.

Customizing Your Device

Setting Up Your User Profile

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

1 Select ⋮ > **My Stats** > **User Profile**.
2 Select an option.

Activity Profiles

Activity profiles are a collection of settings that optimize your device based on how you are using it. For example, the settings and data screens are different when you are using the device for running than for riding your bike.

When you are using a profile and you change settings such as data fields or alerts, the changes are saved automatically as part of the profile.

Changing Your Activity Profile

The device has seven default activity profiles. You can modify any of the saved activity profiles.

TIP: The default activity profiles use a specific accent color for each sport. The multisport activity profile changes the accent color when you switch sport segments.

1 Select ⋮ > **Settings** > **Activity Profiles**.
2 Select a profile.
3 If necessary, select **Name**, and enter a new name for the profile.
4 If necessary, select **Color**, and select an accent color for the profile.
5 Select **Apply Profile**.

Creating a Custom Activity Profile

1 Select ⋮ > **Settings** > **Activity Profiles** > **Add New**.
2 Select a sport.

   NOTE: The default sports use the default icon. If you select Other, you can select a different icon.
3 Select an accent color.
4 Select a profile name or enter a custom name.

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Duplicate profile names include a number, for example: Triathlon(2).

5 Select an option:
   - Select **Use Default** to create your custom profile starting from the system default settings.
   - Select a copy of an existing profile to create your custom profile starting from one of your saved profiles.

   NOTE: If you are creating a custom multisport profile, you are prompted to select two or more profiles and include transitions.

6 Select an option:
   - Select **Edit Settings** to customize specific profile settings.
   - Select **Done** to save and use the custom profile.

Deleting an Activity Profile

1 Select ⋮ > **Settings** > **Activity Profiles**.
2 Select a profile.

   NOTE: You cannot delete the active profile, and you cannot delete a single sport profile that is contained within the active multisport profile.

3 Select **Remove Profile** > **Yes**.

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 ⋮ > **Activity Settings** > **Data Screens**.
2 Select a screen.
3 If necessary, select **Status** > **On** to enable the data screen.
4 If necessary, edit the number of data fields.
5 Select a data field to change it.

Adding the Clock

You can add the clock to the data screens loop for an activity profile.

1 Select an activity profile.
2 Select ⋮ > **Activity Settings** > **Data Screens** > **Clock** > **On**.

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 (*Setting Your Heart Rate Zones*, page 10).

1 Select ⋮ > **Activity Settings** > **Alerts** > **Add New**.
2 Select the type of alert.

   Depending on your accessories and the activity profile, the alerts may include heart rate, pace, speed, cadence, and power.

3 If necessary, turn on the alert.
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 (*Setting the Device Sounds*, page 16).

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 ⋮ > **Activity Settings** > **Alerts** > **Add New**.
2 Select an option:
   - Select **Custom**, select a message, and select an alert type.
   - Select **Time**, **Distance**, or **Calories**.

3 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 (*Setting the Device Sounds*, page 16).

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. You can use the Auto Lap® feature while using the run/walk alerts.

NOTE: Walk break alerts are available only for running profiles.

1 Select ⋮ > **Activity Settings** > **Alerts** > **Add New**.
2 Select **Run/Walk**.
3 Enter a time for the run interval.
4 Enter a time for the walk interval.

Each time you reach the alert value, a message appears. The device also beeps or vibrates if audible tones are turned on (*Setting the Device Sounds*, page 16).

Editing an Alert

1 Select ⋮ > **Activity Settings** > **Alerts**.
2 Select an alert.
3 Edit the alert values or settings.

Running with the Metronome

The metronome feature plays tones at a steady rhythm to help you improve your performance by training at a faster, slower, or more consistent cadence.

NOTE: The metronome is not available for cycling or swimming profiles.

1 Select ⋮ > **Activity Settings** > **Metronome** > **Status** > **On**.
2 Select an option:
   - Select **Beats Per Minute** to enter a value based on the cadence you want to maintain.
   - Select **Alert Frequency** to customize the frequency of the beats.
   - Select **Sounds** to customize the metronome sound.

3 If necessary, select **Preview** to listen to the metronome feature before you run.
4 Select **BACK** to return to the timer screen.
5 Select ▶ to start the timer.
6 Go for a run.

   The metronome starts automatically.

7 During your run, select ▲ to view the metronome screen.
8 If necessary, hold ⋮ to change the metronome settings.

Using Auto Pause®

You can use the Auto Pause feature to pause the timer automatically when you stop moving or when your pace or speed 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.

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1 Select ⋮ > **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 or speed drops below a specified value.

Auto Lap

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

Marking Laps by Distance

You can use the Auto Lap feature 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 mi. or 5 km).

1 Select ⋮ > **Activity Settings** > **Laps** > **Auto Distance**.
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 (*Setting the Device Sounds*, page 16).

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

Customizing the Lap Alert Message

You can customize one or two data fields that appear in the lap alert message.

1 Select ⋮ > **Activity Settings** > **Laps** > **Lap Alert**.
2 Select a data field to change it.
3 Select **Preview** (optional).

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

Using UltraTrac Mode

Before using UltraTrac mode, you should run outdoors a few times using normal GPS mode to calibrate the device.

You can use UltraTrac mode for extended activities. UltraTrac mode is a GPS setting that periodically turns off GPS to save battery power. When GPS is off, the device uses the accelerometer to calculate speed and distance. Speed, distance, and track data accuracy are reduced in UltraTrac mode. The accuracy of the data improves after a few outdoor runs using GPS.

Select ⋮ > **Activity Settings** > **GPS** > **UltraTrac**.

TIP: For extended activities, you should consider other battery saving options (*Maximizing Battery Life*, page 18).

Power Save 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 ⋮ > **Activity Settings** > **Power Save 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.

Activity Tracking Settings

Select ⋮ > **Settings** > **Activity Tracking**.

Status: Enables the activity tracking feature.

Show on Clock: Displays your steps on the time of day screen.

Move Alert: Displays a message and move bar on the time of day screen. The device also beeps or vibrates if audible tones are turned on (*Setting the Device Sounds*, page 16).

Phone Notifications

Phone notifications require a compatible smartphone to be paired with the Forerunner device. When your phone receives messages, it sends notifications to your device.

Enabling Bluetooth Notifications

1 Select ⋮ > **Settings** > **Bluetooth** > **Smart Notifications**.
2 Select **During Activity**.
3 Select **Off**, **Show Calls Only**, or **Show All**.
4 Select **Not During Activity**.
5 Select **Off**, **Show Calls Only**, or **Show All**.

NOTE: You can change the audible sounds for notifications.

Viewing Notifications

1 When a notification appears on your Forerunner device, select an option:
   - Select ▲ to view the entire notification.
   - Select ▼ to dismiss the notification.
2 If necessary, select ⋮ > **Smart Notifications** to view all notifications.

Managing Notifications

You can use your compatible mobile device to manage notifications displayed on your Forerunner device.

Select an option:

- If you are using an iOS® device, use the notification center settings on your mobile device to select the items to show on the device.
- If you are using an Android™ device, use the app settings in the Garmin Connect Mobile app to select the items to show on the device.

System Settings

Select ⋮ > **Settings** > **System**.

- Language (*Changing the Device Language*, page 15)
- Time Settings (*Time Settings*, page 15)
- Backlight Settings (*Backlight Settings*, page 16)
- Sound Settings (*Setting the Device Sounds*, page 16)
- Unit Settings (*Changing the Units of Measure*, page 16)
- Satellite Setting (*Changing the Satellite Setting*, page 16)
- Format Settings (*Format Settings*, page 16)
- Data Recording Settings (*Data Recording Settings*, page 16)

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.

Background: Sets the background color to black or white.

Use Profile Color: Sets the accent color for the time of day screen to be the same as the activity profile color.

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.

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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 Satellite Setting

By default, the device uses GPS to locate satellites. For increased performance in challenging environments and faster GPS position location, you can enable GPS and GLONASS. Using GPS and GLONASS reduces battery life more than using only GPS.

Select ⋮ > **Settings** > **System** > **GLONASS**.

Format Settings

Select ⋮ > **Settings** > **System** > **Format**.

Pace/Speed Preference: Sets the device to display speed or pace for running, cycling, or other activities. This preference affects several training options, history, and alerts.

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

Battery type	Rechargeable, built-in lithium-ion battery
Battery life	Over 4 mo. in watch only mode Up to 1 mo. in watch mode with activity tracking Up to 40 hr. in UltraTrac mode Up to 24 hr. using GPS only Up to 20 hr. using GPS and GLONASS
Operating temperature range	From -20º to 60ºC (from -4º to 140ºF)
Charging temperature range	From 0º to 40ºC (from 32º to 104ºF)
Radio frequency/ protocol	2.4 GHz ANT+ wireless communications protocol Bluetooth wireless technology Wi-Fi wireless technology
Water rating	5 ATM[1]

HRM-Swim Specifications and HRM-Tri Specifications

Battery type	User-replaceable CR2032 (3 V)
HRM-Swim battery life	Up to 18 mo. (approximately 3 hr./wk.)
HRM-Tri battery life	Up to 10 mo. for triathlon training (approximately 1 hr./day)
Operating temperature range	From -10° to 50°C (from 14° to 122°F)
Wireless frequency/ protocol	2.4 GHz @ +1 dBm nominal
Water rating	Swim, 5 ATM[1]

HRM-Run Specifications

Battery type	User-replaceable CR2032, 3 volts
Battery life	1 year (1 hour per day)
Water rating	3 ATM[2] **NOTE:** This product does not transmit heart rate data while swimming.
Operating temperature range	From -20° to 60°C (from -4° to 140°F)
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.

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

NOTICE

Even small amounts of sweat or moisture can cause corrosion of the electrical contacts when connected to a charger. Corrosion can prevent charging and data transfer.

1 Wipe the device using a cloth dampened with a mild detergent solution.

2 Wipe it dry.

After cleaning, allow the device to dry completely.

User Replaceable Batteries

⚠ WARNING

Do not use a sharp object to remove batteries.

Keep the battery away from children.

[1] The device withstands pressure equivalent to a depth of 50 m. For more information, go to www.garmin.com/waterrating.

[2] The device withstands pressure equivalent to a depth of 30 m. For more information, go to www.garmin.com/waterrating.

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Never put batteries in mouth. If swallowed, contact your physician or local poison control center.

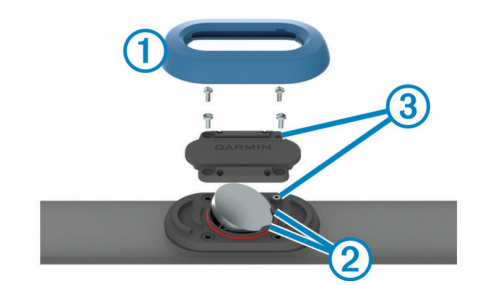
Replaceable coin cell batteries may contain perchlorate material. Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

⚠ CAUTION

Contact your local waste disposal department to properly recycle the batteries.

Replacing the HRM-Swim Battery and the HRM-Tri Battery

1 Remove the sleeve ① from the heart rate monitor module.



2 Use a small Phillips (00) screwdriver to remove the four screws on the front of the module.

3 Remove the cover and battery.

4 Wait 30 seconds.

5 Insert the new battery under the two plastic tabs ② with the positive side facing up.

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

The O-ring gasket should remain around the outside of the raised plastic ring.

6 Replace the front cover and the four screws.

Observe the orientation of the front cover. The raised screw ③ should fit in the matching raised screw hole on the front cover.

NOTE: Do not overtighten.

7 Replace the sleeve.

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

Replacing the HRM-Run 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

Support and Updates

Garmin Express (www.garmin.com/express) provides easy access to these services for Garmin devices.

- Product registration
- Product manuals
- Software updates
- Data uploads to Garmin Connect

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.

Acquiring Satellite Signals

The device may need a clear view of the sky to acquire satellite signals. The time and date are set automatically based on the GPS position.

1 Go outdoors to an open area.

The front of the device should be oriented toward the sky.

2 Wait while the device locates satellites.

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

Improving GPS Satellite Reception

- Frequently sync the device to your Garmin Connect account:
  - Connect your device to a computer using the USB cable and the Garmin Express application.
  - Sync your device to the Garmin Connect Mobile app using your Bluetooth enabled smartphone.
  - Connect your device to your Garmin Connect account using a Wi-Fi wireless network.

  While connected to your Garmin Connect account, the device downloads several days of satellite data, allowing it to quickly locate satellite signals.
- Take your device outside to an open area away from tall buildings and trees.
- Remain stationary for a few minutes.

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 ⏻ 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 ⏻.

2 Select **Yes** to turn off the device.

3 While holding ▼, hold ⏻ to turn on the device.

4 Select **Yes**.

Restoring All Default Settings

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

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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 application.

1. Connect the device to your computer using the USB cable.

   When new software is available, Garmin Express 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 to set up your device with Wi-Fi connectivity, Garmin Connect can automatically download available software updates to your device when it connects using Wi-Fi.

Maximizing Battery Life

- Shorten the backlight timeout (*Backlight Settings*, page 16).
- Shorten the timeout to watch mode (*Power Save Timeout Settings*, page 15).
- Turn off activity tracking (*Activity Tracking*, page 3).
- Select the **Smart** recording interval (*Data Recording Settings*, page 16).
- Turn off GLONASS (*Changing the Satellite Setting*, page 16).
- Turn off the Bluetooth wireless feature (*Turning Off Bluetooth Technology*, page 6).
- Turn off the Wi-Fi wireless feature (*Turning Off Wi-Fi Technology*, page 7).

Locking and Unlocking the Device Keys

You can lock the device keys to avoid accidental key presses during an activity.

1. Hold ⋮ to view the shortcut menu.
2. Select **Lock Device**.
3. Hold ⋮ to unlock the device keys.

My daily step count does not appear

The daily step count is reset every night at midnight.

If dashes appear instead of your step count, allow the device to acquire satellite signals and set the time automatically.

Tips for Erratic Heart Rate Data

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

- Reapply water to the electrodes and contact patches (if applicable).
- Tighten the strap on your chest.
- Warm up for 5 to 10 minutes.
- Follow the care instructions (*Caring for the HRM-Run Accessory*, page 10).
- Wear a cotton shirt or thoroughly wet both sides of the strap.

  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.

Appendix

Data Fields

Some data fields require ANT+ accessories to display data.

%FTP: The current power output as a percentage of functional threshold power.

%HRR: The percentage of heart rate reserve (maximum heart rate minus resting heart rate).

10s Avg. Balance: The 10-second moving average of the left/right power balance.

10s Avg. Power: The 10-second moving average of power output.

30s Avg. Balance: The 30-second moving average of the left/right power balance.

30s Avg. Power: The 30-second moving average of power output.

30s Avg. Vertical Speed: The 30-second moving average of vertical speed.

3s Avg. Balance: The three-second moving average of the left/right power balance.

3s Avg. Power: The three-second moving average of power output.

Average %HRR: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current activity.

Average Balance: The average left/right power balance for the current activity.

Average Cadence: Cycling. The average cadence for the current activity.

Average Cadence: Running. The average cadence 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 Lap Time: The average lap time for the current activity.

Average Pace: The average pace for the current activity.

Average Power: The average power output for the current activity.

Average Speed: The average speed for the current activity.

Average Stroke Distance: The average distance traveled per stroke during the current activity.

Average Stroke Rate: The average number of strokes per minute (spm) during the current activity.

Average Strokes/Length: The average number of strokes per length during the current activity.

Average SWOLF: The average swolf score for the current activity. Your swolf score is the sum of the time for one length plus the number of strokes for that length (*Swim Terminology*, page 2). In open water swimming, 25 meters is used to calculate your swolf score.

Avg. Ground Contact Time: The average amount of ground contact time for the current activity.

Avg. L. Pwr. Phase: The average power phase angle for the left leg for the current activity.

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Avg. Left PPP: The average power phase peak angle for the left leg for the current activity.

Avg. R. Pwr. Phase: The average power phase angle for the right leg for the current activity.

Avg. Right PPP: The average power phase peak angle for the right leg for the current activity.

Avg. Vertical Oscillation: The average amount of vertical oscillation for the current activity.

Balance: The current left/right power balance.

Cadence: Cycling. The number of revolutions of the crank arm. Your device must be connected to a cadence accessory for this data to appear.

Cadence: Running. The steps per minute (right and left).

Calories: The amount of total calories burned.

Di2 Battery: The remaining battery power of a Di2 sensor.

Distance: The distance traveled for the current track or activity.

Elapsed Time: The total time recorded. For example, if you start the timer and run for 10 minutes, then stop the timer for 5 minutes, then start the timer and run for 20 minutes, your elapsed time is 35 minutes.

Elevation: The altitude of your current location above or below sea level.

Front: The front bike gear from a Di2 sensor.

Gear Ratio: The number of teeth on the front and rear bike gears.

Gears: The front and rear bike gears from a Di2 sensor.

Grade: The calculation of rise (elevation) over run (distance). For example, if for every 3 m (10 ft.) you climb you travel 60 m (200 ft.), the grade is 5%.

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).

Int. Avg. %HRR: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current swim interval.

Int. Avg. %Max.: The average percentage of maximum heart rate for the current swim interval.

Int. Avg. HR: The average heart rate for the current swim interval.

Int. Max. %HRR: The maximum percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current swim interval.

Int. Max. %Max.: The maximum percentage of maximum heart rate for the current swim interval.

Int. Max. HR: The maximum heart rate recorded during the current swim interval.

Intensity Factor: The Intensity Factor™ for the current activity.

Interval Distance: The distance traveled for the current swim interval.

Interval Lengths: The number of pool lengths completed during the current interval.

Interval Pace: The average pace for the current swim interval.

Interval Stroke Distance: The average distance traveled per stroke during the current interval.

Interval Stroke Rate: The average number of strokes per minute (spm) during the current interval.

Interval Strokes: The total number of strokes for the current interval.

Interval Strokes/Length: The average number of strokes per length during the last completed interval.

Interval Stroke Type: The current stroke type for the interval.

Interval SWOLF: The average swolf score for the current interval.

Interval Time: The stopwatch time for the current swim interval.

L. Pwr. Phase: The current power phase angle for the left leg. Power phase is the pedal stroke region where you produce positive power.

Lap %HRR: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current lap.

Lap Balance: The average left/right power balance for the current lap.

Lap Cadence: Cycling. The average cadence for the current lap.

Lap Cadence: Running. 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 L. Pwr. Phase: The average power phase angle for the left leg for the current lap.

Lap Left PPP: The average power phase peak angle for the left leg for the current lap.

Lap Normalized Power: The average Normalized Power for the current lap.

Lap Pace: The average pace for the current lap.

Lap Power: The average power output for the current lap.

Lap R. Pwr. Phase: The average power phase angle for the right leg for the current lap.

Lap Right PPP: The average power phase peak angle for the right leg 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 Interval Distance: The distance traveled for the last completed swim interval.

Last Interval Pace: The average pace for the last completed swim interval.

Last Interval Stroke Distance: The average distance traveled per stroke during the last completed interval.

Last Interval Stroke Rate: The average number of strokes per minute (spm) during the last completed interval.

Last Interval Strokes: The total number of strokes for the last completed interval.

Last Interval SWOLF: The average swolf score for the last completed interval.

Last Interval Time: The stopwatch time for the last completed swim interval.

Last Lap Cadence: Cycling. The average cadence for the last completed lap.

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Last Lap Cadence: Running. The average cadence for the last completed lap.

Last Lap Distance: The distance traveled for the last completed lap.

Last Lap Normalized Power: The average Normalized Power for the last completed lap.

Last Lap Pace: The average pace for the last completed lap.

Last Lap Power: The average power output 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.

Last Length Pace: The average pace for your last completed pool length.

Last Length Stroke Rate: The average number strokes per minute (spm) during the last completed pool length.

Last Length Strokes: The total number of strokes for the last completed pool length.

Last Length Stroke Type: The stroke type used during the last completed pool length.

Last Length SWOLF: The swolf score for the last completed pool length.

Left PPP: The current power phase peak angle for the left leg. Power phase peak is the angle range over which you produce the peak portion of the driving force.

Lengths: The number of pool lengths completed during the current activity.

Max. Lap Power: The top power output for the current lap.

Max. Power: The top power output for the current activity.

Maximum Speed: The top speed for the current activity.

Nautical Distance: The distance traveled in nautical meters or nautical feet.

Nautical Speed: The current speed in knots.

Normalized Power: The Normalized Power™ for the current activity.

Pace: The current pace.

PCO: The platform center offset. Platform center offset is the location on the pedal platform where you apply force.

PCO - Avg.: The average platform center offset for the current activity.

PCO - Lap: The average platform center offset for the current lap.

Pedal Smoothness: The measurement of how evenly a rider is applying force to the pedals throughout each pedal stroke.

Power: The current power output in watts.

Power to Weight: The current power measured in watts per kilogram.

Power Zone: The current range of power output (1 to 7) based on your FTP or custom settings.

R. Pwr. Phase: The current power phase angle for the right leg. Power phase is the pedal stroke region where you produce positive power.

Rear: The rear bike gear from a Di2 sensor.

Repeat On: The timer for the last interval plus the current rest (pool swimming).

Rest Timer: The timer for the current rest (pool swimming).

Right PPP: The current power phase peak angle for the right leg. Power phase peak is the angle range over which you produce the peak portion of the driving force.

Speed: The current rate of travel.

Stroke Rate: The number of strokes per minute (spm).

Strokes: The total number of strokes for the current activity.

Sunrise: The time of sunrise based on your GPS position.

Sunset: The time of sunset based on your GPS position.

Time in Zone: The time elapsed in each heart rate or power zone.

Time of Day: The 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.

Time Seated: The time spent seated while pedaling for the current activity.

Time Seated Lap: The time spent seated while pedaling for the current lap.

Time Standing: The time spend standing while pedaling for the current activity.

Time Standing Lap: The time spend standing while pedaling for the current lap.

Torque Effectiveness: The measurement of how efficiently a rider is pedaling.

Total Ascent: The total elevation distance ascended since the last reset.

Total Descent: The total elevation distance descended since the last reset.

Training Effect: The current impact (1.0 to 5.0) on your aerobic fitness.

Training Stress Score: The Training Stress Score™ for the current activity.

Vertical Oscillation: The amount of bounce while you are running. The vertical motion of your torso, measured in centimeters for each step.

Vertical Speed: The rate of ascent or descent over time.

Work: The accumulated work performed (power output) in kilojoules.

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

VO2 Max. Standard Ratings

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

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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

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Wheel Size and Circumference

The wheel size is marked on both sides of the tire. This is not a comprehensive list. You can also use one of the calculators available on the Internet.

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
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
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

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