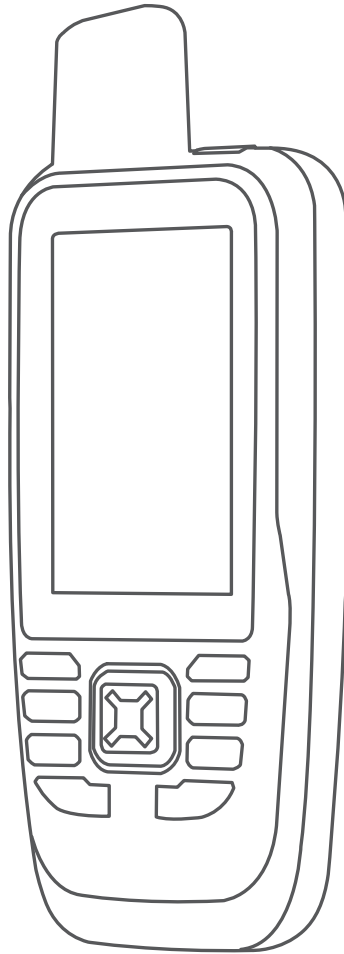


GARMIN®



GPSMAP® 86

Owner's Manual

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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.

GPSMAP 86s/sc Device Overview



①	Internal and GNSS antenna
②	Power button ⓪
③	Buttons
④	Micro-USB port (under weather cap)
⑤	Flashlight
⑥	microSD® card slot (under weather cap)
⑦	Mounting spine

GPSMAP 86i/sci Device Overview



①	Internal Iridium® and GNSS antenna
②	Power button ⓪
③	SOS button
④	Keypad
⑤	Micro-USB port (under weather cap)
⑥	Flashlight
⑦	microSD card slot (under weather cap)
⑧	Mounting spine

Keys



FIND	Select to open the search menu.
MARK	Select to save your current location as a waypoint.
QUIT	Select to cancel or return to the previous menu or page. Select to scroll through the main pages.
ENTER	Select to select options and acknowledge messages. Select to control the current activity recording (from the Map, Compass, Altimeter, and Trip Computer pages).
MENU	Select to open the options menu for the page that is currently open. Select twice to open the main menu (from any page).
PAGE	Select to scroll through the main pages.
▲▼◀▶	Select ▲, ▼, ◀, or ▶ to select menu options and move the map cursor.
+	Select to zoom in on the map.
-	Select to zoom out on the map.

Turning On the Device

Hold ⓪.

Locking the Keys

You can lock the keys to prevent inadvertent key presses.

Select ⓪ > Lock Keys.

Turning On the Backlight

Select any key to turn on the backlight.

The backlight turns on automatically when alerts and messages are displayed.

Adjusting the Backlight

1 Select ⓪ to open the status page.

2 Use + and - to adjust the brightness.

TIP: You can select NV to reduce the backlight intensity for compatibility with night vision goggles.

Charging the Device

NOTICE

To prevent corrosion, thoroughly dry the USB port, the weather cap, and the surrounding area before charging or connecting to a computer.

NOTE: The device does not charge when it is outside the approved temperature range (*Specifications, page 17*).

1 Lift the weather cap ①.



- 2 Plug the small end of the power cable into the charging port ② on the device.
- 3 Plug the other end of the power cable into a compatible AC power adapter.
- 4 Plug the AC power adapter into a standard wall outlet.
- 5 Charge the device completely.

Activating the Device

Before you can use the inReach® features of your GPSMAP 86 device, you must activate it.

- 1 Create an account, and select a satellite subscription at explore.garmin.com.
- 2 Turn on the device.

NOTE: You must enter the device IMEI number and AUTH code to complete the online portion of activation before heading outdoors.
- 3 Follow the on-screen instructions.
- 4 From the main menu, select **Activate**, and go outdoors to an open area with a clear view of the sky.
- 5 Wait while the device communicates with the Iridium satellite network.

NOTE: It may take up to 20 minutes to activate your device. The device must send and receive several messages, which takes longer than sending a single message during regular use.

Iridium Satellite Network

Your device requires a clear view of the sky to transmit messages and track points over the Iridium satellite network. Without a clear view of the sky, your device attempts to send the information until it acquires satellite signals.

TIP: For the best connection with satellites, attach the device to a backpack or to your upper body.

inReach Features

To get the most out of your device, you should activate it. Activating the device allows you to use inReach features including messaging, SOS, and LiveTrack.

Messages

Your GPSMAP 86 device sends and receives text messages using the Iridium satellite network. You can send messages to an SMS phone number, an email address, or another device with inReach technology. Each message you send includes your location details.

NOTE: A preset message includes predefined text with predetermined recipients, and you must set it up on the Garmin Explore™ website.

Sending a Preset Message

Preset messages are messages that you created at explore.garmin.com. Preset messages have predefined text and recipients.

- 1 From the **Messages** page, select **Send Preset**.
- 2 Choose a preset message, and press **ENTER**.
- 3 Press **ENTER** to send the message.

Sending a Text Message

- 1 From the **Messages** page, select **New Message**.
- 2 Select an option:
 - To start with a pre-written message, select **Send Quick Text**.

NOTE: You can add and edit quick text messages on the Garmin Explore website.
 - To write a custom message, select **Type Message**.
- 3 Choose recipients from your contacts list, or enter a recipient's contact information.
- 4 After you have finished your message, select **Send Message**.

Using Keyboard Shortcuts

- To select the first autocomplete option, select **FIND**.
- To cycle through keyboards, select **MARK**.
- To change character case, select **PAGE** once, and to turn on caps lock, select **PAGE** twice.
- To insert a backspace, select **+**.
- To insert a space, select **—**.

Replying to a Message

- 1 From the **Messages** page, select a conversation.
- 2 Select **Reply**.
- 3 Select an option:
 - To write a custom message, select **Type Message**.
 - To start with a pre-written message, select **Send Quick Text** and select a message.
- 4 When you have finished your message, select **Send Message**.

Checking for Messages

When you send a message, your device listens for replies for 10 minutes. The device also checks for new messages every hour. When you are using the LiveTrack feature, your device automatically checks for messages at your tracking interval.

NOTE: Your device must be in view of a satellite at the time of the listen to receive messages.

You can force a check for messages by manually checking for messages, sending a message, or sending a track point. During a check, your device connects to satellites and receives messages waiting to be sent to your device.

From the main menu, select **inReach Utilities > Mail Check > Check Mailbox**.

Viewing Message Details

- 1 Select **Messages**.
- 2 Select a conversation.
- 3 Select a message.
- 4 Select the information tab.

Navigating to a Message Location

When you receive a message from another device with inReach technology, the message may include location information. For these messages, you can navigate to the location from which the message was sent.

- 1 Select **Messages**.

- 2 Select a conversation with location information.
- 3 Select the map tab.
- 4 Select **Go**.

Including Location Coordinates in a Message

If you are sending a message to a recipient who may not have internet access, you can include your location coordinates in the message. For example, if your recipient has an older model cell phone that does not support viewing maps or is outside of a mobile data coverage area and cannot view a web page.

- 1 From the **Messages** page, select **New Message > Send Location**.
- 2 Enter one or more recipients.
- 3 If necessary, enter a message.
- 4 Select **Send Message**.

Deleting Messages

- 1 From the **Messages** page, select a conversation.
- 2 Select **MENU > Delete Thread**.

Messages Settings

Select **Setup > Messages**.

Ring Until Read: Sets the device to ring until you read a new message. This feature is helpful if you are in a noisy environment.

Notifications: Alerts you to incoming inReach messages.

LiveTrack

You can use the LiveTrack feature to record track points and transmit them over the Iridium satellite network at the specified send interval.

Starting LiveTrack

From the **LiveTrack** page, select **Start LiveTrack**.

NOTE: Starting the LiveTrack feature also starts the recording controls.

Stopping LiveTrack

From the **LiveTrack** page, select **Stop LiveTrack**.

Sharing Your MapShare™ Web Page

You can share a link to your MapShare web page with other people. The system automatically adds text, including link information, to the end of your message.

- 1 From the **LiveTrack** page, select **Send MapShare > Share**.
- 2 Choose recipients from your contacts list, or enter a recipient's contact information.
- 3 Select **Send Message**.

LiveTrack Settings

Select **Setup > LiveTrack**.

Auto Track: Sets the device to start tracking when you turn on the device.

Moving Interval: Sets the frequency at which the device records a track point and transmits it over the satellite network when you are moving. If you are a professional customer, you can specify the interval when you are stationary.

SOS

During an emergency, you can contact the GEOS International Emergency Rescue Coordination Center (IERCC) to request help. Pressing the SOS button sends a message to the rescue coordination center, and they notify the appropriate emergency responders of your situation. You can communicate with the rescue coordination center during your emergency while you wait for help to arrive. You should only use the SOS function in a real emergency situation.

Initiating an SOS Rescue

NOTE: While in SOS mode, the device cannot be turned off.

- 1 Lift the protective cap ① from the **SOS** button ②.



- 2 Hold the **SOS** button.
- 3 Wait for the SOS countdown.
The device sends a default message to the emergency response service with details about your location.
- 4 Reply to the confirmation message from the emergency response service.

Your reply lets the emergency response service know that you are capable of interacting with them during the rescue.

For the first 10 minutes of your rescue, an updated location is sent to the emergency response service every minute. To conserve battery power after the first 10 minutes, an updated location is sent every 10 minutes when moving, and every 30 minutes when stationary.

Sending a Custom SOS Message

After pressing the SOS button to initiate an SOS rescue, you can reply with a custom message using the SOS page.

- 1 From the main menu, select **SOS > Reply**.
- 2 Select **Type Message** to compose a custom SOS message.
- 3 Select **Send Message**.

Your reply lets the emergency response service know that you are capable of interacting with them during the rescue.

Canceling an SOS Rescue

If you no longer need assistance, you can cancel an SOS rescue after it is sent to the emergency response service.

- 1 Lift the protective cap, and hold the **SOS** button.
- 2 Select **Cancel SOS**.
- 3 When prompted to confirm your cancellation request, select **Cancel SOS**.

Your device transmits the cancellation request. When you receive a confirmation message from the emergency response service, the device returns to normal operation.

Testing the Device

You should test the device outdoors before using it on a trip to ensure your satellite subscription is active.

From the main menu, select **inReach Utilities > Communications Test > Test**.

Wait while the device sends a test message. When you receive a confirmation message, your device is ready to use.

Syncing inReach Data

You can sync data from your Garmin Explore account to your device using the Garmin Explore app. After you make edits to your data, such as contacts, preset messages, or quick text messages, you must sync them to your device using the mobile app.

Open the Garmin Explore app.

Changes made to data such as collections, waypoints, routes, and tracks update automatically.

You can now sync your data to your GPSMAP 86 device.

Using the Main Pages

The information needed to operate this device is found on the main menu, map, compass, trip computer, and altimeter pages.

Select **PAGE** or **QUIT** to scroll through the main pages.

Opening the Main Menu

The main menu gives you access to tools and setup screens for waypoints, activities, routes, and more ([Main Menu Tools, page 9](#), [Setup Menu, page 12](#)).

From any page, select **MENU** twice.

Map

▲ represents your location on the map. As you travel, ▲ moves and displays your path. Waypoint names and symbols appear on the map. When you are navigating to a destination, your route is marked with a colored line on the map.

Changing the Map Orientation

- 1 From the map, select **MENU**.
- 2 Select **Map Setup > Orientation**.
- 3 Select an option:
 - Select **North Up** to show north at the top of the page.
 - Select **Track Up** to show your current direction of travel at the top of the page.
 - Select **Automotive Mode** to show an automotive perspective with the direction of travel at the top.

Measuring Distance on the Map

You can measure the distance between multiple locations.

- 1 From the map, move the cursor to a location.
- 2 Select **MENU > Measure Distance**.
- 3 Select additional locations on the map.

Map Page Settings

From the map, select **MENU**.

Stop Navigation: Stops navigating the current route.

Map Setup: Enables you to open additional map settings ([Map Settings, page 4](#)).

Measure Distance: Allows you to measure the distance between multiple locations ([Measuring Distance on the Map, page 4](#)).

Restore Defaults: Restores the map to factory default settings.

Map Settings

From the map, select **MENU**, and select **Map Setup**.

Configure Maps: Enables or disables the maps currently loaded on the device.

Orientation: Adjusts how the map is shown on the page. The North Up option shows north at the top of the page. The Track Up option shows your current direction of travel toward the top of the page. The Automotive Mode option shows an automotive perspective with the direction of travel at the top.

Dashboard: Sets a dashboard to display on the map. Each dashboard shows different information about your route or your location.

Guidance Text: Sets when the guidance text is shown on the map.

Advanced Setup: Enables you to open advanced map settings ([Advanced Map Settings, page 4](#)).

Advanced Map Settings

From the map, select **MENU**, and select **Map Setup > Advanced Setup**.

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.

Detail: Selects the amount of detail shown on the map. Showing more detail may cause the map to redraw more slowly.

Shaded Relief: Shows detail relief on the map (if available) or turns off shading.

Vehicle: Sets the position icon, which represents your position on the map. The default icon is a small blue triangle.

Zoom Levels: Adjusts the zoom level at which map items appear. The map items do not appear when the map zoom level is higher than the selected level.

Text Size: Selects the text size for map items.

Compass

When navigating, ▲ points to your destination, regardless of the direction you are moving. When ▲ points toward the top of the electronic compass, you are traveling directly toward your destination. If ▲ points any other direction, turn until it points toward the top of the compass.

Using the Compass

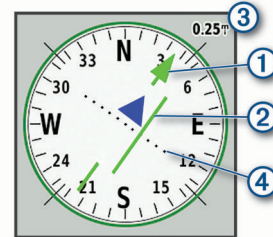
You can use the compass to navigate an active route.

- 1 Select **PAGE**.
- 2 Hold the device level.
- 3 Follow ▲ to your destination.

Course Pointer

The course pointer is most useful when you are navigating on water or where there are no major obstacles in your path. It can also help you avoid hazards near the course, such as shoals or submerged rocks.

To enable the course pointer, from the compass, select **MENU > Setup Heading > Go To Line (Pointer) > Course (CDI)**.



The course pointer ① indicates your relationship to the course line leading to the destination. The course deviation indicator (CDI) ② provides the indication of drift (right or left) from the course. The scale ③ refers to the distance between dots ④ on the course deviation indicator, which tell you how far off course you are.

Navigating with Sight 'N Go

You can point the device at an object in the distance, lock in the direction, and navigate to the object.

- 1 Select **Sight 'N Go**.
- 2 Point the device at an object.
- 3 Select **Lock Direction > Set Course**.
- 4 Navigate using the compass.

Compass Settings

From the compass, select **MENU**.

Sight 'N Go: Allows you to point the device at an object in the distance, and navigate using the object as a reference point ([Navigating with Sight 'N Go, page 4](#)).

Stop Navigation: Stops navigating the current route.

Change Dashboard: Changes the theme and information displayed on the dashboard.

Set Scale: Sets the scale for the distance between the dots on the course deviation indicator.

Calibrate Compass: Allows you to calibrate the compass if you experience irregular compass behavior, for example, after moving long distances or after extreme temperature changes (*Calibrating the Compass*, page 5).

Setup Heading: Allows you to customize the compass heading settings (*Heading Settings*, page 5).

Change Data Fields: Customizes the compass data fields.

Restore Defaults: Restores the compass to factory default settings.

Calibrating the Compass

Before you can calibrate the electronic compass, you must be outdoors, away from objects that influence magnetic fields, such as cars, buildings, or overhead power lines.

The device has a 3-axis electronic compass. You should calibrate the compass after moving long distances or experiencing temperature changes.

- 1 From the compass, select **MENU**.
- 2 Select **Calibrate Compass > Start**.
- 3 Follow the on-screen instructions.

Heading Settings

From the compass, select **MENU**, and select **Setup Heading**.

Display: Sets the type of directional heading shown on the compass.

North Reference: Sets the north reference used on the compass.

Go To Line (Pointer): Sets the behavior of the pointer that appears on the map. Bearing points in the direction of your destination. Course shows your relationship to the course line leading to the destination.

Compass: Automatically switches from an electronic compass to a GPS compass when you are traveling at a higher rate of speed for a period of time.

Calibrate Compass: Allows you to calibrate the compass if you experience irregular compass behavior, for example, after moving long distances or after extreme temperature changes (*Calibrating the Compass*, page 5).

Trip Computer

The trip computer displays your current speed, average speed, trip odometer, and other helpful statistics. You can customize the trip computer layout, dashboard, and data fields.

Trip Computer Settings

From the trip computer, select **MENU**.

Reset: Resets all the trip computer values to zero. For accurate information, reset the trip information before beginning a trip.

Change Data Fields: Customizes the trip computer data fields.

Change Dashboard: Changes the theme and information displayed on the dashboard.

NOTE: Your customized settings are remembered by the dashboard. Your settings are not lost when you change profiles (*Profiles*, page 15).

Insert Page: Inserts an additional page of customizable data fields.

TIP: You can use the arrow keys to scroll through the pages.

Remove Page: Removes an additional page of customizable data fields.

More Data: Adds additional data fields to the trip computer.

Less Data: Removes data fields from the trip computer.

Restore Defaults: Restores the trip computer to factory default settings.

Altimeter

By default, the altimeter displays the elevation over the distance traveled. You can customize altimeter settings (*Altimeter Settings*, page 5). You can select any point on the plot to view details about that point.

Altimeter Plot Settings

From the altimeter, select **MENU**.

Reset: Resets the altimeter data, including waypoint, track, and trip data.

Altimeter Setup: Access additional altimeter settings (*Altimeter Settings*, page 5).

Adjust Zoom Ranges: Adjusts the zoom ranges shown on the altimeter page.

Change Data Fields: Allows you to customize the altimeter data fields.

Restore Defaults: Restores the altimeter to factory default settings.

Altimeter Settings

From the altimeter, select **MENU > Altimeter Setup**.

Auto Calibration: Automatically calibrates the altimeter each time the device is turned on.

Barometer Mode: Variable Elevation allows the barometer to measure changes in elevation while you are moving. Fixed Elevation assumes the device is stationary at a fixed elevation, so the barometric pressure should only change due to weather.

Pressure Trending: Sets how the device records pressure data. Save Always records all pressure data, which can be helpful when you are watching for pressure fronts.

Plot Type: Records elevation changes over a period of time or distance, records barometric pressure over a period of time, or records ambient pressure changes over a period of time.

Calibrate Altimeter: Allows you to manually calibrate the barometric altimeter (*Calibrating the Barometric Altimeter*, page 5).

Calibrating the Barometric Altimeter

You can manually calibrate the barometric altimeter if you know the correct elevation or the correct barometric pressure.

- 1 Go to a location where the elevation or barometric pressure is known.
- 2 From the altimeter, select **MENU**.
- 3 Select **Altimeter Setup > Calibrate Altimeter**.
- 4 Select **Method** to select the measurement to use in calibration.
- 5 Enter the measurement.
- 6 Select **Calibrate**.

Connected Features

Connected features are available for your GPSMAP 86 device when you pair the device to a compatible smartphone using the Garmin Connect™ app. Additional features are available when you connect your paired device to the Garmin Explore app on your smartphone. Go to garmin.com/apps for more information.

Bluetooth® sensors: Allows you to connect Bluetooth compatible sensors, such as a heart rate monitor using the Garmin Connect app.

Connect IQ™: Allows you to extend your device features with widgets, data fields, and apps using the Garmin Connect app.

EPO Downloads: Allows you to download an extended prediction orbit file to quickly locate GPS satellites and reduce the time it takes to get an initial GPS fix using the Garmin Connect app.

Garmin Explore: The Garmin Explore app syncs and shares waypoints, tracks, and routes with your device. You can also download maps to your smartphone for offline access.

Live Geocache Data: Provides paid or subscription-free services to view live geocache data from www.geocaching.com using the Garmin Connect app.

LiveTrack: Allows friends and family to follow your activities in real time. You can invite followers using email or social media, or by sending an inReach message from the field. This feature allows your followers to view your live data on a MapShare tracking page using your Garmin Explore account.

Phone notifications: Displays phone notifications and messages on your GPSMAP 86 device using the Garmin Connect app.

Software Updates: Allows you to receive updates for your device software using the Garmin Connect app.

Weather: Allows you to view current weather conditions and weather forecasts using the Garmin Connect app.

Connected Feature Requirements

Some features require a smartphone and a specific app on your smartphone.

Feature	Connected to a Paired Smartphone with the Garmin Connect Mobile App	Connected to a Wi-Fi® Network
Activity uploads to Garmin Connect	Yes	Yes
Software updates	Yes	Yes
EPO downloads	Yes	Yes
Live geocache data	Yes	Yes
Weather	Yes	Yes
Phone notifications	Yes*	No
Connect IQ	Yes	No
LiveTrack	Yes	No
GroupTrack	Yes	No
BirdsEye Direct imagery	No	Yes

*The device receives phone notifications from a paired iOS® phone directly, and through the Garmin Connect Mobile app on an Android™ phone.

Pairing a Smartphone with Your Device

- 1 Bring your compatible smartphone within 10 m (33 ft.) of your device.
- 2 From the main menu on your device, select **Setup > Bluetooth**.
- 3 On your compatible smartphone, enable Bluetooth technology, and open Garmin Connect or Garmin Explore.
- 4 Follow the on-screen instructions in Garmin Connect or Garmin Explore to pair your device.

Phone Notifications

Phone notifications require a compatible smartphone to be paired with the GPSMAP 86 device. When your phone receives messages, it sends notifications to your device.

Viewing Phone Notifications

Before you can view notifications, you must pair your device with your compatible smartphone.

- 1 Select **ⓘ > Notifications**.
- 2 Select a notification.

Hiding Notifications

By default, notifications appear on the device screen when they are received. You can hide notifications to prevent them from appearing.

Select **Setup > Bluetooth > Notifications > Hide**.

Managing Notifications

You can use your compatible smartphone to manage notifications that appear on your GPSMAP 86 device.

Select an option:

- If you are using an Apple® smartphone, use the notifications settings on your smartphone to select the items to show on the device.
- If you are using a smartphone with Android, from the Garmin Connect Mobile app, select **Settings > Smart Notifications**.

Connecting to a Wireless Network

- 1 Select **Setup > Wi-Fi**.
- 2 If necessary, select the toggle switch to enable Wi-Fi technology.
- 3 Select **Add Network**.
- 4 Select a wireless network from the list and enter the password, if necessary.

The device stores the network information and connects automatically when you return to this location.

Connect IQ Features

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

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 device, such as new outdoor and fitness activity types.

Downloading Connect IQ Features

Before you can download features from the Connect IQ Mobile app, you must pair your GPSMAP 86 device with your smartphone.

- 1 From the app store on your smartphone, install and open the Connect IQ Mobile app.
- 2 If necessary, select your device.
- 3 Select a Connect IQ feature.
- 4 Follow the on-screen instructions.

Downloading Connect IQ Features Using Your Computer

- 1 Connect the device to your computer using a USB cable.
- 2 Go to apps.garmin.com, and sign in.
- 3 Select a Connect IQ feature, and download it.
- 4 Follow the on-screen instructions.

Viewing Connect IQ Widgets

- 1 Select **ⓘ**.
- 2 Select **◀** or **▶** to scroll through the widgets.

Controlling and Viewing Compatible Marine Devices

You can use the GPSMAP 86 device to control a compatible autopilot, control a compatible FUSION® stereo, and view your boat data.

- 1 Select **Connect IQ**.
- 2 Select an option.
 - To control a compatible autopilot, select **Autopilot** to control a compatible autopilot
 - To control a compatible FUSION stereo, select **FUSION-Link**.
 - To view streaming boat data such as fuel sensor information from a Garmin marine compatible device, select **Boat Data**.
- 3 Follow the on-screen instructions.

Garmin Explore

The Garmin Explore website and mobile app allow you to plan trips and use cloud storage for your waypoints, routes, and tracks. They offer advanced planning both online and offline, allowing you to share and sync data with your compatible Garmin device. You can use the mobile app to download maps for offline access, and then navigate anywhere without using your cellular service.

You can download the Garmin Explore app from the app store on your smartphone, or you can go to [explore.garmin.com](https://www.garmin.com/explore).

Navigation

Navigating to a Destination

- 1 Select **FIND**.
- 2 Select a category.
- 3 Select a destination.
- 4 Select **Go**.

Your route appears as a magenta line on the map.
- 5 Navigate using the map (*Navigating with the Map, page 7*) or compass (*Navigating with the Compass, page 7*).

Navigating with the Map

- 1 Begin navigating to a destination (*Navigating to a Destination, page 7*).
- 2 Select **Map**.

A blue triangle represents your location on the map. As you travel, the blue triangle moves and displays your path.
- 3 Complete one or more actions:
 - To view different areas of the map, select **▲**, **▼**, **◀**, or **▶**.
 - To zoom in and out of the map, select **+** and **-**.

Navigating with the Compass

When navigating to a destination, **▲** points to your destination, regardless of the direction you are moving.

- 1 Begin navigating to a destination (*Navigating to a Destination, page 7*).
- 2 Select **Compass**.
- 3 Turn until **▲** points toward the top of the compass, and continue moving in that direction to the destination.

Stopping Navigation

Select **FIND > Stop Navigation**.

Waypoints

Waypoints are locations you record and store in the device. Waypoints can mark where you are, where you are going, or where you have been. You can add details about the location, such as name, elevation, and depth.

You can add a .gpx file that contains waypoints by transferring the file to the GPX folder (*Transferring Files to Your Device, page 16*).

Creating a Waypoint

You can save your current location as a waypoint.

- 1 Select **MARK**.
- 2 If necessary, select a field to make changes to the waypoint.
- 3 Select **Save**.

Navigating to a Waypoint

- 1 Select **FIND > Waypoints**.
- 2 Select a waypoint.
- 3 Select **Go**.

Editing a Waypoint

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select an item to edit, such as the name.
- 4 Enter the new information, and select **Done**.

Deleting a Waypoint

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Delete**.

Waypoint Averaging

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 **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Average Location**.
- 4 Move to the waypoint location.
- 5 Select **Start**.
- 6 Follow the on-screen instructions.
- 7 When the confidence status bar 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 **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Project Waypoint**.
- 4 Enter the bearing, and select **Done**.
- 5 Select a unit of measure.
- 6 Enter the distance, and select **Done**.
- 7 Select **Save**.

Moving a Waypoint on the Map

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Move Waypoint**.
- 4 Select a location on the map.
- 5 Select **Move**.

Finding a Location Near a Waypoint

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Find Near Here**.
- 4 Select a category.

The list displays locations near the selected waypoint.

Setting a Waypoint Proximity Alarm

You can add a proximity alarm for a waypoint. Proximity alarms alert you when you are within a specified range of a particular location.

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Set Proximity**.
- 4 Enter the radius.

When you enter an area with a proximity alarm, the device sounds a tone.

Adding a Waypoint to a Route

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Add to Route**.
- 4 Select a route.

Repositioning a Waypoint to Your Current Location

You can change the position of a waypoint. For example, if you move your vehicle, you can change the location to your current position.

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint.
- 3 Select **MENU > Reposition Here**.

The waypoint location changes to your current location.

Routes

A route is a sequence of waypoints or locations that leads you to your final destination.

Creating a Route

- 1 Select **Route Planner > Create Route > Select First Point**.
- 2 Select a category.
- 3 Select the first point in the route.
- 4 Select **Use**.
- 5 Select **Select Next Point** to add additional points to the route.
- 6 Select **QUIT** to save the route.

Navigating a Saved Route

- 1 Select **FIND > Routes**.
- 2 Select a route.
- 3 Select **Go**.

Viewing the Active Route

- 1 While navigating a route, select **Active Route**.
- 2 Select a point in the route to view additional details.

Editing a Route

- 1 Select **Route Planner**.
- 2 Select a route.
- 3 Select **Edit Route**.
- 4 Select a point.
- 5 Select an option:
 - To view the point on the map, select **Review**.
 - To change the order of the points 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 remove the point from the route, select **Remove**.

- 6 Select **QUIT** to save the route.

Viewing a Route on the Map

- 1 Select **Route Planner**.
- 2 Select a route.
- 3 Select **View Map**.

Viewing the Elevation Plot of a Route

- 1 Select **Route Planner**.
- 2 Select a route.
- 3 Select **Elevation Plot**.

Editing the Name of a Route

- 1 Select **Route Planner**.
- 2 Select a route.
- 3 Select **Change Name**.
- 4 Enter the new name.

Reversing a Route

You can switch the start and end points of your route to navigate the route in reverse.

- 1 Select **Route Planner**.
- 2 Select a route.
- 3 Select **Reverse Route**.

Deleting a Route

- 1 Select **Route Planner**.
- 2 Select a route.
- 3 Select **Delete Route**.

Recordings

Your device records your path as an activity. Activities contain information about points along your recorded path, including time, location, and elevation for each point.

Recording Settings

Select **Setup > Recording**.

Record Method: Sets the recording method. The Auto option records points at a variable rate to create an optimum representation of your path. You can also record points at specific time or distance intervals.

Interval: Sets the recording rate. Recording points more frequently creates a more-detailed path, but fills the recording log faster.

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

Auto Start: Sets the device to start a new recording automatically when the previous recording ends.

Advanced Setup: Enables you to open additional recording settings ([Advanced Recording Settings, page 8](#)).

Advanced Recording Settings

Select **Setup > Recording > Advanced Setup**.

Output Format

Output Format: Sets the device to save the recording as a FIT or a GPX/FIT file ([File Types, page 16](#)).

- FIT records your activity with fitness information that is tailored for the Garmin Connect application and can be used for navigation.
- FIT and GPX records your activity as both a traditional track that can be viewed on the map and used for navigation, and as an activity with fitness information.

GPX Auto Archive: Sets an automatic archive method to organize your recordings. Recordings are saved and cleared automatically.

Trip Recording: Sets a trip recording option.

Recorded Data Reset: Sets a reset option. The Activity and Trip option resets the recording and trip data when you finish the active recording. The Prompted option prompts you to select the data to reset.

Viewing the Current Activity

- 1 Select **Recording Controls**.
- 2 Select ◀ and ▶ to view an option:
 - To control the current activity recording, select ▶.
 - To view data fields for the activity, select ⓘ.
 - To view the current activity on the map, select 🗺.
 - To view the elevation plot for the current activity, select 📈.

Navigating Using TracBack®

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

- 1 Select **Recording Controls**.
- 2 Select ▶ to switch to the map tab.
- 3 Select **TracBack**.

The map displays your route with a magenta line, start point, and end point.
- 4 Navigate using the map or the compass.

Stopping the Current Activity

- 1 From the main pages, select **ENTER > Stop**.
- 2 Select an option:
 - To resume recording, select **Resume**.
 - To save the activity, select 📄.
 - To delete the activity and reset the trip computer, select 🗑.

Navigating a Saved Activity

- 1 Select **FIND > Recorded Activities**.
- 2 Select an activity.
- 3 Select **Go**.

Deleting a Saved Activity

- 1 Select **Recorded Activities**.
- 2 Select an activity.
- 3 Select **MENU > Delete**.

Reversing an Activity

You can switch the start and end points of your activity to navigate the activity in reverse.

- 1 Select **Recorded Activities**.
- 2 Select an activity.
- 3 Select **MENU > Copy Reversed**.

Creating a Track from a Saved Activity

You can create a track from a saved activity. This allows you to share your track wirelessly with other compatible Garmin devices.

- 1 Select **Recorded Activities**.
- 2 Select an activity.
- 3 Select **MENU > Save as Track**.

Map

▲ represents your location on the map. As you travel, ▲ moves and displays your path. Waypoint names and symbols appear on the map. When you are navigating to a destination, your route is marked with a colored line on the map.

Changing the Map Orientation

- 1 From the map, select **MENU**.

- 2 Select **Map Setup > Orientation**.

- 3 Select an option:
 - Select **North Up** to show north at the top of the page.
 - Select **Track Up** to show your current direction of travel at the top of the page.
 - Select **Automotive Mode** to show an automotive perspective with the direction of travel at the top.

Compass

When navigating, ▲ points to your destination, regardless of the direction you are moving. When ▲ points toward the top of the electronic compass, you are traveling directly toward your destination. If ▲ points any other direction, turn until it points toward the top of the compass.

Navigating with Sight 'N Go

You can point the device at an object in the distance, lock in the direction, and navigate to the object.

- 1 Select **Sight 'N Go**.
- 2 Point the device at an object.
- 3 Select **Lock Direction > Set Course**.
- 4 Navigate using the compass.

Trip Computer

The trip computer displays your current speed, average speed, trip odometer, and other helpful statistics. You can customize the trip computer layout, dashboard, and data fields.

Main Menu Tools

Select **MENU** twice.

LiveTrack: Allows you to share and view details about the tracks you travel.

SOS: Allows you to initiate an SOS rescue.

Messages: Allows you to send a preset or original inReach message.

Recording Controls: Allows you to view details about the current activity and control the current activity recording ([Viewing the Current Activity, page 9](#)).

Notifications: Alerts you to incoming calls, texts, social network updates, and more, based on your smartphone notification settings ([Phone Notifications, page 6](#)).

Weather: Displays the current temperature, temperature forecast, weather forecast, weather radar, cloud cover, and wind conditions.

Waypoint Manager: Displays all waypoints saved to the device ([Waypoints, page 7](#)).

Connect IQ: Displays a list of installed Connect IQ apps ([Connect IQ Features, page 6](#)).

BirdsEye Direct: Allows you to download BirdsEye Satellite Imagery to your device ([BirdsEye Imagery, page 10](#)).

Geocaching: Displays a list of downloaded geocaches ([Geocaches, page 10](#)).

Recorded Activities: Displays your current activity and a list of recorded activities ([Recordings, page 8](#)).

Active Route: Displays your active route and upcoming waypoints ([Routes, page 8](#)).

Route Planner: Displays a list of saved routes and allows you to create new routes ([Creating a Route, page 8](#)).

Saved Tracks: Displays a list of saved tracks ([Creating a Track from a Saved Activity, page 9](#)).

Sight 'N Go: Allows you to point the device at an object in the distance, and navigate using the object as a reference point ([Navigating with Sight 'N Go, page 4](#)).

Proximity Alarms: Allows you to set alerts to sound within range of particular locations ([Setting a Proximity Alarm, page 11](#)).

Share Wirelessly: Allows you to wirelessly transfer files to another compatible device ([Sending and Receiving Data Wirelessly, page 11](#)).

Profile Change: Allows you to change the device profile to customize your settings and data fields for a particular activity or trip ([Selecting a Profile, page 12](#)).

Area Calculation: Allows you to calculate the size of an area ([Calculating the Size of an Area, page 12](#)).

Calendar: Displays a calendar.

Hunt and Fish: Displays the predicted best dates and times for hunting and fishing at your current location.

Sun and Moon: Displays sunrise and sunset times, along with the moon phase, based on your GPS position.

Photo Viewer: Displays saved photos.

Waypoint Averaging: Allows you to refine a waypoint location for more accuracy ([Waypoint Averaging, page 7](#)).

Calculator: Displays a calculator.

Alarm Clock: Sets an audible alarm. If you are not currently using the device, you can set the device to turn on at a specific time.

VIRB Remote: Provides camera controls when you have a VIRB® device paired with your GPSMAP 86 device ([Using the VIRB Remote, page 12](#)).

Stopwatch: Allows you to use a timer, mark a lap, and time laps.

Flashlight: Turns on the flashlight ([Using the Flashlight, page 12](#)).

XERO Locations: Displays laser location information when you have a Xero™ bow sight paired with your GPSMAP 86 device.

Satellite: Displays your current GPS satellite information ([Satellite Page, page 12](#)).

BirdsEye Imagery

BirdsEye imagery provides downloadable, high-resolution map imagery, including detailed satellite imagery and raster-based topographical maps. You can download BirdsEye imagery directly to your compatible Garmin device.

Downloading BirdsEye Imagery

Before you can download BirdsEye imagery directly to your device, you must connect to a wireless network ([Connecting to a Wireless Network, page 6](#)).

- 1 Select **BirdsEye Direct > Download Imagery**.
- 2 Select an option:
 - To download BirdsEye imagery files for a specific location or area, select **Location**, and select a category.
NOTE: The location defaults to your current location.
 - To edit the name of the downloaded imagery files, select **Name**.
 - To select an image quality option, select **Detail**.
 - To define the size of the area to be shown in the downloaded imagery files, select **Radius**, and enter a distance from the selected location.

An estimated file size appears for the selected image quality and radius. You should verify your device has enough available storage space for the imagery file.

- 3 Select **Download**.

Geocaches

Geocaching is a treasure hunting activity in which players hide or search for hidden caches using clues and GPS coordinates.

Registering Your Device at Geocaching.com

You can register your device at www.geocaching.com to search for a list of nearby geocaches, or to search live information for millions of geocaches.

- 1 Connect to a wireless network ([Connecting to a Wireless Network, page 6](#)) or to the Garmin Connect app ([Pairing a Smartphone with Your Device, page 6](#)).
- 2 Select **Setup > Geocaching > Register Device**.
An activation code appears.
- 3 Follow the on-screen instructions.
- 4 Select **Confirm Registration**.

Connecting to Geocaching.com

After you register, you can view geocaches from www.geocaching.com on your device while connected wirelessly.

- Connect to the Garmin Connect Mobile app.
- Connect to a Wi-Fi network.

Downloading Geocaches Using a Computer



You can load geocaches manually onto your device using a computer ([Transferring Files to Your Device, page 16](#)). You can place the geocache files into a GPX file and import them into the GPX folder on the device. With a premium membership to geocaching.com, you can use the "pocket query" feature to load a large group of geocaches onto your device as a single GPX file.

- 1 Connect the device to your computer using a USB cable.
- 2 Go to www.geocaching.com.
- 3 If necessary, create an account.
- 4 Sign in.
- 5 Follow the instructions at geocaching.com to find and download geocaches to your device.

Searching for a Geocache

You can search the geocaches loaded on your device. If you are connected to geocaching.com, you can search live geocache data and download geocaches.

NOTE: You can download detailed information for a limited number of geocaches per day. You can purchase a premium subscription to download more. Go to www.geocaching.com for more information.

- 1 Select **Geocaching**.
- 2 Select  > **MENU**.
- 3 Select an option:
 - To search the geocaches loaded on your device by name, select **Spell Search**, and enter a search term.
 - To search for geocaches near you or near another location, select **Search Near**, and select a location.
If you are connected to geocaching.com, the search results include live geocache data obtained by **GC Live Download**.
 - To search for live geocaches by code, select **GC Live Download**.
This feature allows you to download a specific geocache from geocaching.com when you know the geocache code.
- 4 Select **MENU > Filter** to filter the search results (optional).
- 5 Select  > **Download Geocaches** to search for and download nearby geocaches on the map (optional).
- 6 Select a geocache.

The geocache details appear. If you selected a live geocache and you are connected, the device downloads the full geocache details to the internal storage, if necessary.

Filtering the Geocache List

You can filter your geocache list based on certain factors, such as the level of difficulty.

- 1 Select **Geocaching** > **MENU** > **Filter**.
- 2 Select one or more options to filter:
 - To filter by a geocache category, such as puzzle or event, select **Type**.
 - To filter by the physical size of the geocache container, select **Cache Size**.
 - To filter by **Unattempted**, **Did Not Find**, or **Found** geocaches, select **Status**.
 - To filter by the difficulty level of finding the geocache, or the difficulty of the terrain, select a level from 1 to 5.
- 3 Select **QUIT** to view the filtered geocache list.

Saving a Custom Geocache Filter

You can create and save custom filters for geocaches based on specific factors.

- 1 Select items to filter.
- 2 Select **QUIT**.

By default, the new filter is saved automatically as Filter followed by a number. For example, Filter 2. You can edit the geocache filter to change the name (*Editing a Custom Geocache Filter*, page 11).

Editing a Custom Geocache Filter

- 1 From the app drawer, select **Setup** > **Geocaching** > **Filter Setup**.
- 2 Select a filter.
- 3 Select an item to edit.

Viewing Geocache Details

- 1 Select **Geocaching**.
- 2 Select a geocache.
- 3 Select **MENU** > **Review Point**.

The geocache description and logs appear.

Navigating to a Geocache

- 1 Select **Geocaching**.
- 2 Select a geocache.
- 3 Select **Go**.

Using Hints and Clues to find a Geocache

You can use hints or clues, such as a description or coordinates, to help you find a geocache.

- 1 While navigating to a geocache, select the geocache name.
- 2 Select an option:
 - To view details about the geocache, select **Description**.
 - To view a clue about a geocache location, select **Hint**.
 - To view latitude and longitude for a geocache, select **Coordinates**.
 - To view feedback about the geocache from previous searchers, select **Log**.
 - To turn chirp™ searching on, select **chirp™**.

Logging the Attempt

After you have attempted to find a geocache, you can log your results. You can verify some geocaches at www.geocaching.com.

- 1 Select **Geocaching** > **Log**.
- 2 Select **Found**, **Did Not Find**, **Needs Repair**, or **Unattempted**.
- 3 Select an option:
 - To stop logging, select **Done**.

- To begin navigation to the geocache nearest you, select **Find Next Closest**.
- To enter a comment about looking for the cache or about the cache itself, select **Edit Comment**, enter a comment, and select **Done**.

If you are signed in to www.geocaching.com, the log uploads to your www.geocaching.com account automatically.

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.

Enabling chirp Searching

- 1 Select **Setup** > **Geocaching**.
- 2 Select **chirp™ Searching** > **On**.

Finding a Geocache with a chirp

- 1 With chirp searching enabled, navigate to a geocache.

When you are within approximately 10 m (33 ft.) of the geocache that contains a chirp, details about the chirp appear.
- 2 Select **Show Details**.
- 3 If necessary, select **Go** to navigate to the next stage of the geocache.

Removing Live Geocache Data from the Device

You can remove live geocache data to show only geocaches manually loaded on the device using a computer.

Select **Setup** > **Geocaching** > **Geocaching Live** > **Remove Live Data**.

Live geocaching data is removed from the device and no longer appears in the geocache list.

Removing Your Device Registration From Geocaching.com

If you transfer ownership of your device, you can remove your device registration from the geocaching website.

Select **Setup** > **Geocaching** > **Geocaching Live** > **Unregister Device**.

Setting a Proximity Alarm

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

- 1 Select **Proximity Alarms** > **Create Alarm**.
- 2 Select a category.
- 3 Select a location.
- 4 Select **Use**.
- 5 Enter a radius.

When you enter an area with a proximity alarm, the device sounds a tone.

Editing or Deleting a Proximity Alarm

- 1 Select **Proximity Alarms**.
- 2 Select an alarm.
- 3 Select an option:
 - To edit the radius, select **Change Radius**.
 - To view the alarm on a map, select **View Map**.
 - To delete the alarm, select **Delete**.

Sending and Receiving Data Wirelessly

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

Your device can send and receive data when paired with another compatible device using Bluetooth or ANT+® wireless

technology. You can share waypoints, geocaches, routes, and tracks.

- 1 Select **Share Wirelessly**.
- 2 Select an option:
 - Select **Send**, and select a type of data.
 - Select **Receive** to receive data from another device. The other compatible device must be attempting to send data.
- 3 Follow the on-screen instructions.

Selecting a Profile

When you change activities, you can change the setup of the device by changing the profile.

- 1 Select **Profile Change**.
- 2 Select a profile.



Calculating the Size of an Area

- 1 Select **Area Calculation > Start**.
- 2 Walk around the perimeter of the area you want to calculate.
- 3 Select **Calculate** when finished.

Using the VIRB Remote

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.

The VIRB remote function allows you to control your VIRB action camera using your device.

- 1 Turn on your VIRB camera.
- 2 On your GPSMAP 86 device, select **VIRB Remote**.
- 3 Wait while the device connects to your VIRB camera.
- 4 Select an option:
 - To record video, select .
 - To take a photograph, select .

Using the Flashlight

NOTE: Using the flashlight can reduce battery life. You can reduce the brightness or flash frequency to extend the life of the battery.

- 1 Select **Flashlight > ENTER**.
- 2 If necessary, use the brightness slider to adjust the brightness.
- 3 If necessary, select a different flash type.

0	No strobe, constant beam.
1 through 9	Number of strobes per second.
SOS	Emergency strobe. NOTE: Wi-Fi, Bluetooth, and ANT+ connections are disabled in SOS mode.

Satellite Page

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

GPS Satellite Settings

Select **Satellite > MENU**.

Use With GPS On: Allows you to turn the GPS on.

Track Up: Indicates whether satellites are shown with rings oriented with north toward the top of the screen or oriented with your current track toward the top of the screen.

Single Color: Allows you to select whether the satellite page is displayed in multicolor or single color.

Set Location On Map: Allows you to mark your current location on the map. You can use this location to create routes or search for saved locations.

AutoLocate Position: Calculates your GPS position using the Garmin AutoLocate® feature.

Satellite Setup: Sets the satellite system options ([Satellite Settings](#), page 13).

Customizing the Device

Customizing the Data Fields

You can customize the data fields displayed on each main page.

- 1 Open the page for which you will change the data fields.
- 2 Select **MENU**.
- 3 Select **Change Data Fields**.
- 4 Select the new data field.
- 5 Follow the on-screen instructions.

Setup Menu

Select **MENU** twice, and select **Setup**.

System: Allows you to customize system settings ([System Settings](#), page 13).

Display: Adjusts the backlight and display settings ([Display Settings](#), page 13).

Bluetooth: Pairs your device to a smartphone, and allows you to customize the Bluetooth settings ([Bluetooth Settings](#), page 13).

Wi-Fi: Allows you to connect to wireless networks ([Wi-Fi Settings](#), page 13).

Map: Sets the map appearance ([Map Settings](#), page 4).

Recording: Allows you to customize activity recording settings ([Recording Settings](#), page 8).

Routing: Allows you to customize how the device calculates routes for each activity ([Routing Settings](#), page 13).

Expedition Mode: Allows you to customize settings for turning on expedition mode ([Turning On Expedition Mode](#), page 15).

Tones: Sets the device sounds, such as key tones and alerts ([Setting the Device Tones](#), page 13).

Heading: Allows you to customize the compass heading settings ([Heading Settings](#), page 5).

Altimeter: Allows you to customize the altimeter settings ([Altimeter Settings](#), page 5).

Geocaching: Allows you to customize your geocache settings ([Geocaching Settings](#), page 13).

Sensors: Pairs wireless sensors with your device ([Wireless Sensors](#), page 14).

Fitness: Allows you to customize settings for recording fitness activities ([Fitness Settings](#), page 14).

Marine: Sets the appearance of marine data on the map ([Marine Settings](#), page 14).

Menus: Allows you to customize the page sequence and main menu ([Menu Settings](#), page 14).

LiveTrack: Sets the auto track and your moving interval.

Messages: Sets the length of the message notification ring and turns on and off message notifications.

Position Format: Sets the geographical position format and datum options ([Position Format Settings](#), page 14).

Units: Sets the units of measure used on the device ([Changing the Units of Measure](#), page 14).

Time: Adjusts the time settings ([Time Settings](#), page 15).

Profiles: Allows you to customize and create new activity profiles ([Profiles](#), page 15).

Reset: Allows you to reset user data and settings (*Resetting Data and Settings, page 15*).

About: Displays device information, such as the unit ID, software version, regulatory information, and license agreement (*Viewing E-label Regulatory and Compliance Information, page 17*).

Waypoints: Allows you to enter a custom prefix for automatically named waypoints.

System Settings

Select **Setup > System**.

Satellite: Sets the satellite system options (*Satellite Settings, page 13*).

Text 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, such as street names.

Interface: Sets the format of the serial interface (*Serial Interface Settings, page 13*).

RINEX Logging: Enables the device to write Receiver Independent Exchange Format (RINEX) data to a system file. RINEX is a data interchange format for raw satellite navigation system data.

Satellite Settings

Select **Setup > System > Satellite**.

Satellite System: Sets the satellite system to GPS or Demo Mode (GPS off).

WAAS/EGNOS: Enables the system to use Wide Area Augmentation System/European Geostationary Navigation Overlay Service (WAAS/EGNOS) data.

GPS and Other Satellite Systems

The default satellite system setting is GPS. The GPS + GLONASS or GPS + GALILEO options offer increased performance in challenging environments and faster position acquisition. Using GPS and another satellite together can reduce battery life more quickly than using GPS only.

Serial Interface Settings

Select **Setup > System > Interface**.

Garmin Spanner: Allows you to use the device USB port with most NMEA 0183-compliant mapping programs by creating a virtual serial port.

Garmin Serial: Sets the device to use a Garmin proprietary format to exchange waypoint, route, and track data with a computer.

Text Out: Provides simple ASCII text output of location and velocity information.

MTP: Sets the device to use Media Transfer Protocol (MTP) to access the file system on the device instead of mass storage mode.

Display Settings

Select **Setup > Display**.

Backlight Timeout: Adjusts the length of time before the backlight turns off.

Battery Save: Saves the battery power and prolongs the battery life by turning off the screen when the backlight times out.

Appearance: Changes the appearance of the display background and selection highlight (*Changing the Color Mode, page 13*).

Screen Capture: Allows you to save the image on the device screen.

Review Text Size: Changes the size of the text on the screen.

Changing the Color Mode

1 Select **Setup > Display > Appearance**.

2 Select an option:

- To allow the device to display day or night colors automatically based on the time of day, select **Mode > Auto**.
- To use a light background, select **Mode > Day**.
- To use a dark background, select **Mode > Night**.
- To customize the color scheme for daytime, select **Day Color**.
- To customize the color scheme for nighttime, select **Night Color**.

Bluetooth Settings

Select **Setup > Bluetooth**.

Status: Enables Bluetooth wireless technology, and shows current connection status.

Notifications: Shows or hides smartphone notifications.

Forget Phone: Removes the connected device from the list of paired devices. This option is available only after a device is paired.

Wi-Fi Settings

Select **Setup > Wi-Fi**.

Wi-Fi: Enables wireless technology.

Add Network: Allows you to scan for and connect to a wireless network.

Routing Settings

The available routing settings vary based on the activity selected.

Select **Setup > Routing**.

Activity: Sets an activity for routing. The device calculates routes optimized for the type of activity you are doing.

Calculation Method: Sets the method used to calculate your route.

Lock On Road: Locks the blue triangle, which represents your position on the map, onto the nearest road. This is most useful when driving or navigating on roads.

Off Route Recalculation: Sets recalculation preferences when navigating away from an active route.

Avoidance Setup: Sets the types of roads, terrain, and transportation methods to avoid while navigating.

Route Transitions: Sets how the device routes from one point on the route to the next. This setting is available only for some activities. The Distance option routes you to the next point on the route when you are within a specified distance of your current point.

Setting the Device Tones

You can customize tones for messages, keys, turn warnings, and alarms.

1 Select **Setup > Tones > Tones > On**.

2 Select a tone for each audible type.

Geocaching Settings

Select **Setup > Geocaching**.

Geocaching Live: Allows you to remove live geocache data from your device and remove your device registration from geocaching.com (*Removing Live Geocache Data from the Device, page 11, Removing Your Device Registration From Geocaching.com, page 11*).

Geocache Style: Sets the device to display the geocache list using names or codes.

chirp™ Searching: Allows the device to search for a geocache containing a chirp accessory (*Enabling chirp Searching, page 11*).

Program chirp™: Programs the chirp accessory. See the *chirp Owner's Manual* at www.garmin.com.

Filter Setup: Allows you to create and save custom filters for geocaches (*Saving a Custom Geocache Filter*, page 11).

Found Geocaches: Allows you to edit the number of geocaches found. This number automatically increases when you log a find (*Logging the Attempt*, page 11).

Wireless Sensors

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

Pairing Your Wireless Sensors

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

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

1 Bring the device within 3 m (10 ft.) of the sensor.

NOTE: Stay 10 m (33 ft.) away from other sensors while pairing.

2 Select **Setup > Sensors**.

3 Select your sensor type.

4 Select **Search For New**.

When the sensor is paired with your device, the sensor status changes from Searching to Connected.

Fitness Settings

Select **Setup > Fitness**.

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

Activity Type: Sets the fitness activity to hiking, running, cycling, and more. This allows your activity to appear as the correct type when you transfer it to Garmin Connect.

User: Sets your user profile information. The device uses this information to calculate accurate training data in Garmin Connect.

HR Zones: Sets the five heart rate zones and your maximum heart rate for fitness activities.

Marking Laps by Distance

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

1 Select **Setup > Fitness > Auto Lap**.

2 Enter a value, and select **Done**.

Marine Settings

From the app drawer, select **Setup > Marine**.

Marine Chart Mode: Sets the type of chart the device uses when displaying marine data. Nautical displays various map features in different colors so the marine POIs are more readable and so the map reflects the drawing scheme of paper charts. Fishing (requires marine maps) displays a detailed view of bottom contours and depth soundings and simplifies map presentation for optimal use while fishing.

Appearance: Sets the appearance of marine navigation aids on the map.

Marine Alarm Setup: Sets alarms for when you exceed a specified drift distance while anchored, when you are off course by a specified distance, and when you enter water of a specific depth.

Setting Up Marine Alarms

1 Select **Setup > Marine > Marine Alarm Setup**.

2 Select an alarm type.

3 Select **On**.

4 Enter a distance, and select **Done**.

Menu Settings

Select **Setup > Menus**.

Menu Style: Changes the appearance of the main menu.

Main Menu: Allows you to move, add, and delete items in the main menu (*Customizing the Main Menu*, page 14).

Page Sequence: Allows you to move, add, and delete items in the page sequence (*Changing the Page Sequence*, page 14).

Setup: Changes the order of items in the setup menu.

Find: Changes the order of items in the find menu.

Customizing the Main Menu

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

1 From the main menu, select **MENU > Change Item Order**.

2 Select a menu item.

3 Select an option:

- Select **Move** to change the placement of the item in the list.
- Select **Insert** to add a new item to the list.
- Select **Remove** to delete an item from the list.

Changing the Page Sequence

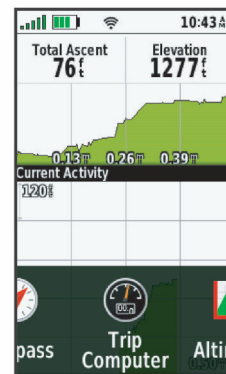
1 Select **Setup > Menus > Page Sequence > Edit Page Sequence**.

2 Select a page.

3 Select an option:

- To move the page up or down in the list, select **Move**.
- To add a new page to the page sequence, select **Insert**, and select a category.
- To remove a page from the page sequence, select **Remove**.

TIP: You can select **PAGE** to view the page sequence.



Position Format Settings

NOTE: You should 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.

From the app drawer, select **Setup > Position Format**.

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

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

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

Changing the Units of Measure

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

- 1 Select a measurement type.
- 2 Select a unit of measure.

Time Settings

Time Format: Sets the device to show time in a 12-hour or 24-hour format.

Time Zone: Sets the time zone for the device. Automatic sets the time zone automatically based on your GPS position.

Profiles

Profiles are a collection of settings that optimize your device based on how you are using it. For example, the settings and views are different when you use the device for hunting than when geocaching.

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.

Creating a Custom Profile

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

- 1 Select **Setup > Profiles > Create Profile > OK**.
- 2 Customize your settings and data fields.

Editing a Profile Name

- 1 Select **Setup > Profiles**.
- 2 Select a profile.
- 3 Select **Edit Name**.
- 4 Enter the new name.

Deleting a Profile

NOTE: Before you can delete the active profile, you must activate a different profile. You cannot delete a profile while it is active.

- 1 Select **Setup > Profiles**.
- 2 Select a profile.
- 3 Select **Delete**.

Resetting Data and Settings

- 1 Select **Setup > Reset**.
- 2 Select an option:
 - To reset data specific to a trip, such as distance and averages, select **Reset Trip Data**.
 - To delete all saved waypoints, select **Delete All Waypoints**.
 - To clear the data recorded since you started your current activity, select **Clear Current Activity**.
NOTE: The device continues to record new data for the current activity.
 - To reset only the settings for your current activity profile to the factory default values, select **Reset Profile Settings**.
 - To reset all device settings and profiles to the factory default values, select **Reset All Settings**.
NOTE: Resetting all settings clears all geocaching activity from your device. It does not remove your saved user data, such as tracks and waypoints.
 - To remove all saved user data and reset all settings on the device to the factory default values, select **Delete All**.
NOTE: Deleting all settings removes your personal data, history, and saved user data, including tracks and waypoints.

Restoring Default Page Settings

- 1 Open a page for which you will restore the settings.
- 2 Select **MENU > Restore Defaults**.

Device Information

Product Updates

On your computer, install Garmin Express™ (www.garmin.com/express). On your smartphone, you can install the Garmin Explore app to upload your waypoints, routes, tracks, and activities.

Garmin Express provides easy access to these services for Garmin devices:

- Software updates
- Map updates
- Product registration

Setting Up Garmin Express

- 1 Connect the device to your computer using a USB cable.
- 2 Go to garmin.com/express.
- 3 Follow the on-screen instructions.

Getting More Information

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

- Go to support.garmin.com for additional manuals, articles, and software updates.
- Go to buy.garmin.com, or contact your Garmin dealer for information about optional accessories and replacement parts.

Battery Information

The actual battery life depends on your device settings, such as the tracking and message checking intervals.

Battery Life	Mode
Up to 200 hr.	Expedition mode with 30-minute LiveTrack interval
Up to 35 hr.	Default mode with 10-minute LiveTrack interval with auto recording
Up to 1 yr.	Turned off

Maximizing Battery Life

- Turn on the **Extended Tracking** setting ([LiveTrack Settings, page 3](#)).
- Turn on the **Automatic** backlight brightness setting or reduce the backlight timeout ([Display Settings, page 13](#)).
- Reduce the message **Listen Interval** setting ([Messages Settings, page 3](#)).
- Reduce the value of the tracking **Log Interval** and **Send Interval** settings ([LiveTrack Settings, page 3](#)).
- Turn off Bluetooth wireless technology ([Bluetooth Settings, page 13](#)).

Turning On Battery Save Mode

You can use battery save mode to prolong the battery life.

Select **Setup > Display > Battery Save > On**.

In battery save mode, the screen shuts off when the backlight times out. You can select the power key to turn on the screen.

Turning On Expedition Mode

You can use expedition mode to prolong the battery life. In expedition mode, the screen shuts off, the device enters low power mode, and the device collects fewer GPS track points.

- 1 Select **Setup > Expedition Mode**.
- 2 Select an option:
 - To enable the device to prompt you to turn on expedition mode when you turn off the device, select **Prompted**.
 - To automatically turn on expedition mode after two minutes of inactivity, select **Auto**.

- To never turn on expedition mode, select **Never**.

In expedition mode, the green LED flashes occasionally.

Long-Term Storage

When you do not plan to use the device for several months, you should charge the battery to at least 50% before you store the device. You should store the device in a cool, dry place with temperatures around the typical household level. After storage, you should fully recharge the device before using it.

Attaching the Carabiner Clip

- 1 Position the carabiner clip ① in the slots on the mounting spine ② of the device.



- 2 Slide the carabiner clip up until it locks in place.

Removing the Carabiner Clip

Lift up on the bottom of the carabiner clip, and slide the carabiner clip off the mounting spine.

Attaching a Lanyard

- 1 Insert the loop of the lanyard through the slot in the device.



- 2 Thread the other end of the lanyard through the loop, and pull it tight.
- 3 If necessary, attach the lanyard to your clothing or backpack to tether it during an activity.

Device Care

NOTICE

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

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

The device is water resistant to IEC Standard 60529 IPX7. It can withstand accidental immersion in 1 meter of water for 30 minutes. Prolonged submersion can cause damage to the device. After submersion, be certain to wipe dry and air dry the device before using or charging.

Thoroughly rinse the device with fresh water after exposure to chlorinated or salt water environments.

Cleaning the Device

- 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.

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 handheld device supports these file types:

- Files from Garmin Explore.
- GPX route, track, and waypoint files.
- GPX geocache files (*Downloading Geocaches Using a Computer*, page 10).
- JPEG photo files.
- GPI custom POI files from the Garmin POI Loader. Go to www.garmin.com/products/poiloader.
- FIT files for exporting to Garmin Connect.

Installing a Memory Card

You can install a microSD memory card for additional storage or pre-loaded maps. The device supports memory cards up to 32 GB. For optimal performance, use a class 10 memory card.

- 1 Lift the weather cap on the side of the device ①.



- 2 Insert the memory card with the gold contacts facing the device screen.

Connecting the Device to Your Computer

NOTICE

To prevent corrosion, thoroughly dry the USB port, the weather cap, and the surrounding area before charging or connecting to a computer.

- 1 Pull up the weather cap from the USB port.
- 2 Plug the small end of the USB cable into the USB port on the device.
- 3 Plug the large end of the USB cable into a computer USB port.

Your device and memory card (optional) appear as removable drives in My Computer on Windows computers and as mounted volumes on Mac computers.

Transferring Files to Your Device

- 1 Connect the device to your computer.

On Windows computers, the device appears as a removable drive or a portable device, and the memory card may appear as a second removable drive. On Mac computers, the device and memory card appear as mounted volumes.

NOTE: Some computers with multiple network drives may not display device drives properly. See your operating system documentation to learn how to map the drive.

- 2 On your computer, open the file browser.
- 3 Select a file.
- 4 Select **Edit > Copy**.

- 5 Open the portable device, drive, or volume for the device or memory card.
- 6 Browse to a folder.
- 7 Select **Edit > Paste**.
The file appears in the list of files in the device memory or on the memory card.

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.

NOTE: If you are using an Apple computer, you must empty the Trash folder to completely remove the files.

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 the device.

- 1 Complete an action:
 - For Windows computers, select the **Safely Remove Hardware** icon in the system tray, and select your device.
 - For Apple computers, select the device, and select **File > Eject**.
- 2 Disconnect the cable from your computer.

Specifications

Battery type	Internal rechargeable Lithium-ion
Battery life	Up to 40 hr. Up to 200 hr. in expedition mode
Water rating	IEC 60529 IPX7*
Operating temperature range	From -20° to 60°C (from -4° to 140°F)
Charging temperature range	From 0° to 40°C (from 32° to 104°F)
Compass-safe distance	17.5 cm (7 in.)
Wireless frequency/protocol	2.4 GHz @ 14.9 dBm nominal

*The device withstands incidental exposure to water of up to 1 m for up to 30 min. For more information, go to www.garmin.com/waterrating.

Viewing E-label Regulatory and Compliance Information

The label for this device is provided electronically. The e-label may provide regulatory information, such as identification numbers provided by the FCC or regional compliance markings, as well as applicable product and licensing information.

- 1 Select **Setup**.
- 2 Select **About**.

Appendix

Data Fields

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

24 hr. Max. Temperature: The maximum temperature recorded in the last 24 hours from a compatible temperature sensor.

24 hr. Min. Temperature: The minimum temperature recorded in the last 24 hours from a compatible temperature sensor.

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

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

Alarm Timer: The current time of the countdown timer.

Ambient Pressure: The uncalibrated ambient pressure.

Ascent - Average: The average vertical distance of ascent since the last reset.

Ascent - Maximum: The maximum rate of ascent in feet per minute or meters per minute since the last reset.

Ascent - Total: The total elevation distance ascended during the activity or since the last reset.

Automotive Turn: The direction of the next turn in the route. You must be navigating for this data to appear.

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

Average HR %Max.: The average percentage of maximum heart rate for the current activity.

Average Lap: The average lap time for the current activity.

Avg. HR: The average heart rate for the current activity.

Barometer: The calibrated current pressure.

Battery Level: The remaining battery power.

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

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

Calories: The amount of total calories burned.

Compass Heading: The direction you are moving based on the compass.

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.

Current Lap: The stopwatch time for the current lap.

Date: The current day, month, and year.

Depth: The depth of the water. Your device must be connected to a NMEA® 0183 device capable of acquiring the water depth.

Descent - Average: The average vertical distance of descent since the last reset.

Descent - Maximum: The maximum rate of descent in meters per minute or feet per minute since the last reset.

Descent - Total: The total elevation distance descended during the activity or since the last reset.

Distance to Dest.: The remaining distance to the final destination. You must be navigating for this data to appear.

Distance to Next: The remaining distance to the next waypoint on the route. You must be navigating for this data to appear.

Elapsed Activity 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.

Elevation Above Ground: The altitude of your current location above ground level.

Elevation - Maximum: The highest elevation reached since the last reset.

Elevation - Minimum: The lowest elevation reached since the last reset.

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

ETA at Next: The estimated time of day when 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.

Glide Ratio: The ratio of horizontal distance traveled to the change in vertical distance.

Glide Ratio to Dest.: The glide ratio required to descend from your current position to the destination elevation. You must be navigating for this data to appear.

GPS Elevation: The altitude of your current location using GPS.

GPS Heading: The direction you are moving based on GPS.

GPS Signal Strength: The strength of the GPS satellite signal.

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

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.

Heart Rate - %Max.: The percentage of maximum heart rate.

Heart Rate Zone: The performance zone of your current heart rate (1 to 5). The default zones are based on your user profile and maximum heart rate (220 minus your age).

Lap Ascent: The vertical distance of ascent for the current lap.

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

Lap Descent: The vertical distance of descent for the current lap.

Lap Distance: The distance traveled for the current lap.

Lap Heart Rate Percent: The average percentage of maximum heart rate for the current lap.

Lap HR: The average heart rate for the current lap.

Laps: The number of laps completed for the current activity.

Lap Speed: The average speed for the current lap.

Last Lap Ascent: The vertical distance of ascent for the last completed lap.

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

Last Lap Descent: The vertical distance of descent for the last completed lap.

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

Last Lap HR: The average heart rate 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.

Location (lat/lon): The current position in latitude and longitude, regardless of the selected position format setting.

Location (selected): The current position using the selected position format setting.

Location of Dest.: The position of your final destination. You must be navigating for this data to appear.

None: This is a blank data field.

Odometer: A running tally of the 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.

Pointer: An arrow points in the direction of the next waypoint or turn. You must be navigating for this data to appear.

Speed: The current rate of travel.

Speed Limit: The reported speed limit for the road. Not available in all maps and in all areas. Always rely on posted road signs for actual speed limits.

Speed - Maximum: The highest speed reached since the last reset.

Speed - Moving Avg.: The average speed while moving since the last reset.

Speed - Overall Avg.: The average speed while moving and stopped since the last reset.

Stopwatch Timer: 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.

Temperature: The temperature of the air. Your body temperature affects the temperature sensor. Your device must be connected to a temperature sensor for this data to appear.

Temperature - Water: The temperature of the water. Your device must be connected to a NMEA 0183 device capable of acquiring the water temperature.

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

Time to Destination: The estimated time remaining before you reach the destination. You must be navigating for this data to appear.

Time to Next: The estimated time remaining before you reach the next waypoint in the route. You must be navigating for this data to appear.

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

Total Lap: The stopwatch time for all the completed laps.

Trip Odometer: A running tally of the distance traveled since the last reset.

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

Trip Time - Moving: A running tally of the time spent moving since the last reset.

Trip Time - Stopped: A running tally of the time spent not moving since the last reset.

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.

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.

Vertical Dist. to Dest.: The elevation distance between your current position and the final destination. You must be navigating for this data to appear.

Vertical Dist. to Next: The elevation distance between your current position and the next waypoint in the route. You must be navigating for this data to appear.

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

Vertical Speed to Dest.: The rate of ascent or descent to a predetermined altitude. You must be navigating for this data to appear.

Waypoint at Dest.: The last point on the route to the destination. You must be navigating for this data to appear.

Waypoint at Next: The next point on the route. You must be navigating for this data to appear.

Getting More Information

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

- Go to support.garmin.com for additional manuals, articles, and software updates.
- Go to buy.garmin.com, or contact your Garmin dealer for information about optional accessories and replacement parts.

Optional Accessories

Optional accessories, such as mounts, maps, fitness accessories, and replacement parts, are available at <http://buy.garmin.com> or from your Garmin dealer.

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.

Tips for Pairing ANT+ Accessories with Your Garmin Device

- Verify that the ANT+ accessory is compatible with your Garmin device.
- Before you pair the ANT+ accessory with your Garmin device, move 10 m (33 ft.) away from other ANT+ accessories.
- Bring the Garmin device within range 3 m (10 ft.) of the ANT+ accessory.
- After you pair the first time, your Garmin device automatically recognizes the ANT+ accessory each time it is activated. This process occurs automatically when you turn on the Garmin device and only takes a few seconds when the accessories are activated and functioning correctly.
- When paired, your Garmin device receives data from only your accessory, and you can go near other accessories.

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.

If you know your maximum heart rate, you can use the table ([Heart Rate Zone Calculations, page 19](#)) 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.

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

Zone	% of Maximum Heart Rate	Perceived Exertion	Benefits
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

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