GARMIN.

GPS 60

navigator

owner's manual

Preface

Thank you for choosing the Garmin GPS 60 handheld navigation system. This Owner's Manual contains the following sections:

*Introduction—*contains the Table of Contents, Garmin software license agreement, FCC compliance information, and safety warnings and precautions.

*Getting Started—*introduces the main features of the GPS 60.

*GPS Navigation—*gives step-by-step instructions for navigating with your GPS 60 and customizing it to fit your needs.

*GPS Features—*provides detailed descriptions of additional GPS 60 features, such as a calendar, best hunting and fishing times, sun and moon information, games, and more.

*Appendices—*includes additional information about your GPS 60.

*Index—*a comprehensive index organized by subject.

Product Registration

Help us better support you by completing our online registration today! Have the serial number of your GPS 60 handy and connect to our Web site (*http://www.garmin.com*). Look for the Product Registration link on our Home page. Also, be sure to record your serial number in the right-hand column of this page.

Preface

Use this area to record the serial number (8-digit number located on the back of the box) in case your GPS 60 is lost, stolen, or needs service. Be sure to keep your original sales receipt in a safe place or attach a photocopy inside the manual.

Serial Number:

Contact Garmin

If you should encounter any difficulty while using your GPS 60, or if you have any questions, in the U.S.A. contact Garmin Product Support by phone:
913/397-8200 or 800/800-1020,
Monday – Friday, 8 am – 5 pm Central Time;
or by e-mail at sales@garmin.com.

In Europe, contact Garmin (Europe) Ltd. at 44/1794-519944.

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Software License Agreement

Software License Agreement

BY USING THE GPS 60, 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.

The GPS 60 complies 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, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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 on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Compliance Information

NOTE: The GPS 60 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.

Warnings and Precautions

CAUTION: Use the GPS 60 at your own risk. To reduce the risk of unsafe operation, carefully review and understand all aspects of this Owner's Manual and thoroughly practice operation using the Demo Mode (GPS off) prior to actual use. When in actual use, carefully compare indications from the GPS 60 to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety, always resolve any discrepancies before continuing navigation.

CAUTION: IT IS THE USER'S RESPONSIBILITY TO USE THIS PRODUCT PRUDENTLY. THIS PRODUCT IS INTENDED TO BE USED ONLY AS A NAVIGATIONAL AID AND MUST NOT BE USED FOR ANY PURPOSE REQUIRING PRECISE MEASUREMENT OF DIRECTION, DISTANCE, LOCATION OR TOPOGRAPHY. THIS PRODUCT SHOULD NOT BE USED AS AN AID TO DETERMINE GROUND PROXIMITY FOR AIRCRAFT NAVIGATION.

CAUTION: The electronic chart is an aid to navigation and is designed to facilitate the use of authorized government charts, not replace them. Only official government charts and notices to mariners contain all information needed for safe navigation—and, as always, the user is responsible for their prudent use.

Warnings and Precautions

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 as required in product literature and copyright messages displayed to the consumer. Virtually all data sources contain inaccurate or incomplete data to some degree. This is particularly true outside the United States, where complete and accurate digital data is either not available or prohibitively expensive.

WARNING: The Global Positioning System (GPS) is operated by the United States government, which is solely responsible for its accuracy and maintenance. The system is subject to changes which could affect the accuracy and performance of all GPS equipment. Although the Garmin GPS 60 is a precision electronic NAVigation AID (NAVAID), any NAVAID can be misused or misinterpreted and, therefore, become unsafe.

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 being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our web site at *http://www.garmin.com/prop65*.

Warnings and Precautions

Important
Because the Garmin GPS 60 can be used for vehicular navigation, important safety considerations must be observed. Please read and observe the instructions on this page.

Do Not Mount Where Driver's Field of Vision is Blocked

Do Not Place Unsecured on the Vehicle Dash

Do Not Mount in Front of Airbag Panels

Do Not Mount in Front of an Airbag Field of Deployment
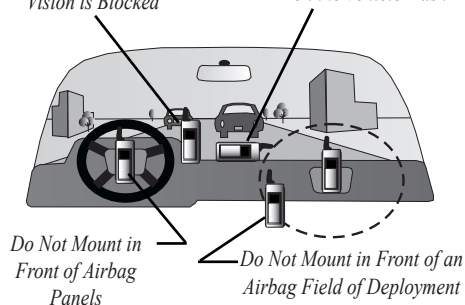
Safety Warnings and Cautions—Read This First!

WARNING: For use in vehicles, it is the sole responsibility of the owner/operator of a vehicle with the GPS 60 installed to place and secure the device so that it will not interfere with the vehicle operating controls and safety devices, obstruct the driver's view of driving conditions, or cause damage or personal injury in the event of an accident.

Do not mount the unit over airbag panels or in the field of airbag deployment. Airbags expand with a rapid force that can propel objects in their path towards the vehicle driver or passengers, causing possible injury. Refer to airbag safety precautions contained in the vehicle owner's manual.

Do not mount the unit in a place where the driver or passengers are likely to impact it in a collision. The mounting hardware provided by Garmin is not warranted against collision damage or the consequences thereof.

WARNING: When used in vehicles, it is the sole responsibility of the driver of the vehicle to operate the vehicle in a safe manner, maintain full surveillance of all driving conditions at all times, and not become distracted by the unit to the exclusion of safe driving practices. It is unsafe to operate the controls of the unit while you are driving. Failure by the driver of a vehicle equipped with a GPS 60 installed to pay full attention to operation of the vehicle and road conditions while the vehicle is in motion could result in an accident with property damage and personal injury.

Installing the Batteries

The GPS operates on two "AA" batteries (not included). Alkaline or NiMH batteries may be used (see p. 40 to set the battery type). Stored data will not be lost when batteries are removed.

To install batteries:

1. Remove the battery cover by lifting up on the D-ring, turning it 1/4 turn counterclockwise, and then pulling the cover away.

2. Insert the batteries, observing the proper polarity. A polarity diagram can be found molded inside the battery compartment.

3. Reinstall the battery cover by connecting the bottom of the cover to the bottom of the unit. Make sure the tab on the cover fits into the slot on the unit. Press the cover closed and turn the D-ring clockwise to lock.

Locking Pin Slot

Battery Compartment

Installing Batteries

When replacing batteries, use only new or fully charged batteries. Do not mix Alkaline and NiMH batteries. Rechargeable batteries may typically display lower capacity than disposable batteries.

Remove the batteries from the unit if you don't plan to use it for several months. Storing batteries in the unit for prolonged periods may result in leaking and damage to the battery compartment. Follow the manufacturer's instructions for proper care and disposal of used batteries. Do not incinerate used batteries, as internal materials may ignite with explosive violence.

Extensive use of backlighting, WAAS, or key beep tones can significantly reduce battery life. For more information on saving battery life, see p. 39.

Learning Key Functions

IN/OUT Zoom Keys
- From the Map Page, press and release to zoom in or out.
- From any other page, press to scroll up or down a list.

FIND Key
- Press and release at any time to view the Find Page.
- Press and hold for Man Overboard.

MARK Key
- Press and release at any time to mark your current location as a waypoint.

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

POWER Key
- Press and hold to turn unit on/off.
- Press and release to adjust backlighting and contrast.

ROCKER Key
- Move Left, Right, Up, or Down to move through lists, highlight fields, on-screen buttons, and icons, enter data, or move the map panning arrow.

PAGE Key
- Press and release to cycle through the Main Pages.
- Press when using the on-screen keyboard to close.

MENU Key
- Press and release to view options for a page.
- Press twice to view the Main Menu Page.

ENTER Key
- Press and release to select highlighted fields, enter data, or confirm on-screen messages.

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Learning Key Functions

Belt Clip/Auxiliary Connector Mount
- Provides convenient access when hiking or walking.

Auxiliary GPS Antenna Connector
(under weather cover)
- Provides connection to a remote GPS antenna.

USB Connector Port (under weather cover)
- Provides interface to a PC for faster data transfer.

Battery Compartment Locking D-Ring
- Lift, turn 1/4 turn counter-clockwise, and pull to remove cover.

Battery Compartment Cover

GPS Helix Antenna
- Provides quick satellite acquisition.

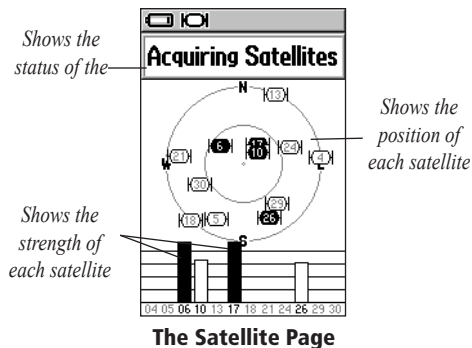**External Power and Data Connector Port**
(under weather cover)
- Provides interface to a computer for data transfer.
- Provides auxiliary AC or DC power adapter connection.

Auxiliary Mount Alignment Slots

3

Start Up and Initialization

Shows the status of the

Shows the position of each satellite

Shows the strength of each satellite

The Satellite Page

Initializing the GPS Receiver

Each time you turn on the GPS 60, it will begin searching for satellite signals. The first time you turn on the unit, you must wait for the GPS to initialize. Initialization allows the GPS 60 to receive and store satellite information and begin using the satellites for navigation. This process happens automatically and should take no more than a few minutes. Keep in mind that satellite signals cannot pass through solid materials (except glass) or dense overhead tree cover, so you should initialize outdoors and away from obstructions. Once you initialize, the GPS 60 should find satellite signals quickly each time you turn it on.

To initialize the GPS 60:

1. Take your GPS 60 outside where it has a clear view of the sky and turn it on by pressing and releasing the **POWER** key.
2. Wait while the GPS 60 searches for satellite signals. While the unit is searching, you see the message 'Acquiring Satellites.'
3. Once your GPS 60 has acquired satellites, your location in coordinates appears at the top of the Satellite Page.

If initializing takes a long time, or if you have moved more than 600 miles since you last turned on the GPS 60, try moving away from tall trees, buildings, or other obstructions. If you still have trouble, see p. 7.

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Satellite Page

Trip Computer Page

Map Page

Main Menu Page

Compass Page

The Main Page Sequence

The Main Page Sequence

When you turn on your GPS 60, you will see the Welcome Page and then the Satellite Page. The Satellite Page is the first in the sequence of five Main Pages: Satellite Page, Trip Computer Page, Map Page, Compass Page, and Main Menu Page. Each Main Page contains important information for navigating with the GPS 60. Press and release the *PAGE* key to cycle through the Main Pages. The pages are shown to the left in order.

Welcome Page

5
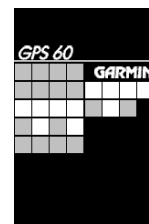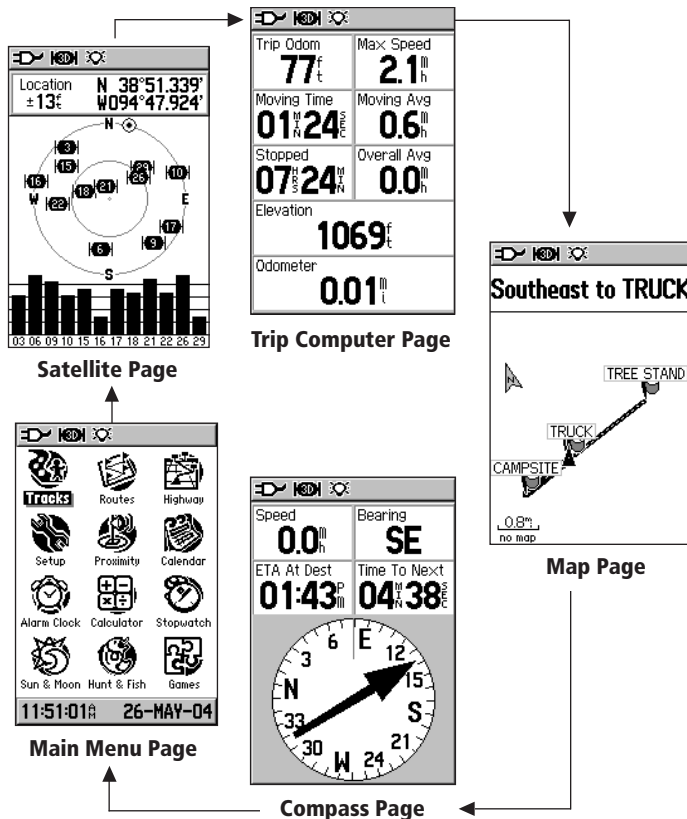
Status Bar, Backlighting, and Contrast

◄▥▤ ▐◑▌ ☼

Status Bar
The Status Bar appears at the top of the each Main Page and contains icons that represent GPS 60 functions (see below).

▥▤ Using Battery Power

⊐▷ Using Auxiliary Power

▐◑▌ Acquiring Satellites

▐2D▌ 2-Dimensional Navigation

▐3D▌ 3-Dimensional Navigation

☼ Backlight is On

🔔 Alarm is Set

↭ Connected with USB

Status Bar

At the top of each Main Page is a status bar, which provides information about several GPS 60 features. A table of status bar icons and definitions appears to the left.

Backlighting and Contrast

The backlight comes on so you can see the screen clearly. To turn on the backlight, press and release the *POWER* key. Thereafter, each time you press a key, the backlight turns on automatically. Keep in mind that excessive use of backlighting can significantly drain your battery power. You can increase the screen contrast to compensate for low backlight levels if you wish. See p. 41 for information on changing the backlight timeout setting.

To adjust backlighting and contrast:

1. From any page, press and release the **POWER** key.

2. Press the **ROCKER** key up or down to increase or decrease screen brightness.

3. Press the **ROCKER** key left or right to change screen contrast. Press **QUIT** to exit.

Screen Contrast Slider

Screen Brightness Slider
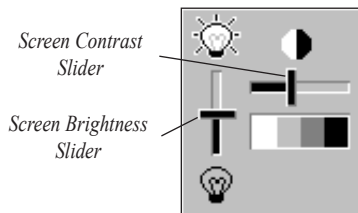
The Satellite Page

The Satellite Page displays information about the satellite signals the GPS 60 is receiving. In the middle of the page, you can see a number of satellite icons with numbers; each number represents a specific satellite in space. The satellites appear on the page where they would appear in the sky if you looked straight up.

As the GPS 60 acquires satellite signals, the strength of each signal appears on the graph at the bottom of the page. An outlined bar means the GPS 60 is trying to acquire a signal; a shaded bar means the GPS 60 has already acquired a signal. When the GPS 60 has at least three satellite signals, your position in coordinates appears at the top of the page.

If you have trouble acquiring satellite signals, you can tell the GPS 60 your current location from the Satellite Page Menu.

To choose a new location:
1. From the Satellite Page, press **MENU**. Use the **ROCKER** key to highlight 'New Location' and press **ENTER**.
2. Highlight 'Automatic' and press **ENTER** to let the GPS 60 determine your new location. Highlight 'Use Map' and press **ENTER** to point to your current location on the Map Page.
3. If you choose 'Use Map,' use the **ROCKER** key to move the arrow on the map near your current location. Press **IN** or **OUT** to zoom in or out on the map. When you find your location, press **ENTER**.

The Satellite Page
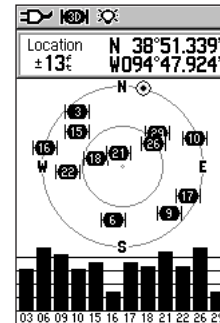
The Satellite Page

The Map Page

Guidance Text

Compass Pointer

Position Arrow

Route (see p. 33)

Zoom Scale
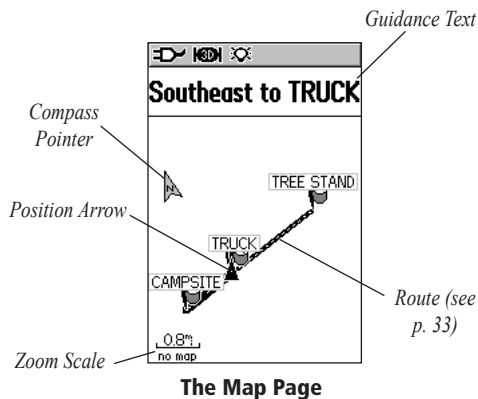
The Map Page

Accuracy Circle   *Panning Arrow*

Using the Map Page

The Map Page is the primary navigation feature of the GPS 60. You can use the Map Page to do the following:

- View your current location and watch your progress as you move across the page.
- View and save points on the map (see p. 16).
- View tracks—a dotted line that represents your path (see p. 29).
- View and navigate routes (see p. 33).

Your position appears as a small triangle, called the position arrow, on the Map Page. Your GPS 60 automatically keeps the position arrow near the bottom center of the Map Page. If you zoom in far enough, you can see a circle around the position arrow. This circle is called the accuracy circle, and it represents how accurate your position is on the map. When the circle is small, your position is very accurate.

Zooming and Panning

To zoom in or out, press the *IN* and *OUT* keys. To zoom rapidly, press and hold the *IN* or *OUT* keys. A zoom scale appears in the lower left corner of the Map Page. To pan the map (view other parts of the map), press the *ROCKER* key to display the map panning arrow. As you move the arrow with the *ROCKER* key, you can see different parts of the map.

Changing the Map Page Display

You can display the Map Page in Track Up or North Up orientation (see p. 45 to change orientation). Track Up means the map is always oriented with the direction you are traveling at the top of the page. North Up means that no matter what direction you are traveling, the map is always oriented with North at the top of the page. With Track Up, the Map Page rotates as you move; with North Up, it does not rotate. When you are in North Up mode, no compass pointer appears on the Map Page.

When navigating, you can see Guidance Text at the top of the map. The text tells you what direction you should travel next to reach a destination.

Data fields may appear at the top of the Map Page; these fields give you information about your position, speed, location, and more. You can show data fields, change what data fields appear, or hide all data fields. See p. 64 for a list of available data fields.
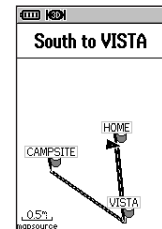
To display data fields:
1. Press **PAGE** until you see the Map Page.
2. Press the **MENU** key. Use the **ROCKER** key to highlight 'Data Fields' and press **ENTER**.
3. To show two, three, or four data fields, highlight the appropriate option from the menu and press **ENTER**. To hide all data fields, select 'Map Only' and press **ENTER**.
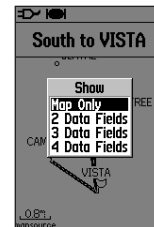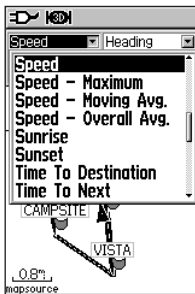
The Map Page
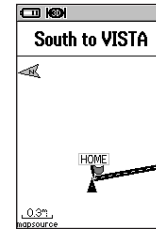
Track Up   **North Up**

Choose how many data fields you want to display on the Map Page.

The Map Page

Changing Data Fields

*Use the **ROCKER** key to scroll through the list of possible data fields. When you find a data field you want to display, highlight it and press **ENTER**.*

To change which data fields appear:

1. Press **PAGE** until you see the Map Page.

2. Press the **MENU** key. Use the **ROCKER** key to highlight 'Change Data Fields' and press **ENTER**.

3. Highlight a data field and press **ENTER**. Use the **ROCKER** key to scroll through the list and highlight the type of data you want to display. Press **ENTER** again to select a new field type.

4. Change other data fields in the same way. When you are finished, press **QUIT**.

> **NOTE:** *You can change which data fields appear only if you are currently displaying data fields on the Map Page.*

To display or hide Guidance Text:

1. Press **PAGE** until you see the Map Page.

2. Press the **MENU** key. Use the **ROCKER** key to highlight 'Guidance Text' and press **ENTER**.

3. Select 'Always Show,' 'Never Show,' or 'Show When Navigating' and press **ENTER.**

Measuring Distance

This Map Page option allows you to determine the distance between two points on the Map Page. Distances are measured in straight lines.

To measure distance:
1. Press **PAGE** until you see the Map Page.
2. Press the **MENU** key to display the Map Page Options Menu. Use the **ROCKER** key to highlight 'Measure Distance' and press **ENTER**.
3. Use the **ROCKER** key to select a point you want to measure from and press **ENTER**. Use the **ROCKER** key to move the panning arrow to the point you want to measure to. Then view the distance between the two points on the right above the map area. When you are finished, press **QUIT** to exit.

Turning Declutter On/Off

Use Declutter to hide extensive detail on the Map Page that prevents you from seeing the page clearly.

To turn declutter on or off:
1. Press **PAGE** until you see the Map Page.
2. Press the **MENU** key to display the Map Page Options Menu. To turn declutter on, use the **ROCKER** key to highlight 'Turn Declutter On' and press **ENTER**. To turn declutter off, select 'Turn Declutter Off.'
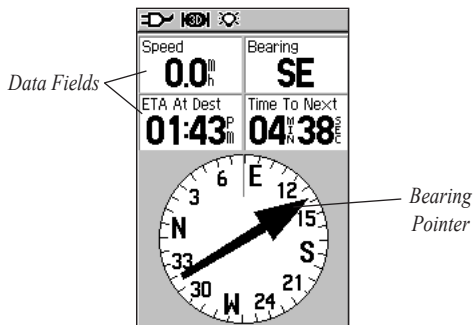
The Map Page
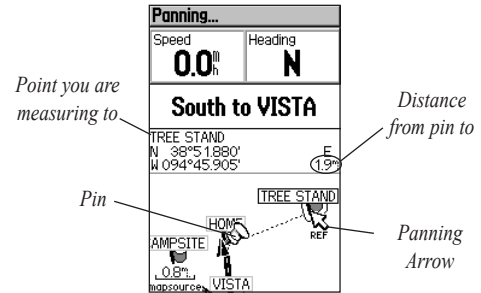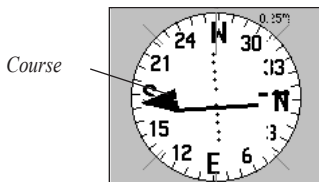

Measuring Distance
By default, the GPS 60 begins measuring distances from your current location. A pin on the map represents where you are measuring from, and the dotted line represents the measurement path from one point to the other.

The Compass Page

Data Fields

Bearing Pointer

The Compass Page

Course

The Course Pointer indicates your course of travel and the distance you drift off

Using the Compass Page

The Compass Page uses traditional navigation to display your current direction of travel and keep headed toward your destination.

When you are navigating to a destination, the Compass Page provides navigation data and directions, such as bearing, current speed, estimated arrival time, and more. You can customize which type of data you want to appear. See p. 64 for a list of available data fields.

As you move, the rotating graphic compass indicates the direction you are traveling. You can choose between a Bearing Pointer or a Course Pointer for guidance. The Bearing Pointer indicates the direction (bearing) to your destination. The Course Pointer helps you stay on the correct course to your destination.

The compass does not function as a magnetic compass when you are stationary. When you move, the dial rotates so you always know what direction is North. This is especially helpful when using a paper map along with your unit for navigation.

If you want to stop navigating, press *MENU* from the Compass Page, use the *ROCKER* key to highlight 'Stop Navigation,' and press *ENTER*.

To display the Course Pointer or Bearing Pointer:
1. From the Compass Page, press the **MENU** key. Use the **ROCKER** key to highlight 'Course Pointer' and press **ENTER**.
2. To view the Bearing Pointer, press **MENU**, highlight 'Bearing Pointer,' and press **ENTER**.

To display data fields:
1. From the Compass Page, press the **MENU** key. Use the **ROCKER** key to highlight 'Data Fields' and press **ENTER**.
2. To show three or four data fields, highlight the appropriate option and press **ENTER**.
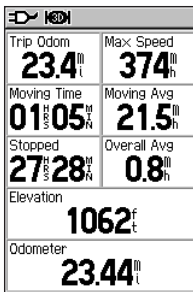
To change which data fields appear:
1. From the Compass Page, press the **MENU** key. Use the **ROCKER** key to highlight 'Change Data Fields' and press **ENTER**.
2. Use the **ROCKER** key to highlight a field you want to change and press **ENTER**. Scroll through the list to find the type of data you want to appear, highlight it, and press **ENTER**. Do the same to change other data fields. Press **QUIT** to exit.

The Compass Page

Choose how many data fields you want to appear on the Compass Page.

The Trip Computer Page

The Trip Computer Page
You can change which data fields appear, use big numbers to view data, or reset data fields with the Trip Computer Page


Trip Computer Page Menu

Using the Trip Computer Page

The Trip Computer Page displays a wide variety of travel data that is useful for navigating long distances. After each trip, you can reset some or all of the Trip Computer data so that you can gather new data.

From the Trip Computer Page, press *MENU* to view a list of options. From this menu, you can reset data, display fields in large numbers for easy reading, change which data fields appear (see p. 13 for an example), or restore defaults.

To reset Trip Computer data:

1. From the Trip Computer Page, press **MENU**, highlight 'Reset' and press **ENTER**.

2. Place a check next to each field you want to reset by higlighting each field with the **ROCKER** key and pressing **ENTER**. To reset all fields, highlight 'Select All' and press **ENTER**.

3. Highlight 'Apply' and press **ENTER** to reset.
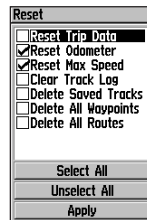
Reset Page

About the Main Menu

You can access the following pages from the Main Menu Page:

- *Tracks—*Maintains a record of your movements (track log).

- *Routes—*Use to create and save a list of points you want to navigate to in a specific order.

- *Highway—*A useful graphic perspective for navigating a route.

- *Setup—*Customize your GPS 60 settings from this page.

- *Proximity—*Creates waypoints that activate alarms when you come within a certain distance of them.

- *Calendar—*Displays hunting, fishing, and solar data and associated waypoints for each date on the calendar.

- *Alarm Clock—*Use the GPS 60 as an alarm clock.

- *Calculator—*A standard or scientific calculator for measurement conversions, etc.

- *Stopwatch—*Includes lap and lap-by-distance features.

- *Sun & Moon—*Displays sunrise and sunset times, moon phases and sun and moon positions for any given date and time.

- *Hunt & Fish—*Displays a table of best hunting and fishing times for any given location and date.

- *Games—*Includes a series of challenging games, some incorporating GPS navigation.

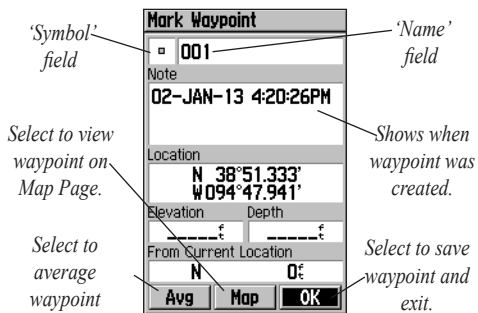## The Main Menu Page
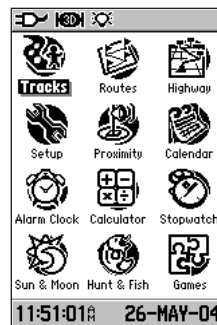
The Main Menu Page

Waypoints

*Press the **MARK** key to create a waypoint at your current location. The waypoint appears on the Map Page with a name and*

'Symbol' field → **Mark Waypoint** ← *'Name' field*

Select to view waypoint on Map Page. → *Shows when waypoint was created.*

Select to average waypoint → *Select to save waypoint and exit.*

The Mark Waypoint Page

Creating Waypoints

A waypoint is any point on the Map Page that you store in memory. You can mark (create) a waypoint at your current location or at another location on the map. The GPS 60 automatically saves waypoints so you can view them at any time on the Map Page.

To mark a waypoint at your current location:

1. Press the **MARK** key from any page. The Mark Waypoint Page appears.

2. To change the name of the waypoint, use the **ROCKER** key to highlight the 'Name' field and press **ENTER** to display the on-screen keypad. Use the **ROCKER** and **ENTER** keys to select a name for the waypoint. If you choose a name that has already been used, a 'Waypoint Already Exits' message appears. Press **ENTER** to acknowledge and choose a new name.

3. To assign an identifying symbol to a waypoint, use the **ROCKER** key to highlight the 'Symbol' field and press **ENTER**. Choose a symbol from the menu and press **ENTER**.

4. To save the waypoint, highlight 'OK' and press **ENTER**. If you do not want to save the waypoint, press the **QUIT** button to exit.

To create a waypoint with the map panning arrow:
1. On the Map Page, press the **ROCKER** key to activate and move the map panning arrow to the place where you want to save a waypoint.
2. Press **ENTER** to mark a waypoint. If there is no map information at that point, a message appears: 'Do you want to create a user waypoint here?' Highlight 'Yes' and press **ENTER** again. The Waypoint Information Page appears. Change the name and waypoint symbol if you wish. Then select 'Map' to view the waypoint on the map, or select 'Go To' to navigate to the waypoint.
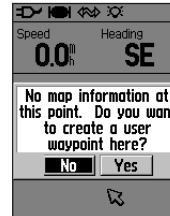
Creating a Man Overboard Waypoint

A Man Overboard (MOB) waypoint is a special type of waypoint typically used when navigating on water. MOB waypoints are especially useful if you cannot stop quickly, and you want to return to a point with no landmarks for reference. When you mark a MOB waypoint, the GPS 60 saves your current location and automatically creates a route back to that point.
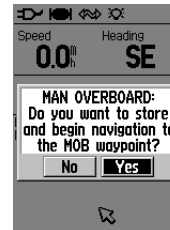
To create a MOB waypoint:
1. Press and hold the **FIND** key to display the MOB prompt.
2. Select 'Yes' and press **ENTER**. The Map Page appears, showing a path from your current location to the MOB point. Use the path to navigate to the MOB point.
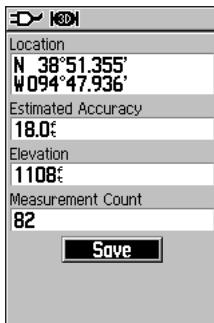
Waypoints

Creating a waypoint with the map panning arrow.

Creating a Man Overboard waypoint.

Waypoints

The Average Location Page
As you wait, the waypoint position becomes more accurate.

Averaging Waypoint Location

The GPS 60 can calculate an average position for a waypoint over time to makes the waypoint location more accurate. You can also average waypoint location at any time from the Waypoint options menu.

To average a waypoint location over time:

1. Press **MARK** to mark a waypoint. Highlight 'Avg' and press **ENTER**. The Average Location Page appears. Calculation begins automatically.

2. Wait as the GPS 60 calculates a more accurate location for the waypoint. As you watch, notice that the number in the 'Estimated Accuracy' field decreases as the GPS 60 takes more measurements.

3. Highlight 'Save' and press **ENTER** to save the waypoint.

OR

1. Press **FIND**, select 'Waypoints,' and open an existing waypoint (see p. 23 for more instruction).

2. Press **MENU** and select 'Average Location.' Then follow steps two and three above.

Editing a Waypoint

You can change the waypoint name, map symbol, location coordinates, or elevation, or delete an existing waypoint at any time from the Waypoint Information Page. For detailed information on how to find and view Waypoint Information Pages, see "Finding Waypoints," p. 23.
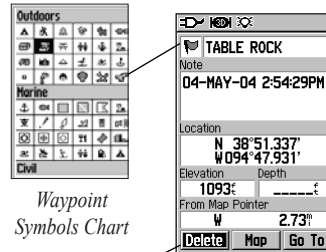
To edit or delete a waypoint:
1. Press **FIND**, use the **ROCKER** key to highlight 'Waypoints,' and press **ENTER**.
2. Select the waypoint you want to edit from the list and press **ENTER**. The Waypoint Information Page appears.
3. Make any necessary changes to the name, symbol, or elevation fields as described previously. To delete the waypoint, highlight 'Delete' and press **ENTER**.
3. Press **QUIT** to close and save changes.

To move a waypoint on the Map Page:
1. Press **FIND**, use the **ROCKER** key to highlight 'Waypoints,' and press **ENTER**.
2. Select the waypoint you want to edit from the list and press **ENTER**. The Waypoint Information Page appears.
3. Highlight 'Map' at the bottom of the page and press **ENTER** to display the waypoint on the map. Press **ENTER** again to activate the map panning arrow.
5. Use the **ROCKER** key to drag the waypoint to the place where you want to move it on the map. Then press **ENTER**.
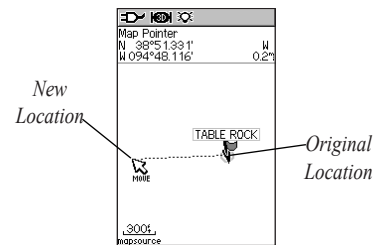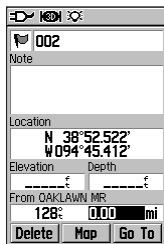
Waypoints

Waypoint Symbols Chart

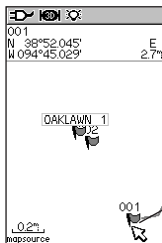*Select to delete the waypoint*

Editing or Deleting a Waypoint

New Location

Original Location

Moving a Waypoint

Waypoints

**Project Waypoint Page**

Projected Waypoint

Projected Waypoint on the Map

Projecting a Waypoint

You can create a waypoint that is located a certain distance and bearing away from an existing waypoint or other point on the map. Creating a waypoint in this way is called projecting a waypoint.

To project a waypoint:

1. Press **FIND**, use the **ROCKER** key to highlight 'Waypoints,' and press **ENTER**.

2. Select the waypoint you want to edit from the list and press **ENTER**. The Waypoint Information Page appears.

3. Press the **MENU** key to display the Options Menu. Highlight 'Project Waypoint' and press **ENTER** to display the Project Waypoint Page.

4. Enter the distance and bearing to the projected waypoint in the appropriate fields at the bottom of the page. Change the name and symbol if you wish. Press the **QUIT** key to save and exit.
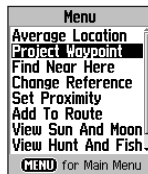
Waypoint Options Menu

Proximity Waypoints

The Proximity Waypoints Page allows you to designate waypoints that have alarm circles around them at specified distances. The alarm helps you avoid locations that are restricted or dangerous.

Waypoints

Radius field

Highlight point and press ENTER to view

To create a proximity waypoint:

1. Press **PAGE** until you see the Main Menu Page. Highlight 'Proximity' and press **ENTER**.

2. Press **ENTER** to display the Find Menu. (See p. 22 for instructions on using the Find Feature.)

3. Select a waypoint from the Waypoints List and press **ENTER** to display the Waypoint Information Page.

4. Highlight 'Use' at the bottom of the page and press **ENTER** to place the point in the list on the Proximity Waypoints Page.

5. Use the **ROCKER** key to highlight the Radius field if you want to enter a value other than the default of 1 mile.

6. Highlight 'Proximity Alarms' and press **ENTER** to activate the alarm feature. When you trigger an alarm, a tone sounds and a 'Near Proximity Point' message appears. When you move outside the set radius, a 'Leaving Proximity Point' message appears.

7. To remove or review a single entry, press **ENTER**. To remove all waypoints from the list, press **MENU** and select 'Remove All.'

Proximity Waypoints Page

Finding Places
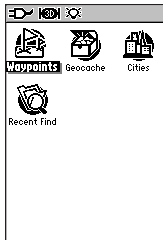
**The Find Page without
Optional MapSource Data**

**The Find Page with
Optional MapSource Data**

Using the Find Page

Use the Find Page to search for waypoints, geocache points, cities, and recently found places. If you have loaded optional MapSource Points of Interest data, you can also search for restaurants, lodging, exits, services, and more. If you have not loaded this additional data, these search options are not available.

To access the Find Page, press and release the *FIND* key. To search for a particular type of point, use the *ROCKER* key to highlight the appropriate icon and press *ENTER*.

Once you choose a search category, a list of points appears. By default, the list contains only those items near your current location or the Panning Arrow (if active). To find places by name, press *MENU* and select 'Find by Name.' To find places near your current location, press *MENU* and select 'Find Nearest.'
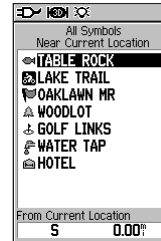
Finding Waypoints

Use the Find Page to locate waypoints quickly and easily. All waypoints are listed in alphabetical order. Once you select a waypoint, you can view it on the map, edit the waypoint, or create a route to it from your current location.

To find a waypoint:

1. Press **FIND** to display the Find Page. Highlight 'Waypoints' and press **ENTER** to display the Waypoints List.

2. Use the **ROCKER** key to scroll up and down the list to find a waypoint. If the list is large, press **MENU** to display a list of search options.

    • 'Find By Name' allows you to enter the name of the waypoint in a search field.

    • 'Find Nearest' lists waypoints near your current location.

    • 'Select Symbol' lists waypoints that have a specific symbol.

    • 'Change Reference' allows you to use the Panning Arrow to select a point on the map other than your current location.

4. Highlight the waypoint you are looking for and press **ENTER**. The Waypoint Information Page appears. To edit the waypoint, highlight any field, press **ENTER**, and make changes. To view the waypoint on the Map Page, select 'Map.' To create a route to the waypoint, select 'Go To.'

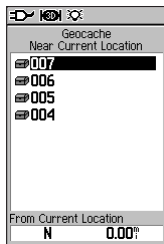## **Finding Places**

The Find Waypoint Page
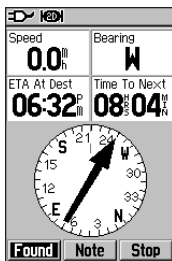*Press **ENTER** to view the Waypoint Information Page*
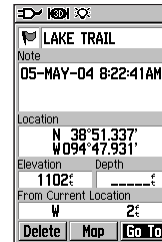
Waypoint Information Page
From this page, you can delete the waypoint, view it on the map, or create a route to it from your current location.

23

Finding Places

The Find Geocache Page

When you navigate to a geocache point, the Compass Page changes to Geocache Navigation Mode. When you find the geocache, select 'Found.'

Finding Geocache Points

The Find Geocache feature allows you to view a list of geocache points you have entered in your GPS 60 or loaded from the Internet. A geocache point is a waypoint with a special geocache symbol. For more information on geocache points, see p. 47, or visit our website, *http://www.garmin.com/outdoor/geocaching.*

> *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 find a geocache point:

1. Press **FIND** to display the Find Page. Use the **ROCKER** key to highlight 'Geocache' and press **ENTER**.

2. Press **MENU** and choose 'Show Found Cache' to display geocache points you have already found. Choose 'Show Cache Not Found' to display geocache points you have not yet found.

3. Use the **ROCKER** key to highlight the geocache point you want to find and press **ENTER** to display the Information Page.

4. To view the point on the map, select 'Map.' To create a route to the point, select 'Go To.' When you navigate to a geocache point, the Compass Page changes to Geocache Navigation mode, and you can view any additional information about the downloaded cache location by selecting 'Note.'

Finding Cities

The Find Cities feature allows you to search for cities all over the world. Once you find a city, you can view it on the map or create a route to it.

To find a city:

1. From the Find Page, use the **ROCKER** key to select 'Cities' and press **ENTER**.

2. To find a city by name, press **MENU** and select 'Find by Name.' Select 'Nearest Containing' to narrow the list of cities by a letter or combination of letters. Select 'Change Reference' to search near a point on the map other than your current location.

3. If you are finding a city by name, begin spelling the name of the city on the keyboard with the **ROCKER** and **ENTER** keys. As you enter letters on the keyboard, the list of cities changes to show cities that contain those letters. When you see the city you are looking for in the list, select 'OK' on the keyboard and then use the **ROCKER** key to select the city from the list. Press **ENTER**.

4. To save the city as a waypoint, select 'Save.' To view the city on the map, select 'Map.' To create a route to the city from your current location, select 'Go To.'

Finding Places

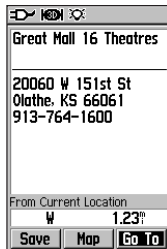**Finding Cities Near Current Location**
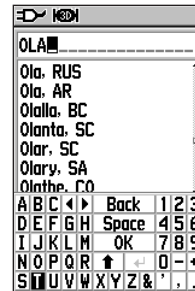
Finding Cities by Name

Finding Places

The Find Page—Detailed

When you find a Point of Interest, press ENTER to view address and telephone number or to create a route to that

Finding Points of Interest

If you have loaded optional MapSource Points of Interest (POI) data, you can search for all Points of Interest, including restaurants, interstate exits, lodging, services, and more. Keep in mind that you will not see these search options on the Find Page unless you have loaded the optional data.

If you are searching for a restaurant or other Point of Interest with multiple locations, such as McDonald's®, only the location closest to you appears in the list of points. If you search by name, all locations of McDonald's appear in the list. See p. 22 for instructions on searching by name.

To find a point of interest:

1. From the Find Page, use the **ROCKER** key to highlight the All POI icon or another Points of Interest icon and press **ENTER**.

2. Press the **MENU** key to choose a different search option or choose 'Select Category' to narrow your search.

3. Highlight the point you want to find and press **ENTER** to display the Information Page for that point. To see the point on the Map Page, select 'Map.' To create a route to the point, select 'Go To.'

Finding a Recently Found Place

The Recent Finds Page saves all of your most recent searches in a list. The place you found most recently appears at the top of the list. When you exceed the number of entries the list can hold, the oldest entries are deleted.

To view a recently found item:
1. From the Find Page, use the **ROCKER** key to highlight Recent Finds and press **ENTER**.
2. Use the **ROCKER** key to highlight the recently found place you want view and press **ENTER** to display the Information Page for that item.

Point Information Page Options Menu

The menu for each Point Information Page is the same. Use these menu options to help you search for and navigate to points:

To use the Find Item Information Page Options Menu:
1. With an Information page displayed for a Find item, press the **MENU** key to display the Options Menu.
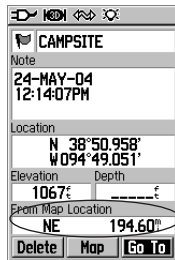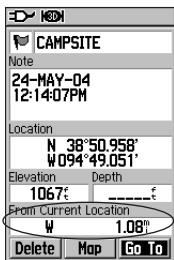2. Use the **ROCKER** key to highlight the desired option and press **ENTER.**

Finding Places

The Recent Finds Page
The last several points you have found are listed on the Recent Finds Page in order from most recent to least recent.
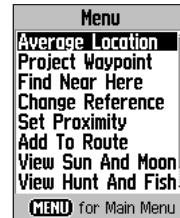
The Point Information Page Menu

Finding Places

Use the 'Change Reference' option to calculate the distance and bearing from another point on the map to the waypoint. The 'From Current Location' field changes to 'From Map

- *Average Location—*Used with waypoints only, it samples a waypoint location over time and averages the result for a more accurate position reference (see p. 18).

- *Project Waypoint—*Creates a new waypoint a certain distance and bearing away from this point (see p. 20).

- *Find Near Here—*Used to locate another waypoint or point of interest near this point.

- *Change Reference—*Changes the 'From Current Location' field on the Information page to 'From Map Location,' and allows you to select a new map location to calculate distance and bearing.

- *Set Proximity—*Changes this point to a proximity waypoint (see p. 21).

- *Add To Route—*Includes this item in a new route or adds it to an existing route (see p. 35).

- *View Sun and Moon—*Displays the Sun and Moon tables for this point.

- *View Hunt and Fish—*Displays the Hunt and Fish tables for this point.

- *Map Information—*Displays information about the map data this point came from (if applicable).

- *Reposition Here—*Allows you to move the point to your current location (waypoints only).

Using a Track Log

The Tracks feature creates an electronic trail on the Map Page as you move. This trail is called a Track Log, and it contains information about points along its path, including time, position, and elevation.

You can use a Track Log to do the following:

- Record and save your movements for a given time and place.
- Measure the area of any space you encompass.
- Retrace your path.

To create a Track Log:

1. Press and release the **PAGE** key until you see the Main Menu Page. Then use the **ROCKER** key to highlight 'Tracks' and press **ENTER**.
2. Make sure the 'On' button next to Track Log is highlighted. If not, use the **ROCKER** key to highlight it and press **ENTER**.
3. To set up a track log, highlight 'Setup' and press **ENTER** to display the Setup page. Select 'Wrap When Full' to continue recording when full by overwriting the oldest data with new. (Continued on next page.)
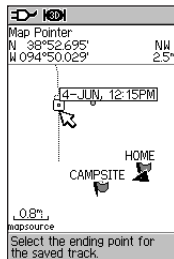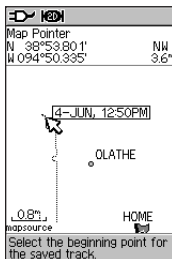
Tracks

The Tracks Page

Tracks
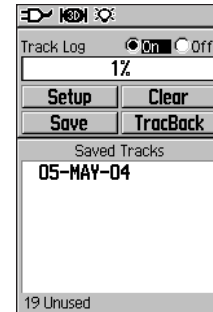
Do you want to save the entire track?

No | Yes
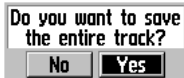
Choose whether you want to save the entire track or part of a track.

Saving Part of a Track
Choose the beginning point and ending point for the saved track. Then select 'OK' to save.

4. Highlight the 'Record Method' field and press **ENTER**. Choose from 'Distance,' 'Time,' or 'Auto.' Because a track is made of a series of points that define your path of travel, they can be placed a specified distance apart or placed at a time interval you specify. 'Auto' automatically chooses how to record track points.

5. Choose an interval for setting track points from the 'Interval' field. You can choose from distance, time or frequency values.

6. Press the **QUIT** key to return to the Track Log Page.

To Save a Track Log:

1. With the Tracks Page displayed, highlight 'Save' and press **ENTER**.

2. Choose whether you want to save the entire track or part of the track. If you choose to save part of the track, select 'No' at the prompt. Then select the beginning and ending points for the saved track on the Map Page by pressing **ENTER**.

The Saved Track Page

From the Saved Track Page, you can rename a track, view the track distance, and calculated the area encompassed by the track (you can calculate area even if the track is open ended). On-screen buttons at the bottom of the page allow you to save (OK), delete, view the track on the Map Page, and navigate the track in reverse (TracBack).

To view a track on the Map Page:

1. From the Tracks Page, highlight any saved track and press **ENTER**.
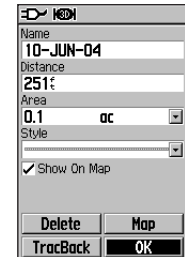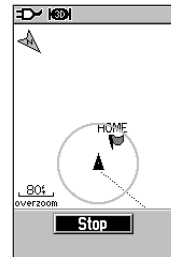2. Highlight 'Map' and press **ENTER**.

To calculate an area with tracks:

1. From the Tracks Page, press **MENU**, highlight 'Area Calculation,' and press **ENTER**.
2. Press **ENTER** to start calculating as you create tracks on the Map Page.
3. When you are finished defining the area, press **ENTER** to stop.
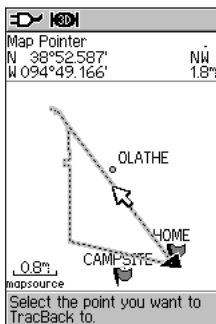4. Press **ENTER** again to save the new track to the Saved Tracks List.

Tracks
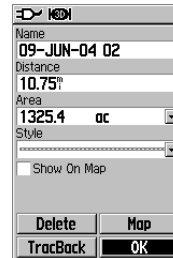
The Saved Track Page

Calculating the Area of a Track

Tracks

*Select the point you want to TracBack to and then press
ENTER to begin navigating your track in reverse.*

To use the TracBack feature:

1. From the Tracks Page or Saved Tracks Page, highlight 'TracBack' and press **ENTER**.

2. Select the point you want to TracBack to by using the **ROCKER** key to move the Panning Arrow on the map. Then press **ENTER** to start navigating the TracBack.

3. When the TracBack Navigation Page appears, directions to the first turn on the track appear at the top of the page. Move in the direction of the first turn. When you reach the first turn, the display will provide direction to the next turn, and so on, until you have reached your destination.

4. To exit TracBack, press the **MENU** key and select 'Stop Navigation.'

To create a waypoint on a Saved Track:

1. From the Tracks Page, highlight a saved track and press **ENTER**. Then highlight 'Map' and press **ENTER**.

2. Use the **ROCKER** key to move the Panning Arrow to the point you want to mark as a waypoint. Press **ENTER,** select 'Yes,' and press **ENTER** again to display the Mark Waypoint Page.

2. Customize the user waypoint if desired (see p. 16). Then highlight 'OK' and press **ENTER** to save.
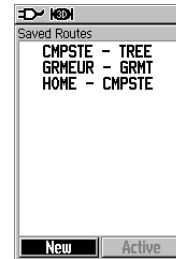
Creating and Using a Route

A route gives you straight-line directions from one point to another, or from one point to several others. The GPS 60 can store fifty routes that contain up to 250 points each. You can create routes that include waypoints or points of interest with the Routes Page. With MapSource mapping software and your personal computer, you can create complex routes and transfer them to your GPS 60. Created routes are automatically saved in a list on the Routes Page. You can edit a route at any time.

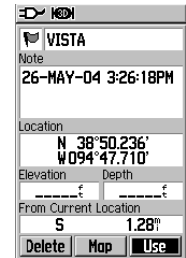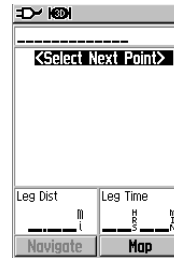**To create a route:**

1. From the Main Menu Page, use the **ROCKER** key to highlight 'Routes' and press **ENTER**.
2. Highlight 'New' and press **ENTER**.
3. Highlight <Select Next Point> and press **ENTER** to add a waypoint or other point to your route. The Find page appears.
4. To add a waypoint, select ' Waypoints' and choose the waypoint you want to add to the route. To add other points, highlight the correct category and choose the point you want to add to the route. See "Finding Places," p. 22 for more information. Then highlight 'Use' and press **ENTER**.
5. Repeat steps 3 and 4 to add more points to your route. When you are finished adding points, highlight 'Navigate' and press **ENTER** to begin using the route, or press **QUIT** to exit and save the route on the Routes Page.
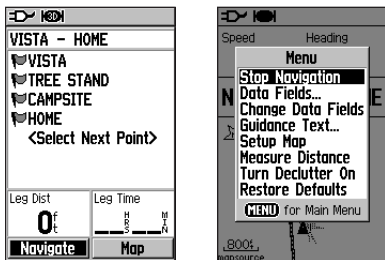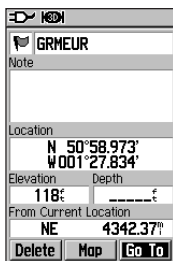
Routes

The Routes Page

Choose '<Select Next Point>' and locate the waypoint you want to add to the route. Then select 'Use.'

Routes

Starting and Stopping Navigation

Creating a Route with a 'Go To'

To activate a saved route:

1. From the Main Menu Page, use the **ROCKER** key to highlight 'Routes' and press **ENTER**.

2. Highlight the route in the list that you want to use and press **ENTER**.

3. Highlight 'Navigate' and press **ENTER**.

To stop navigating a route:

1. From the Map Page, press **MENU**.

2. Highlight 'Stop Navigation' and press **ENTER**.

Creating Routes with a 'Go To'

You can create a route quickly from your current location to a waypoint or other point of interest by using the 'Go To' feature. Use the Find Page to search for a waypoint or point of interest. See "Finding Waypoints," p. 22, for instructions. Once you have selected a waypoint or point of interest, highlight 'Go To' on the detail page and press *ENTER*. Your GPS 60 will create a straight-line route from your present location to that point.

Editing Routes

Once you have created a route, it is automatically saved in a list on the Routes Page. Your GPS 60 names the route using the names of the first and last waypoints. Highlight a route and press *ENTER* to view a list of all the points included in the route. From this page, you can change the order of the points, insert or replace points, delete points, or use the route as it is.

To add a waypoint to a route:

1. Highlight a saved route on the Routes Page and press **ENTER**. Then highlight a waypoint or point in the route and press **ENTER**.
2. Choose 'Insert' from the menu and press **ENTER**.
3. Add a waypoint or other point to a route with the Find Page. See "Finding Places," p. 22, for more information.
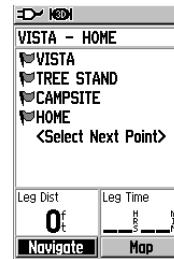
To remove a waypoint from a route:

1. Highlight a saved route on the Routes Page and press **ENTER**. Then highlight a waypoint or point in the route and press **ENTER**.
2. Choose 'Remove' from the menu and press **ENTER**.

To change the order of waypoints in a route:

1. Highlight a saved route on the Routes Page and press **ENTER**. Then highlight the point you want to move and press **ENTER**.
2. Choose 'Move' from the menu and press **ENTER**.
3. Use the **ROCKER** key to move the point up or down in the list. When you are finished, press **ENTER**.

Routes

*From a saved Route Detail Page, highlight a point in the route and press **ENTER** to access the point options menu (see*

The Point Options Menu

Routes

Deleting a Route

The Route Detail Page Menu

To replace one point in a route with another:

1. Highlight a saved route on the Routes Page and press **ENTER**. Then highlight a waypoint or point in the route and press **ENTER**.

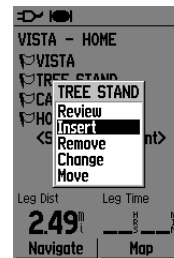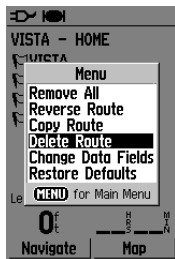2. Choose 'Change' from the menu and press **ENTER**.

3. Add a new waypoint or other point from the Find Page. See "Finding Places," p. 22, for more information.

To delete the route:

1. Highlight a saved route on the Routes Page and press **ENTER**. Then press **MENU**.

2. Highlight 'Delete Route' and press **ENTER**. Then highlight 'Yes' and press **ENTER**.

To delete all routes:

1. From the Main Menu page, use the **ROCKER** key to highlight 'Routes' and press **ENTER**.

2. Press **MENU** to open the Routes Page menu. Highlight 'Delete All Routes' and press **ENTER**. Then highlight 'Yes' and press **ENTER**.

Using the Route Detail Page Menu

You can quickly make changes to a route with the Route Detail Page menu. To access this menu, highlight a saved route on the Routes Page and press *ENTER*. Then press *MENU*. Use the menu to clear a route of all points, reverse, copy, or delete the route, change the data fields at the bottom of the page, or restore route defaults.

Advanced Feature: Changing Route Transition

If you include several points in a route, you may want to use the Route Transition feature to tell your GPS 60 when you want it to direct you to a new waypoint in the route. By default, the GPS 60 automatically directs you to the next waypoint; this setting works well in most cases. You can change the Route Transition for situations where the auto method fails.

You can choose to navigate to the next point in your route manually (choose 'Manual' below), or you can choose to navigate to the next point when you come within a certain distance of a waypoint (choose 'Distance' below).
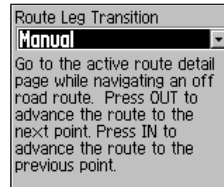
To change the Route Transition for a route:
1. From the Main Menu page, use the **ROCKER** key to highlight 'Routes' and press **ENTER**. Then press **MENU**.
2. Highlight 'Route Transition Setup' and press **ENTER**.
3. Press **ENTER**, highlight 'Auto,' 'Manual,' or 'Distance,' and press **ENTER**. If you select 'Distance,' enter a radius in miles in the 'Radius' field.
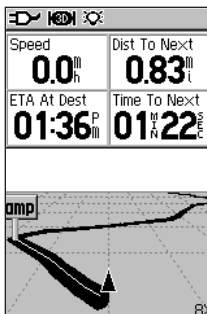
Routes
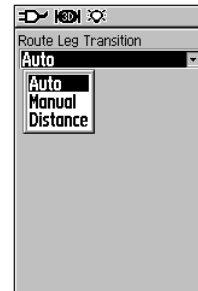
Route Transition Options

If you choose 'Manual,' follow the instructions to advance a route to the next point. If you choose 'Distance,' specify a radius value.

The Highway Page

The Highway Page

*Press **MENU** to access a list of options for the Highway Page.*

Navigating with the Highway Page

The Highway Page is a three-dimensional view of the route you are currently navigating. To access the Highway Page, highlight Highway on the Main Menu Page and press *ENTER*. As you navigate a route, the Highway Page displays each upcoming waypoint and visually guides you to your destination. Your route appears as a dark line. You can zoom in and out on the graphical display, and you can change the way the Highway Page looks. Keep in mind that if you are not currently navigating a route, the Highway Page will appear empty.

To navigate using the Highway Page:

1. Create or open a saved route and begin navigating.

2. From the Main Menu Page, highlight 'Highway' and press **ENTER**.

3. Press **MENU** to stop navigating, change the number or type of data fields that appear, or restore the default data field settings. Highlight the desired option and press **ENTER**.

The Setup Menu

The Setup Menu allows you to customize the GPS 60 to your personal preferences. Using the Setup Menu, you can save battery life, and you can change almost any setting on your GPS 60. To access the Setup Menu, highlight Setup from the Main Menu Page and press *ENTER*.

Saving Battery Life

Using backlighting, WAAS or frequent beep tones can significantly reduce the life of your batteries. To save battery life, lower the intensity and timeout of your backlight, use WAAS infrequently, and mute the beep tones. You can also change your GPS settings to battery-saver mode.

To change backlight settings:
1. From the Setup Menu, highlight 'Display' and press **ENTER**.
2. Highlight the 'Backlight Timeout' field and press **ENTER**. Choose '15 seconds' to preserve battery life and press **ENTER**.
3. Change the 'Backlight Level' field to a lower percentage by highlighting it and pressing **ENTER**, and then pressing the **ROCKER** key down.
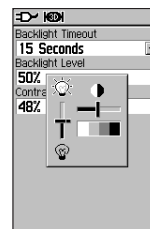
To disable WAAS:
1. From the Setup Menu, highlight 'System' and press **ENTER**.
2. Highlight the 'WAAS' field and press **ENTER**. Choose 'Disabled' from the menu and press **ENTER**.
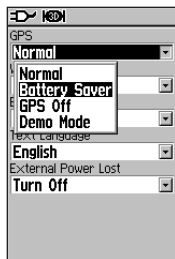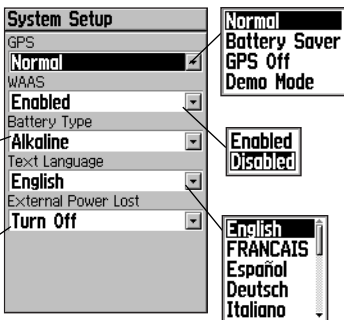
The Setup Menu
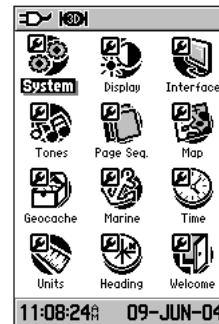
The Setup Menu Page

Adjusting Backlight Timeout and Brightness

The Setup Menu

Battery Saver Mode

System Setup Page

To mute beep tones:
1. From the Setup Menu, highlight 'Tones' and press **ENTER**.
2. Highlight the 'Mute' checkbox and press **ENTER**.

To put GPS in battery-saver mode:
1. From the Setup Menu, highlight System and press **ENTER**.
2. Highlight the 'GPS' field and press **ENTER**. Choose 'Battery Saver' from the menu and press **ENTER**.

System Setup

The System Setup Page allows you to select from four modes of GPS operation, enable/disable WAAS, designate battery type, choose a display text language, and choose what happens when the GPS 60 loses external power.

To change a System Setup feature:
1. From the Setup Menu, highlight 'System' and press **ENTER**. Use the **ROCKER** and **ENTER** keys to select the feature field and setup options.
2. With an option for a field highlighted, press **ENTER** to select. To view the current GPS 60 software version, press **MENU** and select 'Software Version.'

Display Setup

The Display Setup Page allows you to set backlight timeout, brightness level and display contrast. You can also change the brightness and contrast levels by pressing and releasing the *POWER* key. For instructions on changing backlight levels, and contrast, see p. 6.
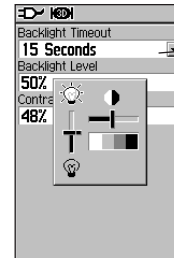
Interface Setup

The Interface Setup Page allows you to control the input/output format used when connecting your unit to a computer, external NMEA device, DGPS beacon receiver, or other device using a USB or Serial Port Cable.

The following settings are available:

*GARMIN—*The proprietary format used to exchange waypoint, route, track log, and MapSource data with a PC. Use this option when transferring data with MapSource software.

*GARMIN DGPS—*The proprietary format used with a Garmin differential beacon receiver (e.g., GBR 21). Allows you to tune the beacon receiver directly from the GPS 60.

The Setup Menu

The Setup Menu

GARMIN
GARMIN DGPS
NMEA In/NMEA Out
Text Out
RTCM In
RTCM In/NMEA Out
RTCM In/Text Out
None

The Serial Format Menu

*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.

*RTCM In—*Provides DGPS input using a standard RTCM SC-104 format. No output.

*RTCM In/NMEA Out—*Allows DGPS input using a standard RTCM SC-104 format and supports the output of standard NMEA 0183 version 3.01 data.

*RTCM In/Text Out—*Allows DGPS input using a standard RTCM SC-104 format and supports the output of simple ASCII text output of location and velocity information

*None—*Provides no interfacing capabilities.

To change the Serial Data Format:

1. From the Setup Menu, highlight 'Interface' and press **ENTER**.
2. Highlight the 'Serial Format' field and press **ENTER**.
3. If you select Text Out and/or RTCM In, additional fields will appear. Use the **ROCKER** key to highlight 'Baud Rate' and press **ENTER**. Use the **ROCKER** key to highlight the desired setting and press **ENTER**.
4. For Garmin DGPS or RTCM In/NMEA Out, use the **ROCKER** key to highlight 'Beacon' and press **ENTER**. Use the **ROCKER** key to select 'Scan' or 'User' and press **ENTER**.
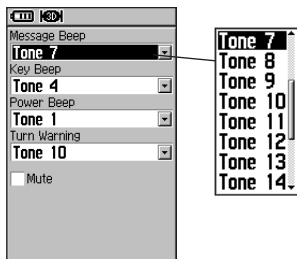
   If you select 'Scan,' the GPS 60 will automatically direct the beacon receiver to scan for available beacon transmitters.

   If you select 'User,' select the 'Freq' and 'Bit Rate' fields and enter the appropriate settings. The beacon status, signal-to-noise ratio and distance to beacon are displayed in the bottom of the page.
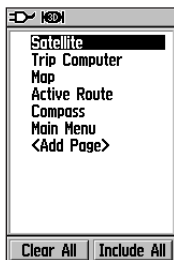
The Setup Menu
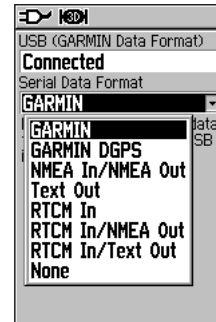
The Setup Menu

Choose from nineteen different tones for each field, or choose 'Off' to turn the tone off for that field.

Tones Setup

The Tones Setup Page allows you to customize the signal tones for a variety of unit features.

To change or mute tones:

1. From the Setup Menu, highlight 'Tones' and press **ENTER**.
2. Use the **ROCKER** key to highlight the tone you want to change and press **ENTER**. As you scroll down the list of tones, you will hear an example of each tone. Choose the tone you want to hear and press **ENTER**. To mute all tones, highlight 'Mute' and press **ENTER**.

Page Sequence Setup

The Page Sequence Setup Page allows you to reorder any of the Main Pages and add additional pages to the Main Page cycle. If you add a page to the sequence, it no longer appears in the Main Menu.

To move, insert, or remove a page:

1. From the Setup Menu, highlight 'Page Sequence' and press **ENTER**.
2. To move a page in the order, highlight the page and press **ENTER**. Select 'Move,' then move Up or Down until the desired position is displayed and press **ENTER**.
3. To insert a new page, highlight the page after the point where you want to insert and press **ENTER**. Select 'Insert,' then choose a page from the displayed list and press **ENTER**.
4. To remove a page, highlight the page and press **ENTER**. Select 'Remove' and press **ENTER**.

Using the Map Setup Feature

The map display for your GPS 60 is user-configurable. The Map Setup pages let you change map orientation, text size, track display, map item display, detailed map data display and more. You may want to wait until you are more familiar with the operation of your unit before you change Map Setup features. To open the Map Setup page, do one of the following:

- From the Setup Menu, highlight 'Map' and press *ENTER*.
- From the Map Page, press the *MENU* key, select 'Setup Map,' and press *ENTER*.

Each page is represented by an icon at the top of the screen. To switch between Map Setup Pages, press the *ROCKER* key up until the icons at the top of the screen are highlighted. Then press the *ROCKER* key right or left to move between pages.
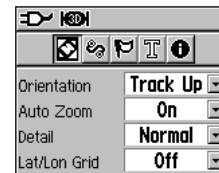
Map Setup—General Settings

The first page of the Map Setup feature is the General Settings Page. Use this page to select the map orientation (see p. 9). Auto Zoom automatically sets the map scale to include the beginning and ending points of a route. Detail sets the degree of map detail displayed.
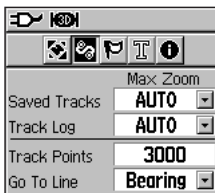
The Setup Menu
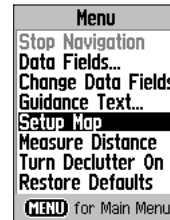
Access the Map Setup menu from the Setup Page or from the Map Page. Select 'Setup Map' from the Map Page menu.
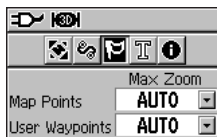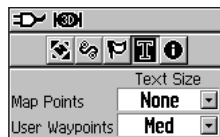

Map Setup—General

The Setup Menu

Map Setup—Tracks

Map Setup—Points

Map Setup—Text

Map Setup—Information

Map Setup—Tracks Settings

The second page contains Tracks settings. You have settings for maximum zoom for viewing saved tracks and active track logs. You can set the number of track points for recording a track and select either a bearing or course line for navigating a track.

Map Setup—Points Settings

The third page of the map setup feature allows you determine the map scale at which various map features display. You turn off the display, set it to 'Auto,' or select a value from 20 feet to 500 miles.

Map Setup—Text Settings

The fourth page of the Map Setup feature is the Text Settings Page. Use this page to select the text size for descriptions of map items on the Map Page. You can select from Small, Medium, or Large.

Map Setup—Information Settings

This page of the Map Setup feature displays a list of downloaded POI data. Use the *ROCKER* key to highlight the desired map and then the *ENTER* key to show it on the map display or turn it off. Press the *MENU* key to access a list of options for displaying these maps.

Geocache Setup

The Geocache Setup Page allows you to configure geocaching settings. Refer to the Garmin website for details and how to download geocache locations from the internet (*http://www.garmin.com*).

To use the Geocache Setup feature:
1. From the Setup Page, highlight 'Geocache' and press **ENTER**.
2. Highlight the symbols fields and press **ENTER** to change from the default open and closed geocache symbols. Select "Yes" or "No" for Calendar entry when found.

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.

Marine Setup

The Marine Setup Page allows you to set alarms and customize other features specific to maritime navigation.

To use the Marine Setup feature:
1. From the Setup Page, highlight 'Marine' and press **ENTER**.
2. Highlight the box in front of each field to activate the desired alarm and press **ENTER**.
3. Highlight the field adjacent to each checked box, press **ENTER** and use the Number Keypad to enter the value for each alarm. Highlight "OK" and press **ENTER** to close.
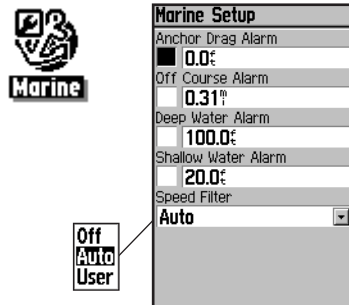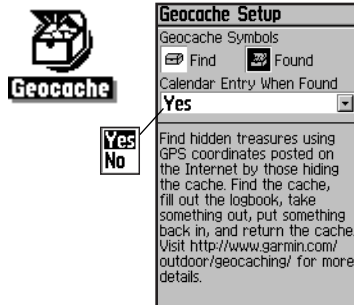
Deep and shallow water alarms require NMEA sonar input. interfacing.

The Setup Menu

Time Setup

The Time Setup Page allows you to set the correct time for your geographic location.
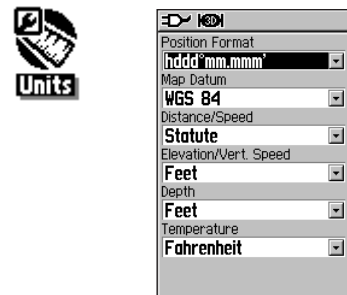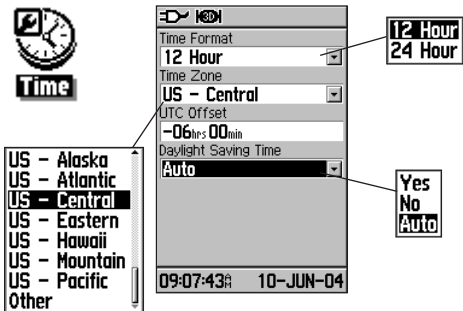
To use the Time Setup feature:

1. From the Setup Page, highlight 'Time' and press **ENTER**.

2. Highlight the Time Format field and press **ENTER** to choose from 12 or 24 (Military Time) hour formats.

3. Highlight the Time Zone field and press **ENTER** to choose the correct zone for your location. If you selected 'Other,' you must enter the correct Universal Time Coordinate for your location. Refer the UTC Chart on p. 70.

4. Highlight the 'Daylight Savings Time' field and choose from 'Yes,' 'No,' and 'Auto.'

Units Setup

The Units Setup Page allows you to select units of measurement for your GPS 60.

To use the Units Setup feature:

1. From the Setup Page, highlight 'Units' and press **ENTER**.

2. Use the **ROCKER** and **ENTER** keys to highlight the various units fields and select the desired units from the lists displayed.

   For more information about selecting Position Formats and Map Datums, refer to p. 71.

GPS Navigation

Heading Setup

The Heading Setup Page allows you to specify the type of heading display and the type of North Reference used to calculate your heading. Unless you have a working knowledge of Headings and North Referencing, we recommended that you use the default values.

To use the Heading Setup feature:
1. From the Setup Page, highlight Heading and press **ENTER**.
2. Highlight the Display field, press **ENTER** and select from Cardinal Letters, Degrees or Mils to display the heading value.
3. Highlight the North Reference field, press **ENTER** and select from True North, Magnetic North, Grid North, or User Grid North.

Welcome Page Setup

The Welcome Page Setup Page allows you to insert a message such as on the Welcome Page each time you turn on your unit.

To display a greeting on the Welcome Page:
1. From the Setup Page, highlight 'Welcome Message' and press **ENTER**.
2. Use the keypad at the base of the screen to enter your welcome message. Use the **ROCKER** key to select text and press **ENTER** to place text.
3. When completed, highlight "OK" on the keypad and press **ENTER** to close.

The Setup Menu
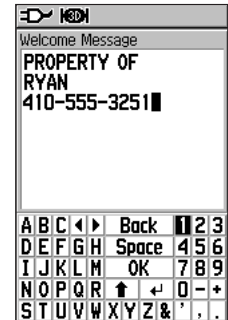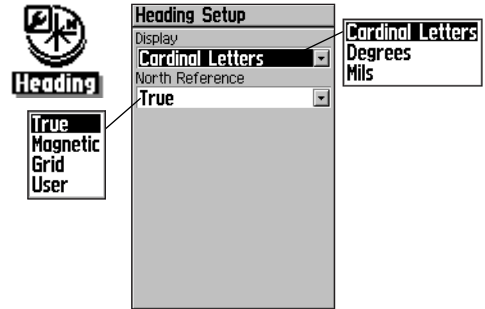
Calendar

**The Calendar Page—
Week Format**

*On each day page, you can view sunrise and
sunset times, hunting and fishing information and
wapoints associated with that day.*

Calendar

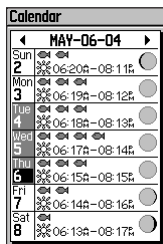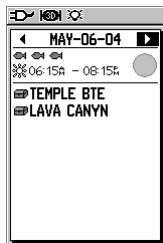The Calendar allows you to view Sunrise/Sunset times, moon phase, and Hunt and Fish probabilities on a given day. Waypoints are automatically added to the calendar on the day you create them. You can add a waypoint to a date if you want to navigate to it. The calendar displays a day, week or month format.

To use the Calendar:

1. From the Main Menu, highlight 'Calendar' and press **ENTER**.

2. Use the **ROCKER** key to highlight the day you want to view information for and press **ENTER** to display the page for that day.

3. To add waypoints, press the **MENU** key to display the Options Menu. Highlight 'Add Point' and press **ENTER** to display the Find Feature Menu.

4. Select the type of point you want to place on the Day Page (see p. 22 for details on using the Find Feature). From the Information Page, highlight 'Use' and press **ENTER** to place the point reference on the Day Page.

5. To remove points from a Day Page, press **MENU** to display the Options Menu. Select 'Remove Points' and press **ENTER** to display the Remove Points Options List.

6. 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** key to choose the type of data you want to view.

Alarm Clock

The Alarm Clock Feature turns your GPS 60 into an alarm clock. You can choose from different alarm tones and use the "Snooze" feature to delay the alarm for an additional seven minutes.

To set the Alarm Clock:

1. From the Main Menu, highlight 'Alarm Clock' and press **ENTER**.
2. Highlight the 'Alarm Time' field and press **ENTER.** Use the Number Keypad to set the desired alarm time. Then select 'OK.'
3. Highlight the 'Alarm Mode' field and press **ENTER.** Select 'On' and press **ENTER**.
4. Highlight the Alarm Beep field and select the type of alarm tone desired.

   When you turn the alarm On, an 'Alarm Set' message appears and asks if you want to turn the unit off. When the set time arrives, the unit will turn on and sound the alarm. Press any key to silence the alarm.

Calculator

The Calculator feature allows you to use your GPS 60 as a calculator. You can select either a Standard or Scientific calculator and can change the settings to degrees or radians with the Options Menu (press *MENU*).
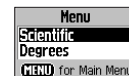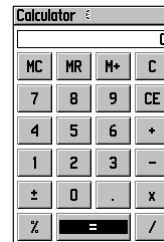
To use the Calculator:

1. From the Main Menu, highlight 'Calculator' and press **ENTER**.
2. Use the **ROCKER** and **ENTER** keys to operate the calculator.
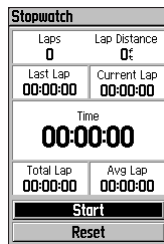
Alarm Clock and Calculator

The Alarm Clock Page

Calculator Menu

The Calculator Page

Stopwatch

Stopwatch Page

Stopwatch Menu

Lap Distance

Setting Lap By Distance

Stopwatch

This feature allows you to use the GPS 60 as a stopwatch, which includes a lap timer. You may also have the unit record the lap time based on distance. From the Main Menu, highlight 'Stopwatch' and press *ENTER*.

To start, stop, lap, and reset the stopwatch:

1. Use the **ROCKER** key to highlight the 'Start' field and then press **ENTER**. When the timer is running, highlight 'Lap' and press **ENTER** to mark a lap manually. Select 'Stop' to stop the watch.

2. With the watch stopped, highlight 'Reset' and press **ENTER** to reset the watch.

To use the 'Lap by Distance' feature:

1. Press the **MENU** key and select 'Lap by Distance.' Press **ENTER**. To return to lapping manually, press **MENU** and select 'Lap by Button Press.'

2. To set the lap distance value, press **MENU** again, select 'Set Lap Distance,' and press **ENTER**.

3. Use the **ROCKER** key to highlight the field you want to change and then press **ENTER**. Enter a new value and press **ENTER**. Then highlight 'OK' and press **ENTER**.

Sun and Moon

The Sun and Moon Tables show you the positions of the sun and moon relative to the Earth. You can view sun and moon positions for any time, date and location on Earth.

The Sun and Moon Page also displays sunrise, sunset, moonrise and moonset times for the selected time, date and location. On-screen buttons allow you to animate the movement of the sun and moon and stop at a given time/date. Press Play ▶ to begin animating, press Fast-forward ⏩ to speed up animation, and press Stop ■ to stop animation.

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

1. From the Main Menu, highlight 'Sun and Moon' and press **ENTER**.
2. To view the predictions for a different date and time, select the 'Date' and 'Time' fields and enter a new date and time.
3. To view the predictions for a different location, select the 'Location' field and choose 'Use Map' or 'Use Find Menu' to specify a new location.

Sun and Moon
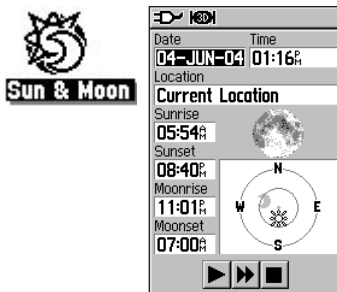
The Sun and Moon Page

Hunt and Fish

Hunt and Fish Page

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. Keep in mind that these times are just an estimate based on the position of the moon.

To display hunting and fishing predictions:

1. From the Main Menu, highlight 'Hunt and Fish' and press **ENTER**. The current date and location are displayed in the date and location fields at the top of the page.

2. To view the predictions for a different date, select the 'Date' field and enter a new date.

3. To view the predictions for a different location, select the 'Location' field and choose one of the options:

   Choose 'Use Map' to select a point on the map using the Panning Arrow. Then press **ENTER** to display the table for that location. The Location field will now state 'Map Location.'

   Choose 'Use Find Menu' to select a point from the Find Page (see p. 22 for instructions). When you select a point, highlight 'Use' at the bottom of the item information page and press **ENTER**. The hunting and fishing times for that location appear.

4. To return to the current date, press **MENU** and choose 'Current Location'.

Games

The GPS 60 includes games as an entertainment feature. Most of these games are GPS-based, and all of them are fun!

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

To select and play a game:
1. From the Main Menu, highlight 'Games' and press **ENTER**.
2. Highlight the game you want to play and press **ENTER**. When you finish reading the instruction message, press **ENTER** to start the game.

Memory Race

This is a GPS virtual game where you are the playing piece in the center of a virtual "memory board." To win the Memory Race, remember which square has which symbol then clear the board by matching all of the two symbol sets together. Travel to each square, highlight "Open" at the bottom of the screen and press *ENTER* to view the symbol. Press the *QUIT* key to stop play.
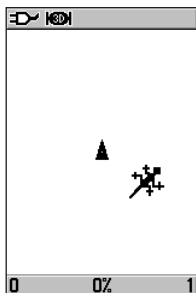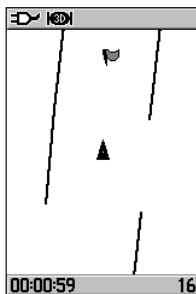
Games

The Games Page
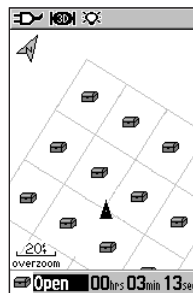
Memory Race

Games

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 lists. Press **ENTER** to make your selection.
2. Highlight 'Start' and press **ENTER** to begin the game.
3. Highlight 'Re-Center' and press **ENTER** to place yourself back in the middle of the game board.

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 and collect flags. The lower right corner of the screen tells you how many flags remain. The lower left corner is a timer displaying 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.

HINT: Pressing the *ENTER* key and selecting 'Cheat On' will enable a "cheat mode." Enabling this mode will penalize you by five minutes and count seconds by 10 instead of 2. Turn the cheat mode Off by pressing the *ENTER* key.

Geko Smak

Geko Smak is a GPS based game that features you as the player piece. In measured rhythm, Gekos will appear on the screen. Before the Geko disappears, move toward the Geko and press the ENTER key to smack the Geko with a hammer. If you get the Geko, an "!" mark displays above the hammer. If no "!" appears, you missed.

Field size choices are small, medium and large, with small fields being roughly 20 yards by 30 yards and large fields being 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" will grow. You may travel anywhere on the screen but you cannot walk on your tail, or you will 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, check 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 the *ENTER* key to start and blast away!

Games

57
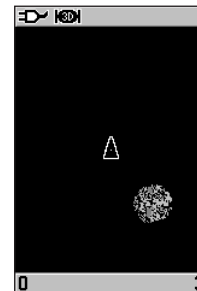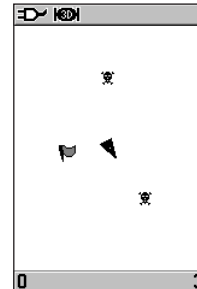
Games
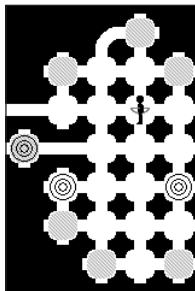
Beast Hunt

Although not a true GPS game, Beast Hunt requires some navigation skills. You must find and defeat the dragon with an arrow (before the dragon gets you!) while navigating a maze of platforms. From time to time you will be 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 will display the layout of hazards, slide and warning platforms. A scoreboard keeps track of your wins and loses.

To play Beast Hunt:

1. Select 'Beast Hunt' from the Games Menu and press **ENTER** to display the game prompt window.

2. Read the prompt and then press **ENTER** to display the Difficulty Options window. Make your choice and press **ENTER.** Then choose one of the Visibility Options and press **ENTER** to begin the game.

3. Use the **ROCKER** key to jump from platform to platform.

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

    To defeat the dragon, use **ENTER** to place an arrow in a shaded platform. Use the **ROCKER** key to point and **ENTER** to shoot. You must shoot when you are right next to the dragon!

Accessories (included with the unit)

*Wrist Strap—*Provides convenient method for carrying the unit.

*Belt Clip—*Attaches to the back of the unit and clips to belt or waist-band.

*USB Interface Cable—*Provides connection to a PC for data transfer. Also includes MapSource Trip and Waypoint Manager CD-ROM with USB Drivers.

*Owner's Manual—*Start up instructions and detailed operation reference.

*Quick Start Guide—*Abbreviated overview of unit operation and reference.

> *NOTE: Refer to the list of accessories on the unit packaging.*

Optional Accessories (not included with the unit)

*Cigarette Lighter Adapter—*Provides power from an automobile cigarette lighter.

*A/C Adapter—*Provides operation from AC power.

*GA 27C Remote GPS Antenna—*Allows enhanced satellite acquisition.

*MapSource CD-ROMs—*Allows transfer of detailed map data.

Appendix A: Accessories

Appendix A: Accessories

*PC Interface Cable—*Provides connection to a PC for data transfer.

*PC Interface Cable with Auxiliary Power Supply—*Provides connection to a PC for data transfer.

*Interface Cable—*Wiring harness. Bare wire connections for data input/output.

*Carrying Case—*Provides protection during transport of the unit.

*Auto Mount Kit—*Allows installation on a vehicle dash.

*Marine Mount Kit—*Allows installation on a boat.

*Suction Mount Kit—*Allows installation on a vehicle windshield.

*Bicycle Mount Kit—*Allows installation on bicycle handlebar.

Installing the Belt Clip and Wrist Strap

Wrist Strap Installation
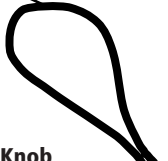
Belt Clip Knob
twist left (counterclockwise) to remove from back of unit

Slide belt clip on or off the Belt Clip Knob

Belt Clip
(attaches to belt or waistband)

Back of GPS 60

Appendix A: Accessories

Suction Mount Kit

Auto Dash Mount Kit

Marine Mount Kit

Bicycle Mount Kit

Appendix B: Specifications

Physical

Case:	Rugged, fully gasketed, water resistant, IEC-60529 IPX7 (Submersible 1 meter @ 30 minutes)
Size:	6.1"H x 2.4"W x 1.3"D
Weight:	5.2 ounces (147 g) without batteries installed
	7.0 ounces (198 g) with batteries
Display:	1.4"W x 2.1"H, high-contrast, 4-level gray LCD with backlighting (160 x 240 pixels)
Antenna:	Built-in quad helix, with remote antenna capability
Keypad:	Nine multifunction backlit keys
Operating Range:	5 to 158°F (-15 to 70°C)[1]

Performance

Receiver:	WAAS enabled, 12 parallel channel
Acquisition Time:	
	Warm: Approximately 15 seconds
	Cold: Approximately 45 seconds
	AutoLocate™: Approximately 2 minutes
Update Rate:	Once per second, continuous
GPS Accuracy	
Position:	< 15 meters (49 feet), 95% typical[2]
Velocity:	0.05 meter/sec steady state

DGPS Accuracy

    Position: 3-5 meters (10-16 feet), 95% typical[3]

    Velocity: 0.05 meter/sec steady state

Dynamics: Performs to specifications to 6 g's

Interfaces: NMEA 0183 version 3.01, RTCM SC-104 (for
DGPS   corrections) and RS-232 and USB for PC
interface

Data Storage Life:

     Indefinite: no memory battery required

POI Storage: Internal; approximately 1 MB

Power

Source: Two 1.5 volt AA batteries or 12 V Adapter Cable, or
up to 36 VDC external power

Battery Life: Up to 28 hours[4]

Appendix B: Specifications

Notes

Specifications subject to change without notice.

1. The temperature rating of the GPS 60 may exceed the usable range of some batteries. Some batteries can rupture at high temperatures.

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

3. With optional Garmin GBR 21 Beacon Receiver input.

4. Alkaline batteries lose a significant amount of their capacity as the temperature decreases. Use Lithium batteries when operating the GPS 60 in below-freezing conditions. Extensive use of screen backlighting and/or audible tones significantly reduces battery life.

Appendix C: Data Field Options

The following list provides a brief description of each data field option. Some of these options are supported only by devices interfaced to your GPS 60.

*Accuracy GPS—*The current accuracy of your GPS determined location.

*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.

*Depth—*The depth of water from sonar NMEA input.

*Distance To Destination—*The entire distance, from beginning to end, of a route.

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

*ETA At Destination—*The estimated time that you will arrive at your destination, if you maintain your current speed and course.

*ETA At Next—*The estimated time that you will arrive at the next point on your route, if you maintain your current speed and course.

*Elevation—*The distance above or below mean sea level.

*Glide Ratio—*The ratio of horizontal distance traveled to vertical distance.

*Glide Ratio To Dest—*The glide ratio required to descend from your present position and elevation to the destination's elevation.

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

*Odometer—*The total distance you have traveled for all trips.

*Off Course—*The distance off your direct course line, right or left.

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

*Speed—*Your current vehicle speed can be 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 you were moving. (Continued on next page).

Appendix C:
Data Field Options

*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, if you maintain 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—*Your 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 stopped (stationary) while the unit was powered On and tracking your location (since the Trip Computer was reset).

*Trip Time–Total—*The total time the unit has been tracking since the Trip Computer was reset.

*Turn—*The direction of, and distance to, the next turn on an active route.

*Velocity Made Good—*The rate of closure on a destination based upon your current speed and course of travel.

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

*Vertical Speed To Dest—*The measurement of your rate of accent to a predetermined height.

*Water Speed—*The data acquired from measurement devices interfaced to the GPS 60 is used to calculate your current speed over water.

*Water Temperature—*The temperature of water at a measured depth using measurement devices interfaced to the GPS 60.

*Waypoint At Destination—*The last point on a route, your destination.

*Waypoint At Next—*The next point on your route.

Appendix C: Data Field Options

Appendix D: Interfacing and Loading Map Data

Universal Serial Bus (USB) Port

Serial Communications Port

Lift Cover

Lift Cover

Connecting the GPS 60 to Your Computer

The GPS connects to a personal computer with either a USB connector cable or a serial port cable . You must connect to a computer to load Garmin MapSource data. Refer to the MapSource User's Guide provided with your MapSource CDs for instructions on installing and loading MapSource data to your GPS 60.

To connect to your computer with a USB connector:

1. Lift the USB protective cover from the back of the GPS 60 and insert the smaller connector on the USB cable (provided with the unit) into the matching port.
2. Connect the remaining cable end to your PC USB port. If your computer has more than one USB port, use the port on the back of your computer for best results.
3. Set your GPS 60 interface setting to GARMIN format (see p. 43).

To connect with a Serial Port connector:

1. Lift the Serial Port protective cover from the back of the GPS 60 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 GPS 60 interface setting to the appropriate interface format (see p. 43).

Transferring MapSource Map Data

If you have purchased a Garmin MapSource Points of Interest (POI) CD-ROM, you may want to transfer detailed data to access enhanced Find and Routing features. The GPS 60 accepts up to 1 MB of data from POI MapSource products. It is not possible to transfer 3rd party maps into Garmin products.

POI data transfer requires the use of a PC, a Garmin MapSource CD-ROM, and the Universal Service Bus (USB) cable supplied with this unit. Follow detailed instructions for data transfer in the MapSource Setup Guide and User's Manual. Note that downloading maps will overwrite any maps already downloaded to the unit, including the Points of Interest database provided with the GPS 60. However, the data provided by MapSource is more detailed than the pre-loaded data on the GPS 60.

Appendix D: Interfacing and Loading Map Data

Appendix E: UTC Offset Chart

This chart is provided to help you determine the time offset settings for your current location if it is not in one of the time zones listed on the Time Setup Page. To change the UTC Offset, see p. 48. To determine your longitudinal zone, press and hold the *MARK* key and observe the longitude value in the Mark Waypoint Location field. It should fall within the sets of values on the chart below. Press the *QUIT* key to avoid marking a waypoint.

Longitudinal Zone	Offset
W180.0° to W172.5°	-12.00
W172.5° to W157.5°	-11.00
W157.5° to W142.5°	-10.00
W142.5° to W127.5°	-09.00
W127.5° to W112.5°	-08.00
W112.5° to W097.5°	-07.00
W097.5° to W082.5°	-06.00
W082.5° to W067.5°	-05.00
W067.5° to W052.5°	-04.00
W052.5° to W037.5°	-03.00
W037.5° to W022.5°	-02.00
W022.5° to W007.5°	-01.00
W007.5° to E007.5°	-0.00

Longitudinal Zone	Offset
E007.5° to E022.5°	+01.00
E022.5° to E037.5	+02.00
E052.5° to E067.5°	+03.00
E067.5° to E082.5°	+04.00
E082.5° to E097.5°	+05.00
E097.5° to E112.5°	+06.00
E112.5° to E122.5°	+07.00
E122.5° to E127.5°	+08.00
E127.5° to E142.5°	+09.00
E142.5° to E157.5°	+10.00
E157.5° to E172.5°	+11.00
E172.5° to E180.5°	+12.00

#### What are Map Datums, and which should I use?

A datum is a mathematical model of the Earth which 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 (i.e. trig. stations) 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 GPS 60 can be set to match most of those commonly used.

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

What is a Position Format, and which should I use?

Your current location can be viewed on the GPS in the form of coordinates. Since 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 utilized by all Garmin units. On most models, you may choose to change the position format to use with other coordinate systems. UTM/UPS (Universal Transverse Mercator/Universal Polar Stereographic) are easy-to-use metric grids that are found on most USGS topographic quadrangle maps. Several other grids, including a user-definable grid (for the advanced user), may also be selected.

Appendix F: Map Datums and Position Formats
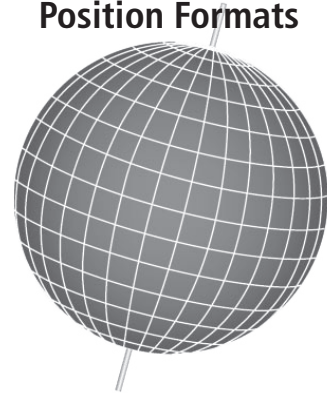
Map Datums are based on a mathematical model of the Earth.

| hddd.ddddd° |
| hddd°mm.mmm' |
| hddd°mm'ss.s" |
| British Grid |
| Dutch Grid |
| Finnish Grid |
| German Grid |
| India Zone 0 |
| India Zone IA |
| India Zone IB |
| India Zone IIA |
| India Zone IIB |
| India Zone IIIA |
| India Zone IIIB ↓ |

Position Formats

| Adindan |
| Afgooye |
| AIN EL ABD '70 |
| Anna 1 Ast '65 |
| ARC 1950 |
| ARC 1960 |
| Ascnsn Isld '58 |
| Astro B4 Sorol |
| Astro Bcn "E" |
| Astr Dos 71/4 |
| Astro Stn '52 |
| Aus Geod '66 |
| Aus Geod '84 |
| Austria ↓ |

Map Datums

Appendix G: WAAS and DGPS

What is WAAS?

The Wide Area Augmentation System (WAAS) is an F.A.A. funded project to improve the overall integrity of the GPS signal. It is a space-based system that broadcasts integrity information and correction data as determined by ground reference stations (see DGPS below). At this time the system is still in the developmental stage with a goal of providing reliable signals with an accuracy of 7 meters (21-22 ft.) both horizontally and vertically 95% of the time. Current tests have shown the actual accuracy to be on the order of 2-3 meters. For more information, go to *http://gps.faa.gov/Programs/WAAS/waas.htm.*

What is Differential GPS (DGPS)?

The U.S. and Canadian governments (among others) have set up Differential GPS (DGPS) stations to transmit correction signals. They are operational in coastal areas and on many navigable river systems. The DGPS system is available for use without fee.

In addition to compensating for errors in the position, these corrections signals can also correct for deliberate degradation of the accuracy of GPS by the U.S. Department of Defense under their Selective Availability (SA) program.

Refer to the U.S. Coast Guard's web site: http://www.navcen.uscg.gov/ for locations and the status of the differential sites. Using DGPS requires additional equipment.

Interface formats are selected from the Interface Setup on page 43 of this manual. The input/output lines on your GPS 60 are RS-232 compatible, allowing easy interface to a wide range of external devices, including PC's, differential beacon receivers, marine autopilots and /or a second GPS receiver.

The NMEA 0183 version 3.01 interface format is supported by the GPS 60 and enables the unit to drive up to three NMEA devices.
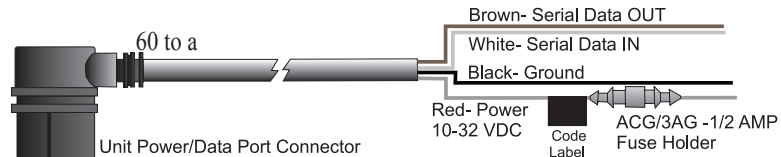
NMEA 0183 Version 3.01 Approved Sentences:

GPGGA, GPGLL, GPGSA, GPGSV, GPRMB, GPRMC, GPRTE, GPVTG, GPWPL, GPBOD

Garmin Proprietary Sentences:

PGRME (estimated error), PGRMM (datum string), PGRMZ (altitude), PSLIB (beacon receiver control)

DGPS (Differential GPS) corrections are accepted in RTCM SC-104 version 2.0 format through the 'Data In' line. The Garmin GBR 21 is the recommended beacon receiver for use with the GPS 60. Other beacon receivers with the correct RTCM format may be used, but may not correctly display status or allow tuning control from the GPS unit.

The USB Interface Cable provided with this unit allows you to connect your GPS PC-compatible computer's USB port.

Appendix H: Interface Wiring Diagram

(-) Ground

Data Out   *Data In*

(+) Power

Cable Plug End View

60 to a

Unit Power/Data Port Connector

Brown- Serial Data OUT
White- Serial Data IN
Black- Ground
Red- Power 10-32 VDC
Code Label
ACG/3AG -1/2 AMP Fuse Holder

Appendix I: 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 OR IM-PLIED 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, call your local Garmin authorized dealer. Or call Garmin Customer Service at one of the numbers listed below for shipping instruc-tions and an RMA tracking number. The unit should be securely packed with the tracking number clearly written on the outside of the package. The unit should be sent, freight charges prepaid, to any Garmin warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs.

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.

Garmin International, Inc.	Garmin (Europe) Ltd.
1200 E. 151st Street	Unit 5, The Quadrangle, Abbey Park Industrial Estate
Olathe, KS 66062, U.S.A	Romsey, SO51 9DL, U.K.
Phone: 800/800.1020	Phone: 44/1794.519944
Fax: 913/397.0836	Fax: 44/1794.519222

www.garmin.com

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Declaration of Conformity

Hereby, Garmin declares that this GPS 60 product 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:
http://www.garmin.com/products/gps60/. Click Manuals and then select the Declaration of Conformity.

Industry Canada Compliance

This Category II radiocommunication device complies with Industry Canada Standard RSS-310."

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

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.

**For the latest free software updates (excluding map data)
throughout the life of your Garmin products, visit the
Garmin web site at www.garmin.com**