

GPSMAP[®] 60CSx

with sensors and maps

owner's manual



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INTRODUCTION

Thank you for choosing the Garmin® GPSMAP® 60CSx. The GPSMAP 60CSx uses the proven performance of Garmin GPS and full-featured mapping to create an unsurpassed portable GPS receiver. Compare the contents of this package with the packing list on the box. If any pieces are missing, contact your Garmin dealer immediately.

About This Manual

To get the most out of your new navigation system, take time to read this manual and learn the operating procedures for your unit in detail. This manual is organized into the following sections.

The **Introduction** contains manual conventions, the Table of Contents, the software license agreement, product registration, and product care information.

The **Getting Started** section provides an overview of the unit, how to turn the unit on, and acquire satellites.

The **Basic Operation** section provides information about setting up waypoints, routes, and tracks.

The **Main Pages** section contains an overview of the Satellite, Trip Computer, Map, Compass and Altimeter Pages.

The **Main Menu** section describes features found on the Main Menu and information about settings.

The **Appendix** contains information such as specifications, optional accessories, and maintenance information. You can also find warranty and FCC information in the Appendix.

An **Index** is provided at the end of the manual for reference.

Manual Conventions

This manual uses the term **Warning** to indicate a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

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Software License Agreement

BY USING THE GPSMAP 60CSx, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

Garmin grants you a limited license to use the software embedded in this device (the “Software”) in binary executable form in the normal operation of the product. Title, ownership rights, and intellectual property rights in and to the Software remain in Garmin.

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

Product Registration

Help us to better support you by completing our online registration today! Connect to our Web site at <http://my.garmin.com>. Keep the original sales receipt, or a photocopy, in a safe place.

Contact Garmin

Contact Garmin if you have any questions while using your unit. In the USA contact Garmin Product Support by phone: (913) 397-8200 or (800) 800-1020, Monday–Friday, 8 AM–5 PM Central Time; or go to www.garmin.com/support/.

In Europe, contact Garmin (Europe) Ltd. at +44 (0) 870.8501241 (outside the UK) or 0808 2380000 (within the UK).

Caring for the GPSMAP 60CSx

The GPSMAP 60CSx case is constructed of high-quality materials and does not require user maintenance except cleaning.

Cleaning the Case

Clean the unit's outer casing (except for the screen) using a cloth dampened with a mild detergent solution and then wipe dry. Avoid chemical cleaners and solvents that may damage plastic components.

Cleaning the Screen

Clean the GPSMAP 60CSx screen using a soft, clean, lint-free cloth. Use water, isopropyl alcohol, or eyeglass cleaner if needed. If these are used, apply the liquid to the cloth, and then gently wipe the screen with the moistened cloth.

Storage

Do not store the GPSMAP 60CSx where prolonged exposure to temperature extremes may occur (such as in the trunk of a car) as permanent damage may result. User information, such as waypoints and routes, are retained in the unit's memory without the need for external power. It is always a good practice to back up important user data by manually recording it or downloading it to a PC (transferring it to MapSource® software).

Water Immersion

The GPSMAP 60CSx is waterproof to IEC Standard 60529 IPX7. It can withstand immersion in 1 meter of water for 30 minutes. Prolonged submersion can cause damage to the unit. After submersion, be certain to wipe and air dry the unit before reuse or charging.

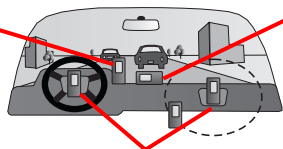


Warning

Failure to avoid the following potentially hazardous situations could result in an accident or collision resulting in death or serious injury.

- When installing the unit in a vehicle, place the unit securely so that it does not obstruct the driver's view of the road or interfere with vehicle operating controls, such as the steering wheel, foot pedals, or transmission levers. Do not place in front of or above any airbag. (See diagram).

Do not mount where driver's field of vision is blocked.



Do not place unsecured on the vehicle dashboard.

Do not mount in front of an airbag field of deployment.

- When navigating, carefully compare information displayed on the unit to all available navigation

sources, including information from street signs, visual sightings, and maps. For safety, always resolve any discrepancies or questions before continuing navigation and defer to posted road signs.

- Always operate the vehicle in a safe manner. **Do not become distracted by the unit while driving, and always be fully aware of all driving conditions.** Minimize the amount of time spent viewing the unit's screen while driving and use voice prompts when possible. Do not input destinations, change settings, or access any functions requiring prolonged use of the unit's controls while driving. Pull over in a safe and legal manner before attempting such operations.
- This unit is designed to provide route suggestions. It is not designed to replace the need for driver attentiveness regarding road closures or road conditions, traffic congestion, weather conditions, or other factors that may affect safety while driving.

WARNING: This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is provided in accordance with California's Proposition 65.

See www.garmin.com/prop65 for more information.

Important Information

MAP DATA INFORMATION: One of the goals of Garmin is to provide customers with the most complete and accurate cartography that is available to us at a reasonable cost. We use a combination of governmental and private data sources, which we identify in product literature and copyright messages displayed to the consumer. Virtually all data sources contain some inaccurate or incomplete data. In some countries, complete and accurate map information is either not available or is prohibitively expensive.

NOTICE REGARDING WINDSHIELD MOUNTING; SPECIAL NOTICE TO DRIVERS IN CALIFORNIA

AND MINNESOTA: State law prohibits drivers in California and Minnesota from using suction mounts on their windshields while operating motor vehicles. Check your state and local laws and ordinances for similar restrictions. Other Garmin dashboard or friction mounting options should be used. Garmin does not take any responsibility for any fines, penalties, or damages that may be incurred as a result of disregarding this notice or as a result of any other state or local law or ordinance relating to use of the unit. (See California Vehicle Code Section 26708(a); Minnesota Statutes 2005, Section 169.71.)

The California Electronic Waste Recycling Act of 2003 requires the recycling of certain electronics. For more information on the applicability to this product, see www.erecycle.org.

GETTING STARTED

Unit Overview



Installing the Batteries

The GPSMAP 60CSx operates on two AA batteries (not included), which are located in the back of the unit. You can use Alkaline or NiMH batteries. See [page 67](#) to set the battery type.



To install the batteries:

1. Remove the battery cover by turning the D-Ring 1/4 turn counter-clockwise and pulling the cover loose.
2. Insert the batteries, observing the proper polarity. A polarity diagram is molded into the battery compartment.
3. Reinstall the battery cover by aligning the back cover with the unit and turning the D-Ring 1/4 turn clockwise.

Remove the batteries from your GPSMAP 60CSx when you do not expect to use the unit for several months. Data is not lost when batteries are removed.



NOTE: Lithium batteries are not recommended because the initial voltage of new batteries may exceed 1.5 volts each, which may cause the GPSMAP 60CSx to turn off.

To install the Lanyard:

1. Place the loop of the Lanyard through the slot at the upper left side of the unit.
2. Route the strap through the loop and pull tight.



Refer to [page 9](#) for information on accessing the microSD data card in the battery compartment.

Using the GPSMAP 60CSx Keypad

POWER Key

- Press and hold to turn the unit on or off.
- Press and release to adjust the backlighting.

IN/OUT Zoom Keys

- Press to zoom in or out on the Map Page.
- Press to scroll up or down a list on any other page.

FIND/MOB Key

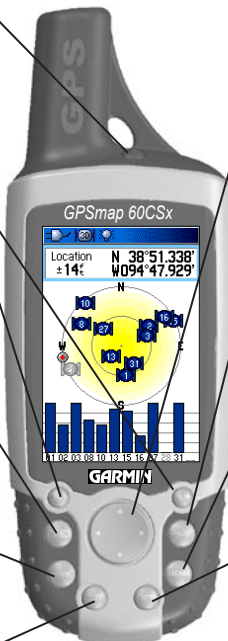
- Press and release at any time to view the Find Menu.
- Press and hold for MOB*

MARK Key

- Press and release at any time to mark your current location.

QUIT Key

- Press and release to cancel data entry or exit a page.



ROCKER Key

- Press up, down, left, or right to highlight options and to enter data, or move the map panning arrow.

PAGE/COMPASS Key

- Press and release to cycle through the main pages.
- Press and hold to turn the compass on or off

MENU Key

- Press and release to view page options.
- Press twice to view the Main Menu.

ENTER Key

- Press and release to enter highlighted options, data or confirm on-screen messages.

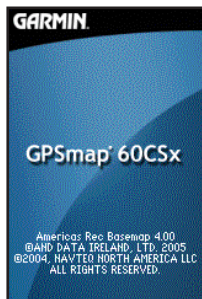
* Man Overboard (MOB) feature stores a waypoint and then navigates back to it.

Turning on the GPSMAP 60CSx

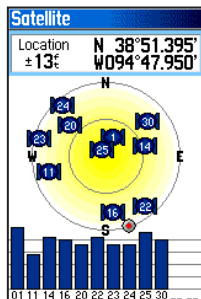
When the GPSMAP 60CSx is turned on, the Introduction Page appears, followed by the Satellite Page. The unit must collect satellite data and establish its current location.

To turn the GPSMAP 60CSx on and off:

1. Press and hold the **POWER** key. When the unit turns on, a tone sounds and the Introduction Page appears, followed by the Satellite Page.
2. To turn off the GPSMAP 60CSx, press and hold the **POWER** key again.



Welcome Page



Satellite Page

Adjusting the Backlight

You may want to adjust the backlight to see the display better.

To adjust the backlight level:

1. Press and quickly release the **POWER** key.
2. Press up on the **ROCKER** to increase the brightness, or press down to decrease.
3. Press **ENTER** or **QUIT** to close the Backlight adjustment window.



Backlight Adjustment Slider

See [page 67](#) for information on changing the display colors and backlight timeout and brightness levels.

Initializing the GPS Receiver

The first time you turn on your GPSMAP 60CSx, the GPS receiver must collect satellite data and establish its current location. To ensure proper initialization, the GPSMAP 60CSx is shipped from the factory in AutoLocate mode, which allows the receiver to “find itself” anywhere on Earth. To receive satellite signals, you must be outdoors and have a clear view of the sky.

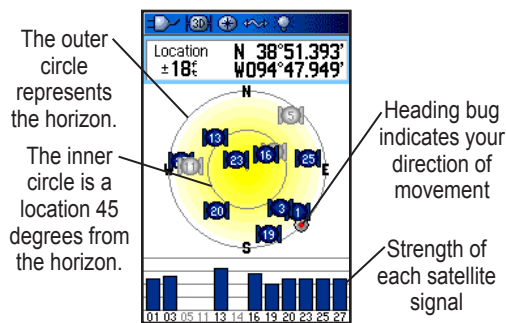
To initialize your GPSMAP 60CSx:

1. Press and hold the **POWER** key to turn on the GPSMAP 60CSx.
2. Hold the unit in front of you with the top tilted upward. While the GPS receiver is searching for the satellite signals, a “Locating Satellites” message is replaced by an “Acquiring Satellites” message until enough signals are acquired to fix its location.

When the receiver has signals from at least three satellites, the display at the top of the page changes to indicate position accuracy and location coordinates.

3. Press and release the **PAGE** key until the Map Page appears. You are now ready to begin GPS aided navigation.

You can also observe a sky view array of the satellites overhead with your location centered in the array. The outer circle represents the horizon and the inner circle a position 45 degrees from the horizon. The numbers shown indicate the number assigned to each satellite. A bar graph at the bottom of the page shows the strength of signals from each satellite.



If the unit cannot get a satellite fix, a list of solutions appears. Select an appropriate solution and press **ENTER** to continue.

Using the GPSMAP 60CSx

This section explains how to enter and select information with the GPSMAP 60CSx.

Understanding Terms

As you progress through this owner's manual, you are directed to press a specific key or highlight a field on the screen. When you are directed to press a key, you should press and quickly release the key. (You may need to be held down for a period of time to start a secondary function, when the instructions tell you to, do so.) When a field is highlighted on the screen, it is highlighted in yellow. The position of the highlight is controlled by the **ROCKER**.

The following terms are used throughout this manual:

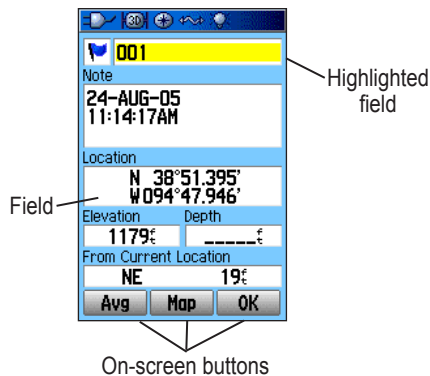
Highlight—move the highlighted area on the screen up, down, left, or right with the **ROCKER** to select individual fields.

Field—the location on a page where data or an option can be shown and entered. Highlight a field using the **ROCKER** to begin entering data or selecting options.

On-screen button—use the **ROCKER** to highlight a button, and press **ENTER** to select the button.

Scroll bar—when viewing a list of items too long to appear on the screen, a scroll bar appears along the right side of the list. To scroll through a list, press up or down on the **ROCKER** or use **Zoom In** to scroll a set of items and **Zoom Out** to scroll the entire screen.

Default—the factory setting saved in the unit's memory. You can change many settings, but you can also revert to the factory (default) settings.



Selecting Options and Entering Data

To enter data and select options, use the **ROCKER** to highlight an item in a list or a field on the screen.

To select and activate an option:

1. From any page, press **MENU**. An Options Menu appears with a list of additional options for that page.
2. Use the **ROCKER** to move the highlight up, down, right, or left on the menu to highlight the option you want, and press **ENTER** to select it.

To exit a menu or return to the previous setting:









Press **QUIT**. The **QUIT** key moves backward through your steps. Press **QUIT** repeatedly to return to the starting page.

Using the Status Bar

At the top of each page, the status bar provides status information for several unit features.

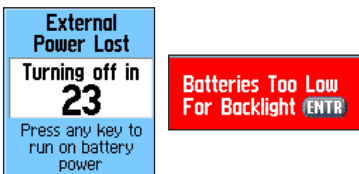


Status Bar

- Power to the unit is provided by either batteries or from an auxiliary source (AC, DC or USB Adapter). The Battery Power icon () shows the remaining power as the battery is depleted.
- The Auxiliary Power icon () appears when the unit is powered by an external source such as the USB Data Cable provided with the unit or optional Serial Port Data/Power Cable or Cigarette Lighter Adapter.
- Satellite signal status is shown when searching for or acquiring satellites () when a 2D fix () is attained and when a 3D fix () is attained (four or more satellites are received.)
- The Backlight icon () appears when the backlight is on. Backlighting is off by default when you turn the unit on. The Backlight uses a significant amount of battery power.
- The USB Cable Connection icon () appears when the unit is in communication with a PC via Universal Serial Bus.
- Electronic compass icon () appears when the electronic compass is turned on.

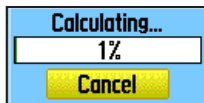
On-Screen Messages

When a significant event in the operation of the unit occurs, an on-screen message appears to advise you of the occurrence. In each case the condition is described and often a remedy provided. Press **ENTER** to acknowledge the message and close the window.



On-Screen Messages

In some instances the message may indicate a temporary condition, such as the “Calculating Route” message, and closes as soon as the condition is remedied.



Calculating Route Message

Using the Mapping Databases

Many of the GPSMAP 60CSx features require detailed mapping data in order to be fully operational, so you may want to transfer maps before using the unit. The microSD card (provided with certain units) can be loaded with detailed maps from optional MapSource® disks for your PC to enhance the versatility of your GPSMAP 60CSx. With selected MapSource detailed mapping data, you can view listings of nearby restaurants, lodging, shopping centers, attractions and entertainment, and even retrieve addresses and phone numbers for any listed location. The amount of data transferable is limited to the capacity printed on the microSD card.

Map data transfer requires the USB Interface Cable provided with the unit to transfer MapSource data from a PC to the microSD card in the GPSMAP 60CSx. To transfer data to the microSD card you can use the USB Mass Storage feature explained on [page 68](#).

You can purchase high capacity microSD cards at your electronics supplier. See the Garmin Web site (www.garmin.com/cartography/) for MapSource products.

Transferring Data to a microSD Card

Some units are equipped with a pre-installed microSD card. Other units configured for use in large geographic regions (eg. Pacific) require a much larger capacity microSD card to store enough map data (not provided).

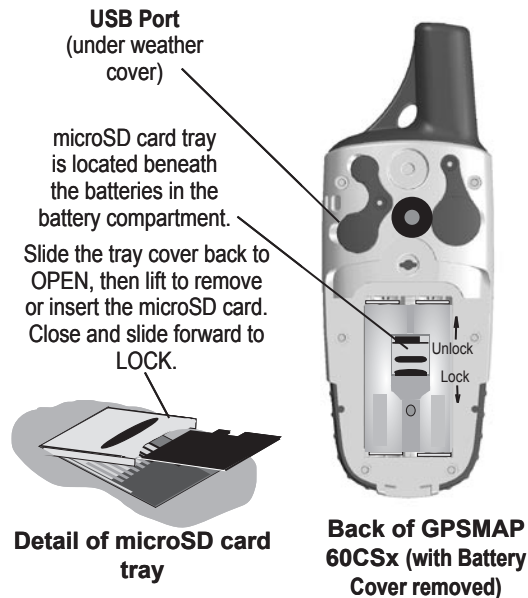
To install or remove the microSD card:

1. Remove the Battery Compartment Cover from the back of the unit and remove the batteries.
2. Locate the card tray at the center of the battery compartment and check to be certain the card is installed in the tray.
3. To remove the card, slide the tray cover up, then lift it toward you to remove the card from the tray.
4. To re-insert the card, lay the card in the tray, close the tray, and replace the batteries and cover when finished.

To transfer map data to the microSD card:

1. Lift the weather cover from the USB port on the upper back of the unit. It is recommended that you use the USB port rather than the Serial Connection port for faster data transfer.

2. Connect the USB cable provided with the unit to the USB port on your PC and to the mini-USB port on the back of the unit.
3. Follow instructions for selecting and downloading maps provided with the MapSource map data disk and Help files.



BASIC OPERATION

This section explains some of the more common operations you can perform with your GPSMAP 60CSx including creating and using waypoints, using the Find Menu, and how to create and use tracks and routes.

Creating and Using Waypoints

Waypoints are locations or landmarks you record and store in your GPS. They are locations you might want to return to later. You can add waypoints to routes and even create a Go To directly to the selected waypoint.

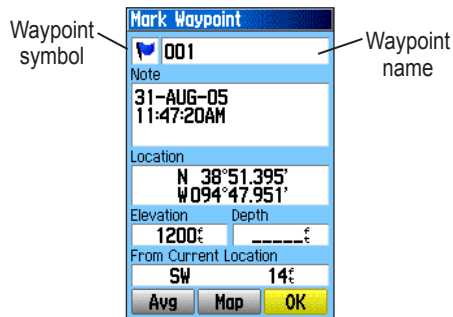
Waypoints can be created using three methods. You can press the **MARK** key while at a location, create a waypoint on the Map Page, or enter coordinates for a waypoint manually.

Marking Your Current Location

Use the **MARK** key to quickly capture your current location to create a new waypoint. You must have a valid position (2D or 3D) fix to mark your current location.

To mark your current location:

1. Press and hold the **MARK** key until the Mark Waypoint Page appears. A default three-digit name and symbol are assigned to the new waypoint.



Mark Waypoint Page

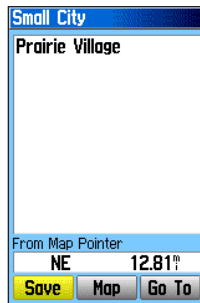
2. To accept the waypoint with the default information, highlight **OK**, and press **ENTER**.
OR
To change any information on the Mark Waypoint Page, highlight the appropriate field, and press **ENTER** to open the on-screen keypad. After entering and confirming your changes, highlight **OK**, and press **ENTER**.

Creating Waypoints Using the Map

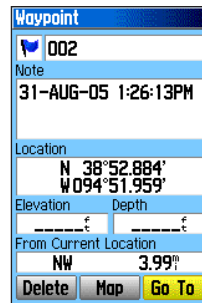
You can quickly create a waypoint using the Map Page. When you pan the map and move the arrow over a map item, you see a highlighted description of the item.

To create a waypoint using the Map Page:

1. On the Map Page, use the **ROCKER** to move the pointer to the map item you want to mark as a waypoint.
2. Press and quickly release **ENTER** to capture that location and open the information page for the map item.
3. Highlight **Save**, and press **ENTER**.
If the map item selected contains no information, a “No map information at this point. Do you want to create a user waypoint here?” message appears. Highlight **Yes**, and press **ENTER**.
4. To change any information on the Waypoint Page, highlight the appropriate field, and press **ENTER** to open the on-screen keypad. After entering and confirming your changes, highlight **OK**, and press **ENTER**.



Information page for a map point with data



Information page for a map point without data

Creating a Waypoint Using Coordinates

You can manually enter location coordinates to create a waypoint. This method is useful for creating a waypoint at a specific latitude/longitude position from a chart.

To create a new waypoint by entering location coordinates:

1. Create a new waypoint, press **MARK**.
2. On the Waypoint Page, highlight the **Location** field, and press **ENTER** to open the on-screen keypad.

- Use the **ROCKER** to enter location coordinates. Highlight **OK**, and press **ENTER** when finished.

Manually enter waypoint coordinates

- Press **QUIT** to exit.

Editing Waypoints

You can edit waypoints as you create them, or at a later date. You can change the symbol, name, note, location, elevation, and depth.

To edit a waypoint:

- Press **FIND** to open the Find Menu.
- Highlight the **Waypoints** icon, and press **ENTER** to open the Waypoints Page.

- Select the waypoint you want to edit, and press **ENTER**. The Waypoint Page opens.
- Highlight each field and use the waypoint symbol chart, and alphanumeric keypad to make changes.
- Press **QUIT** when finished.

Deleting Waypoints

You can delete waypoints from the Waypoint Page.



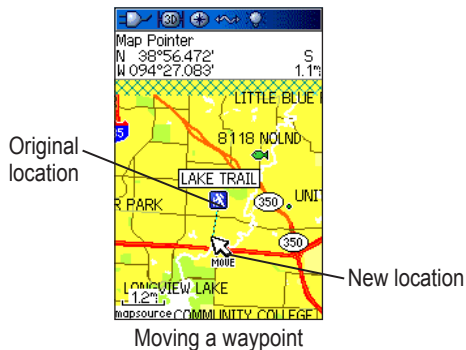
NOTE: When you delete a waypoint, you cannot recover it from the unit.

To delete a waypoint:

- Press **FIND** to open the Find Menu.
- Highlight the **Waypoints** icon, and press **ENTER** to open the Waypoints Page.
- Select the waypoint you want to delete, and press **ENTER**. The Waypoint Page opens.
- Highlight the **Delete** button, and press **ENTER**. A confirmation message appears.
- Highlight **Yes**, and press **ENTER** to delete the waypoint.

To move a waypoint on the Map Page:

1. On the Find Menu, Highlight the **Waypoints** icon, and press **ENTER** to open the Waypoints Page.
2. Select the waypoint you want to move, and press **ENTER**. The Waypoint Page opens.
3. Highlight the **Map** button, and press **ENTER** to show the waypoint on the map.
4. Press **ENTER** again to place a **MOVE** marker next to the waypoint.
5. Use the **ROCKER** to move the waypoint to a new location on the map, and press **ENTER**.



Averaging the Waypoint's Location

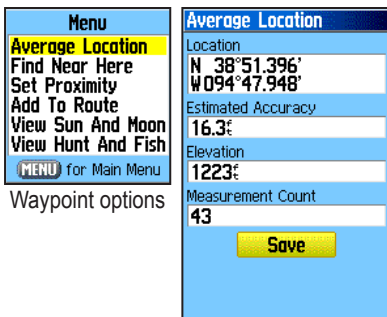
You can average a new waypoint location over time to produce a more accurate location.



NOTE: You must have a GPS Satellite fix before you can average a waypoint's location. When you average a waypoint after it has been saved to the waypoints list and the Mark Waypoint page is closed (even if you return to that waypoint location), the unit appears to be averaging the waypoint, but it is actually averaging a new point at your current location. Therefore, only average a waypoint when you first create it.

To use averaging to calculate a more accurate location:

1. Before saving a new waypoint, press the **MENU** key to pen the Options list..
2. Highlight the Average Location option, and press **ENTER** to open the Average Location Page.



Waypoint options

3. Observe the Estimated Accuracy and Measurement Count fields. They should be taking averages of your location.
4. Press **ENTER** to save the location.

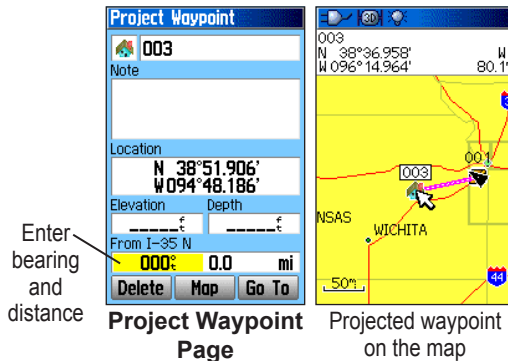
Projecting a Waypoint

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

To project a waypoint:

1. Press **FIND** to open the Find Menu.
2. Highlight the **Waypoints** icon, and press **ENTER** to open the Waypoints Page.

3. Select the waypoint you want to project, and press **ENTER**. The Waypoint Page opens.
4. Press **MENU** to open the Options menu.
5. Select **Project Waypoint**, and press **ENTER** to open the Project Waypoint Page.
6. Enter the distance and bearing to the projected waypoint in the appropriate fields at the bottom of the page, and press **QUIT** when finished.

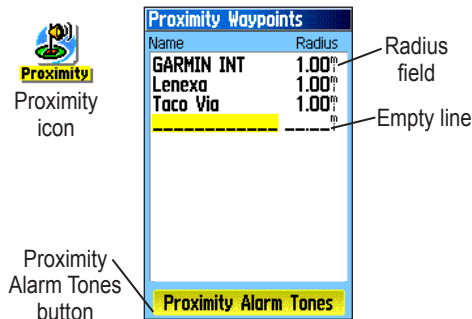


Project Waypoint Page

Projected waypoint on the map

Proximity Waypoints

Use the Proximity Waypoints Page to define an alarm circle around a stored waypoint location.



To add a proximity waypoint

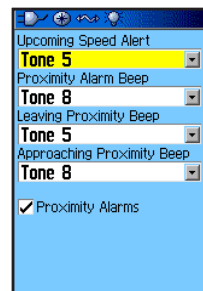
1. Press **MENU** twice to open the Main Menu.
2. Highlight the **Proximity** icon, and press **ENTER** to open the Proximity Waypoints Page.
3. Highlight an empty line, and press **ENTER** to open the Find Menu.
4. Select a waypoint from the Waypoints List or from any other group of map points, and press **ENTER** to open the information page for the item.

5. With the **Use** button highlighted, press **ENTER** to add the point to the list on the Proximity Waypoints Page.
6. Use the **ROCKER** to highlight and adjust the **Radius** field if you want to enter a value different than the default of 1 mile.

To select alarm tones and turn proximity alarms on or off:

1. To select an alarm tone, select the **Proximity Alarm Tones** button and press **ENTER** to open the Proximity Alarm Tones Setup Page.
2. Highlight each alarm field and press **ENTER** to view the list of tones.
3. Select a tone from the list and press **ENTER**.
4. Activate the alarms by placing a check at the bottom of the page.

Speed Alerts are proximity points obtained from services provided by using the optional POI Loader. (see [page 25](#))



To clear one or all proximity waypoints from the list:

To remove or review a single entry, highlight the waypoint, press **ENTER**, and then select Remove or Review.

OR

To remove all waypoints from the list, press **MENU**, highlight **Remove All**, and press **ENTER**.

Man OverBoard (MOB)

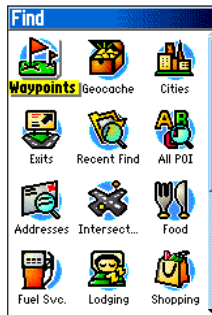
The Man Overboard (MOB) feature is another method for creating a waypoint. (Typically, an application for marking a location on water where you cannot stop quickly and must return to a point where there are no landmarks for reference.)

To create a waypoint using the MOB feature:

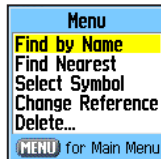
1. Press and hold the **FIND** key.
2. Press **ENTER** to open the Map Page showing the path from your current location to the MOB point. Use the Compass Page for additional guidance to the MOB point.

Using the Find Menu

Use the Find Menu to search for waypoints, cities, and exits included in the GPSMAP 60CSx basemap. You can also find saved waypoint and geocache points. Additional icons appear depending on the optional BlueChart or MapSource data loaded to the unit. Press **FIND** to open the Find Menu.



Find Menu with optional MapSource data



Waypoint Options Menu



Cities Options Menu

When you access a Find group list, it contains only those items near your current location or the pointer.

The options menu for each category contains a submenu of search options, such as Find By Name, Find Nearest (near your current location), Select Symbol (for waypoints), Change Reference (by moving the pointer to a new location), Nearest Containing (a keyword you enter), Select Category (for those groups, such as **Food & Drink** and **Lodging**). Use these options to limit your search.

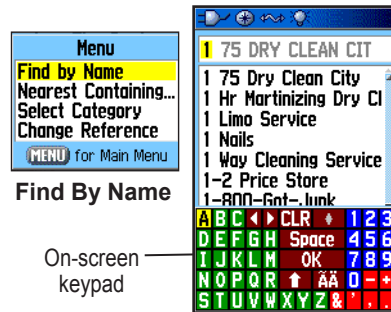
Find By Name

If you know the name of the location you want to find, use the Find By Name option.

To find a location using Find By Name:

1. Press **FIND** to open the Find Menu.
2. Use the **ROCKER** to highlight the icon for the type of item for which you want to search, and press **ENTER**.
OR
To search the entire database, select the **All Points of Interest** icon, and press **ENTER**.
3. Press **MENU**, highlight **Find By Name**, and press **ENTER**.

4. Use the **ROCKER** and **ENTER** key to operate the on-screen keypad and enter the name of the location you want to find. When the Find list contains a match, highlight **OK**, and press **ENTER**.



5. Highlight the location in the Find list, and press **ENTER**. The item's information page opens, allowing you to save the item as a waypoint, show the item on the map, or automatically create a route to the item (Go To).

Recent Finds

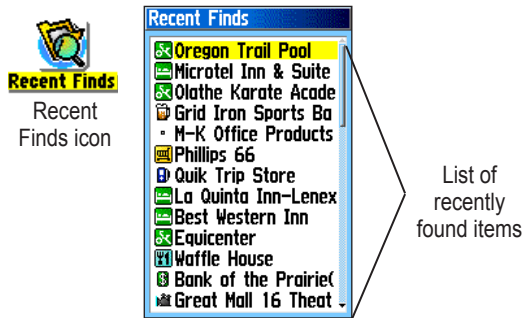
The Recent Finds Page shows a list of the last 50 items you have searched for or gone to recently.

To go to a recently found item:

1. Press **FIND** to open the Find Menu, then press **FIND** again to display the list of recent finds.

OR

Highlight the **Recent Finds** icon, and press **ENTER** to open the Recent Finds Page.



3. Use the **ROCKER** to select the item you want to go to, and press **ENTER** to open the item's information page.
4. Highlight **Go To**, and press **ENTER** to navigate.

Using the Find Item Information Page

When you select an item from the Find item list and press **ENTER**, an information page shows detailed information about the item. Each information page contains three on-screen buttons. Different buttons appear depending on whether you are selecting a Find item to navigate to or adding a Find item to a route list.

Find Information Page Options Menu

The Options Menu for each information page contains options for using a Find item as a tool for navigation.

To use the Options Menu:

1. With an information page open for a Find item, press **MENU** to open the Options Menu.
2. Use the **ROCKER** to select an option, and press **ENTER**:
 - **Average Location**—sample a waypoint location over time and average the result for a more accurate location reference. See [page 13](#) for more information.
 - **Project Waypoint**—create a new waypoint referencing another location by entering

bearing and distance from your location. See [page 14](#) for more information.

- **Find Near Here**—returns to the Find Menu where you can search for map items near the item defined on the information page.
- **Change Reference**—point to a new location on the Map Page using the pointer.
- **Set Proximity**—program an alarm to sound when you are within a specified radius of an item defined by the information page. See [page 15](#) for more information.
- **Add To Route**—include this item on a new route or add it to an existing route. See “Using Routes” on [page 32](#) for more information.
- **View Sun and Moon**—view Sun and Moon tables for this item location. See [page 85](#) for more information.
- **View Hunt and Fish**—view Hunt and Fish tables for this item location. See [page 86](#) for more information.
- **Map Information**—shows the name of the map from which the map item originated.

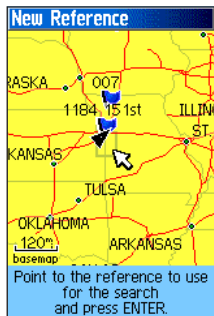
To find an item near another item:

1. Press **FIND** to open the Find Menu.
2. Select an icon on the Find Menu, and press **ENTER**.
3. Highlight an item in the Find list, and press **ENTER** to open the information page.
4. Press **MENU** to open the Options Menu, highlight **Find Near Here**, and press **ENTER**. The Find Menu opens again with each category containing items near the item selected on the information page.
5. Select a category icon, and press **ENTER** to open a Find list of items near the item.

To find an item from another location on the map:

1. Press **FIND** to open the Find Menu.
2. Select an icon on the Find Menu, and press **ENTER**.
3. Press **MENU** to open the Options Menu, Highlight **Change Reference**, and press **ENTER**. The Map Page appears.

- Use the **ROCKER** to pan the arrow (pointer) to the map location you want, and press **ENTER**. The Find list shows a list of items near the new map location.



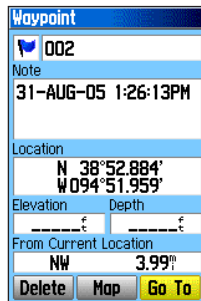
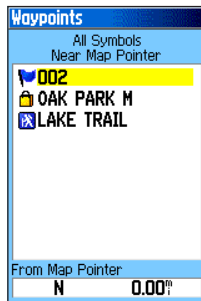
Finding a Waypoint

The Waypoints Page contains a list of all saved waypoints. Waypoints are stored in alphanumeric order and are also identified by a symbol assigned from a list of symbol types.

To find a waypoint:

- Press **FIND** to open the Find Menu.
- Highlight the **Waypoints** icon, and press **ENTER** to open the Waypoints Page.

- Use the **ROCKER** to select a waypoint, and press **ENTER**. The Waypoint Page opens.



Finding a Geocache

Use the **Geocache** icon to view the list of geocache locations created using your GPSMAP 60CSx or downloaded from your computer. A geocache location is a waypoint with a special geocache symbol assigned to give special significance and to allow it to be separated from others on the waypoints list.

For more information about creating a geocache point, see Geocache Setup instructions on [page 72](#) and www.garmin.com/products/gpsmap60csx/.

To find a geocache:

1. Press **FIND** to open the Find Menu.
2. Highlight the **Geocache** icon, and press **ENTER** to open the Geocache Page. You can view either found geocaches or those that have not been found.
3. Use the **ROCKER** to highlight a geocache on the list, and press **ENTER** to open the information page.
4. Highlight the **Go To** button, and press **ENTER** to navigate to the geocache location. When you navigate to a geocache, the Compass Page changes to Geocache Navigation mode and any additional information about the downloaded cache location is shown in the comment field.

When a geocache is found, the unit marks the cache as found, logs an entry into the calendar, and provide an option that, when activated, shows the nearest cache.

Finding a City

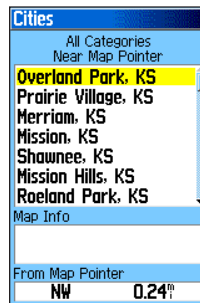
Use the **Cities** icon on the Find Menu to find any city listed in the mapping database (either in the basemap or from downloaded detailed mapping data).

To find a city:

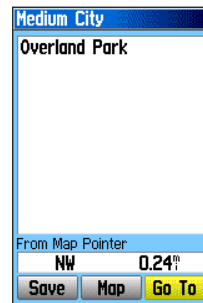
1. Press **FIND** to open the Find Menu.
2. Highlight the **Cities** icon, and press **ENTER**. The Cities Page shows a list of cities near your current location.



Cities
icon



Cities nearest to
your location.



City information page

3. Select a city from the list and press **ENTER** to open the information page for the selected city.
OR
If the city you want is not listed, press **MENU**, select a search method from the options list, and press **ENTER**.

Finding an Interstate Exit

Use the **Exits** icon on the Find Menu to find an interstate exit.

To find an interstate exit:

1. Press **FIND** to open the Find Menu.
2. Highlight the **Exits** icon, and press **ENTER**. The Exits Page shows a list of interstate exits near your location.
3. Use the **ROCKER** to select an exit, and press **ENTER** to open the information page. This page contains the exit description, a list of available services near the exit, and the distance and bearing from the exit to the highlighted service.



4. Select a service from the list, and press **ENTER** to open the information page for the selected service.
5. Select **Save**, **Map**, or **Go To** from the bottom of the page.

Finding an Address

If you downloaded optional detailed mapping data, use the **Addresses** icon on the Find Menu to find an address. When you enter the street number, street name, and city, the find feature matches that data with addresses in the map database.

To find an address:

1. Press **FIND** to open the Find Menu.
2. Highlight the **Addresses** icon, and press **ENTER** to open the Addresses Page.

If your unit has a GPS fix, the **<Enter Region>** field is populated with your current region. You do not have to specify a city in the **<Enter City>**, because the database has information for the entire region. However, you can select a city if you want to reduce the possible number of address matches.



Addresses
Kansas
<Enter City>
<Enter Number>
<Enter Street Name>
Matches (0)
None Found

Addresses Page

3. Highlight the **<Enter Number>** field, and press **ENTER**.
4. Type the street number using the on-screen keypad. When finished, highlight **OK**, and press **ENTER**.
5. Highlight the **<Enter Street Name>** field, and press **ENTER**. The street list opens.
6. Use the on-screen keypad to enter enough of the street name to show a match. When finished, highlight **OK**, and press **ENTER**. A list of matches appears.
7. Select the address you want, and press **ENTER** to open the Address information page.

Addresses
Kansas
<Enter City>
6300
Mission
Matches (2)
6300 Mission Rd
Prairie Village, KS
66208
6300 Mission Dr
Mission Hills, KS 66208

Matching addresses

Address
6300 Mission Rd
From Map Pointer
NE 14.22°
Save Map Go To

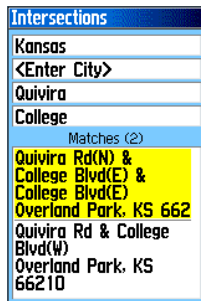
Information page

Finding an Intersection

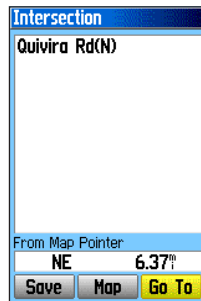
If you downloaded optional detailed mapping data, use the **Intersections** icon on the Find Menu to search for an intersection. When you enter the two street names and a city, the Find feature matches them with intersections in the map database.

To find an intersection:

1. Press **FIND** to open the Find Menu.
2. Highlight the **Intersections** icon, and press **ENTER** to open the Intersections Page.
3. If your unit has a GPS fix, the **<Enter Region>** field is populated with your current region. You do not have to specify a city in the **<Enter City>**, because the database has information for the entire region. However, you can select a city if you want to reduce the possible number of intersection matches.
4. Highlight the **<Enter Street 1>** field, and press **ENTER**.
5. Type the street name using the on-screen keypad. When finished, highlight **OK**, and press **ENTER** again.
6. Repeat steps 4 and 5 to enter a street name in the **<Enter Street 2>** field. When finished, a list of matches appears below.
7. Select an intersection, and press **ENTER** to open the information page.



List of matching intersections



Intersection information page

Searching for a Point of Interest

If you downloaded optional MapSource detailed mapping, you can use the **All Points of Interest** icon on the Find Menu to locate a nearby restaurant, lodging, landmark, public building, and so on.

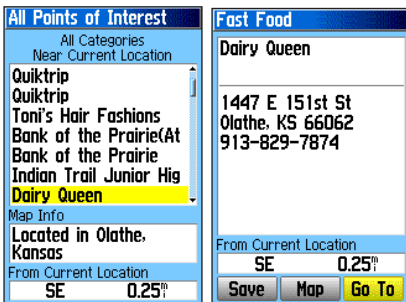
To find a point of interest:

1. Press **FIND** to open the Find Menu.
2. Highlight the **All Points of Interest** icon, and press **ENTER** to show a list of all points near your current location.
3. Highlight an item in the list, and press **ENTER** to open the information page for the item.

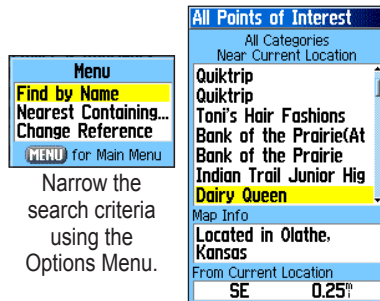
OR

Press **MENU** to open the Options Menu where you can select options to help you narrow your search.

4. Highlight the item you want from the list, and press **ENTER** to open the information page for the selected item.



If you are searching for a restaurant that is part of a national chain, only the restaurant nearest to your location is shown when you search using the Find Nearest option. However, when using the By Name option, all of the locations for that chain in the mapping database are shown with the closest to your current location listed first.



Narrow the search criteria using the Options Menu.

POI Loader & Custom Points of Interest

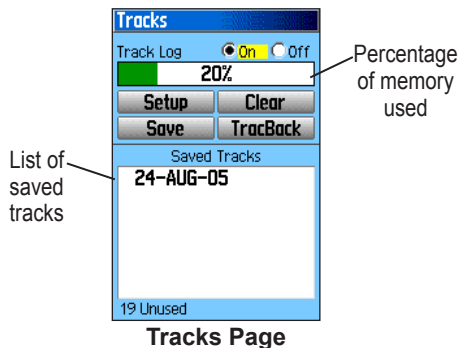
You can create your own category for points of interest by using the Garmin POI Loader utility, downloadable from the Garmin Web site:

www.garmin.com/products/poiloader/. Follow the Help instructions to use the POI Loader.

Using Tracks

The Tracks feature creates an electronic bread crumb trail or “track log” on the Map Page as you travel. The track log contains information about points along its path, including time, location, elevation, and depth for each point (depth requires NMEA input, see [page 92](#)).

The track log starts recording as soon as the unit gets a location fix. The percentage of memory used by the current track log appears at the top of the Tracks Page. After you clear the track log, it shows 0%.

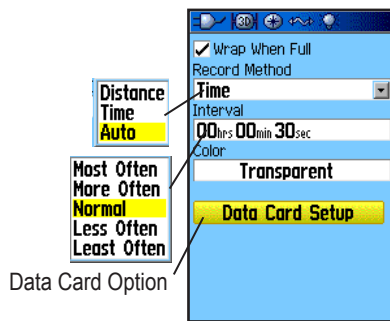


To clear the track log:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Tracks** icon, and press **ENTER** to open the Tracks Page.
3. Highlight the **Clear** button, and press **ENTER**. A confirmation message appears.
4. Highlight **OK**, and press **ENTER**.

To set up a track log:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Tracks** icon, and press **ENTER** to open the Tracks Page.
3. Highlight the **Setup** button, and press **ENTER** to open the Track Log Setup Page.

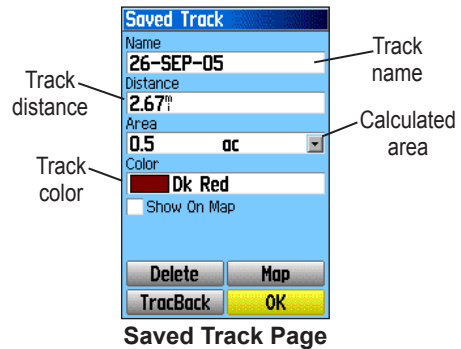


- **Wrap When Full**—sets the track log to record over the oldest data with new data when full.
- **Record Method—Distance** records track points after a specified distance is traveled. **Time** creates track points after a specified time has elapsed. **Auto**, choose from five intervals.
- **Interval**—records a track according to the Record Method (Time, Distance, or Auto) and Interval (Time, Distance, or Frequency). Enter a specific distance, time, or frequency.
- **Color**—selects the color of the active track.
- **Log Track to Data Card**—records the current track log to the microSD card in addition to the unit’s internal memory. Using this option allows you to record a large number of track points (depending on the capacity of the microSD card.) This feature is a tool for use by advanced GPS users with special applications for track log data. Track logs on the data card are .gpx GPS position data files, and are not used by your unit. To learn more about .gpx files, search the Web for subjects titled *GPX* or *GPS Exchange Format*.

To save the entire track log:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Tracks** icon, and press **ENTER** to open the Tracks Page.
3. Activate the **Save** button. A message asks if you want to save the entire track.
4. Select **Yes**, and press **ENTER** to save the track. A “Saving Track” message appears followed by the Saved Track Page.

Use the Saved Track page to rename the track, view the track distance and calculated area, and specify a color for the track on the Map Page.



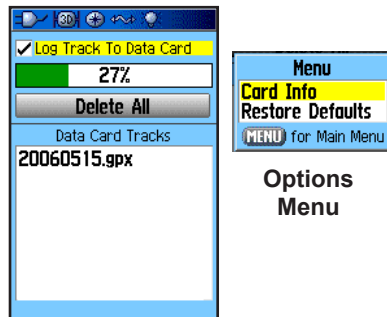
To save a portion of the track log:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Tracks** icon, and press **ENTER** to open the Tracks Page.
3. Highlight the **Save** button, and press **ENTER**. A message appears asking you if you want to save the entire track.
4. Select **No**, and press **ENTER** to save only a portion of the track log. The entire track appears on the map.
5. Use the **ROCKER** to move the pointer to the point on the track line that you want to be the beginning point, and press **ENTER**.
6. Use the **ROCKER** to move the arrow to the point on the track line to be the ending point, and press **ENTER**. A “Saving Track” message appears followed by the Saved Track Page.
7. With **OK** highlighted, press **ENTER**.

To log tracks to the microSD card:

1. From the Track Log Setup Page... highlight the **Data Card Setup** button, and press **ENTER** to display the Data Card setup page.

2. Highlight the **Log Track to Data Card** option, and then press **ENTER**. Observe that a (yyyyymmdd) .gpx file appears in the Data Card Tracks list.

**Log Track To Data Card Page**

This file is a continuous compilation of all track data for the indicated date. As long as this feature is enabled, a new file is created for each day you use the unit. Recording continues until the card is filled.

Because these track logs share card space with MapSource mapping data, space for additional map storage is reduced.

Press the **MENU** key and select **Card Info** to view the amount of card storage space available.

- To read or transfer the .gpx files use the USB cable to connect to your PC and enable the USB Mass Storage feature as explained on page 68. You can open the track logs using Garmin MapSource or another .gpx file-compatible application.
- To delete these track logs from the microSD card, highlight individual logs, and then press **ENTER**. Use the **Delete All** button to clear the entire list.



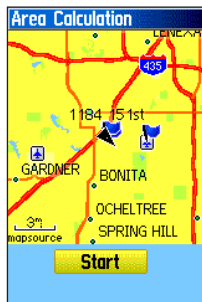
***NOTE:** Do not remove the microSD card from the unit while logging a track, because it can corrupt the data.*

To view a track on the map:

On the Saved Track Page, select the **Map** button, and press **ENTER** to open the Map Page. A map showing the entire track appears. Begin and End markers and user waypoints are visible.

To calculate the area of a track:

- With the Track Log Page open and the Track Log on, press **MENU** to open the Options Menu.
- Highlight **Area Calculation**, and press **ENTER** to open the Area Calculation Page.
- Press **ENTER** to start the area calculation. As you begin to move and define the area's boundaries, a **Stop** button appears at the bottom of the page.
- When finished defining the area, press **ENTER** to open the Calculated Area Page with a **Save** button.



Start calculation



Save calculated track

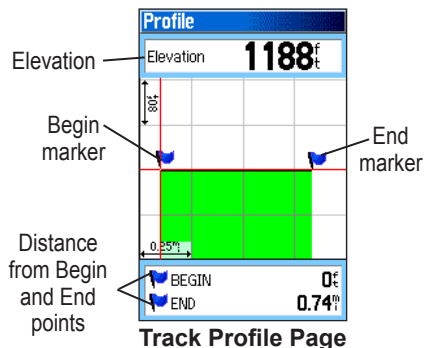
5. Press **ENTER** to save the new track to the Saved Tracks list on the Tracks Page

Track Profiles

After you save a track, you have a record of the path you traveled and a track altitude profile.

To view a track profile:

1. Open the Saved Track Page, and press **MENU**.
2. Highlight **Profile**, and press **ENTER** to view the Track Profile.



The beginning of the track is marked by a flag. You can scroll across the track profile by pressing left or right on the **ROCKER**.

As you scroll across the profile, the elevation for each point on the profile is shown at the top of the page, and the distance from the Begin point and the End point are shown at the bottom.

3. At any point along the profile, you can press **ENTER** to show that point on the map.
4. Press **MENU** to use **Zoom Ranges** and **Hide Symbols** options. To zoom ranges only, press up or down on the **ROCKER**.

You can create a Track Elevation Profile from track point altitude data or from Digital Elevation Models (DEM) maps (MapSource U.S. Topo), which include elevation data contained in the map. When these types of maps are available, a **Use Map Data - Use Track Data** option menu appears when you select **Profile**. Refer to the Garmin Web site, www.garmin.com/cartography/ontheTrail/, for more information about MapSource U.S. Topo maps.

Navigating a Saved Track

You can save your track log to use later as a TracBack. When initiated, a TracBack route takes you back to the oldest stored track log point.

To use the TracBack feature:

1. With the Saved Tracks Page for the track or the Track Log open, highlight the **TracBack** button, and press **ENTER** to open the TracBack Page showing the entire track. You are then prompted to select the point you want to go back to.
2. Use the **ROCKER** to move the pointer to the point on the map, and press **ENTER** to start navigating the TracBack.
3. Select either **Follow Road** to route back to the selected point using available roadways, or select **Follow Track** to retrace your original path of travel. Highlight the **Don't Ask Again** option, and press **ENTER** if you want to use the same option each time you use TracBack.

The Map Page opens with directions to the first turn on the track at the top of the page.

4. Move in the direction of the first turn. When you reach the first turn, directions to the next turn are shown, and so on, until you reach your destination.



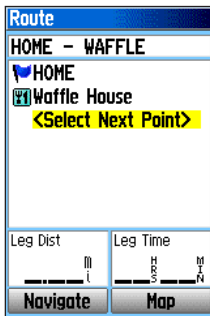
5. To exit, press **MENU**, and select **Stop Navigation**.

To create a user waypoint on a saved track:

1. With a saved track shown on the map, use the **ROCKER** to move the pointer to the place on the track that you want to mark as a user waypoint.
2. Press and hold the **ENTER** key to open the Mark Waypoint Page.
3. Customize the user waypoint, highlight **OK**, and press **ENTER** to save it.

Creating and Using Routes

a Route is a sequence of intermediate waypoints that lead you to your final destination. The GPSMAP 60CSx lets you store 50 routes with up to 250 points each.



Setting up a route

Creating a Route

You can create or modify a route using the Routes Page, and you can add waypoints to a route from the Find Menu. (You can also create more complex routes using a PC and MapSource mapping programs and then transfer them to the unit memory. Auto-Routes,

which are generated when you select Go To for a Find item, map item, or waypoint, cannot be saved. Saved routes with more than 50 waypoints cannot be navigated using the Follow Roads option.)

To create and navigate a route:

1. Press **MENU** twice to open the Main Menu.
2. Highlight the **Routes** icon, and press **ENTER** to open the Routes Page.
3. Use the **ROCKER** to highlight the **New** button, and press **ENTER** to open the Route Page.
4. With the **<Select Next Point>** field highlighted, press **ENTER** to open the Find Menu.
5. Use the Find Menu to select a route waypoint from one of the Find Menu groups, and open the information page for the selected waypoint, city, exit, point of interest, and so on.
6. Highlight the **Use** button, and press **ENTER** to add it to the route.
7. To add more points to the route, repeat steps 4 to 6. You can also rename the route.

Navigating a Route

After you create a route, you can begin navigation immediately or save it to the Saved Routes list.

Routes can use existing roadways to automatically calculate a route to your destination. Turns on roadways are added to the Active Route Page and are preceded by a guidance message with a graphic of the turn. If there are not enough roads at your location to calculate a route, a message to that effect appears.

To navigate a saved route:

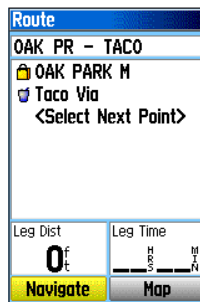
1. Press **MENU** twice to open the Main Menu.
2. Highlight the **Routes** icon, and press **ENTER** to open the Routes Page.
3. Highlight a saved route, and press **ENTER** to open the Route Page.
4. Highlight the **Navigate** button, and press **ENTER**.
5. To stop navigating, press **MENU**, select **Stop Navigation**, and press **ENTER**.

Using the **Follow Roads** option on the Routing Setup Page increases the number of turns and shows an

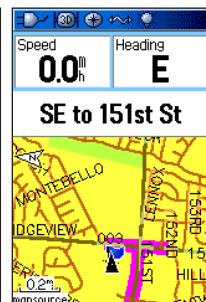
Active Route Page with a list of turns. If you selected the **Off Road** option, you can view only the list of points for a route from the Active Route Page. See Routing Setup on [page 71](#).

To preview the turns for an active route:

1. On the Routes Page, highlight a saved route, and press **ENTER** to open the Route Page for the selected route.
2. Highlight the **Navigate** button, and press **ENTER** to begin navigation and show the route on the Map Page.



Route Page

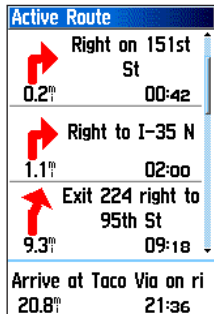


Route on the Map Page

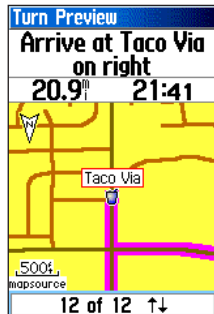
- To view the list of turns on the route, press **PAGE** to open the Turn Preview Page.

The Turn Preview Page shows the turn and guidance text and a small field at the bottom shows the turn number in sequence and total turns in the route.

- To scroll through all turn previews, press up or down on the **ROCKER**. Press **QUIT** to close the Turn Preview Page and return to the Active Route Page.



Active Route Page when following roads



Turn Preview Page

- To view a route profile, press the **MENU** key and select Profile from the Options Menu (if using DEM topo maps.)

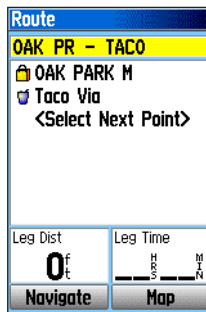


Editing a Route

After you create a route, use the Route Page to edit, change the route name, and review route points.

To change the name of the route:

- Press **MENU** twice to open the Main Menu.
- Highlight the **Routes** icon, and press **ENTER** to open the Routes Page.
- Select a saved route, and press **ENTER**.



Enter a new route name

Route Page

4. Highlight the route name field at the top of the Route Page, and press **ENTER**.
5. Use the **ROCKER** to operate the on-screen keypad and edit the route name.

To review individual route points:

1. Press **MENU** twice to open the Main Menu.
2. Highlight the **Routes** icon, and press **ENTER** to open the Routes Page.
3. Select a saved route, and press **ENTER**.
4. Highlight a point on the Route Page, and press **ENTER** to open an options menu.
5. Highlight **Review** and press **ENTER** to open the information page for the route point.
6. You can select **Save** (save the point as a waypoint), **Map** (show the point on the Map Page), or **Go To** (navigate to the point), and press **ENTER**.

To delete a route:

1. Press **MENU** twice to open the Main Menu.
2. Highlight the **Routes** icon, and press **ENTER**.
3. Highlight the route to be deleted and press **ENTER**. Then select **Delete** from the menu.

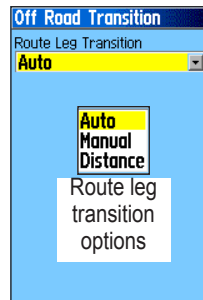
4. To delete all routes, press **MENU** to open the Saved Routes Options Menu. Highlight **Delete All Routes**, and press **ENTER** to clear the list.

To select the off-road transition for a route:

1. Press **MENU** twice to open the Main Menu.
2. Highlight the **Routes** icon, and press **ENTER** to open the Routes Page.
3. Press **MENU** to open the Options Menu.
4. Select **Off Road Transition**, and press **ENTER** to open the Off Route Transition Page.
5. Highlight the **Route Leg Transition** field, and press **ENTER** to view the list of options.
6. Select the method to use (**Manual** or **Distance**) when advancing to the next point.

Select **Distance** to enter a radius so that when you are within the entered distance, the 60CSx leads you to the next point on your route.

Select **Manual** to transition to the next waypoint anytime while navigating a route.



Vertical Profiles of routes

The Profile Page can show a profile of a route when using DEM (US Topo 24K maps)

To create a vertical profile of the route:

1. Open the Routes Page from the Main Menu, select a saved route or create a new route and then press the **Menu** key.
2. Select **Profile** and press **ENTER** to display the route profile, answer the “use data” prompt and press **ENTER**.

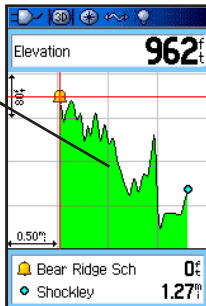


NOTE: Profiles are available only if Garmin MapSource U.S. Topo 24K map data is used.

Options Menu



Route Vertical Profile using U.S. Topo 24K DEM mapping data



Using the Route Page Options

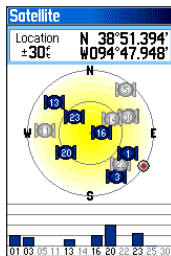
The Route Page shows all points stored in memory for the route selected on the Routes Page. Press **MENU** to open the Route Page Options Menu.

- **Remove All**—removes all waypoints from the saved route.
- **Reverse Route**—reverses the order of the route points in the saved route.
- **Profile**—creates a vertical profile of the route when MapSource U.S. Topo 24K map data is used.
- **Copy Route**—makes a copy of the saved route with the same name followed by a number.
- **Delete Route**—deletes the saved route.
- **Change Data Fields**—select different values for the two data fields at the bottom of the page.
- **Restore Defaults**—restore route settings to the factory default.

MAIN PAGES

The GPSMAP 60CSx has six main pages: Satellite Page, Trip Computer Page, Map Page, Compass Page, Altimeter Page, and the Main Menu. You can cycle through these pages by pressing the **PAGE** key to move forward or pressing the **QUIT** key to reverse. Add more pages from the Main Menu. (See page 70) The Active Route Page appears only when you are actively navigating.

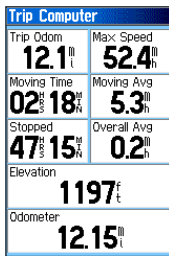
Each page has an Options Menu, which contains the setup options and functions that apply to that page. To view the Options Menu for a page, press the **MENU** key.



Satellite Page

- Menu**
- Use With GPS Off
 - Track Up
 - Multicolor
 - New Location
 - GPS Elevation
 - MENU** for Main Menu

Satellite Page Options



Trip Computer Page

- Menu**
- Reset...
 - Big Numbers
 - Change Data Fields
 - Restore Defaults
 - MENU** for Main Menu

Trip Computer Page Options



Map Page

- Menu**
- Stop Navigation
 - Recalculate
 - Data Fields...
 - Guidance Text...
 - Setup Map
 - Measure Distance
 - Turn Decluster On
 - Restore Defaults
 - MENU** for Main Menu

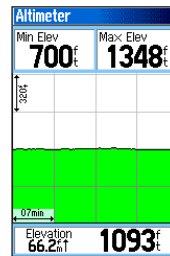
Map Page Options



Compass Page

- Menu**
- Sight 'N Go
 - Stop Navigation
 - Recalculate
 - Course Pointer
 - Data Fields...
 - Change Data Fields
 - Calibrate Compass
 - Restore Defaults
 - MENU** for Main Menu

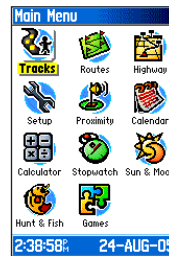
Compass Page Options



Altimeter Page

- Menu**
- Plot Over Distance
 - View Pressure Plot
 - Zoom Ranges
 - Change Data Fields
 - Reset...
 - Calibrate Altimeter
 - Restore Defaults
 - MENU** for Main Menu

Altimeter Page Options

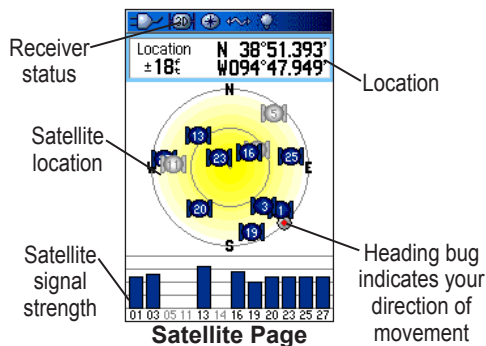


Main Menu

- Menu**
- No Options
 - MENU** for Main Menu

Satellite Page

The Satellite Page shows the receiver status, satellite locations, satellite signal strength, and the receiver's current location when the unit receives signals from at least three satellites.



The larger circle beneath the satellite icons represents the horizon surrounding you and the smaller circle a position approximately 45° above your current position. Imagine that you are in the center of a clear dome with the satellites moving over its outer surface.

Using the Satellite Page Options Menu

Press **MENU** to open the Options Menu.



Use With GPS Off/On—enables you to turn the GPS receiver on or off.

Track Up/North Up—indicates whether satellites are shown with the rings oriented with North toward the top of the display or your current track toward the top of the display

Multicolor/Single Color—indicates whether each satellite is shown in a different color or the same color.

New Location—use if you have moved the unit more than 600 miles and you are having trouble locking onto satellite signals.

GPS Elevation— your GPS determined elevation.

Map Page

The GPSMAP 60CSx comes with a built-in basemap that includes a database of cities, interstates, state and county highways, exit information, and lake and river outlines. The standard basemap can be enhanced using MapSource or BlueChart data.

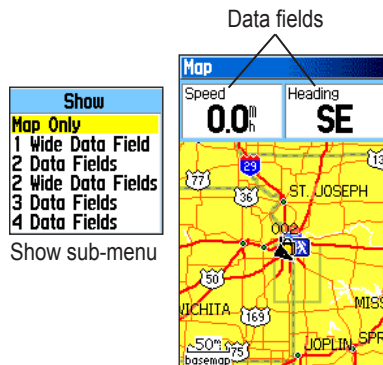
Two map operating modes, position mode and pan mode, determine what cartography is shown on the map display. Position mode pans the map to keep your present location in the display area. The position marker ▲ shows your travel on the Map Page. When you press the **ROCKER**, the GPSMAP 60CSx enters pan mode, which moves the map to keep the white arrow ↖ (map pointer) within the display area.

When you are in panning mode, you can move the map pointer about the page to highlight and identify map items. If there is more than one map item under the pointer, a list appears with the item highlighted on the map.

You can add and configure up to four optional data fields to the top of the page to provide a variety of travel and navigational information.

To show data fields on the Map Page:

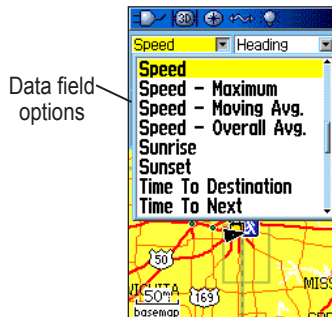
1. Press **MENU** to open the Map Page Options Menu.
2. Highlight **Data Field**, and press **ENTER**. The Show sub-menu appears.
3. Select the number and type of data fields you want to show on the Map Page, and press **ENTER**.



Map Page data fields

To change the content of a data field:

1. Press **MENU** to open the Map Page Options Menu.
2. Highlight **Change Data Fields**, and press **ENTER**. The first data field is highlighted.
3. Press **ENTER** to open the list of data field options.



4. Use the **ROCKER** to select an option, and press **ENTER**.
5. Use the **ROCKER** to move to the next field, and repeat steps 3 and 4.

For an explanation of each data field option, see [page 93](#) in the Appendix.

Using Additional Map Data

Optional MapSource mapping data enhances the versatility of your GPSMAP 60CSx. With MapSource data, you can view listings of nearby restaurants, lodging, shopping centers, attractions, and entertainment, and you can retrieve addresses and phone numbers for any listed location. With additional BlueChart data, you can access marine information, such as nav aids, wrecks, obstructions, and anchorage locations.

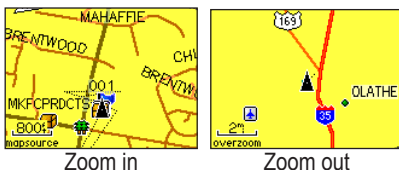
To view the data currently loaded on your GPSMAP 60CSx unit and microSD card, see [page 45](#).

To review map information:

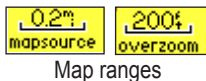
1. On the Map Page, press **MENU**.
2. Highlight **Setup Map**, and press **ENTER**.
3. Use the right or left **ROCKER** to select the Map Setup-info page. The list of maps stored in the unit microSD card appears. A check mark indicates the map is shown on the Map Page.

Changing the Zoom Range

You can change the zoom range on the Map Page to view a smaller area in greater detail or view a larger area with less detail. Press **IN** to decrease the zoom range and show an area with greater detail; press **OUT** to increase the zoom range and show a larger area with less detail.



The current zoom range setting is shown in the lower-left corner of the Map Page. If no further map information is available, “overzoom” appears under the zoom range. When using MapSource maps, “mapsource” appears below the scale.



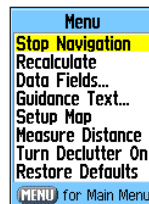
Map ranges

Map Orientation

There are two map orientation options: North Up orients the map like a paper map. Track Up orients the map in the direction of travel. When using Track Up, the North arrow indicates the orientation. Set the map orientation using the Setup Map option.

Map Page Options

Use the Map Page Options Menu to customize the Map Page. With the Map Page open, press **MENU**. To select an option, highlight it, and press **ENTER**.



The following options are available:

- **Stop (Resume) Navigation**—stops or resumes navigation. (disabled when no active navigation)
- **Recalculate**—recalculates a route. (disabled when no active navigation)

- **Data Fields**—opens the Show sub-menu so you can select the number of data fields to show at the top of the Map Page: Map Only, 2 wide, 3 (2 small and 1 wide), or 4 data fields.
- **Change Data Fields**—allows you to select the type of data you want to show in the data fields. This option is available only if the 1 wide 2 wide, 3, or 4 data fields option is selected.
- **Guidance Text**—shows messages on the screen advising you of your next navigation move when navigating to a destination.
- **Setup Map**—accesses six pages of Map display settings so you can customize the map to your preferences. (See [page 43](#))
- **Measure Distance (Stop Measuring)**—measures the distance from your current location to the map pointer.
- **Turn Declutter On (Off)**—hides or shows items on the map that can block road details when the map is zoomed out.
- **Restore Defaults**—returns the map page to the factory set defaults.

Guidance Text

When navigating, guidance text appears above the map. Guidance Text shows useful information when navigating to a destination.

South to US 169

Guidance text

To show guidance text:

1. Press **MENU** to open the Map Page Options Menu.
2. Highlight **Guidance Text**, and press **ENTER**. The Guidance Text sub-menu opens.
3. Select an option (**Always Show**, **Never Show**, or **Show When Navigating**), and press **ENTER**.

If you select **Always Show**, a message of some type always appears whether or not you are navigating.

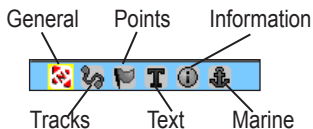
If you select **Show When Navigating**, a guidance message appears until you select **Stop Navigation** from the Options Menu.

Setting up the Map Page

Use the Setup Map option to adjust how items are shown on the Map Page.

To customize the Map Page display:

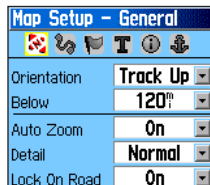
1. Press **MENU** to open the Map Page Options Menu.
2. Highlight **Setup Map**, and press **ENTER** to open the Map Setup Page. The top of the page contains icons for each setup page.
3. Use the **ROCKER** to move from icon to icon when selecting a Map Setup Page and to move up and down the feature fields on each page.



4. With a Map Setup feature highlighted, press **ENTER** to show the list of options for that feature. Each Map Setup Page has a sub-menu of general options. To access this menu, press the **MENU** key while viewing the page.

Map Setup – General Page

The **Map Setup – General Page** contains the settings for Orientation, Below, Auto Zoom, Detail, and Lock On Road.



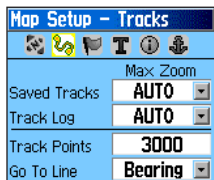
Map Setup – General Page

- **Orientation**—selects how the map is shown. **North Up** always shows north at the top of the page. **Track Up** shows your current track toward the top of the page.
- **Below**—sets the map scale at which the Track Up feature appears. All scales above this setting revert to the North Up map orientation.
- **Auto Zoom**—zooms the map scale to include the beginning and ending points of a route.
- **Detail**—selects the degree of map detail shown.

- **Lock On Road**—locks the current position pointer to show on the nearest road, compensating for variances in map position accuracy.

Map Setup – Tracks Page

The **Map Setup – Tracks** Page contains settings for Saved Tracks, Track Log, Track Points, and the Go To Line.



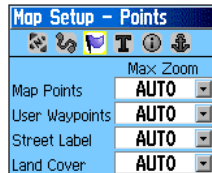
Map Setup – Tracks Page

- **Saved Tracks**—sets the maximum zoom range at which saved tracks are shown on the map.
- **Track Log**—sets the maximum zoom range at which active track logs are shown.
- **Track Points**—sets the maximum number of track points used to record a track.

- **Go To Line**—selects either a bearing or course line for navigating a track.

Map Setup – Points Page

Use the **Map Setup – Points** Page to set the map scale at which Map Points, User Waypoints, Street Label, and Land Cover appear on the Map Page. Select **Auto**, **Off**, or a specific zoom level.



Map Setup – Points Page

Map Setup – Text Page

Use the **Map Setup – Text Page** to select the text size for descriptions of map items on the Map Page. You can select from **None**, **Small**, **Medium**, or **Large**.



Map Setup – Text Page

Map Setup – Information Page

The **Map Setup – Information Page** shows a list of downloaded detailed MapSource maps such as topographic, marine charts, and other maps with auto-routing capability. Use the **ROCKER** to highlight a map, and press **ENTER** to show it on the map display or turn it off.



Map Setup – Information Page

Press **MENU** to view options for showing maps.

Map Setup – Marine Page

Use the **Map Setup – Marine Page** to customize settings for marine colors, spot soundings, light sectors, and symbol sets when using downloaded marine charts (MapSource BlueChart marine mapping data).

- **Marine Colors**—toggles marine colors on or off on the Map Page.



Map Setup – Marine Page

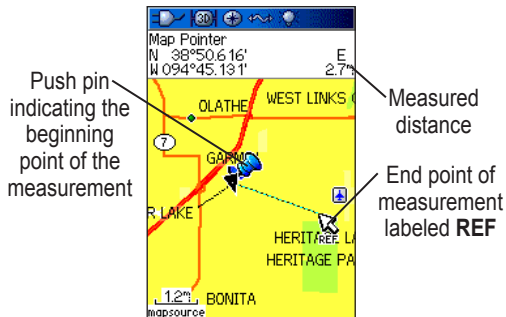
- **Spot Soundings**—toggles spot soundings on or off on the Map Page (depth measurements shown on the map).
- **Light Sectors**—select **Off**, **Auto**, or **ON** (Navigational light locations).
- **Symbol Set**—select the symbol set to use (**Auto**, **GARMIN**, **NOAA**, **International**).

Measuring Distance

You can measure the distance between two map items.

To measure distance between two points:

1. Press **MENU** to open the Map Page Options Menu.
2. Highlight **Measure Distance**, and press **ENTER**. An on-screen arrow appears on the map display at your current location with **REF** below it.
3. Move the arrow to the reference point (the starting point you want to measure from), and press **ENTER**. A push pin icon marks the starting point on the map.
4. Move the arrow to the point you want to measure to. The distance between the two points is shown in the upper-right corner of the Map Page.
5. Press **QUIT** to cancel.



Turning Declutter On or Off

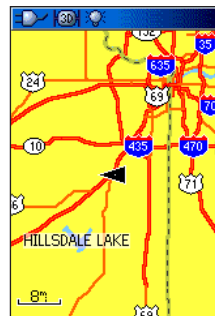
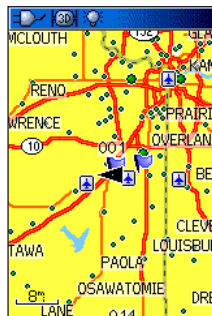
You can remove unwanted items from the Map Page display (declutter the display) such as map item titles and icons. This is useful when the map is zoomed to a scale that is partially obscured by titles and icons that remain the same size regardless of the map scale.

To turn declutter on or off:

1. Press **MENU** to open the Map Page Options menu.
2. Highlight **Turn Declutter On**, and press **ENTER**.

OR

To turn Declutter off, press **MENU**, select **Turn Declutter Off**, and press **ENTER**.



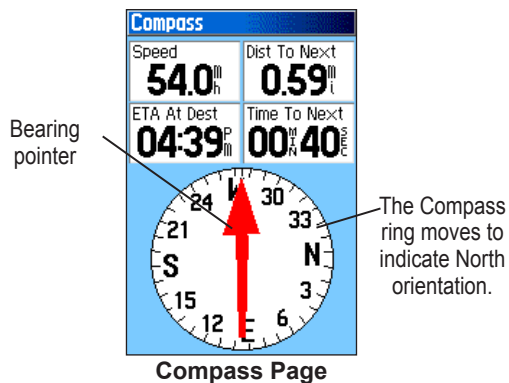
Map with Declutter off Map with Declutter on

Restoring Defaults

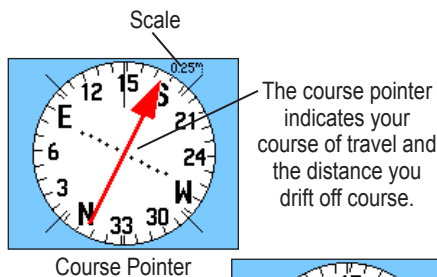
Use the **Restore Defaults** option to return the map settings to factory settings.

Compass Page

When navigating, the Compass Page provides navigation data and directions. It uses a graphic compass ring, a bearing or course pointer and digital data fields to show information such as current speed, distance to the next point on the route, and estimated arrival time.




The rotating compass ring indicates the direction you are heading. The Bearing and Course Pointer indicate the direction (bearing) to your destination, relative to your current heading direction. The compass ring and bearing or course pointer work independently to show your direction of movement and the direction to your destination. You can choose the Bearing Pointer or Course Pointer for guidance.



The bearing pointer indicates the direction to your destination.




The compass ring is an electronic compass that functions like a magnetic compass when you are stationary. When you are moving and reach a pre-set speed, it uses data from the GPS receiver to maintain your heading. When you stop (after a pre-set time), it again operates like a magnetic compass. The compass ring is especially helpful when using a paper map or chart with your GPSMAP 60CSx for navigation. When the electronic compass is on, a compass icon  appears in the status bar.

Using the Electronic Compass

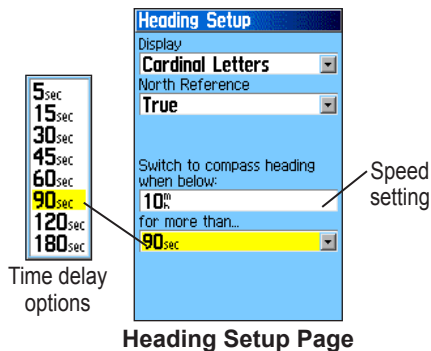
When you turn the electronic compass off, it stays off until you turn it on again. However, sometimes when you turn the electronic compass on, the GPSMAP 60CSx overrides the compass and uses the GPS receiver to track your heading. In fact, when you are moving at a steady rate, the GPS receiver operates the compass. When stationary, the electronic compass provides you with accurate headings. You can customize the criteria for switching between the electronic compass and the GPS as explained in the Heading Setup section on [page 75](#).

To turn the electronic compass on or off:

1. Press and hold the **PAGE** key to turn the electronic compass on or off. The Compass Icon  appears in the status bar when the electronic compass is on. When you are not using the electronic compass, turn it off to conserve batteries. When it is turned off, the unit uses the GPS receiver for navigation.
2. Hold the GPSMAP 60CSx level to get an accurate electronic compass reading. (You obtain the most accurate reading if the compass has been recently calibrated. See the following page for calibration instructions.)

Setting the speed and time for Compass Auto On/Off:

1. Press **MENU** twice to open the Main Menu.
2. Highlight **Setup**, and press **ENTER** to open the Setup Menu.
3. Highlight the Heading icon, and press **ENTER** to open the Heading Setup Page.
4. Highlight the **Switch to compass heading when below** field, and press **ENTER**.



Heading Setup Page

5. Use the numeric keypad to enter a speed.
6. Highlight the **for more than** field, and press **ENTER** to set the time delay from the time options list.

Calibrating the Electronic Compass

Calibrate the electronic compass outdoors when you first use the GPSMAP 60CSx. To ensure continued accuracy, calibrate after installing new batteries, after moving more than 100 miles (160 km), or experiencing a temperature change greater than 68° F (20° C). The accuracy of the compass is also affected if the unit is not held level or you are near objects that affect magnetic fields, such as cars or buildings.

To calibrate the electronic compass:

1. Press **MENU** to open the Compass Page Options menu.
2. Highlight **Calibrate Compass**, and press **ENTER** to open the Calibration Page.
3. With the **Start** button highlighted, press **ENTER**, and follow on-screen directions for holding and turning the unit.

A “Just Right,” “Too Fast,” or “Too Slow” message appears notifying you to adjust your turning speed, as needed. Hold the unit level while turning.

A “Calibration Successful” message appears when finished.

If a “Calibration Failed” message appears, repeat the process.

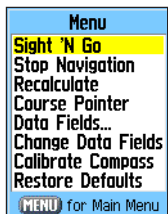
4. Press **ENTER** to return to the Compass Page.

Hold the unit level and turn slowly.



Compass Page Options

Use the options menu to customize the Compass Page. With the Compass Page open, press **MENU**. To select an option, highlight it and press **ENTER**.



Compass Page
Options

The following options are available:

- **Sight 'N Go**—allows you to navigate to an object within your sight by pointing the unit at it.
- **Stop or Resume Navigation**—turns active navigation for a route or a Go To on or off.
- **Recalculate**— recalculates the path to a destination.
- **Course or Bearing Pointer**—toggles between the course pointer and the bearing pointer.

- **Data Fields**—allows you to select from 2, 3 or 4 data fields that appear on the Compass Page.
- **Change Data Fields**—allows you to select the type of data you want to show in the data fields. See [page 93](#) for definitions of each option.
- **Calibrate Compass**—accesses the Compass Calibration Page.
- **Restore Defaults**—returns to the factory settings.

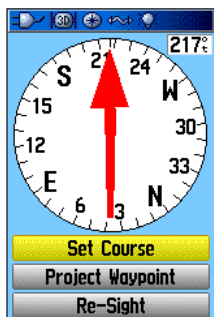
Sight 'N Go Navigation

Sight 'N Go allows you to set a course to a point you can see in the distance.

To use Sight 'N Go to navigate:

1. Press **MENU** to open the Compass Page Options Menu.
2. Highlight **Sight 'N Go**, and press **ENTER** to start the Sight 'N Go feature. The compass ring with pointer is in-line with the two sighting marks on the case (the top arrow of the **ROCKER** and tic mark at the top of display bezel.)

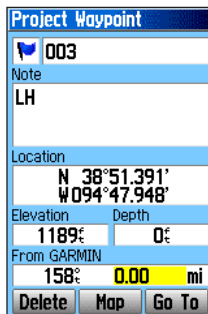
- Hold the unit at eye level and line up the two sighting marks with the distant object. With Press **ENTER** to lock the direction. The Sighting Page opens.



Sighting Page

- Highlight **Set Course**, and press **ENTER** to open the Compass Page. Begin traveling to your destination on a course line using the course pointer as a guide.
OR
Highlight **Project Waypoint**, and press **ENTER** to open the Project Waypoint Page.

- Enter an estimated distance from your current location to establish a projected waypoint location.



Project Waypoint Page

- Highlight the **Go To** button, and press **ENTER** to open the Map Page and begin navigation to the projected waypoint. The Compass Page shows a bearing pointer for guidance.

To stop navigation:

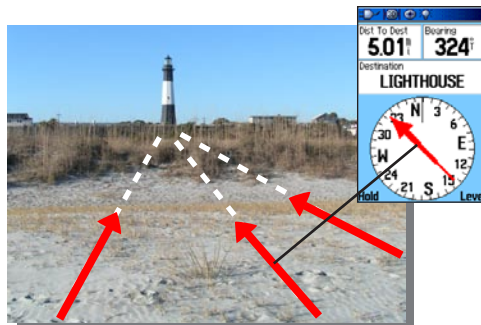
- Press **MENU** to open the Map Page Options Menu.
- Highlight **Stop Navigation**, and press **ENTER**.

Using the Course Pointer or Bearing Pointer

The bearing pointer and course pointer work independently of each other. The bearing pointer indicates the direction to your destination, and the course pointer indicates your relationship to a course line leading to the destination.

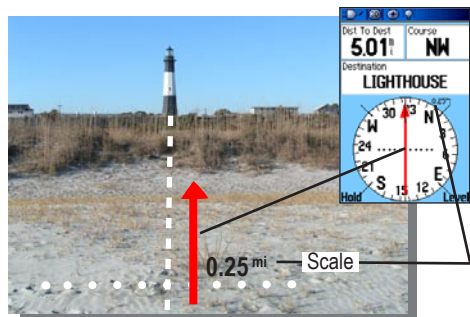
If the bearing pointer arrow is pointing straight up, for example, you are going directly to your destination. If it points any direction other than up, turn toward that direction until the arrow is pointing up and then continue in that direction. The bearing pointer always points to the destination, regardless of the direction you are moving. (Most efficient if you must move around obstacles in your path.)

If you are using the course pointer option, and you drift away from the line of travel from your original location to your destination, the course deviation indicator (an arrow with horizontal dotted line) provides graphic indication of drift (right or left) according to the scale shown at the edge of the compass ring.



The bearing pointer always indicates the direction to your destination from your current location.

Move to the right or left to get back on course. This is most efficient 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.



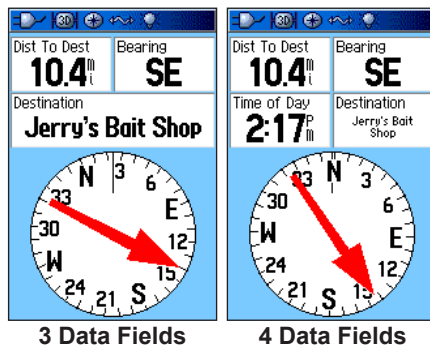
The Course Pointer indicates your course of travel from your original location and the distance off course.

To select the course pointer or the bearing pointer:

1. Press **MENU** to open the Compass Page Options menu. The bearing pointer is the factory set default option. When the bearing pointer option is shown, the course pointer is active and vice versa.
2. Highlight this option, and press **ENTER**.

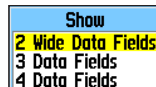
Data Fields

You can show two wide, three or four data fields on the Compass Page.



To show data fields on the Compass Page:

1. Press **MENU** to open the Compass Page Options Menu.
2. Highlight **Data Field**, and press **ENTER**. The Show sub-menu appears.
3. Select the number of data fields you want to show on the Compass Page and press **ENTER**.



To change data fields:

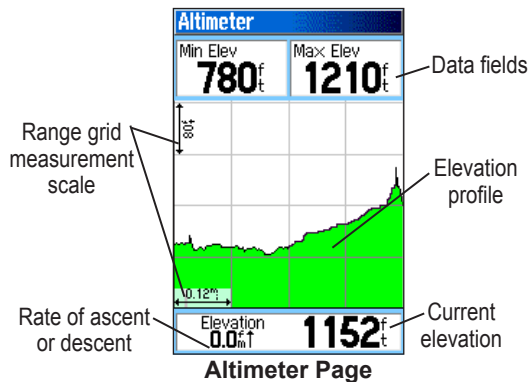
1. Press **MENU** to open the Compass Page Options Menu.
2. Highlight **Change Data Fields**, and press **ENTER**. The first data field is highlighted.
3. Press **ENTER** to select from a list of types of navigation data to display in that field.
4. Use the **ROCKER** to highlight the option you want, and press **ENTER** to place it in the data field.
5. After making your selection and entry, use the **ROCKER** to move to the next field and repeat the process.

To restore data fields to default settings:

1. Press **MENU** to open the Compass Page Options Menu.
2. Highlight **Restore Defaults**, and press **ENTER** to return the page to factory settings.

Altimeter Page

The Altimeter Page shows you the current elevation, rate of ascent or descent, a profile of elevation changes over distance or time, or a profile of pressure changes over time.



The Status field at the bottom of the page shows the current elevation and your current rate of ascent or descent when moving. It can also show the ambient pressure and time of measurement.

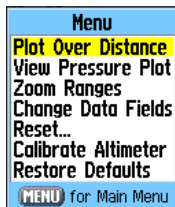
You can configure the Profile field in the center of the page to show either elevation or ambient pressure plots as selected from the Altimeter Page Options Menu.

Data fields at the top of the page can be customized and show a variety of recorded or current data.

Altimeter Page Options

Use the Altimeter Page Options Menu to customize the Altimeter Page. With the Altimeter Page open, press **MENU** to open the Options Menu.

The following options are available:



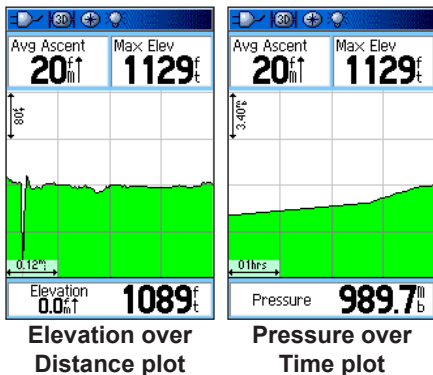
Altimeter Page
Options

- **Plot Over Time or Plot Over Distance**—plots the elevation over a period of time or plots the elevation over a distance.

- **View Elevation Plot (View Pressure Plot)**—shows the elevation or the pressure plot.
- **Zoom Ranges**—allows you to adjust the Zoom Ranges for elevation, distance, or time when you show the View Elevation Plot over distance or time.
- **Reset**—allows you to reset the elevation data and the maximum elevation data.
- **Calibrate Altimeter**—If you know the correct elevation for your location, you can increase the accuracy of the altimeter using the “Calibrate Altimeter” option.
- **Restore Defaults**—clears recorded data from the page and begins recording new data.

Plot Over Time or Distance

These two measurement options (changes over a set period of time or changes over a set distance) apply only to the View Elevation Plot option. The View Pressure Plot option is measured by time and pressure only.



View Pressure or Elevation Plots

Select the **View Elevation Plot** option to plot a profile of elevation changes that occur as you navigate over a set distance or period of time. Select **View Pressure Plot** to view a record of changes in barometric pressure for a set period of time. When one option is active, the other option is shown on the Options Menu.

To view elevation or pressure plots:

1. Use the **ROCKER** to select the option you want from the Altimeter Options menu, and press **ENTER** to show the plot.
2. Adjust the time and distance measurement using the Elevation Plot Zoom Ranges explained on the pages that follow.

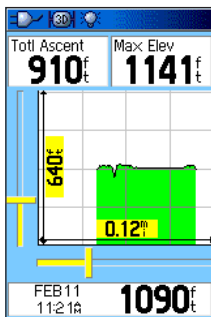


NOTE: To clear the plot and start again, you must clear the Track Log.

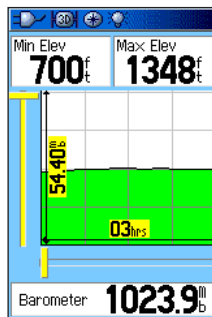
Zoom Ranges

You can set the zoom ranges for elevation, distance, or time when you show the View Elevation Plot.

- Ranges for vertical distance are shown as you press up or down on the **ROCKER**.
- Ranges for linear distance are shown as you press left or right on the **ROCKER**.
- Ranges for time are shown for a time plot when you press left or right on the **ROCKER**.



Zoom ranges for
Elevation over
Distance plot



Zoom ranges for
Pressure over
Time plot

Ranges for View Pressure Plot pressure values are shown when you press up or down on the **ROCKER**. Values for time are shown in the same manner as for elevation plots.

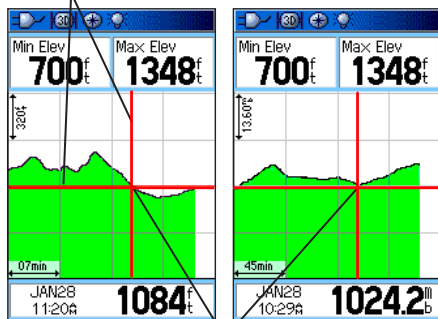
To adjust zoom ranges:

1. Select the type of plot you want to view, and use the **ROCKER** to highlight **Zoom Ranges** on the Options Menu.
2. Press **ENTER** to open the Zoom Ranges Page. Press up or down on the **ROCKER** to adjust the vertical distance or pressure, and press left or right to adjust either the time or distance.
OR
Pressing up or down on the **ROCKER** while a plot is displayed switches the screen to the Zoom Range mode.
3. Press **ENTER** to return to the Plot Page.

View Points

You can scroll through a recorded elevation or pressure profile to view data for any point along the profile. When the red vertical and horizontal cross hairs are stopped at a location along the profile, the screen shows the elevation or pressure, time of day, and date when the point was recorded.

Red crosshairs



View point for an altitude plot

View point for a pressure plot

To use the View Points option:

1. Press **MENU** to open the Altimeter Page Options Menu.
2. Select **View Pressure Plot** or **View Elevation Plot**, and press **ENTER** to open the Plot Page.
3. Press left or right on the **ROCKER** to scroll the cross hairs across the profile.

As the cross hairs move across the profile, the status window at the bottom of the page changes to show the date, time, and altitude or pressure for the point at the intersection.

View Points on Map

You can view the location of Map Page.

To view altitude points

1. With the Altimeter Page open, use the **ROCKER** to move the red crosshairs to the point you want to view.



Elevation over Distance plot point on the Map Page

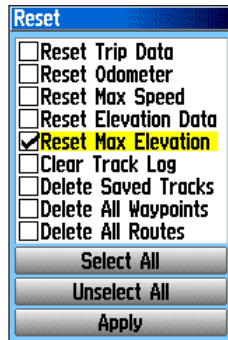
2. Press **ENTER** to show the altitude point on the map. The point is marked by the Map Pointer with location coordinates, the compass bearing and distance from your current location.
3. Press **QUIT** to close.

Resetting Data

You can reset the elevation data and the maximum elevation data by selecting these options from the Reset Page.

To reset the elevation data and max elevation fields:

1. Press **MENU** to open the Altimeter Page Options Menu.
2. Highlight **Reset**, and press **ENTER** to open the Reset Page.
3. Use the **ROCKER** to highlight a reset option, and then press **ENTER** to place a check mark in the box next to the selected item. You can reset elevation data such as Minimum Elevation, all Ascent and Descent data, or only the Maximum Elevation.



Reset Page

4. Highlight the **Apply** button, and press **ENTER** to reset the data fields. A confirmation message appears.
You can reset or delete data for any of the other features represented on the list by placing a check mark in the box next to the item.
5. Highlight **Apply**, and press **ENTER** to reset the selected options.
6. To reset all categories shown on the page, highlight **Select All**, and press **ENTER**. Then repeat step 5 above.

Calibrating the Altimeter

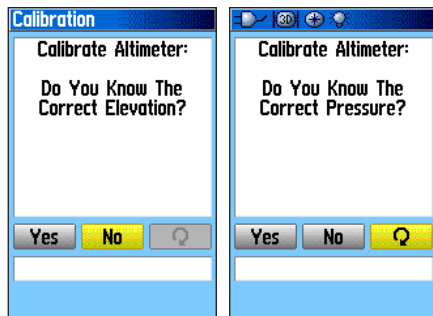
Because the GPSMAP 60CSx relies on the barometric pressure to determine the elevation, and the pressure at any given elevation can fluctuate, you can calibrate the altimeter to increase its accuracy. You must know the elevation or pressure at your current location.

To manually calibrate the altimeter:

1. Press **MENU** to open the Altimeter Page Options Menu.
2. Highlight **Calibrate Altimeter**, and press **ENTER** to open the Calibration Page.
3. At the message “Do You Know The Correct Elevation?” highlight the **Yes** button, and press **ENTER**.

OR

If you do not know the elevation, select **No** to use the pressure option. If you do not know the pressure, select **No** to use the default GPS elevation.



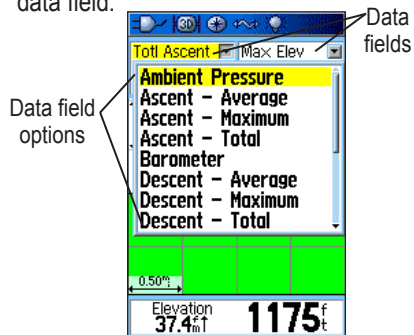
4. Use the **ROCKER** to enter the new elevation or pressure, then highlight **OK** and press **ENTER** to return to the Altimeter Page.

Changing the Data Fields

The Altimeter Page has two data fields that you can customize. (For definitions, see [page 93](#).)

To change a data field:

1. Press **MENU** to open the Altimeter Page Options Menu.
2. Highlight **Change Data Fields**, and press **ENTER**.
3. Use the **ROCKER** to highlight a data field, and press **ENTER** to view a list of available data field options.
4. Press up or down on the **ROCKER** to highlight an option, and press **ENTER** to place it in the data field.



Trip Computer Page

The Trip Computer Page provides you with a wide variety of travel data that can be useful when navigating a long distance. It indicates your current speed, average speed, trip odometer, and many other helpful statistics useful for navigation.

Trip Computer	
Trip Odom 12.1 ^m _t	Max Speed 52.4 ^m _h
Moving Time 02:18 ^h _S	Moving Avg 5.3 ^m _h
Stopped 47:15 ^h _S	Overall Avg 0.2 ^m _h
Elevation 1197 ^f _t	
Odometer 12.15 ^m _t	

Trip Computer Page

You can customize the trip computer screen to meet your personal requirements. Select the type of data in the same manner as for the similar data fields on the Map Page. (See [page 40](#) for details.)

Trip Computer Page Options Menu

Press **MENU** to view the following options:

- **Reset**—because you want to record new data for each trip, a Reset option is available.

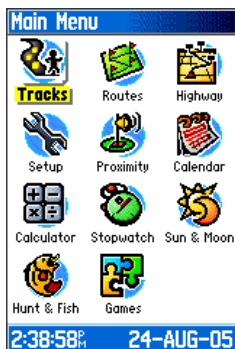
Reset the trip information by highlighting **Reset** and pressing **ENTER**.

The Reset Page offers options for resetting trip computer data, clearing the track log and deleting saved tracks, waypoints and routes. This page allows you select individual items, select all and unselect all. When you make selections, highlight the **Apply** button and press **ENTER**. Answer **OK** to the “The Data You Have Selected Will Be Permanently Deleted” prompt and press **ENTER** to complete the reset.

- **Big Numbers**—allows you to view significant trip data at a glance by showing fewer data fields with larger numbers.
- **Change Data Fields**—allows you to select the type of data you want to show in the data fields.
- **Restore Defaults**—allows you to return the data fields to factory settings.

MAIN MENU

The Main Menu contains settings and features not found on the main pages and sub-menus. The time and date are shown at the bottom of this page. The Main Menu is accessible from any page by pressing **MENU** twice. To select an item on the Main Menu, highlight the menu item, and press **ENTER**.



Main Menu



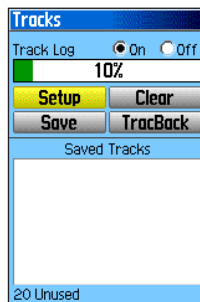
NOTE: If a page from the menu is added to the Main Page sequence, the icon no longer appears on the Main Menu. (See [page 70](#)).

Tracks Page

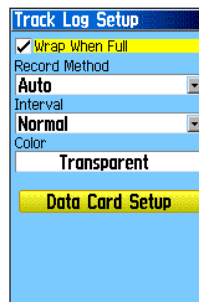
The Tracks Page shows the percentage of track memory used and a list of saved tracks. Use the Tracks Page to set up, clear, or save a track log, or enable the TracBack feature for the current track log. For more information, see [page 26](#).

To access the Tracks Page:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Tracks** icon, and press **ENTER**.
3. Highlight the **Setup** button, and press **ENTER** to open the Track Log Setup Page.



Tracks Page



Track Log Setup

Route Page

Use the Routes page to create a route to a destination. For more information, see Routes on [page 32](#).

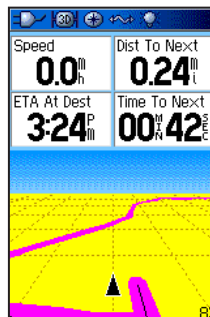
Highway Page

When navigating a route, the Highway Page guides you to the destination using data fields and a graphic highway. Up to four user-selectable data fields show information such as speed, distance, time to next point on the route, etc. The list of data shown and the method of selection is the same as the Compass Page and is explained in detail on [page 54](#).

The Highway graphic provides visual guidance, taking you point by point to your final destination. Your course is represented by a center line down the middle of the graphic. As you move toward each point on your route, the graphic shows the direction you should move to stay on course to the next point. Use the In and Out keys to change the five scale settings for zooming in or out on the highway.

To navigate using the Highway Page:

1. While navigating, press the **PAGE** key to cycle to the Main Menu, select the Highway icon and press **ENTER**, and observe your path of travel displayed on the highway graphic.
2. Press **MENU** to display the Options Menu. You can do the following: stop navigation/resume navigation, recalculate, configure data fields from four to three with a destination guidance message, change the data fields, or restore defaults to factory settings.



Highway Page

Setup Menu Page

Use the Setup Menu Page to customize your GPSMAP 60CSx.

To access the Setup Menu Page:

1. Press **MENU** twice to open the Main Menu.
2. Use the **ROCKER** to highlight the **Setup** icon, and press **ENTER**.



Each feature is explained in the following pages.

System Setup

Use the System Setup Page to control settings for GPS, WAAS, battery type, language, external power, and proximity alarms.



To access the System Setup Page:

From the Setup Menu Page, highlight the **System** icon, and press **ENTER**.

- **GPS**—sets the unit to operate in **Normal** mode, **Battery Saver** mode, **GPS Off**, or **Demo Mode**.
- **WAAS/EGNOS**—allows you to enable or disable WAAS/EGNOS (see [page 97](#) for WAAS/EGNOS information).
- **Battery Type**—allows you to select the battery type you are using (Alkaline or NiMH) for more accurate capacity reporting.
- **Text Language**—sets the unit's on-screen language.
- **External Power Lost**—indicates whether the unit remains on (Stay On) or turns off (Turn Off) when external power is removed from the unit.
- **Proximity Alarms**—indicates whether custom points of interest (POI's) proximity alarms are on or off.

System Setup Options Menu

The System Setup Options Menu contains **Restore Defaults** and **Software Version**. Use **Restore Defaults** to return the System Setup fields to their original values and **Card Info** to view micro SD card status. **Software Version** shows the software version and unit identification number.

Restore Defaults
Card Info
Software Version

Display Setup

Use the Display Setup Page to select a screen display color scheme for day and night viewing. You can set the backlight timeout and the level of brightness to save battery power.



To access the Display Setup Page:

On the Setup Menu Page, highlight the **Display** icon, and press **ENTER**.

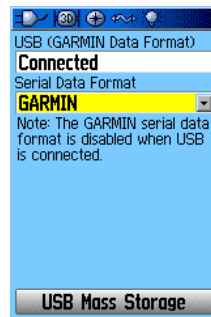
- **Display Mode**—sets the display to **Day**, **Night**, or **Auto** mode. Select **Auto** to automatically

switch from day to night at sunset and change back at sunrise.

- **Daytime Color Scheme/Nighttime Color Scheme**—sets the color scheme to use when operating in Day or Night mode.
- **Backlight Timeout**—sets the backlight to stay on when it is turned on, or to time out after a selected period of time has elapsed when using the battery. The backlight stays on regardless of this setting when external power is used.
- **Backlight Level**—turns the backlight up or down. Press up on the **ROCKER** to increase the intensity or down to decrease.

Interface Setup

Use the Interface Setup Page to control the input/output format used when connecting your unit to external devices.



To access the Interface Setup Page:

On the Setup Menu Page, highlight the **Interface** icon, and press **ENTER**.

Serial Data Format—sets the data format to one of the following:

- **GARMIN**—selects the proprietary format used to exchange waypoint, route, track log and MapSource data with a PC.
- **NMEA In/NMEA Out**—supports input and output of standard NMEA 0183 version 3.01 data.
- **TEXT OUT**—allows ASCII text output of location and velocity information. No input.
- **NONE**—provides no interfacing capabilities.

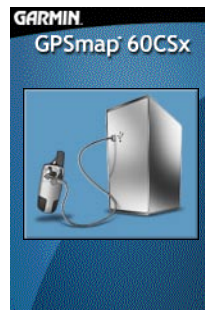
If you select NMEA In/NMEA Out or Text Out, additional fields appear. The baud rate for NMEA In/NMEA Out is locked at 4800. If selecting Text Out highlight the **Baud Rate** field, and press **ENTER**. Use the **ROCKER** key to highlight the desired setting and press **ENTER**.

USB Mass Storage—allows the microSD card to be used as a USB Mass Storage device. It also transfers Track Log Data to Garmin MapSource.

To activate USB Mass Storage:

1. Connect the unit to a PC using the USB cable.
2. Highlight the on-screen USB Mass Storage button and press **ENTER**.
3. Observe an illustration of the GPSMAP 60CSx connected to a computer and an Unplug or Eject icon shown on a PC's system tray or a storage device icon for the microSD on a Macintosh®.
4. Double-click on a PC's **My Computer** to observe a new Removable Disk Drive listed. If drives are networked, see the note below.

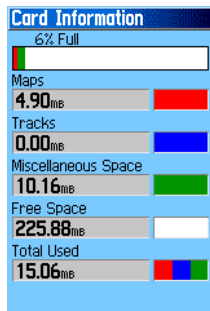
If using a Macintosh, double-click on the icon to view the directory of files on the microSD card.



NOTE: Like most USB storage devices, the GPSMAP 60CSx is not compatible with Windows® 95, Windows® 98 or Windows® ME.

To view storage information for the microSD card:

Prior to downloading data to the microSD card, press the **MENU** key with the USB Mass Storage Page open to view data card storage information.



To transfer files to the microSD card:

1. Double-click the **My Computer** icon on a PC's desktop.
2. Browse the PC or Macintosh for the file to copy.
3. For a PC, highlight the file and select **Edit > Copy** and open the drive identified with the GPSPMAP 60CSx.



NOTE:** If you have several network drives mapped to your computer, Windows® may experience difficulty assigning a drive letter for your unit's microSD card. Either log on without connecting to the network or click **Start > Settings > Control Panel > Administrative Tools > Computer Management > Storage >

***Disk Management** and remap the drive letter for the GPSPMAP 60CSx removable storage device.*

4. Select **Edit > Paste**. The file appears in the list of files on the GPSPMAP 60CSx microSD card.
5. For a Macintosh, click and drag the desired file into the microSD card directory.
6. After data transfer, end the USB cable connection by double-clicking on the **Unplug** or **Eject** icon in your PC system tray and select **Stop** or unmount the connection if using a Macintosh.
7. Pressing and releasing the unit **POWER** button exits the USB Mass Storage Page at any time, but can corrupt files if done while transferring data.

Interface Setup Options Menu

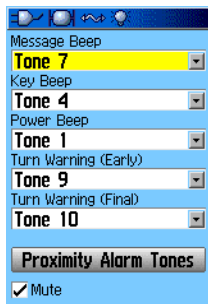
The Interface Setup Options Menu contains a **Restore Defaults** option and an **Advanced NMEA Setup** option. The Advanced NMEA Setup is designed for use by knowledgeable users with specific NMEA applications. (Refer to [page 92](#).)

Tones Setup

Use the Tones Setup Page to customize sound tones made by the unit for a variety of unit features.

To access the Tones Setup Page:

1. On the Setup Menu Page, highlight the **Tones** icon, and press **ENTER**.
2. Highlight a tone option and press **ENTER**.
3. As you move down the list each different tone sounds. Press **ENTER** to select a tone.



Page Sequence Setup

Use the Page Sequence Setup Page to change the order of the main pages, or add additional pages to the main page sequence.



NOTE: If you add a page to the main page sequence, it no longer appears on the Main Menu.

To access the Page Sequence Setup Page:
On the Setup Menu Page, highlight the **Page Sequence** icon, and press **ENTER**.

To move, insert, or remove a page:

1. To move a page in the order, highlight the page, and press **ENTER**. Select **Move**, and press up or down on the **ROCKER** to move the page up or down in the list. Press **ENTER** when finished.
2. To insert a new page, highlight the page you want to insert before in the order, and press **ENTER**. Select **Insert**, then select a page from the list, and press **ENTER**.
3. To remove a page, highlight the page and press **ENTER**. Select **Remove**, and press **ENTER**.

Map Page Setup

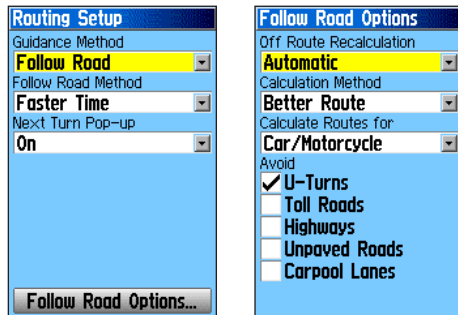
The Map Page Setup information is located on [page 43](#).

Routing Setup

Use the Routing Setup Page to customize the manner in which routing functions behave.

To access the Routing Setup Page:

1. On the Setup Menu Page, highlight the **Routing** icon, and press **ENTER**.
2. Highlight the **Follow Road Options** button to open the Follow Road Options Page where you can select additional route options.



Routing Setup Page Follow Road Options

- **Guidance Method**—allows the unit to calculate routes using the preferences below:

Prompted—prompts you to select a preference before the route is calculated.

Follow Road—creates a route that overlays the roads shown on the map.

Off Road—creates a direct line from your current location to your destination. This is useful when traveling outside of the detailed map coverage area or where no roads exist.

- **Follow Road Method**—sets how the unit calculates follow road routes based on one of the following preferences:

Prompted—you are prompted to select a preference before the route is calculated.

Faster Time—calculates routes that are faster to drive but might be longer in distance.

Shorter Distance—calculates routes that are shorter in distance but takes more time to drive.

- **Next Turn Pop-up**—turns the Next Turn pop-up window on or off.

Follow Road Options

- **Off Route Recalculation**—allows you to set whether the unit prompts you when it is recalculating your route (Prompted) or recalculates automatically or Off.
- **Calculation Method**—sets how the unit searches for the route using the following criteria:

Quickest Calculation—calculates the route the quickest, but might not produce the best route.

Quick Calculation—takes more time to calculate, but generates a better quality route.

Better Route—generates an even better quality route, but uses a longer calculation time.

Best Route—generates the optimal route, but takes the longest time to calculate.

- **Calculate Routes For**—sets route calculation for the vehicle you are operating to optimize the route for your vehicle type.
- **Avoid**—allows you to avoid certain road types and maneuvers on your route.

Geocache Setup

Use the Geocache Setup Page to find and record items hidden at geographic locations. See the Garmin Web site (www.garmin.com) for details and how to download geocache locations from the Internet.



***NOTE:** Before setting up and placing physical geocache stations on public or private land, be certain you are not in violation of ordinances or laws governing use of these properties.*

To access the Geocache Setup Page:

On the Setup Menu Page, highlight the **Geocache** icon, and press **ENTER**.

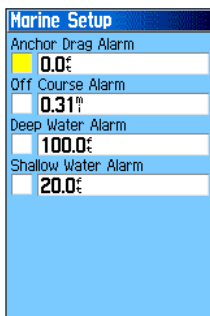


Marine Setup

Use the Marine Setup Page to define alarm settings.

To access the Marine Setup Page:

On the Setup Menu Page, highlight the **Marine** icon, and press **ENTER**.



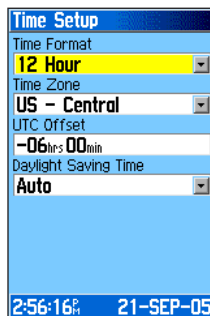
- **Anchor Drag Alarm**—sets an alarm to sound when you exceed a specified drift distance.
- **Off Course Alarm**—sets an alarm to sound when you are a set distance off course.
- **Deep Water Alarm/Shallow Water Alarm**—sets an alarm to sound when you enter an area of water that is too deep or too shallow.

Time Setup

Use the Time Setup Page to set the time format, set the time zone, and set the unit to conform to Daylight Saving Time. The time and date appear at the base of the page.

To access the Time Setup Page:

On the Setup Menu Page, highlight the **Time** icon, and press **ENTER**.



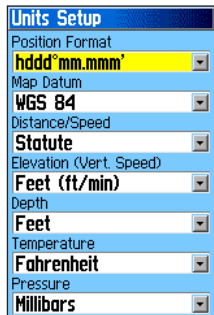
- **Time Format**—sets 12 or 24 hour format.
- **Time Zone**—sets the time zone for your city so the GPSMAP 60CSx shows the correct local time. Select **Other** to manually enter a Universal Time Coordinate.

Units Setup

Use the Units Setup Page to customize measurement units.

To access the Units Setup Page:

On the Setup Menu Page, highlight the **Units** icon, and press **ENTER**.



- **Position Format**—sets the coordinate system in which a particular location is shown. The default format is latitude and longitude in degrees, minutes, and thousandths of a minute (hddd°mm.mmm).

- **Map Datum**—sets the description for geographic location for surveying, mapping, and navigation and is not an actual map built into the unit. The default setting is WGS 84. The unit automatically chooses the best datum based on your chosen format.

For more information about selecting Position Formats and Map Datums, see [page 99](#).

- **Distance/Speed**—sets the unit of measurement to show your speed and distance traveled.
- **Elevation (Vert. Speed)**—sets the unit of measurement (**Feet (ft/min)**, **Meters (m/min)**, or **Meters (m/sec)** to show your rate of ascent.
- **Depth**—sets the unit of measurement (**Feet**, **Fathoms**, or **Meters**) to show water depth. (Requires interface to other devices or marine chart data)
- **Temperature**—sets the unit of measurement (**Fahrenheit** or **Celsius**) to show temperature.
- **Pressure**—sets the unit of measurement (**Inches**, **Millibars**, or **Hectopascals**) to show pressure.

Heading Setup

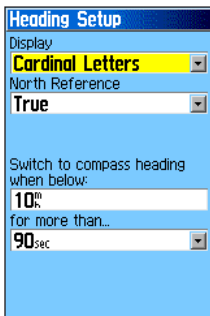
Use the Heading Setup Page to specify the type of heading display and the type of North reference used to calculate your heading.



NOTE: Unless you have a working knowledge of headings and North referencing, it is recommended that you use the default values.

To access the Heading Setup Page:

On the Setup Menu Page, highlight the **Heading** icon, and press **ENTER**.



- **Display**—sets the value (Cardinal Letters, Degrees, or Mils) to show your heading.

- **North Reference**—provides headings based on a true, magnetic, grid, or specific user value north reference.
- **Switch to compass heading when below:** (for more than)—sets speed and time delay for electronic compass switching. See [page 49](#).

Calibration Setup

The Calibration Setup Page allows you to calibrate the compass and altimeter for increased accuracy in navigation.

To calibrate the compass:

1. On the Setup Menu Page, highlight the **Calibration** icon, and press **ENTER**. The “Which sensor would you like to calibrate?” message appears.
2. Highlight the **Compass** button, and press **ENTER** to open the Compass Calibration Page. Follow the instructions on [page 50](#).

To calibrate the Altimeter:

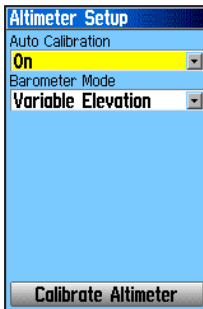
Highlight **Altimeter** and press **ENTER** to display the Altimeter Calibration Page. Follow the instructions on [page 61](#).

Altimeter Setup

The Altimeter Setup Page allows you to setup the altimeter to self-calibrate each time you turn on the unit, to function as a barometer, or to manually calibrate when you have accurate elevation or pressure data.

To set up the Altimeter:

1. On the Setup Menu Page, highlight the **Altimeter** icon, and press **ENTER**.
2. Highlight the Auto Calibration field, and press **ENTER** to select from on or off. When on, elevation is corrected by the GPS receiver.
3. Highlight the **Barometer Mode** field, and press **ENTER** to select **Variable Elevation** (used when moving) or **Fixed Elevation** (used when stationary, allowing the Altimeter to function as a standard barometer). Trip data is not recorded when in Fixed Elevation mode.



Altimeter Setup

To manually calibrate the Altimeter:

1. Highlight the **Calibrate Altimeter** button, and press **ENTER**. You can calibrate the Altimeter using one of three methods:

Enter the correct elevation: this requires a reliable source for determining the elevation for your current location.

Enter the correct pressure: this requires a reliable source to determine the accurate barometric pressure at your current location.

Allow the GPS Receiver to determine the elevation: the GPS receiver estimates the current elevation when determining its location. The accuracy varies depending on the position of satellites overhead. It won't be as accurate as an elevation entered from a known source, but is sufficient for most navigation applications.

- When finished, a "Completed" or "Failed" message appears.

Welcome Setup

Use the Welcome Setup Page to insert a message, such as ownership information, that appears when you turn on your GPSMAP 60CSx.



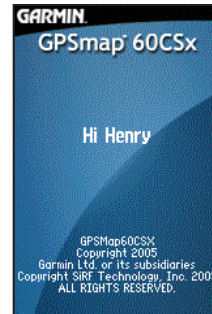
Welcome message

To access the Welcome Setup Page:

On the Setup Menu Page, highlight the **Welcome Message** icon, and press **ENTER**.

To add a welcome message:

- Use the on-screen keypad and the **ROCKER** to enter your welcome message, and press **ENTER**.
- When finished, highlight **OK**, and press **ENTER** to close.
- Turn your unit off and then on again to view your welcome message.



Welcome message
on
Welcome Page

Jumpmaster



Jumpmaster Setup Page

Jumpmaster is an accessory designed for experienced skydivers. A jumpmaster is the individual in charge of a group of skydivers coordinating a group or cargo drop. A list of abbreviations and acronyms for Jumpmaster settings can be found on [page 81](#).

To access the Jumpmaster:

On the Setup Menu Page, highlight the **Jumpmaster** icon, and press **ENTER**.

The Jumpmaster follows military guidelines for calculating a jumpmaster's high altitude release point (HARP). This accessory can auto-detect when you have jumped to begin navigating toward the desired impact point (DIP) using the barometer and electronic compass.

You can set the Jumpmaster to one of three types of jumps: **HAHO**, **HALO**, or **Static**. The jump type selected determines what additional setup information is required. For all jump types, altitudes (drop or opening) are measured in feet above ground level (AGL).

To set the type of jump:

1. Highlight the **Jump Type** field, and press **Enter** to view the list of jump options.
2. Select the jump type, and press **Enter**. The page changes to display options for the selected jump type setup.

A desired impact point (DIP) must be set for all jumps. This is a waypoint that you have previously marked or another location from the Find Menu where you want to land.

To set the drop and open altitude values:

1. Highlight each field and press **Enter** to open the numeric keypad.
2. Enter the desired values and select **OK** to enter each value.

For HAHO and HALO jumps, wind speeds and directions can be entered for every 1,000 feet of canopy drift (CD) and every 2,000 feet of free fall drift (FFD). The wind setup must be completed before entering values for forward throw and course to HARP.

Wind Setup

Wind speeds and directions are added on the Wind Setup page.

Wind speeds are measured in knots and directions are based on origination of wind. This information is usually based on data collected from National Oceanographic & Atmospheric Administration (NOAA) or by a drop zone support team leader (DZSTL) monitoring the course of a Pilot Balloon (PiBal) released from the ground at the DIP and wind streamers dropped from aircraft once the HARP is calculated.

Jumpmaster is capable of handling doglegs in wind direction.

Alt AGL	Wind Speed	Dir From
1000ft	---	---
2000ft	---	---
4000ft	---	---
6000ft	---	---
8000ft	---	---
10000ft	---	---
12000ft	---	---
14000ft	---	---
16000ft	---	---
18000ft	---	---
20000ft	---	---
22000ft	---	---

Wind Setup**To use the Wind Setup Page:**

1. Select **Clear All** from the Option Menu of this page to clear the list of wind speeds and directions.
2. Enter wind speeds and directions as a pair to be valid. Those pairs left blank are ignored in calculations.
3. Press the **Quit** key to return to the Jumpmaster Setup Page.

Forward Throw and **Course to HARP** allow a user to determine the direction and magnitude the aircraft carries them after jumping and before free fall or canopy drift begins.

To set Forward Throw and Course to HARP:

1. Highlight the field, and press **Enter** to open the numeric keypad.
2. Enter the values and select **OK** to close.

Constant Setup

The Constant Setup Page allows you to fine-tune certain aspects of the planned jump.

All jump types also can use a “Percent Max” to increase or decrease the range or their jump. Entries less than 100% decrease drift distance to the DIP while those greater than 100% increase drift distance. More experienced jumpmasters may choose to use smaller numbers while those less experienced may use larger numbers.

Safety Factor is used in HAHO jump types to allow a margin or error for a jump. Safety factors are usually integer values, no smaller than two, and are

determined by the jumpmaster based on specifications for the jump.

A number of K values can be specified for different jumps. HAHO jumps use K-open while HALO jumps use K-open and K-freefall. Static jumps use K-static. K-values are based on the parachute canopy rating. Each parachute should be labeled with a K value. Common values may range from 3.0 for K-freefall to 48.0+ for HAHO K-open.

Constant Setup	
Percent Max (%)	100%
K-freefall	3.0
K-open	25.0

Constant Setup

To use the Constant Setup Page:

1. Highlight each field in order, and press **Enter** to open the numerical key pad.
2. Enter the appropriate value in each field, select **OK**, and then press the **Quit** key to return to the Jumpmaster Setup Page.

Clicking the **Goto HARP** button begins the navigation process and takes you to the Wind Setup page if that information is missing or automatically setting up the route with the calculated HARP and then the selected DIP before taking you to the Navigation page.

A check box at the bottom allows for auto-navigation to the DIP. If you want your unit to determine when you have jumped, this box should be checked. A message appears describing how to manually navigate the route.

Select **Restore Defaults** from the Option Menu of this page to reset the values.

The following is a list of abbreviations and acronyms commonly used and relate specifically to this feature:

AGL—(Above Ground Level) indicates the altitude measurement.

CD—(Canopy Drift) measured while the parachute is open.

DIP—(Desired Impact Point) describes the location where landing should occur.

Drop Altitude—measures the altitude when the jumpmaster exits the aircraft, measured in AGL.

DZ—(Drop Zone) describes the area where the landing should occur.

DZSTL—(Drop Zone Support Team Leader) defines the individual in charge at the drop zone.

FFD—(Free Fall Drift) defines the distance traveled before the parachute is open.

FTH— Forward Throw Horizontal, describes the distance traveled forward due to aircraft speed.

K values—defines the wind drag values for parachutes.

HAHO—(High Altitude High Opening) describes a type of jump.

HALO—(High Altitude Low Opening) describes a type of jump.

HARP—(High Altitude Release Point) describes the location at which the jumper exits from aircraft.

MSL—(Mean Sea Level) defines the basis for altitude measure.

Opening Altitude—describes the altitude when the jumpmaster opens his chute, measured in AGL.

PRP—(Primary Release Point) defines the combination of HARP plus the forward throw of aircraft.

Static Jump—describes a type of jump in which wind speed and direction are assumed constant for the duration of the jump.

Proximity Waypoints

Use the Proximity Waypoints Page to define an alarm circle around a stored waypoint location. The alarm circle can help you avoid restricted locations.

For more information on proximity waypoints, see the “Proximity Waypoints” section on [page 15](#).

Calendar

Use the calendar to view sunrise and sunset times, moon phases, hunt and fish probabilities, and archived waypoints for activities you want to navigate to for any given day and location.

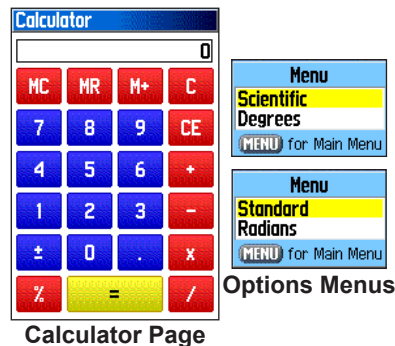
To use the Calendar:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Calendar** icon, and press **ENTER**. The Calendar Page opens with the current week shown.
3. Use the **ROCKER** to highlight the day you want to add waypoints to, and press **ENTER** to show the Page for that day.

- Press **MENU** to open the Options Menu. Highlight **Add Point**, and press **ENTER** to open the Find Menu.
- Select the type of point you want to place on the Day Page. (See [page 16](#) for details on using the Find Feature.) With the information page for that point displayed, highlight the **Use** button, and press **ENTER** to place the point reference on the Day Page.
- To remove points from a Day Page, press **MENU** to open the Options Menu. Select **Remove Points**, and press **ENTER** to display the Remove Points Options List.
- To view other calendar formats, Sun and Moon or Hunt and Fish extended data for a specific date and location, press the **MENU** key, and use the **ROCKER** to make your choice.

Calculator

Select the **Calculator** icon to use your GPSMAP 60CSx as a calculator. You can select either a standard or scientific calculator and degrees or radians from the Options Menu.

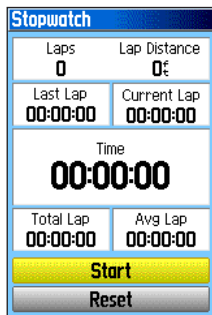


To use the calculator:

- Press **MENU** twice to open the Main Menu.
- Select the **Calculator** icon, and press **ENTER**.
- Use the **ROCKER** and the **ENTER** key to operate the calculator.

Stopwatch

Select the **Stopwatch** icon to use the GPSMAP 60CSx as a stopwatch, which includes a lap timer. You can also have the unit record the lap time based on distance.



To access the stopwatch:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Stopwatch** icon, and press **ENTER**.

To start the stopwatch:

Highlight the **Start** button, and press **ENTER** to start the stopwatch.

To stop the stopwatch:

Highlight the **Stop** button, and press **ENTER** to stop the stopwatch.

To use the lap feature:

With the stopwatch running, highlight the **Lap** button, and press **ENTER**.

To reset the stopwatch:

With the stopwatch stopped, highlight the **Reset** button, and press **ENTER**.

To time a lap by distance:

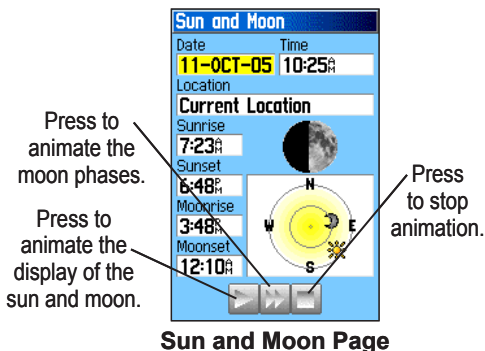
Press **MENU** to open the Options Menu. Choose **Lap by Distance**, and press **ENTER**. To return to the Lap by Button Press option, repeat these same steps.

To set a lap distance value:

1. Press **MENU** to open the Options Menu. Choose **Set Lap Distance** and press **ENTER**.
2. Use the **ROCKER** to highlight the field you want to change, and press **ENTER**. Enter the new value, and press **ENTER**. When done, highlight **OK**, and press **ENTER**.

Sun and Moon

The Sun and Moon Page provides you with a graphic depiction of the sun and moon relative to Earth. Sun and moon positions can be shown for any time, annual date, and location on Earth.



The Sun and Moon Page also shows sunrise, sunset, moonrise, and moonset times for a selected time, date, and location. Use the on-screen buttons to animate the movement of the sun and moon and to stop at a given time or date. The button to the left animates the display of the sun and moon. The center button

animates more rapidly, showing the phases of the moon. The right button stops animation.

To view sun and moon locations for a specified time, date, and location:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Sun & Moon** icon, and press **ENTER**.
3. To view the predictions for a different date and time, highlight either the **Date** or **Time** field, and press **ENTER** to open the on-screen keypad.

OR

To view the predictions for a different location, highlight the **Location** field, and press **ENTER** to open the New Location Options Menu. Choose from the options shown.

Hunt and Fish

The Hunt and Fish Tables provide you with a listing of predicted best times for hunting and fishing for a chosen date and location.

To show hunting and fishing predictions for a specified date and location:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Hunt & Fish** icon, and press **ENTER**. The current date and location appear in the date and location fields at the top of the page.
3. To view the predictions for a different date, highlight the **Date** field, and press **ENTER** to open the on-screen keypad.
4. To view the predictions for a different location, highlight the **Location** field, and press **ENTER** to open the New Location Options Menu.

Choose **Use Map** to select a point on the map using the pointer arrow. Press **ENTER** to show the table for that location. The Location field now states “Map Location.”

Choose **Use Find Menu** to select a point from the Find Feature database. Follow instructions for using the Find Feature beginning on page 16. When a find item is selected, highlight the **Use** button at the bottom of the item information page, and press **ENTER**. The Location field now shows the name of the find item.

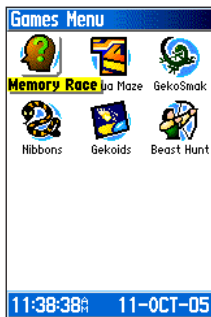
5. To return to the current date, press the **MENU** key, and then press **ENTER**.

Hunt & Fish	
Date	10-NOV-03
Location	Current Location
Prediction	Good Day
Best Times	11:57 ^A — 01:57 ^P --:-- ^A — --:-- ^P
Good Times	05:46 ^A — 06:46 ^A 06:08 ^P — 07:08 ^P

Hunt and Fish Page

Games Menu

The Games Menu contains six games (Memory Race, Virtua Maze, GekoSmak, Nibbons, Gekoids, and Beast Hunt) for entertainment. Some games use GPS as a virtual component during play.



Games Menu

To select and play a game:

1. Press **MENU** twice to open the Main Menu.
2. Select the **Games** icon, and press **ENTER**.
3. Use the **ROCKER** to highlight a game, and press **ENTER**. A brief description of each game appears.

4. Press the **QUIT** key, and highlight **Yes**, when prompted, to stop playing.

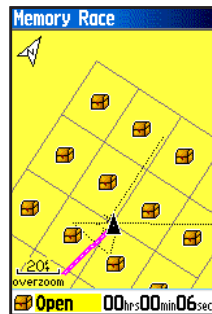


WARNING: When playing any of the virtual games (where you are moving on a real playing field), use caution in selecting an area free of hazards, such as holes, obstructions, or proximity to vehicular traffic. Playing these games may distract your attention from observing objects in your path.

Memory Race

This is a GPS virtual game where the playing piece moves where you move. To win the Memory Race, remember which square has which symbol and then clear the board by matching pairs of symbol sets together.

Travel to each square, highlight **Open** at the bottom of the screen, and press **ENTER** to view the symbol.

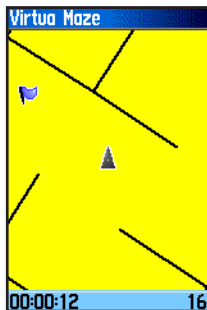


To adjust the grid or square size in custom mode:

1. Highlight the **Grid Size** or **Square Size** field, and press **ENTER** to select from the options list. Press **ENTER** to make your selection.
2. To begin the game, highlight **Start**, and press **ENTER**.
3. To place yourself back in the middle of the game board, highlight **Re-Center** and press **ENTER**.

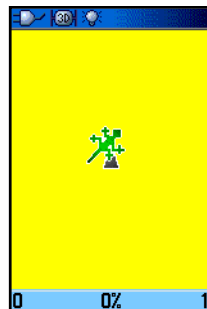
Virtua Maze

This GPS game creates a virtual maze on the screen. You are placed at a central position in the maze and must explore the maze collecting flags. The lower- right corner of the screen tells you how many flags remain. The lower-left corner contains a timer showing the elapsed time. The difficulty level determines how much of the maze you can see at one time. Viewing less of the maze makes the game more difficult.



GekoSmak

GekoSmak is a GPS-based game that features you as the player piece. Periodically, gekos appear on the screen. Before the geko disappears, move toward the geko, and press **ENTER** to smack the geko with a hammer. If you get the geko, an “!” mark appears by the hammer; if not, only a hammer appears.

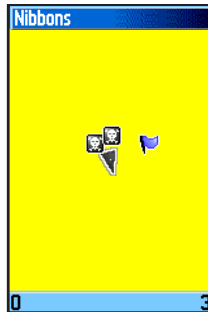


Field size choices are small, medium and large. Small fields are approximately 20 yards by 30 yards and large fields are 60 yards by 90 yards (about the size of an American football field).

The difficulty levels are: **Easy**, **Normal** and **Hard**. These levels determine how often gekos appear. The pace quickens and values vary as difficulty levels increase.

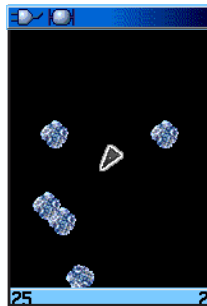
Nibbons

In this GPS game, you must walk around the board collecting the flags as they appear. As you walk, your “tail” grows. You may travel anywhere on the screen, but you cannot walk on your tail, or you lose a life. As an added challenge, you must also avoid the skulls that chase after you.



Gekoids

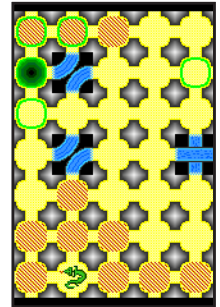
This GPS game, which can be played without GPS on, is all about blasting gekoids. You are the ship and you can survive only when you avoid getting hit. Before you begin to play, be sure to choose your game settings. Orient map “Northwards” rotates your ship in the center of the map. The map is stationary and north is always up. Orient map “Ship



Up” rotates the virtual world around your ship. Your ship always points up. Press **ENTER** to start, and blast away.

Beast Hunt

Although not a true GPS game, Beast Hunt requires some navigation skills. You must find and defeat the dragon with an arrow before it breathes fire at you or you fall into one of the pits while navigating a maze of platforms. Occasionally you are transported by slides that curve or move you diagonally. The game consists of several difficulty levels and an extended or limited visibility option. When you lose a game, the screen shows the layout of the hazards, slides, and warning platforms. A scoreboard keeps track of your wins and losses.

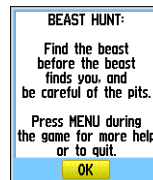


To play Beast Hunt:

1. Select **Beast Hunt** from the Games Menu, and press **ENTER**. The Game Overview Page appears.
2. Press **ENTER** to open the Difficulty Level Menu. Select a difficulty level (**Trainee**, **Beginner**, **Expert**, or **Master**), and press **ENTER** to open the Visibility Menu.
3. Select a visibility option (**Extended** or **Limited**), and press **ENTER** to begin play.
4. Use the **ROCKER** to jump from platform to platform.

When you land on a shaded platform, you are one or two steps from the dragon. A platform with a circle is next to a pit. If you fall into a pit, jump into the dragon, or shoot an arrow that misses the dragon, you lose.

5. To defeat the dragon, press **ENTER** to place an arrow in a shaded platform. Use the **ROCKER** to point, and press **ENTER** to shoot.



Game Symbols



APPENDIX

Specifications

Physical

Size: 6.1" H x 2.4" W x 1.3" D

Weight: 7.5 ounces (213 g) w/batteries installed.

Display: 1.5" W x 2.2" H, 256-color, high resolution, transreflective (160 x 240 pixels) with backlighting.

Case: Rugged, fully gasketed, water resistant, IEC-529, IPX7

Temp Range: 5 to 158°F (-15 to 70°C)*

*The temperature rating of the GPSMAP 60CSx may exceed the usable range of some batteries. Some batteries can rupture at high temperatures.

Performance

Receiver: WAAS/EGNOS enabled

Acquisition Times*:

Approx. 1 second (warm start)

Approx. 38 seconds (cold start)

Approx. 45 seconds (factory reset)

*On average for a stationary receiver with an open sky view.

Update Rate: 1/second, continuous

Antenna: Built-in quad helix, remote antenna capability.

Compass: Accuracy; +/- 5 degrees¹, resolution; 1 degree

Altimeter: Accuracy; +/- 10 feet*, resolution; 1 ft.

*Subject to proper user calibration.

Power

Source: Two 1.5 volt AA batteries, USB Data Cable, 12 Volt DC Adapter Cable or up to 26 Volt DC external power

Battery Life: Up to 18 hours (typical use)*

*Alkaline batteries lose a significant amount of their capacity as the temperature decreases. Extensive use of screen backlighting, electronic compass, and audible tones significantly reduce battery life.

Accuracy

GPS: <10 meters (33 feet) 95% typical*

*Subject to accuracy degradation to 100m 2DRMS under the U.S. DoD imposed Selective Availability (SA) Program when activated.

DGPS: 3-5 meters (10-16 feet) 95% typical*

*WAAS accuracy in North America.

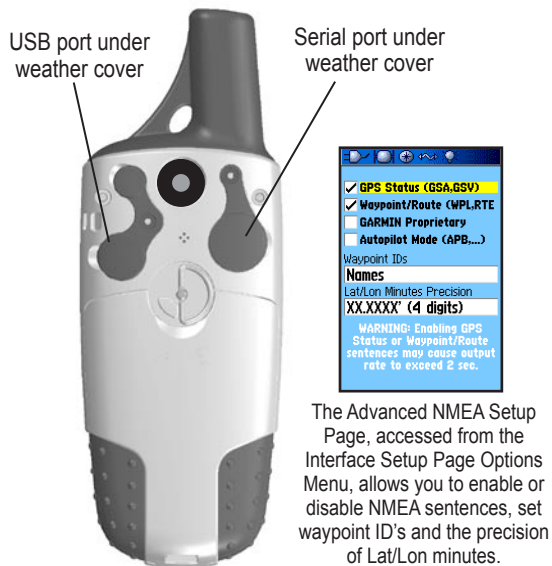
Velocity: 0.05 meter/sec steady state

Interfaces: NMEA 0183 version 2.3, and RS-232 and USB for PC interface

Data Storage Life: Indefinite; no memory battery required

Map Storage: Dependant on the capacity of the microSD card.*

*A small portion of the card capacity has been used in formatting the card for use.



Interfacing

These formats are supported for external devices.

Garmin Proprietary Sentences—PGRME (estimated error), PGRMM (datum string), and PGRMZ (altitude).

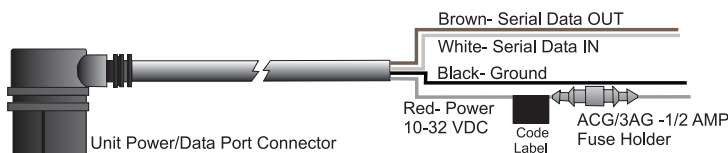
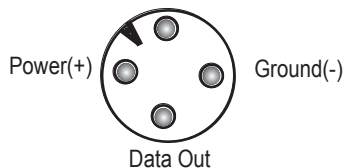
The NMEA 0183 version 3.01 interface format is supported by the GPSMAP 60CSx and enables the unit to drive up to three NMEA devices.

The following are the sentences for NMEA 0183, version 3.01 output:

Approved sentences—GPGGA, GPGLL, GPGSA, GPGSV, GPRMB, GPRMC, GPRTE, GPVTG, GPWPL, GPBOD, and GPAPB.

Use the USB data cable provided with the product or optional power/data serial port cable with auxiliary AC power adapter or power/data serial port cable with bare wire leads. Refer to the Garmin Web site:

www.garmin.com/products/gpsmap60csx/



Unit Power/Data Port View

Optional Power/Data Serial Port Cable with bare wire leads

Data Field Definitions

The following list provides a brief definition of each data field option.

Accuracy Of GPS—the current accuracy of your GPS-determined location.

Ambient Pressure—the uncalibrated current pressure.

Ascent - Average—the average vertical distance of ascent.

Ascent - Maximum—the ascent rate in feet per min.

Ascent - Total—the total distance ascended.

Barometer—the calibrated current pressure.

Bearing—the compass direction from your current position to a destination point.

Course—the desired path of travel from your starting point to your destination point.

Descent-Average—the vertical distance of descent.

Descent-Maximum—the descent rate in feet per min.

Descent - Total—the total distance descended.

Distance - To Next—the distance to the next point on a route.

Distance - To Destination—the entire distance to the end of a route.

ETA - At Next—the estimated time of arrival at the next point on a route, at current speed and course.

ETA - At Destination—the estimated time of arrival at your destination, at current speed and course.

Elevation—the distance above or below mean sea level.

Elevation - Maximum—the highest elevation reached.

Elevation - Minimum—the lowest elevation reached.

Glide Ratio—the ratio of horizontal distance traveled to vertical distance.

Glide Ratio To Dest—the glide ratio required to descend to the destination's elevation.

Heading—your direction of travel as indicated by a compass, in degrees or cardinal letters (N, S, E, W).

Location (lat/lon)—your current location as latitude and longitude coordinates.

Location (selected)—your current location described in the selected units of measure (other than latitude and longitude).

Odometer—the total distance traveled for all trips.

Off Course—the distance off your direct course line.

Pointer—the arrow that indicates the direction to travel to the next point on a route.

Speed—your current vehicle speed measured in miles per hour, kilometers per hour, or knots.

Speed - Maximum—the maximum speed you have attained since the trip computer was reset.

Speed - Moving Avg.—the average speed while your vehicle was moving.

Speed—Overall Avg.—the average speed determined by both the moving and stopped time and speed.

Sunrise—the time of sunrise for the current date and location.

Sunset—the time of sunset for the current date and location.

Time To Destination—the estimated time enroute to your final destination, at your current speed and course.

Time To Next—the estimated time enroute to the next point on your route, if you maintain your current speed and course.

Time of Day—the current time and date. It can be displayed in 12- or 24-hour format in local time or universal (UTC) time.

To Course—direction of travel to get back on course.

Trip Odometer—the running total of distance traveled since the Trip Computer was reset.

Trip Time - Moving—the length of time your vehicle has been in motion, since the trip computer was reset.

Trip Time - Stopped—the length of time that the vehicle has been stationary while the unit was powered on and tracking your location (since the computer was reset).

Trip Time - Total—the total time the unit has been tracking since the trip computer was reset.

Turn—the direction and distance to the next turn on an active route.

Velocity Made Good—the rate of closure on a destination, based on current speed and course.

Vertical Speed—rate of altitude gain/loss over time.

Vertical Speed Dest—the measurement of your rate of ascent or descent to a predetermined altitude.

Water Speed—the measurement of speed over water from interfaced devices.

Water Temperature—the measurement of water temperature from interfaced devices.

Waypoint-At Destination—the last point on a route to your destination.

Waypoint-At Next—the next point on your route.

Optional Accessories

Several optional accessories are available to enhance the operation of the GPSMAP 60CSx.

To obtain replacement parts and optional accessories, contact your Garmin Dealer, or Garmin Product Support in the USA at 800/800.1020, or Garmin Europe at 44/0870.8501241.



WARNING: *Garmin accessories are designed and tested specifically for use with Garmin products. Accessories offered by other manufacturers have not been tested or approved for use with Garmin products. Use of such accessories could cause damage to the GPSMAP 60CSx and void the terms of the warranty.*

Auto Navigation Kit—provides the accessories and map data for use in an automobile.

12 Volt DC Adapter—provides auxiliary power from an automobile cigarette lighter.

GA 25MCX Remote GPS Antenna—allows enhanced satellite acquisition. Includes magnetic mount and cable.

MapSource Software Data Disks and Pre-Loaded microSD Cards—offer several detailed mapping options that are compatible with the GPSMAP 60CSx. Refer to www.garmin.com/products/gpsmap60csx/ for a list of compatible MapSource products.

Serial Port PC Interface Cable with AC Power Supply—provides a PC connection for data transfer.

Carrying Case—protects the GPSMAP 60CSx.

Marine Mount Kit—allows installation on a boat.

Automotive Mount Kit—allows installation on an automobile dash. (Does not include mapping data).

Automotive Windshield Suction Mount Kit—allows installation on an automobile windshield.

Bicycle Handlebar Mount—allows installation on a bicycle handlebar.

Battery Pack—rechargeable, NiMH, AA-battery kit, USA type receptacle.

Retractable Lanyard—retains unit on a tether.

For a complete list of available accessories for use with the GPSMAP 60CSx, refer to <http://buy.garmin.com>.

Connecting Your GPSMAP 60CSx to a Computer

You can connect your GPSMAP 60CSx to your computer using either a serial port or USB connector cable.



NOTE: Fully install the supplied MapSource Trip & Waypoint Manager software on your computer before connecting the USB cable to the computer. Follow the instructions for installation and operation provided with the software.

To connect your GPSMAP 60CSx to your computer:

1. Lift the USB protective cover from the back of the GPSMAP 60CSx, and insert the smaller connector on the USB cable into the matching port.
2. Connect the remaining cable end to your computer's USB port.

To connect to your computer using a Serial Port connector:

1. Lift the Serial Port protective cover from the back of the GPSMAP 60CSx, and insert the round indexed connector on the cable into the matching port.
2. Connect the remaining cable end to your PC Serial port or other appropriate device.
3. Set your GPSMAP 60CSx interface setting to the appropriate interface format. Refer to Interface Setup on [page 68](#).

Information about USB Drivers

The USB drivers are automatically installed when you install the MapSource Trip and Waypoint Manager software that came with your GPSMAP 60CSx. When you initially connect the GPSMAP 60CSx to a USB port, your computer might prompt you to locate the destination of the drivers for the device. The default directory is c:\Garmin. You only need to install the drivers once. After the drivers are installed, your computer always detects your GPSMAP 60CSx when it is connected. USB drivers might be updated periodically. You can find updates at www.garmin.com.

What Is WAAS/EGNOS?

The Wide Area Augmentation System (WAAS) is an FAA funded service to improve the overall integrity of the GPS signal for users in North America. The European Geostationary Navigation Overlay Service (EGNOS) is the European version of WAAS and operates in the same manner.

WAAS is made up of satellites and ground reference stations positioned across the United States that monitor GPS satellite data. Master stations, located on either coast, collect data from the reference stations and create a GPS data correction message. Master station uplinks the correction message to the WAAS GEO satellites using a ground uplink station. Then WAAS GEO satellites broadcast the WAAS corrected signal to user in the service area.

According to the FAA's Web site, testing of WAAS in September 2002 confirmed an accuracy performance of 1-2 meters horizontal and 2-3 meters vertical throughout the majority of the continental United States and portions of Alaska.

WAAS and EGNOS are just two service providers that adhere to the MOPS (Minimum Operational Performance Standard) for global satellite based

augmentation systems (SBAS). Eventually there are to be several more services of worldwide geostationary communication satellites that broadcast integrity information and differential correction data as transmitted by ground reference stations.

All SBAS systems use the same receiver frequency; therefore, any operational SBAS system should be capable of providing your GPS unit with increased accuracy at any location in the world.

Currently, enabling WAAS on your GPSMAP 60CSx in regions that are not supported by ground stations may not improve accuracy, even when receiving signals from an SBAS satellite. In fact, it can degrade the accuracy to less than that provided by GPS satellites alone. For this reason, when you enable WAAS on your Garmin GPS receiver, the receiver automatically uses the method that achieves the best accuracy. For more information, go to <http://gps.faa.gov/Programs/WAAS/waas.htm>.

Loran TD Setup

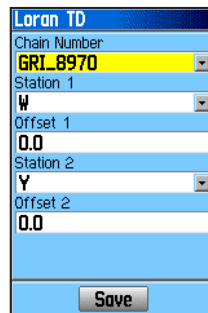
To set up Loran TD from the Setup Menu:

1. Press **MENU** twice to open the Main Menu.
2. Use the **ROCKER** to highlight the Setup icon, and press **ENTER** to open the Setup Menu.
3. Use the **ROCKER** to highlight the Units icon, and press **ENTER** to open the Units Setup Page.
4. Highlight the Position Format field, and press **ENTER** to open the format list.
5. Highlight **Loran TD**, and press **ENTER** to open the Loran Setup Page.
6. To change the settings of any of the five fields, highlight the field, press **Enter** to select from options or enter the setting data.
7. When finished, highlight the **Save** button, and press **ENTER**.

If the active GRI Chain, secondary stations, or offsets have been changed since the waypoint was created, the waypoint references the active GRI-chain and secondary stations and adjust the TD coordinates accordingly. Remember that the GPSMAP 60CSx is not relying on the LORAN signal for navigation

and actually converts the TD coordinate to a needed latitude and longitude coordinate before storing the waypoint to memory or using it for navigation. Because of this, the unit can navigate to a TD coordinate anywhere in the world.

You must know your GRI chain number and secondary stations to create a LORAN TD position. For more information, read our LORAN TD Position Format Handbook, available on the Garmin Web site, at www.garmin.com/support/userManual.jsp.



Loran TD Setup Page

Map Datums and Location Formats

What Are Map Datums?

A datum is a mathematical model of the Earth that approximates the shape of the Earth, and enables calculations to be carried out in a consistent and accurate manner. The datum is physically represented by a framework of ground monuments whose positions have been accurately measured and calculated on this reference surface. Lines of latitude and longitude on a map or chart are referenced to a specific map datum. Every chart has a map datum reference and the GPSMAP 60CSx can be set to match most commonly used datum data.

If you are navigating and comparing the GPS coordinates to a map, chart, or other reference, set the map datum in the GPS unit to the same datum as the map to ensure the most accurate navigation.

What Is a Location Format?

Your current location is viewed on the GPS in the form of coordinates. Because different maps and charts use different location formats, Garmin GPS units allow you to choose the correct coordinate system for the type of map you are using. The most common format is latitude and longitude, which is used by all Garmin units.

You can choose to change the location format for other coordinate systems. UTM/UPS (Universal Transverse Mercator/Universal Polar Stereographic) projection formats are easy-to-use metric grids that are found on most USGS topographic quadrangle maps. You can also select one of several other grids, including a user-defined grid (for the advanced user).

FCC Compliance

This product has been tested and found to comply with Part 15 of the FCC interference limits for Class B digital devices FOR HOME

OR OFFICE USE. These limits are designed to provide more reasonable protection against harmful interference in a residential installation, and are more stringent than “outdoor” requirements.

Operation of this device is subject to the following conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment generates, uses, and can radiate radio frequency energy and may cause harmful interference to radio communications if not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.



- Connect the equipment into an outlet that is on a different circuit from the GPS unit.
- Consult the dealer or an experienced radio/TV technician for help.

This product does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and void your warranty and your authority to operate this device under Part 15 regulations.

Declaration of Conformity

Hereby, Garmin declares that this GPSMAP 60CSx is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

To view the full Declaration of Conformity, see the Garmin Web site for your Garmin product:

www.garmin.com/products/gpsmap60csx/. Click **Manuals** and then select the **Declaration of Conformity** link.

Industry Canada Compliance

Category I radiocommunication devices comply with Industry Canada Standard RSS-210. Category II radiocommunication devices comply with Industry Canada Standard RSS-310.

Limited Warranty

This Garmin product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, Garmin will, at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. Garmin retains the exclusive right to repair or replace the unit

or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local Garmin authorized dealer or call Garmin Product Support for shipping instructions and an RMA tracking number. Securely pack the unit and a copy of the original sales receipt, which is required as the proof of purchase for warranty repairs. Write the tracking number clearly on the outside of the package. Send the unit, freight charges prepaid, to any Garmin warranty service station.

Online Auction Purchases: Products sold through online auctions are not eligible for rebates or other special offers from Garmin. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. Garmin will not replace missing components from any package purchased through an online auction.

International Purchases: A separate warranty is provided by international distributors for units purchased outside the United States. This warranty is provided by the local in-country distributor and this distributor provides local service for your unit. Distributor warranties are only valid in the area of intended distribution. Units purchased in the United States or Canada must be returned to the Garmin service center in the United Kingdom, the United States, Canada, or Taiwan for service.

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 9RB, UK Tel. +44 (0) 870.8501241 (outside the UK) 0808.2380000 (inside the UK) Fax +44 (0) 870.8501251
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No. 68, Jangshu 2nd Road,
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Tel. 886/2.2642.9199
Fax 886/2.2642.9099

Online Auction Purchases: Products sold through online auctions are not eligible for rebates or other special offers from Garmin. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. Garmin will not replace missing components from any package purchased through an online auction.

International Purchases: A separate warranty is provided by international distributors for units purchased outside the United States. This warranty

is provided by the local in-country distributor and this distributor provides local service for your unit. Distributor warranties are only valid in the area of intended distribution. Units purchased in the United States or Canada must be returned to the Garmin service center in the United Kingdom, the United States, Canada, or Taiwan for service.

The Garmin GPSMAP 60CSx has no user-serviceable parts. Should you ever encounter a problem with your unit, please take it to an authorized Garmin dealer for repairs.

The GPSMAP 60CSx is fastened shut with screws. Any attempt to open the case to change or modify the unit in any way will void your warranty and may result in permanent damage to the equipment.

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