

GARMIN<sup>®</sup>

# Astro<sup>®</sup> 320

owner's manual



GPS-enabled dog tracking system

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## Table of Contents

<b>Introduction</b> .....	<b>5</b>
Getting Started .....	5
Installing Batteries in the Astro .....	5
Charging the DC 40.....	6
Turning On the Devices.....	6
Attaching the DC 40 to Your Dog .....	7
Device Overviews.....	8
Manual Conventions.....	10
<b>Tracking Your Dog</b> .....	<b>13</b>
Communication with the DC 40.....	13
Navigating to Your Dog.....	13
Editing Dog Information .....	15
Tracking Your Dog on the Map ...	16
Adding Dogs.....	16
Collar Lock.....	18
Astro and DC 40 Tips .....	18

## Waypoints, Routes, and

<b>Tracks</b> .....	<b>21</b>
Waypoints .....	21
Routes .....	24
Tracks.....	25
Sharing Data Wirelessly .....	29
<b>Navigation</b> .....	<b>30</b>
Map.....	30
Find Menu.....	31
Detailed Maps.....	33
<b>Navigation Tools</b> .....	<b>34</b>
Compass .....	34
Navigating with Sight 'N Go.....	36
Trip Computer.....	37
Elevation Plot.....	38
Proximity Alarms.....	39
Calculating the Area .....	39
Satellite.....	40
<b>Device Tools</b> .....	<b>41</b>
Viewing the Calendar and Almanacs .....	41

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Calculator .....	41	Routing Settings .....	53
Alarm Clock .....	42	Marine Settings.....	54
Stopwatch.....	42	Fitness Settings.....	55
Geocaches .....	42	<b>Device Information .....</b>	<b>56</b>
<b>Customizing Your Device ...</b>	<b>45</b>	Viewing Device Information .....	56
Customizing the Main Menu .....	45	Caring for the Devices .....	56
Customizing Data Fields.....	45	Specifications .....	57
Profiles.....	45	Battery Information .....	58
Customizing Dashboards .....	46	Data Management.....	60
System Settings.....	47	<b>Appendix .....</b>	<b>65</b>
Dog Settings.....	47	Contacting Garmin Product	
Display Settings.....	48	Support .....	65
Setting the Device Tones.....	48	Registering Your Device .....	65
Map Settings.....	49	Buying Accessories .....	65
Tracks Settings.....	50	Replacement Parts.....	67
Changing the Units of		Data Field Options.....	69
Measure .....	50	Troubleshooting.....	73
Time Settings.....	50	<b>Index .....</b>	<b>75</b>
Position Format .....	51		
Heading Settings .....	51		
Altimeter Settings .....	52		
Geocache Settings .....	53		

## Introduction

### WARNING

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

## Getting Started

### NOTICE

Do not attempt to track your dog using the Astro<sup>®</sup> and the DC<sup>™</sup> 40 until you have completed these tasks.

1. Install batteries in the Astro (page 5).
2. Charge the DC 40 (page 6).
3. Register your device (page 65).
4. Turn on the devices (page 6).
5. Acquire satellites (page 7).
6. Calibrate the compass (page 36).

7. Attach the DC 40 to your dog (page 7).
8. Start a new hunt (page 21).

## Installing Batteries in the Astro

The Astro operates on two AA batteries (not included). Use NiMH or lithium batteries for best results.

1. Remove the battery cover by turning the D-ring 1/4 turn counterclockwise and pulling up.
2. Insert the batteries, observing polarity.



3. Replace the battery cover.

## Charging the DC 40

Charge the DC 40 completely before using it on a hunt. Charging a depleted DC 40 battery takes 4½ hours.

1. Connect the power cable ① to an appropriate electrical source.



2. Slide the charging clip ② onto the DC 40.
3. Charge the DC 40 completely.

The blue LED flashes when the DC 40 is charging. The blue LED is solid when the DC 40 is fully charged.

## Turning On the Devices

1. On the Astro, press and hold  ①.



2. Follow the on-screen instructions.
3. On the DC 40, press and hold  ②.



The red LED ③ flashes (single blink) when the DC 40 is on and searching for satellite signals.

**TIP:** Turn on the DC 40, and let it acquire satellites before you put it on your dog.

### Acquiring Satellite Signals

Before you can track your dog using the Astro and the DC 40, both devices must acquire GPS satellite signals. Acquiring satellite signals can take a few minutes.

1. Go outdoors to an open area, away from tall buildings and trees.
2. Press and quickly release . The status page appears. The  bars indicate satellite strength.
3. Wait for the DC 40 to acquire satellite signals.

<b>Single blink</b>	DC 40 is searching for satellite signals.
<b>Double blink</b>	DC 40 has acquired satellite signals.
<b>Triple blink</b>	DC 40 is tracking seven or more satellites (best GPS performance).

### Attaching the DC 40 to Your Dog

Attach the DC 40 to your dog's neck with the VHF antenna pointing up ([page 9](#)) and the LED facing forward.

## Device Overviews

### Astro

#### NOTICE

Avoid using a high-powered radio (greater than 5 watts) in close proximity to the Astro. It may cause irreversible damage to the Astro.



①	GPS antenna
②	VHF antenna
③	Power key
④	Display
⑤	Keypad
⑥	USB port (under weather cap)
⑦	microSD™ card slot (under battery door) ( <a href="#">page 60</a> )
⑧	Mounting spine
⑨	Battery cover D-ring

## DC 40



①	VHF antenna
②	Collar
③	GPS antenna
④	 Power key

## Keypad



<b>DOG</b>	Press to view the Dog Tracker page.
<b>MARK</b>	Press to mark your current location.
<b>BACK</b>	Press to cancel data entry or return to the previous menu or page.
<b>MAP</b>	Press to view the map.

<b>MENU</b>	Press to open the menu for the active page. Press twice to open the main menu.
<b>ENTER</b>	Press to select options and acknowledge messages.
<b>Rocker</b>	Press to view or scroll through options and to move the map pointer.
<b>IN</b>	Press to zoom in on the map.
<b>OUT</b>	Press to zoom out on the map.

### Locking the Keypad

1. Press and quickly release .
2. Press **OUT**.

### Adjusting the Backlight

1. Press and quickly release .
2. Use the **Rocker** to adjust the brightness levels.

**TIP:** You can also press and quickly release  to cycle through the brightness levels.

3. Press **ENTER** to select a brightness level and close the menu.

### Manual Conventions

<b>Press</b>	Use the keys on the device.
<b>Select</b>	Use the <b>Rocker</b> to select an option or an item in a list, and press <b>ENTER</b> .
<b>Field</b>	The location on a page where data is entered or an option appears. A highlighted field appears blue.

<b>Scroll bar</b>	A bar that appears on the right side of a list that is too long to fit on the screen. Use the <b>Rocker</b> to scroll through a list. Press <b>IN</b> or <b>OUT</b> to scroll a set of items.
<b>Default</b>	The original factory settings. You can customize the settings, but you can always revert back to the factory settings by selecting <b>Restore Defaults</b> .
<b>&gt;</b>	The small arrows indicate that you should select a series of items in order, for example, “Select <b>Delete &gt; Yes.</b> ”

## Status Information

Status information is provided on the main menu and when you press and quickly release .

	Indicates the satellite signal strength.
	Blinks when the device detects a signal (for example, a DC 40) on the channel it is receiving.
	Indicates the remaining battery power.

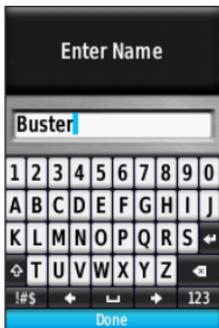
## On-Screen Messages

When an on-screen message appears, you can press **ENTER** to acknowledge the message and close the window.

Messages also indicate temporary conditions, such as “Calculating Route.” The message window closes as soon as the process is complete.

## Using the On-Screen Keyboard

A keyboard appears when you enter text.



- Use the **Rocker** to select a character, and press **ENTER**.
- Select  to backspace.
- Select  to shift.
- Press **IN** or **OUT** to change the character mode of the keyboard.
- Select **Done** to save the text and close the keyboard.

## Tracking Your Dog

**NOTE:** The DC 40 does not transmit its location to the Astro, and the Astro does not indicate the location of the DC 40, until both devices have acquired satellite signals.

### Communication with the DC 40

The DC 40 that was packaged with your Astro was linked with the Astro at the factory. If you are using a DC 40 that you purchased separately, follow the instructions for adding a new dog on [page 16](#) to establish communications with the Astro.

### Navigating to Your Dog

1. From the main menu, press **DOG** > **ENTER**.

The dog information appears.



2. Select **Go**.
3. Follow the magenta line on the map.

### Viewing Your Dog's Status

1. From the main menu, press **DOG** to view the Dog Tracker page.

The direction to the dog and distance of the dog from the Astro appears.



①	Dog pointer (direction to the dog)
②	Dog name
③	Dog status icon ( <a href="#">page 14</a> )
④	Distance to the dog

2. If you have additional dogs, use the **Rocker** to scroll through the list of dogs.

The Astro can keep track of 10 dogs.

3. Press **ENTER** to view the dog information.

### About the Dog Tracker Page

The dog you are tracking is identified and the dog pointer indicates its direction from you. The dog pointer is most accurate when the dog is farther than 30 feet (9.1 meters) away. At less than that distance, “NEAR” appears instead of a distance and the dog pointer is shortened.

**NOTE:** When you are close to the dog, the dog pointer may be inaccurate.

### Dog Status Icons

	Sitting
	Running
	On Point

	Treed
	Unknown*

\*The unknown status icon indicates that the DC 40 has not acquired a satellite signal and that the Astro cannot determine the location of the dog.

## Editing Dog Information

The Astro assigns a default name, “Dog,” to the DC 40 packaged with the Astro.

### Changing the Dog Name

1. From the main menu, press **DOG > ENTER**.

The dog information appears.

2. Select the name field.

The on-screen keyboard appears.

3. Enter the name of the dog.

## Changing the Dog Type

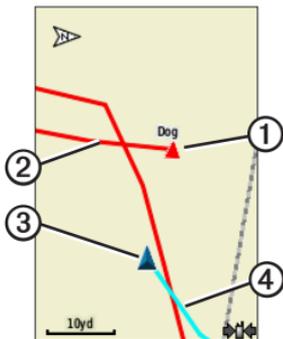
This requires wireless communication with the DC 40. You must turn on the DC 40 and bring it within range of the Astro.

You can identify the dog type so that the appropriate dog status symbols appear.

1. From the main menu, press **DOG > ENTER**.
2. Press **MENU**.
3. Select **Change Dog Type**.
4. Select a type.

## Tracking Your Dog on the Map

Press **MAP** to follow your dog on the map.



- The dog location icon appears with the dog name ①.
- The track of the dog's movements appears as a red (color is customizable) line ②.
- Your location is indicated by the map pointer ③.

- The track of your movements appears as a blue line ④.

### About the Map

When the map orientation is Track Up, objects on the map appear to rotate around your position. As you move, the entire map reorients in the direction you are facing. To stabilize the objects, set the orientation to North Up ([page 49](#)).

### Adding Dogs

The Astro can track up to 10 dogs with DC 40 collars. If you purchase additional DC 40 devices, you can link them to the Astro. To link, the Astro must be close enough to the DC 40 to touch it, or you must know the DC 40 ID number.

1. From the main menu, press **DOG** twice.
2. Select **Add Dog**.

3. Follow the on-screen instructions.

### **Dog Signal Troubleshooting**

Each dog you track has its own ID number. If two dogs within range of the Astro have the same ID, the Astro warns you of a conflicting ID signal. Follow the on-screen instructions to resolve the conflict.

When possible, you should allow the Astro to automatically assign IDs. If necessary, you can manually assign a new ID number to a dog.

### **Assigning a Dog ID Manually**

This requires wireless communication with the DC 40. You must turn on the DC 40 and bring it within range of the Astro.

1. From the main menu, press **DOG** twice.
2. Select a dog.
3. Select **Show Info**.

4. Press **MENU**.
5. Select **Comm. Settings**.
6. Select an unassigned and nonconflicting ID.
7. Change the update rate (optional).  
Both 30-second and two-minute rates reduce battery drain, but they create a less-detailed dog track and collected statistics.
8. Bring the Astro within a few feet of the DC 40.
9. Follow the on-screen instructions.

### **Removing Dogs**

1. From the main menu, press **DOG** twice.
2. Select a dog in the list.
3. Select **Remove**.

## Collar Lock

You can use the Collar Lock feature to PIN protect your dog's ID signal. Other Astro users must enter the PIN in order to track your dog. Other Astro users can still add your dog by physically touching the Astro to the DC 40.

### Activating Collar Lock

This requires wireless communication with the DC 40. You must turn on the DC 40 and bring it within range of the Astro.

1. From the main menu, press **DOG** > **ENTER** > **MENU**.
2. Select **Change PIN**.
3. Enter a unique PIN.

**NOTE:** If you forget the PIN, the Collar Lock feature can be overridden by physically touching the Astro to the DC 40.

## Astro and DC 40 Tips

- Turn on the DC 40 and allow it to acquire satellites before you put the DC 40 on your dog. This allows the DC 40 to acquire satellite signals much faster.
- Bring extra AA batteries for your Astro ([page 58](#)).
- Use a fully charged DC 40. A fully charged DC 40 operates for approximately 17 hours when using five-second interval reporting.
- Use line-of-sight radio communication ([page 20](#)).
- The Astro can track up to 10 dogs with DC 40 collars. Only three dogs can be viewed at one time on the Dog Tracker page. To reduce the text size, press **MENU**, and select **Small Numbers**.

- Go to [www.garmin.com/products/astro](http://www.garmin.com/products/astro) for more information and [www.garmin.com/astro](http://www.garmin.com/astro) for a tutorial.

## Pausing the Devices During a Hunt

If you are moving the dogs during a hunt and you do not want to record the transportation of the dogs, you can pause the tracking of all dogs.

1. From the main menu, press **DOG > MENU**.
2. Select **Pause All Tracking**.

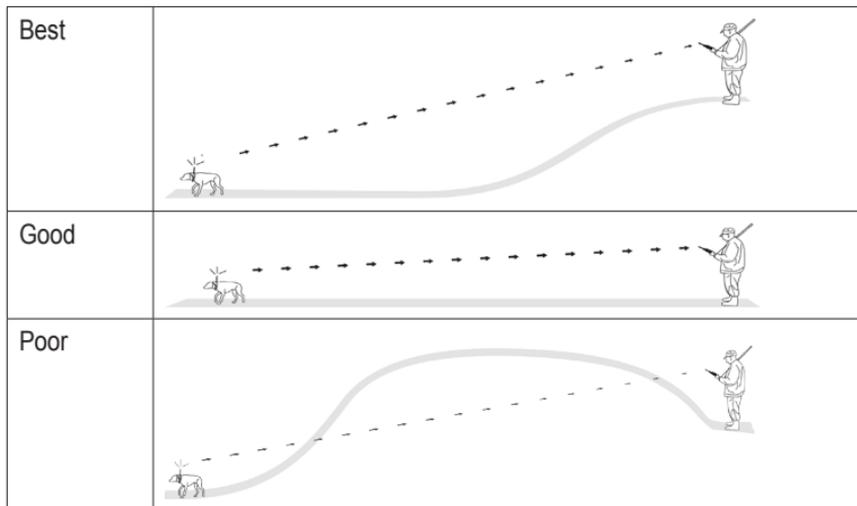
You can select **Resume** when you are ready to continue the hunt.

## Resetting Your Dog Statistics

1. From the main menu, press **DOG > ENTER**.
2. Select **Reset**.

## About Line-of-Sight Radio Communication

The Astro and DC 40 use radio signals to communicate. Objects in the path of radio signals degrade the quality of the signals. Keeping an unobstructed line of sight between your Astro and your dog's DC 40 produces the best communication signal. Obstructed radio waves result in a poor signal. To achieve the best line-of-sight conditions, move to the highest elevation point in your area (for example, on the top of a hill).



# Waypoints, Routes, and Tracks

## Waypoints

Waypoints are locations you record and store in the device. After you mark a location with your Astro, it is saved as a waypoint.

### Marking Your Vehicle Location

1. From the main menu, select **Start New Hunt**.
2. Follow the on-screen instructions.

After the hunt, you can navigate back to your vehicle.

### Marking Your Current Location

1. Press **MARK**.
2. Select **New** or choose a default location name such as **Truck** or **Camp**.
3. Select **Done**.

### Marking a Covey

You can mark a covey location and enter the estimated number of birds flushed and the number of birds taken.

1. Press **MARK**.
2. Select **Covey**.
3. Enter the number of birds flushed.
4. Enter the number of birds taken.
5. Select **Done**.

### Marking a Waypoint Using the Map

1. Press **MAP**.
2. Move the map pointer to a location.
3. Press **ENTER > MENU**.
4. Select **Save as Waypoint**.

### Navigating to a Waypoint

1. From the main menu, select **Find > Waypoints**.
2. Select a waypoint.
3. Select **Go**.

**TIP:** For navigation settings, see [page 53](#).

### Editing a Waypoint

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

1. From the main menu, select **Tools > Waypoint Mgr.**
2. Select a waypoint.
3. Select an attribute (such as the name).
4. Enter the new information.

### Finding a Waypoint by Name

1. From the main menu, select **Find > Waypoint**.
2. Press **MENU**.
3. Select **Spell Search**.
4. Enter the name of the waypoint.  
Matches appear as you select characters in the name.
5. Select the waypoint from the list.

### Finding a Waypoint Near Another Waypoint

1. From the main menu, select **Tools > Waypoint Mgr.**
2. Select a waypoint.
3. Press **MENU**.
4. Select **Find Near Here**.
5. Select a category.

The list displays waypoints near the original waypoint.

### Moving a Waypoint on the Map

1. From the main menu, select **Tools > Waypoint Mgr.**
2. Select a waypoint.
3. Press **MENU**.
4. Select **Move Waypoint**.
5. Move the marked location to a new location on the map.
6. Press **ENTER**.

### Deleting a Waypoint

1. From the main menu, select **Tools > Waypoint Mgr.**
2. Select a waypoint.
3. Press **MENU**.
4. Select **Delete > Yes**.

### Repositioning a Waypoint

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. From the main menu, select **Tools > Waypoint Mgr.**
2. Select a waypoint.
3. Press **MENU**.
4. Select **Reposition Here**.

The position changes to your current location.

### Averaging Your Location

You can refine a waypoint location for more accuracy. When averaging, the Astro takes several readings at the same location and uses the average value to provide more accuracy. For best results, wait 90 minutes between readings.

1. Press **MARK**.
2. Select **New**.
3. Press **MENU**.
4. Select **Average Location**.
5. Follow the on-screen instructions.
6. When the Sample Confidence field reaches the level of accuracy you want, select **Save > Done**.

### Projecting a Waypoint

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

1. From the main menu, select **Tools > Waypoint Mgr.**
2. Select a waypoint.
3. Press **MENU**.
4. Select **Project Location**.
5. Follow the on-screen instructions.
6. Select **Save**.

### Routes

A route is a sequence of points or saved locations that leads you to your final destination. To customize your route settings, see [page 53](#).

### Creating a Route

1. From the main menu, select **Tools > Route Planner > Create Route**.
2. Select **Select First Point**.
3. Select a category.
4. Select the first point on the route.
5. Select **Use**.
6. Repeat steps 2 through 5 to add more points to the route.

### Navigating a Saved Route

1. From the main menu, select **Tools > Route Planner**.
2. Select a route.
3. Select **View Map > Go**.

### Editing a Route

1. From the main menu, select **Tools > 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 point on the route, select **Move Down** or **Move Up**.
  - To add 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**.

### Viewing the Active Route

1. From the main menu, select **Tools > Active Route**.
2. Select a point in the route to view additional details.

### Reversing a Route

1. From the main menu, select **Tools > Route Planner**.
2. Select a route.
3. Select **Reverse Route**.

### Deleting All Routes

1. From the main menu, select **Tools > Route Planner**.
2. Press **MENU**.
3. Select **Delete All > Yes**.

### Tracks

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

## Recording Track Logs

1. From the main menu, select **Setup** > **Tracks** > **Track Log**.
2. Select **Record, Do Not Show or Record, Show On Map**.

If you select **Record, Show On Map**, a line on the map indicates your track.

3. Select **Record Method**.
4. Select an option:
  - Select **Distance**, and enter a distance interval.
  - Select **Time**, and enter a time interval.
  - Select **Auto** to specify the interval of frequency.

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

As you move with the device turned on, a track log is created.

## Viewing a Track on the Map

1. From the main menu, select **Tools** > **Track Manager**.
2. Select a track.
3. Select **View Map**.

## Viewing the Elevation Plot of a Track

1. From the main menu, select **Tools** > **Track Manager**.
2. Select a track.
3. Select **Elevation Plot**.
4. Complete an action:
  - Press left or right on the **Rocker** to scroll across the track. While scrolling, press **ENTER** to show the point on the map.
  - Press up or down on the **Rocker** to set the zoom range.

## Digital Elevation Models Maps

Using Digital Elevation Models (DEM) maps, you can create a track elevation profile that includes elevation data. Go to [www.garmin.com/cartography/ontheTrail](http://www.garmin.com/cartography/ontheTrail) for more information about US Topo maps.

## Saving the Entire Track Log

1. From the main menu, select **Tools > Track Manager**.
2. Select a track.
3. Select **Save Track**.

You are prompted to enter a name for the track.

4. Follow the on-screen instructions.

## Saving Part of the Track Log

1. From the main menu, select **Tools > Track Manager**.
2. Select a track.
3. Select **Save Portion**.
4. Follow the on-screen instructions.

## Marking a Location on a Saved Track

1. From the main menu, select **Tools > Track Manager**.
2. Select a track.
3. Select **Map**.
4. Move the map pointer to a location on the track.
5. Press **MARK**.
6. Select **New**.
7. If necessary, edit the location information.

### Starting a TracBack

You can use TracBack® with a current track to navigate back to the beginning of a track. This can be helpful when finding your way back to camp or your vehicle.

1. From the main menu, select **Tools > Track Manager**.
2. Select **Current Track > View Map > TracBack**.

Your start point, track, and end point appear on the map.

3. Navigate using the map ([page 30](#)) or compass ([page 34](#)).

### Archiving Your Track Logs

You can archive saved tracks to save memory space.

#### Archiving a Track Manually

1. From the main menu, select **Tools > Track Manager**.
2. Select a track.

3. Select **Archive**.

#### Setting up Automatic Track Archiving

1. From the main menu, select **Setup > Tracks > Auto Archive**.
2. Select **When Full, Daily**, or **Weekly**.

#### Clearing the Current Track

1. From the main menu, select **Tools > Track Manager**.
2. Select **Current Track** or **Dog Tracks**.
3. If necessary, select the dog.
4. Select **Clear Current Track > Yes**.

#### Deleting a Track

1. From the main menu, select **Tools > Track Manager**.
2. Select a track.
3. Select **Delete > Yes**.

## Sharing Data Wirelessly

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

### Sharing Waypoints, Geocaches, Routes, and Tracks

1. From the main menu, select **Tools > Share Wirelessly**.
2. Select **Send** or **Receive**.
3. Follow the on-screen instructions.

### Sharing Dog Information

Before you can share dog information with another Astro user, the user must enable their Astro to receive wirelessly and bring it within range of the sending device and DC 40.

1. From the main menu, press **DOG** twice.
2. Select a dog.
3. Select **Share Wirelessly**.

Your device sends the dog name, unit ID, and update rate information.

### Receiving Dog Information

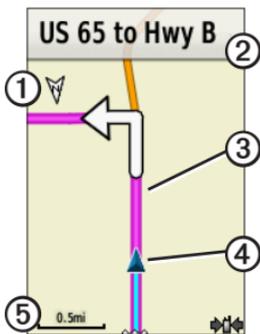
1. From the main menu, press **DOG** twice.
2. Press **MENU**.
3. Select **Receive Wirelessly**.

## Navigation

### Map

The Astro has a preloaded basemap that includes cities, highways, and lake and river outlines. The example shows enhanced map detail using City Navigator®. Go to [www.garmin.com](http://www.garmin.com).

The ▲ position icon represents your location on the map. As you travel, the position icon moves and leaves a track log (trail). Waypoint names and symbols also appear on the map.



①	Map orientation arrow
②	Route instructions
③	Route to destination (page 31)
④	Your current location
⑤	Map scale

### Scaling the Map

Press **IN** and **OUT** to change the map scale.

### Changing the Map Orientation

1. From the map, press **MENU**.
2. Select **Setup Map > Orientation**.
3. Select an orientation:
  - 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 a perspective view.

## Measuring Distance

You can measure the distance between two points.

1. Press **MAP > MENU**.
2. Select **Measure Distance**.  
An arrow appears at your current location.
3. Move the arrow to the point you want to measure from, and press **ENTER**.
4. Move the arrow to another point.  
The distance appears on the map.

## Customizing Data Fields on the Map

You can display up to four data fields at the top of the map to provide travel and navigational information.

1. From the main menu, select **Setup > Map > Data Fields**.
2. Select the number of data fields.
3. Press **MAP > MENU**.

4. Select **Change Data Fields**.
5. Select a field.  
A list of data field options appears (page 69).
6. Select an option.

## Find Menu

You can use the Find menu to search for waypoints, cities, and coordinates. You can download and navigate to photos, tracks, and geocaches. Additional categories appear if you have optional, compatible detailed maps loaded on the device. When you open a category, the list contains items near your current location or the map pointer (if active).

## Navigating to a Destination

- You can navigate to a destination using the map or compass.
1. From the main menu, select **Find**.
  2. Select a category.

3. Select a destination.
4. Select **Go**.  
The map page opens with your route marked with a magenta line.
5. Navigate to the destination (page 21).

### Stopping Navigation

From the main menu, select **Find > Stop Navigation**.

### Finding Recently Found Locations

1. From the main menu, select **Find > Recent Finds**.
2. Select an item.

### Finding Waypoints, Tracks, Routes, or Cities

1. From the main menu, select **Find**.
2. Select **Waypoints, Tracks, Routes, or Cities**.

A list of items near your current location appears.

3. Select an item from the list.

### Finding Photos

Before you can navigate to a photo with location information, you must download (<http://my.garmin.com>) or transfer a photo to the device (page 62).

1. From the main menu, select **Find > Photos**.
2. Select a photo.

### Finding a Location Using Coordinates

You can change the map datum format (page 51).

1. From the main menu, select **Find > Coordinates**.
2. Enter the coordinates.

## Detailed Maps

You can use optional City Navigator maps to search for addresses, intersections, and other locations. The detailed maps contain millions of points of interest, such as restaurants, hotels, and auto services. Go to [www.garmin.com/us/maps/](http://www.garmin.com/us/maps/).

## Finding an Address

1. From the main menu, select **Find > Addresses**.
2. Enter the state or province, city, street number, and street name.  
Matches appear as you select characters in the name.
3. Select the address from the list.

## Finding a Point of Interest

1. From the main menu, select **Find**.
2. Select an option to view points of interest near your current location:
  - Select **All Points of Interest**.
  - Select a POI category.
3. Press **MENU** to narrow your search.
4. Select an item from the list.

## Navigation Tools

Navigation tools include features that compliment the GPS functions of the Astro.

- Compass (page 34)
- Sight 'N Go (page 36)
- Trip computer (page 37)
- Elevation plot (page 38)
- Proximity alarms (page 39)
- Area calculation (page 39)
- Satellite (page 40)

### Compass

The Astro has a 3-axis electronic compass.

#### Navigating with the Compass

1. From the main menu, select **Tools > Compass**.

2. Turn toward the direction of the bearing pointer until the arrow is pointing toward the top of the compass.

#### About the Compass



- The compass provides navigation data ① such as current speed and estimated arrival time.
- When navigating to a destination, the bearing pointer ② points to your destination, regardless of the direction you are moving. When

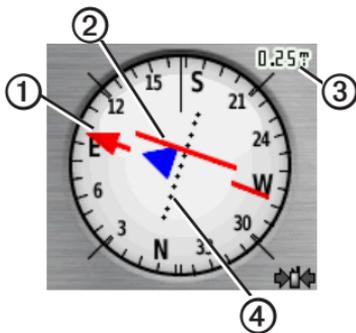
the bearing pointer points toward the top of the compass, you are traveling directly toward your destination.

- The compass ring ③ moves to indicate North orientation.

### Navigating with the Course Pointer

This 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.

1. From the main menu, select **Setup** > **Heading** > **Go To Line (Pointer Course (CDI))**.



- The course pointer ① indicates your relationship to a course line ② leading to the destination.
- The course pointer provides an indication of drift (right or left) according to the scale ③.
- The scale refers to the distance between dots on the course deviation indicator ④.
- The course line to your destination is based on your original starting point.

2. Move back to the “course line to destination” to compensate for deviation and to get back on course.

### Calibrating the Compass

#### NOTICE

Calibrate the electronic compass outdoors. Do not stand near objects that influence magnetic fields, such as cars, buildings, or overhead power lines.

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

1. From the main menu, press **DOG > MENU**.
2. Select **Calibrate Compass > Start**.
3. Follow the on-screen instructions.

### Showing Dog Pointers on the Compass

You can show pointers on the compass in order to track the direction of the first three dogs in your dog list.

1. From the main menu, select **Tools > Compass**.
2. Press **MENU**.
3. Select **Show Dog Pointers**.

### Navigating with Sight ‘N Go

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

1. From the main menu, select **Tools > Sight ‘N Go**.  
The bearing pointer points to the top of the compass.
2. Point the device at an object.
3. Select **Lock Direction**.

4. Select an option:
  - Select **Set Course** to navigate to the distant object.
  - Select **Project Waypoint** (page 24).

## Trip Computer

The trip computer displays your current speed, average speed, maximum speed, trip odometer, and other helpful statistics.

### Customizing the Trip Computer

1. From the main menu, select **Tools > Trip Computer**.
2. Press **MENU**.
3. Select an option:
  - Select **Big Numbers** to change the size of the numbers shown on the trip computer page.
  - Select **Change Data Fields** (page 69).

- Select **Change Dashboard** to change the theme and information displayed on the dashboard.

**NOTE:** Your customized settings are remembered by the dashboard, and will not be lost when you change profiles (page 45).

### Resetting the Trip Computer

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

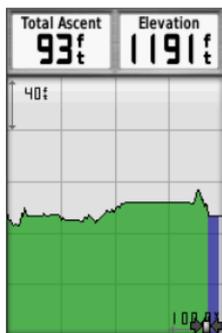
1. From the main menu, select **Tools > Trip Computer**.
2. Press **MENU**.
3. Select **Reset**.
4. Select the items you want to reset or select **Reset All Settings**.

## Elevation Plot

By default, the elevation plot displays the elevation for distance. To customize the elevation plot, see [page 52](#).

### Viewing Points on the Elevation Plot

1. From the main menu, select **Tools > Elevation Plot**.



2. Press left or right on the Rocker to scroll across the plot.

3. Select individual points on an elevation plot or a pressure plot to view the elevation (or pressure) reading, the time of day, and the date when the point was recorded.

### Navigating to a Point on the Plot

1. From the main menu, select **Tools > Elevation Plot**.
2. Press left or right on the **Rocker** to scroll across the plot.
3. Press **ENTER**.  
The point appears on the map with location coordinates, the compass bearing, and the distance from your current location.
4. Press **MARK** to save the point as a waypoint.
5. Navigate to the waypoint ([page 21](#)).

### Setting the Zoom Ranges

1. From the main menu, select **Tools > Elevation Plot**.

2. Press **MENU**.
3. Select **Adjust Zoom Ranges**.
4. Use the Rocker to set the zoom range on the vertical axis.
5. Use the Rocker to set the zoom range on the horizontal axis.

### Calibrating the Altimeter

1. Go to a location where the elevation or barometric pressure is known.
2. From the main menu, select **Setup > Altimeter > Calibrate Altimeter**.
3. Follow the on-screen instructions.

### Proximity Alarms

Proximity alarms alert you when you are within a specified range of a particular location. A tone sounds when you enter the designated radius.

### Setting a Proximity Alarm

1. From the main menu, select **Tools > Proximity Alarms > Create Alarm**.
2. Select a category.
3. Select a location.
4. Select **Use**.
5. Enter a radius.

After you set the proximity alarm, you can customize tones ([page 48](#)).

### Deleting a Proximity Alarm

1. From the main menu, select **Tools > Proximity Alarms**.
2. Select an alarm.
3. Select **Delete > Yes**.

### Calculating the Area

1. From the main menu, select **Tools > Area Calculation > Start**.
2. Walk around the perimeter of the area you want to calculate.

3. Select **Calculate** when finished..
4. If necessary, select **Change Units** to change the units of measure.
5. Select **Save Track**.

## Satellite

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

### Changing the Satellite View

1. From the main menu, select **Tools > Satellite**.
2. Press **MENU**.
3. If necessary, select **Track Up** to change the view of the satellites to be oriented with your current track toward the top of the screen.
4. If necessary, select **Multicolor** to assign a specific color to the satellite in the view and to the signal strength bar of that satellite.

### Turning Off GPS

1. From the main menu, select **Tools > Satellite**.
2. Press **MENU**.
3. Select **Use With GPS Off**.

### Simulating a Location

Before you can simulate a location, you must turn off GPS.

1. From the main menu, select **Tools > Satellite**.
2. Press **MENU**.
3. Select **Set Location On Map**.
4. Select a location.
5. Select **Use**.

## Device Tools

### 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. From the main menu, select **Tools**.
2. 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**.
3. If necessary, use the arrows to view a different month.

4. Select a day.

### Calculator

The Astro has a standard calculator and a scientific calculator.

#### Opening the Calculator Application

1. From the main menu, select **Tools > Calculator**.
2. Complete an action:
  - Use the standard calculator.
  - Press **MENU**, and select **Scientific** to use the scientific calculator functions.

## Alarm Clock

### Setting an Alarm

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

1. From the main menu, select **Tools > Alarm Clock**.
2. Select the time field to enter 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.

## Stopwatch

### Using the Stopwatch

1. From the main menu, select **Tools > Stopwatch**.
2. If necessary, press **MENU** to set how the stopwatch records laps.
3. Select an option:
  - Select **Lap by Button Press** to manually end the lap each time.
  - Select **Lap by Distance** to automatically mark the lap at a specific distance.  
To set the distance units and value, press **MENU**, and select **Set Lap Distance**.

## 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 (page 61).
2. Go to [www.opencaching.com](http://www.opencaching.com).
3. If necessary, create an account.
4. Sign in.
5. Follow the on-screen instructions.

## Finding a Geocache

Before you can navigate to a geocache, you must download (page 43) or wirelessly send a geocache to the device (page 29).

1. From the main menu, select **Tools > Geocaches**.
2. Select a geocache.
3. Select **Go** to navigate to the geocache location.

When a geocache is found, the Astro marks the cache as found, logs an entry into the calendar, and shows the nearest cache.

## Filtering the Geocache List

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

1. From the main menu, select **Find > Geocaches**.
2. Press **MENU**.
3. Select **Apply Filter > Quick Filter**.
4. Select items to filter.
5. Select **Search**.

## Creating and Saving a Geocache Filter

You can create and save custom filters for geocaches based on specific factors you select. After you set up the filter, you can apply it in the geocaches list.

1. From the main menu, select **Setup > Geocaches > 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, press **BACK**.

After it is saved, the filter is automatically named.

### Editing a Custom Geocache Filter

1. From the main menu, select **Setup > Geocaches > Filter Setup > Create Filter**.
2. Select a filter.
3. Select **Edit Filter** or **Edit Name**.

### chirp

A chirp™ is a small Garmin accessory that you can program and leave in a geocache. Only the owner of the chirp can program a chirp, but anyone can find a chirp in a geocache. For more information about programming a chirp, see the *chirp Owner's Manual* at [www.garmin.com](http://www.garmin.com).

### Enable chirp Searching

1. From the main menu, select **Setup > Geocaches**.
2. Select **chirp™ Searching > On**.

### Finding a Geocache with a chirp

1. From the main menu, select **Find > Geocaches > Show chirp™ Details**.
2. Begin navigating to a geocache.  
When you are within 32.9 feet (10 m) of the geocache that contains a chirp, details about the chirp appear.
3. If available, select **Go** to navigate to the next stage of the geocache.

## Customizing Your Device

### Customizing the Main Menu

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

1. From the main menu, press **MENU**.
2. Select **Change Item Order**.
3. Select a menu item.
4. Select an option:
  - Select **Move** and change the order of the list.
  - Select **Insert** to add a new item to the list.
  - Select **Remove** to delete an item from the list.

### Customizing Data Fields

Before you can change the map data fields, you must enable them ([page 31](#)).

1. From the map, trip computer, compass, or elevation plot, press **MENU**.
2. Select **Change Data Fields**.
3. Select a data field.
4. Select an option.

For data field descriptions, see [page 69](#).

### Profiles

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

1. From the main menu, select **Tools > 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. Customize the settings as necessary ([pages 47–55](#)).
2. Customize the data fields as necessary ([page 45](#)).
3. From the main menu, select **Tools > Profile Change**.
4. Press **MENU**.
5. Select **Setup Profiles > Create New Profile > OK**.

### Editing a Profile Name

1. From the main menu, select **Tools > Profile Change**.
2. Select a profile.
3. Select **Edit Name**.
4. Enter the new name.

### Deleting a Profile

1. From the main menu, select **Tools > Profile Change**.
2. Select a profile.
3. Select **Delete > Yes**.

## Customizing Dashboards

Dashboards are a custom grouping of data that can be helpful to a specific or general task, such as geocaching. You can customize the dashboard for the compass or trip computer.

1. Open the page for which you want to customize the dashboard.

2. From the compass or trip computer, press **MENU**.
  3. Select **Change Dashboard**.
  4. Select a dashboard.
- **Battery Type**—allows you to select the type of AA battery you are using ([page 57](#)).

## System Settings

From the main menu, select **Setup > System**.

- **GPS**—sets the GPS to **Normal**, **WAAS/EGNOS** (Wide Area Augmentation System/European Geostationary Navigation Overlay Service), or **Demo Mode** (GPS off). For information about WAAS, go to [www.garmin.com/aboutGPS/waas.html](http://www.garmin.com/aboutGPS/waas.html).
- **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.

## Dog Settings

From main menu, select **Setup > Dogs**.

- **Dog Track Length on Map**—sets the length (duration in minutes or hours) of the dog track on the map.
- **Zoom Map to Dogs**—automatically zooms out the map to show all of the dogs' locations and your location unless you use the **Rocker** to manually pan the map.
- **Dog Alerts**—sets dog alerts to **Tone Only**, **Vibrate Only**, **Tone and Vibrate**, or **Off**.
  - **On-Point Alert**—indicates that the dog is on-point.
  - **Treed Alert**—indicates that the dog has treed quarry and has confined its own movements to a small area for 60 seconds.

- **GPS Lost Alert**—indicates that the dog's DC 40 has lost GPS satellite signals.
- **Lost Communication Alert**—indicates that the Astro is not receiving signals from the DC 40.

### Customizing the Dog List

1. From the main menu, press **DOG** twice.
2. Select a dog.
3. Select an option:
  - Select **Move Down** and change the order of the dog list.
  - Select **Remove** to delete a dog from the list.

### Display Settings

From main menu, select **Setup > Display**.

- **Backlight Timeout**—adjusts the length of time before the backlight turns off.

**NOTE:** To adjust the backlight brightness, see [page 10](#).

- **Battery Save**—saves battery power and prolongs the battery life.
- **Colors**—sets the colors used on the device screens.
- **Screen Capture**—allows you to take screen captures on the device.

### Setting the Device Tones

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

1. From the main menu, select **Setup > Tones**.
2. Select a tone for each audible type.

## Map Settings

From the main menu, select **Setup** > **Map**.

- **Orientation**
  - **North Up**—shows north at the top of the page.
  - **Track Up**—shows your current direction of travel toward the top of the page.
- **Guidance Text**—allows you to select when to show guidance text on the map.
- **Data Fields**—[page 69](#).
- **Advanced Map Setup**—sets the zoom levels, the text size, and the detail level of the map.
  - **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.
  - **Zoom Levels**—selects the zoom level for map items.
  - **Text Size**—selects the text size for map items.
  - **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.
- **Map Information**—allows you to enable or disable the maps currently loaded on the device. To purchase additional maps, see [page 67](#).

## Tracks Settings

From the main menu, select **Setup** > **Tracks**.

- **Track Log**—turns track recording on or off.
- **Record Method**—selects a track recording method. Auto records the tracks at a variable rate to create an optimum representation of your tracks.
- **Recording Interval**—selects a track log recording rate. Recording points more frequently creates a more detailed track, but fills the track log faster.
- **Auto Archive**—selects an automatic archive method to organize your tracks. Tracks are saved and cleared automatically based on the user setting.
- **Color**—changes the color of the track line on the map.

## Changing the Units of Measure

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

1. From the main menu, select **Setup** > **Units**.
2. Select a measurement type.
3. Select a unit of measure for the setting.

## Time Settings

From the main menu, select **Setup** > **Time**.

- **Time Format**—allows you to select a 12-hour or a 24-hour display time.
- **Time Zone**—allows you to select the time zone for the device. You can select **Automatic** to set the time zone automatically based on your GPS position.

## Position Format

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

From the main menu, select **Setup > Position Format**.

- **Position Format**—sets the position format in which a given 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.

## Heading Settings

You can customize the compass settings. You can specify the type of heading display and the type of North reference used to calculate a heading.

**NOTE:** Unless you have a good understanding of headings and North referencing, use the default values.

From the main menu, select **Setup > Heading**.

- **Display**—sets the type of directional heading on the compass.
- **North Reference**—sets the north reference of the compass.
- **Go To Line (Pointer)**—allows you to select how the course appears.
  - **Bearing (Small or Large)**—the direction to your destination.
  - **Course (CDI)**—the course deviation indicator displays your relationship to a course

line leading to a destination.

- **Compass**—switches from an electronic compass to a GPS compass when you are traveling at a higher rate of speed for a set period of time (**Auto**), or turns the compass off.
- **Calibrate Compass**—[page 36](#).

## Altimeter Settings

From the main menu, select **Setup** > **Altimeter**.

- **Auto Calibration**—allows the altimeter to self-calibrate each time you turn the device 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. Therefore, the barometric pressure should only change due to weather.

**NOTE:** Use this feature when you plan to remain stationary. Trip data is not recorded when Fixed Elevation is on.

- **Pressure Trending**
  - **Save When Power On**—records pressure data only when the device is turned on. This can be useful when you are watching for pressure fronts.
  - **Save Always**—records pressure data every 15 minutes, even when the device is turned off.
- **Plot Type**
  - **Elevation/Time**—records elevation changes over a period of time.

- **Elevation/Distance**—records elevation changes over a distance.
- **Barometric Pressure**—records barometric pressure over a period of time.
- **Ambient Pressure**—records ambient pressure changes over a period of time.
- **Calibrate Altimeter**—[page 39](#).
- **Filter Setup**—[page 43](#).
- **chirp™ Searching**—[page 44](#).
- **Program chirp™**—programs the chirp accessory. See the *chirp Owner's Manual* at [www.garmin.com](http://www.garmin.com).

## Routing Settings

From the main menu, select **Setup** > **Routing**.

## Geocache Settings

From the main menu, select **Setup** > **Geocaches**.

- **Geocache List**—allows you to display the geocache list by names or codes.
- **Found Geocaches**—allows you to edit the number of geocaches found. This number automatically increases as you log a find ([page 43](#)).
- **Guidance Method**—allows you to select a guidance method for calculating your route.
  - **Off Road**—calculates point-to-point routes.
  - **On Road For Time** (requires routable maps)—calculates onroad routes that require minimal time to drive.

- **On Road For Distance** (requires routable maps)—calculates on-road routes that are shorter in distance.
- **Prompted**—asks you to select a routing method before the route is calculated.
- **Follow Road Method**—allows you to select a transportation method in order to optimize your route.
- **Lock On Road**—locks the position icon, which represents your position on the map, onto the nearest road.
- **Off Road Transitions**—available only for some activities.
  - **Auto**—automatically routes you to the next point.
  - **Manual**—allows you to select the next point on the route.
- **Distance**—routes you to the next point on the route when you are within a specified distance of your current point.
- **Avoidance Setup**—(available only for some activities) allows you to select the road type you want to avoid.

## Marine Settings

From the main menu, select **Setup > Marine**.

- **Marine Chart Mode**—allows you to select a nautical chart or a fishing chart:
  - **Nautical**—displays various map features in different colors so that the marine POIs are more readable. The nautical chart reflects the drawing scheme of paper charts.

- **Fishing**—(requires marine maps) displays a detailed view of bottom contours and depth soundings. Simplifies map presentation for optimal use while fishing.
- **Appearance**—allows you to set the appearance of marine navigation aids on the map.
- **Marine Alarm Setup**
  - **Anchor Drag Alarm**—alarm sounds when you exceed a specified drift distance while anchored.
  - **Off Course Alarm**—alarm sounds when you are off course by a specified distance.
  - **Deep Water/Shallow Water**—alarm sounds when you enter water of a specific depth.

## Setting up Marine Alarms

1. From the main menu, select **Setup** > **Marine** > **Marine Alarm Setup**.
2. Select an alarm type.
3. Select **On**.
4. Enter a distance.

## Fitness Settings

For more information on optional fitness accessories, see [page 66](#).

## Device Information

### Viewing Device Information

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

From the main menu, select **Setup**  
> **About**.

### Caring for the Devices

#### **NOTICE**

Avoid chemical cleaners and solvents that can damage plastic components.

---

### Cleaning the Devices

1. Use a cloth dampened with a mild detergent solution.
2. Wipe it dry.

### Cleaning the Screen

1. Use a soft, clean, lint-free cloth.

2. If necessary, use water, isopropyl alcohol, or eyeglass lens cleaner.
3. Apply the liquid to the cloth, and gently wipe the screen with the cloth.

### Water Immersion

#### **NOTICE**

The Astro and DC 40 are water resistant to IEC 60529 IPX7. They can withstand immersion in 1 meter of water for 30 minutes. Prolonged submersion can cause damage to the devices. After immersion, be certain to wipe and air dry the devices before using or charging.

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### Extreme Temperatures

#### **NOTICE**

Do not store the Astro or DC 40 where prolonged exposure to temperature extremes may occur, because permanent damage may result.

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## Specifications

### Astro

Water resistance	Water resistant to IEC 60529 IPX7
Battery type	Two 1.5 volt AA batteries (alkaline, NiMH, or lithium)
Alkaline battery life	Up to 15 hours, typical usage
NiMH or lithium battery life	Up to 20 hours, typical usage
Operating temperature range	From -4°F to 158°F (from -20°C to 70°C) See battery information on <a href="#">page 58</a> .
Computer interface	USB 2.0 full speed
Wireless range	12 inches (30.5 cm) or closer

### DC 40

Water resistance	Water resistant to IEC 60529 IPX7
Battery type	Internal rechargeable lithium-ion battery
Battery life	From 17 to 48 hours. Recharging takes approximately 4½ hours.
Operating temperature range	From -4°F to 140°F (from -20°C to 60°C)
Charging temperature range	From 32°F to 113°F (from 0°C to 45°C)

## Battery Information

### **WARNING**

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

### **CAUTION**

The temperature rating for the device may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures. Alkaline batteries lose a significant amount of their capacity as temperature decreases. Use lithium batteries when operating the device in below-freezing conditions.

## Replacing the Batteries

See [page 5](#).

## Selecting the Battery Type

1. From the main menu, select **Setup** > **System** > **Battery Type**.
2. Select **Alkaline**, **Lithium**, or **Rechargeable NiMH**.

## Long-Term Storage

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

## Storing Your DC 40

The normal long-term decrease in the charging capacity of lithium-ion batteries can be accelerated by exposure to elevated temperatures. Storing a fully charged battery for more than three months in a location that exposes it to high temperatures (above 70°F or 21°C) can significantly reduce its recharging capacity.

- Before storage, charge the battery to approximately 50% of

capacity and store it in a cool, dry location where temperatures are not expected to exceed typical household levels.

- Do not store a fully depleted battery because it may not recharge after an extended period of storage.
- After storage, fully charge the battery again before using the DC 40.

## Maximizing Battery Life

### Using the Astro Battery Save Option

From the main menu, select **Setup > System > Display > Battery Save**.

### Decreasing the Backlight

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

1. Quickly press .
2. Adjust the brightness.

### Adjusting the Backlight Timeout

From the main menu, select **Setup > System > Display > Backlight Timeout**.

### Decreasing the Update Rate of the DC 40

This requires wireless communication with the DC 40. You must turn on the DC 40 and bring it within range of the Astro.

1. From the main menu, press **DOG > ENTER > MENU**.
2. Select **Comm. Settings**.
3. If necessary, select a unit ID.
4. Change the update rate.  
Both 30-second and two-minute rates reduce battery drain, but they create a less-detailed dog track and collected statistics.

5. Bring the Astro within a few feet of the DC 40.
6. Follow the on-screen instructions.

## Data Management

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

### File Types

The device supports the following file types:

- Files from BaseCamp™. Go to [www.garmin.com](http://www.garmin.com).
- GPI custom POI files from the Garmin POI Loader. Go to [www.garmin.com/products/poiloader](http://www.garmin.com/products/poiloader).
- JPEG photo files
- GPX geocache files

### Installing a microSD Card

You can purchase microSD memory cards from an electronics supplier, or purchase preloaded map data cards from your Garmin dealer. In addition to map and data storage, the memory cards can be used to store files such as images, cartridges, geocaches, routes, waypoints, and custom POIs.

1. Remove the battery cover by turning the D-ring 1/4 turn counterclockwise and pulling up.
2. Remove the batteries.
3. Slide up and pull out the metal cover.
4. Align the metal contacts, and place the card in the slot.



5. Push in and slide down the metal cover.
6. Replace the batteries and the battery cover.

### Removing a microSD Card

1. Slide up and pull out the metal cover.
2. Remove the card from the slot.
3. Push in and slide down the metal cover.

## Connecting the USB Cable

### NOTICE

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

1. Connect the USB cable to a USB port on your computer.
2. Pull up the weather cap from the mini-USB port.
3. Plug the small end of the USB cable into the mini-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

Before you can transfer files, you must connect the device to your computer (page 61). To transfer map data to a memory card, you may need to load USB drivers from [www.garmin.com](http://www.garmin.com).

1. Browse your computer for the file.
2. Select the file.
3. Select **Edit > Copy**.
4. Open the “Garmin” or memory card drive or volume.

**TIP:** You must put photo files in the Garmin\JPEG folder. You must put geocache files in the Garmin\GPX folder.

5. Select **Edit > Paste**.

## Transferring Detailed Tracks

The dog tracks saved on your Astro are detailed enough for most users to view the movements of their dog. The DC 40 stores more-detailed tracks of the dog’s movements. You can use the Astro to transfer these tracks to the BaseCamp software ([www.garmin.com](http://www.garmin.com)) on your computer.

1. Turn on the Astro.
2. Turn on the DC 40, and place it within 12 inches of the Astro.
3. From the main menu, press **DOG** twice.
4. Select a dog.
5. Select **Show Info**.
6. Press **MENU**.
7. Select **Download Track**.

The detailed track is saved to the device mass storage in the Garmin\GPX folder. The file name is *dog\_detailed.gpx*.

8. Open BaseCamp.
9. Connect the Astro to a computer using the USB cable provided (page 61).
10. Follow the BaseCamp instructions for transferring files.

## Deleting Files

### NOTICE

Your device memory contains important system files and folders that should not be deleted.

Before you can delete files, you must connect the device to your computer (page 61).

1. Open the “Garmin” drive or volume.
2. If necessary, open a folder or volume.
3. Select the files.

4. Press the **Delete** key on your keyboard.

## Disconnecting the USB Cable

1. Complete an action:
  - For Windows computers, click the eject icon  in your system tray.
  - For Mac computers, drag the volume icon to the Trash .
2. Disconnect the device from your computer.

## Updating the Device Software

Before you can update the device software, you must connect the Astro to your computer (page 61).

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

1. Go to [www.garmin.com/webupdater](http://www.garmin.com/webupdater).
2. Follow the on-screen instructions.

3. Check for DC 40 software updates.

The DC 40 software is stored on your Astro until you are ready to load it wirelessly.

7. Follow the on-screen instructions.

The DC 40 software is saved on the Astro, so you can update additional DC 40 devices in the field.

### Loading the DC 40 Software

Before you can load the software to the DC 40, you must get the software from WebUpdater.

1. Turn on the DC 40, and bring it within range of the Astro.

**NOTE:** To avoid data corruption, do not turn off the Astro or the DC 40 during data transfer.

2. From the main menu, press **DOG** twice.
3. Select a dog.
4. Select **Show Info**.
5. Press **MENU**.
6. Select **Upgrade Dog Unit**.

## Appendix

### Contacting Garmin Product Support

- Go to [www.garmin.com/support](http://www.garmin.com/support) and click **Contact Support** for in-country support information.
- In the USA, call (913) 397.8200 or (800) 800.1020.
- In the UK, call 0808 2380000.
- In Europe, call +44 (0) 870.8501241.

### 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.

### Using myGarmin™

Go to <http://my.garmin.com> to access the latest services for your Garmin products.

- Subscribe to online services for Points of Interest (POIs) and other useful items.
- Unlock optional maps.
- Download geocaches to your device.

### Buying Accessories

Go to <http://buy.garmin.com>, or contact your Garmin dealer for information about optional accessories, preloaded map data cards, accessories, and replacement parts.

## Optional Fitness Accessories

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

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.

### Using Optional Fitness Accessories

1. Bring the device within range (3 m) of the ANT+ accessory.
2. From the main menu, select **Setup** > **Fitness**.
3. Select an option:
  - Select **Heart Rate Monitor** > **On**.
  - Select **Bike Cadence Sensor** > **On**.

4. Wait until the device displays “Connected.”
5. Customize your data fields to view the heart rate or cadence data ([page 69](#)).

### 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 feet) away from other ANT+ accessories.
- Bring the Garmin device within range 3 m (10 feet) 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.

### Optional Maps

You can purchase additional maps, such as BirdsEye™ satellite imagery, Garmin custom maps, Inland lakes, Topo, BlueChart® g2 and City Navigator maps. Go to [www.garmin.com/us/maps/](http://www.garmin.com/us/maps/).

## Replacement Parts

### Replacing the DC 40 Collar

You must provide your own Phillips screwdriver to replace the DC 40 collar.

1. Carefully cut the zip tie that secures the VHF antenna to the collar.
2. Remove the two screws on the back plate of the DC 40.
3. Lift off the mounting plate.
4. Remove the old collar.
5. Align the new collar with the DC 40.

The buckle should be on the side opposite of the power button.

6. Replace the mounting plate and screws.
7. Replace the zip tie that secures the VHF antenna to the collar.

Trim the zip tie and any sharp edges.

## Replacing the DC 40 VHF Antenna

Before you can replace the VHF antenna, you must detach the DC 40 from the collar (page 67).

1. Remove the weather cap and screw from the VHF antenna.
2. Remove the old VHF antenna.
3. Align the new VHF antenna with the DC 40.
4. Replace the screw and the weather cap.
5. Replace the mounting plate and screws.
6. Replace the zip tie that secures the VHF antenna to the collar.  
Trim the zip tie and any sharp edges.

## Changing the Fuse in the Vehicle Power Cable

### **NOTICE**

When replacing the fuse, do not lose any of the small pieces and make sure they are put back in the proper position. The vehicle power cable does not work unless it is assembled correctly.

If your device does not charge in your vehicle, you may need to replace the fuse located at the tip of the vehicle adapter.

1. Use a coin to push down the silver tip, and turn the coin counterclockwise, one-quarter turn.
2. Remove the end piece, the silver tip, and the fuse.
3. Install a 1 A fast blow fuse of the same size.
4. Replace the silver tip and the end piece.

## Data Field Options

Data Field	Description
Accuracy of GPS	The margin of error for your exact location. For example, your GPS location is accurate to within +/- 12 feet.
Ambient Pressure	The uncalibrated environmental pressure.
Ascent - Average	The average vertical distance of ascent.
Ascent - Maximum	The maximum ascent rate in feet/meters per minute.
Ascent - Total	The total elevation distance ascended.
Battery Level	The remaining battery power.
Barometer	The calibrated current pressure.

Data Field	Description
Bearing	The direction from your current location to a destination.
Cadence (cadence accessory required)	Revolutions of the crank arm or strides per minute.
Course	The direction from your starting location to a destination.
Descent - Average	The average vertical distance of descent.
Descent - Maximum	The maximum descent rate in feet/meters per minute.
Descent - Total	The total elevation distance descended.
Distance to Dest.	The distance to your final destination.
Distance to Next	The remaining distance to the next point on the route.

<b>Data Field</b>	<b>Description</b>
Elevation	The altitude of your current location above or below sea level.
Elevation - Maximum	The highest elevation reached.
Elevation - Minimum	The lowest elevation reached.
ETA at Destination	The estimated time of day you will reach your final destination.
ETA at Next	The estimated time of day you will reach the next point on the route.
Glide Ratio	The ratio of horizontal distance traveled to the change in vertical distance.

<b>Data Field</b>	<b>Description</b>
Glide Ratio to Dest.	The glide ratio required to descend from your current position and elevation to the destination elevation.
GPS Signal Strength	The strength of the GPS signal.
Heading	The direction you are moving.
Heart Rate (heart rate monitor required)	Your heart rate in beats per minute (bpm).
Location (lat/lon)	Displays the current position in the default position format regardless of the selected settings.
Location (selected)	Displays the current position in the selected position format.

<b>Data Field</b>	<b>Description</b>
Odometer	A running tally of distance traveled for all trips.
Off Course	The distance to the left or the right by which you have strayed from the original path of travel.
Pointer	The data field arrow points in the direction of the next point or turn.
Speed	The current rate of speed at which you are moving since last reset.
Speed - Maximum	The maximum speed reached since last reset.
Speed - Moving Avg.	The average speed of the device while moving since last reset.

<b>Data Field</b>	<b>Description</b>
Speed - Overall Avg.	Your average speed since last reset.
Sunrise	The time of sunrise based on your GPS position.
Sunset	The time of sunset based on your GPS position.
Time of Day	The current time of day based on your time settings (format, time zone, and daylight saving time).
Time to Destination	The estimated time needed to reach your final destination.
Time to Next	The estimated time needed until you reach the next point on the route.
To Course	The direction in which you must move to return to the route.

<b>Data Field</b>	<b>Description</b>
Trip Odometer	A running tally of the distance traveled since the last reset.
Trip Time - Moving	A running tally of time since the last reset.
Trip Time - Stopped	The time spent not moving since the last reset.
Trip Time - Total	A running tally of distance traveled 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.
Velocity Made Good	The speed at which you are closing on a destination along a route.

<b>Data Field</b>	<b>Description</b>
Vertical Speed	Your rate of altitude gain or loss over time.
Vert. Speed to Dest.	The measurement of your rate of ascent or descent to a predetermined altitude.
Waypoint at Dest.	The last point on a route to your destination.
Waypoint at Next	The next point on your route.

## Troubleshooting

Problem	Solution
The device does not respond. How do I reset the device?	<ol style="list-style-type: none"> <li>1. Remove the batteries.</li> <li>2. Reinstall the batteries.</li> </ol> <p><b>NOTE:</b> This does not erase any of your data or settings.</p>
I want to reset all the customized settings back to the factory defaults.	From the main menu, select <b>Setup &gt; Reset &gt; Reset All Settings</b> .
My device does not acquire satellite signals.	<ol style="list-style-type: none"> <li>1. Take your device out of buildings and parking garages, and away from tall buildings and trees.</li> <li>2. Turn on the device.</li> <li>3. Remain stationary for several minutes.</li> </ol>
The batteries do not last long.	To learn how to maximize the battery life, see <a href="#">page 59</a> .
How do I know my device is in USB mass storage mode?	<p>On the device, the Garmin logo and  USB symbol appear.</p> <p>On your computer, you should see a new removable disk drive in My Computer on Windows computers and a mounted volume on Mac computers.</p>

<p>My device is connected to the computer, but it will not go into mass storage mode.</p>	<p>You may have loaded a corrupted file.</p> <ol style="list-style-type: none"><li>1. Disconnect the device from your computer.</li><li>2. Turn off the device.</li><li>3. Hold  while you connect the device to your computer.</li><li>4. Continue holding  for 30 seconds or until the device goes into mass storage mode.</li></ol>
<p>I cannot see any new removable drives in my list of drives.</p>	<p>If you have several network drives mapped on your computer, Windows may have trouble assigning drive letters to your Garmin drives. See the Help file for your operating system to learn how to assign drive letters.</p>
<p>I need replacement parts or accessories.</p>	<p>Go to <a href="http://buy.garmin.com">http://buy.garmin.com</a>, or contact your Garmin dealer.</p>
<p>I want to buy an external GPS antenna.</p>	<p>Go to <a href="http://buy.garmin.com">http://buy.garmin.com</a>, or contact your Garmin dealer.</p>

# Index

## A

- accessories 65
- adding a dog 17
- addresses 33
- alarms
  - clock 42
  - marine 54
  - proximity 39
  - tones 48
- alerts
  - dog 47
  - vibration 47
- almanacs 41
- altimeter
  - calibrating 39
  - navigating 38
  - settings 52, 56
- averaging your location 23

## B

- backlight 10, 48, 59
- barometer 52, 69

- batteries
  - installing 5
  - life 11, 57
  - replacing 58
  - storage 58
  - type 47, 57, 58
- battery save option 59
- bearing pointer 34
- BirdsEye satellite imagery 67
- BlueChart g2 maps 67

## C

- calculator 41
- calendar 41
- calibrating
  - altimeter 39, 52
  - compass 36
- caring for the devices 56
- chirp 44, 53
- City Navigator 33
- cleaning the device 56
- Collar Lock 18
- compass
  - calibrating 36

- navigating 34
  - settings 51
- computer 61
- course pointer 35
- covey, marking 21
- customizing your device 31, 37, 45, 46

## D

- dashboards 46
- data fields 45, 69–73
- DC 40
  - replacing 67
  - update rate 59
  - updating software 64
- Digital Elevation Models (DEM) 27
- display settings 48
- dog
  - adding 17
  - alerts 47
  - Dog Tracker page 14
  - information 13, 15
  - pointer 14
  - settings 47, 48

- signal conflict 17–18
- statistics 19
- status icons 14
- tracks, transferring 62
- type 15

## E

- elevation
  - data fields 70
  - plot 26, 38

## F

- file types 60
- finding
  - addresses 33
  - cities 32
  - coordinates 33
  - geocaches 43
  - near your location 22
  - photos 32
  - points of interest 33
  - routes 32
  - tracks 32
  - waypoints 22, 32
- fitness accessories 66
- fixed elevation 52

## G

- Garmin Product Support 65
- geocaches 42
  - settings 53
  - sharing 29
- GPS
  - settings 47
  - signals 11, 40, 69

## H

- heading settings 51

## K

- keyboard 12
- keypad 9

## L

- language 47
- line-of-sight radio
  - communication 20

## M

- main menu 45
- map datum 51
- maps
  - BirdsEye satellite

- imagery 67
- City Navigator 33, 67
- customizing 49
- data fields 31
- measuring distance 31
- optional 33, 67
- orientation 30, 49
- scaling 30
- topographical 27, 67
- marine
  - alarms setup 54
  - setup 54
- measuring distance 31
- memory card 60
- microSD card 60
- myGarmin 65
- N**
  - naming
    - locations 21
    - waypoints 22
  - navigating
    - altimeter 38
    - compass 34
    - course pointer 35

Sight 'N Go 36  
stopping 32  
to a destination 32  
waypoints 21

**O**

odometer 71

**P**

PIN 18  
POI Loader 60  
points of interest 33  
position format 51  
power key 8, 9  
product support 65  
profiles 45  
proximity alarms 39

**R**

radio signals 20  
recent finds 32  
replacement parts 67  
routes 24  
    editing 24  
    settings 53

**S**

satellite page 40  
satellite signals 11, 13,  
    18, 69  
Sight 'N Go 36  
software version 56  
specifications 57  
stopwatch 42  
storage 56, 58  
system settings 47

**T**

time settings 50  
    data fields 71  
    sunrise and sunset 71  
tones 47, 48  
topographical maps 27, 67  
TracBack 28  
tracking a dog 16  
tracks 25  
    settings 50  
    transferring dog tracks  
        62  
trip computer 37  
troubleshooting

dog signals 17–18

**U**

unit ID 56  
units of measure 50  
updating software  
    Astro 220 63

**V**

VHF antenna 7, 8, 9, 68  
vibration alerts 47

**W**

waypoints 21  
    deleting 23  
    editing 22  
    navigating 21  
    projecting 24  
WebUpdater 63–64

**Z**

zooming  
    altimeter 39  
    dog location 47  
    map 49





For the latest free software updates (excluding map data) throughout the life of your Garmin products, visit the Garmin Web site at [www.garmin.com](http://www.garmin.com).



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