

**GARMIN**<sup>®</sup>

**D2™ Pilot**



Owner's Manual

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# Table of Contents

<b>Introduction</b> .....	<b>1</b>	<b>Applications</b> .....	<b>7</b>
Getting Started.....	1	Jumpmaster.....	7
Charging the Device.....	1	Planning a Jump.....	7
Keys.....	1	Jump Types.....	7
Sensors.....	1	Entering Jump Information.....	7
Viewing the Data Pages.....	1	Entering Wind Information for HAHO and HALO Jumps.....	8
Data Pages.....	1	Entering Wind Information for a Static Jump.....	8
Turning on a Sensor Mode.....	2	Constant Settings.....	8
Acquiring Satellite Signals and Recording a Track.....	2	VIRB™ Remote.....	8
Stopping GPS.....	3	Controlling a VIRB Action Camera.....	8
Profiles.....	3	Clock.....	8
Changing Profiles.....	3	Setting the Alarm.....	8
Creating a Custom Profile.....	3	Starting the Countdown Timer.....	8
Deleting a Profile.....	3	Using the Stopwatch.....	8
Restoring a Default Profile.....	3	Adding a Custom Time Zone.....	8
<b>Waypoints, Routes, and Tracks</b> .....	<b>3</b>	Editing a Custom Time Zone.....	8
Waypoints.....	3	Alerts.....	9
Creating a Waypoint.....	3	Setting a Proximity Alarm.....	9
Finding a Waypoint by Name.....	3	Calculating the Size of an Area.....	9
Finding Nearby Locations.....	3	Viewing the Almanacs.....	9
Editing a Waypoint.....	3	Viewing Satellite Information.....	9
Increasing the Accuracy of a Waypoint Location.....	3	Simulating a Location.....	9
Projecting a Waypoint.....	4	<b>Customizing Your Device</b> .....	<b>9</b>
Deleting a Waypoint.....	4	Setup Overview.....	9
Deleting All Waypoints.....	4	Customizing the Main Menu.....	10
Routes and Flight Plans.....	4	Customizing the Arrow Keys.....	10
Creating a Route.....	4	Customizing the Data Pages.....	10
Creating a Flight Plan.....	4	System Settings.....	10
Editing the Name of a Route.....	4	About UltraTrac.....	10
Editing a Route.....	4	Compass Settings.....	10
Viewing a Route on the Map.....	4	Setting the North Reference.....	10
Deleting a Route.....	4	Altimeter Settings.....	10
Reversing a Route.....	4	Setting the Device Tones.....	10
Tracks.....	4	Display Settings.....	11
Recording a Track.....	4	Map Settings.....	11
Saving the Current Track.....	5	Track Settings.....	11
Viewing Details about the Track.....	5	Time Settings.....	11
Clearing the Current Track.....	5	Changing the Units of Measure.....	11
Deleting a Track.....	5	Position Format Settings.....	11
Sending and Receiving Data Wirelessly.....	5	Fitness Settings.....	11
Garmin Adventures.....	5	Setting Your Fitness User Profile.....	11
<b>Navigation</b> .....	<b>5</b>	About Lifetime Athletes.....	11
Navigating to a Destination.....	5	Geocache Settings.....	11
Stopping Navigation.....	5	<b>Fitness</b> .....	<b>11</b>
Navigating to the Nearest Airport.....	5	Customizing Your Running or Cycling Profile.....	11
Navigating to an Airport by Identifier.....	5	Going for a Run.....	12
Navigating with Sight 'N Go.....	5	History.....	12
Compass.....	6	Viewing an Activity.....	12
Navigating with the Horizontal Situation Indicator.....	6	Saving an Activity as a Track.....	12
Calibrating the Compass.....	6	Deleting an Activity.....	12
Map.....	6	Using Garmin Connect.....	12
Browsing the Map.....	6	<b>ANT+ Sensors</b> .....	<b>12</b>
Navigating Using TracBack®.....	6	Pairing Your ANT+ Sensors.....	12
Altimeter and Barometer.....	6	tempe.....	12
Calibrating the Barometric Altimeter.....	6	Putting On the Heart Rate Monitor.....	12
Tracking Weather Changes Overnight.....	6	About Heart Rate Zones.....	13
Marking and Starting Navigation to a Man Overboard Location.....	7	Fitness Goals.....	13
<b>Geocaches</b> .....	<b>7</b>	Setting Your Heart Rate Zones.....	13
Downloading Geocaches.....	7	Tips for Erratic Heart Rate Data.....	13
Navigating to a Geocache.....	7	Heart Rate Monitor Battery.....	13
Logging the Attempt.....	7	Caring for the Heart Rate Monitor.....	13
chirp™.....	7	Foot Pod.....	13
		Setting the Foot Pod Mode.....	13
		Going for a Run Using a Foot Pod.....	14

Foot Pod Calibration .....	14
Calibrating Your Foot Pod by Distance .....	14
Calibrating Your Foot Pod by GPS .....	14
Calibrating Your Foot Pod Manually .....	14
Using an Optional Bike Cadence Sensor .....	14
<b>Device Information .....</b>	<b>14</b>
Viewing Device Information .....	14
Updating the Aviation Database .....	14
Updating the Software .....	14
Device Care .....	14
Cleaning the Device .....	14
Specifications .....	14
Battery Information .....	15
Data Management .....	15
File Types .....	15
Disconnecting the USB Cable .....	15
Deleting Files .....	15
Troubleshooting .....	15
Locking the Keys .....	15
Resetting Your Device .....	15
Resetting the Profile to Factory Settings .....	15
Clearing All Sensor Plot Data .....	15
Getting More Information .....	15
<b>Appendix .....</b>	<b>15</b>
Data Fields .....	15
Data Pages .....	17
Registering Your Device .....	17
Contacting Garmin Aviation Product Support .....	17
Software License Agreement .....	17
Heart Rate Zone Calculations .....	17
Altimeter and Barometric Readings .....	17
<b>Index .....</b>	<b>19</b>

# Introduction

## ⚠ WARNING

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

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

## Getting Started

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

- 1 Charge the device (*Charging the Device*, page 1).
- 2 Register the device (*Registering Your Device*, page 17).
- 3 Learn about the sensor data and modes (*Viewing the Data Pages*, page 1).
- 4 Acquire satellites and record a track (*Acquiring Satellite Signals and Recording a Track*, page 2).
- 5 Create a waypoint (*Creating a Waypoint*, page 3).

## Charging the Device

### NOTICE

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

The device is powered by a built-in lithium-ion battery that you can charge using a standard wall outlet or a USB port on your computer.

- 1 Plug the USB end of the cable into the AC adapter or a computer USB port.
- 2 Plug the AC adapter into a standard wall outlet.
- 3 Align the left side of the charging cradle ① with the groove on the left side of the device.



- 4 Align the hinged side of the charger ② with the contacts on the back of the device.  
When you connect the device to a power source, the device turns on.
- 5 Charge the device completely.

## Keys



①	💡	Select to turn the backlight on and off. Hold to turn the device on and off.
②	△ -D-	Select to scroll through the data pages, options, and settings. Hold to navigate to an airport by airport code ( <i>Navigating to an Airport by Identifier</i> , page 5).
③	▽ NRST	Select to scroll through the data pages, options, and settings. Hold to navigate to the nearest airport ( <i>Navigating to the Nearest Airport</i> , page 5).
④	↶	Select to return to the previous screen. Hold to view the status page.
⑤	Action key	Select to open the menu for the current screen. Select to choose an option and to acknowledge a message. Hold to mark a waypoint.

## Viewing the Status Page

You can quickly switch to this page to view the time of day, battery life, and GPS status information from any other page.

Hold ↶.



## Sensors

### Viewing the Data Pages




Customizable data pages allow you to quickly access real-time data from internal and connected sensors. When you begin tracking or navigating, additional data pages appear.



From the time of day page, select △ or ▽ to cycle through the data pages.







### Data Pages

The data pages available on your device vary based on the device mode. In low power mode, GPS is disabled, and the device does not record data. In tracking mode, GPS is enabled and sensor data is recorded to the track log, but you are not navigating to a destination. In navigation mode, you are navigating to a destination.

**NOTE:** Your body temperature affects the temperature and density altitude. To get the most accurate temperature reading, remove the device from your wrist and wait 20–30 minutes.

Low Power Mode	
	The compass page displays the time of day (1), direction of travel in degrees (2), and cardinal direction (3).
	The altimeter page displays the time of day (1), pressure altitude (2), and barometric pressure (3).
	The temperature page displays the time of day (1), temperature (2), and density altitude (3).

Tracking or Navigation Modes	
	The instruments page displays your ground speed (1), altitude (2), track over ground (3), and the vertical speed in feet per minute (4).
	The next waypoint page displays the waypoint name (1), bearing to the waypoint (2), distance to the waypoint (3), track over ground (4), and the estimated time to the next waypoint (5) (navigation mode only).

Tracking or Navigation Modes	
	The compass page displays the bearing to the nearest airport (1), compass ring (2), and direction of travel in degrees (3) (tracking mode only).
	The horizontal situation indicator (HSI) displays the course line pointer (1), bearing to the next waypoint (2), to-and-from indicator (3), and course deviation indicator (CDI) (4). The dots (5) indicate the distance of deviation (navigation mode only).
	The altimeter page displays the alert altitude (1) ( <a href="#">Setting the Altitude Alert</a> , page 2), pressure altitude (2), and barometric pressure (3).
	The temperature page displays the time of day (1), temperature (2), and density altitude (3).
	The map displays your current location and direction (1), the route to your next waypoint (2), and the bearing to your next waypoint (3).
	The nearest airport page displays the airport identifier (1), bearing to the airport (2), distance to the airport (3), track over ground (4), and the estimated time to the airport (5).

### Setting the Altitude Alert

You can set an alarm to vibrate when you reach a specified altitude.

**NOTE:** The altitude alert is not available in low power mode.

- 1 From the time of day page, select  $\nabla$  until the altimeter page appears.
- 2 Select the action key.
- 3 Select **Set Alert**.
- 4 Enter the altitude at which the alert is triggered.

### Setting the Barometric Pressure

You can manually enter the current barometric pressure. This can help to improve the accuracy of the pressure altitude reading.

- 1 From the time of day page, select  $\nabla$  until the altimeter page appears.
- 2 Select the action key.
- 3 Select **Set Baro.**
- 4 Enter the current barometric pressure.

### Turning on a Sensor Mode

The default sensor mode is on demand mode, which offers you quick access to compass, altimeter, barometer, or temperature data. You can also put the device in always on mode to display continuous sensor data.

**NOTE:** If you have an optional heart rate monitor or speed and cadence sensor paired with the device, your device can display continuous heart rate or speed and cadence data.

- 1 Select the action key.
- 2 Select **Setup > Sensors > Mode > Always On**.

## Acquiring Satellite Signals and Recording a Track

Before you can use the GPS navigation features, such as recording a track, you must acquire satellite signals.

The time and date are set automatically based on the GPS position.

- 1 Select the action key.
- 2 Select **Start GPS**.
- 3 Go to an area with a clear view of the sky and remain stationary while the device acquires satellite signals.
  - 📶 indicates the device acquired satellite signals successfully.
- 4 Walk around or travel to record a track. Your distance and time appear.
- 5 Select  $\nabla$  to view the loop of data pages.
- 6 Hold  $\leftarrow$ .

- 7 Select an option:
  - Select **Pause Track** to pause tracking.
  - Select **Save Track** to save your track.
  - Select **Clear Track** to erase the track without saving.
  - Select **Stop GPS** to turn off GPS without deleting your track.

## Stopping GPS

- 1 Select the action key.
- 2 Select **Stop GPS**.

## Profiles

A profile is a collection of settings that optimizes your device for a certain activity. For example, the data pages, settings, and views can appear differently when you use the device in an airplane than when you use it for hiking.

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

To use profiles on your device, you must add the Profiles menu option to the main menu (*Customizing the Main Menu*, page 10).

### Changing Profiles

When you change activities, you can quickly change the setup of the device to suit the activity by changing the profile.

- 1 Select the action key.
- 2 Select **Profiles**.
- 3 Select a profile.

The profile you selected is now the active profile. Any changes you make are saved to the active profile.

### Creating a Custom Profile

You can customize your settings and data fields for a particular activity or trip.

- 1 Select the action key.
- 2 Select **Setup > Profiles**.
- 3 Select an option:
  - Select a profile.
  - Select **Create New**, and select the new profile.

The profile you selected is now the active profile. The previous profile was saved.

- 4 If necessary, select **Edit**, and edit the name of the profile.
- 5 Customize your settings (*Customizing Your Device*, page 9) and data fields for the active profile.

Any changes you make are saved to the active profile.

### Deleting a Profile

If you accidentally delete a default profile, you can recreate the profile (*Restoring a Default Profile*, page 3).

- 1 Select the action key.
- 2 Select **Setup > Profiles**.
- 3 Select a profile.
- 4 Select **Delete > Yes**.

### Restoring a Default Profile

If you accidentally delete a default profile, you can restore the profile with default settings.

**NOTE:** Custom profiles cannot be restored.

- 1 Select the action key.
- 2 Select **Setup > Profiles**.
- 3 Select **Create New**, and select the new profile.

The new profile is the active profile. The previous profile is saved.

- 4 Select **Edit** and enter the default name of the profile you need to restore.
- 5 Reset the profile to default settings (*Resetting the Profile to Factory Settings*, page 15).

This resets the default settings on the current profile only.

# Waypoints, Routes, and Tracks

## Waypoints

Waypoints are locations you record and store in the device.

### Creating a Waypoint

You can save your current location as a waypoint.

- 1 Hold the action key.
- 2 Select an option:
  - To save the waypoint without changes, select **Save**.
  - To make changes to the waypoint, select **Edit**, make changes to the waypoint, and select **Save**.

### Finding a Waypoint by Name

- 1 Select the action key.
- 2 Select **Waypoints > Spell Search**.
- 3 Select the action key,  $\Delta$ , and  $\nabla$  to enter characters.
- 4 Select **\_ > Done**.
- 5 Select the waypoint.

### Finding Nearby Locations

- 1 Select the action key.
- 2 Select **Waypoints > Search Near**.
- 3 Select an option:
  - Select **Waypoints** to search near a waypoint.
  - Select **Cities** to search near a city.
  - Select **Current Loc** to search near your current location.

### Editing a Waypoint

Before you can edit a waypoint, you must create a waypoint.

- 1 Select the action key.
- 2 Select **Waypoints**.
- 3 Select a waypoint.
- 4 Select **Edit**.
- 5 Select an item to edit, such as the name.
- 6 Select the action key,  $\Delta$ , and  $\nabla$  to enter characters.
- 7 Select **\_ > Done**.

### Increasing the Accuracy of a Waypoint Location

You can refine a waypoint location for more accuracy. When averaging, the device takes several readings at the same location and uses the average value to provide more accuracy.

- 1 Select the action key.
- 2 Select **Waypoints**.
- 3 Select a waypoint.
- 4 Select **Average**.
- 5 Move to the waypoint location.
- 6 Select **Start**.
- 7 Follow the on-screen instructions.
- 8 When the confidence reaches 100%, select **Save**.

For best results, collect four to eight samples for the waypoint, waiting at least 90 minutes between samples.

## Projecting a Waypoint

You can create a new location by projecting the distance and bearing from a marked location to a new location.

- 1 Select the action key.
- 2 Select **Waypoints**.
- 3 Select a waypoint.
- 4 Select **Project**.
- 5 Follow the on-screen instructions.

The projected waypoint is saved with a default name.

## Deleting a Waypoint

- 1 Select the action key.
- 2 Select **Waypoints**.
- 3 Select a waypoint.
- 4 Select **Delete > Yes**.

## Deleting All Waypoints

- 1 Select the action key.
- 2 Select **Setup > Reset > Waypoints > Yes**.

## Routes and Flight Plans

A route is a sequence of waypoints or locations that leads you to your final destination. Flight plans are routes that use direct routing optimized for aviation. You can create flight plans on your device or by using the Garmin® Pilot application for mobile devices.

### Creating a Route

- 1 Select the action key.
- 2 Select **Routes > Create New**.
- 3 Select **First Point**.
- 4 Select a category.
- 5 Select the first point on the route.
- 6 Select **Next Point**.
- 7 Repeat steps 4–6 until the route is complete.
- 8 Select **Done** to save the route.

### Creating a Flight Plan

- 1 Select the action key.
- 2 Select **Flightplan > Create New**.
- 3 Select **First Point**.
- 4 Select a category.
- 5 Select the first point on the route.
- 6 Select **Next Point**.
- 7 Repeat steps 4–6 until the route is complete.
- 8 Select **Done** to save the route.

### Connecting to the Garmin Pilot App

You can use the Garmin Pilot app to create flight plans and send them to your device. The Garmin Pilot app is available for some mobile devices. See the application store for your mobile device for availability and compatibility information.

Your D2 Pilot Watch connects to the Garmin Pilot app using Bluetooth® Smart wireless technology. This requires an iPhone® 4S smartphone or newer, or an iPad® 3 mobile device or newer.

- 1 Select the action key.
- 2 Select **Share Data > Garmin Pilot**.
- 3 On your mobile device, start the Garmin Pilot app.

The Garmin Pilot app detects your device and connects to it automatically.

### Editing the Name of a Route

- 1 Select the action key.

- 2 Select **Routes**.

- 3 Select a route.

- 4 Select **Rename**.

- 5 Select the action key,  $\Delta$ , and  $\nabla$  to enter characters.

- 6 Select **\_ > Done**.

### Editing a Route

- 1 Select the action key.

- 2 Select **Routes**.

- 3 Select a route.

- 4 Select **Edit**.

- 5 Select a point.

- 6 Select an option:

- To view the point on the map, select **Map**.
- To change the order of the point on the route, select **Move Up** or **Move Down**.
- To insert an additional point on the route, select **Insert**.  
The additional point is inserted before the point you are editing.
- To add a point to the end of the route, select **Next Point**.
- To remove the point from the route, select **Remove**.

### Viewing a Route on the Map

- 1 Select the action key.

- 2 Select **Routes**.

- 3 Select a route.

- 4 Select **View Map**.

### Deleting a Route

- 1 Select the action key.

- 2 Select **Routes**.

- 3 Select a route.

- 4 Select **Delete > Yes**.

### Reversing a Route

- 1 Select the action key.

- 2 Select **Routes**.

- 3 Select a route.

- 4 Select **Reverse**.

## Tracks

A track is a recording of your path. The track log contains information about points along the recorded path, including time, location, and elevation for each point.

To work with tracks on your device, you must add the Tracks option to the main menu ([Customizing the Main Menu](#), page 10).

### Recording a Track

- 1 Select the action key.

- 2 Select **Start GPS**.

- 3 Wait while the device locates satellites.

- 4 Walk around to record a track.

Your distance and time appear.

- 5 Select  $\nabla$  to view the loop of data pages including compass data, altimeter data, ascent and speed, the map, and the time of day page.

You can customize the data pages ([Customizing the Data Pages](#), page 10).

- 6 Hold  $\leftarrow$ .

- 7 Select an option:

- Select **Pause Track** to pause tracking.



- Select **Save Track** to save your track.
- Select **Clear Track** to erase the track without saving.
- Select **Stop GPS** to turn off GPS without deleting your track.

### Saving the Current Track

- 1 Select the action key.
- 2 Select **Tracks > Current**.
- 3 Select an option:
  - To save the entire track, select **Save**.
  - To save part of the track, select **Save Part**, and select the part to save.

### Viewing Details about the Track

- 1 Select the action key.
- 2 Select **Tracks**.
- 3 Select a track.
- 4 Select **View Map**.  
The beginning and the end of the track are marked by flags.
- 5 Select **↶ > Details**.
- 6 Use **△** and **▽** to view information about the track.

### Clearing the Current Track

- 1 Select the action key.
- 2 Select **Tracks > Current > Clear**.

### Deleting a Track

- 1 Select the action key.
- 2 Select **Tracks**.
- 3 Select a track.
- 4 Select **Delete > Yes**.

## Sending and Receiving Data Wirelessly

Before you can share data wirelessly, you must be within 10 feet (3 m) of a compatible Garmin device.

Your device can send or receive data when connected to another compatible device. You can share waypoints, geocaches, routes, and tracks wirelessly.

- 1 Select the action key.
- 2 Select **Share Data > Unit to Unit**.
- 3 Select **Send** or **Receive**.
- 4 Follow the on-screen instructions.

## Garmin Adventures

You can create adventures to share your journeys with family, friends, and the Garmin community. Group related items together as an adventure. For example, you can create an adventure for your latest hiking trip. The adventure could contain the track log of the trip, photos of the trip, and geocaches you hunted. You can use BaseCamp™ to create and manage your adventures. For more information, go to <http://adventures.garmin.com>.

## Navigation

You can navigate flight plans, routes, or tracks, to an airport, or to any saved location in the device. You can use the map, the compass, or the horizontal situation indicator to navigate to your destination. To use some navigation options, you may have to change to another profile (*Changing Profiles, page 3*) or add options to the main menu (*Customizing the Main Menu, page 10*).

## Navigating to a Destination

Before you can navigate to a destination, you must enable GPS and acquire satellite signals (*Acquiring Satellite Signals and Recording a Track, page 2*).

- 1 Select the action key.
- 2 Select an option:
 

**NOTE:** Not all options are available in all profiles.

  - Select **Waypoints**.
  - Select **Tracks**.
  - Select **Routes**.
  - Select **Flightplan**.
  - Select **GPS Tools > Coordinates**.
  - Select **GPS Tools > POIs**.
  - Select **GPS Tools > Geocaches**.
- 3 Select a destination or enter information about the destination.
- 4 Select **Go**.



The device displays information about your next waypoint.

- 5 Select **△** or **▽** to view additional navigation data pages (*Viewing the Data Pages, page 1*).

### Stopping Navigation

- 1 Select the action key.
- 2 Select **Stop Nav..**

## Navigating to the Nearest Airport

- 1 Hold **NRST**.  
A list of the nearest airports appears.
- 2 Select an airport.

## Navigating to an Airport by Identifier

You can navigate directly to an airport by searching for the airport identifier.

- 1 Hold **-D-**.
- 2 Enter all or part of the alphanumeric airport identifier and select the action key.  
A list of matching airports appears.
- 3 Select the airport.

## Navigating with Sight 'N Go

You can point the device at an object in the distance, such as a water tower, lock in the direction, and then navigate to the object.

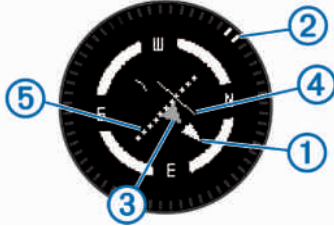
- 1 Select the action key.
- 2 Select **GPS Tools > Sight 'N Go**.
- 3 Point the top mark on the bezel at an object.
- 4 Select the action key.
- 5 Select an option:
  - Select **Set Course** to navigate to the distant object.
  - Select **Project** (*Projecting a Waypoint, page 4*).
- 6 Navigate using the compass (*Compass, page 6*) or map (*Map, page 6*).

## Compass

The device has a 3-axis compass with automatic calibration. The compass features and appearance change depending on the profile you are using ([Changing Profiles, page 3](#)), whether GPS is enabled, and whether you are navigating to a destination. You can also manually change the compass settings ([Compass Settings, page 10](#)).

### Navigating with the Horizontal Situation Indicator

1 While navigating, from the time of day page, select ▾.



①	Course line pointer. Indicates the direction of the desired course line from your starting point to your next waypoint.
②	Bearing indicator. Indicates the bearing to your next waypoint.
③	To-and-from indicator. Indicates whether you are headed to or from the waypoint.
④	Course deviation indicator (CDI). Indicates the location of the desired course line in relation to your location.
⑤	Course deviation distance. The dots indicate your distance off course.

**TIP:** You can select the action key to adjust the scale.

2 Change your direction until the bearing indicator is aligned with the painted mark at the top of watch bezel to move toward your next waypoint.

**TIP:** If the to-and-from indicator points opposite the course line pointer, you are moving away from your next waypoint.

3 Continue toward your next waypoint.

The course deviation indicator moves toward the course line pointer. When the course deviation indicator is fully aligned with the course line pointer, you are on the selected course to your next waypoint.

### Calibrating the Compass

#### NOTICE

Calibrate the electronic compass outdoors. To improve heading accuracy, do not stand near objects that influence magnetic fields, such as vehicles, buildings, and overhead power lines.

Your device was already calibrated at the factory, and the device uses automatic calibration by default. If you experience irregular compass behavior, for example, after moving long distances or after extreme temperature changes, you can manually calibrate the compass.

- 1 Select the action key.
- 2 Select **Setup > Sensors > Compass > Calibrate > Start**.
- 3 Follow the on-screen instructions.

## Map

▲ represents your location on the map. As you travel, the icon moves and leaves a track log (trail). Waypoint names and symbols appear on the map. When you are navigating to a destination, your route is marked with a line on the map.

- Map navigation ([Browsing the Map, page 6](#))
- Map settings ([Map Settings, page 11](#))

### Browsing the Map

- 1 While navigating, select △ to view the map.
- 2 Select the action key.

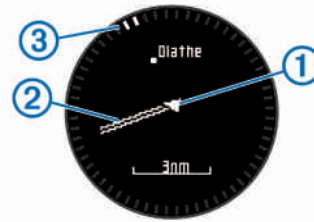
3 Select an option:

- To pan up or down, select **Pan**, and select △ or ▽.
- To pan right or left, select **Pan** > ↶, and select △ or ▽.
- To navigate to a saved location, select **Pan**, select the action key, and select **Select Pt.**
- To zoom in or out, select **Zoom**, and select △ or ▽.

### Navigating Using TracBack®

While navigating, you can navigate back to the beginning of your track. This can be helpful when finding your way back to camp or the trail head.

- 1 Select the action key.
- 2 Select **Tracks > Current > TracBack**.



Your current location ①, track to follow ②, and end point ③ appear on the map.

## Altimeter and Barometer

The device contains an internal altimeter and barometer.

- On Demand sensor data ([Viewing the Data Pages, page 1](#))
- Always On sensor data ([Turning on a Sensor Mode, page 2](#))
- Altimeter settings ([Altimeter Settings, page 10](#))
- Altimeter and barometric readings ([Altimeter and Barometric Readings, page 17](#))

### Calibrating the Barometric Altimeter

Your device was already calibrated at the factory, and the device uses automatic calibration at your GPS starting point by default. You can manually calibrate the barometric altimeter if you know the correct elevation or the correct sea level pressure.

- 1 Select the action key.
- 2 Select **Setup > Sensors > Altimeter**.
- 3 Select an option:
  - Select **Auto Cal. > At Start** to calibrate automatically from your GPS starting point.
  - Select **Auto Cal. > Continuous** to calibrate automatically with periodic GPS calibration updates.
  - Select **Calibrate** to enter the current elevation or sea-level pressure.

### Tracking Weather Changes Overnight

You can use your device to track changes in barometric pressure over time. Increases in barometric pressure usually indicate good weather, and decreases in barometric pressure usually indicate bad weather.

- 1 Select the action key.
- 2 Select **Setup > Sensors > Mode > Always On**.
- 3 Select ↶ repeatedly to return to the time of day page.
- 4 Select △ repeatedly until the barometric data page appears.

The current barometric pressure appears in large numbers, and the range of previous readings for the graph shown appears in small numbers at the bottom of the page.
- 5 Compare the current reading with earlier readings to see if the barometric pressure is increasing or decreasing.

## Marking and Starting Navigation to a Man Overboard Location

You can save a man overboard (MOB) location, and automatically start navigation back to it. You can customize the hold function of the  $\triangle$  or  $\nabla$  key to access the MOB function quickly (*Customizing the Arrow Keys, page 10*).

- 1 Select the action key.
- 2 Select **GPS Tools > MOB > Start**.  
The map page opens showing the route to the MOB location.
- 3 Navigate using the compass (*Compass, page 6*) or map (*Map, page 6*).

## Geocaches

A geocache is like a hidden treasure. Geocaching is when you hunt for hidden treasures using GPS coordinates posted online by those hiding the geocache.

### Downloading Geocaches

- 1 Connect your device to a computer using the USB cable.
- 2 Go to [www.opencaching.com](http://www.opencaching.com).
- 3 If necessary, create an account.
- 4 Sign in.
- 5 Follow the on-screen instructions to find and download geocaches to your device.

### Navigating to a Geocache

Before you can navigate to a geocache, you must go to [www.opencaching.com](http://www.opencaching.com), and download a geocache to your device.

Navigating to a geocache is like navigating to any other location.

- See the navigation section (*Navigating to a Destination, page 5*) for more information.
- Go to the profiles section (*Creating a Custom Profile, page 3*) to create a profile for geocaching.
- Go to the geocache settings (*Geocache Settings, page 11*) to customize your device settings.
- Go to the data pages section (*Customizing the Data Pages, page 10*) to customize your data fields.

### Logging the Attempt

After you have attempted to find a geocache, you can log your results.

- 1 Select the action key.
- 2 Select **GPS Tools > Geocaches > Log Attempt**.
- 3 Select **Found**, **Did Not Find**, or **Unattempted**.
- 4 Select an option:
  - To begin navigation to a geocache nearest you, select **Find Next**.
  - To end the logging, select **Done**.

### chirp™

A chirp is a small Garmin accessory that is programmed and left in a geocache. You can use your device to find a chirp in a geocache. For more information about the chirp, see the *chirp Owner's Manual* at [www.garmin.com](http://www.garmin.com).

### Finding a Geocache with a chirp Device

- 1 Select the action key.
- 2 Select **Setup > Geocaches > chirp > On**.
- 3 Hold  $\leftarrow$ .
- 4 Select **Start GPS**.

- 5 Wait while the device locates satellites.
- 6 Select the action key.
- 7 Select **GPS Tools > Geocaches**.
- 8 Select a geocache, and select **chirp** to show chirp details while you are navigating.
- 9 Select **Go**, and navigate to the geocache (*Navigating to a Destination, page 5*).

When you are within 33 ft. (10 m) of the geocache that contains a chirp device, a message appears.

## Applications

To use some applications, you must add the application or the GPS Tools option to the main menu (*Customizing the Main Menu, page 10*).

### Jumpmaster

The jumpmaster feature is designed for experienced skydivers, particularly those in the military.

The jumpmaster feature follows military guidelines for calculating the high altitude release point (HARP). The device detects automatically when you have jumped to begin navigating toward the desired impact point (DIP) using the barometer and electronic compass.

### Planning a Jump

#### WARNING

Jumpmaster is for use by experienced skydivers only. Jumpmaster should not be used as a primary skydiving altimeter. Failure to input the appropriate jump related information into Jumpmaster can lead to serious personal injury or death.

- 1 Select a jump type (*Jump Types, page 7*).
- 2 Enter the jump information (*Entering Jump Information, page 7*).  
The device calculates the HARP.
- 3 Select **GOTO HARP** to start navigation to the HARP.

### Jump Types

The jumpmaster feature allows you to set the jump type to one of three types: HAHO, HALO, or Static. The jump type selected determines what additional setup information is required (*Entering Jump Information, page 7*). For all jump types, drop altitudes and opening altitudes are measured in feet above ground level (AGL).

**HAHO:** High Altitude High Opening. The jumpmaster jumps from a very high altitude and opens the parachute at a high altitude. You must set a DIP and a drop altitude of at least 1,000 feet. The drop altitude is assumed to be the same as the opening altitude. Common values for a drop altitude range from 12,000 to 24,000 feet AGL.

**HALO:** High Altitude Low Opening. The jumpmaster jumps from a very high altitude and opens the parachute at a low altitude. The required information is the same as the HAHO jump type, plus an opening altitude. The opening altitude must not be greater than the drop altitude. Common values for an opening altitude range from 2,000 to 6,000 feet AGL.

**Static:** The wind speed and direction are assumed to be constant for the duration of the jump. The drop altitude must be at least 1,000 feet.

### Entering Jump Information

- 1 Select the action key.
- 2 Select **Jumpmaster**.
- 3 Select a jump type (*Jump Types, page 7*).

#### 4 Complete one or more actions to enter your jump information:

- Select **DIP** to set a waypoint for the desired landing location.
- Select **Drop Alt** to set the drop altitude AGL (in feet) when the jumpmaster exits the aircraft.
- Select **Open Alt** to set the open altitude AGL (in feet) when the jumpmaster opens the parachute.
- Select **FWD Throw** to set the horizontal distance traveled (in meters) due to aircraft speed.
- Select **Crs to HARP** to set the direction traveled (in degrees) due to aircraft speed.
- Select **Wind** to set the wind speed (in knots) and direction (in degrees).
- Select **Constant** to fine-tune some information for the planned jump. Depending on the jump type, you can select **Percent Max**, **Safety Fctr**, **K-Open**, **K-Freefall**, or **K-Static** and enter additional information (*Constant Settings, page 8*).
- Select **Auto to DIP** to enable navigation to the DIP automatically after you jump.
- Select **GOTO HARP** to start navigation to the HARP.

#### Entering Wind Information for HAHO and HALO Jumps

- 1 Select the action key.
- 2 Select **Jumpmaster**.
- 3 Select a jump type (*Jump Types, page 7*).
- 4 Select **Wind > Add**.
- 5 Select an altitude.
- 6 Enter a wind speed in knots and select **Done**.
- 7 Enter a wind direction in degrees and select **Done**.  
The wind value is added to the list. Only wind values included in the list are used in calculations.
- 8 Repeat steps 5–7 for each available altitude.

#### Resetting Wind Information

- 1 Select the action key.
- 2 Select **Jumpmaster**.
- 3 Select **HAHO** or **HALO**.
- 4 Select **Wind > Reset**.

All wind values are removed from the list.

#### Entering Wind Information for a Static Jump

- 1 Select the action key.
- 2 Select **Jumpmaster > Static > Wind**.
- 3 Enter a wind speed in knots and select **Done**.
- 4 Enter a wind direction in degrees and select **Done**.

#### Constant Settings

Select **Jumpmaster**, select a jump type, and select **Constant**.

**Percent Max:** Sets the jump range for all jump types. A setting less than 100% decreases the drift distance to the DIP, and a setting greater than 100% increases the drift distance. More experienced jumpmasters may want to use smaller numbers, and less experienced skydivers may want to use larger numbers.

**Safety Fctr:** Sets the margin of error for a jump (HAHO only). Safety factors are usually integer values of two or greater, and are determined by the jumpmaster based on specifications for the jump.

**K-Freefall:** Sets the wind drag value for a parachute during freefall, based on the parachute canopy rating (HALO only). Each parachute should be labeled with a K value.

**K-Open:** Sets the wind drag value for an open parachute, based on the parachute canopy rating (HAHO and HALO). Each parachute should be labeled with a K value.

**K-Static:** Sets the wind drag value for a parachute during a static jump, based on the parachute canopy rating (Static only). Each parachute should be labeled with a K value.

#### VIRB™ Remote

The VIRB remote function allows you to control your VIRB action camera from a distance. Go to [www.garmin.com/VIRB](http://www.garmin.com/VIRB) to purchase a VIRB action camera.

#### Controlling a VIRB Action Camera

Before you can use the VIRB remote function on your device, you must enable the remote setting on your VIRB camera. See the owner's manual for your VIRB camera for more information.

- 1 Turn on your VIRB camera.
- 2 From your device, select the action key, and select **VIRB Remote**.
- 3 Wait while the device connects to your VIRB camera.
- 4 Select an option:
  - To record video, select  $\triangle$ .
  - To stop recording video, select  $\nabla$ .
  - To take a photo, select the action key.

#### Clock

##### Setting the Alarm

- 1 Select the action key.
- 2 Select **Clock > Alarm Clock > Add Alarm**.
- 3 Select the action key,  $\triangle$ , and  $\nabla$  to set the time.
- 4 Select **Tone**, **Vibration**, or **Tone & Vib..**
- 5 Select **Once**, **Daily**, or **Weekdays**.

##### Starting the Countdown Timer

- 1 Select the action key.
- 2 Select **Clock > Timer**.
- 3 Select the action key,  $\triangle$ , and  $\nabla$  to set the time.
- 4 If necessary, select **Notification**, and select a type of notification.
- 5 Select **Start**.

##### Using the Stopwatch

- 1 Select the action key.
- 2 Select **Clock > Stopwatch**.
- 3 Select **Start**.

##### Adding a Custom Time Zone

- 1 Select the action key.
- 2 Select **Clock > Alt. Zones > Add Zone**.
- 3 Select a time zone.

The custom time zone page is added to the current profile.

##### Editing a Custom Time Zone

- 1 Select the action key.
- 2 Select **Clock > Alt. Zones**.
- 3 Select a time zone.
- 4 Select an option:
  - To change the time zone, select **Edit Zone**.
  - To customize the name of the time zone, select **Edit Label**.
  - To delete the time zone from the quick page loop, select **Delete > Yes**.

## Alerts

You can set the device to alert you in many different situations where your awareness of the surrounding conditions or other data is important. There are three types of alerts: event alerts, range alerts, and recurring alerts.

**Event alert:** An event alert notifies you once. The event is a specific value. For example, you can set the device to alert you when you reach a specified elevation.

**Range alert:** A range alert notifies you any time the device is above or below a specified range of values. For example, you can set the device to alert you when your heart rate is below 60 beats per minute (bpm) and over 210 bpm.

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

Alert Name	Alert Type	Description
Proximity	Recurring	See <a href="#">Setting a Proximity Alarm, page 9</a> .
Distance	Event, recurring	You can set an interval or a custom distance from your final destination.
Time	Event, recurring	You can set an interval or a custom time from your estimated time of arrival.
Elevation	Event, range, recurring	You can set minimum and maximum elevation values. You can also set the device to alert you when you ascend or descend a specified amount.
Nav. Arrival	Event	You can set alerts for reaching waypoints and the final destination of a track or route.
Speed	Range	You can set minimum and maximum speed values.
Pace	Range	You can set minimum and maximum pace values.
Heart Rate	Range	You can set minimum and maximum heart rate values or select zone changes. See <a href="#">About Heart Rate Zones, page 13</a> and <a href="#">Heart Rate Zone Calculations, page 17</a> .
Cadence	Range	You can set minimum and maximum cadence values.
Battery	Event	You can set a low battery power alert.

### Setting a Proximity Alarm

Proximity alarms alert you when you are within a specified range of a particular location.

- 1 Select the action key.
- 2 Select **Alerts > Proximity > Edit > Create New**.
- 3 Select a location.
- 4 Enter a radius.
- 5 Select **Done**.

### Calculating the Size of an Area

Before you can calculate the size of an area, you must acquire satellites.

- 1 Select the action key.
- 2 Select **GPS Tools > Area Calc.**
- 3 Walk around the perimeter of the area.
- 4 When you are finished, select the action key to calculate the area.
- 5 Select an option:
  - Select **Save Track**, enter a name, and select **Done**.
  - Select **Change Units** to convert the area to a different unit.
  - Select ↶ to exit without saving.

## Viewing the Almanacs

You can view almanac information for the sun and moon, and hunting and fishing.

- 1 Select the action key.
- 2 Select an option:
  - To view the sunrise, sunset, moonrise, and moonset information, select **GPS Tools > Sun & Moon**.
  - To view the predicted best times for hunting and fishing, select **GPS Tools > Hunt & Fish**.
- 3 If necessary, select △ or ▽ to view a different day.

## Viewing Satellite Information

The satellite page shows your current location, GPS accuracy, satellite locations, and signal strength.

- 1 Select the action key.
- 2 Select **Start GPS**.
- 3 Select the action key.
- 4 Select **GPS Tools > Satellite**.
- 5 Select ▽ to view additional information.

### Simulating a Location

When you are planning routes or activities in a different area, you can turn off GPS and simulate a different location.

- 1 Select the action key.
- 2 Select **Setup > System > GPS Mode > Demo Mode**.
- 3 Select a location.
- 4 Select **Go > Move to Location**.

## Customizing Your Device

### Setup Overview

The Setup menu contains many ways to customize your device. Garmin recommends that you familiarize yourself with the settings for each feature. If you customize your settings before your activity, you will spend less time adjusting the watch during your activity. To open the Setup menu, select the action key, and select Setup.

**NOTE:** All changes you make are saved to the active profile ([Changing Profiles, page 3](#)).

Setup Item	Available Settings and Information
System	You can customize GPS settings, arrow keys, and the device language ( <a href="#">System Settings, page 10</a> ).
Data Pages	You can customize data pages and data fields ( <a href="#">Customizing the Data Pages, page 10</a> ).
Sensors	You can customize the compass ( <a href="#">Compass Settings, page 10</a> ) and altimeter ( <a href="#">Altimeter Settings, page 10</a> ) settings.
ANT Sensor	You can set up wireless accessories such as the heart rate monitor or tempe™ ( <a href="#">ANT+ Sensors, page 12</a> ).
Tones	You can customize the tones and vibrations ( <a href="#">Setting the Device Tones, page 10</a> ).
Display	You can adjust the backlight and screen contrast ( <a href="#">Display Settings, page 11</a> ).
Reset	You can clear the trip data, sensor plots ( <a href="#">Clearing All Sensor Plot Data, page 15</a> ), waypoints, or track log, or you can reset all of your settings ( <a href="#">Resetting the Profile to Factory Settings, page 15</a> ).
Map	You can customize the map orientation and how items appear on the map ( <a href="#">Map Settings, page 11</a> ).
Tracks	You can customize the track recording settings ( <a href="#">Track Settings, page 11</a> ).
Time	You can customize the appearance of the time page ( <a href="#">Time Settings, page 11</a> ).

Setup Item	Available Settings and Information
Units	You can change the units of measure for data such as distance, elevation, and temperature ( <i>Changing the Units of Measure, page 11</i> ).
Pos. Format	You can change how your position data appears ( <i>Position Format Settings, page 11</i> ).
Profiles	You can change the active profile and edit your profiles ( <i>Changing Profiles, page 3</i> ).
Fitness	You can turn on Auto Lap, customize your fitness user profile, and edit your heart rate zones ( <i>Fitness Settings, page 11</i> ).
Geocaches	You can customize how your geocaches are listed and activate chirp ( <i>Geocache Settings, page 11</i> ).
Menu	You can customize the items that appear in the main menu ( <i>Customizing the Main Menu, page 10</i> ).
About	You can view information about the device and software ( <i>Viewing Device Information, page 14</i> ).

## Customizing the Main Menu

You can add, delete, or move items in the main menu.

- 1 Select the action key.
- 2 Select **Setup > Menu**.
- 3 Select a menu item.
- 4 Select an option:
  - Select **Move Up** or **Move Down** to change the location of the item in the list.
  - Select **Remove** to delete an item from the list.
  - Select **Insert** to add an item to the list.

## Customizing the Arrow Keys

You can customize the hold function of  $\triangle$  and  $\nabla$  and  $\curvearrowright$  for your activity. For example, if the hiking profile is active, you can customize the hold  $\nabla$  function to start and stop the timer.

- 1 Select the action key.
- 2 Select **Setup > System > Hot Keys**.
- 3 Select an option:
  - Select **Hold Up** to set the function performed when you hold  $\triangle$ .
  - Select **Hold Down** to set the function performed when you hold  $\nabla$ .
  - Select **Data Page Back** to set the function performed when you select  $\curvearrowright$ .
  - Select **Data Page Up** to set the function performed when you select  $\triangle$ .
  - Select **Data Page Down** to set the function performed when you select  $\nabla$ .

**NOTE:** The available options depend on the current profile.

## Customizing the Data Pages

You can customize the data pages for each profile. The organization and appearance of data pages depends on the active profile and the mode.

- 1 Select the action key.
- 2 Select **Setup > Data Pages**.
- 3 Select a mode.
- 4 Select **Add Page** and follow the on-screen instructions to add a new page (optional).
- 5 Select a page to edit data fields.
- 6 Select an option:
  - Select **Edit**, and change the data fields.
  - Select **Move Up** or **Move Down** to change the order of the data pages.

- Select **Delete** to remove the data page from the page loop.

## System Settings

Select **Setup > System**.

**GPS Mode:** Sets the GPS to Normal, UltraTrac (*About UltraTrac, page 10*), Indoor, or Demo Mode (GPS off).

**WAAS:** Sets the device to use Wide Area Augmentation System (WAAS) GPS signals. For information about WAAS, go to [www.garmin.com/aboutGPS/waas.html](http://www.garmin.com/aboutGPS/waas.html).

**Hot Keys:** Allows you to customize the hold function of the arrow keys (*Customizing the Arrow Keys, page 10*).

**Language:** Sets the text language on the device.

**NOTE:** Changing the text language does not change the language of user-entered data or map data.

## About UltraTrac

UltraTrac is a GPS setting that records track points less frequently than normal GPS mode in order to save battery. The default interval between track points is one point per minute. You can adjust the interval.

## Compass Settings

Select **Setup > Sensors > Compass**.

**Display:** Sets the directional heading on the compass to degrees or milli-radians.

**North Ref.:** Sets the north reference of the compass (*Setting the North Reference, page 10*).

**Mode:** Sets the compass to use either a combination of GPS and the electronic sensor data when moving (Auto) or GPS data only (Off).

**Calibrate:** Allows you to manually calibrate the compass sensor (*Calibrating the Compass, page 6*).

## Setting the North Reference

You can set the directional reference used in calculating heading information.

- 1 Select the action key.
- 2 Select **Setup > Sensors > Compass > North Ref.**
- 3 Select an option:
  - To set geographic north as the heading reference, select **True**.
  - To set the magnetic declination for your location automatically, select **Magnetic**.
  - To set grid north (000°) as the heading reference, select **Grid**.
  - To set the magnetic variation value manually, select **User**, enter the magnetic variance, and select **Done**.

## Altimeter Settings

Select **Setup > Sensors > Altimeter**.

**Auto Cal.:** Allows the altimeter to self-calibrate each time you turn on GPS tracking.

**Baro. Plot:** Variable records changes in elevation while you are moving. Fixed assumes the device is stationary at a fixed elevation. Therefore, the barometric pressure should only change due to weather. Amb. Press. records ambient pressure changes over a period of time.

**Elev. Plot:** Sets the device to record elevation changes over a period of time or distance.

## Setting the Device Tones

You can customize tones for messages and keys.

- 1 Select the action key.
- 2 Select **Setup > Tones**.

3 Select **Messages** or **Keys**.

4 Select an option.

## Display Settings

Select **Setup > Display**.

**Backlight:** Adjusts the backlight level and the length of time before the backlight turns off.

**Contrast:** Adjusts the screen contrast.

## Map Settings

Select **Setup > Map**.

**Orientation:** Adjusts how the map is shown on the page. North Up shows North at the top of the page. Track Up shows your current direction of travel toward the top of the page.

**Auto Zoom:** Automatically selects the appropriate zoom level for optimal use on your map. When Off is selected, you must zoom in or out manually.

**Points:** Selects the zoom level for points on the map.

**Track Log:** Allows you to show or hide tracks on the map.

**Go To Line:** Allows you to select how the course appears on the map.

## Track Settings

Select **Setup > Tracks**.

**Method:** Selects a track recording method. Auto records the tracks at a variable rate to create an optimum representation of your tracks. If you select Distance or Time, you can set the interval rate manually.

**Interval:** Allows you to set the track log recording rate. Recording points more frequently creates a more-detailed track, but it fills the track log faster.

**Auto Start:** Sets the device to record your track automatically when you select Start GPS.

**Auto Save:** Sets the device to automatically save your track when you turn off GPS.

**Auto Pause:** Sets the device to stop recording your track when you are not moving.

### Output

**Output:** Sets the device to save the track as a GPX, FIT, or a GPX/FIT file (*File Types, page 15*).

- GPX records a traditional track that allows you to perform GPS functions with the track such as navigation and routes.
- FIT records additional information such as lap data and is used to record a track greater than 10,000 points. FIT files can be uploaded to Garmin Connect™ and are much more compact than GPX files.
- GPX/FIT allows you to output both file types.

## Time Settings

Select **Setup > Time**.

**Time Page:** Allows you to customize the appearance of the time of day.

**Format:** Allows you to select a 12-hour or a 24-hour display time.

**Time Zone:** Allows you to select the time zone for the device. You can select Auto to set the time zone automatically based on your GPS position.

## Changing the Units of Measure

You can customize units of measure for distance and speed, elevation, depth, temperature, and pressure.

1 Select the action key.

2 Select **Setup > Units**.

3 Select a measurement type.

4 Select a unit of measure.

## Position Format Settings

**NOTE:** Do not change the position format or the map datum coordinate system unless you are using a map or chart that specifies a different position format.

Select **Setup > Pos. Format**.

**Format:** Sets the position format in which a given location reading appears.

**Datum:** Sets the coordinate system on which the map is structured.

**Spheroid:** Shows the coordinate system the device is using. The default coordinate system is WGS 84.

## Fitness Settings

Select **Setup > Fitness**.

**Auto Lap:** Sets the device to automatically mark the lap at a specific distance.

**User:** Sets the user profile information (*Setting Your Fitness User Profile, page 11*).

**HR Zones:** Sets the five heart rate zones for fitness activities (*Setting Your Heart Rate Zones, page 13*).

**FIT Activity:** Sets the type of fitness activity being performed. This allows your activity type to appear correctly when you transfer your activity data to Garmin Connect.

**Foot Pod Speed:** Sets the speed to Off, Indoor, and Always On (*Going for a Run Using a Foot Pod, page 14*).

### Setting Your Fitness User Profile

The device uses information that you enter about yourself to calculate accurate data. You can modify the following user profile information: gender, age, weight, height, and lifetime athlete (*About Lifetime Athletes, page 11*).

- 1 Select the action key.
- 2 Select **Setup > Fitness > User**.
- 3 Modify the settings.

### About Lifetime Athletes

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

## Geocache Settings

Select **Setup > Geocaches**.

**List:** Allows you to display the geocache list by names or codes.

**chirp:** Turns chirp searching on or off (*chirp™, page 7*).

## Fitness

### Customizing Your Running or Cycling Profile

There are many ways to customize your device for ease of use while running or cycling. You can access the settings menu using the action key.

- Select **Setup > Tracks > Auto Pause** to turn on Auto Pause® (*Track Settings, page 11*).
- Select **Setup > Tracks > Output** to set your output format if you plan to manage your fitness activities using Garmin Connect (*Track Settings, page 11*).
- Select **Setup > Data Pages** to customize the data fields and to change the order of the data pages (*Customizing the Data Pages, page 10*).

- Select **Setup > Units** to change units of measurement. For example, you can record your biking distance in kilometers instead of miles.
- Customize the hold function of your arrow keys for your activity (*Customizing the Arrow Keys*, page 10).
- Select **Setup > Fitness > Auto Lap** to set your lap distance. The default distance is 1 mi (1.60 km).
- Enter your fitness user profile information (*Setting Your Fitness User Profile*, page 11) and heart rate zones (*Setting Your Heart Rate Zones*, page 13) to obtain accurate calorie measurements.

## Going for a Run

Before you go for a run, you must change the profile to running (*Changing Profiles*, page 3).

- 1 Select the action key.
- 2 Select **Start GPS**.
- 3 Wait while the device locates satellites.
- 4 Hold  $\Delta$  to start the timer.
- 5 Start running.  
You can hold  $\Delta$  to pause and resume your run. You can hold  $\nabla$  to mark a lap.
- 6 Select the action key.
- 7 Select **Stop GPS** to finish your run.  
The device automatically saves your run.

## History

History includes date, time, distance, calories, average speed or pace, ascent, descent, and optional ANT+™ sensor information.

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

When the device memory is full, a message appears. The device does not automatically delete or overwrite your history. You can upload your history to Garmin Connect (*Using Garmin Connect*, page 12) or BaseCamp (*Garmin Adventures*, page 5) periodically to keep track of all your activity data.

### Viewing an Activity

You can view the history or a map of your fitness activity.

- 1 Select the action key.
- 2 Select **FIT History**.  
A list of your activities appears by date.
- 3 Select an activity.
- 4 Select **Details** or **View Map**.

### Saving an Activity as a Track

You can save an activity as a track using GPS. This allows you to perform GPS functions with the activity, such as navigation and routes.

- 1 Select the action key.
- 2 Select **FIT History**.
- 3 Select an activity.
- 4 Select **Save as Track**.

### Deleting an Activity

- 1 Select the action key.
- 2 Select **FIT History**.
- 3 Select an activity.
- 4 Select **Delete > Yes**.

### Using Garmin Connect

- 1 Connect the device to your computer using the USB cable.
- 2 Go to [www.garminconnect.com/start](http://www.garminconnect.com/start).

- 3 Follow the on-screen instructions.

## ANT+ Sensors

The device is compatible with these optional, wireless ANT+ accessories.

- Heart rate monitor (*Putting On the Heart Rate Monitor*, page 12)
- GSC™ 10 speed and cadence sensor (*Using an Optional Bike Cadence Sensor*, page 14)
- tempe wireless temperature sensor (*tempe*, page 12)

For information about compatibility and purchasing additional 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 with range (3 m) of the sensor.  
**NOTE:** Stay 10 m away from other ANT+ sensors while pairing.
- 2 Select the action key.
- 3 Select **Setup > ANT Sensor**.
- 4 Select your sensor.
- 5 Select **New Search**.

When the sensor is paired with your device, the sensor status changes from Searching to Connected. Sensor data appears in the data page loop or a custom data field.

## tempe

The tempe is an ANT+ wireless temperature sensor. You can attach the sensor to a secure strap or loop where it is exposed to ambient air, and therefore, provides a consistent source of accurate temperature data. You must pair the tempe with your device to display temperature data from the tempe.

## Putting On the Heart Rate Monitor

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

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

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



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



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



The Garmin logo should be right-side up.

**5** Bring the device within range (3 m) of the heart rate monitor.

After you put on the heart rate monitor, it is on standby and ready to send data.

**TIP:** If the heart rate data is erratic or does not appear, see [Tips for Erratic Heart Rate Data, page 13](#).

### 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 17](#)) 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.

### Setting Your Heart Rate Zones

Before the device can determine your heart rate zones, you must set up your fitness user profile ([Setting Your Fitness User Profile, page 11](#)).

You can manually adjust the heart rate zones according to your fitness goals ([Fitness Goals, page 13](#)).

- 1 Select the action key.
- 2 Select **Setup > Fitness > HR Zones**.
- 3 Enter the maximum and minimum heart rate for zone 5.
- 4 Enter your minimum heart rate for zones 4-1.

The maximum heart rate for each zone is based on the minimum heart rate of the previous zone. For example, if you enter 167 as a minimum heart rate for zone 5, the device uses 166 as the maximum rate for zone 4.

### Tips for Erratic Heart Rate Data

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

- Reapply moisture to the electrodes and contact patch. You can use water, saliva, or electrode gel.
- Tighten the strap on your chest.
- Warm up for 5–10 minutes.
- Wash the strap after every seven uses ([Caring for the Heart Rate Monitor, page 13](#)).

- Wear a cotton shirt or wet your shirt if suitable for your activity.

Synthetic fabrics that rub or flap against the heart rate monitor can create static electricity that interferes with heart rate signals.

- Move away from sources that can interfere with your heart rate monitor.

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

- Replace the battery ([Replacing the Heart Rate Monitor Battery, page 13](#)).

### Heart Rate Monitor Battery

#### ⚠ WARNING

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

Contact your local waste disposal department to properly recycle the batteries. Perchlorate Material – special handling may apply. Go to [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).

#### Replacing the Heart Rate Monitor Battery

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



- 3 Wait 30 seconds.
- 4 Insert the new battery with the positive side facing up.  
**NOTE:** Do not damage or lose the O-ring gasket.
- 5 Replace the back cover and the four screws.  
**NOTE:** Do not overtighten.

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

### Caring for the Heart Rate Monitor

#### NOTICE

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

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

- Go to [www.garmin.com/HRMcare](http://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.

### 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.

#### Setting the Foot Pod Mode

You can set your device to use foot pod data instead of GPS data to calculate pace.

- 1 Select the action key.
- 2 Select **Setup > Fitness > Foot Pod Speed**.

3 Select an option:

- Select **Indoor** when you are training indoors without GPS.
- Select **Always On** when training outdoors, when your GPS signal is weak, or when you lose satellite signals.

### Going for a Run Using a Foot Pod

Before you go for a run, you must change the profile to running (*Changing Profiles, page 3*), and pair the foot pod with your device (*Pairing Your ANT+ Sensors, page 12*).

When your device can not acquire satellite signals, such as when running indoors on a treadmill, you can use the foot pod to measure your running distance.

- 1 Install your foot pod according to the accessory instructions.
- 2 Select the action key.
- 3 Select **Setup > Fitness > Foot Pod Speed > Indoor**.
- 4 Hold  $\Delta$  to start the timer.
- 5 Start running.  
You can hold  $\Delta$  to pause and resume your run. You can hold  $\nabla$  to mark a lap.
- 6 Hold  $\Delta$  to stop the timer.  
The device automatically saves your run.

### Foot Pod Calibration

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

#### Calibrating Your Foot Pod by Distance

Before you can calibrate your device, you must pair your device with the foot pod (*Pairing Your ANT+ Sensors, page 12*).

For best results, the foot pod should be calibrated using the inside lane of a regulation track or an exact distance. A regulation track (2 laps = 0.5 mi. or 800 m) is more accurate than a treadmill.

- 1 Select the action key.
- 2 Select **Setup > ANT Sensor > Foot Pod > Calibrate > Distance**.
- 3 Select **Start** to begin recording.
- 4 Run or walk 0.5 mi. or 800 m.
- 5 Select **Stop**.

#### Calibrating Your Foot Pod by GPS

Before you can calibrate your device, you must acquire GPS signals, and pair your device with the foot pod (*Pairing Your ANT+ Sensors, page 12*).

- 1 Select the action key.
- 2 Select **Setup > ANT Sensor > Foot Pod > Calibrate > GPS**.
- 3 Select **Start** to begin recording.
- 4 Run or walk approximately 0.62 mi. or 1 k.  
The device informs you when you have traveled far enough.

#### Calibrating Your Foot Pod Manually

Before you can calibrate your device, you must pair your device with the foot pod (*Pairing Your ANT+ Sensors, page 12*).

Garmin recommends manual calibration if you know your calibration factor. If you have calibrated a foot pod with another Garmin product, you may know your calibration factor.

- 1 Select the action key.
- 2 Select **Setup > ANT Sensor > Foot Pod > Calibrate > Manual**.
- 3 Adjust the calibration factor:
  - Increase the calibration factor if your distance is too low.
  - Decrease the calibration factor if your distance is too high.

## Using an Optional Bike Cadence Sensor

You can use a compatible bike cadence sensor to send data to your device.

- Pair the sensor with your device (*Pairing Your ANT+ Sensors, page 12*).
- Create a custom profile for biking (*Creating a Custom Profile, page 3*).
- Update your fitness user profile information (*Setting Your Fitness User Profile, page 11*).

## Device Information

### Viewing Device Information

You can view the unit ID, software version, and license agreement.

- 1 Select the action key.
- 2 Select **Setup > About**.

### Updating the Aviation Database

Before you can update the aviation database, you must create a Garmin account and add your device.

The aviation database is valid for 6 months at a time and includes only airport locations and basemap.

- 1 Connect your device to a computer using the included USB cable.
- 2 Go to [www.flyGarmin.com](http://www.flyGarmin.com).
- 3 Log in to your Garmin account.
- 4 Follow the on-screen instructions to update the aviation database.

### Updating the Software

**NOTE:** Updating the software does not erase any of your data or settings.

- 1 Connect your device to a computer using the USB cable.
- 2 Go to [www.garmin.com/products/webupdater](http://www.garmin.com/products/webupdater).
- 3 Follow the on-screen instructions.

## Device Care

### NOTICE

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.

Avoid pressing the keys under water.

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

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

### Cleaning the Device

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

## Specifications

Battery type	500 mAh Lithium-ion battery
Battery life	Up to 5 weeks

Water resistance	Water resistant to 164 ft. (50 m) <b>NOTE:</b> The watch is designed for surface swimming.
Operating temperature range	From -4° to 122°F (from -20° to 50°C)
Radio frequency/protocol	2.4 GHz ANT+ wireless communications protocol Bluetooth Smart device

## Battery Information

The actual battery life depends on how much you use GPS, device sensors, optional wireless sensors, and the backlight.

Battery Life	Mode
16 hours	Normal GPS mode
50 hours	UltraTrac GPS mode
Up to 2 weeks	Always On sensor mode
Up to 5 weeks	Watch mode

## Data Management

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

### File Types

The device supports these file types.

- Files from BaseCamp or HomePort™. Go to [www.garmin.com/trip\\_planning](http://www.garmin.com/trip_planning).
- GPI custom POI files from the Garmin POI Loader. Go to [www.garmin.com/products/poiloader](http://www.garmin.com/products/poiloader).
- GPX track files.
- GPX geocache files. Go to [www.opencaching.com](http://www.opencaching.com).
- FIT files for exporting to Garmin Connect.
- GPX/FIT files for recording data in both formats simultaneously.

### 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.

- 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.
- Disconnect the cable from your computer.

## 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.





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

## Troubleshooting

### Locking the Keys



You can lock the keys to prevent inadvertent key presses.

- Select the data page you want to view while the keys are locked.

- Hold  and  to lock the keys.
- Hold  and  to unlock the keys.

### Resetting Your Device

If the device stops responding, you may need to reset it.

- Hold  for at least 25 seconds.
- Hold  for one second to turn on the device.

### Resetting the Profile to Factory Settings

You can restore profile settings to the factory default values.

- Select the action key.
- Select **Setup > Reset > All Settings > Yes**.

### Clearing All Sensor Plot Data

- Select the action key.
- Select **Setup > Reset > Clear Plots > Yes**.

### Getting More Information

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

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

## Appendix

### Data Fields

Some data fields require you to be navigating or require ANT+ accessories to display data.

**ACCURACY (GPS):** The margin of error for your exact location. For example, your GPS location is accurate to within +/- 12 feet (3.65 m).

**AMB PRESS (ambient pressure):** The uncalibrated environmental pressure.

**ASCENT (ascent total):** The total elevation distance ascended since the last reset.

**AVG ASCENT (average ascent):** The average vertical distance of ascent since the last reset.

**AVG CAD (average cadence):** The average cadence for the current activity.

**AVG DESCNT (average descent):** The average vertical distance of descent since the last reset.

**AVG HR (average heart rate):** The average heart rate for the current activity.

**AVG HR % (average heart rate percentage):** The average percentage of maximum heart rate for the current activity.

**AVG LAP (average lap):** The average lap time for the current activity.

**AVG PACE (average pace):** The average pace for the current activity.

**AVG SPEED (average speed overall):** The average speed while moving and stopped since the last reset.

**BAROMETER:** The calibrated current pressure.

**BATTERY:** The remaining battery power.

**BEARING:** The direction from your current location to a destination. You must be navigating for this data to appear.

**CADENCE:** The revolutions of the crank arm or strides per minute. Your device must be connected to a cadence accessory.

**CALORIES:** The amount of total calories burned.

**CMP HDNG (compass heading):** The direction you are moving based on the compass.

**COMPASS:** A visual representation of the direction in which the device is pointing.

**COURSE:** The direction from your starting location to a destination. Course can be viewed as a planned or set route. You must be navigating for this data to appear.

**DATE:** The current day, month, and year.

**DESCENT (descent total):** The total elevation distance descended since the last reset.

**DISTANCE (trip odometer):** A running tally of the distance traveled since the last reset.

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

**FINAL DEST (final destination):** The last point on the route to the destination. You must be navigating for this data to appear.

**FINAL DIST (distance to final destination):** The remaining distance to the final destination. You must be navigating for this data to appear.

**FINAL ETA (final estimated time of arrival):** The estimated time of day you will reach the final destination (adjusted to the local time of the destination). You must be navigating for this data to appear.

**FINAL ETE (final estimated time en route):** The estimated time remaining before you reach the destination. You must be navigating for this data to appear.

**FINAL LOC (final location):** The last point on the route or course.

**FINAL VDST (final vertical distance to destination):** The elevation distance between your current position and the final destination. You must be navigating for this data to appear.

**FINAL VSPD (final vertical speed to destination):** The rate of ascent or descent to a predetermined altitude. You must be navigating for this data to appear.

**GLIDE RATIO:** The ratio of horizontal distance traveled to the change in vertical distance.

**GPS (signal strength):** The strength of the GPS satellite signal.

**GPS ELEVTN (GPS elevation):** The altitude of your current location using GPS.

**GPS HDNG (GPS heading):** The direction you are moving based on GPS.

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

**GR DEST (glide ratio to destination):** The glide ratio required to descend from your current position to the destination elevation. You must be navigating for this data to appear.

**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 (heart rate percentage maximum):** The percentage of maximum heart rate.

**HR ZONE (heart rate zone):** The current range of heart rate (1 to 5). The default zones are based on your user profile, maximum heart rate, and resting heart rate.

**LAP ASCNT (lap ascent):** The vertical distance of ascent for the current lap.

**LAP CAD (lap cadence):** The average cadence for the current lap.

**LAP DESCNT (lap descent):** The vertical distance of descent for the current lap.

**LAP DIST (lap distance):** The distance traveled for the current lap.

**LAP HR (lap heart rate):** The average heart rate for the current lap.

**LAP HR % (lap heart rate percentage):** The average percentage of maximum heart rate for the current lap.

**LAP PACE:** The average pace for the current lap.

**LAPS:** The number of laps completed for the current activity.

**LAP SPEED:** The average speed for the current lap.

**LAP TIME:** The stopwatch time for the current lap.

**LAP TOTAL:** The stopwatch time for all the completed laps.

**LAT/LON (latitude/longitude):** The current position in latitude and longitude regardless of the selected position format setting.

**LLAP ASCNT (last lap ascent):** The vertical distance of ascent for the last completed lap.

**LLAP CAD (last lap cadence):** The average cadence for the last completed lap.

**LLAP DECNT (last lap descent):** The vertical distance of descent for the last completed lap.

**LLAP DIST (last lap distance):** The distance traveled for the last completed lap.

**LLAP HR (last lap heart rate):** The average heart rate for the last completed lap.

**LLAP PACE (last lap pace):** The average pace for the last completed lap.

**LLAP SPD (last lap speed):** The average speed for the last completed lap.

**LLAP TIME (last lap time):** The stopwatch time for the last completed lap.

**LOCATION:** The current position using the selected position format setting.

**MAX ASCENT (maximum ascent):** The maximum rate of ascent in feet per minute or meters per minute since the last reset.

**MAX DESCNT (maximum descent):** The maximum rate of descent in feet per minute or meters per minute since the last reset.

**MAX ELEVTN (maximum elevation):** The highest elevation reached since the last reset.

**MAX SPEED (maximum speed):** The highest speed reached since the last reset.

**MAX TEMP (maximum temperature):** The maximum temperature recorded in the last 24 hours.

**MIN ELEVTN (minimum elevation):** The lowest elevation reached since the last reset.

**MIN TEMP (minimum temperature):** The minimum temperature recorded in the last 24 hours.

**MOV'N AVG (moving average):** The average speed while moving since the last reset.

**MOV'N TIME (moving time):** A running tally of the time spent moving since the last reset.

**NEXT DEST (next destination):** The next point on the route. You must be navigating for this data to appear.

**NEXT DIST (distance to next waypoint):** The remaining distance to the next waypoint on the route. You must be navigating for this data to appear.

**NEXT ETA (next estimated time of arrival):** The estimated time of day you will reach the next waypoint on the route (adjusted to the local time of the waypoint). You must be navigating for this data to appear.

**NEXT ETE (next estimated time en route):** The estimated time remaining before you reach the next waypoint in the route. You must be navigating for this data to appear.

**NEXT VDST (next vertical distance):** The elevation distance between your current position and the next waypoint in the route. You must be navigating for this data to appear.

**NONE:** This is a blank data field.

**ODOMETER:** A running tally of distance traveled for all trips. This total does not clear when resetting the trip data.

**OFF COURSE:** The distance to the left or right by which you have strayed from the original path of travel. You must be navigating for this data to appear.

**PACE:** The current pace.

**SPEED:** The current rate of travel.

**STEPS:** The number of steps recorded by the foot pod.

**STOP TIME:** A running tally of the time spent not moving since the last reset.

**STOPWATCH:** The stopwatch time for the current activity.

**SUNRISE:** The time of sunrise based on your GPS position.

**SUNSET:** The time of sunset based on your GPS position.

**TEMP (temperature):** The temperature of the air. Your body temperature affects the temperature sensor.

**TIME:** A running tally of the total time spent moving and not moving since the last reset.

**TIMER:** The current time of the countdown timer.

**TO COURSE:** The direction in which you must move to get back on the route. You must be navigating for this data to appear.

**TOD (time of day):** The current time of day based on your current location and time settings (format, time zone, daylight saving time).

**TRACK DIST (track distance):** The distance traveled for the current track.

**TURN:** The angle of difference (in degrees) between the bearing to your destination and your current course. L means turn left. R means turn right. You must be navigating for this data to appear.

**VERT SPEED (vertical speed):** The rate of ascent or descent over time.

**VMG (velocity made good):** The speed at which you are closing on a destination along a route. You must be navigating for this data to appear.

## Data Pages

By default, these pages appear for the hiking profile. Heart rate data is available only when your device is paired with a heart rate monitor. Cadence and step data are available only when your device is paired with a foot pod.

Tracking	Navigating	Indoor
Distance and time	ETE, distance, and ETA	Distance, pace, and time
Compass	Distance and speed	Cadence and steps
Altimeter	Compass	Speed and calories
Total ascent and speed	Altimeter	Clock
Map	Total ascent and speed	Heart rate
Clock	Map	
	Clock	

## Altimeter and Barometric Readings

The altimeter and barometer function differently depending on the fixed or variable settings. For information about calibrating the barometric altimeter, see *Calibrating the Barometric Altimeter*, page 6. For information about tracking weather changes, see *Tracking Weather Changes Overnight*, page 6.

You can adjust the altimeter and barometric settings by selecting **Setup > Sensors > Altimeter > Baro. Plot**.

## Registering Your Device

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

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

## Contacting Garmin Aviation Product Support

- Go to [fly.garmin.com/support](http://fly.garmin.com/support) for in-country support information.

## Software License Agreement

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

Garmin Ltd. and its subsidiaries (“Garmin”) grant you a limited license to use the software embedded in this device (the “Software”) in binary executable form in the normal operation of the product. Title, ownership rights, and intellectual property rights in and to the Software remain in Garmin and/or its third-party providers.

You acknowledge that the Software is the property of Garmin and/or its third-party providers and is protected under the United States of America copyright laws and international copyright treaties. You further acknowledge that the structure, organization, and code of the Software, for which source code is not provided, are valuable trade secrets of Garmin and/or its third-party providers and that the Software in source code form remains a valuable trade secret of Garmin and/or its third-party providers. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer, or reduce to human readable form the Software or any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the United States of America or the export control laws of any other applicable country.

## 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

Sensor	Fixed	Variable
Altimeter with GPS On	Elevation is equal to GPS elevation.	Elevation reflects changes in ambient pressure and GPS position.
Barometer with GPS On	Barometric pressure reading reflects changes in ambient pressure and changes in GPS position. Using the barometer at a constant altitude results in accurate readings.	Barometric pressure reading reflects changes in ambient pressure and changes in GPS position.
Altimeter with GPS Off	Elevation remains constant.	Elevation reflects changes in ambient pressure.
Barometer with GPS Off	Barometric pressure reading reflects changes in ambient pressure. Using the barometer at a constant altitude results in accurate readings.	Barometric pressure reading is based on the calibrated altitude and changes in ambient pressure.

# Index

## A

- accessories **15**
- adventures **5**
- airport **14**
  - nearest **5**
- alarms **9**
  - clock **8**
  - proximity **9**
- alerts **9**
  - location **9**
- almanac
  - hunting and fishing **9**
  - sunrise and sunset **9**
- altimeter **2, 6, 10, 15, 17**
  - calibrating **2**
- altitude **1**
  - alert **2**
- ANT+ sensors **12**
  - pairing **12**
- area calculation **9**
- Auto Pause **11**

## B

- backlight **1, 11**
- barometer **2, 6, 15, 17**
- BaseCamp **15**
- battery **14**
  - charging **1**
  - life **1, 15**
  - replacing **13**
- bike sensors **14**

## C

- cadence, sensors **14**
- calibrating
  - altimeter **2, 6**
  - compass **6**
- charging **1**
- chirp **7, 11**
- cleaning the device **13, 14**
- compass **1, 2, 5, 6, 10**
- contrast **11**
- coordinates **5**
- countdown timer **8**
- customizing the device **10, 11**

## D

- data
  - pages **1**
  - sharing **5**
  - storing **12**
  - transferring **12**
- data fields **10, 17**
- database, updating **14**
- deleting
  - all user data **15**
  - locations **4**
  - profiles **3**
- demo mode **9**
- device
  - registration **17**
  - resetting **15**
- direct-to routing **5**
- distance **4**
- downloading, geocaches **7**

## E

- elevation **2**
  - plot **15**

## F

- files
  - transferring **7**
  - types **15**
- finding locations, near your location **3**
- fishing times **9**
- fitness **11, 12**
- flight plans **4**

- foot pod **13, 14**

## G

- Garmin Connect, storing data **12**
- Garmin Pilot **4**
- Garmin product support, contact information **17**
- geocaches **5, 7, 11, 15**
  - downloading **7**
  - navigating to **7**
- GPS **10, 15**
  - signal **1, 2, 9**
  - stopping **3, 9**
- GSC 10 **12**

## H

- heart rate **2**
  - monitor **12, 13**
  - zones **13, 17**
- heart rate monitor **12, 13**
- history **12**
  - sending to computer **12**
  - viewing **12**
- HomePort **15**
- hunting and fishing times **9**

## J

- jumpmaster **7, 8**

## K

- keys **1, 10**
  - locking **15**

## L

- language **10**
- lifetime athlete **11**
- locations **5, 9**
  - editing **3**
  - saving **3**
- locking, keys **15**

## M

- main menu, customizing **10**
- man overboard (MOB) **7**
- maps **5**
  - browsing **6**
  - navigating **6**
  - orientation **11**
  - settings **11**
  - viewing **12**
  - zoom **6**
- menu **1**
- moon phase **9**

## N

- navigation **5**
  - compass **5**
  - horizontal situation indicator (HSI) **6**
  - Sight 'N Go **5**
  - stopping **5**
- nearest airport **5**
- north reference **10**

## P

- pairing ANT+ sensors **12**
- position format **11**
- product registration **17**
- product support, contact information **17**
- profiles **3, 11, 15**
- proximity alarms **9**

## R

- registering the device **17**
- replacing battery **13**
- replacing the battery **13**
- resetting, device **15**
- routes **4, 5**
  - creating **4**
  - deleting **4**
  - direct-to **5**
  - editing **4**
  - viewing on the map **4**

- running **12**

## S

- satellite page **9**
- satellite signals **9**
  - acquiring **2**
- saving activities **12**
- screen **11**
- settings **9–11, 15**
- sharing data **5**
- Sight 'N Go **5**
- software
  - updating **14**
  - version **14**
- software license agreement **14, 17**
- specifications **14**
- speed **4**
- speed and cadence sensors **2**
- stopwatch **8**
- sunrise and sunset times **9**
- system settings **10**

## T

- tempe **12**
- temperature **1, 2, 6, 12**
- time of day **1**
- time settings **8, 11**
- time zones **8, 11**
- timer **12**
  - countdown **8**
- tones **8, 10**
- TracBack **6**
- tracks **4, 5, 11, 12**
  - deleting **5**
  - recording **2**
- transferring, files **15**
- transferring files **7**
- troubleshooting **13, 15**

## U

- UltraTrac **10**
- unit ID **14**
- units of measure **11**
- updating, database **14**
- updating software **14**
- USB
  - disconnecting **15**
  - transferring files **15**
- user data, deleting **15**
- user profile **11**

## V

- vibration alerts **10**
- VIRB **8**
- VIRB remote **8**

## W

- WAAS **10**
- water resistance **14**
- waypoints **1, 3, 5**
  - deleting **4**
  - editing **3**
  - projecting **4**
  - saving **3**
- weather **6**

## Z

- zones, time **8**
- zooming **1**
  - maps **6**

