



GPSMAP® 78 series owner's manual



for use with the GPSMAP 78, GPSMAP
78S, and GPSMAP 78Sc

© 2010 Garmin Ltd. or its subsidiaries

Garmin International, Inc.
1200 East 151st Street,
Olathe, Kansas 66062,
USA
Tel. (913) 397.8200 or
(800) 800.1020
Fax (913) 397.8282

Garmin (Europe) Ltd.
Liberty House,
Hounslow Business Park,
Southampton, Hampshire, SO40 9LR UK
Tel. +44 (0) 870.8501241 (outside the UK)
0808 2380000 (within the UK)
Fax +44 (0) 870.8501251

Garmin Corporation
No. 68, Jangshu 2nd Road,
Sijhih, Taipei County,
Taiwan
Tel. 886/2.2642.9199
Fax 886/2.2642.9099

All rights reserved. Except as expressly provided herein, no part of this manual may be reproduced, copied, transmitted, disseminated, downloaded or stored in any storage medium, for any purpose without the express prior written consent of Garmin. Garmin hereby grants permission to download a single copy of this manual onto a hard drive or other electronic storage medium to be viewed and to print one copy of this manual or of any revision hereto, provided that such electronic or printed copy of this manual must contain the complete text of this copyright notice and provided further that any unauthorized commercial distribution of this manual or any revision hereto is strictly prohibited.

Information in this document is subject to change without notice. Garmin reserves the right to change or improve its products and to make changes in the content without obligation to notify any person or organization of such changes or improvements. Visit the Garmin Web site (www.garmin.com) for current updates and supplemental information concerning the use and operation of this and other Garmin products.

Garmin®, BlueChart®, City Navigator®, and GPSMAP® are trademarks of Garmin Ltd. or its subsidiaries, registered in the USA and other countries. HomePort™, BaseCamp™, ANT™, and ANT+™ are trademarks of Garmin Ltd. or its subsidiaries. These trademarks may not be used without the express permission of Garmin.

Windows® is a registered trademark of Microsoft Corporation in the United States and/or other countries. Mac® is a registered trademark of Apple Computer, Inc. microSD™ is a trademark of SanDisk or its subsidiaries. Other trademarks and trade names are those of their respective owners.

Table of Contents

Getting Started..... 1

Manual Conventions..... 1

Device Overview..... 2

Battery Information 3

Installing the Batteries 3

Turning the Device On or Off..... 3

Acquiring Satellite Signals 4

Buttons 4

Navigating with Waypoints and Routes 6

Waypoints 6

Routes 7

Additional Maps 9

Tracks 10

About Tracks..... 10

Navigating a Saved Track..... 11

Using the Main Pages 12

Customizing the Data Fields.... 12

Restoring Default Page

Settings 12

Map..... 12

Compass 14

Using the Compass 15

Using Sight 'N Go..... 15

Elevation Plot..... 16

Opening the Main Menu 17

Trip Computer..... 18

Main Menu Features and

Settings 19

Geocaches 19

Share Wirelessly..... 19

Proximity Alarms..... 20

Profile Change..... 20

Area Calculation 20

Satellite..... 21

Additional Main Menu Tools..... 21

Customizing Your Device 23

Customizing Data Fields..... 23

Data Field Options..... 23

System Settings..... 27

Display Settings.....	28	Contacting Garmin Product Support	35
Setting Up Tones	28	Using the Backlight.....	36
Marine Settings.....	28	Specifications	36
Setting up Marine Alarms	29	Maximizing Battery Life	37
Resetting Data.....	30	About the Batteries	38
Changing the Page Sequence.....	30	Buying Optional Accessories ...	38
Customizing the Unit Settings	31	Using Optional Fitness Accessories.....	39
Time Settings.....	31	Data Management.....	40
Position Format Settings	31	Attaching the Wrist Strap.....	43
Altimeter Settings	32	Caring for the Device.....	44
Geocache Settings	33	Troubleshooting.....	45
Routing Settings	33	Index	47
Fitness	34		
Profiles.....	34		
Appendix	35		
Registering Your Device	35		
Updating the Software	35		
Viewing Important Device Information	35		

Getting Started

WARNING

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

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

1. Install the batteries ([page 3](#)).
2. Turn on the device ([page 3](#)).
3. Acquire satellites ([page 4](#)).
4. Mark a waypoint ([page 6](#)).
5. Navigate a route ([page 8](#)).
6. Record a track ([page 10](#)).
7. Calibrate the compass ([page 14](#)).

Manual Conventions

When you are instructed to press something, use the buttons on the unit. Use the **Rocker** to select something in a list, and then press **ENTER**. See [page 5](#).

The small arrows (>) used in the text indicate that you should select a series of items in order, for example, “Select **Delete > Yes**.”

Device Overview



Battery Information

The device operates on two AA batteries. Use alkaline, NiMH, or lithium batteries. Use precharged NiMH or lithium batteries for best results ([page 38](#)).

Installing the Batteries

1. Slide the latch on the back of the device, and remove the battery cover.
2. Insert the batteries, observing polarity.



3. Replace the battery cover.

For best results, after you install new batteries, update the battery type in the system settings ([page 37](#)).

Turning the Device On or Off

Press and hold .

Setting Your Language

1. Turn on the unit.
2. Use the **Rocker** to select a language.

Acquiring Satellite Signals

It may take 30 to 60 seconds to acquire signals.

1. Go outdoors to an open area.
2. If necessary, turn on the device.
3. Wait while the device searches for satellites.




A question mark flashes while the device determines your location.

4. Quickly press  to open the backlight status page.

The GPS bars indicate satellite strength. When the bars are green, the device has acquired satellite signals.

Buttons



Button	Description
FIND/MOB	Press FIND to open the search menu. Press and hold MOB (man overboard function) to store your current location as a waypoint and begin navigation to that point.
	Press and hold  to turn the device on and off. Quickly press  to open the backlight status page.

QUIT	Press QUIT to cancel or return to the previous menu or page.
PAGE	Press PAGE to scroll through the main pages (page 12).
MENU	Press MENU to open the options menu for the page that is currently open. Press MENU twice to open the main menu (from any page).
ENTER/ MARK	Press ENTER to select options and acknowledge messages. Press and hold MARK to save your current location as a waypoint.

Rocker	Press up, down, right, and left to select menu options and to move the map cursor.
+	Press + to zoom in on the map.
-	Press - to zoom out on the map.

Navigating with Waypoints and Routes

Waypoints

Waypoints are locations you record and store in the device.

Creating Waypoints

1. From any page, press and hold **MARK**.
2. Select **Done**.

Navigating to a Waypoint Using the Search Menu

You can use the search menu to quickly find waypoints, tracks, routes, and coordinates that you have saved.

1. From any page, press **FIND**.
2. Select **Waypoints**.
3. Select a waypoint.
4. Select **Go**.

Editing a Waypoint

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

1. From the main menu, select **Waypoint Manager**.
2. Select a waypoint.
3. Select an attribute (such as the name or location).
4. Enter the new information.
5. Select **Done**.

Deleting a Waypoint

1. From the main menu, select **Waypoint Manager**.
2. Select a waypoint.
3. Press **MENU**.
4. Select **Delete**.

Routes

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

Creating a Route

1. From the main menu, select **Route Planner > Create Route > Select First Point**.
2. Select a category.
3. Select the first point in the route.
4. Select **Use**.
5. Select **Select Next Point**.
6. Repeat steps 2–5 until the route is complete.
A route must contain at least two points.
7. Press **QUIT** to save the route.

Editing the Name of a Route

1. From the main menu, select **Route Planner**.
2. Select a route.
3. Select **Change Name**.
4. Enter the new name.
5. Select **Done**.

Editing a Route

1. From the main menu, select **Route Planner**.
2. Select a route.
3. Select **Edit Route**.
4. Select a point.
5. Select an option:
 - **Review**—shows the point on the map.
 - **Move Down (or Up)**—changes the order of the point on the route.

- **Insert**—adds an additional point on the route.
The additional point is inserted before the point you are editing.
- **Remove**—removes the point from the route.

Viewing a Route on the Map

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

Deleting a Route

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

Navigating a Route

1. Press **FIND**.
2. Select **Routes**.

3. Select a route.
4. Select **Go**.

Viewing the Active Route

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

Stopping Navigation of a Route

1. From any page, press **FIND**.
2. Select **Stop Navigation**.

Navigating a Reverse Route

1. From the main menu, select **Route Planner**.
2. Select a route.
3. Select **Reverse Route**.
4. Select the route again.
5. Select **View Map**.
6. Select **Go**.

Additional Maps

To purchase preloaded detailed map data cards, go to <http://buy.garmin.com> or contact your Garmin dealer.

Finding an Address with City Navigator®

You can use optional City Navigator maps to search for addresses, cities, and other locations. The detailed maps contain millions of points of interest, such as restaurants, hotels, and auto services.

1. Press **FIND**.
2. Select **Addresses**.
3. Enter the country.
4. Enter the city or postal code.
NOTE: Not all map data provides postal code searching.
5. Select the city.

6. Enter the house number.
7. Enter the street.
8. Select **Go**.

Finding Marine Services

1. Press **FIND**.
2. Select **Marine Services**.
3. Select a category.
4. Select a destination.
5. Select **Go**.

Tracks

About Tracks

Your Garmin device records a track log while you are moving. You can save these tracks and navigate to them later.

You can view archived or loaded tracks by selecting **Track Manager** from the main menu.

Managing Track Log Recording

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:
 - **Distance**—records tracks at a specified distance.
 - **Time**—records tracks at a specified time.
 - **Auto**—records tracks at a variable rate to create an optimum representation of your tracks.
5. Select **Recording Interval**.
6. Select an option to record tracks more or less often.
NOTE: Using the **Most Often** interval provides the most track detail and fills up the device memory quicker.

Viewing the Current Track

The track being recorded is called the current track.

1. From the main menu, select **Track Manager > Current Track**.
2. Select an option:
 - **View Map**—shows the current track on the map.
 - **Elevation Plot**—shows the elevation plot (page 16) for the current track.

Saving the Current Track

1. From the main menu, select **Track Manager > Current Track**.
2. Select what you want to save:
 - **Save Track**—saves the entire active track.
 - **Save Portion**—allows you to select a portion of the current track to save.

Clearing the Current Track

From the main menu, select **Setup > Reset > Clear Current Track > Yes**.

Deleting a Track

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

Navigating a Saved Track

You must record and save a track (page 11) before you can navigate using it.

1. Press **FIND**.
2. Select **Tracks**.
3. Select a saved track.
4. Select **Go**.

Using the Main Pages

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

Customizing the Data Fields


You can customize the data fields that appear on the main pages. For data field descriptions, see [page 23](#).

1. From a main page, press **MENU**.
2. Select **Change Data Fields**.
3. Select a data field.
4. Follow the on-screen instructions.

Restoring Default Page Settings

1. From a main page, press **MENU**.
2. Select **Restore Defaults**.
3. Press **ENTER**.

Map

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.

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 move the cursor around the map to measure distance from the current location.

1. From the map, press **MENU**.

2. Select **Measure Distance**.

The device automatically begins measuring from your current location.

3. Move the cursor to a point you want to measure to.

The distance appears at the top of the page.

4. Press **QUIT** to stop measuring.

Map Setup Options

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

- **Map Orientation**—allows you to select how the map is displayed ([page 12](#)).

- **Guidance Text**—allows you to select when to show guidance text on the map.

- **Advanced Map Setup**

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

- **Zoom Levels**—map items draw or appear at or below the selected zoom level.

- **Text Size**—allows you to select the text size for map items.


- **Detail**—allows you to select the amount of map data displayed on the device.

NOTE: Higher detail settings may cause the map to redraw 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 38](#).

Compass

When navigating to a destination, the  bearing pointer points to your destination, regardless of the direction you are moving. When the bearing pointer points toward the top of the electronic compass, you are traveling directly toward your destination. If it points any other direction, turn toward that direction until the arrow is pointing toward the top of the compass.

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.


NOTE: The three-axis compass is available only with the GPSMAP 78S and GPSMAP 78Sc.

You should calibrate the compass after moving long distances, experiencing temperature changes, or changing the batteries.

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

Using the Compass

You can use the compass to navigate an active route.

1. Press **PAGE**.
2. Hold the device level.
3. Follow the  bearing pointer to your destination.

Using Sight 'N Go

NOTE: Sight 'N Go is available only with the GPSMAP 78S and GPSMAP 78Sc.

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

1. From the main menu, select **Sight 'N Go**.
2. Point the device at an object.
3. Select **Lock Direction > Set Course**.

4. Use the compass to navigate to the object.

Compass Setup Options

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

- **Display**—shows the type of directional heading on the compass:
 - **Directional Letters**—sets the compass reading to directional letters (N, S, E, W).
 - **Numeric Degrees**—sets the compass reading to degrees (0°–359°).
 - **Mils**—sets the compass reading to mils (0 mils–6399 mils).
- **North Reference**—sets the north reference of the compass:
 - **True**—sets true north as the heading reference.
 - **Magnetic**—automatically sets the magnetic declination for your location.

- **Grid**—sets grid north as the heading reference (0°).
- **User**—sets the magnetic variation value.
- **Go To Line/Pointer**—allows you to select how the course is displayed.
 - **Bearing** (Small/Large) indicates the direction to your destination.
 - **Course** indicates your relationship to a course line leading to a destination.
- **Compass**—allows you to switch from an electronic compass to a GPS compass when you are traveling at a higher rate of speed for a set period of time, or turns the compass off.
- **Select To Begin**—starts the compass calibration ([page 14](#)).

Elevation Plot

NOTE: The elevation plot page is available only with the GPSMAP 78S and GPSMAP 78Sc.

Calibrating the Barometric Altimeter

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

1. From the elevation plot, press **MENU**.
2. Select **Calibrate Altimeter**.
3. Follow the on-screen instructions.

Elevation Plot Setup Options

From the elevation plot, press **MENU**.

- **Change Plot Type**—sets the type of data shown on the elevation plot:
 - **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.
- **Adjust Zoom Ranges**—adjusts the zoom ranges shown on the elevation plot page.

- **Reset**—resets the elevation plot data:
 - **Reset Trip Data**—resets all trip data.
 - **Delete All Waypoints**—deletes all saved waypoints.
 - **Clear Current Track**—deletes the track log.
 - **Restore Defaults**—restores the device to factory settings.

Calibrate Altimeter—see [page 16](#).

Opening the Main Menu

The main menu gives you access to setup screens including waypoints, tracks, and routes. See [page 19](#) for main menu settings pages.

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

Trip Computer

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

Trip Computer Setup Options

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

- **Reset**—resets all the trip computer values to zero. For accurate information, reset the trip information before beginning a trip.
- **Big Numbers**—changes the size of the numbers shown on the trip computer page.

- **Change Dashboard**—changes 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 20](#)).

Main Menu Features and Settings

Geocaches

Geocaching is a type of treasure hunting, in which geocachers seek hidden treasures using GPS coordinates posted on the Internet by those hiding the geocache.

Downloading Geocaches

1. Register your device ([page 35](#)).
2. Connect your device to your computer ([page 40](#)).
3. Go to www.garmin.com/products/communicator.
4. Download the Garmin Communicator plug in.
5. Go to www.garmin.com/geocache.
6. Follow the on-screen instructions to download geocaches to your device.

Navigating to a Geocache

1. From the main menu, select **Geocaches**.
2. Select **Find a Geocache**.
3. Select a geocache.
4. Select **Go**.

Share Wirelessly

NOTE: The share wirelessly feature is available only with the GPSMAP 78S and GPSMAP 78Sc.

Your device can send or receive data when connected to another compatible device. You must be within 10 feet (3 m) of the compatible Garmin device.

Sending and Receiving Data

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

Proximity Alarms

Proximity alarms alert you when you are approaching a predetermined area.

Setting a Proximity Alarm

1. From the main menu, select **Proximity Alarms**.
2. Select **Create New**.
3. Select a category.
4. Select a point.
5. Select **Use**.
6. Enter a radius.
7. Select **Done**.

Profile Change

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

For more information about customizing your profile, see [page 34](#).

Setting a Profile

1. From the main menu, select **Profile Change**.
Your current profile is indicated on the page.
2. Select a profile.

Area Calculation

Calculating the Size of an Area

1. From the main menu, select **Area Calculation > Start**.
2. Walk around the perimeter of the area you want to calculate.
3. Select **Calculate** when finished.

After you calculate the area, you can save the track to your device and change the unit of measure.

Satellite

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

Satellite Settings

From the satellite page, press **MENU**.

- **Use With GPS On**—allows you to turn the GPS on and off.
- **Track Up**—indicates whether satellites are shown with rings oriented with North toward the top of the screen or oriented with your current track toward the top of the screen.
- **Single Color**—allows you to select whether the satellite page is displayed in multicolor or single color.

- **Set Location On Map**—allows you to mark your current location on the map. This option is available only when you turn off GPS. You can use this location to create routes or search for saved locations.
- **AutoLocate® Position**—calculates your GPS position using the Garmin AutoLocate feature.

Additional Main Menu Tools

- **Calendar**—displays a calendar.
- **Calculator**—displays a calculator.
- **Sun and Moon**—displays sunrise and sunset times along with the moon phase.

- **Alarm Clock**—sets an audible alarm. If you are not currently using the device, you can set the device to turn on at a specific time.
- **Hunt and Fish**—displays the predicted best dates and times for hunting and fishing at your current location.
- **Stopwatch**—allows you to use a timer, mark a lap, and time laps.
- **Waypoint Averaging**—allows you to refine a waypoint location with multiple samples to achieve the most-accurate location possible.

Customizing Your Device

Customizing Data Fields

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

1. From a main page, press **MENU**.
2. Select **Change Data Fields**.
3. Select a data field.
4. Follow the on-screen instructions.

Data Field Options

** Available only with the GPSMAP 78S and GPSMAP 78Sc.

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.

Data Field	Description
**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.
**Barometer	The calibrated current pressure.
Battery Level	The remaining battery power.
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.

Data Field	Description
Depth	The depth of the water. Requires a connection to a NMEA 0183 depth-capable device to acquire data (page 27).
**Descent - Average	The average vertical distance of descent.
**Descent - Maximum	The maximum descent rate in feet/meter 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 waypoint on the route.
Elevation	The altitude of your current location above or below sea level.
**Elevation - Maximum	The highest elevation reached.
**Elevation - Minimum	The lowest elevation reached.

Data Field	Description
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 waypoint on the route.
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 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).

Data Field	Description
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.
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 waypoint or turn.
Speed	The current rate of speed at which you are moving since last reset.

Data Field	Description
Speed - Maximum	The maximum speed reached since last reset.
Speed - Moving Avg.	The average speed of the device while moving since last reset.
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.
Temperature - Water	The temperature of the water. Requires a connection to a NMEA 0183 temperature-capable device to acquire data (page 27).
Time of Day	The current time of day based on your time settings (format, time zone, and daylight saving time).

Customizing Your Device

Data Field	Description
Time to Destination	The estimated time needed to reach your final destination.
Time to Next	The estimated time needed until you reach the next waypoint on the route.
To Course	The direction in which you must move to return to the route.
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.

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

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.
- **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.
- **Battery Type**—allows you to select the type of battery you are using.
- **Interface**—sets the format of the serial interface:

- **Garmin Serial**—Garmin proprietary format used to provide PVT protocol data.
- **NMEA In/Out**—provides standard NMEA 0183 output and input.
- **Text Out**—provides simple ASCII text output of location and velocity information.
- **RTCM** Radio Technical Commission for Maritime Services—allows the device to accept DGPS Differential Global Positioning System information from a device supplying RTCM data in an SC-104 format.

Display Settings

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

- **Backlight Timeout**—see [page 38](#).
- **Battery Save**—see [page 37](#).
- **Colors**—sets the colors used on the device screens.
- **Main, Setup, Find Style**—allows you to select how the main menu, setup menu, and search menu appear.
- **Screen Capture**—allows you to take screen captures on the device.

Setting Up Tones

Your Garmin device allows you to customize the key tones, message beeps, or turn off tones.

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

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.

- **Spot Soundings**—allows you to turn spot soundings on and set dangerous depths.
- **Light Sectors**—displays the sector in which a navigational light is visible. You can select **On** to show light sectors at all times, or you can select **Auto** to allow the chartplotter to automatically filter out light sectors depending on the zoom level.
- **Symbol Set**—allows you to show NOAA or IALA symbols on the map.
- **Marine Alarm Setup**—sets the anchor drag alarm, off course alarm, deep water alarm, and shallow water alarm.

Setting up Marine Alarms

Setting the Anchor Drag Alarm

You can set an alarm to sound when you exceed a specified drift distance while anchored.

1. From the main menu, select **Setup** > **Marine Settings**.
2. Select **Anchor Drag Alarm** > **On**.
3. Enter a distance.
4. Select **Done**.

Setting the Off Course Alarm

You can set an alarm to sound when you are off course by a specified distance.

1. From the main menu, select **Setup** > **Marine Settings**.
2. Select **Off Course Alarm** > **On**.
3. Enter a distance.
4. Select **Done**.

Setting the Deep Water or Shallow Water Alarm

1. From the main menu, select **Setup** > **Marine** > **Marine Alarm Setup**.
2. Select **Shallow Water** > **On** to set an alarm to sound when the depth is less than the specified value.
3. Enter the depth that triggers the shallow water alarm.
4. Select **Done**.
5. Select **Deep Water** > **On** to set an alarm to sound when the depth is greater than the specified value.
6. Enter the depth that triggers the deep water alarm.
7. Select **Done**.

Resetting Data

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

1. From the main menu, select **Setup** > **Reset**.
2. Select an item to reset.

Changing the Page Sequence



1. From the main menu, select **Setup** > **Page Sequence**.
2. Select a page.
3. Select **Move**.
4. Move the page up or down the list.
5. Press **ENTER**.

Adding a Page

1. From the main menu, select **Setup** > **Page Sequence**.
2. Select **Add Page**.
3. Select a page to add.

Removing a Page

1. From the main menu, select **Setup** > **Page Sequence**.
2. Select a page.
3. Select **Remove**.
4. Press **ENTER**.

Customizing the Unit Settings

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 setting.
3. Select a unit for the setting.

4. Repeat steps 2–3 for each setting you want to customize.

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 Settings

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

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.

Altimeter Settings

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

- **Auto Calibration**—the altimeter to self-calibrates each time you turn the device on.
- **Barometer Mode**
 - **Variable Elevation**—the barometer functions while you are moving.
 - **Fixed Elevation**—the

barometer functions while you are stationary.

- **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.

Geocache Settings

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

- **Geocache List**—allows you to show the geocache list by names or codes.
- **Found Geocaches**—allows you to enter the number of geocaches found.

Routing Settings

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

Guidance Method—allows you to select a guidance method for calculating your route.

- **Off Road**—calculates point-to-point routes.

- **On Road For Time**—calculates on-road routes that require minimal time to drive.

- **On Road For Distance**—calculates on-road routes that are shorter in distance.

- **Calculates Routes for**—allows you to select a transportation method in order to optimize your route.
- **Lock On Road**—locks the current location marker on the nearest road, compensating for variances in map position accuracy (requires routable maps).
- **Off Road Transitions**
 - **Auto**—automatically routes you to the next point.
 - **Manual**—allows you to select the next point on the route by using the point on the active route page.

- **Distance**—routes you to the next point on the route when you are within a specified distance of your current point.
- **Avoidance Setup**—allows you to select the road type you want to avoid.

Fitness

For more information on optional fitness accessories, see [page 39](#).

Profiles

Profiles are a collection of settings that allow you to optimize your device from one type of use to another, such as moving from marine use to recreational use.

You can select **Marine**, **Recreational**, or save a custom profile for your device.

To change profiles, see [page 20](#).

Saving a Custom Profile

You can customize your settings for a particular activity or trip. After you have made all the changes, you must save them as a custom profile.

1. From the main menu, select **Setup > Profiles**.
2. Select **Create New Profile > OK**.

Editing a Profile Name

1. From the main menu, select **Setup > Profiles**.
2. Select a profile.
3. Select **Edit Name**.
4. Enter the new name.
5. Select **Done**.

Deleting a Profile

1. From the main menu, select **Setup > Profiles**.
2. Select a profile.
3. Select **Delete**.

Appendix

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.

Updating the Software

You must connect the device to your computer to update the software ([page 40](#)).

1. Go to www.garmin.com/products/webupdater.
2. Follow the on-screen instructions.

NOTE: This does not erase any of your data or settings.

Viewing Important Device Information

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

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

Contacting Garmin Product Support

You can contact Garmin Product Support if you have any questions about this product.


- In the USA, go to www.garmin.com/support, or contact Garmin USA by phone at (913) 397.8200 or (800) 800.1020.
- In the UK, contact Garmin (Europe) Ltd. by phone at 0808 2380000.

- In Europe, go to www.garmin.com/support and click **Contact Support** for in-country support information, or contact Garmin (Europe) Ltd. by phone at +44 (0) 870.8501241.

Using the Backlight

The backlight is activated any time you press a button. Alerts and messages also activate the backlight.

NOTE: To change the backlight settings, see [page 38](#).

Press  to turn on the backlight.

Specifications

Physical size (W × H × D)	2.6 × 6.0 × 1.2 in. (6.6 × 15.2 × 3.0 cm)
Weight	7.7 oz. (218.3 g) with batteries
Display (diagonal)	2.6 in. (66 mm)

Resolution (W × H)	160 × 240 pixels, backlight 65K color TFT display
Water resistance	Fully gasketed, floatable, high impact plastic alloy, waterproof to IEC 529-IPX-7
Data storage	Approximately 1.7 GB No memory battery is required. The GPSMAP 78S and 78Sc have a microSD card slot for additional data storage.
Computer interface	USB and serial
Battery type	Two AA batteries (alkaline, NiMH, or lithium) See page 38 .
Battery life	Up to 20 hours, typical usage
Operating temperature range	From 5°F to 158°F (from -15 to 70°C) See page 38 .

Radio frequency/ protocol	2.4 GHz/ANT+ wireless communications protocol
GPS accuracy	< 33 ft. (10 m) 95% typical use GPS is subject to accuracy degradation to 100 m 2DRMS under the U.S. DoD imposed Selective Availability (SA) Program when activated.
DGPS	From 10 to 16 ft. (from 3 to 5 m) 95% typical (WAAS accuracy in North America)
Altimeter	Accuracy: ± 10 ft. (± 3 m)* Resolution: 1 ft. (.3 m) Range: from -2,000 ft. to 30,000 ft. (from -610 to 9144 m) *Subject to proper user calibration.

Compass	Accuracy: ± 2 degrees (± 5 degrees in extreme Northern and Southern latitudes) *Resolution: 1 degree *Subject to proper user calibration.
---------	--

Maximizing Battery Life

Using the Battery Save Option

Use the battery save option to save battery power and prolong battery life.

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

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  to open the backlight status page.

2. Use the **Rocker** to adjust the brightness.

Adjusting the Backlight Timeout

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

About the Batteries



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

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.

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 device for several months, remove the batteries. Stored data is not lost when batteries are removed.

Buying Optional Accessories

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

Using Optional Fitness Accessories

NOTE: The Fitness option is available only with the GPSMAP 78S and GPSMAP 78Sc.

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

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**.

You can view heart rate and cadence data by customizing your data fields ([page 23](#)).

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 away from other ANT+ accessories.
- Bring the Garmin device within range (3 m) 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 only receives data from your accessory, and you can go near other accessories.

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™ or HomePort™. Go to www.garmin.com.

- GPI custom POI files from the Garmin POI Loader.

Installing a microSD Card

You can purchase microSD memory cards from an electronics supplier, or purchase preloaded detailed 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. Slide the latch on the back of the device, and remove the battery cover and the batteries.
2. Slide down and pull out the metal cover.
3. Align the metal contacts, and place the card in the slot.



4. Push in and slide up the metal cover.
5. Replace the batteries and the battery cover.

Removing a microSD Card

1. Slide down and pull out the metal cover.
2. Remove the card from the slot.
3. Push in and slide up the metal cover.
4. Replace the batteries and the battery 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 micro SD card (optional) appear as removable drives in My Computer on Windows computers and as mounted volumes on Mac computers.

Transferring Files to Your Computer

After you have connected the device to your computer, you can copy and paste files from your computer into the device drives/volumes.

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

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 40).

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.

Attaching the Wrist Strap

1. Place the loop of the wrist strap through the slot opening at the bottom of the device.
2. Route the strap through the loop and pull it tight.

Caring for the Device

NOTICE

Avoid chemical cleaners and solvents that can damage plastic components.

Cleaning the Device

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.

Troubleshooting

Problem	Solution
The screen or buttons do not respond. How do I reset the device?	<ol style="list-style-type: none"> 1. Remove the batteries. 2. Reinstall the batteries. <p>NOTE: 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 Setup > Reset > Restore Defaults .
My device does not acquire satellite signals.	<ol style="list-style-type: none"> 1. Take your device out of parking garages and away from tall buildings and trees. 2. Turn on the device. 3. Remain stationary for several minutes.
The batteries do not last long.	Decrease the backlight settings (page 37).
How do I know my device is in USB mass storage mode?	On the device, a screen appears showing the Garmin logo and the USB symbol. On your computer, you should see a new removable disk drive in My Computer on Windows computers and a mounted volume on Mac computers.
My device is connected to the computer, but it will not go into mass storage mode.	<p>You may have loaded a corrupted file.</p> <ol style="list-style-type: none"> 1. Disconnect the device from your computer. 2. Turn off the device. 3. Press and hold the Rocker while you connect the device to your computer. <p>Continue pressing the Rocker for 10 seconds or until the device goes into mass storage mode.</p>

Problem	Solution
I cannot see any new removable drives in my list of drives.	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.
I need replacement parts or accessories.	Go to http://buy.garmin.com , or contact your Garmin dealer.
I want to buy an external GPS antenna.	Go to http://buy.garmin.com , or contact your Garmin dealer.

Index

A

- accessories 38, 46
 - fitness 39
 - microSD card 39
- acquiring satellite signals 45
- active route 8
- alarms
 - marine 29
 - proximity 20
 - time 22
- altimeter
 - calibrating 16
 - plot type 32
 - settings 32
- ANT+ accessories 39
- area calculation 20
- AutoLocate 21

B

- backlight 4, 36, 37
- BaseCamp 40
- batteries 23, 27, 36

- about 38
- information 3
- installing 3
- maximizing life 37
- selecting the type 38
- storage 38
- warnings 38

- beeps 28
- buttons 4

C

- calculator 21
- calendar 21
- calibrating
 - altimeter 16
 - compass 16
- caring for the device 44
 - long-term storage 38
- compass
 - calibrating 14
 - navigating 14
 - setup options 15
- connecting
 - USB cable 41
 - wireless accessories 39

- wirelessly 19
- creating
 - routes 7
 - waypoints 6
- customizing
 - data fields 12
 - device settings 27–34
 - profiles 34

D

- dashboard
 - change 18
- data fields 12
 - options 23
- data storage 36
- deleting
 - files 43
 - profiles 34
 - routes 8
 - tracks 11
 - waypoints 6
- display
 - backlight 36
 - backlight timeout 28
 - screen capture 28

Index

settings 28
display settings
 backlight 37
downloading
 software 35

E
editing
 profiles 34
 routes 7
 waypoints 6
elevation plot 11, 16
 barometric altimeter 16
 reset 17
 setup 16
ENTER button 5
external antenna 2

F
FIND button 4, 6, 8, 9, 11
fitness options 39

G
Garmin Product
 Support 35
geocaches 19, 33

 downloading 19
 navigating 19
 settings 32
GPS signals 4, 21, 23, 24,
 37, 45
 system settings 27
 turning off GPS 21

H
HomePort 40
hunting and fishing
 times 22

L
language 3, 27

M
main menu
 settings 19
man overboard 4
map 12
 changing
 orientation 12
 datum 32
 detail 13
 information 14

 measuring distance 13
 setup options 13
 showing tracks 11
 viewing routes 8
map datum coordinate
 system 31
marine settings 28–29
MARK button 5
MCX connector 2
measuring
 area 20
 distance 13
MENU button 5, 12, 17, 23
microSD card 36, 39–41
MOB button 4
moonphase 21

N
navigating
 compass 14
 routes 8
 to geocaches 19
 to waypoints 6
 tracks 11

P

PAGE button 5

pages

adding a page 31

removing 31

sequence 30

position format 31

power button 3, 4, 36, 37

profiles 20

change 20

creating 34

setting 20

proximity alarms 20

Q

QUIT button 5

R

recording

tracks 10

registering your device 35

reset

current track 30

data 30

defaults 30

trip data 30

waypoints 30

restoring default

settings 12

Rocker 5

routes

active route 8

avoidance 34

creating 7

deleting 8

editing 7

editing name 7

guidance method 33

navigating 8

settings 33

Ssatellite signals 4, 21, 23,
24, 37, 45

AutoLocate 21

system settings 27

turning off GPS 21

saving

tracks 11

search menu 4, 6

Sight 'N Go 15

software

updating 35

version 35

specifications 36

stopwatch 22

sun and moon times 21

system settings 27

T

time

alarms 22

data fields 25

settings 31

stopwatch 22

 sunrise and sunset 21,
25

zone 31

times

hunting and fishing 22

tones 28

tracks

about 10

clearing current 11

deleting 11

navigating 11

Index

- recording 10
- saving 11
- viewing 10

transferring files 42

- using USB 42
- wirelessly 19

trip computer 18

troubleshooting 45

U

unit ID 35

updating

- software 35

USB cable 45

- connecting 41
- disconnecting 43

W

waypoints

- averaging 22
- creating 6
- deleting 6
- editing 6
- navigating to 6

wrist strap 43

Z

zooming 5, 13

zoom ranges 17

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.

**GARMIN**®



© 2010 Garmin Ltd. or its subsidiaries

Garmin International, Inc.
1200 East 151st Street, Olathe, Kansas 66062, USA

Garmin (Europe) Ltd.
Liberty House, Hounsdown Business Park, Southampton, Hampshire, SO40 9LR UK

Garmin Corporation
No. 68, Jangshu 2nd Road, Sijhih, Taipei County, Taiwan