

GARMIN

Oregon® 650

Owner's Manual



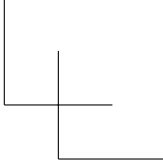
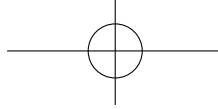


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Introduction

WARNING

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


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 Install the batteries (page 2).
- 2 Turn on the device (page 4).
- 3 Register the device (page 42).
- 4 Acquire satellites (page 4).
- 5 Select  to view the status page (page 29).
- 6 Mark a waypoint (page 5).
- 7 Navigate to a destination (page 12).

Device Overview



①	Camera lens
②	 Power key
③	Battery cover D-ring
④	User key (page 29)
⑤	microSD™ card slot (under battery door)
⑥	Mini-USB port (under weather cap)

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Battery Information



WARNING

The temperature rating for the device may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures.

Do not use a sharp object to remove batteries.



CAUTION

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

NOTICE

Alkaline batteries lose a significant amount of their capacity as the temperature decreases. Therefore, use lithium batteries when operating the device in below freezing conditions.

Installing the NiMH Battery Pack

The device operates using the optional NiMH battery pack or two AA batteries (page 2).

- 1 Turn the D-ring counter-clockwise, and pull up to remove the cover.
- 2 Locate the battery pack ① that came in the product box.

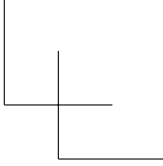
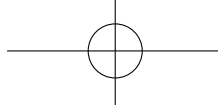


- 3 Insert the battery pack, observing polarity.
- 4 Gently press the battery pack into place.
- 5 Replace the battery cover, and turn the D-ring clockwise.

Charging the Battery Pack

NOTICE

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



Do not attempt to use the device to charge a battery that was not provided by Garmin®. Attempting to charge a battery that was not provided by Garmin can damage the device and void the warranty.

Before you can connect the straight connector of the USB cable to your device, you may have to remove optional mount accessories.

NOTE: The battery will not charge when outside the temperature range of 32 to 122°F (0 to 50°C).

You can charge the battery using a standard wall outlet or a USB port on your computer.

- 1 Pull up the weather cap ① from the mini-USB port ②.



- 2 Plug the small end of the USB cable into the mini-USB port.
- 3 Plug the USB end of the cable into the AC adapter or a computer USB port.
- 4 Plug the AC adapter into a standard wall outlet. When you connect the device to a power source, the device turns on.
- 5 Charge the battery completely.

Installing AA Batteries

Instead of the optional NiMH battery pack (page 2), you can use two alkaline, NiMH, or lithium batteries. This is useful when you are on the trail and cannot charge the NiMH battery pack. Use NiMH or lithium batteries for best results.


NOTE: Standard alkaline batteries are not recommended for the Oregon 650 models when using the camera feature.

- 1 Turn the D-ring counter-clockwise, and pull up to remove the cover.
- 2 Insert two AA batteries, observing polarity.

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- 3 Replace the battery cover, and turn the D-ring clockwise.
- 4 Hold .
- 5 Select **Setup > System > AA Battery Type**.
- 6 Select **Alkaline, Lithium, or Rechargeable NiMH**.



Turning On the Device

Hold .

Acquiring Satellites Signals and Recording a Track

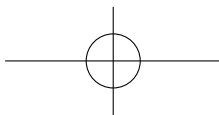
Before you can use the GPS navigation features, such as recording a track, you must acquire satellite signals. The device may need a clear view of the sky to acquire satellite signals.

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

- 1 Hold .
- 2 Wait while the device locates satellites. When  turns green, your device has acquired satellite signals. The time and date are set automatically based on the GPS position.
- 3 Walk around to record a track (page 9).
- 4 Select an option:
 - Select **Map** to view your track on the map.
 - Select **Compass** to view the compass and customizable data fields.
 - Select **Trip Computer** to view your current speed, distance, and other helpful statistics.

Using the Touchscreen

- Tap the screen to select an item.
- Drag or swipe your finger across the screen to pan or scroll the screen.
- Pinch two fingers together to zoom out.
- Spread two fingers to zoom in.



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- Make each touchscreen selection a separate action.
- Select ✓ to save your changes and close the page.
- Select ✕ to close the page and return to the previous page.
- Select ↶ to return to the previous page.
- Hold ↶ to return to the main menu.
- Select ≡ to view specific menu items for the page you are viewing.

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 Select the user key.
The default function of the user key marks a waypoint.

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

Marking a Waypoint Using the Map

- 1 Select **Map**.
- 2 Select a location on the map.
- 3 Select the information bar at the top of the screen.
- 4 Select **OK**.

Finding a Waypoint

- 1 Select **Waypoint Manager**.
- 2 Select a waypoint from the list.
- 3 If necessary, select ≡ to narrow the search.
- 4 Select an option:
 - Select **Spell Search** to search using the name of the waypoint.
 - Select **Select Symbol** to search using the symbol of the waypoint.
 - Select **Search Near** to search near a recently found location, another waypoint, your current location, or a point on the map.



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- Select **Sort** to view the list of waypoints based on nearest distance or alphabetical order.

Editing a Waypoint

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

Deleting a Waypoint

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

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 **Waypoint Manager**.

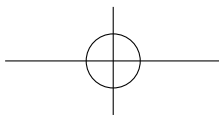
- 2 Select a waypoint.
- 3 Select ≡ > **Average Location**.
- 4 Move to the waypoint location.
- 5 Select **Start**.
- 6 Follow the on-screen instructions.
- 7 When the confidence status bar reaches 100%, select **Save**.

For best results, collect 4 to 8 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 ≡ > **Project Waypoint**.
- 4 Enter the bearing, and select ✓.
- 5 Select a unit of measure.
- 6 Enter the distance, and select ✓.
- 7 Select **Save**.





Where To? Menu

You can use the **Where To?** menu to find a destination to navigate to. Not all **Where To?** categories are available in all areas and maps.


Optional Maps

You can use additional maps with the device, such as BirdsEye satellite imagery, BlueChart® g2, and City Navigator® detailed maps. Detailed maps may contain additional points of interest, such as restaurants or marine services. For more information, go to <https://www.garmin.com> or contact your Garmin dealer.

Finding a Location by Name

- 1 Select **Where To?** > **Waypoints** >  > **Spell Search**.
- 2 Enter the name or part of the name.
- 3 Select .

Finding a Location Near Another Location

- 1 Select **Where To?** >  > **Search Near**.
- 2 Select an option.

- 3 Select a location.

Finding an Address

You can use optional City Navigator maps to search for addresses.

- 1 Select **Where To?** > **Addresses**.
- 2 Select the country or state, if necessary.
- 3 Enter the city or postal code.
NOTE: Not all map data provides postal code searching.
- 4 Select the city.
- 5 Enter the house number.
- 6 Enter the street.

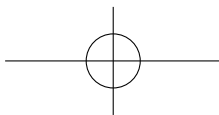
Routes

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** > **Select Next Point**.

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5 Repeat steps 2–4 to add all the points in the route.

6 Select  to save the route.

Editing the Name of a Route

1 Select **Route Planner**.

2 Select a route.

3 Select **Change Name**.

4 Enter the new name, and select .

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  to save the route.

Viewing a Route on the Map

1 Select **Route Planner**.

2 Select a route.

3 Select **View Map**.

Deleting a Route

1 Select **Route Planner**.

2 Select a route.

3 Select **Delete Route**.

Viewing the Active Route

1 While navigating a route, select **Active Route**.

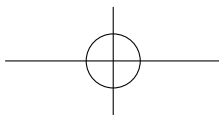
2 Select a point in the route to view additional details.

Reversing a Route

1 Select **Route Planner**.

2 Select a route.

3 Select **Reverse Route**.



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.

Recording a Track Log

Select **Current Track** > ►.

You can select **||** to pause tracking.

When paused, the track log is not recorded.

Customizing Your Track Log

You can customize how your device displays and records tracks.

- 1 Select **Current Track** > ⓘ.
- 2 Select an option:
 - To change the color of the track line on the map, select **Color**.
 - To display a line on the map indicating your track, select **Show On Map**.
- 3 Select **≡** > **Setup Tracks** > **Record Method**.
- 4 Select an option:

- To record tracks at a variable rate that creates an optimum representation of your tracks, select **Auto**.
- To record tracks at a specified distance, select **Distance**.
- To record tracks at a specified time, select **Time**.

5 Select **Interval**.

6 Complete an action:

- If you selected **Auto** for the **Record Method**, select an option to record tracks more or less often.

NOTE: Using the **Most Often** interval provides the most track detail, but fills up the device memory quicker.

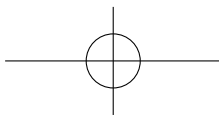
- If you selected **Distance** or **Time** for the **Record Method**, enter a value, and select ✓.

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 **Track Manager** > **Current Track** > **📍** > **TracBack**.

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The map displays your route with a magenta line, start point, and end point.

- 2 Navigate using the map or the compass.

Saving the Current Track

- 1 Select **Track Manager > Current Track**.
- 2 Select an option:
 - Select  to save the entire track.
 - Select  > **Save Portion**, and select a portion.

Viewing Track Information

- 1 Select **Track Manager**.
- 2 Select a track.
- 3 Select .

The beginning and the end of the track are marked by flags.
- 4 Select the information bar at the top of the screen.



Information about the track appears.

Viewing the Elevation Plot of a Track

- 1 Select **Track Manager**.
- 2 Select a track.

- 3 Select .

Saving a Location on a Track

- 1 Select **Track Manager**.
- 2 Select a track.
- 3 Select .
- 4 Select a location on the track.
- 5 Select the information bar at the top of the screen. Information about the location appears.
- 6 Select  > **OK**.

Changing the Track Color

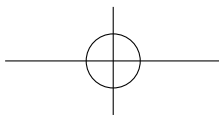
You can change the color of a track to improve the view on the map or compare it to another track.

- 1 Select **Track Manager**.
- 2 Select a track.
- 3 Select **Color**.
- 4 Select a color.

Archiving Saved Tracks

You can archive saved tracks to save memory space.


- 1 Select **Setup > Tracks > Auto Archive**.
- 2 Select **When Full, Daily, or Weekly**.



Clearing the Current Track

Select **Current Track** >  > **Clear**.

Deleting a Track

- 1 Select **Track Manager**.
- 2 Select a track.
- 3 Select  > **Delete** > **Delete**.

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>.

Sending Files to BaseCamp

- 1 Open BaseCamp.
- 2 Connect the device to your computer (page 41).
Your device and memory card (optional) appear as removable drives in My

Computer on Windows® computers and as mounted volumes on Mac® computers.

NOTE: Some computers with multiple network drives cannot display device drives. See your operating system help file to learn how to map the drive.

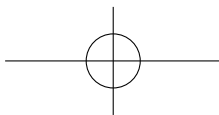
- 3 Open the **Garmin** or memory card drive or volume.
- 4 Select an option:
 - Select an item from a connected device and drag it to My Collection or to a list.
 - From BaseCamp, select **Device** > **Receive from Device**, and select the device.

Creating an Adventure

Before you can create an adventure and send it to your device, you must download BaseCamp to your computer and transfer a track from your device to your computer (page 11).

- 1 Open BaseCamp.
- 2 Select **File** > **New** > **Garmin Adventure**.
- 3 Select a track, and select **Next**.
- 4 If necessary, add items from BaseCamp.

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- 5 Complete the required fields to name and describe the adventure.
- 6 If you want to change the cover photo for the adventure, select **Change**, and select a different photo.
- 7 Select **Finish**.

Starting an Adventure

Before you can start an adventure, you must send an adventure from BaseCamp to your device.

- 1 Select **Adventures**.
- 2 Select an adventure.
- 3 Select **Start**.

Navigation

You can navigate routes and tracks, to a waypoint, geocache, photo, or any saved location in the device. You can use the map or the compass to navigate to your destination.

Navigating to a Destination

- 1 Select **Where To?**.
- 2 Select a category.


- 3 Select a destination.

- 4 Select **Go**.

The map opens with your route marked with a magenta line.

- 5 Navigate using the map or compass (page 13).

Stopping Navigation

From the map or compass, select  > **Stop Navigation**.

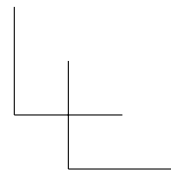
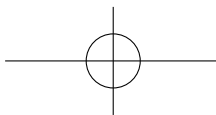
Marking and Starting Navigation to a Man Overboard Location

You can save a man overboard (MOB) location, and automatically start navigation back to it. You can customize a key to access the MOB function quickly (page 29).

- 1 Select **Man Overboard > Start**.

The map opens showing the route to the MOB location. The default appearance of the route is a magenta line.

- 2 Navigate using the map or compass (page 13).



Navigating with the Map

- 1 Begin navigating to a destination (page 12).
- 2 Select **Map**.
A blue triangle represents your location on the map. As you travel, the blue triangle moves and leaves a track log (trail). You can change how the track log appears on the map (page 9).
- 3 Complete one or more actions:
 - Drag the map to view different areas.
 - Select **+** and **-** to zoom in and out of the map.
 - Select a location on the map (represented by a pin), and select the information bar at the top of the screen to view information about the selected location.

Navigating a Driving Route

Before you can navigate street routes, you must purchase and load City Navigator maps.

- 1 Select **Profile Change > Automotive**.
- 2 Select a destination.
- 3 Navigate using the map.

Turns appear in the text bar along the top of the map. Audible tones signal turns in the route.

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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 (page 12).
- 2 Select **Compass**.
- 3 Turn until ▲ points toward the top of the compass, and continue moving in that direction to the destination.

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

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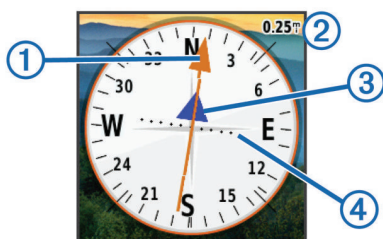
calibration by default. If you experience irregular compass behavior, for example, after moving long distances or after extreme temperature changes, you can manually calibrate the compass.

- 1 Select **Compass** > **≡** > **Calibrate Compass** > **Start**.
- 2 Follow the on-screen instructions.

Course Pointer

The course pointer is most useful if you are navigating on water or where there are no major obstacles in your path. It also helps you avoid hazards to either side of the course, such as shoals or submerged rocks.

To enable the course pointer, from the compass, select **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) ③ provides the indication of drift (right or left) from the course. The scale ② refers to the distance between dots ④ on the course deviation indicator, which tell you how far off course you are.

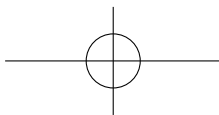
Navigating with Sight 'N Go

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.

Elevation Plot

By default, the elevation plot displays the elevation over the distance traveled. To customize the elevation settings, see page 33. You can touch any point on the plot to view details about that point.



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Navigating to a Point on the Plot

- 1 Select **Elevation Plot**.
- 2 Select an individual point on the plot.
Details about the point appear.
- 3 Select **≡** > **View Map**.
- 4 Select the information bar at the top of the screen.
- 5 Select **Go**.
The map opens with your route marked with a magenta line.
- 6 Navigate using the map or compass (page 13).

Changing the Plot Type

You can change the elevation plot to display pressure and elevation over time or distance.

- 1 Select **Elevation Plot** > **Change Plot Type**.
- 2 Select an option.

Resetting the Elevation Plot

Select **Elevation Plot** > **≡** > **Reset** > **Clear Current Track** > **Clear**.

Calibrating the Barometric Altimeter

Your device was already calibrated at the factory, and the device uses automatic calibration by default. 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 Select **Elevation Plot** > **≡** > **Calibrate Altimeter**.
- 3 Follow the on-screen instructions.

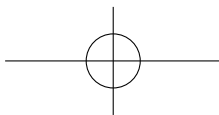
Trip Computer

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

From the main menu, select **Trip Computer**.

Resetting the Trip Computer

For accurate information, reset the trip information before beginning a trip.



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Select **Trip Computer** > ≡ > **Reset** > **Reset Trip Data** > **Reset**.

Camera and Photos

You can take photos with the Oregon 650. When you take a photo, the geographic location is automatically saved in the photo information. You can navigate to the location.

Taking a Photo

- 1 Select **Camera**.
- 2 Turn the device horizontally or vertically to change the orientation of the photo.
- 3 If necessary, select ⚡ to turn on the flash. You can select **Auto** to use the flash only when the camera detects a low light scene.
- 4 If necessary, use two fingers on the touchscreen to zoom in or out (page 4).
- 5 Hold 📷 to focus and hold the device still. A white frame appears on the screen. The device focuses on the object inside of the frame. When the photo is in focus, the frame turns green.
- 6 Release 📷 to take a photo.

Viewing Photos

You can view photos you have taken with the camera and photos you have transferred to the device.

- 1 Select **Photo Viewer**.
- 2 Select a photo to see a larger view. You can spread two fingers to zoom in or pinch two fingers to zoom out.

Viewing a Slideshow

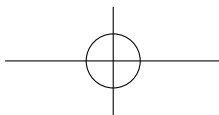
- 1 Select **Photo Viewer**.
- 2 Select a photo.
- 3 Select ≡ > **View Slideshow**.

Sorting Photos

- 1 Select **Photo Viewer** > ≡ > **Sort Photos**.
- 2 Select an option:
 - Select **Most Recently**.
 - Select **Near A Location**, and select a location.
 - Select **On A Specific Date**, and enter a date.


Viewing the Location of a Photo

- 1 Select **Photo Viewer**.




- 2 Select a photo.
- 3 Select  > **View Map**.


Setting a Photo as Wallpaper

- 1 Select **Photo Viewer**.
- 2 Select a photo.
- 3 Select  > **Set As Wallpaper**.

Deleting a Photo

- 1 Select **Photo Viewer**.
- 2 Select a photo.
- 3 Select  > **Delete Photo** > **Delete**.

Navigating to a Photo

- 1 Select **Photo Viewer**.
- 2 Select a photo.
- 3 Select  > **View Information** > **Go**.

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.
- 3 If necessary, create an account.
- 4 Sign in.
- 5 Follow the on-screen instructions to find and download geocaches to your device.

Filtering the Geocache List

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

- 1 Select **Geocaching** > **Quick Filter**.
- 2 Select items to filter.
- 3 Customize the settings, and select .
- 4 Select an option:
 - To apply the filter to the geocache list, select **Search**.
 - To save the filter, select .

Creating and Saving a Geocache Filter


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

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you set up the filter, you can apply it in the geocaches list.

- 1 Select **Setup > Geocaching > Filter Setup > Create Filter**.
- 2 Select items to filter.
- 3 Select an option:
 - To apply the filter to the geocache list, select **Search**.
 - To save the filter, select . After it is saved, the filter is automatically named. You can access the custom filter from the geocaches list.

Editing a Custom Geocache Filter


- 1 Select **Setup > Geocaching > Filter Setup**.
- 2 Select a filter.
- 3 Select an item to edit.

Navigating to a Geocache

- 1 Select **Geocaching > Find a Geocache**.
- 2 Select a geocache.
- 3 Select **Go**.
- 4 Navigate using the map or compass (page 13).

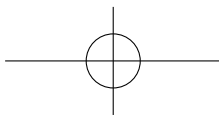
Logging the Attempt

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

- 1 Select **Geocaching > Log Attempt**.
- 2 Select **Found, Did Not Find, or Needs Repair**.
- 3 Select an option:
 - To begin navigation to the geocache nearest you, select **Find Next Closest**.
 - To stop logging, select **Done**.
 - To enter a comment about looking for the cache or about the cache itself, select **Edit Comment**, enter a comment, and select .
 - To rate the geocache, select **Rate Geocache**, and enter a rating for each category. You can go to www.opencaching.com to upload your rating.

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 Select **Geocaching** > **Find a Geocache**.
- 2 Select a geocache.
- 3 Select **Go**.
- 4 Navigate using the map or compass (page 13).

When you are within approximately 32.9 ft (10 m) of the geocache that contains a chirp, details about the chirp appear.

- 5 If necessary, select **Geocaching** > **Show chirp Details**.
- 6 If available, select **Go** to navigate to the next stage of the geocache.

Fitness

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Running or Cycling with Your Device

Before you go for a run or ride using the device, you must change the profile to fitness (page 28).

You can customize your dashboards and data fields for your fitness activities (page 26).

- 1 If your device is currently recording a track, select **Current Track** > **■**. You can save or delete the current track.
- 2 Select **Setup** > **Tracks** > **Output Format**.
- 3 Select an option:
 - Select **GPX** to record your activity as a traditional track that can be viewed on the map and used for navigation.
 - Select **FIT** to record your activity with fitness information (for example, laps) that is tailored for Garmin Connect™.
 - Select **Both** to record your data in both formats simultaneously. This setting uses more memory space.



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- 4 From the main menu, select **Stopwatch** > **Start**.
- 5 Go for a run or ride.
- 6 When finished, select **Stop**.
- 7 Select **Reset** > **Save**.

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 (page 20) or BaseCamp (page 11) periodically to keep track of all your activity data.

Viewing an Activity

- 1 Select **Activity History**.
- 2 Select an activity.
- 3 Select **Review**.

Deleting an Activity

- 1 Select **Activity History**.

- 2 Select an activity.
- 3 Select **Delete** > **Yes**.

Using Garmin Connect

- 1 Connect the device to your computer using the USB cable.
- 2 Go to www.garminconnect.com/start.
- 3 Follow the on-screen instructions.

Optional Fitness Accessories

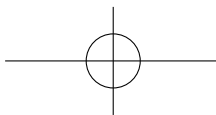
You can use optional fitness accessories including a heart rate monitor or a cadence sensor with your device. These accessories use ANT+ wireless technology to send data to the device.

Before you can use the fitness accessory with your device, you must install the accessory according to the instructions included with the accessory.

Pairing Your ANT+ Sensors

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

The device is compatible with the heart rate monitor, GSC™ 10 speed and cadence



sensor, and tempe™ wireless temperature sensor. You can customize a data field to display sensor data.

- 1 Bring the device within range (3 m) of the sensor.

NOTE: Stay 10 m away from other ANT+ sensors while pairing.

- 2 Select **Setup > ANT Sensor**.
- 3 Select your sensor.
- 4 Select **Search for new**.

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

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 (32.9 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.

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- Training in certain heart rate zones can help you improve cardiovascular capacity and strength.
- Knowing your heart rate zones can prevent you from overtraining and can decrease your risk of injury.

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

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

Setting Your Heart Rate Zones

Before the device can determine your heart rate zones, you must set up your fitness user profile (page 36).

You can manually adjust the heart rate zones according to your fitness goals (page 21).

- 1 Select **Setup > Fitness > HR Zones**.
- 2 Enter the maximum and minimum heart rate for zone 5.

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.

- 3 Enter your minimum heart rate for zones 4-1.

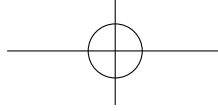
Applications

Using the 3D View

- 1 Select **3D View**.



- 2 Select an option:
 - To increase the angle of elevation, select **+**.



- To decrease the angle of elevation, select **+**.
- To pan the 3D map forward, select **▲**.
- To pan the 3D map backward, select **▼**.
- To rotate the view to the left, select **↶**.
- To rotate the view to the right, select **↷**.

Sending and Receiving Data Wirelessly

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

Your device can send and receive data when paired with another compatible device or smartphone using Bluetooth® or ANT+ wireless technology. You can share waypoints, geocaches, routes, tracks, and custom maps. You can share photos with the Oregon 650 models.

- 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.
- Select **Connect** to pair the device with the BaseCamp Mobile application on a smartphone.

3 Follow the on-screen instructions.

Setting a Proximity Alarm

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

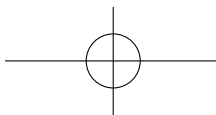
- 1 Select **Proximity Alarms > Create Alarm**.
- 2 Select a category.
- 3 Select a location.
- 4 Select **Use**.
- 5 Enter a radius, and select **✓**.

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

Using the Flashlight


NOTE: Using the flashlight can reduce battery life. You can reduce the brightness or

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use the strobe light to extend the life of the batteries.

- 1 Select **Flashlight** > .
- 2 Select an option:
 - Use the brightness slider to adjust the brightness.
 - Use the strobe slider to select a strobe level.

0	No strobe, constant beam.
1-9	Number of strobes per second.
SOS	Emergency strobe.



- 3 If necessary, customize a key (page 29) as a shortcut to the flashlight.

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 Calculator

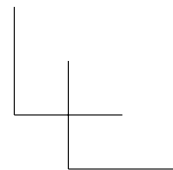
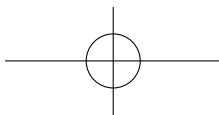
The device has a standard calculator and a scientific calculator.

- 1 Select **Calculator**.
- 2 Select an option:
 - Use the standard calculator.
 - Select  > **Scientific** to use the scientific calculator functions.
 - Select  > **Degrees** to calculate degrees.

Viewing the Calendar and Almanacs

You can view device activity, such as when a waypoint was saved, and almanac information for the sun and moon, and hunting and fishing.

- 1 Select an option:
 - To view device activity for specific days, select **Calendar**.
 - To view the sunrise, sunset, moonrise, and moonset information, select **Sun and Moon**.



- To view the predicted best times for hunting and fishing, select **Hunt and Fish**.

- 2 If necessary, select ◀ or ▶ to view a different month.
- 3 Select a day.

Setting an Alarm

If you are not currently using the device, you can set the device to turn on at a specific time.

- 1 Select **Alarm Clock**.
- 2 Select + and - to set the time.
- 3 Select **Turn Alarm On**.
- 4 Select an option.

The alarm sounds at the selected time. If the device is off at the alarm time, the device turns on and sounds the alarm.

Starting the Countdown Timer

- 1 Select **Alarm Clock** > ≡ > **Timer**.
- 2 Select + and - to set the time.
- 3 Select **Start Timer**.

Opening the Stopwatch

Select **Stopwatch**.

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Satellite Page

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

Changing the Satellite View

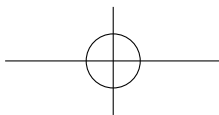
- 1 Select **Satellite** > ≡.
- 2 If necessary, select **Track Up** to orient the satellite view with your current track toward the top of the screen.
- 3 If necessary, select **Multicolor** to assign a specific color to the satellite and to the signal strength bar of that satellite.

Turning Off GPS

Select **Satellite** > ≡ > **Use With GPS Off**.

Simulating a Location

- 1 Select **Satellite** > ≡ > **Use With GPS Off**.
- 2 Select ≡ > **Set Location On Map**.
- 3 Select a location.
- 4 Select **Use**.




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Customizing the Device

Adjusting the Backlight Brightness

Extensive use of screen backlighting can significantly reduce battery life. You can adjust the backlight brightness to maximize the battery life.

NOTE: The backlight brightness may be limited when the battery is low.

- 1 Select .
- 2 Use the slider to adjust the backlight level. The device may feel warm when the backlight setting is high.

Main Menu



①	Status bar
②	Current time and date
③	Application icons
④	Application drawer

Customizing the Main Menu

- Hold any icon on the main menu or application drawer, and drag it to a new location.
- Open the application drawer, and drag an icon up to the main menu.
- Select **Setup > Main Menu**, and follow the on-screen instructions.

Locking the Touchscreen

You can lock the screen to prevent inadvertent screen touches.

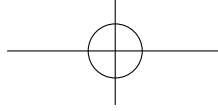
Select  > .

Unlocking the Touchscreen

Select  > .

Rotating the Screen

Rotate your device to view in horizontal (landscape) or vertical (portrait) mode.



Locking the Screen Orientation

The default setting allows the screen to change orientation automatically based on the device orientation. You can lock the screen orientation in portrait or landscape mode.

- 1 Select **Setup > Display > Orientation Lock**.
- 2 Select an option.

Creating a Shortcut

- 1 Select **Setup > Shortcuts > Create Shortcut**.
- 2 Select **Name**, and enter a name.
- 3 Select **Icon**, and select an icon.
- 4 Select **Profile**, and assign the shortcut to a specific profile.

5 Select an option

- Select **Setup** to add a shortcut to a specific device setting.
- Select **Where To?** to add a shortcut that begins navigation to a specific waypoint.
- Select **Application** to add a shortcut to a specific application.

6 Select the item.

Adding a Shortcut to the Main Menu

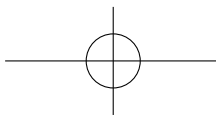
You can add shortcuts to the main menu, application drawer, or favorites. If the shortcut does not appear in the list, you can create it (page 27).

- 1 Select **Setup > Shortcuts**.
- 2 Select the shortcut.
- 3 Select **Main Menu, Drawer, or Favorites**.

Custom Data Fields and Dashboards

Data fields display information about your location or other specified data. Dashboards are a custom grouping of data that can be

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helpful to a specific or general task, such as geocaching.

You can customize the data fields and dashboards of the map, compass, trip computer, elevation plot, and the status page.

Enabling the Map Data Fields

- 1 Select **Map** >  > **Setup Map** > **Dashboard**.
- 2 Select **Small Data Fields** or **Large Data Field**.



Customizing the Data Fields

Before you can change the map data fields, you must enable them (page 27).

- 1 Select a page.
- 2 Select a data field.
- 3 Select a data field category and a data field.
For example, select **Trip Data** > **Speed - Moving Avg**.

Customizing Dashboards

- 1 Select a page.
- 2 Select an option:

- From the map, select  > **Setup Map** > **Dashboard**.
- From the compass, trip computer, or status page, select  > **Change Dashboard**.

- 3 Select a dashboard.

Profiles

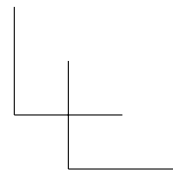
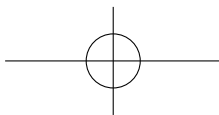
Profiles are a collection of settings that optimize your device based on how you are using it. For example, the settings and views are different when you use the device for hunting than when geocaching.

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.

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.



Creating a Custom Profile

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

- 1 Select **Setup > Profiles > Create New 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, and select **✓**.

Deleting a Profile

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

Customizing the Keys

You can configure the power key and user key as a shortcut to a menu, setting, or application.

- 1 Select **Setup > System > Configure Keys**.
- 2 Select **Power Key** or **User Key**.

- 3 Select **Single Tap**, **Double Tap**, or **Hold**.

- 4 Select an option.

System Settings

Select **Setup > System**.

Satellite System: Sets the satellite system to **GPS**, **GPS + GLONASS** (page 29), or **Demo Mode** (GPS off).

WAAS/EGNOS: Sets the system to Wide Area Augmentation System/European Geostationary Navigation Overlay Service (WAAS/EGNOS). For more information about WAAS, go to www.garmin.com/aboutGPS/waas.html.

Text Language: Sets the text language on the device.

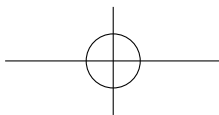
NOTE: Changing the text language does not change the language of user-entered data or map data.

Interface: Sets the format of the serial interface.

Configure Keys: Assigns shortcuts to the user key and power key (page 29).

AA Battery Type: Allows you to change the type of AA battery you are using. This

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setting is disabled when the NiMH battery pack is installed.

About GPS and GLONASS

The default satellite system setting is **GPS**. You can use **GPS + GLONASS** for increased performance in challenging environments and faster position acquisition. Using GPS and GLONASS can reduce battery life more than 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.

NMEA In/Out: Sets the device to use standard NMEA 0183 output and input.

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

RTCM: Allows the device to accept Differential Global Positioning System

(DGPS) information from a device supplying Radio Technical Commission for Maritime Services (RTCM) data in an SC-104 format.

Display Settings

Select **Setup > Display**.

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

Orientation Lock: Locks the screen orientation in portrait or landscape mode, or allows the screen to change orientation automatically based on the device orientation.

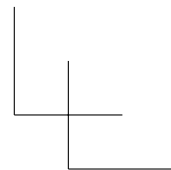
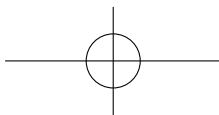
Screen Capture: Allows you to save the image on the device screen.

Battery Save: Saves the battery power and prolongs the battery life by turning off the screen when the backlight times out (page 38).

Appearance Settings

Select **Setup > Appearance**.

Mode: Sets a light background, a dark background, or automatically switches



between the two based on the sunrise and sunset time for your current location.

Background: Sets the background image.

Day Color: Sets the color for the selections made when in day mode.

Night Color: Sets the color for the selections made when in night mode.

Landscape Controls: Places the controls on the left or right side of the screen when in landscape mode.

Turning On Scroll Controls

Select **Setup > Accessibility > Scroll Controls > On**.

↑ and ↓ appear on the screen when a menu, list, or grid is scrollable.

Setting the Touchscreen Sensitivity

You can adjust the touchscreen sensitivity to suit your activity.

- 1 Select **Setup > Accessibility > Touch Sensitivity**.
- 2 Select an option.

TIP: You can test the touchscreen settings with and without gloves based on your activity.

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Setting the Device Tones

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

- 1 Select **Setup > Tones**.
- 2 Select a tone for each audible type.

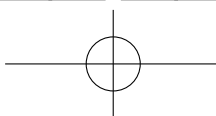
Map Settings

Select **Setup > Map**.

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

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. **Automotive Mode** 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.



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

Map Speed: Adjusts the speed at which the map is drawn. A faster map drawing speed decreases the battery life.

Advanced Map Settings

Select **Setup > Map > Advanced Setup**.

Detail: Sets 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 the map. The default icon is a small blue triangle.

Zoom Controls: Sets the auto zoom and the location of the buttons in portrait or landscape mode.

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

Text Size: Sets the text size for map items.

Tracks Settings

Select **Setup > Tracks**.

Record Method: Sets a track recording method. Auto records the tracks at a variable rate to create an optimum representation of your tracks.

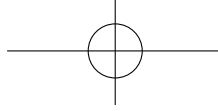
Interval: Sets a track log recording rate. Recording points more frequently creates a more-detailed track, but fills the track log faster.

Auto Archive: Sets an automatic archive method to organize your tracks. Tracks are saved and cleared automatically.

Auto Pause: Pauses tracking automatically when you stop moving.

Auto Start: Starts recording a track automatically when the device has acquired satellites.

Output Format: Allows you to choose the format for recording a track log. **GPX** format is a traditional track that can be viewed on the device map and used for navigation. Tracks are reviewed using Track Manager. **FIT** format is a fitness activity that records additional information (for example, laps). Activities can be



reviewed on the device, but are tailored for Garmin Connect. You can select **Both** to record your data in both formats simultaneously. This option uses more storage space.

Routing Settings

The device calculates routes optimized for the type of activity you are doing. 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.

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

Lock On Road: Locks the blue triangle, which represents your position on the map, onto the nearest road.

Heading Settings

You can customize the compass settings.

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: Allows you to use the bearing pointer that points in the direction of your destination, or use the course pointer that shows your relationship to the course line leading to the destination.

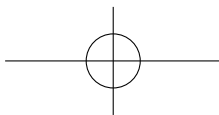
Compass: Automatically switches from an electronic compass to a GPS compass when you are traveling at a higher rate of speed for a period of time.

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. See page 5.

Altimeter Settings

Select **Setup > Altimeter**.

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Auto Calibration: Automatically calibrates the altimeter each time the device is turned on. The device continues to automatically calibrate the altimeter as long as the device has GPS signals acquired.

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** can be useful 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 calibrate the barometric altimeter if you know the correct elevation or the correct barometric pressure. See page 33.

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.

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.

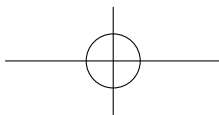
Changing the Units of Measure

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

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

Time Settings

Select **Setup > Time**.



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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.

Camera Settings

Select **Setup** > **Camera**.

Photo Resolution: Sets the resolution of the photos.

Save Photos To: Sets the photo storage location.

Camera Instructions: Displays brief instructions about taking photos.

Geocaching Settings

Select **Setup** > **Geocaching**.

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

Geocache Style: Sets the display style for geocache data.

chirp Searching: Allows the device to search for a geocache containing a chirp accessory (page 18).

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 based on specific factors (page 17).

Found Geocaches: Allows you to edit the number of geocaches found. This number automatically increases as you log a find (page 17).

ANT+ Sensor Settings

For more information about optional fitness accessories, see page 20.

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 (page 36).

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

FIT Activity: Sets the fitness activity to running, cycling, or other. This allows your running activity to appear as a running



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activity when you transfer it to Garmin Connect.

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 (page 36).

- 1 Select **Setup > Fitness > User**.
- 2 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.

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 **✓**.

Marine Settings

Select **Setup > Marine**.

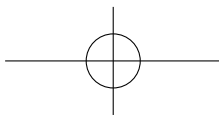
Marine Chart Mode: Sets the type of chart the device uses when displaying marine data. **Nautical** displays various map features in different colors so the marine POIs are more readable and so the map reflects the drawing scheme of paper charts. **Fishing** (requires marine maps) displays a detailed 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 ✓.

Resetting Data

You can reset trip data, delete all waypoints, clear the current track, or restore default values.

- 1 Select **Setup > Reset**.
- 2 Select an item to reset.

Restoring Default Values for Specific Settings

- 1 Select **Setup**.
- 2 Select an item to reset.
- 3 Select **≡ > Restore Defaults**.

Restoring Default Values for Specific Page Settings

You can restore the default values for settings for the map, compass, trip computer, and elevation plot.

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

Restoring All Default Settings

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

Select **Setup > Reset > Reset All Settings > Yes**.

Device Information

Battery Information

WARNING

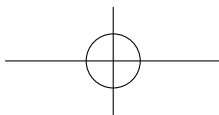
The temperature rating for the device may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures.

Do not use a sharp object to remove batteries.

CAUTION

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

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NOTICE

Alkaline batteries lose a significant amount of their capacity as the temperature decreases. Therefore, use lithium batteries when operating the device in below freezing conditions.

Maximizing the Battery Life

You can do several things to extend the life of the batteries.

- Reduce the backlight brightness (page 26).
- Reduce the backlight timeout (page 30).
- Use battery save mode (page 38).
- Decrease the map drawing speed (page 31).
- Exit the camera application when you are not taking photos.

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

⏻ to turn on the screen, and you can double tap ⏻ to view the status page.

Saving Energy While Charging the Device

You can turn off the device display and all other features while charging.

- 1 Connect your device to an external power source. The remaining battery capacity appears.
- 2 Hold the power key for 4 to 5 seconds.
The display turns off, and the device goes into a low power, battery charging mode.
- 3 Charge the device completely.

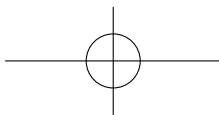
Long-Term Storage

When you do not plan to use the device for several months, remove the batteries. Stored data is not lost when batteries are removed.

Device Care

NOTICE

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



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

Avoid chemical cleaners and solvents that can damage plastic components.

Secure the weather cap tightly to prevent damage to the mini-USB port.

Cleaning the Device

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

Cleaning the Touchscreen

- 1 Use a soft, clean, lint-free cloth.
- 2 If necessary, lightly dampen the cloth with water.
- 3 If using a dampened cloth, turn off the device and disconnect the device from power.
- 4 Gently wipe the screen with the cloth.

Water Immersion

NOTICE

The device is waterproof to IEC Standard 60529 IPX7. It can withstand 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.

Specifications

Battery type	NiMH battery pack or two AA batteries (NiMH, alkaline, or lithium)
Battery life	Up to 16 hours
Water resistance	Water resistant to IEC 60529 IPX7
Operating temperature range	From 5° to 158°F (from -15° to 70°C)
Charging temperature range	From 32° to 113°F (0° to 45°C)

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Radio frequency/ protocol	2.4 GHz ANT+ wireless communications Protocol Bluetooth enabled device
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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 BaseCamp or HomePort™. Go to www.garmin.com/trip_planning.
- GPX track files.
- GPX geocache files. Go to www.opencaching.com.
- 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.

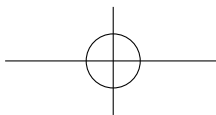
Installing a Memory Card

You can install a microSD memory card for additional storage or pre-loaded maps.

- 1 Turn the D-ring counter-clockwise, and pull up to remove the cover.
- 2 Remove the batteries or battery pack.
- 3 In the battery compartment, slide the card holder ① to the left and lift up.



- 4 Place the memory card ② with the gold contacts facing down.
- 5 Close the card holder.
- 6 Slide the card holder to the right to lock it.
- 7 Replace the batteries or battery pack.
- 8 Replace the battery cover, and turn the D-ring clockwise.



Connecting the Device to Your Computer

NOTICE

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

Before you can connect the straight connector of the USB cable to your device, you may have to remove optional mount accessories.

- 1 Pull up the weather cap from the mini-USB port.
- 2 Plug the small end of the USB cable into the mini-USB port.
- 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 (page 41).

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

NOTE: Some computers with multiple network drives cannot display device drives. See your operating system help file 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 **Garmin** or memory card drive or volume.
- 6 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.

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- 3 Select a file.
- 4 Press the **Delete** key on your keyboard.

Disconnecting the USB Cable

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

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

Troubleshooting

Viewing Device Information

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

Select **Setup > About**.

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.co.in.
- 3 Follow the on-screen instructions.

Resetting the Device

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

- 1 Remove the batteries.
- 2 Reinstall the batteries.

Registering Your Device

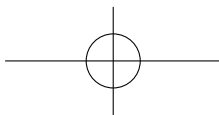
Help us better support you by completing our online registration today.

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

Getting More Information

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

- Go to www.garmin.com/outdoor.



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

Appendix

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.

Optional Maps

You can use additional maps with the device, such as BirdsEye satellite imagery, BlueChart g2, and City Navigator detailed maps. Detailed maps may contain additional points of interest, such as restaurants or marine services. For more information, go to <http://buy.garmin.com> or contact your Garmin dealer.

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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.

Data Fields

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

24hr Max Temperature: The maximum temperature recorded in the last 24 hours.

24hr Min Temperature: The minimum temperature recorded in the last 24 hours.



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

Alarm Timer: The current time of the countdown timer.

Ambient Pressure: The uncalibrated environmental 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 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: The average cadence for the current activity.

Average Heart Rate: The average heart rate for the current activity.

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

Avg. Heart Rate Percent: The average percentage of maximum 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: 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.

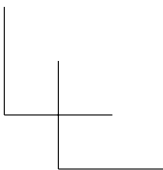
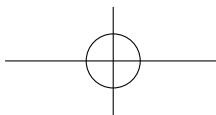
Compass Heading: The direction the device is pointing based on the compass.

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 feet per minute or meters per minute since the last reset.

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

Distance To Destination: 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 (Total) 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 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 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.

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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%.

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 Percent Max: The percentage of maximum heart rate.

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

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

Lap Heart Rate Percent: The average percentage of maximum 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: The average cadence for the last completed lap.

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

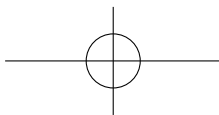
Last Lap Distance: The distance traveled for the last completed lap.

Last Lap Heart Rate: 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.



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

Location of Destination: 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 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.

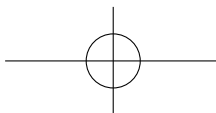
Temperature: The temperature of the air. Your body temperature affects the temperature sensor.

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 current 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



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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.

Track Distance: The distance traveled for the current track.

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.

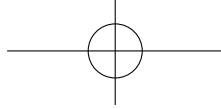
Vertical Dist to Next: The elevation distance between your current position and the next waypoint in the route. You must be navigating for this data to appear.

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.



Heart Rate Zone Calculations

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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