

GPS VTM

*personal navigator*TM



owner's
manual
and
reference
guide

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Welcome / Packing List

BEFORE getting started with your new GPS V, check to see that your GPS V package includes the following items. If you are missing any parts, please contact your dealer immediately.

Standard Package:

- GPS V Unit with Detachable Antenna
- This GPS V Owner's Manual
- GPS V Quick Start Guide
- Automotive Mount with Instructions
- Wrist Strap
- Velcro Mount
- PC Interface Cable
- 12-volt Adapter Cable
- MapSource City Select CD-ROM
- MapSource User's Manual
- Single Coverage Region Unlock Certificate

Welcome

Thank you for choosing the GARMIN GPS V. The GPS V offers true turn-by-turn navigation through the use of its auto-routing feature. At the touch of a button, you now have access to the shortest and fastest routes, turn directions, and estimated time of arrival at your intended destination. Along the way, GPS V on-screen prompts alert you to necessary turns, distance to upcoming turns, route deviation, and distance to the final destination.

The GPS V is compact and portable. The unit can be dash-mounted, and operates on four AA batteries or on your vehicle's battery using the included 12-volt power adapter. The GPS V can be easily viewed in any lighting condition, due to its high resolution, four gray-level display and backlit display/keypad. The unit's built-in basemap provides detail for interstates, interstate exit data, highways, rivers and lakes in the United States, Canada and Mexico (no exit data for Mexico), plus major thoroughfares in metropolitan areas. With the press of a button, the built-in basemap will provide turn-by-turn guidance to a destination via interstates and highways. With downloaded maps from the MapSource™ City Select CD-ROM, your GPS V provides turn-by-turn guidance down to the residential street-level detail.

About This Manual

Make sure you take the time to read the Quick Start Guide first to get acquainted with the basic features of the GPS V. After you have read the Quick Start Guide, you may wish to read through this owner's manual for more details on the GPS V's operating features. As you become more familiar with your GPS V, use this manual as a reference—starting with the index to find which pages contain information for a specific topic.

Warnings and Cautions



WARNING: For use in vehicles, it is the sole responsibility of the owner/operator of the GPS V to place and secure the GPS unit 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 GPS V 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 GPS V in a place where the driver or passengers are likely to impact it in an accident or 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 GPS V to the exclusion of safe driving practices. It is unsafe to operate the controls of the GPS V while you are driving. Failure by the driver of a vehicle equipped with a GPS V to pay full attention to operation of the vehicle and road conditions while the vehicle is in motion could result in an accident or collision with property damage and personal injury.

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

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

*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*

General Information

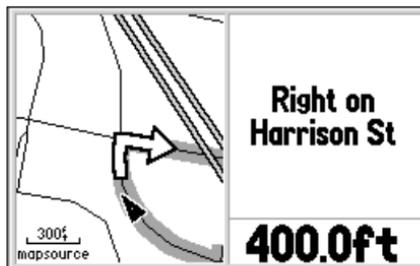


The GPS V uses the Global Positioning System (GPS) in order to find your precise location. GPS consists of a constellation of 24 (or more) satellites, circling the earth twice a day, at an approximate altitude of 12,000 miles. The satellites transmit very low power radio signals containing position and time information, allowing anyone with a GPS receiver to determine their location on the earth within 100 meters. For more detailed information regarding GPS, we have prepared a booklet called "GPS Guide for Beginners" which is available to you from our web site at: www.garmin.com.

Map Data

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 often not available or prohibitively expensive.

Due to map accuracy issues, during your travels it is advisable to visually check your general surroundings and compare them to the on-screen map data. Making such comparisons on a routine basis will help ensure that you are heading to or arriving at the intended destination.



Software License Agreement

Software License Agreement

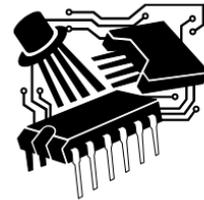
BY USING THE GPS V, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

GARMIN Corporation (“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.

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FCC Compliance



The GPS V 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.

FCC Compliance

The GPS V complies with Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE (“home or office” interference requirements 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 has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency (RF) energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning this device off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

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

Limited Warranty

Help us better support you by completing our on-line registration today! Registration ensures you will be notified of product updates, new products and provides lost or stolen unit tracking. Have the serial number of your GPS V handy and connect to our website (www.garmin.com). Look for the Product Registration link on the home page.

Limited Warranty

GARMIN Corporation warrants this product to be free from defects in materials and manufacture for one year from the date of purchase. 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. The customer is, however, responsible for any transportation costs. 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 EXPRESSED OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

To obtain warranty service, contact your GARMIN dealer or call the GARMIN Customer Service department (913-397-8200) for a returned merchandise tracking number. The unit should be securely packaged with the tracking number clearly marked on the outside of the package and sent freight prepaid and insured to a GARMIN warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs. 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.

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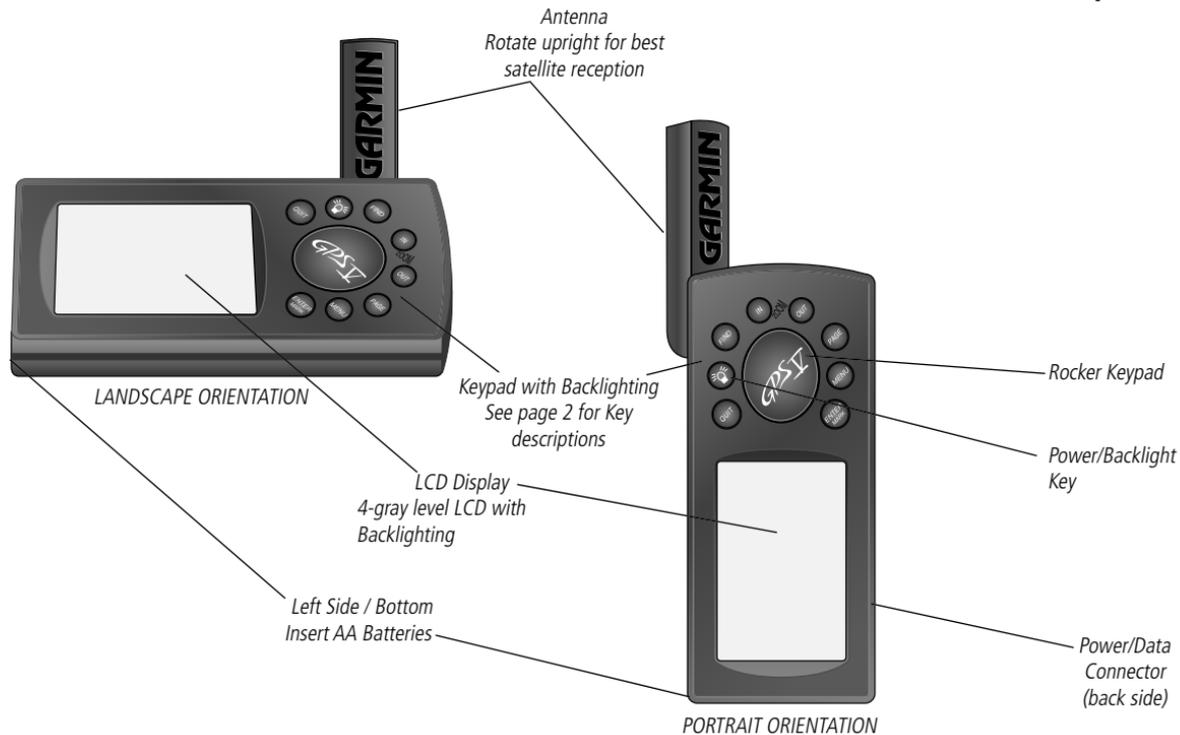
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Unit Description

GPS V Description



Keypad Usage



POWER (Red Bulb Symbol)- Turns the unit on and off. A momentary press while the power is on displays the backlight/contrast adjustment window. Press and hold to turn the GPS V off.

PAGE- Switches between the main pages and returns the display from an option window back to a main page. Press and hold to switch between landscape (horizontal) and portrait (vertical) screen orientations.

QUIT- Returns the display to a previous page. When entering data, restores the previous value (cancels data entry).

ENTER/MARK- Confirms a selected menu option. When entering data, it allows you to initiate entry, and then to accept the selected value(s). It also marks the location of the panning arrow on the Map Page. Press and hold to capture your present position and save it as a waypoint.

ROCKER KEYPAD- Selects menu options and enters data. Also controls movement of cursor on the Map Page.

Zoom OUT- Adjusts the map scale to show a larger area with less detail.

Zoom IN- Adjusts the map scale to show a smaller area with more detail.

FIND- Searches the database for Cities, Interstate Exits, Waypoints, and Recently Found places. If MapSource City Select data is loaded, it also searches for Points of Interest, Addresses, or Intersections. Allows the listed items to be viewed on a map or selected as a destination.

MENU- Displays a menu of available options for the current page. Press twice to display the Main Menu.

Features/Data Entry

The following features and data entry procedures are referred to throughout this manual.

CURSOR- A highlighted area on the screen which can be moved up/down/left/right with the **ROCKER KEYPAD** to select individual fields on the display. Moving the cursor to a given location allows you to begin data entry or scroll through a list.

FIELD- The location on a page where a group of characters or an option is entered and displayed. The cursor is placed on a field (using the **ROCKER KEYPAD**) to begin data entry or select options.

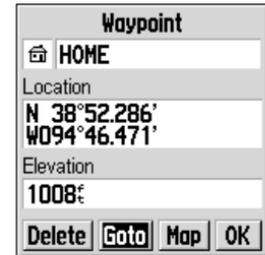
To enter data in a data field:

1. Use the **ROCKER KEYPAD** to highlight the desired data field. Press **ENTER** to begin data entry.
2. Use the **ROCKER KEYPAD** to select the desired character and press **ENTER**.
3. Repeat step 2 until the desired data has been entered.
4. Use the **ROCKER KEYPAD** to select 'OK' and press **ENTER**.

ON-SCREEN BUTTON- Similar to "Field". Place the cursor on a button and press **ENTER** to select the action corresponding to that button. An example of an on-screen button is the 'Goto' button appearing at the bottom of the Waypoint Page.

SCROLL BAR- When viewing a list of items too long to display on a single page, a scroll bar will appear along the right-hand side of the list. The position of the scroll bar indicates which portion of the list is currently being displayed. The height of the scroll bar indicates the number of items in the list. To scroll through a list of items, use the **UP/DOWN** portion of the **ROCKER KEYPAD**.

Features/Data Entry



An example of an on-screen "button"—the 'Goto' button on the Waypoint Page.



An example of data entry with 'OK' selected. Use the 'OK' selection to complete data entry.

Battery Installation

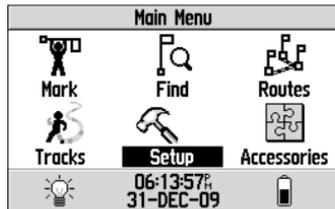
NOTE: When replacing batteries, use only new or fully recharged batteries. Do NOT mix Alkaline, NiCad, NiMH and Lithium batteries.

Remove the batteries from the GPS V if you do not plan to use it for several months. Stored batteries will eventually discharge and leak, causing damage to your unit.

Follow the battery manufacturer's instructions for proper care and disposal of used batteries.

During typical use, battery life will be up to 25 hours. Use of backlighting will reduce battery life.

Selecting the "Battery Saver" mode or the "Use Indoors" option will increase battery life.



The battery icon on the Main Menu depicts battery level (shaded portion).

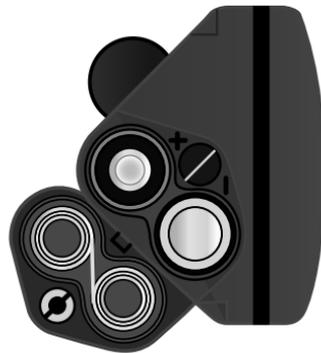
DEFAULT- A system-selected format, built into the operating software or the unit's memory, that will be followed unless the user chooses a different setting. For example, the default setting for speed readings is 'miles per hour', but can be changed to 'kilometers per hour'. Once a setting is changed, the new setting is retained until another change is made or a 'Restore Original Settings' menu option is selected.

Installing the Batteries

The GPS V operates on four AA batteries (not included), which are installed from the left side (when viewed horizontally) of the unit. Alkaline batteries are recommended, but you may use NiCad, NiMH or Lithium batteries as well. Alkaline batteries will last up to 25 hours in your GPS V. NiCad batteries will typically provide shorter battery life and Lithium batteries will provide longer battery life, particularly in colder conditions. Stored data, such as waypoints or unit settings, are not lost when changing batteries.

To install batteries:

1. Remove the battery cover on the left side of the unit (when viewed horizontally) by turning the metal D-ring 1/4 turn counterclockwise.
2. Insert the batteries, observing the proper polarity as marked on the battery cover and shown in the illustration at right.
3. Reinstall the battery cover by turning the D-ring 1/4 turn clockwise.



Turning On/Off

Turning the GPS V On (and Off)

Before turning the GPS V on, find a suitable location for its use. If you are operating the GPS V indoors, with the “Use Indoors” option, location is not critical. However, during actual navigation use the GPS V should be outside—or on the dashboard of your car—where the detachable antenna has a clear view of the sky. Rotate the antenna so it is pointing upward, perpendicular to the ground.

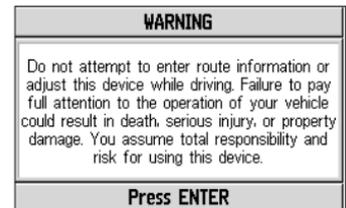
To turn the GPS V on, press and hold the red power key.

The Welcome Page will appear while the unit conducts a self-test. Once testing is complete, the Welcome Page is replaced by a MapSource Information Page. This page lists any maps currently loading in the GPS V's memory. The MapSource Information Page appears briefly and is replaced by a Warning Page, then the Satellite Status Page. (You may press **ENTER** to move quickly past the MapSource Information and/or Warning Pages.)

Once a sufficient number of satellites have been located, “Ready to Navigate” will appear at the top of the Satellite Status Page. If no keys have been pressed during the power-up process, the GPS V will automatically sequence from the Satellite Status Page to the Map Page and show your current position.

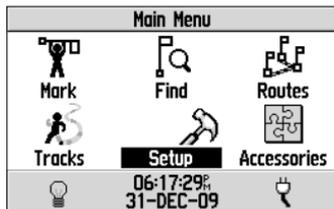
To turn the GPS V off, press and hold the red power key.

The Welcome Page. While this page is being displayed, the GPS V is conducting a self-test.

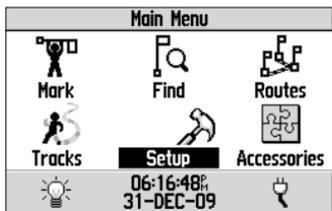


*The Warning Page. Press **ENTER** to acknowledge this page.*

Screen Contrast and Backlighting



Backlight (bulb) icon on Main Menu as it appears when backlighting is off.



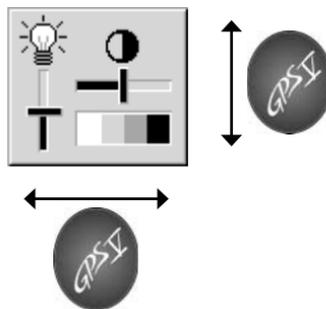
Backlight (bulb) icon on Main Menu as it appears when backlighting is on.

Adjusting Screen Contrast and Backlighting

If lighting conditions make it difficult to see the display screen, you can adjust the contrast or turn on the backlight.

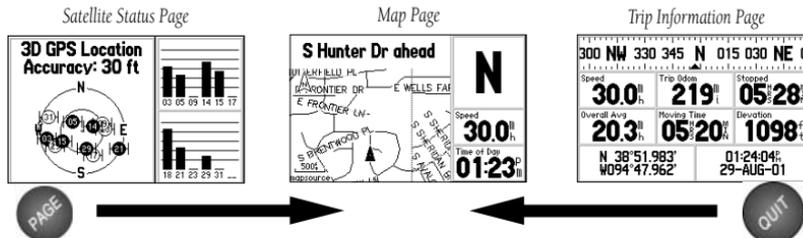
To adjust screen contrast and/or backlighting:

1. Press the red power key momentarily. A pop-up window appears for screen settings.
2. Use the Left/Right portion of the **ROCKER KEYPAD** to adjust screen contrast.
3. Use the Up/Down portion of the **ROCKER KEYPAD** to adjust backlighting.
4. Press **ENTER** or **PAGE**, to return to the previous screen. Or, press **QUIT** to cancel the settings.

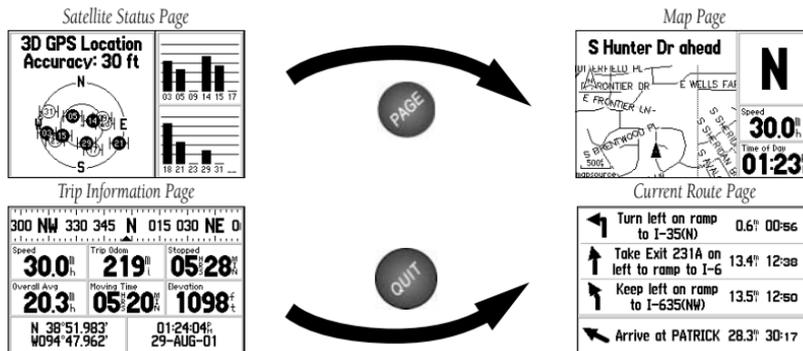


Unit Pages at a Glance

All of the information needed to operate the GPS V is found on 'pages' (i.e., display screens). If no destination is selected, there are three main pages: Satellite Status, Map, and Trip Information. Press the **PAGE** key to sequence through the pages in forward order, or use the **QUIT** key to sequence through the pages in reverse order. The Reference Section describes in detail what each page does and how they are configured.

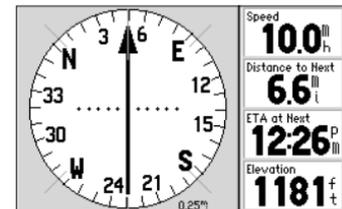


If a destination is selected, the Current Route Page also appears in the main page sequence (for a total of four main pages):



Main Page Sequence

Use the **PAGE** and **QUIT** keys, alternately, to quickly switch between two adjacent main pages.

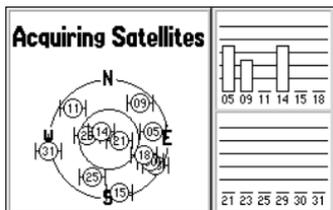


When creating a route, you will be prompted with route preference (faster time, shorter distance or off road). If you select 'Off Road', the Direction Finder Page will be added to the main page sequence. The Direction Finder Page always points to your destination. If the bearing pointer points straight up, you are heading to your destination.

Satellite Status Page

Subject Finder:

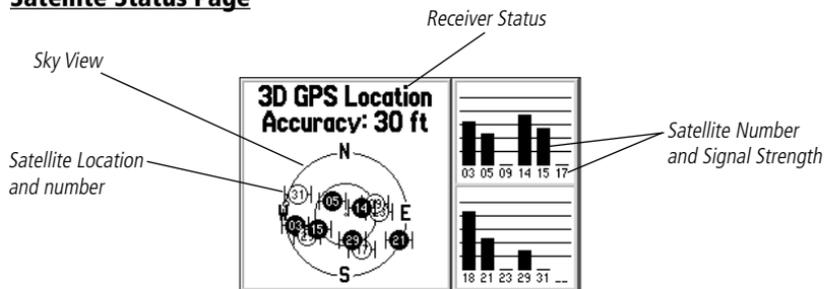
Signal Strength	page 8
Lock-on Times	page 73
Receiver Status	page 9
Track Up Orientation	page 10
New Location	page 11



The signal strength bars give you an indication of what satellites are visible to the receiver, whether or not they are being used to calculate a position fix, and the signal quality.

The hollow bars indicate the GPS V has found the satellite(s) and is collecting data before the satellite(s) can be used for navigation. Solid bars indicate the satellite(s) is ready to use.

Satellite Status Page



The Satellite Status Page appears when the GPS V is first turned on (after the welcome screens and warning pages). This page is part of the main page sequence and may be displayed at any time by pressing **PAGE** (repeatedly) until it appears. The Satellite Status Page includes “sky view” and signal strength depictions, which show you how well the GPS receiver is doing at any given moment.

The sky view depicts a bird’s-eye view showing where the GPS V is looking in the sky for each satellite, by indicating direction (azimuth) and elevation (angle above the horizon). The outer circle on the sky view represents the horizon, in all directions. The inner circle represents a 45° elevation above the horizon. Individual satellites are identified by number, from 01 to 32.

The signal strength bars depict relative signal strength from each satellite being received. The taller the bar, the stronger the signal. Individual satellites are identified by number and correspond to the same satellite number depicted on the sky view.

Satellite Status Page

Receiver Status

Receiver Status is indicated at the top of the Satellite Status Page, directly above the sky view. The status will be shown as one of the following conditions:

Searching for Satellites—the GPS V is looking for any available satellites in view.

Locating Satellites—the GPS V is initializing and collecting new almanac data. This process can take up to five minutes, depending on the satellites currently in view.

Acquiring Satellites—the GPS V is collecting data from available satellites, but has not collected enough data to calculate a position fix.

2D GPS Location—at least three satellites have been locked onto and a 2-dimensional position fix (latitude and longitude) is being calculated. ‘2D Differential’ will appear when you are receiving differential corrections in 2D mode.

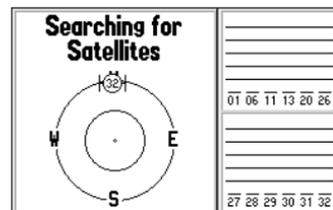
3D GPS Location—at least four satellites have been locked onto, and your position is now being calculated in latitude, longitude and altitude. ‘3D Differential’ will appear when you are receiving differential corrections in 3D mode.

Lost Satellite Reception—the receiver is not tracking enough satellites for a 2D or 3D fix. This is likely due to obstruction of the antenna or limited coverage of satellites overhead.

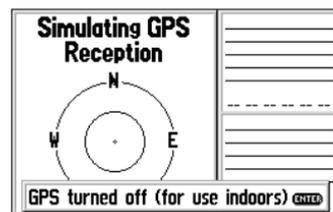
Not Usable—the receiver is unusable, possibly due to incorrect initialization or abnormal satellite conditions. Turn the unit off and back on to reset the unit.

Simulating GPS Reception—the unit is in simulator mode and is not receiving satellite information.

When ‘2D Navigation’ or ‘3D Navigation’ is displayed, the position accuracy appears directly below the receiver status. Position accuracy is expressed in feet or meters and reflects an estimated error in your current latitude/longitude position reading.



‘Searching for Satellites’ may appear when the GPS V is first used. This indicates the GPS V is looking for any available satellite, then must update satellite almanac data.



‘Simulating GPS’ means the GPS V is NOT looking for satellites. Use the simulator mode to simulate operation when learning to use the unit, or to save battery power when using the GPS V to plan a trip or change unit settings.

Satellite Status Page

Satellite Status Page Options:

Use Indoors (or Use Outdoors)

Track Up (or North Up)

New Elevation

New Location



Select 'Use Indoors' to activate the built-in simulator mode. Do NOT attempt to use the GPS V for actual navigation while in simulator mode.

Satellite Status Page Options

Many features of the GPS V are menu driven. Each of the main pages has an options menu, allowing you to custom tailor the corresponding page to your preferences and/or select special features which specifically relate to that page.

To display the Satellite Status Page Options, press MENU (with the Satellite Status Page displayed).

The following Satellite Status Page options are available:

Use Indoors (or **Use Outdoors**)—allows you to activate the GPS V's built-in simulator mode and practice using the unit indoors. This shuts the GPS receiver off so it is not looking for satellites and helps to conserve battery power. If 'Use Indoors' is selected, 'Use Outdoors' will appear as an option instead.

To activate (deactivate) the simulator mode for indoor use:

1. With the Satellite Status Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Use Indoors' (or 'Use Outdoors') and press **ENTER**.

Track Up (or **North Up**)—changes the sky view display from a 'North Up' orientation to align to the current direction of travel (track). If 'Track Up' is selected, 'North Up' will appear as an option instead.

To change the sky view orientation:

1. With the Satellite Status Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Track Up' (or 'North Up') and press **ENTER**.

Satellite Status Page

New Elevation—allows you to designate your approximate altitude in order to better refine a 2D position. By default, 2D positioning will attempt to use the last known altitude. If the altitude is off by several hundred feet (or more), manually entering your approximate altitude will enable the receiver to more accurately determine a position fix.

To enter an elevation:

1. With the Satellite Status Page Options displayed, use the **ROCKER KEYPAD** to highlight 'New Elevation' and press **ENTER**.
2. Enter your approximate elevation using the **ROCKER KEYPAD**, and press **ENTER**.

New Location—allows you to designate your approximate position in order to speed up satellite acquisition. This option is useful if you have relocated 500 or more miles since the last time you used the GPS V, and ensures that the unit is looking for the proper satellites.

To enter a new location:

1. With the Satellite Status Page Options displayed, use the **ROCKER KEYPAD** to highlight 'New Location' and press **ENTER**. A second pop-up window appears listing two options: 'Automatic' and 'Use Map'.
2. 'Automatic' forces the GPS V to search for any available satellite(s) to determine a position. This process can take 3-5 minutes as the unit determines its new location. Use the **ROCKER KEYPAD** to select 'Automatic' and press **ENTER**.
3. 'Use Map' allows you to designate your approximate position directly from a graphic map display. Use the **ROCKER KEYPAD** to place the pointer arrow on your approximate location and press **ENTER**. (You may wish to use the **IN/OUT** zoom keys to adjust the level of detail displayed, as you determine your approximate position.)



If you have moved several hundred miles or more since you last used the GPS V, letting the GPS V know your approximate location will ensure that it is looking for the right satellites and will speed up satellite acquisition.



Map Page

Subject Finder:

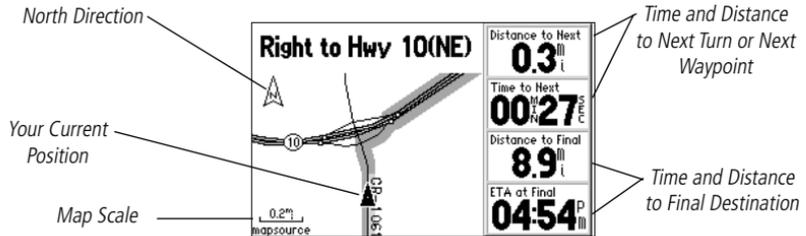
- Changing Map Scale.....pages 12-13
- Overzoom.....page 13
- Panning the Map.....page 13
- Pointing to Map Features.....page 13
- Selecting Full Screen Map.....page 16
- Configuring Map Features.....page 17
- North Up Map.....page 18



Use the **IN** and **OUT** zoom keys to change the map scale. The map scale appears in the lower left corner of the map.



The Map Page



The GPS V features a real-time moving map to illustrate your current position and your intended route. The Map Page is one of the main operating pages of the GPS V and you'll likely use it more than any other page. It graphically shows the area around your current location, and marks your route to a destination with a bold dark gray route line. It tells you what direction to go or the direction you are traveling. It also tells you your speed, the distance to the next turn, and the time and distance to the final destination. If the GPS V has not yet determined your current location, there is a flashing question mark over the vehicle symbol and the status text displays, 'Acquiring Satellites'.

The map display shows your present position and direction of movement using a triangular vehicle symbol in the center of the map. The map display also shows the map scale and geographic details such as lakes, rivers, highways, and towns. You can use the **IN** and **OUT** keys to change the map scale to show more map area with less detail, or less map area with more detail. Press and hold either key to zoom the map scale rapidly. When zoomed in to very small map areas an 'Accuracy Circle' will appear around the vehicle symbol. The accuracy circle graphically portrays the position accuracy on the map.

Map Page

Zooming, Panning and Pointing

There are three main actions you can perform on the Map Page: zooming, panning and pointing. The map display has map scales from 20 feet to 800 miles. The current map scale is indicated on the bottom left corner of the map display.

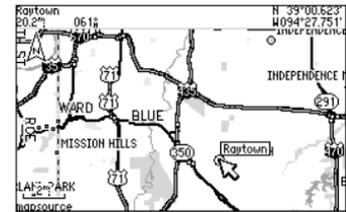
To change the map scale:

1. Press the **IN** zoom key to see a smaller area with more detail.
2. Press the **OUT** zoom key to see a larger area with less detail.

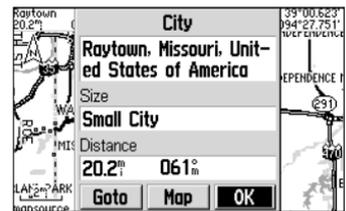
When zoomed in to smaller map areas, 'overzoom' appears directly below the map scale. This indicates the current scale exceeds the optimum resolution of available map detail. Extra caution should be used in 'overzoom' since some detail, such as roads, are drawn using widely spaced points and the actual layout of these details may differ from the map presentation. More detailed map features as well as information about those features can be displayed using map data transferred from the MapSource City Select CD-ROM. When using MapSource data, the word "MapSource" will appear below the map scale whenever you zoom in to view map details.

Panning allows you to move the map in order to view areas beyond the current map area. This provides a 'look ahead' capability which is particularly useful with smaller map areas. To pan, use the **ROCKER KEYPAD** to move the map in any direction, including diagonally.

As you begin to pan the map, a pointer appears. This map pointer will serve as a target marker for the map. If you change the scale, the map is redrawn with the pointer at the center. When the pointer is placed on an object, the name of that object will be highlighted. (If the name wasn't originally displayed, it will appear when the pointer is placed on the object.) This feature applies to everything displayed on the map except

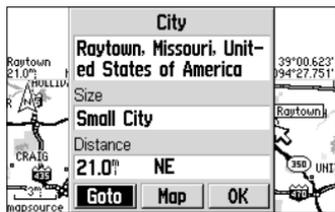


The Map Page showing the panning arrow and a highlighted map feature or point of interest.

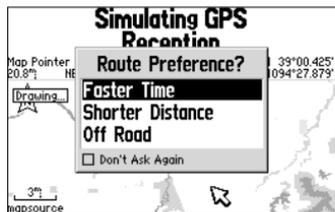


The Information Page for the city highlighted in the screen above.

Map Page



Select the on-screen 'Goto' button to navigate to the selected city.



From the pop-up menu, use the **ROCKER KEYPAD** to select your routing preference.

route lines and track log data. When a waypoint name is highlighted, you can review information about the waypoint, list waypoint options, or execute a 'Route to It' directly from the Map Page.

To select an on-screen location with the panning pointer:

1. Use the **ROCKER KEYPAD** to start the panning function. A panning pointer will appear on the screen.
2. Continue using the **ROCKER KEYPAD** to place the pointer on the desired item.
3. To view information for the selected item, press **ENTER**.
4. To go to the location on the map, select 'Goto' on the information page for that item and press **ENTER**. The Route Preference window appears. Select 'Faster Time', 'Shorter Distance', or 'Off Road', and press **ENTER**. The GPS V will route you to the selected destination using turn-by-turn navigation.
5. If the pointer was placed on a waypoint, you can delete the waypoint by using the **ROCKER KEYPAD** to select the on-screen 'Delete' button and pressing **ENTER**.
6. To exit the information pages, press **QUIT**.

The 'Goto' function can be used anywhere on the map. If nothing currently exists at the map pointer position, a new waypoint will be created at the pointer's location before the Goto is started. You can also create a waypoint on the Map Page without selecting it as a 'Goto' destination.

To create a new waypoint from the Map Page:

1. Use the **ROCKER KEYPAD** to point to the desired location on the map and press **ENTER** briefly. A 'New Waypoint Page' will appear, with an auto-assigned name (3-digit number) for the waypoint.
2. You can show the waypoint on the Map or Goto it. Select the desired option and press **ENTER**.

Map Page

Once you are finished with panning, you can quickly remove the panning arrow and re-center the map on your present position by pressing the **QUIT** key.

Map Page Navigation Information

The following navigation information is displayed on the Map Page:

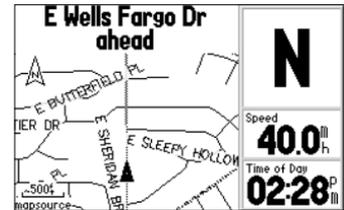
When not navigating (no destination selected)

- Moving direction - Cardinal letters indicate the direction you are traveling.
- Speed - Your rate of travel which can be displayed in miles per hour or kilometers per hour.
- Time of Day - Current time.
- Approaching Street - The next street ahead, by name.

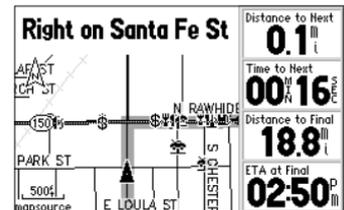
When navigating (a destination is selected)

- Driving Instructions - Given in text format.
- Distance To Next - The distance remaining to reach the next turn.
- Time to Next - The time remaining to reach the next turn.
- Distance to Final - The distance remaining to reach the final destination.
- ETA at Final - The estimated arrival time at the final destination.

You can configure the Map Page to display other information using the 'Change Fields' option described on page 19.



Map Page when not navigating to a destination.



Map Page when navigating to a destination.

Map Page

Map Page Options:

Stop Navigation

Hide Guidance Text (or Show Guidance Text)

Setup Map

(with tabs for—Map, Display, Line, Waypoint, City, Road, Point, Area and Topo)

Change Fields

Measure Distance

MapSource Info



The options menu on the Map Page is a context-sensitive listing of settings which allow you to customize the Map Page.

Map Page Options

Many features of the GPS V are menu driven. Like each of the main pages, the Map Page has an options menu, allowing you to customize the page to your preferences and/or select special features which specifically relate to the Map Page.

To display the Map Page Options, press MENU (with the Map Page displayed).

The following Map Page options are available:

Stop Navigation—cancels navigation to the currently selected Goto destination.

To cancel navigation to the current Goto destination:

1. With the Map Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Stop Navigation' and press **ENTER**.

Hide Guidance Text (or Show Guidance Text)—removes the guidance information from the top of the Map Page. This provides more “look ahead” area on the map. If 'Hide Guidance Text' is selected, 'Show Guidance Text' will appear as an option instead.

To remove (or display) text information at the top of the Map Page:

1. With the Map Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Hide Guidance Text' (or 'Show Guidance Text') and press **ENTER**.

Map Page

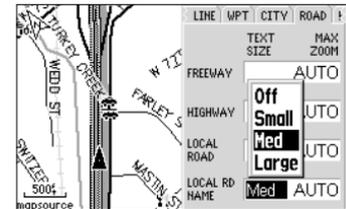
Setup Map—allows you to configure the map display to your preferences, including map detail, map orientation, automatic zooming, and color mode. The map setup options are organized under a series of “file tabs”, making individual selections easier to locate and change. The following table lists the file tabs and settings available under each tab:

Map	Detail, Orientation, AutoZoom, Lock On Road
Display	Land Data, Direct Goto Line, Color Mode
Line	Track Log, Active Route, Railroad, Lat/Lon Grid
Wpt	User waypoints, Active Route waypoints
City	Large/Medium/Small Cities, Small Towns, Text
Road	Freeway, Highway, Local Road, Local Road Names
Point	Geo, Marine Navaid, Highway Exits, Points of Interest
Area	River, Park, Metro Area, Other
Topo	Major/Intermediate/Minor Coutour Lines, Land Cover

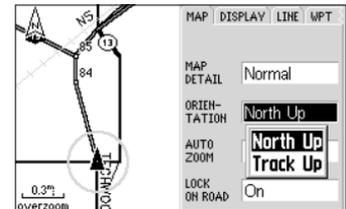
Common Settings:

Text Size—Specifies the text size that a map item will be displayed in. Selecting ‘None’ will turn off the text display for that item.

Max Zoom—Specifies the maximum map scale at which a map item will be displayed. If ‘Auto’ is selected, the maximum map scale will be determined by the ‘Detail’ setting to prevent map clutter. If ‘Off’ is selected, the item will not be shown.



A series of “file tabs” at the top of the page allow you to change the Map Page setup options.

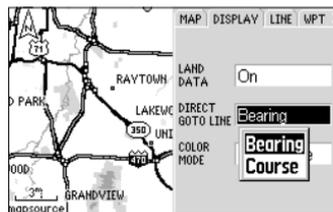


Map orientation options include ‘North Up’ and ‘Track Up’. Selecting ‘North Up’ will display the map with North at the top. Selecting ‘Track Up’ will automatically rotate the map to keep your current direction of travel at the top of the screen. A ‘North’ indicator is displayed on the map when using ‘Track Up’.

Map Page



'Lock On Road' causes the triangular present location symbol to "snap to" the nearest road. This compensates for any minor errors in your location reading.



The 'Direct Goto Line' can represent bearing to your destination (and remain tied to your present position) or a course line (which remains fixed at the location where the Goto was first initiated).

Settings Descriptions:

Map Detail—Adjusts the amount of map information, such as roads, that is displayed. 'Most' shows maximum detail and 'Least' shows minimum detail. The high level of detail may make the map appear cluttered. The Map Detail setting applies to any Map Setup item set to 'Auto'. Those features for which you have specified a maximum scale, or turned 'Off', are unaffected by the Map Detail setting.

Orientation—Selecting 'North Up' will display the map with North always at the top. Selecting 'Track Up' will automatically rotate the map to keep your current direction of travel at the top of the screen. A 'North' indicator is displayed at the upper left corner of the map when in the 'Track Up' mode.

AutoZoom—When 'On', this option will automatically adjust the map scale to show both your current location and the next item you are navigating to.

Lock On Road—When 'On', this option will place the triangular vehicle symbol on the nearest road, rather than at the current GPS-calculated position.

Direct Goto Line—Selects between a "course" line (from where the Goto was first initiated) to your destination or a "bearing" line that constantly updates to your present position.

Color Mode—Select between Land (water areas shaded) or Water (land areas shaded) modes for best viewing conditions.

Cities—Large cities are those with approximate populations greater than 200,000. Medium cities are those with approximate populations over 50,000 and small cities are greater than 5,000. Small towns have approximate populations under 5,000 or an unknown population size.

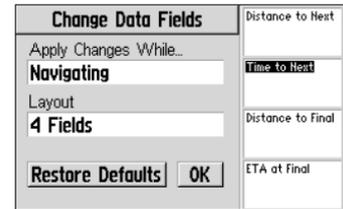
Areas—'Other' areas includes airports, shopping malls and hospitals.

Map Page

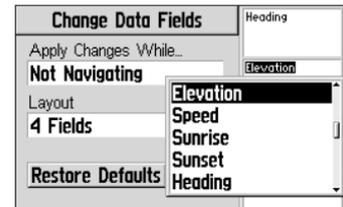
Change Fields—allows you to choose the data displayed on user-selectable data fields adjacent to the map display (to the right of the map when horizontally oriented) or to remove the data fields and display a full-screen map.

To change a data field or change the number of on-screen data fields:

1. With the Map Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.
2. Changes can be made to the Map Page which apply to screen content/layout while navigating or when not navigating. This allows you to custom tailor the screen to your preferences for each condition. Determine which screen content/layout you wish to change. If the current condition is not the one you wish to change, use the **ROCKER KEYPAD** to select the 'Apply Changes While...' field and press **ENTER**. A pop-up list will appear. Use the **ROCKER KEYPAD** to select the desired condition and press **ENTER**.
3. To change the type of data displayed on the Map Page, use the **ROCKER KEYPAD** to highlight the data field you wish to change and press **ENTER**. A pop-up list of available data types will appear. Use the **ROCKER KEYPAD** to select the desired data type and press **ENTER**. Press **QUIT** to remove the highlight from the changed data field and return to normal operation.
4. To change the number of data fields on the Map Page or select a full-screen map, use the **ROCKER KEYPAD** to highlight the 'Layout' field and press **ENTER**. A pop-up list of available screen layouts will appear. Use the **ROCKER KEYPAD** to select the desired layout and press **ENTER**. Press **QUIT** to remove the highlight from the 'Layout' field and return to normal operation.



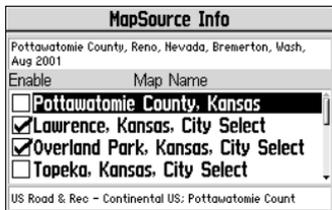
Available data types for the 'Change Fields' option are listed on a pop-up window. These changes can be set to apply while navigating or when not navigating (independent settings for both conditions).



Map Page



Use the 'Measure Distance' option to measure distance and bearing between any two map locations. A pointer and "rubber-band" will appear, along with display of bearing and distance between points at the top of the page.



Use the 'MapSource Info' screen to enable or disable any map data you have downloaded to your GPS V. Maps are enabled when an "X" appears adjacent to the map name.

Measure Distance—allows you to measure the bearing and distance between any two points you choose on the Map Page. Also displays the latitude and longitude of the pointer.

To measure the distance between two points:

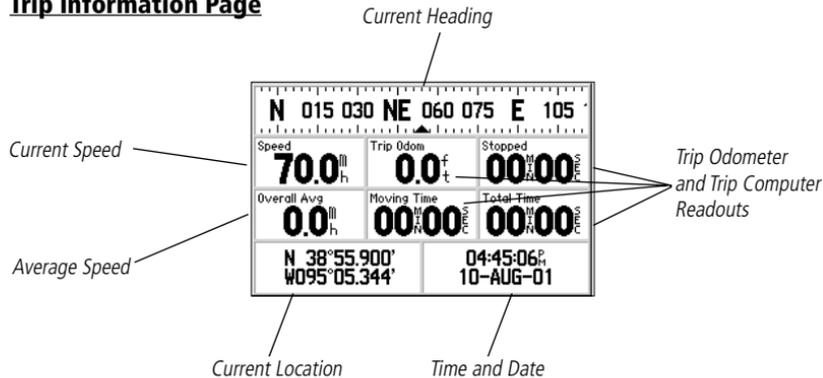
1. With the Map Page Options displayed, select 'Measure Distance' and press **ENTER**. An on-screen pointer will appear on the map display at your current location.
2. Use the **ROCKER KEYPAD** to move the panning pointer to the desired reference point (i.e., the point you want to measure from) and press **ENTER**.
3. Move the pointer to the point you want to measure to. The distance and direction from the reference point is shown on the top of the Map Page.
4. Press the **QUIT** key (or select 'Stop Measure Distance' on the Map Page Options menu) to exit the measuring function and return to normal operation.

MapSource Info—shows which maps have been downloaded from the MapSource City Select CD-ROM (or an optional MapSource-family CD-ROM). MapSource map data supplements the built-in map with additional detail, including residential streets, better routing capability and points of interest. Each downloaded map is described by name, and may be deselected if you wish to retain the map in memory but not display is on the map page. This is particularly useful if the same map area is downloaded from more than one MapSource-family product. (When a map is selected, the boundary for the map is shown on the Map Page as a gray shaded outline box.)

To view MapSource info and enable/disable maps:

1. With the Map Page Options displayed, select 'MapSource Info' and press **ENTER**.
2. Use the **ROCKER KEYPAD** to scroll through the list of downloaded maps.
3. To select/deselect a map, use the **ROCKER KEYPAD** to highlight the desired map and press **ENTER**. The map is selected and will be displayed on the Map Page when an "X" appears in the box adjacent to the map name.

Trip Information Page

Trip Information Page

The third main page is the Trip Information Page. If you are making a long trip, you will find the Trip Information Page very useful. It indicates your current speed, average speed, trip odometer and many other helpful statistics about your trip. The following suggestions will help you obtain the maximum benefit from the Trip Information Page:

- Be certain to reset the Trip Information before beginning the trip. Instructions on resetting will follow.
- If you make frequent stops, leave the GPS V powered on and receiving satellites. This will allow the unit to accurately measure elapsed time during the trip. However, some vehicles disconnect power to the cigarette lighter when the ignition is turned off. In order to continue receiving satellites, use batteries and the cigarette lighter adapter for your trip. When external power is removed, the unit will then ask, with a screen prompt, if it can use the batteries when vehicle power is not available.

Subject Finder:

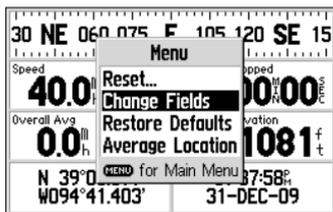
Resetting Trip Information..... page 23

Clearing the Track Log..... page 23



When external power is removed, the GPS V will alert you with a screen prompt. Press any key to continue operating the GPS V.

Trip Information Page



You can change the information types on the Trip Information Page, using the 'Change Fields' option.

The following items appear on the Trip Information Page:

Current Heading—Your current direction of travel is indicated on a compass-like display at the top of the page.

Speed—Your current vehicle speed can be indicated in miles per hour, knots or kilometers per hour.

Trip Odometer—The running total of distance traveled, based upon the distance between second-by-second location readings, since the Trip Information was last reset.

Stopped Time—The length of time that the vehicle has been stopped (stationary) while the GPS V was still powered on and tracking your location (and since the Trip Information was last reset).

Overall Avg—Your average speed of travel (including time stopped) during the time the GPS V was on and tracking your location (and since the Trip Information was last reset).

Moving Time—The length of time that the vehicle has been in motion, since the Trip Information was last reset.

Total Time—The total length of time that the GPS V has been tracking your location, since the Trip Information was last reset. This is always equal to Moving Time plus Stopped Time.

Current Location—Your current position is displayed in latitude/longitude coordinates at the bottom left corner of the page.

Current Time and Date—The current time and date appears in the lower right corner of the screen. Time can be displayed in 12- or 24-hour format and in local time or universal (UTC) time.

You can change any of these items to display different data by selecting the 'Change Fields' option (see following page).

Trip Information Page Options

Many features of the GPS V are menu driven. Like each of the main pages, the Trip Information Page has an options menu, allowing you to customize the page to your preferences and/or select special features which specifically relate to the Trip Information Page.

To display the Trip Information Page Options, press MENU (with the Trip Information Page displayed).

The following Trip Information Page options are available:

Reset...—allows you to reset the trip timer, trip odometer, max speed and other trip information, or clear the track log.

To reset trip information or clear the track log:

1. With the Trip Information Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Reset...' and press **ENTER**.
- 2a. To reset all trip information and clear the track log, use the **ROCKER KEYPAD** to highlight 'Select All' and press **ENTER**. (To unselect all categories, highlight 'Unselect All' instead.)

or

- 2b. To reset only some trip information or to only clear the track log, use the **ROCKER KEYPAD** to highlight the desired item(s) and press **ENTER**. A check mark appears in the box adjacent to any items you have selected.
3. Use the **ROCKER KEYPAD** to highlight 'Apply' and and press **ENTER**. A confirmation window appears. Press **ENTER** again (with 'OK' highlighted) to reset/clear the selected items.

Trip Information Page

Trip Information Page Options:

Reset...

*(with selections for—Trip, Odometer,
Max Speed and Track Log)*

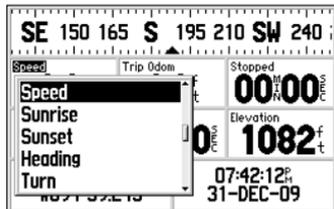
Change Fields

Restore Default

Average Position



Trip Information Page



Available data types for the 'Change Fields' option are listed on a pop-up window.



Use the 'Restore Defaults' option to restore the original factory settings.

Change Fields—allows you to choose the data displayed on six user-selectable data fields on the Trip Information Page (across the middle of page).

To change a data field(s):

1. With the Trip Information Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.
2. Use the **ROCKER KEYPAD** to highlight the data field you wish to change (look for the small highlight box on one of the data field titles) and press **ENTER**.
3. A pop-up list of available data types will appear. Use the **ROCKER KEYPAD** to select the desired data type and press **ENTER**.
4. Press **QUIT** to remove the highlight from the changed data field and return to normal operation.

Restore Defaults—restores all data fields to the factory settings.

To restore the factory default settings:

1. With the Trip Information Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Restore Defaults' and press **ENTER**.

Average Location—allows you to average position samples over time and save the averaged result as a waypoint. Averaging reduces the effects of position errors and results in a more accurate position reading. To use the averaging function, the GPS V must be turned on, locked onto satellites and have a valid position reading.

Trip Information Page

To average position samples and save the result as a waypoint:

1. With the Map Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Average Location' and press **ENTER**. An Average Location window appears. Observe the 'Accuracy' and 'Measurement Count' figures.
2. When the 'Accuracy' and/or 'Measurement Count' figures reach the desired value(s), highlight 'Save' and press **ENTER**. (To cancel the averaging function, highlight 'Discard' and press **ENTER**.)
3. The New Waypoint window appears with a three-digit name preassigned as the name for the new waypoint.
- 4a. To save the waypoint with the preassigned name, use the **ROCKER KEYPAD** to highlight 'OK' and press **ENTER**.

or,

- 4b. To change the waypoint name, use the **ROCKER KEYPAD** to highlight the waypoint name field (top line) and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter a new name for the waypoint. When finished, highlight 'OK' and press **ENTER**. Then highlight 'OK' on the New Waypoint window and press **ENTER**.

Average Location		240
SE 1	Location	
Speed	N 39°01.159'	00
	W094°39.245'	PERCENT
Overall Av	Accuracy	Elevation
01	48.8'	1082'
	Measurement Count	82'
N 3	3	7'
W09	Discard	Save
		-09

When averaging position samples to save a more accurate waypoint location, observe the 'Accuracy' and 'Measurement Count' fields. Select the on-screen 'Save' button once the desired accuracy has been achieved.

Using Find

Find Menu:

Points of Interest

(Food&Drink, Lodging, Entertainment, Shopping, Services, Transportation and Emergency&Government)

Addresses

Intersections

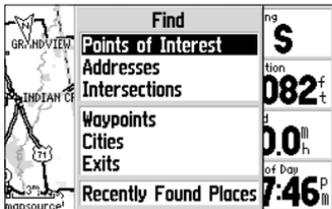
Waypoints*

Cities

Exits

Recently Found Places

*See pages 14 and 48-49 for more information on creating and using waypoints.



When searching for points of interest using the 'By Name' list, multiple items with the same name appear only once on the list (for example "McDonalds"). When you select it and press **ENTER**, a list of 'Nearest' for that name will appear.

Using the Find Menu

You can search for Waypoints, Cities or interstate highway Exits that are included in the GPS V basemap using the Find Menu. In addition, if you have downloaded the City Select map data, you can search for and find Points of Interest, Addresses, or Intersections. If this data is not present, these options are not selectable. Your current location is normally used as the reference point when searching for 'Nearest'—and the 'Distance', and 'Bearing' readings will also reference your current location. However, if you are using the panning pointer (see page 13), it is used as the reference point for 'Nearest', 'Distance' and 'Bearing'.

Finding items 'By Name' or 'Nearest'

Waypoints, Cities, and Points of Interest on the Find Menu can be viewed in two formats, 'By Name' (a list of every item available for a category) or 'Nearest' (a list of only those items for a category that are nearby). When selecting Waypoints, Cities or Points of interest, the option to search 'By Name' or for 'Nearest' will automatically pop up once the category is selected.

Finding waypoints, cities or points of interest by name:

1. Press **FIND** to display the Find Menu.
2. Use the **ROCKER KEYPAD** to select 'Points of Interest', 'Waypoints' or 'Cities'.
3. A pop-up window allows you to find 'Nearest' or 'By Name'. Use the **ROCKER KEYPAD** to select 'By Name' and press **ENTER**.
4. For Points of Interest Only: additional pop-up windows allow you to select the points of interest category(s). Use the **ROCKER KEYPAD** and **ENTER** to select the desired category(s).

Using Find

5. Use the **ROCKER KEYPAD** and **ENTER** to spell the name of the desired waypoint, city or point of interest on the top line of the page (pressing **ENTER** after each letter/number is selected).
6. As you enter each letter/number, the list below is continuously updated to display any matches in the data. You may find that only the first few letters/numbers are needed to display the desired item. You can quickly exit the editing function and jump to the list below by highlighting 'OK' and pressing **ENTER**. Otherwise, spell out the entire name, then use the **ROCKER KEYPAD** to highlight 'OK' and press **ENTER**.
7. Use the **ROCKER KEYPAD** to highlight the desired item from the list (if not already highlighted) and press **ENTER**. A pop-up window will appear with additional information for the selected waypoint, city or point of interest.
 - 8a. To navigate to the selected waypoint, city or point of interest: use the **ROCKER KEYPAD** to highlight the on-screen 'Goto' button and press **ENTER**. Then use the **ROCKER KEYPAD** to select your routing preference and press **ENTER**.

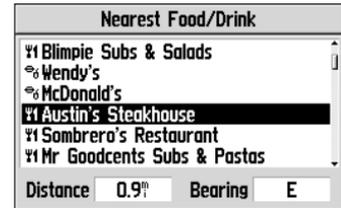
or,

- 8b. To view the selected waypoint, city or point of interest on the map: use the **ROCKER KEYPAD** to highlight the on-screen 'Map' button and press **ENTER**. Then use the **IN/OUT** zoom keys to select the desired map scale.

or,

- 8c. To exit the information page: use the **ROCKER KEYPAD** to highlight the on-screen 'OK' button and press **ENTER**.

NOTE: For waypoints, an on-screen 'Delete' button also appears, allowing you to delete the selected waypoint.

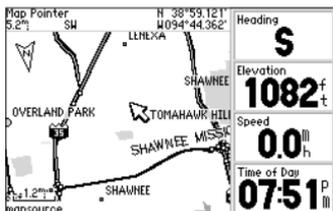


Once you locate the item of your choice, press **ENTER** to display the Waypoint Information Page for that item.

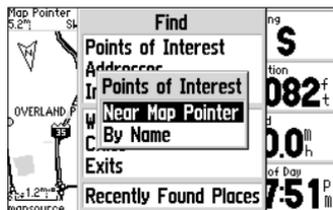


An example the detail found on the Waypoint Information Page. Press **ENTER** with the on-screen 'Goto' button highlighted to navigate to the location.

Using Find



Use **FIND** to search for nearby waypoints, cities or points of interest. If you press **FIND** while panning on the map, the GPS V will search for waypoints, cities or points of interest nearest to the panning pointer (see page 14).



Finding nearby waypoints, cities or points of interest:

1. Press **FIND** to display the Find Menu.
 2. Use the **ROCKER KEYPAD** to select 'Points of Interest', 'Waypoints' or 'Cities'.
 3. A pop-up window allows you to find 'Nearest' or 'By Name'. Use the **ROCKER KEYPAD** to select 'Nearest' and press **ENTER**.
 4. For Points of Interest Only: additional pop-up windows allow you to select the points of interest category(s). Use the **ROCKER KEYPAD** and **ENTER** to select the desired category(s).
 5. Use the **ROCKER KEYPAD** to highlight the desired item from the list and press **ENTER**. A pop-up window will appear with additional information for the selected waypoint, city or point of interest.
 - 6a. To navigate to the selected waypoint, city or point of interest: use the **ROCKER KEYPAD** to highlight the on-screen 'Goto' button and press **ENTER**. Then use the **ROCKER KEYPAD** to select your routing preference and press **ENTER**.
- or,
- 6b. To view the selected waypoint, city or point of interest on the map: use the **ROCKER KEYPAD** to highlight the on-screen 'Map' button and press **ENTER**. Then use the **IN/OUT** zoom keys to select the desired map scale.
- or,
- 6c. To exit the information page: use the **ROCKER KEYPAD** to highlight the on-screen 'OK' button and press **ENTER**.

NOTE: For waypoints, an on-screen 'Delete' button also appears, allowing you to delete the selected waypoint.

Using Find

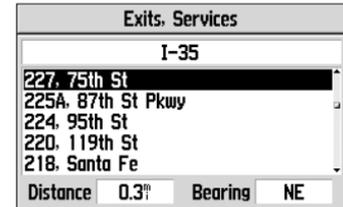
When viewing waypoints the information window displays the waypoint name, a map symbol, the location in latitude/longitude and elevation. City information includes city name, the size by population and the distance/direction from your current location. Points of interest information includes name, address and phone number.

Finding Highway Exits

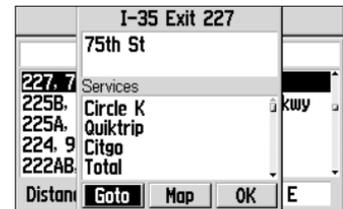
You can use the Find Menu 'Exits' option to locate a nearby exit on an interstate highway. Exits are listed only by 'Nearest'. You can also search for exits on interstates other than the nearest one by using the 'Select Exit Road' option from the list of exits.

To find an exit:

1. Press the **FIND** key to display the Find Menu.
2. Use the **ROCKER KEYPAD** to select 'Exits' and then press **ENTER**.
3. An exits menu will appear with a choice of exit types. Use the **ROCKER KEYPAD** to highlight the type of exits you wish to view, then press **ENTER**.
4. A list of the nearest exits will be displayed with the closest exit ahead highlighted on the list. The title of the list indicates the name of the interstate which the exits are on. Direction and distance to the highlighted exit is shown at the bottom of the list.
5. Use the **ROCKER KEYPAD** to scroll down through the list and display exits further ahead. (To display exits behind you, scroll up through the list instead.)
6. With the desired exit highlighted, press **ENTER** to display an information page for that exit. This page contains the exit description, followed by a list of services near that exit. To see additional information about any service, use the **ROCKER KEYPAD** to highlight the service and press **ENTER**. The service information shows the name of the service and its direction from the exit.
7. From the nearest exits list or the information pages, you can 'Goto' the exit, show the exit on the 'Map' or exit the information page by selecting 'OK'.

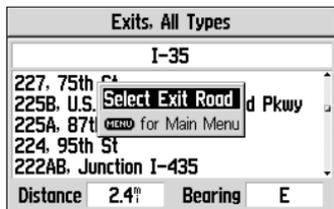


Example of a list of interstate highway exits with services on I-35.

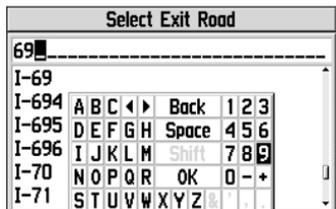


Additional information can be displayed for the highlighted exit by pressing **ENTER**.

Using Find



To view exit information for another nearby interstate highway, use the 'Select Exit Road' option. For numbered highways, enter the number only—not the prefix.



To find an exit for another nearby interstate:

1. Follow steps 1 through 4 on the preceding page, under 'To find an Exit'.
2. With a list of nearest exits displayed, press **MENU**.
3. With 'Select Exit Road' highlighted, press **ENTER**.
4. Use the **ROCKER KEYPAD** and **ENTER** to select a different interstate highway, by name.

NOTE: When selecting a numbered highway (e.g., I-20 or Hwy 15), do not enter the "I" or "Hwy" prefix—just the number.

5. Once the desired highway is entered, use the **ROCKER KEYPAD** to highlight 'OK' and press **ENTER**.
6. A list of interstate highways is presented. If necessary, use the **ROCKER KEYPAD** to highlight the desired highway from the list and press **ENTER**. A new list of nearest exits is displayed for the selected interstate highway.

Using Find

Finding an Address or an Intersection

You must download MapSource City Select data to your GPS V to search for addresses or intersections, otherwise these options are not selectable.

To locate an address:

1. Press the **FIND** key to display the Find Menu.
2. Use the **ROCKER KEYPAD** to select the 'Addresses' option and then press **ENTER** to display the Find Address Page.
3. With the number field highlighted, use the **ROCKER KEYPAD** and **ENTER** to enter the street number portion of the address. Highlight 'OK' and press **ENTER** when finished.
4. Use the **ROCKER KEYPAD** to highlight the street name field, then use the **ROCKER KEYPAD** and **ENTER** to enter the street name portion of the address. Highlight 'OK' and press **ENTER** when finished.
5. Select the on-screen 'Find' button and press **ENTER** to view the 'Select Address' page with a list of possible address matches. A window at the bottom of the list displays the quality of each address match.
6. Select an address and press **ENTER** to display the Address Information Page. From this information page you can view the address on the map or 'Goto' the address.
7. If there are many matches, use the optional city and/or postal code fields to place the best matches near the top of the list.

To locate an intersection:

The Find Intersections feature operates like the Find Addresses feature, with the exception that you enter first and second street names instead of a street number and street name.

Find Address	
Number	12352
Street	NW Daggett Rd Find
(optional) City	Postal Code
-----	-----

The Find Address Page.

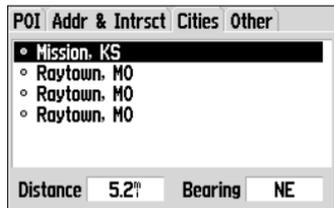
Select Street Name	
151	-----
Hwy 151	
151st	ABC ← ▶ Back 1 2 3
E 151	DEF GH Space 4 5 6
E 151	IJKLM Shift 7 8 9
W 151	NOPQR OK 0 - +
W 151	STUVWXYZ & . ,

When selecting a street with cardinal direction letter (e.g., W 95th St, E Dakota Dr) do NOT enter the cardinal letter, just enter the number or the street name.

Using Find



'Recently Found Places' can be used as a shortcut to retrieve locations you use often. You can quickly access this page by pressing and holding the **FIND** key.



Use the **ROCKER KEYPAD** to display the desired 'Recently Found Places' category: points of interest, addresses and intersections, cities, or other. ('Other' includes interstate highway exits and waypoints.)

Recently Found Places

You can use the 'Recently Found Places' option to locate Points of Interest, Addresses and Intersections, Cities, and other locations you have recently retrieved. The Recently Found Places Page uses a series of 'file tabs' at the top that identifies each category of recently found places. Each category lists up to fifteen items (i.e., the last fifteen businesses found are listed under the POI tab, the last fifteen cities found are under the cities tab, etc.). The most recently reviewed item is at the top of each list, with subsequent items listed in reverse-chronological order.

To locate a Recently Found Place:

1. Press the **FIND** key to display the Find Feature Menu.
2. Use the **ROCKER KEYPAD** to select 'Recently Found Places' and press **ENTER** to display the Recently Found Places Page and a list of recently found places .

NOTE: You can also display the recently found places page by pressing and holding the **FIND** key.

3. Use the **ROCKER KEYPAD** to select the file tab category of your choice at the top of the page.
4. Use the **ROCKER KEYPAD** to select the desired item on the list and press **ENTER** to display an information page. The information page will include the full name, type, address and phone number (only for points of interest). From the information page you can show the place on the map, or 'Goto' it.

Using Goto or Routes

The GPS V gives you several options to select a destination:

FIND—Use the **FIND** key as described on pages 26-32. Once you have selected the desired location, use the on-screen ‘Goto’ button that appears on the information page for the desired location to navigate to that location. This is the easiest method for selecting a destination and is ideal for shorter routes.

Automatic Routes—This is essentially the same as using the **FIND** key, as described above, but starts from the Main Menu’s Routes option (see page 51). Once you have selected the desired location and displayed an information page, use the on-screen ‘Goto’ button to navigation to that location.

Manual Routes—To create a manual route, you enter each point in the route, starting with your departure point, then any interim locations and, finally, your destination. Manual routing is best suited for longer routes, especially when travelling from city to city via interstate or U.S. highways.

To Start a New Route:

1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight ‘Routes’ and press **ENTER**.
3. Use the **ROCKER KEYPAD** to select ‘New’ and press **ENTER**.
4. A pop-up window will ask for the desired route type. Use the **ROCKER KEYPAD** to select the desired route type and press **ENTER**.

Use the following steps for automatic or manual routes, as desired. For more information on automatic routes, refer to the **FIND** key instructions on pages 26-32.

Goto and Routes

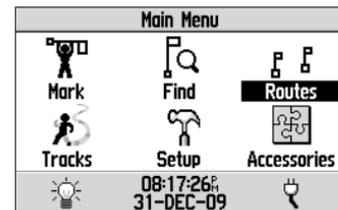
Methods for Selecting your Destination:

FIND Key

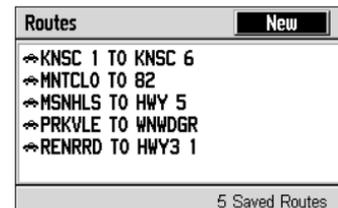
Main Menu | Routes

Automatic Routes

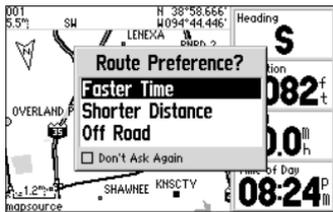
Manual Routes



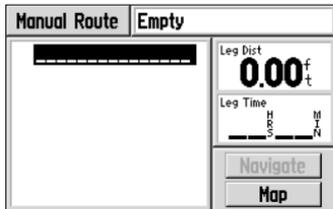
You can use the Main Menu’s ‘Routes’ selection to create a new route. Use the **ROCKER KEYPAD** to highlight the on-screen ‘New’ button and press **ENTER**.



Goto and Routes



You can create automatic or manual routes. Automatic routes use the routing features in MapSource City Select data and the GPS V's built-in basemap to automatically select the required turns to reach your final destination.



Manual routes are created by adding each location along the route manually, beginning with your departure point.

For Automatic Routes:

5. Use the **ROCKER KEYPAD** to select the desired destination category (e.g., 'Points of Interest' or 'Cities') and press **ENTER**.
6. For points of interest, waypoints or cities, select between 'Nearest' or 'By Name' and press **ENTER**. When selecting by name, or selecting addresses or intersections, use the **ROCKER KEYPAD** and **ENTER** to enter the destination by name.
7. Select any additional category information, if prompted to do so. When viewing a nearest list, use the **ROCKER KEYPAD** to select the desired location and press **ENTER** to display an information page.
8. From the information page, use the **ROCKER KEYPAD** to select 'Goto' and press **ENTER**. From the Route Preference window, use the **ROCKER KEYPAD** to select 'Faster Time', 'Shorter Distance' or 'Off Road' and press **ENTER**.

For Manual Routes:

5. The first blank line of the route is highlighted. Press **ENTER**, use the **ROCKER KEYPAD** to select the desired category (e.g., 'Points of Interest' or 'Cities') and press **ENTER**.
6. For points of interest, waypoints or cities, select between 'Nearest' or 'By Name' and press **ENTER**. When selecting by name, or selecting addresses or intersections, use the **ROCKER KEYPAD** and **ENTER** to enter the destination by name.
7. Select any additional category information, if prompted to do so. When viewing a nearest list, use the **ROCKER KEYPAD** to select the desired location and press **ENTER** to display an information page.
8. To add the desired location to the manual route, use the **ROCKER KEYPAD** to highlight 'Use' and press **ENTER**. (If you wish to view the location on the map first, select 'Map' instead.)
9. Use the **ROCKER KEYPAD** to select the next blank line of the route and repeat steps 5-8 to add another location to the route. Continue until you have all locations in the route. When finished building the route, press **QUIT**.

Goto and Routes

When using **FIND** or automatic routes, you can save the automatically-created Goto or route from the Current Route Page. This allows you to retrieve the route again for later use. When viewing saved routes, note that a hiker symbol is used to denote manual and off-road routes. A car symbol denotes an automatically-created Goto or route.

To save a Goto or automatic route:

1. While navigating the route, press **PAGE** until the Current Route Page is displayed (see page 40).
2. Press **MENU** to display the Current Route Page Options.
3. Use the **ROCKER KEYPAD** to highlight 'Save Route' and press **ENTER**.

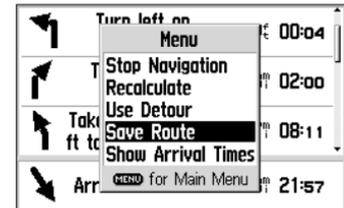
Once a route is saved, you can select it for navigational guidance.

To select and navigate a saved route:

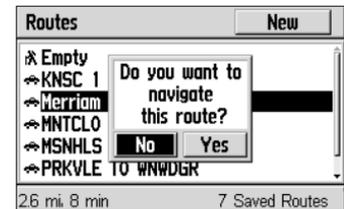
1. Press the **MENU** key twice to view the Main Menu.
 2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
 3. Use the **ROCKER KEYPAD** to select a saved route from the list and press **ENTER**.
 - 4a. For manual routes, use the **ROCKER KEYPAD** to select the on-screen 'Navigate' button and press **ENTER**. The unit is now ready to navigate the route.
- or,
- 4b. For automatic routes, use the **ROCKER KEYPAD** to select the 'Yes' button and press **ENTER**.

To stop navigating a route:

1. Follow steps 1 through 3 above (under "To select and navigate a saved route").
2. Use the **ROCKER KEYPAD** to select 'Stop' and press **ENTER**. The current route is deactivated.



To save the current route for later use, use the 'Save Route' option—available from the Current Route Page.



To navigate a saved route, select the desired route from the route list. (The route list is displayed when 'Routes' is selected from the Main Menu.)

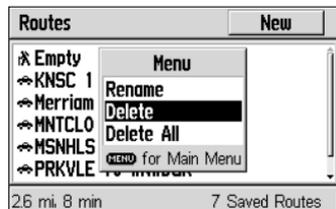
Goto and Routes

Route List Options:

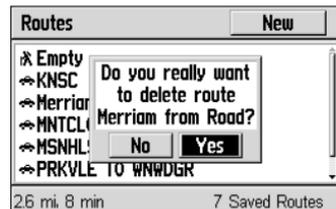
Rename

Delete

Delete All



With the route list displayed, press **MENU** to display the route list options.



To delete a route, highlight the route on the route list, then select 'Delete' from the route list options. Select 'Delete All' to delete all saved routes.

With the list of saved routes displayed, press **MENU** to display an options menu. Functions are available for deleting and renaming saved routes.

To delete a route or delete all routes:

1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
3. Use the **ROCKER KEYPAD** to highlight the route you wish to delete. (This step can be omitted when deleting all routes.)
4. Press **MENU** to display an options menu.
5. To delete all routes, use the **ROCKER KEYPAD** to select 'Delete All' and press **ENTER**.
6. To delete the highlighted route (step 3), use the **ROCKER KEYPAD** to select 'Delete' and press **ENTER**.

To rename a route:

1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
3. Use the **ROCKER KEYPAD** to highlight the route you wish to rename.
4. Press **MENU** to display an options menu.
5. Use the **ROCKER KEYPAD** to select 'Rename' and press **ENTER**.
6. Use the **ROCKER KEYPAD** and **ENTER** to enter the new name for the route. When finished, use the **ROCKER KEYPAD** to select 'OK' and press **ENTER**.

Goto and Routes

From the list of saved routes, highlight any saved manual route (denoted by hiker symbol) on the list and press **ENTER** to display an information page for the selected route. From the Route Information Page, pressing **MENU** displays options for editing, reversing, copying and deleting saved routes, and for reconfiguring on-screen data.

To remove all waypoints from a saved route or delete the route:

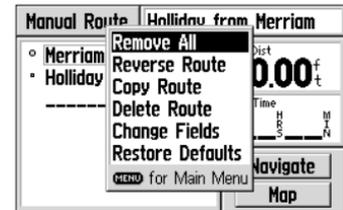
1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
3. Use the **ROCKER KEYPAD** to highlight the route you wish to edit or delete.
4. Press **ENTER** to display the Route Information Page for the selected route.
5. Press **MENU** to display an options menu.
6. Use the **ROCKER KEYPAD** to select 'Remove All' or 'Delete Route' and press **ENTER**.
7. A confirmation window will appear. With 'Yes' highlighted press **ENTER** to confirm.

To reverse or copy a saved route:

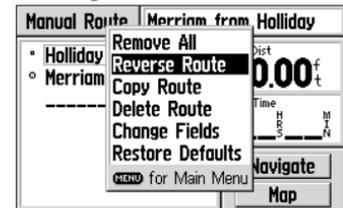
1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
3. Use the **ROCKER KEYPAD** to highlight the route you wish to reverse or copy.
4. Press **ENTER** to display the Route Information Page for the selected route.
5. Press **MENU** to display an options menu.
6. Use the **ROCKER KEYPAD** to select 'Reverse Route' or 'Copy Route' and press **ENTER**. When copying a route, a new route is added to the route list with the same name as the original, but with a one-digit number added to the end.

Route Information Page Options:

Remove All
Reverse Route
Copy Route
Delete Route
Change Fields
Restore Defaults

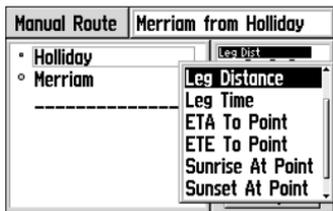


To display the Route Information Page options, press **MENU** from the Route Information Page.

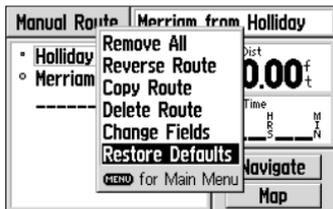


Select 'Reverse Route' to reverse the sequence of turns in the route.

Goto and Routes



Available data types for the 'Change Fields' option are listed on a pop-up window.



Use the 'Restore Defaults' option to restore the original factory settings.

The Route Information Page includes two user-selectable data fields. The factory settings for these two data fields are leg distance (distance between each sequential pair of route waypoints) and sunset time (for current location). You can change each data field to display different information suitable to your preferences.

To change a data field(s):

1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
3. Use the **ROCKER KEYPAD** to highlight any route in the list.
4. Press **ENTER** to display the Route Information Page for the selected route.
5. Press **MENU** to display an options menu.
6. Use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.
7. Use the **ROCKER KEYPAD** to highlight the data field you wish to change (look for the small highlight box on one of the data field titles) and press **ENTER**.
8. A pop-up list of available data types will appear. Use the **ROCKER KEYPAD** to select the desired data type and press **ENTER**.
9. Press **QUIT** to remove the highlight from the changed data field and return to normal operation.

To restore the data fields to the factory default settings:

1. Follow steps 1 through 5 above.
2. Use the **ROCKER KEYPAD** to highlight 'Restore Defaults' and press **ENTER**.

Goto and Routes

Any saved manual routes can also be edited from the Route Information Page. You can insert, remove, move or change waypoints in the route.

To edit a route:

1. Press the **MENU** key twice to view the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight 'Routes' and press **ENTER**. A list of all routes stored in memory is displayed.
3. Use the **ROCKER KEYPAD** to highlight the route you wish to edit and press **ENTER** to display the Route Information Page.
4. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to edit and press **ENTER** to display the route editing pop-up menu.

NOTE: When inserting a waypoint into the route, highlight the waypoint in the route that will immediately follow the new waypoint.

5. To review the information for a route waypoint, use the **ROCKER KEYPAD** to select 'Review' and press **ENTER** to display the waypoint information page.
6. To insert a waypoint in the route, use the **ROCKER KEYPAD** to select 'Insert' and press **ENTER**. Select the desired location/waypoint using the steps described on pages 26-32, then select 'Use' and press **ENTER**.
7. To remove a waypoint from the route, use the **ROCKER KEYPAD** to select 'Remove' and press **ENTER**.
8. To change a waypoint in the route, use the **ROCKER KEYPAD** to select 'Change' and press **ENTER**. Select the desired location/waypoint using the steps described on pages 26-32, then select 'Use' and press **ENTER**.
9. To move a waypoint in the route, use the **ROCKER KEYPAD** to select 'Move' and press **ENTER**. Use the **ROCKER KEYPAD** to move the waypoint to the desired place in the route and press **ENTER**.

Route Editing Options:

Review
Insert
Remove
Change
Move

Manual Route	Merriam from Holliday
<ul style="list-style-type: none"> Holliday Merriam 	Leg Dist 1.94 ^f _t Leg Time H M S M S ----- Stop Map

To edit a manual route, start from the Route Information Page and highlight the route waypoint you wish to edit...

Manual Route	Merriam from Holliday
<ul style="list-style-type: none"> Review Insert Remove Change Move 	Leg Dist 1.94 ^f _t Leg Time H M S M S ----- Stop Map

...then press **ENTER** to view the route editing pop-up menu. When inserting waypoints into the route, start from the waypoint that will immediately follow the new inserted waypoint.

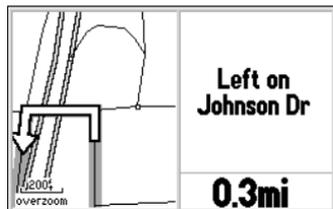
Current Route Page

Subject Finder:

Stop Navigation.....	page 41
Recalculate Route.....	page 42
Use Detour.....	page 42

← Turn left on Johnson Dr	0.3 ^m	00:39
← Turn left on ramp to I-35(S)	0.4 ^m	01:02
↑ Take Exit 225A on right to ramp to W	4.1 ^m	04:45
↓ Arrive at 82	7.1 ^m	11:00

The Current Route Page only appears in the main page sequence when a destination is selected using an automatic route.



The Next Turn Page can be displayed at any time from the Current Route Page by pressing **ENTER**.

Current Route Page

Turn Direction Arrow	↑	Exit right to Lexington Ave	6.3 ^m	05:26	Distance and Time To Go (or Arrival Time)
	←	Turn left on Lexington Ave	6.7 ^m	06:00	
	←	Turn left on Wea St	8.2 ^m	08:36	
	↑	Arrive at Doc & Bruties Pizza	8.5 ^m	09:58	
Direction Pointer					Scroll Bar

When a destination is selected (via the **FIND** key or an automatic route) the Current Route Page is displayed as one of four main pages—between the Map Page and the Trip Information Page. At the bottom of the Current Route Page appears a pointer, which indicates the direction of travel from your current location to the final destination, along with distance and time to the final destination. The pointer is replaced by a checkered flag when you reach your destination. The top three lines of the Current Route Page display the next three turns (turn direction arrow, turn description, distance and time for each).

The Next Turn Page (described on page 44) is accessible from the Current Route Page by pressing the **ENTER** key. When the Current Route Page displays multiple turns, you can view the Next Turn Page for any turn by first selecting it on the list with the **ROCKER KEYPAD**.

To view the Next Turn Page from the Current Route Page:

1. With the Current Route Page displayed, press **ENTER** to display the Next Turn Page for the next turn.
2. Press **ENTER** or **QUIT** to exit the Next Turn Page.

To view the Next Turn Page for any turn on the Current Route Page:

1. With the Current Route Page displayed, use the **ROCKER KEYPAD** to highlight the desired turn and press **ENTER**.
2. Press **ENTER** or **QUIT** to exit the Next Turn Page.

Current Route Page Options

Many features of the GPS V are menu driven. Like each of the main pages, the Current Route Page has an options menu, allowing you to customize the page to your preferences and/or select special features which specifically relate to the Current Route Page.

To display the Current Route Page Options, press MENU (with the Current Route Page displayed).

The following Current Route Page options are available:

Stop Navigation (or **Resume Navigation**)—Stops the Goto or route being navigated. Or, resumes a currently stopped Goto or route.

To stop (or resume) navigation of the currently selected route:

1. With the Current Route Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Stop Navigation' (or 'Resume Navigation') and press **ENTER**.

Current Route Page**Current Route Page Options:**

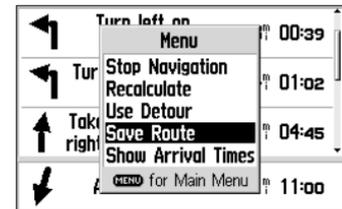
Stop Navigation (or Resume Navigation)

Recalculate

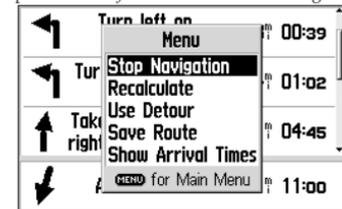
Use Detour

Save Route

Show Arrival Times (or Show Times to Go)

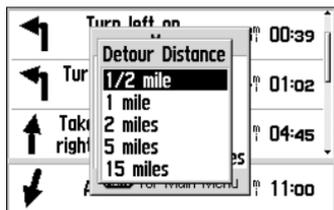


To display the Current Route Page options, press **MENU** from the Current Route Page.

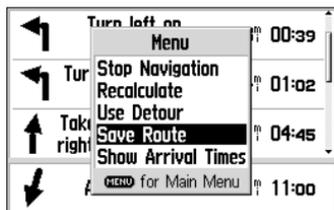


Select 'Stop Navigation' if you no longer wish to navigate to the current destination. If you are making an extended stop, you can use 'Resume Navigation' when you are again ready to navigate to the destination.

Current Route Page



When road construction or traffic delays become a problem, select 'Use Detour' and the GPS V will calculate an alternate route around the problem area.



Select 'Save Route' if you wish to keep the route for future use.

Recalculate—Recalculates the Goto or route starting from your current location. This allows you to update the route if you've traveled off the current route or reselected between faster time or shorter distance calculations.

To recalculate the currently selected route:

1. With the Current Route Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Recalculate' and press **ENTER**.

Use Detour—Recalculates the Goto or route, bypassing the road you are currently on for a specified distance. Use this option if the road ahead is closed or congested and you need an alternate route.

To detour the road ahead on the currently selected route:

1. With the Current Route Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Use Detour' and press **ENTER**.
2. A pop-up window appears with selections for detour distance. Use the **ROCKER KEYPAD** to select the distance of road ahead you wish to bypass and press **ENTER**.
3. Use the **ROCKER KEYPAD** to select a route preference (e.g., 'Faster Time' or 'Shorter Distance') and press **ENTER**.

Save Route—Saves the current Goto or route in memory for future use.

1. With the Current Route Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Save Route' and press **ENTER**.
2. A pop-up window appears to confirm the route is saved. Press **ENTER** to acknowledge the confirmation window.

Current Route Page

Show Arrival Times (or **Show Times to Go**)—Switches the Current Route Page between display of arrival times at each turn and the final destination, or showing time to go (in hours/minutes or minutes/seconds, as appropriate).

To change the time displayed on the Current Route Page:

1. With the Current Route Page displayed, press **MENU**.
2. Use the **ROCKER KEYPAD** to select 'Show Arrival Times' (or 'Show Times to Go') and press **ENTER**.

	Turn left on Johnson Dr	0.3 ^m	11:44 ^h
	Turn left on ramp to I-35(S)	0.4 ^m	11:44 ^h
	Take Exit 225A on right to ramp to W	4.1 ^m	11:48 ^h
	Arrive at 82	7.1 ^m	11:54 ^h

'Show Arrival Times' displays the arrival time at each turn.

	Turn left on Johnson Dr	0.3 ^m	00:39
	Turn left on ramp to I-35(S)	0.4 ^m	01:02
	Take Exit 225A on right to ramp to W	4.1 ^m	04:45
	Arrive at 82	7.1 ^m	11:00

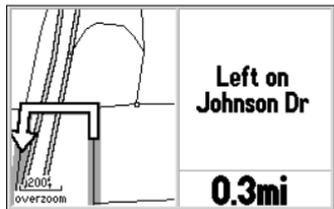
'Show Times to Go' displays the time to go (in hours/minutes or minutes/seconds) to reach each turn.

Next Turn Page

Subject Finder:

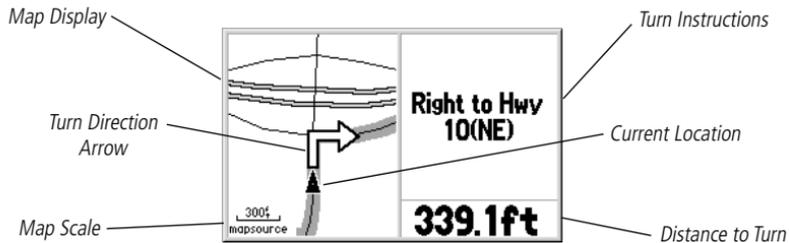
Current Route Page page 40
 Off Road Routing Preference pages 7, 34

The Next Turn Page is only available while navigating a Goto or route. However, when selecting a destination, the 'Off Road' route preference will display the Direction Finder Page—not the Current Route or Next Turn Pages.



Use the **IN** and **OUT** zoom keys to change the map scale on the Next Turn Page. Press **QUIT** or **ENTER** to exit the Next Turn Page.

Next Turn Page



The Next Turn Page displays a detailed map of the turn, along with turn instructions and distance to the turn. When a route is being navigated, the Next Turn Page automatically pops-up for ten seconds prior to reaching the turn. The page is viewed in top-view, oriented to the inbound direction for the turn. A North direction arrow will appear in the top-left corner of the page if the map display is not oriented 'North up'.

The map scale appears in the bottom-left corner of the page, and is adjustable using the **IN/OUT** zoom keys.

You can clear the page at any time by pressing either the **QUIT** or **ENTER** key. The Next Turn Page can be turned off completely or set to automatically appear when navigating a Goto or route (default setting). See the Main Menu's Setup option on page 54 for instructions on configuring the Next Turn Page.

NOTE: If you are not navigating to a destination, using a Goto or automatic route, the Next Turn Page is not available.

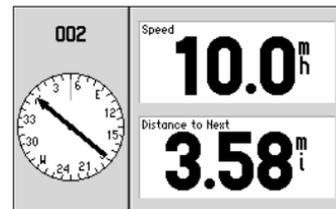
Direction Finder Page

Whenever a destination has been selected using the 'Off Road' routing preference or when navigating a manual route, the Direction Finder Page appears in the main page sequence—in place of the Current Route Page. The Direction Finder Page will guide you to your destination with a graphic compass-like display and a bearing pointer. Digital readouts adjacent to the graphic compass display your current speed, distance to next waypoint, arrival time at next waypoint, and current elevation. Each for these four digital readouts (data fields) is user-selectable and may be configured to display other data.

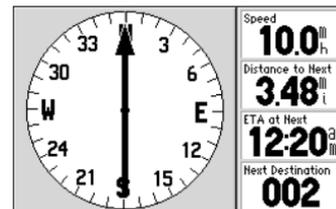
When moving, the rotating graphic compass shows your the direction you are heading. The bearing pointer indicates the direction (bearing) to the next waypoint, relative to your current heading direction. The graphic compass and bearing pointer work independently to show, at a glance, the direction of your movement and the direction to your destination. For instance, if the arrow points up, you are going directly to the waypoint. If the arrow points any direction other than up, turn toward the arrow until it points up—then continue in that direction.

Direction Finder Page**Subject Finder:**

Big Numbers Display..... page 47
 Course Pointer vs. Bearing Pointer.. page 47



Use the 'Big Numbers' option to display a smaller graphic compass and larger data readouts.



If you are heading directly to your destination, the bearing pointer will point straight up.

Direction Finder Page

Direction Finder Page Options:

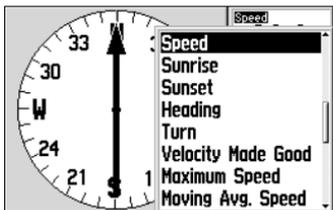
Stop Navigation (or Resume Navigation)

Change Fields

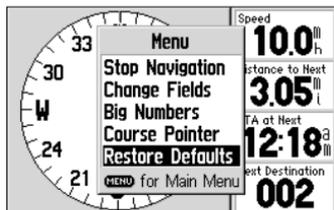
Big Numbers (or Small Numbers)

Course Pointer (or Bearing Pointer)

Restore Defaults



Available data types for the 'Change Fields' option are listed on a pop-up window.



Use the 'Restore Defaults' option to restore the original factory settings.

Direction Finder Page Options

Many features of the GPS V are menu driven. Like each of the main pages, the Direction Finder Page has an options menu, allowing you to customize the page to your preferences and/or select special features which specifically relate to the Direction Finder Page.

To display the Direction Finder Page Options, press MENU (with the Direction Finder Page displayed).

The following Direction Finder Page options are available:

Stop Navigation (or Resume Navigation)—Stops the Goto or route being navigated. Or, resumes a currently stopped Goto or route.

To stop (or resume) navigation of the currently selected route:

1. With the Direction Finder Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Stop Navigation' (or 'Resume Navigation') and press **ENTER**.

Change Fields—allows you to choose the data displayed on four user-selectable data fields on the Direction Finder Page.

To change a data field(s):

1. With the Direction Finder Page Options displayed, use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.
2. Use the **ROCKER KEYPAD** to highlight the data field you wish to change (look for the small highlight box on one of the data field titles) and press **ENTER**.
3. A pop-up list of available data types will appear. Use the **ROCKER KEYPAD** to select the desired data type and press **ENTER**.
4. Press **QUIT** to remove the highlight from the changed data field and return to normal operation.

Direction Finder Page

Big Numbers (or **Small Numbers**)—allows you to select a different Direction Finder Page layout, with a smaller graphic compass and two user-selectable, large-character data fields. If ‘Big Numbers’ is selected, ‘Small Numbers’ will appear as an option instead.

To change the Direction Finder Page layout:

1. With the Direction Finder Page Options displayed, use the **ROCKER KEYPAD** to highlight ‘Big Numbers’ (or ‘Small Numbers’) and press **ENTER**.

Course Pointer (or **Bearing Pointer**)—allows you to define the function of the pointer on the graphic compass. The Bearing Pointer (default setting) will point to your destination, relative to your current position and direction of travel. If you turn to the direction the bearing pointer indicates, you will head directly to your destination. The Course Pointer uses your starting location to define a course to your destination. If you move off course, an off-course needle moves left or right showing direction and magnitude of course error. To return the course, turn in the direction of the needle and continue in that direction until the needle centers. To head directly to your destination, keep the needle centered and the course pointer pointing straight up.

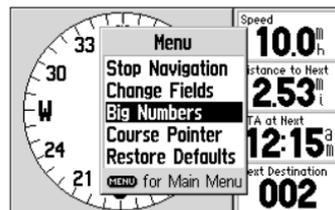
To change the function of the pointer on the graphic compass:

1. With the Direction Finder Page Options displayed, use the **ROCKER KEYPAD** to highlight ‘Course Pointer’ (or ‘Bearing Pointer’) and press **ENTER**.

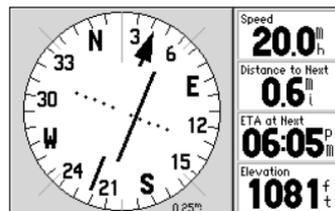
Restore Defaults—restores all data fields to the factory settings.

To restore the factory default settings:

1. With the Direction Finder Page Options displayed, use the **ROCKER KEYPAD** to highlight ‘Restore Defaults’ and press **ENTER**.

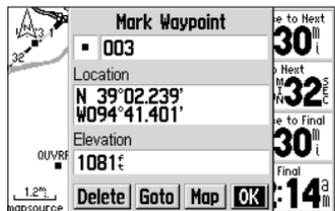


Use the ‘Big Numbers’ option to display a smaller graphic compass and larger data readouts.



The course pointer includes an off-course needle to indicate, when you stray off course, how far left or right of your course line you currently are.

Waypoints



To mark your current location as a waypoint, press and hold the **ENTER** key. The Mark Waypoint Page will appear with your current position and a pre-assigned waypoint name.



To change the waypoint name, use the **ROCKER KEYPAD** and **ENTER** to enter a new name. You can also change the waypoint symbol.

Marking Your Location as a Waypoint

The GPS V allows you to capture your current location and save it as a “waypoint”. Use this feature to mark locations you may wish to return to in the future (e.g., parked car location, trailhead or fishing spot). The GPS V can hold up to 500 Waypoints.

To mark your location as a Waypoint:

1. Press and hold **ENTER**. The ‘Mark Waypoint’ page appears, with a default three-digit name for the new waypoint at the top portion of the page. The GPS V captures the location from the instant at which you pressed **ENTER**, so you do not need to be concerned about moving, losing satellite reception or any delay while you change the name or waypoint symbol.
2. You may wish to rename the waypoint or change the symbol, as described below. Once you’ve made these changes, select the ‘OK’ button to permanently save the new waypoint in memory.

To rename the Waypoint:

1. Use the **ROCKER KEYPAD** to select the name field (top line) and press **ENTER**.
2. Use the **ROCKER KEYPAD** and **ENTER** to enter the new waypoint name, then select ‘OK’ and press **ENTER** to save the new name.

Each waypoint may also be assigned a custom waypoint symbol for easy recognition on the Map Page.

To change the Waypoint symbol:

1. Highlight the Personal Waypoint symbol (immediately to the left of the waypoint name) and press **ENTER**. Use the **ROCKER KEYPAD** to select the desired symbol.
2. Press **ENTER** when you find the most appropriate symbol. The new waypoint is now stored in memory.

Waypoints

At the bottom of the Mark Waypoint Page there are three on-screen buttons:

Delete—deletes the waypoint.

Goto—Tells the unit that you want to navigate to that waypoint.

Map—Shows the waypoint on the Map Page.

When marking your current location, the GPS V also allows you to average position samples over time to produce a more accurate position.

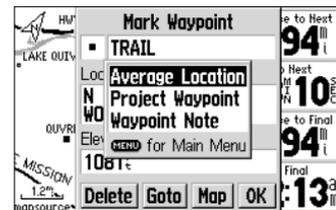
To average position samples and save the result as a waypoint:

1. With the Mark Waypoint Page displayed, press **MENU**.
2. Use the **ROCKER KEYPAD** to highlight 'Average Location' and press **ENTER**. Observe the 'Accuracy' and 'Measurement Count' figures.
3. When the 'Accuracy' and/or 'Measurement Count' figures reach the desired value(s), highlight 'Save' and press **ENTER**. (To cancel the averaging function, highlight 'Discard' and press **ENTER**.)
4. Follow the steps on the previous page, if desired, to rename the waypoint or change the waypoint symbol.

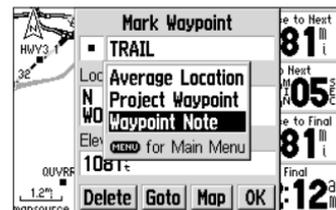
Waypoints can be created by referencing another location. By entering a bearing and distance from the reference location (present position or a stored waypoint), the GPS V "projects" the location and saves the new location as a "projected waypoint".

To create a projected waypoint by referencing another waypoint:

1. With the Mark Waypoint Page or Waypoint Information Page (see page 27) displayed, press **MENU**.
2. Use the **ROCKER KEYPAD** to highlight 'Project Waypoint' and press **ENTER**.
3. Use the **ROCKER KEYPAD** and **ENTER** to enter the Bearing and Distance from the 'From' waypoint to the new location. Select 'OK' each time when finished.
4. Use the **ROCKER KEYPAD** to highlight 'Create Waypoint' and press **ENTER**.



Use the 'Average Location' option to create a more accurate waypoint location.



A 'Waypoint Note' feature lets you add descriptive information to the waypoint. The GPS V will store up to 50 characters per note for each waypoint.

Main Menu

Main Menu Selections:

Mark (see pages 48-49)

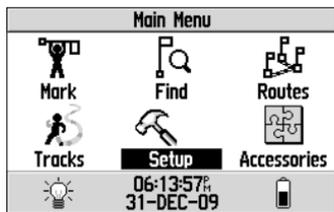
Find (see pages 26-32)

Routes (see pages 33-39)

Tracks

Setup

Accessories



To display the Main Menu, press **MENU** twice. Use the **ROCKER KEYPAD** and **ENTER** to select a Main Menu item.

Main Menu

The Main Menu provides you with a directory of GPS V's features and unit settings. From the Main Menu you can mark new waypoints, find points of interest or cities, creates routes, save track logs, change unit settings, display a calendar, play games, and much more.

Several of the Main Menu features are covered elsewhere in this manual. For additional information, see below or the page references shown at left.

Time, date, battery level and backlight status are all indicated at the bottom of the Main Menu. The battery level is indicated on a battery icon that appears in the bottom right corner of the screen. The shaded portion of the battery indicates charge level. A fresh set of batteries should display a completely shaded (fully charged) battery.

The bulb icon in the lower left corner of the page indicates backlighting level. When the backlight is off the bulb is shaded grey. When backlighting is on, the bulb icon turns white.

To select a Main Menu feature:

1. Press **MENU** twice to display the Main Menu.
2. Use the **ROCKER KEYPAD** to highlight the desired feature and press **ENTER**.

Main Menu: Mark

The Mark Waypoint functions of the GPS V are described on pages 48-49 of this manual.

Main Menu: Find

The Find functions of the GPS V are described on pages 26-32 of this manual.

Main Menu: Routes

The Route functions of the GPS V are described on pages 33-39 of this manual.

Main Menu: Tracks

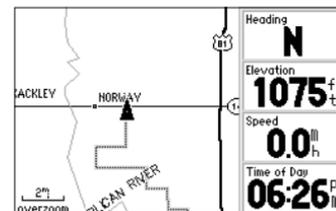
The GPS V draws an electronic breadcrumb trail on the Map Page as you travel along. This breadcrumb trail is referred to as a “track log”. A track log contains information about points along its path, including time and position. The GPS V can use this information to allow you to retrace your path, in either direction. The ‘TracBack’ feature allows you to retrace your path without having to manually mark waypoints along the way.

Track logs can be saved in memory for later use. The GPS V has memory for ten saved track logs.

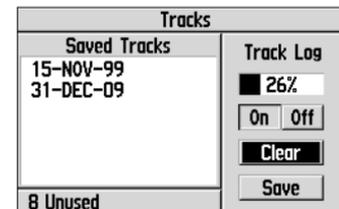
With the track log feature turned on, track logs are automatically recorded as soon as the GPS V is turned on and has determined its position. To be certain that the ‘TracBack’ feature will return you to the desired point, you should clear the track log before your begin traveling. The percentage of memory used in the current log is displayed on the Saved Tracks Page, along with ‘On’, ‘Off’, ‘Clear’ and ‘Save’ on-screen buttons. When available memory is filled, track log data will continue to be saved, but will overwrite the oldest track data already saved. To avoid losing track data, monitor the available memory periodically and save the track log before it reaches 100%.

You can set the track log recording interval to ‘Distance’, ‘Time’ or ‘Auto’. With ‘Distance’ or ‘Time’ selected, you can specify the distance or time value between track log recording points.

Main Menu: Tracks



A track log is an electronic “bread crumb” trail showing where you have been. A track log can be displayed on the Map Page.



Use the Saved Tracks Page to monitor available track memory, clear the track log, save tracks or view a list of saved tracks.

Main Menu: Tracks



From the Saved Tracks Page, press **MENU** to select 'Setup Track Log' and modify the track log recording settings.



Track logs can be recorded by time, distance or 'Auto' intervals. 'Auto' uses a resolution function where additional track points are not saved until you deviate left/right from a projected course.

To set up the track log recording function:

1. Follow the steps on page 50 to select 'Tracks' and display the Saved Tracks Page.
2. Press the **MENU** key to display an options window.
3. Use the **ROCKER KEYPAD** to highlight 'Setup Track Log' and press **ENTER**.
4. Use the **ROCKER KEYPAD** to highlight 'Wrap When Full' and press **ENTER** to check/uncheck this feature. When unchecked, the track log is recorded until available memory is full, then stops.
5. Use the **ROCKER KEYPAD** to highlight 'Record Interval' and press **ENTER**. Then use the **ROCKER KEYPAD** to select the desired interval option ('Distance', 'Time' or 'Auto') and press **ENTER**.
6. Use the **ROCKER KEYPAD** to highlight 'Value' (or 'Resolution') and press **ENTER**. Then use the **ROCKER KEYPAD** and **ENTER** to enter the desired value/setting.
7. When finished, use the **ROCKER KEYPAD** to highlight 'OK' and press **ENTER**.

To delete all saved track logs:

1. Follow the steps on page 50 to select 'Tracks' and display the Saved Tracks Page.
2. Press the **MENU** key to display an options window.
3. Use the **ROCKER KEYPAD** to highlight 'Delete All Saved' and press **ENTER**.
4. Use the **ROCKER KEYPAD** to highlight 'Yes' and press **ENTER**.

To clear the track log currently being recorded:

1. Follow the steps on page 50 to select 'Tracks' and display the Saved Tracks Page.
2. Use the **ROCKER KEYPAD** to highlight 'Clear' and press **ENTER**.

To save the track log currently being recorded:

1. Follow the steps on page 50 to select 'Tracks' and display the Saved Tracks Page.
2. Use the **ROCKER KEYPAD** to highlight 'Save' and press **ENTER**.

To display additional information for a saved track:

1. Follow the steps on page 50 to select 'Tracks' and display the Saved Tracks Page.
2. Use the **ROCKER KEYPAD** to highlight a track log in the 'Saved Tracks' list and press **ENTER**. Information for the save track log is displayed, including distance, number of points and area calculation. On-screen buttons are also provided to delete the track log, show it on the map or enable the TracBack feature.

To use the TracBack feature:

1. Follow steps 1 and 2 above, under "To display additional information for a saved track".
2. Use the **ROCKER KEYPAD** to highlight 'TracBack' and press **ENTER**. A pop-up menu will present two options: 'To Beginning' (retracing your steps back to the first track log point) or 'To End' (retracing the track log in the same sequence it was saved). Use the **ROCKER KEYPAD** to select the desired option and press **ENTER**.

Main Menu: Tracks

Tracks	
Saved Tracks	Track Log
15-NOV-99 31-DEC-09	<input checked="" type="checkbox"/> 26%
	<input type="button" value="On"/> <input type="button" value="Off"/>
	<input type="button" value="Clear"/>
8 Unused	<input type="button" value="Save"/>

To save a track log, select the on-screen 'Save' button from the Saved Tracks Page.

Track Log	
Name	<input type="button" value="Delete"/>
31-DEC-09	<input type="button" value="Map"/>
Distance Points	<input type="button" value="TracBack"/>
183.4 ^m 214	<input type="button" value="OK"/>
Area	
816712.1 ac	
<input type="checkbox"/> Show On Map	

To retrace your steps, select the TracBack function from the track log information screen.

Main Menu: Setup

Setup Pages (file tabs):

System
Time
Guidance
Routing
Units
Timers
Location
Alarms
Interface

System	Time	Guidance	Routing	Units	T.
System Mode	Battery				
Demo Mode	Alkaline				
Backlight	Display				
Always On	Landscape				
Beeper	WAAS				
Off	Disabled				

The Setup Pages are selected via a series of “file tabs” across the top of the screen. Each setup page is labeled and identified according to its file tab.

Main Menu: Setup

The Setup Pages allow you to customize your GPS V to your personal preferences. Each selectable Setup Page is denoted by a “file tab” at the top that identifies the function of that page.

To select a Setup Page:

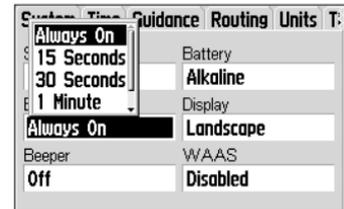
1. Follow the steps on page 50 to select ‘Setup’.
2. Use the **ROCKER KEYPAD** to highlight the desired tab across the top of the screen.

System	Mode, Battery, Backlight, Display, Beeper, WAAS
Time	Format, Daylight Savings, Zone, UTC Offset
Guidance	Off-Route Recalculation, Next Turn Pop-up
Routing	Preference, Calculation Method, Calculate For, Avoid
Units	Distance/Speed, Heading, Heading Display, Elevation
Timers	User Timer, Battery Timer
Location	Format, Map Datum
Alarms	Anchor Drag, Proximity Waypoints, Proximity Alarm
Interface	Format, Baud Rate, DGPS Beacon Information

Main Menu: Setup: System

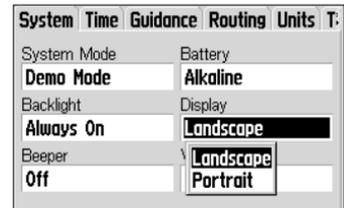
The System Setup Page allows you to select from three different modes of operation: ‘Normal’, ‘Battery Saver’ or ‘Demo Mode’. Battery Saver and Demo Mode will prolong battery life. Battery Saver reduces the rate of satellite signal sampling and is best for constant speed, straight-line travel. Demo Mode shuts off the satellite receiver portion

Main Menu: Setup



Change the backlight timeout from the System Setup Page's 'Backlight' field. Select 'Always On' for continuous backlighting.

NOTE: When using external power the backlighting will remain on continuously regardless of the 'Backlight' setting.



Use the 'Display' setting to change screen orientation between Landscape and Portrait. Or, press and hold the **PAGE** key.

of the GPS V and is best suited for indoor use (e.g., learning to use the GPS V or creating manual routes). The GPS V cannot be used for navigation guidance when operating in Demo Mode.

The Battery setting is used to designate the type of batteries currently being used to power your GPS V: Alkaline or Lithium. This setting ensures accurate readings from the battery level indicator.

The Backlight setting determines how long the backlighting will remain on after the last keypress. Automatic shutoff times from 15 seconds to 2 minutes are available. Select 'Always On' for continuous backlight operation.

You can view the GPS V's Display in horizontal ('Landscape') or vertical ('Portrait') orientation. The display can also be changed by pressing and holding the **PAGE** key.

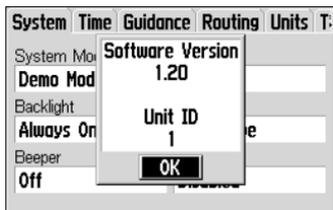
Beeper tones can be turned off, sound only for on-screen messages, or sound for messages and when keys are pressed.

Wide Area Augmentation System (WAAS) capability improves position accuracy in your GPS. When enabled, this feature searches for a WAAS satellite near your location and then receives differential data for correcting the GPS satellite signals. When WAAS is enabled, you will see WAAS satellite numbers, beginning at 33 or above, displayed on the Satellite Status Page. When correction data is received, a "D" will appear in the Satellite Status Page signal bars for all applicable satellites. To learn more about WAAS, access the Federal Aviation Administration website (www.gps.faa.gov) for a comprehensive description and links to detailed information. NOTE: Processor-intensive functions, such as automatic route calculations, will run considerably slower when WAAS is enabled. If you experience significant operational delays, disable the WAAS feature.

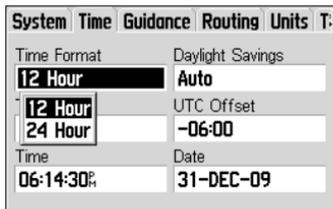
To change a System Setup Page feature:

1. Follow the steps on page 54 to select the System Setup Page.
2. Use the **ROCKER KEYPAD** to highlight the feature you wish to change and press **ENTER**. A pop-up window will appear with selections for that feature.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.

Main Menu: Setup



When using unlock codes with your MapSource City Select CD, you may need the GPS V's unit ID.



Use the Time Setup Page to select between 12- and 24-hour format, or to change time zones. A 'Set Date' option can be used to change the current year setting.

To restore System Setup Page features to the original factory settings:

1. Follow the steps on page 54 to select the System Setup Page.
2. Press **MENU** to display an options menu.
3. Use the **ROCKER KEYPAD** to highlight 'Restore Defaults' and press **ENTER**.

When downloading City Select data to your GPS V, you may be asked to supply a "unit ID". This information is provided under a 'Software Version' selection. As improvements are made to GPS V operating software, you may also wish to refer to the Software Version Page to see if a newer version of software is available (software updates are provided online at <http://www.garmin.com/support/>).

To view the software version and unit ID:

1. Follow the steps on page 54 to select the System Setup Page.
2. Press **MENU** to display an options menu.
3. Use the **ROCKER KEYPAD** to highlight 'Software Version' and press **ENTER**.

Main Menu: Setup: Time

The Time Setup Page allows you to select a 12- or 24-hour time format, select your local time zone and enable daylight savings time. The 'UTC Offset' readout indicates the time difference between your local time zone and Coordinated Universal Time (UTC; also referred to as Greenwich Mean Time). Your local time and date is displayed at the bottom of the page.

To change a Time Setup Page feature:

1. Follow the steps on page 54 to select the Time Setup Page.
2. Use the **ROCKER KEYPAD** to highlight the feature you wish to change and press **ENTER**. A pop-up window will appear with selections for that feature.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.

Main Menu: Setup: Guidance

The Guidance Setup Page controls how the GPS V responds when you depart from a route and how the Next Turn Page is displayed. The Off-Route Recalculation setting determines whether the GPS V prompts you when you depart from the route, automatically recalculates the route without prompting, or ignores the departure from the route and continues with current route navigation. You may enable or disable automatic display of the Next Turn Page with the Next Turn Pop-up setting. With this setting 'On', the Next Turn Page will automatically be displayed just prior to reaching each route turn. With the Next Turn Pop-up setting 'Off', you can still display the Next Turn Page from the Current Route Page using the **ENTER** key.

To change a Guidance Setup Page feature:

1. Follow the steps on page 54 to select the Guidance Setup Page.
2. Use the **ROCKER KEYPAD** to highlight the feature you wish to change and press **ENTER**. A pop-up window will appear with selections for that feature.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.

Main Menu: Setup: Routing

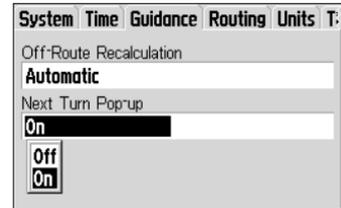
The Routing Setup Page determines what criteria are used for finding the route to your destination. The following options are available:

Faster Time—This setting uses time as the primary criteria for route calculation. The calculated route will take less time to drive, but may be a longer distance than when using the 'Shorter Distance' setting.

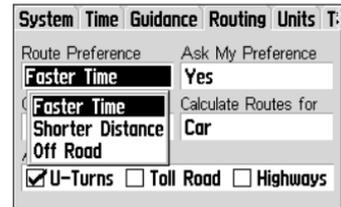
Shorter Distance—This setting uses distance as the primary criteria for route calculation. The calculated route will be shorter distance, but may take more time.

Off Road—This setting creates a direct-line route from your current location to your destination. This may be useful outside the detailed map coverage areas.

Main Menu: Setup

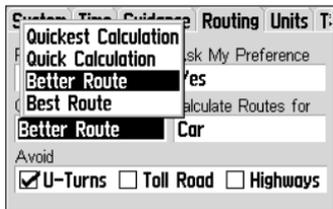


The 'Next Turn Pop-up' setting determines whether or not the Next Turn Page will appear as you approach each turn.

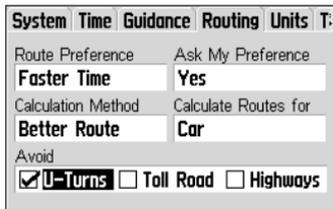


You can pre-program your routing preference (faster time, shorter distance or off road) or select the preference each time you select a destination.

Main Menu: Setup



The 'Calculation Method' determines how thoroughly the GPS V searches through the map data for the perfect route. The better the routing search the longer it will take to calculate.



Use the 'Avoid' settings (enabled when checked) to omit any of the listed features from your route calculations.

The GPS V can prompt you for a routing preference each time you create a route, or you can set the preference on the Routing Setup Page and set 'Ask Me Preference' to 'No'.

You can also control how thoroughly the GPS V searches for the perfect route. There is a trade-off between the length of time it takes to find a route and the quality of that route (i.e., how close will the GPS V's route be to the ideal route). The following options are available:

Quickest Calculation—This provides the fastest results, minimizing the time you have to wait.

Best Route—This provides the best route, but will take longer to calculate.

Better Route or Quick Calculation—These are compromise settings with emphasis on either route quality or time, respectively.

The 'Calculate Routes for' setting allows the GPS V to take full advantage of the City Select Maps. Some roads have vehicle-based restrictions associated with them (e.g., no commercial truck traffic, no pedestrians or no bicycles). By specifying the vehicle type, you can avoid being routed somewhere you cannot legally go. Likewise, some settings (e.g., 'Emergency') will give you access to roads or turns that wouldn't be available to normal traffic.

To change a Routing Setup Page feature:

1. Follow the steps on page 54 to select the Routing Setup Page.
2. Use the **ROCKER KEYPAD** to highlight the feature you wish to change and press **ENTER**. A pop-up window will appear with selections for that feature.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.

Main Menu: Setup

The 'Avoid' selections at the bottom of the Routing Setup Page let you avoid certain items that may be undesirable in your route. However, the GPS V may still use these items if the alternatives will take you too far out of your way.

To select route items you wish to avoid:

1. Follow the steps on page 54 to select the Routing Setup Page.
2. Use the **ROCKER KEYPAD** to highlight the item you wish to avoid and press **ENTER**. The item will generally be avoided with the box adjacent to the item is checked.

Main Menu: Setup: Units

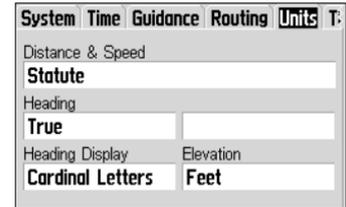
The Units Setup Page allows you to select the desired units of measure for distance, speed, heading and elevation. This page also allows you to select the desired heading reference: True North, Magnetic North or Grid North. If a 'User Mag'netic North setting is chosen, you will need to manually enter the difference between True North and Magnetic North for the local area.

To change units of measure:

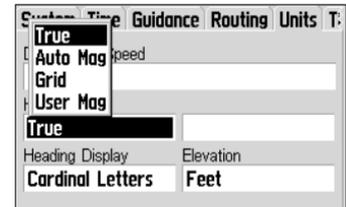
1. Follow the steps on page 54 to select the Units Setup Page.
2. Use the **ROCKER KEYPAD** to highlight the feature you wish to change and press **ENTER**. A pop-up window will appear with selections for that feature.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.
4. If 'User Mag' is selected, use the **ROCKER KEYPAD** to highlight the heading difference field, press **ENTER**, then use the **ROCKER KEYPAD** and **ENTER** to enter the difference between True North and Magnetic North.

To restore Units Setup Page features to the original factory settings:

1. Follow the steps on page 54 to select the Units Setup Page.
2. Press **MENU** to display an options menu.
3. Use the **ROCKER KEYPAD** to highlight 'Restore Defaults' and press **ENTER**.

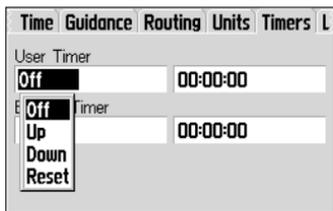


Change distance, speed and elevation units of measure from the Units Setup Page.

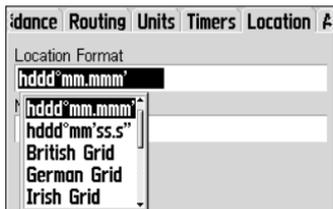


Heading readings can be referenced to True North or Magnetic North.

Main Menu: Setup



Count Down and Count Up timers are available from the Timers Setup Page.



Use the Location Setup Page to change the location format. Several latitude/longitude and grid formats are available, as well as regional grids.

Main Menu: Setup: Timers

The Timers Setup Page lets you select a count up or count down user timer. For a count down timer, you may also specify the count down duration. A battery timer lets you keep track of how long it has been since you last changed the batteries.

To select a user timer setting:

1. Follow the steps on page 54 to select the Timers Setup Page.
- 2a. For a count down timer, use the **ROCKER KEYPAD** to highlight the time field to the right of 'User Timer' and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the count down duration.

or,

- 2b. For a count up timer, use the **ROCKER KEYPAD** to highlight 'User Timer' and press **ENTER**. Use the **ROCKER KEYPAD** to highlight 'Up' and press **ENTER**.
3. To reset the timer or turn the timer off, use the **ROCKER KEYPAD** to highlight 'User Timer' and press **ENTER**. Use the **ROCKER KEYPAD** to select 'Reset' or 'Off' and press **ENTER**.

Main Menu: Setup: Location

The Location Setup Page allows you to change the format for location readout or select a different map datum. Format options include latitude/longitude (in several formats), MGRS, UTM/UPS, Maidenhead, Loran TDs, and several regional grids. A comprehensive list of over 100 map datums is available, which can be used to make position readings on your GPS V conform to position readings on a printed map/chart. Check the legend on your paper map/chart to determine which map datum was used to create it.

NOTE: Format and map datum settings are best used by individuals with a working knowledge of these subjects. Selecting the wrong format or wrong map datum can result in substantial position errors.

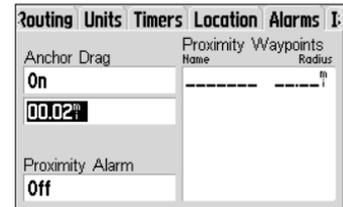
Main Menu: Setup

To select a location format or map datum:

1. Follow the steps on page 54 to select the Location Setup Page.
2. Use the **ROCKER KEYPAD** to highlight 'Location Format' or 'Map Datum' and press **ENTER**. A pop-up window will appear with selections for that feature.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.

To restore Location Setup Page features to the original factory settings:

1. Follow the steps on page 54 to select the Location Setup Page.
2. Press **MENU** to display an options menu.
3. Use the **ROCKER KEYPAD** to highlight 'Restore Defaults' and press **ENTER**.



An anchor drag alarm indicates if you have drifted beyond a specified distance.

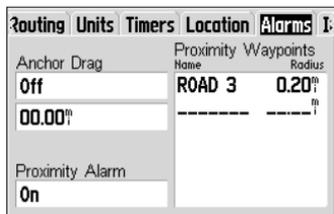
Main Menu: Setup: Alarms

The Alarms Setup Page provides settings for anchor drag and proximity alarms. When enabled, the anchor drag alarm will sound when you've exceeded a specified drift distance, up to 99.99 (units). A proximity alarm defines an alarm circle around a specified waypoint. The radius from the proximity waypoint can be up to 99.99 (units). Proximity alarms are useful when marking locations you wish to avoid (e.g., hazards).

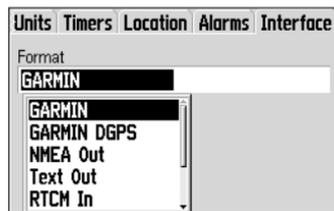
To enable/disable the anchor drag alarm:

1. Follow the steps on page 54 to select the Alarms Setup Page.
2. Use the **ROCKER KEYPAD** to highlight 'Anchor Drag' and press **ENTER**. A pop-up window will appear.
3. Use the **ROCKER KEYPAD** to highlight 'On' or 'Off' and press **ENTER**.
4. To define the alarm distance, use the **ROCKER KEYPAD** to highlight the anchor drag distance field and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the maximum allowable drift distance.

Main Menu: Setup



Proximity waypoints allow you to mark locations you wish to avoid. If you penetrate the alarm radius the GPS V will provide an alert message.



The GPS V has a variety of interface settings for connection to other equipment (such as a GARMIN Beacon Receiver or a PC). You should NOT use the GARMIN DGPS or RTCM In settings when WAAS is enabled.

To enable/disable the proximity alarm:

1. Follow the steps on page 54 to select the Alarms Setup Page.
2. Use the **ROCKER KEYPAD** to highlight 'Proximity' and press **ENTER**. A pop-up window will appear.
3. Use the **ROCKER KEYPAD** to highlight 'On' or 'Off' and press **ENTER**.
4. To specify the proximity waypoint and alarm radius, use the **ROCKER KEYPAD** to highlight the first blank line under 'Proximity Waypoints' and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to specify the waypoint category and waypoint name. (Use the steps on pages 26-32 if you need more guidance.) With the proximity waypoint selected, highlight the 'Radius' field adjacent to the waypoint name and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the alarm radius.
5. To remove a proximity waypoint or all proximity waypoints from the list, use the **ROCKER KEYPAD** to highlight the waypoint you wish to remove (not necessary to remove all) and press **MENU**. Use the **ROCKER KEYPAD** to highlight 'Remove Waypoint' or 'Remove All' and press **ENTER**.

Main Menu: Setup: Interface

The Interface Setup Page lets you control the input/output format used when connecting your GPS V to a computer, external NMEA devices, a DGPS beacon receiver, etc. The following settings are available:

GARMIN—The proprietary format used to exchange waypoint, route, track log and MapSource data with a PC.

GARMIN DGPS—The proprietary format used with a GARMIN differential beacon receiver (e.g., GBR 23). Provides for tuning of the beacon receiver directly from the GPS V.

NMEA Out—Support the output of standard NMEA 0183 version 2.30 data. No input functions are enabled.

Main Menu: Setup

Text Out—Allows simple ASCII text output of location and velocity information. No input functions are enabled.

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

RTCM In/NMEA Out—Allows DGPS input using a standard RTCM SC-104 format and supports the output of standard NMEA 0183 version 2.30 data.

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

None—Provides no interfacing capabilities.

To change an Interface Setup Page feature:

1. Follow the steps on page 54 to select the Interface Setup Page.
2. Use the **ROCKER KEYPAD** to highlight 'Format' and press **ENTER**. A pop-up window will appear listing the available interface settings.
3. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.
4. For Text Out and/or RTCM In, Use the **ROCKER KEYPAD** to highlight 'Baud Rate' and press **ENTER**. Use the **ROCKER KEYPAD** to highlight the desired setting and press **ENTER**.
5. For GARMIN DGPS or RTCM In/NMEA Out, use the **ROCKER KEYPAD** to highlight 'Beacon' and press **ENTER**. Use the **ROCKER KEYPAD** to select 'Scan' or 'Manual' and press **ENTER**. If 'Scan' is selected, the GPS V will automatically direct the beacon receiver to scan for available beacon transmitters. If 'Manual' is selected, 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 on the bottom of the page.

NMEA 0183, version 2.30 is transmitted every two seconds at 4800 baud.

Approved sentences include GPRMC, GPRMB, GPGGA, GPGSA, GPGSV, GPGLL, GPBOD, GPRTE and GPWPL.

Proprietary sentences include PGRME, PGRMZ, PGRMM and PSLIB.

Units	Timers	Location	Alarms	Interface
Format		Baud Rate		
GARMIN DGPS		4800		
Beacon		Freq	Bit Rate	
Scan		285.0%	200	
Manual		SNR	Distance	
Scan		---	---	

When using a beacon receiver setting (GARMIN DGPS or RTCM In/NMEA Out), the GPS V can automatically communicate with the beacon receiver to scan for available stations. Or, you can select 'Manual' and enter the beacon frequency and bit rate.

Main Menu: Accessories

Accessories:

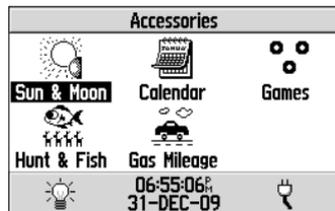
Sun & Moon

Hunt & Fish

Calendar

Gas Mileage

Games



Accessories Page

Main Menu: Accessories

There are five accessory pages (features which enhance unit operation, but are not essential). The Accessories Page displays icons which you select to view the desired accessory.

To select an accessory:

1. Follow the steps on page 50 to select 'Accessories'.
2. Use the **ROCKER KEYPAD** to highlight the desired accessory icon and press **ENTER**.

Sun & Moon	Sun/Moon Location, Sunrise, Sunset, Moonrise, Moonset
Hunt & Fish	Prediction, Best Times, Good Times
Calendar	Monthly Calendar, Notes
Gas Mileage	Mileage Calculations based on Odometer/Fuel Purchase
Games	Breakout Game

Main Menu: Accessories: Sun & Moon

The Sun and Moon Accessories Page graphically depicts the position of the sun and moon relative to Earth. Sun and moon positions can be displayed for any date and for any location on Earth.

The Sun and Moon Accessories Page also displays sunrise, sunset, moonrise and moonset times for the selected time, date and location. On-screen buttons at the bottom of the page allow you to animate the movement of the sun and moon and stop at a given time/date. The button on the left animates the display of sun and moon. The center button animates the display more rapidly, showing the different moon phases. The button on the right stops the animation.

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

1. Follow the steps on page 64 to select the Sun and Moon Accessory Page.
2. Use the **ROCKER KEYPAD** to highlight 'Location' and press **ENTER**. A pop-up window will appear listing the available location options.
3. Use the **ROCKER KEYPAD** to highlight the location option and press **ENTER**. If 'Current Location' is selected, skip to step 5 below.
- 4a. If 'Use Map' is selected, use the **ROCKER KEYPAD** to point to the desired location. Press **ENTER** when the pointer is on the desired location.

or,

- 4b. If 'Use Find Menu' is selected, follow the step-by-step instructions on pages 26-32 in this manual.

- 5a. Use the **ROCKER KEYPAD** to highlight 'Date' and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the desired date. Next, use the **ROCKER KEYPAD** to highlight 'Time' and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the desired time.

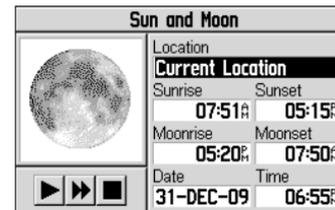
or,

- 5b. Press **MENU** to display an options menu. Use the **ROCKER KEYPAD** to highlight 'Use Current Time' and press **ENTER**.

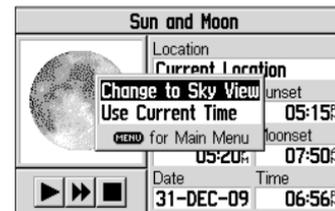
To toggle between sky view and moon phase displays:

1. Follow the steps on page 64 to select the Sun and Moon Accessory Page.
2. Press **MENU** to display an options menu.
3. Use the **ROCKER KEYPAD** to highlight 'Change to Sky View' or 'Change to Moon Phase' and press **ENTER**.

Main Menu: Accessories



The Sun and Moon Accessory Page displays sun and moon locations on a sky view graphic. Moon phases can also be displayed.



To toggle between sky view and moon phase display, press **MENU** and select the alternate display choice. (In this case 'Change to Sky View'.)

Main Menu: Accessories

Hunt & Fish	
Date	Location
31-DEC-09	Current Location
Prediction	
Good Day	
Best Times	Good Times
11:15 ^A —01:15 ^A	05:04 ^A —06:04 ^A
11:39 ^A —01:39 ^A	05:26 ^A —06:26 ^A

The Hunt and Fish Accessories Page lists best and good times for hunting and fishing.

Hunt & Fish	
Date	Location
31-DEC-09	New Location Location
Prediction	Current Location
Good Day	Use Map
Best Times	Use Find Menu
11:15 ^A —01:15 ^A	05:04 ^A —06:04 ^A
11:39 ^A —01:39 ^A	05:26 ^A —06:26 ^A

Time predictions can be calculated for any date and any location.

Main Menu: Accessories: Hunt & Fish

The Hunt and Fish Accessories Page provides you with a listing of best times for hunting and fishing, for a chosen date and location.

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

1. Follow the steps on page 64 to select the Hunt and Fish Accessory Page.
 - 2a. Use the **ROCKER KEYPAD** to highlight 'Date' and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the desired date. Next, use the **ROCKER KEYPAD** to highlight 'Time' and press **ENTER**. Use the **ROCKER KEYPAD** and **ENTER** to enter the desired time.
- or,
- 2b. Press **MENU** to display an options menu. Use the **ROCKER KEYPAD** to highlight 'Use Current Time' and press **ENTER**.
3. Use the **ROCKER KEYPAD** to highlight the location option and press **ENTER**. If 'Current Location' is selected, the 'Best Times' and 'Good Times' will be displayed.
 - 4a. If 'Use Map' is selected, use the **ROCKER KEYPAD** to point to the desired location. Press **ENTER** when the pointer is on the desired location.
- or,
- 4b. If 'Use Find Menu' is selected, follow the step-by-step instructions on pages 26-32 in this manual.

NOTE: The times displayed are the recognized best and good times for hunting and fishing. But, be certain that they are not in conflict with state and local game laws which may vary from location to location. It is your responsibility to know and abide by these laws.

Main Menu: Accessories: Calendar

The Calendar Accessories Page provides you with a monthly calendar with programmable reference notes. You can display one monthly calendar at a time and mark reference notes on the calendar dates using the **ROCKER KEYPAD** and **ENTER**. The GPS V will store up to 100 calendar notes with up to 18 characters per note.

To select the desired month (and year):

1. Follow the steps on page 64 to select the Calendar Accessory Page.
2. Use the **ROCKER KEYPAD** to highlight a direction arrow on either side of the 'Month' field. Use the back arrow to view preceding months and the forward arrow to view subsequent months.
3. Press **ENTER**, as often as necessary, to view the desired month.

To create a calendar note:

1. Follow the steps on page 64 to select the Calendar Accessory Page.
2. Use the **ROCKER KEYPAD** to highlight the date the note will be associated with and press **ENTER**.
3. With '<new note>' highlighted, press **ENTER**.
4. Use the **ROCKER KEYPAD** and **ENTER** to enter the new note. Select 'OK' and press **ENTER** when finished entering the note.

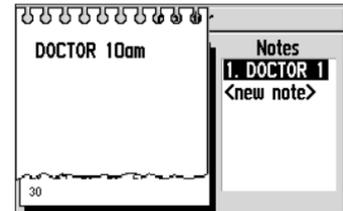
To delete calendar notes:

1. Follow the steps on page 64 to select the Calendar Accessory Page.
2. Use the **ROCKER KEYPAD** to highlight the date containing the note you wish to delete and press **MENU**. (NOTE: This step is not necessary when deleting old notes.)
3. Use the **ROCKER KEYPAD** to highlight 'Delete This Day's Notes' or 'Delete Notes Older Than...' and press **ENTER**. When deleting older notes, use the **ROCKER KEYPAD** and **ENTER** to select the desired time frame.

Main Menu: Accessories



The Calendar Accessory Page displays a one-month calendar.



You can add notes to the calendar as well.

Main Menu: Accessories



Enter the number of gallons purchased to calculate gas mileage.



From the Gas Mileage Accessory Page, press **MENU** to make a calendar note when purchasing fuel.

Main Menu: Accessories: Gas Mileage

The Gas Mileage Accessories Page provides you with calculator functions to determine fuel economy. The GPS V's trip odometer reading (see page 21) is automatically displayed, but can be edited if your vehicle's mechanical trip odometer offers a different reading. When purchasing fuel, enter the number of gallons and the GPS V will automatically display fuel economy (in miles per gallon).

To display gas mileage:

1. Follow the steps on page 64 to select the Gas Mileage Accessory Page.
2. OPTIONAL: To change the odometer reading, use the **ROCKER KEYPAD** to highlight 'Trip Odometer' and press **ENTER**. Then use the **ROCKER KEYPAD** and **ENTER** to enter a new odometer figure. Select 'OK' and press **ENTER** when finished.
3. To enter the number of gallons purchased, use the **ROCKER KEYPAD** to highlight 'Gallons' and press **ENTER**. Then use the **ROCKER KEYPAD** and **ENTER** to enter the fuel consumed (purchased). Select 'OK' and press **ENTER** when finished.
4. After calculating fuel economy, you may wish to reset the trip odometer. To do this, use the **ROCKER KEYPAD** to highlight 'Reset Trip' and press **ENTER**.

Main Menu: Accessories: Games

The Games Accessory Page lets you play a Breakout game. The **ROCKER KEYPAD** is used to control a paddle at the bottom of the screen. The object of the game is to deflect the bouncing ball(s) until all bricks at the top of the screen have been removed.

Use the **QUIT** key to exit the game.

Wiring/Interfacing

The GPS V can be connected to a PC, beacon receiver, marine autopilot or other compatible device using the supplied PC Interface Cable with RS-232 Serial Port Connector (P/N 010-10141-00).

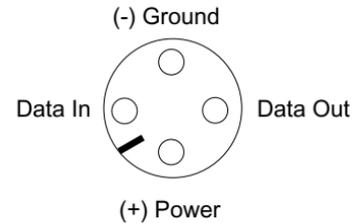
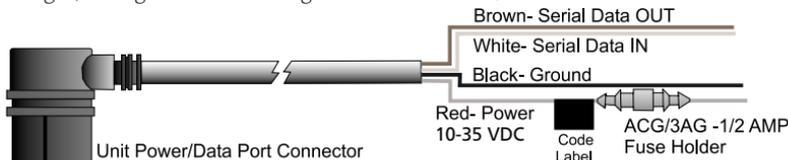
The GPS V can be connected to a vehicle's electrical system and a PC, beacon receiver, marine autopilot, or other compatible device using the optional PC Interface Cable with Cigarette Lighter Adapter (P/N 010-10165-00).

The GPS V may be hard-wired to the vehicle's electrical system (10-32 VDC) and a PC, beacon receiver, marine autopilot or other compatible device using the Power/Data Cable with bare wire leads (P/N 010-10082-00).

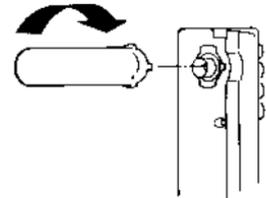


WARNING: *the terms of the GARMIN Warranty require that the Power/Data Cable with bare wire leads be installed by experienced installers at a qualified installation facility, (i.e. electrical accessory installation center, auto, or marine dealer service center). The user should not attempt installation without proper knowledge of automotive or marine electrical systems and skill in the use of special tools or hardware required for installation.*

Consult the wiring diagrams at the side and bottom of the page for proper connections. (The male connector on the back of the GPS V and wiring leads are illustrated to the right, wiring lead color coding is illustrated below.)



Power and Data Connections from the back of the unit.



To remove the attached antenna for connection to a remote antenna: rotate to a 45° angle and gently pull away from the unit. The antenna port accepts a standard BNC connector.

Appendix B

Maintenance and Accessories

Contact GARMIN Customer Service or your GARMIN Dealer to obtain Replacement Parts and Optional Accessories.
GARMIN Customer Service 913-397-8200
or 1-800-800-1020



WARNING: GARMIN Accessories have been designed and tested specifically for use with GARMIN products. Accessories offered for sale by other manufacturers have not been necessarily tested or approved for use with GARMIN Products. Use of such accessories might cause damage to your GARMIN Product and void the terms of the warranty.

Cleaning

The GPS V is constructed of high quality materials and does not require user maintenance other than cleaning. Clean the unit using a cloth dampened with a mild detergent solution and then wipe dry. Avoid chemical cleaners and solvents that may damage plastic components.

Storage

Storing alkaline batteries in the unit for extended periods is not recommended. In order to reduce the chance for battery leakage in the battery compartment and map data card slot, remove the batteries when storing the unit for more than six months.

Water Immersion

The GPS V is waterproof to IEC Standard 529 IPX7. It can withstand immersion in 1 meter of water for 30 minutes. Prolonged submersion can cause damage to the unit. After submersion, be certain to remove the batteries and map cartridge and dry the compartments before reuse.

To resolve problems that cannot be remedied using this guide, Contact GARMIN Customer Service at 913-397-8200.

Messages

The GPS V uses an on-screen message system to alert you to unit operating characteristics. Press the **ENTER** key to acknowledge the message and return to the page you were viewing.

Anchor Drag - You have drifted beyond the specified anchor drag alarm distance.

Arriving at Destination - You have arrived at the destination location.

Can't Unlock Maps - At least one map on the data card is locked.

Data Transfer Complete - Transfer of data to the unit from PC software has been completed.

Database Error - A waypoint or route failed to store in memory. If the problem persists, return the unit to GARMIN for service.

Detail Maps Don't Support Routing - The MapSource maps that have been downloaded and saved into the GPS V's memory do NOT support automatic routing.

GPS Turned Off for Indoor Use - GPS satellite reception has been disabled for indoor use.

Low Battery - The batteries are low and should be replaced.

Memory is Full - The unit's memory is full. To reduce the amount of memory used, delete unused routes, waypoints, or track log data.

Near Proximity Point - You have entered the alarm radius for the proximity waypoint indicated.

No Diff GPS Location - No differential correction data is available or not enough data is available to compute a DGPS position.

None Found - A search through MapSource data, using the selected criteria, has produced no matching results.

Note Memory is Full - Calendar note memory is full. No additional calendar notes can be stored without deleting old notes to create memory space.

Off Route - You have ventured off the current route.

Off Route Recalculating - You have ventured off the current route and the GPS V is calculating a new route.

Poor Coverage - The GPS V cannot acquire the necessary number of satellites to compute your location.

Appendix C

Messages

Proximity Memory Full - Proximity waypoint memory is full. No additional proximity waypoints can be stored without deleting old waypoints to create memory space.

Proximity Radius Overlaps - The alarm radius specified overlaps the area specified by another proximity waypoint.

Route Memory Full - Route memory is full and no more routes can be saved or added (from another GPS unit or a PC).

Route Truncated - The route has been truncated because it was too long. There will be turns missing prior to the destination.

Route Waypoint Memory is Full - There is no more space for map-based route waypoints (used for turns).

Route Already Exists - The route name you have entered is already being used by another route.

Too Many Vias for Road Navigation - The route contains too many via points (intermediate destinations). The route can only be navigated in an off-road or point-to-point (manual route) fashion.

Track Already Exists - The track name you have entered is already being used by another track.

Track Memory is Full - Track Log memory is full. No additional track log data can be stored without deleting old data to create memory space.

Track Truncated - A complete uploaded track will not fit in memory. The oldest track log points were deleted to make space for the most recent data.

Waypoint Memory is Full - You have used all 500 waypoints available. Delete unwanted waypoints to make space for new entries.

Waypoint Already Exists - The waypoint name you have entered is already used by another waypoint.

PHYSICAL

Case:	Rugged; fully gasketed
Size:	6.15"H x 2"W x 1.23"D (15.6 x 5.1 x 1.23 cm)
Weight:	Approx. 9 ounces (255 g) w/ batteries
Display:	1.5"W x 2.3"H (3.81 x 5.84 cm), (256 x 160 pixels), high-contrast, 4-gray-level backlit LCD
Antenna:	Detachable with standard BNC-type connector
Temp. Range:	5° to 158°F (-15° to 70°C) ¹

PERFORMANCE

Receiver:	Differential-ready 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 ³
Velocity:	0.05 meter/sec steady state

Specifications

DGPS Accuracy

Position:	3-5 meters (10-16 feet), 95% typical ²
Velocity:	0.05 meter/sec steady state
Dynamics:	Performs to specifications to 6 g's
Interfaces:	NMEA 0183 version 2.3, RTCM SC-104 (for DGPS corrections) and RS-232 for PC interface
Data Storage Life:	Indefinite; no memory battery required
Map Storage:	Internal; approximately 19 MB

POWER

Source:	Four 1.5-volt AA batteries or 12 V Adapter Cable, or up to 35 VDC external power
Battery Life:	up to 25 hours based on backlight setting ⁴

Specifications subject to change without notice.

1. The temperature rating for the GPS V may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures.
2. With optional GARMIN GBR 21/23 Beacon Receiver Input.
3. Subject to accuracy degradation to 100m 2DRMS under the U.S. DOD-imposed Selective Availability (SA) Program.
4. Alkaline batteries lose a significant amount of their capacity as temperature decreases. Use Lithium batteries when operating the GPS V in below-freezing conditions. Extensive use of bright screen backlighting will significantly reduce battery life. Low to moderate screen backlighting can significantly prolong battery life.

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