GARMIN.

GPSMAP 295

Pilot's Guide
& Reference

About this Manual / Packing List

Thank you for purchasing the GARMIN GPSMAP 295—the result of our continuing effort to provide quality, user-friendly navigation systems for all your needs. To get the most from your new GPS receiver, take the time to read through the accompanying Quick Start Guide. Use this Pilot's Guide as a reference manual, to provide additional information on unit features and operation as needed.

Detailed descriptions are provided for each feature on the GPSMAP 295, with operation of these features described in simple step-by-step format. This manual is organized by topic—beginning with the basic operation and the main pages, and continuing with database information, navigation, and unit settings to customize the GPSMAP 295 to your preferences. Use the "How To" Index, Index and/or Table of Contents to quickly select the reference topic you wish to explore.

Before you begin, check to see that your GPSMAP 295 package includes the following items. If you are missing any parts, please contact your GARMIN dealer immediately.

Standard Package:

- GPSMAP 295 Unit with Detachable Antenna (see Quick Start Guide for antenna removal instructions)
- GPSMAP 295 Quick Start Guide (Please Read This Guide Before Your First Flight!)   • This GPSMAP 295 Pilot's Guide
- Automotive Dash Mount (see page 89 for illustration and instructions)   • Cigarette Lighter Adapter
- Yoke Mount   • Yoke Mount Instructions   • Carrying Case
- PC Interface Cable   • Remote Antenna with Suction Cup Mount

Recommended Options:

- 8 or 16 megabit Data Cartridge (programmable)   • MapSource CD-ROMs (MetroGuide, Topo, Waterways & Lights, etc.)

*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 GPSMAP 295 handy and connect to our website (**www.garmin.com**). Look for the Product Registration link on the Home page.*

⚠️ **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 which could affect the accuracy and performance of all GPS equipment. Although the GPSMAP 295 is a precision electronic navigation aid (NAVAID), any NAVAID can be misused or misinterpreted and, therefore, become unsafe.*

⚠️ **WARNING:** *The altitude calculated by the GPSMAP 295 is the geometric height above mean sea level and could vary significantly from altitude displayed by pressure altimeters in aircraft. GPS accuracy may be degraded by the U.S. Department of Defense-imposed Selective Availability (SA) program. With "SA" on, GPS altitude may be in error by several hundred feet. Never use GPS altitude for vertical navigation.*

⚠️ **WARNING:** *For vehicular applications, it is the sole responsibility of the owner/operator of the GPSMAP 295 to secure the GPS unit so that it will not cause damage or personal injury in the event of an accident. For automotive use, do not mount the GPSMAP 295 over airbag panels or in a place where the driver or passengers are likely to have an impact with it in an accident or collision. The mounting hardware provided by GARMIN is not warranted against collision damage or the consequences thereof.*

⚠️ **WARNING:** *For vehicular operations, it is the sole responsibility of the operator of the vehicle to operate his or her vehicle in a safe manner, maintain full surveillance of all conditions at all times, and never become distracted by the GPSMAP 295 to the exclusion of safe operating practices. It is unsafe to operate the controls of the GPSMAP 295 while driving. Failure by the operator of a vehicle equipped with a GPSMAP 295 to pay full attention to operating the vehicle while the vehicle is in motion could result in an accident.*

⚠️ **CAUTION:** *GPS receivers operate by receiving and decoding very low power radio signals broadcast by satellites. It is possible that in some situations other radio equipment or electronic equipment used in close proximity to a GPS receiver may create electromagnetic interference (EMI) which may affect the ability of the GPS receiver to receive and decode the satellite signals. In such event, the interference may be reduced or eliminated by switching off the source of interference or moving the GPS receiver away from it.*

FCC Compliance / Software License Agreement

The GPSMAP 295 complies with Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE. These limits are designed to provide reasonable protection against harmful interference in a residential installation, and are more stringent than "outdoor" requirements. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

The GPSMAP 295 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.

BY USING THE GPSMAP 295, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

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

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

Limited Warranty

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

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

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

GARMIN retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local GARMIN authorized dealer. Or call GARMIN Customer Service at one of the numbers shown below, for shipping instructions and an RMA tracking number. The unit should be securely packed with the tracking number clearly written on the outside of the package. The unit should then be sent, freight charges prepaid, to any GARMIN warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs.

GARMIN International, Inc.
1200 East 151st Street
Olathe, Kansas 66062, U.S.A.
Phone: 913/397.8200
FAX: 913/397.0836

GARMIN (Europe) Ltd.
Unit 4, The Quadrangle, Abbey Park Industrial Estate
Romsey, SO51 9AQ, U.K.
Phone: 44/1794.519944
FAX: 44/1794.519222

"How To" Index

The index below will help you quickly find some of the main features of your GPSMAP 295 and the accompanying procedure steps that guide you through the use of these features. This index does not cover all subject areas. If you're trying to locate a particular feature or topic, refer to the Table of Contents and/or the Index in the back of this manual.

Table of Contents

Introduction

Table of Contents

The GPSMAP 295 is designed to make operation as simple as possible. The descriptions below provide a general overview of the primary function(s) for each key.

(POWER)— Press and hold to turn the unit on and off. Press momentarily to display a pop-up window for screen backlight and contrast adjustments.

(PAGE)— Scrolls through main pages in sequence.

(QUIT)— Returns the display to a previous page or restores a data field's previous value.

(ENTER/MARK)— Activates highlighted fields and confirms menu options or data entry. Press and hold this key to mark present position as a user-created waypoint.

(IN and OUT)— Allows you to zoom in/out through 24 scales on the Map Page.

(ROCKER KEYPAD)— Controls the movement of the cursor, is used to select options and positions, and to enter data.

(➡WPT)— Allows you to retrieve Jeppesen database information and/or select a destination waypoint (via an on-screen GOTO button). Press and hold this key to display Favorite Waypoints List.

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

(ROUTE)— Displays a list of stored routes and allows you to create new routes.

(NRST)— Displays nine nearest airports, navaids, airspaces, user waypoints, ARTCC & FSS frequencies, cities, highway exits and optional MetroGuide® points of interest.

Keypad Usage
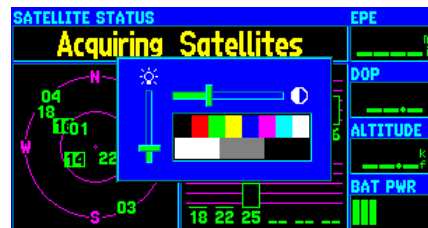
*Press the **RED POWER KEY** momentarily to display a pop-up window. Then use the **ROCKER KEYPAD** to make any desired screen backlight or contrast adjustments.*
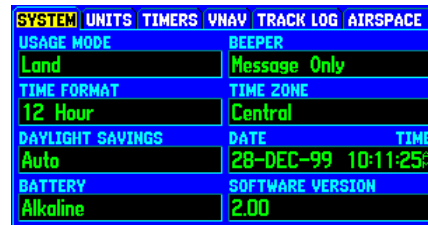
*Press the **MENU** key twice to display the Main Menu.*

Features / Data Entry

Example of the on-screen cursor highlighting the 'GOTO' button. Use the ROCKER KEYPAD to move the cursor around the page.

Example of the on-screen cursor during data entry. Data entry begins and ends with the ENTER key. Use the UP/DOWN portion of the ROCKER KEYPAD to select the desired character and RIGHT to move to the next character.

2

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

CURSOR— A highlighted area on the screen (black text on yellow) 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 (such as "waypoint name field", shown at right) 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 selection of options.

To enter data in a data field:

1. Use the **ROCKER KEYPAD** to highlight the desired data field.

2. Press **ENTER** to begin data entry.

3. Use the **ROCKER KEYPAD** to enter the desired data. UP/DOWN to select the desired character and RIGHT to move to the next character field. LEFT allows you to back up to the previous character field or, when at the leftmost character field, to clear the entire data field.

4. Once the desired data has been entered, press **ENTER** to confirm.

**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 information pages.

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.

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 'knots', but can be changed to 'miles per hour' or 'kilometers per hour'. Once a setting is changed, the new setting is retained until another change is made or a 'Restore Defaults' menu option is selected.

To turn the GPSMAP 295 on, press and hold the RED POWER KEY.

A Welcome Page will appear while the unit conducts a self test. Once testing is complete, the Welcome Page is replaced by a Database Page. The Database Page shows the effective dates for the Jeppesen database and a warning that the GPSMAP 295 is for VFR use only.

Press ENTER to acknowledge the Database Page.

The Satellite Status Page will appear as the GPSMAP 295 looks for available satellites. The GPSMAP 295 continuously collects and stores "almanac" data when it receives a satellite(s). Almanac data tells the GPS receiver where to look for each GPS satellite in the constellation. Each time you turn the GPSMAP 295 on, it will use this almanac data—along with last known position, date and time—to determine which satellites should be in view.

A minimum of three satellites is required for a two-dimensional position fix (2D Navigation), whereas at least four satellites are necessary for a three-dimensional position (3D Navigation). A three-dimensional position includes latitude, longitude and altitude. Additional satellites are occasionally needed to triangulate your position and, even if not needed to determine a position, additional satellites will also improve position accuracy.

During normal use, expect a position fix in 30-45 seconds. Once a sufficient number of satellites are received, the GPSMAP 295 will automatically transition from the Satellite Status Page to the Map Page. Your position will appear on the map and, once you select a destination, the GPSMAP 295 will be ready to help you navigate.

If you press any keys while the unit is acquiring satellites, the automatic sequencing from Satellite Status Page to Map Page will not occur.

At the end of the day, when you're finished using the GPSMAP 295, the same **RED POWER KEY** that you use to turn the unit on also turns the unit off.

To turn the GPSMAP 295 off, press and hold the RED POWER KEY.

Turning the Unit On / Off

After the initial Welcome Page, the Database Page appears to indicate the database coverage area and effective dates. A warning also reminds you that electronic charts should always be double-checked for accuracy and are for VFR use only.

An additional page will appear in the start up sequence when an optional MetroGuide cartridge is installed. MetroGuide cartridges provide additional map detail and "points of interest" data for automotive use.

Main Page Sequence

The GPSMAP 295 features five main pages which are linked together, in series. You can quickly cycle through these main pages—in either direction—using the **PAGE** and **QUIT** keys. Each of these main pages is described in greater detail on the following pages.
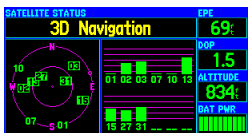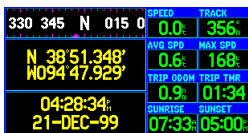
Satellite Status Page   *Position Page*   *Map Page*   *HSI Page (RMI Page in Land Mode)*   *Active Route Page*

PAGE ►►►►   ◄◄◄◄ QUIT

To display the next page in the sequence, press PAGE.

To display the previous page in the sequence, press QUIT.

As you become more familiar with the GPSMAP 295, you'll find that using both **PAGE** and **QUIT** allows you to quickly select the desired page. For example, to quickly jump from the Map Page to the HSI Page, press **PAGE**. To return from the HSI Page to the Map Page, press **QUIT**. (You may find it desirable to cycle between these two pages, however, the GPSMAP 295's split screen capability allows you to display the map and HSI on the same page!)

When the GPSMAP 295 is turned on and a position fix is determined, the unit will automatically transition from the Satellite Status Page to the Map Page (provided no keys have been pressed after turning the unit on).

The GPSMAP 295's backlighting illuminates the display and keypad for optimal visibility. There are ten levels of screen backlighting, providing maximum flexibility. At night, you can easily turn the backlighting level down to prevent unwanted glare and distraction.

Screen contrast is adjustable as well. You may find it necessary to adjust the contrast setting as the ambient temperature changes.

Backlighting and screen contrast are adjusted using the **RED POWER KEY** and the **ROCKER KEYPAD**. A pop-up window shows the current settings and the progress of any adjustments you have made.

To adjust the screen backlighting and contrast:

1. From any page, press the **RED POWER KEY** momentarily. A pop-up window will appear showing the current contrast and backlighting settings.

2. Press the UP/DOWN portion of the **ROCKER KEYPAD** to change the backlighting settings. UP will increase backlight intensity; DOWN will decrease backlight intensity.

3. Press the LEFT/RIGHT portion of the **ROCKER KEYPAD** to adjust screen contrast. LEFT will make screen contrast lighter; RIGHT will make screen contrast darker.

4. Press **ENTER** to accept any changes and remove the screen settings window. Alternatively, if no keys are pressed, the screen settings window will automatically be removed after five seconds.

On warmer days you may find it necessary to decrease the contrast setting for optimal screen clarity. Conversely, on cold days it may be necessary to increase the contrast setting to make screen information more legible.

Screen Backlighting / Contrast
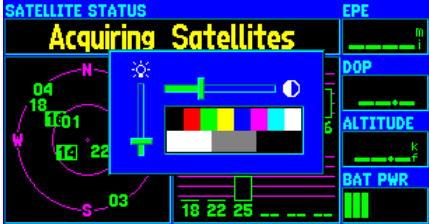
*A pop-up window appears when the **RED POWER KEY** is pressed momentarily. Use the **ROCKER KEYPAD** to make any desired screen adjustments: UP/DOWN for backlighting level and LEFT/RIGHT for contrast setting.*

Aviation vs. Land Mode
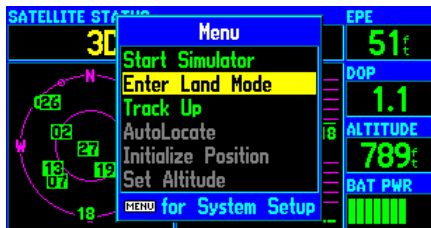
*Press **MENU**, with the Satellite Status Page displayed, to show the page options. 'Enter Land Mode' or 'Enter Aviation Mode' will appear (as appropriate)—allowing you to select whichever mode is not currently being used.*

The RMI Page replaces the HSI Page when Land Mode is selected. The RMI Page depicts direction of travel (ground track) on a rotating compass card, and bearing to destination using a bearing pointer.

6

Your GPSMAP 295 is designed to be flexible. The unit provides "Land Mode" and "Aviation Mode" settings, allowing you to tailor many features specifically for automotive or airborne use.

In Land Mode, some alert messages—which would be appropriate in the cockpit—are disabled to prevent nuisance messages not needed while driving. Additionally, there are many settings on the GPSMAP 295 you can make on your own. For example, speed can be displayed in knots, miles per hour or kilometers per hour. The GPSMAP 295 provides the flexibility to have separate settings for Aviation Mode and Land Mode (and saves them in memory so you do not have to re-enter them the next time you switch between modes).

The chart below describes the differences between Aviation and Land Mode.

AVIATION MODE:
Uses Airplane Symbol on Map to indicate current position.
Airplane Symbol appears at GPS-determined position.
HSI Page is displayed for Navigation Guidance.
GOTO navigation is along Selected Course (determined when GOTO is initiated).
Independent (from Land Mode) user-defined settings for Distance, Speed, North reference (true or magnetic), Arrival Alarm, Land Data (appearing on Map), Aviation Data (appearing on Map).

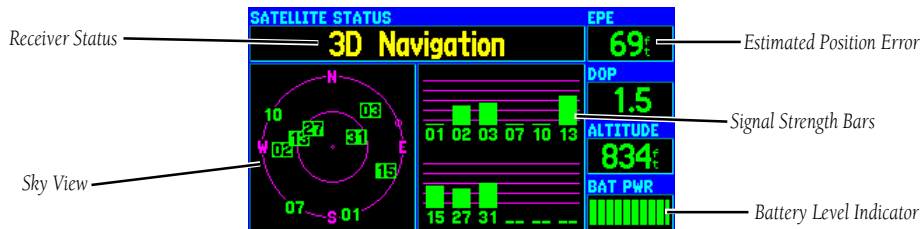| LAND MODE: |
| --- |
| Uses Pointer Symbol on Map to indicate current position. |
| Pointer Symbol is aligned to the Nearest Road (where practical). |
| RMI Page is displayed for Navigation Guidance. |
| GOTO navigation is from Present Position (updates guidance information as you drive). |
| All Vertical Navigation (VNAV) messages, Airspace Alert messages and Course Deviation Alarm are disabled. |
| Independent (from Aviation Mode) user-defined settings for Distance, Speed, North reference (true or magnetic), Arrival Alarm, Land Data (appearing on Map), Aviation Data (appearing on Map). |

Receiver Status

3D Navigation

Estimated Position Error

Signal Strength Bars

Sky View

Battery Level Indicator

The Satellite Status Page is the first of five main pages and provides a visual reference of receiver functions, including current satellite coverage, receiver status, battery level and position accuracy. As the receiver locks onto satellites, a signal strength bar will appear for each satellite in view, with the appropriate satellite number (from 01-32) underneath each bar. The progress of satellite acquisition is shown in three stages:

- No Signal Strength Bar— the receiver is looking for the satellite(s) indicated. The corresponding number(s) on the sky view is not highlighted.
- Hollow Signal Strength Bar— the receiver has found the satellite and is collecting data.
- Solid Signal Strength Bar— the receiver has collected the necessary data and the satellite(s) is ready for use. The corresponding number(s) on the sky view is highlighted.

Each satellite has a 30-second data transmission that must be collected (hollow signal strength bar, as described above) before that satellite may be used for navigation (solid signal strength bar). Once a fix has been calculated, the GPSMAP 295 will then update your position, ground track, and ground speed by selecting and using the best satellites in view.

Sky View and Signal Strength Bars

The sky view and signal strength bars give you an indication of what satellites are currently visible, which satellites are being used to calculate a position fix, and the signal quality. The sky view shows a "bird's eye" view of each satellite's position relative to the unit's last known position. The outer circle represents the horizon in all directions (with cardinal heading references). The inner circle represents an elevation of 45° above the horizon. Any satellite depicted near the center is directly overhead.

Satellite Status Page
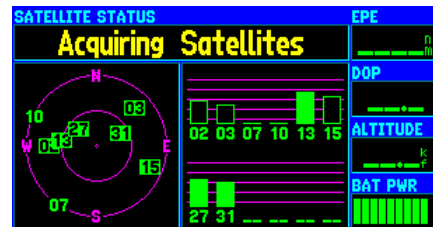
The signal strength bars give you an indication of what satellites are visible, whether they're being used to calculate a position fix, and the signal quality. A solid bar indicates a satellite(s) ready to be used to determine a position fix.
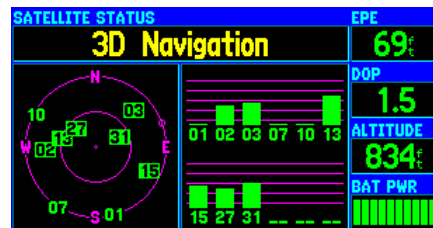
The sky view graphically depicts where the visible satellites are and which satellites are being received. The highlighted satellite numbers indicate satellites currently being received.

Satellite Status Page
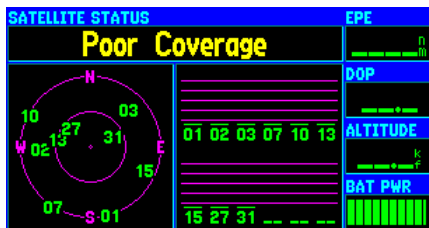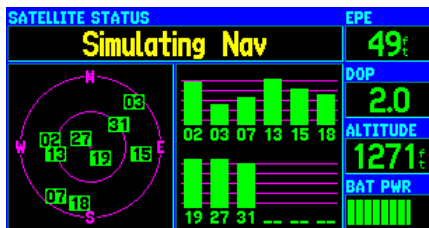

If satellite reception is lost, or an insufficient number of satellites are available, you will be alerted with a 'Poor Coverage' receiver status. This may be an indication of signal interference or objects in the way of the receiver's antenna.

When using the built-in simulator feature, the receiver status will remind you of this setting by showing a 'Simulating Nav' status. Keep in mind the simulator feature should never be used for actual navigation.

You can use the sky view to help determine if any satellites are being blocked, and whether you have a current position fix (indicated by '2D Navigation' or '3D Navigation' in the status field). You can also set the sky view to a 'Track Up' configuration (instead of 'North Up'), causing the top of the sky view to align to your current track heading.

Receiver Status

As soon as the GPSMAP 295 has collected the necessary data to calculate a fix, the status field will indicate a 2D or 3D status. (For '2D', you may need to enter your altitude. See page 12.) Receiver status is indicated at the top left corner of the page. The status will be shown as one of the following conditions:

Searching— the GPSMAP 295 is looking for any available satellites in view.

AutoLocate— the GPSMAP 295 is initializing and collecting new almanac data. This process can take up to five minutes, depending on the satellites currently in view.

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

2D Navigation— at least three satellites with good geometry have been locked onto and a two-dimensional position fix (latitude and longitude) is being calculated. '2D Diff' will appear when you are receiving DGPS corrections with a two-dimensional position.

3D Navigation— at least four satellites with good geometry have been locked onto, and your position is now being calculated in latitude, longitude and altitude. '3D Diff' will appear when you are receiving DGPS corrections with a three-dimensional position.

Poor GPS Coverage— the receiver isn't tracking enough satellites for a 2D or 3D fix due to bad satellite geometry.

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

Simulating Nav— the receiver is in simulator mode.

'Poor Satellite Reception' Window

If no satellites are received for several minutes (or an insufficient number of satellites are received to determine a position fix) a message will appear, prompting you to update your approximate location or start the built-in simulator. Updating your approximate location will ensure the GPSMAP 295 is searching for the correct satellites, and is useful if you have traveled over 500 miles with the unit turned off.

The 'Poor Satellite Reception' prompt may appear when you first use your GPSMAP 295. The prompt may also appear during normal use if the antenna is shaded (such as operation in an aircraft hangar) or when the unit is used indoors.

Battery level Indicator

The Satellite Status Page also features a battery level indicator, located in the bottom right corner, which displays the condition of the unit's batteries. The battery indicator is replaced by an external power icon when operating from an external power source (10-35 volts DC).

The battery level indicator is calibrated for alkaline batteries. NiCad batteries will display the battery level differently due to voltage and discharge pattern differences. To display the battery level accurately select the appropriate type, as described on page 76. When replacing the AA batteries, the GPSMAP 295's internal memory will maintain any settings, user-created waypoints and flight plans.

Satellite Status Page
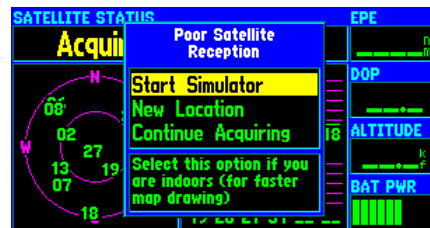
If satellites are NOT received after several minutes of operation, the 'Poor Satellite Reception' window will appear. Select 'New Location' to update your current position (from last known) or 'Continue Acquiring' to keep searching.
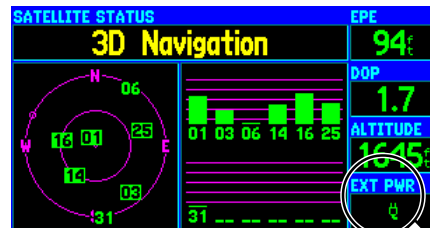
When using external power, the on-screen battery level indicator is replaced by an external power icon.

Satellite Status Page

*Press **MENU** to display the Satellite Status Page Options. Use the **ROCKER KEYPAD** to select the desired menu option and press **ENTER**.*

If the built-in simulator feature is currently active, 'Stop Simulator' will appear as an option (replacing 'Start Simulator').

EPE and DOP

The Satellite Status Page indicates the accuracy of the position fix, using Estimated Position Error (EPE) and Dilution of Precision (DOP) figures. DOP measures satellite geome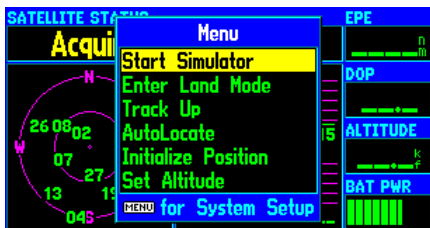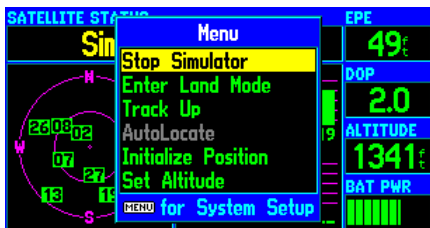try quality (i.e., number of satellites received and where they are relative to each other) on a scale from one to ten. The lowest numbers are the best accuracy and the highest numbers are the worst. EPE uses DOP and other factors to calculate a horizontal position error, in feet or meters.

Track Bug

When you are flying or driving, you may observe a small circle along the outer ring of the sky view. This "track bug" indicates your current ground track and is helpful in determining location of satellites relative to your current track. The track bug is not available when the sky view is set to a 'Track Up' orientation, as described on the following page.

Satellite Status Page Options

Many features of the GPSMAP 295 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:

• **Start Simulator**	• **Enter Land Mode**	• **Track Up**
• **AutoLocate**	• **Initialize Position**	• **Set Altitude**

Start Simulator— allows you to activate the GPSMAP 295's built-in simulator mode. If 'Start Simulator' is selected, 'Stop Simulator' will appear as an option instead.

To activate (deactivate) simulator mode:

1. Use the **ROCKER KEYPAD** to highlight 'Start Simulator' (or 'Stop Simulator') and press **ENTER**.

2. Highlight 'Yes' and press **ENTER**.

Enter Land Mode— adapts GPSMAP 295 features for automotive use. The HSI Page is replaced with an RMI Page, some aviation-related messages are disabled and some configuration settings (such as units of measure for speed and distance) can be saved separately for Land Mode and Aviation Mode. When Land Mode is selected, 'Enter Aviation Mode' will appear as an option instead. See page 6 for more information about Land Mode and Aviation Mode.

To select Land Mode (or Aviation Mode) highlight 'Enter Land Mode' (or 'Enter Aviation Mode') and press ENTER.

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

To change the sky view orientation:

1. Use the **ROCKER KEYPAD** to highlight 'Track Up' (or 'North Up') and press **ENTER**.

AutoLocate— forces the GPSMAP 295 to search for any available satellite(s) to determine its position. This option is useful if you've relocated a long distance (greater than 500 miles) from the last location the GPSMAP 295 was used. In such instances, without initialization, the GPSMAP 295 may otherwise be looking for the wrong group of satellites.

To select AutoLocate, highlight 'AutoLocate' and press ENTER.

Initialize Position— allows you to designate your approximate position in order to speed up satellite acquisition. This option may be used in lieu of 'AutoLocate', above.

To initialize your starting position:

1. Use the **ROCKER KEYPAD** to highlight 'Initialize Position' and press **ENTER**.

2. Designate your approximate position on the map using the **ROCKER KEYPAD** and press **ENTER**. (You may wish to use the **IN** and **OUT** zoom keys to adjust the level of detail displayed, as you determine your approximate position.)

Satellite Status Page Options
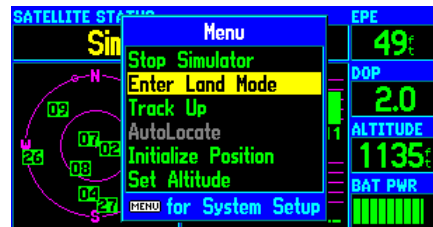
Land Mode disables the airspace alert messages and replaces the graphic HSI with an RMI. The RMI depicts ground track and bearing to destination only. Select Land Mode when using the GPSMAP 295 in an automobile.

Use the 'Initialize Position' option to speed up satellite acquisition—especially if your have travelled a great distance (> 500 miles) with the GPSMAP 295 turned off.

11

Satellite Status Page Options
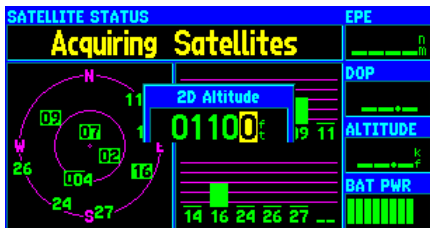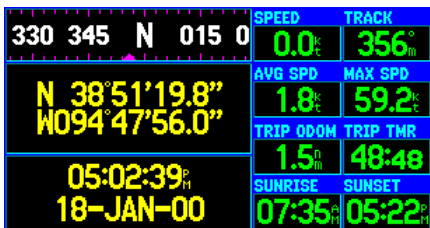

The 'Set Altitude' option is only available (or needed) when the GPSMAP 295 has a '2D Navigation' position and cannot determine altitude on its own. Providing an approximate altitude will improve position accuracy.
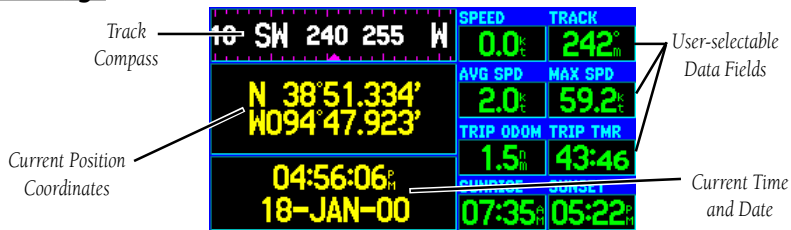

Position Page with current position displayed in degrees/minutes/seconds. The degrees/minutes format is shown in the illustration at right. See page 77 for information on changing the position format.

12

Set Altitude— allows you to designate your approximate altitude, when the GPSMAP 295 is acquiring satellites or navigating in with a two-dimensional position. By default, 2D navigation will attempt to use the last known altitude. If the altitude shown 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 altitude:

1. Use the **ROCKER KEYPAD** to Highlight 'Set Altitude' and press **ENTER**.
2. Enter your approximate altitude using the **ROCKER KEYPAD**, and press **ENTER**.

Position Page

Track Compass

Current Position Coordinates

User-selectable Data Fields

Current Time and Date

The second main page is the Position Page, which shows where you are, what direction you are heading, and how fast you are going. This page also provides several trip computer functions, such as average speed, maximum speed, a trip timer and a trip odometer.

The graphic heading display at the top of the page indicates the direction you're heading, or ground track, only while you're moving. Directly below the graphic heading display are present position and time readouts. By default, your position is displayed using latitude and longitude, in degrees and decimal minutes. Other position format options are available as described on page 77. The current time is displayed in local or UTC (coordinated universal time or "zulu"). To switch between local and UTC time displays see page 76.

Along the right-hand side of the page are eight user-selectable data fields which display the following items by default: ground speed, ground track, average speed, maximum speed, trip odometer, trip timer, and sunrise/sunset times for the current date & position. To select a different data item to display on any data field see the options below or Appendix E for definitions of available data items.

Position Page Options

Many features of the GPSMAP 295 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 features which specifically relate to that page.

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

The following options are available:

- **Change Fields**   • **Reset Trip**   • **Reset Max Speed**
- **Reset Odometer**   • **Reset All**   • **Restore Default**

Change Fields— allows you to choose the data types displayed on the eight user-selectable data fields (along the right-hand side of the Position Page). Available data types are: Altitude, Odometer, Speed, Maximum Speed (MAX SPD), Sunrise at present position, Sunset at present position, Track, Trip Average Speed while moving (MOVE AVG), Trip Average Speed overall (AVG SPD), Trip Odometer (TRIP ODOM), Trip Timer while moving (MOVE TMR), Trip Timer while stopped (STOP TMR), Trip Timer total (TRIP TMR) and User Timer (USR TMR). See page 95 for descriptions of these terms.

To change a data field:

1. Use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.

2. Highlight the data field you wish to change (using the **ROCKER KEYPAD**) and press **ENTER**.

3. Use the **ROCKER KEYPAD** to select the type of data you want to appear on this field and press **ENTER**.
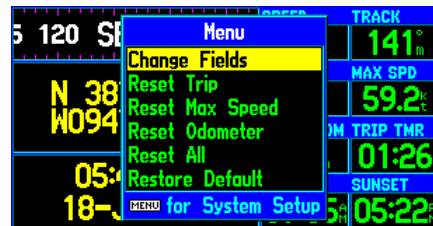
*Select the 'Change Fields' option, then use the **ROCKER KEYPAD** to select the data field you wish to change and press **ENTER**...*
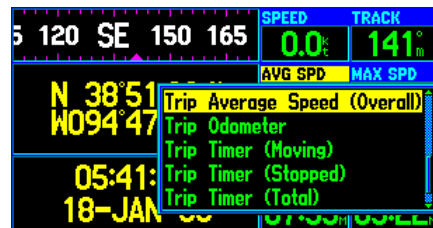
*...a list of available data type appears. Use the **ROCKER KEYPAD** to select the desired data type and press **ENTER**.*

13

Position Page Options

'Reset Trip' clears the trip odometer, trip timers and trip average speed readouts—but, leaves the maximum speed and odometer information intact.

Use the 'Reset All' option to clear all trip computer readouts, including maximum speed and the odometer.

Reset Trip— clears the trip odometer, trip timers and trip average speed readouts.

To reset the trip computer readouts, use the ROCKER KEYPAD to highlight 'Reset Trip' and press ENTER.

Reset Max Speed— clears the maximum speed readout.

To reset the maximum speed readout, highlight 'Reset Max Speed' and press ENTER.

Reset Odometer— clears the odometer readout.

To reset the odometer readout, highlight 'Reset Odometer' and press ENTER.

Reset All— clears all trip computer, maximum speed and odometer readouts.

To reset all trip computer/maximum speed/odometer readouts, use the ROCKER KEYPAD to highlight 'Reset All' and press ENTER.

Restore Default— resets all data fields to the factory default settings (as described on the previous page).

To restore the factory default settings, use the ROCKER KEYPAD to highlight 'Restore Default' and press ENTER.

Nearby Navaid (Intersection)

Present Position

User-selectable Data Fields

Graphic HSI

Map Page

*Use the **IN** and **OUT** Zoom keys to adjust the map scale. Example above shown in Day Color Mode.*

The RMI replaces the HSI when using Land Mode. The RMI indicates bearing to destination (using a bearing pointer) and ground track (using a rotating compass card).

The GPSMAP 295 features a real-time moving map (shown above in Night Color Mode) that can do much more than just plot your course. The Map Page displays a digital map—including airspace boundaries, airports, navaids, lakes, rivers, coastlines, cities and highways. An on-screen cursor lets you pan ahead to other map areas, determine the distance and bearing to any map position, and perform various waypoint and route functions. The GPSMAP 295 includes dedicated zoom keys for instant map scale adjustments. The map portion of the page displays your present position using an aircraft icon (or a pointer icon when using Land Mode), with your ground track and/or route displayed as small points on the screen (an electronic bread crumb trail). You may select which features are shown on the Map Page using the Map Page Options, as described on page 19.

By default, two user-selectable data fields appear in the upper right corner—displaying distance to next destination waypoint and ground speed—along with a graphic HSI directly below the data fields. From the Map Page Options, each data field may be configured to display any one of twenty-one data options. You can also add more data fields along the right-hand side of the page, or select a full-screen map, using the Map Page Options (see page 24).

The graphic HSI (horizontal situation indicator, see page 26) provides "at a glance" visual guidance along your designated course. The course deviation needle will move left or right if you move off your desired course and the desired course pointer will remind you of your intended course heading. Both elements are superimposed on a rotating compass card, the top of which indicates current ground track. The HSI is replaced by an RMI when using Land Mode (see page 31).

Map Page

At the lowest map scales, 'overzoom' appears directly below the map scale. This indicates you have exceeded the resolution of the background map. Exercise caution when referencing ground features at these scale settings.

*Use the **ROCKER KEYPAD** to pan the map. Note the panning pointer which appears on the map. Bearing and distance to the pointer, along with the pointers position coordinates appears in a window at the top of the map.*

Zooming, Panning and Pointing

There are three main actions you can perform on the Map Page: zooming, panning, and pointing. The map display has 24 map scales (from 120 feet to 800 miles) which are selected by pressing the **IN** and **OUT** zoom keys. The current map scale is indicated in 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 the smallest 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.*

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 activate the pan function, use the ROCKER KEYPAD to move the map in any direction, including diagonally.

As you begin to pan the map, a pointer will appear. 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 airports, navaids, user-created waypoints, roads, lakes, rivers—everything displayed on the map except route lines and track log data.

> *While panning the map, press **NRST** to display a list of cities, highway exits and points of interest nearest to the map pointer's location. The list of nearest airports and navaids is always relative to your present position, not the panning pointer. See page 59.*

When a waypoint name is highlighted, you can review information about the waypoint, list waypoint options, or execute a GOTO right from the Map Page.

To select an on-screen airport, navaid or user waypoint with the panning pointer:

1. Use the **ROCKER KEYPAD** to highlight the desired item.

2. To view database information for the selected item, press **ENTER**.

3. For airports, use the **ROCKER KEYPAD** to highlight the various file tabs across the top of the page. This allows you to quickly review field elevation, runway layout, communication frequencies and available approaches.

4. To exit the information pages, verify that the on-screen 'OK' button is highlighted and press **ENTER**.

To GOTO an on-screen airport, navaid or user-created waypoint:

1. Use the **ROCKER KEYPAD** to highlight the desired item and press **Ð⇀ WPT**.

2. Press **ENTER**.

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

To create a user waypoint from the Map Page:

1. Use the **ROCKER KEYPAD** to point to the desired location on the map and press **ENTER**. A waypoint information page will appear, with an auto-assigned name (3-digit number) for the waypoint.

2. With the on-screen 'OK' button highlighted, press **ENTER**.

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

To cancel the map panning function and re-center the map on your present position, press the QUIT key.

Map Page

*When an on-screen airport is selected, the airport identifier appears in highlighted text. Press **ENTER** to review database information for the airport...*

*...to return to the Map Page, highlight the on-screen 'OK' button and press **ENTER**. Once you've returned to the Map Page, press **QUIT** to cancel the panning function.*

17

Map Page

When the panning cursor is placed within the boundaries of an airspace, the airspace name, airspace type and floor/ceiling limits appear in a text window.

*Press **ENTER** to declutter the map. There are three levels of decluttering, indicated directly below the map scale ('CLEAR -1' in this example).*

Retrieving Airspace Information

Panning and pointing may also be used to retrieve information on airspaces depicted on the map. Once the panning pointer is placed on an open area within an airspace, the entire airspace, or airspace sector, is highlighted. A text box adjacent to the panning pointer will indicate the airspace type and floor/ceiling limits. Additional information, including communication frequencies, is available from the waypoint information pages.

To retrieve airspace information from the Map Page:

1. Use the **ROCKER KEYPAD** to select an open area within the desired airspace's boundary. The boundary line is highlighted and a window appears showing airspace type and floor/ceiling limits.

2. To display additional information, such as controlling agency, press **ENTER**. Communication frequencies may then be displayed by highlighting the on-screen 'Frequencies' button and pressing **ENTER**. Or, with the on-screen 'OK' button highlighted, press **ENTER** to return to the Map Page.

Easy Screen Decluttering

You can select the desired level of map detail using the 'Setup Map' option described on the following page. You may, however, wish to temporarily remove some map detail in congested areas. There are three declutter settings which will remove the background detail (lakes/rivers/highways), airspace boundaries, and—at the highest declutter level—all map detail except those waypoints which are part of your selected route. Map decluttering is selected with the **ENTER** key.

To quickly declutter the Map Page (Aviation Mode only):

1. Press **ENTER**. Background detail—including highways, cities, rivers & smaller lakes—is removed from the map display. This declutter setting is identified by 'CLEAR -1' appearing below the map scale.

2. Press **ENTER** again. All background and airspace boundary detail is removed from the map display. 'CLEAR -2' appears below the map scale.

3. Press **ENTER** again. Only the waypoints which are part of the current GOTO or route appear on the map display. 'CLEAR -3' appears below the map scale.

4. Press **ENTER** again to return ALL detail to the map display.

Many features of the GPSMAP 295 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 Map Page Options, press MENU (with the Map Page displayed).**

The following options are available:

- **Setup Map**
- **Change Fields**
- **Full Screen Map**
- **2 Big-Number Fields**
- **2 Fields with HSI**
- **4 Fields**
- **8 Fields**
- **Measure Distance**
- **Restore Default**
- **Show Next Street** (only available in Land Mode)

Change Fields— allows you to choose the data types displayed on the two, four or eight user-selectable data fields along the right-hand side of the page. There are twenty-one available data types: Altitude, Bearing, Course, Course to Steer (CTS), Cross-Track Error (XTK), Distance to final Destination (DIS DEST), Distance to Next waypoint (DIS NEXT), ETA to final Destination (ETA DEST), ETA to Next waypoint (ETA NEXT), ETE to final Destination (ETE DEST), ETE to Next waypoint (ETE NEXT), Estimated Time to VNAV (ETV), Glide Ratio (GR), Glide Ratio to Target (GRT), Speed, Track, Turn (direction and angle), User Timer (USR TMR), Vertical Speed to Target (VST), Destination Waypoint name (WPT DEST), Next Waypoint name (WPT NEXT). See page 95 for descriptions of these terms.

To change a data field:

1. Use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.

2. Highlight the data field you wish to change and press **ENTER**.

3. Use the **ROCKER KEYPAD** to select the type of data you want to appear on this field and press **ENTER**.
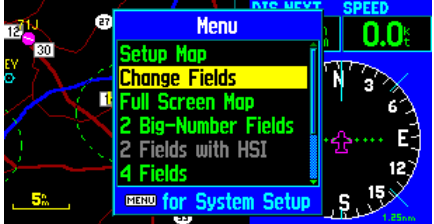
Map Page Options

The Map Page Options let you configure the Map Page with a full screen map, additional data fields or change the type of data appearing on the data fields.
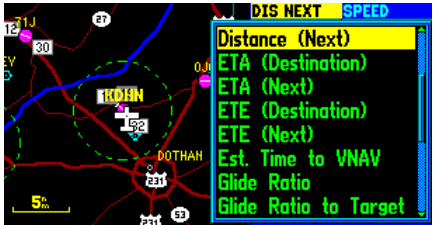
*To change the type of data displayed, select the 'Change Fields' option, use the **ROCKER KEYPAD** to select the field you wish to change and press **ENTER.** A pop-up window will show all available data types.*

19

Map Page Options: Setup Map

'MAP' is the first of 14 file tabs. The settings under this tab allow you to adjust map detail (scale dependent); map orientation (North Up, Track Up, etc.); Color Mode (Day or Night); or AutoZoom.

The 'DATA' file tab provides one-step ON/OFF selections for land data and aviation data. When using the GPSMAP 295 in an automobile, you may wish to turn all the aviation data—airports, navaids, airspaces—off.

Setup Map— allows you to configure the map display to your preferences, including map detail, map orientation, automatic zooming, latitude/longitude grid, track and route lines, and waypoint names. The map setup options are organized under a series of 'file tabs', making individual selections easier to locate and change. The following table list the file tabs and settings available under each tab:

|	
MAP	Land Detail, Orientation, Color Mode, AutoZoom
DATA	Land Data, Aviation Data
LINE	Track Log, Active Route Lines, Railroads and Text, Lat/Lon Grid
WPT	User-created Waypoints, Waypoint Text, Active Route Waypoints
APT	Large/Medium/Small Airports and Text, Runway Labels
NAV	VORs, NDBs, Intersections and Text
CTRL	Controlled Airspace: Class B/C/D
SUA	Special-use Airspace: Restricted, MOA, Mode C Veil, Other
CITY	Large/Medium/Small Cities and Text; Small Towns
ROAD	Freeway, National Highways, Local Highways, Local Roads, Road Names
POINT	Geographic Landmarks, Marine Navaids, Highway Exits, Points of Interest
AREA	Rivers/Lakes, Parks, Metro Areas, Other Areas, Descriptive Text
TOPO	Major/Intermediate/Minor Contour Lines, Contour Text, Land Cover
MAPSOURCE	Revision History, Map Name(s), Map Enable/Disable

Large airports are those with a runway longer than 8000'. Medium Airports are those with a runway longer than 5000' or with a control tower. Large cities are those with approximate populations greater than 200,000 and medium cities are those with approximate populations over 50,000. Small towns have approximate populations under 5,000 or an unknown population size.

To change a map setup feature:

1. Display the Map Page Options (see page 19), then highlight 'Setup Map' and press **ENTER**.

2. To change the map detail level, use the LEFT/RIGHT portion of the **ROCKER KEYPAD** to select the 'MAP' file tab (if not already selected) and press **ENTER**. Use the UP/DOWN portion of the **ROCKER KEYPAD** to highlight 'Map Detail' and press **ENTER**. Select the desired detail level from the pop-up window and press **ENTER**. The more detailed settings will display greater detail at higher map scales.

3. To change map orientation, use the LEFT/RIGHT portion of the **ROCKER KEYPAD** to select the 'MAP' file tab (if not already selected) and press **ENTER**. Use the UP/DOWN portion of the **ROCKER KEYPAD** to highlight the 'Orientation' field and press **ENTER**. Select 'North Up' to fix the top of the map to a north heading. Select 'Track Up' to adjust the top of the map display to your current track heading. Select 'DTK Up' to fix the top of the map display to your desired course. Press **ENTER** to accept the selected option.

4. To select day or night map colors, use the **ROCKER KEYPAD** to select the 'MAP' tab (if not already selected), then highlight the 'Color Mode' field and press **ENTER**. Select 'Day', 'Night' or 'Auto' color modes, using the **ROCKER KEYPAD**, and press **ENTER**. Day mode provides brighter colors for operation in well lit conditions. 'Auto' will select the appropriate mode based upon the GPSMAP 295's internally calculated sunrise and sunset times (using current time and position).

5. To enable/disable automatic zoom, use the **ROCKER KEYPAD** to select the 'MAP' tab (if not already selected), then highlight the 'Auto Zoom' field and press **ENTER**. With the **ROCKER KEYPAD**, select 'On' or 'Off' to enable or disable automatic zoom. Press **ENTER** to accept the selected option. The automatic zoom feature will automatically adjust the map scale from 80 nm through each lower scale, stopping at 800 ft as you reach your destination waypoint.

6. To enable/disable all land data or aviation data, use the **ROCKER KEYPAD** to select the 'DATA' tab. Use the UP/DOWN portion of the **ROCKER KEYPAD** to highlight the appropriate field and press **ENTER**. Select 'On' or 'Off' to enable or disable all land data. Press **ENTER** to accept the selected option. You may find it helpful to disable the aviation data while using the GPSMAP 295 in an automobile.

Map Page Options: Setup Map
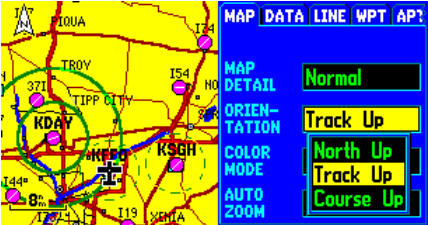
Select the 'North Up' option to keep the top of the map display fixed on North. 'Track Up' will enable the map to rotate so the top of the map is the direction you are heading.
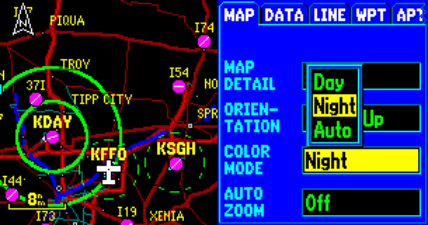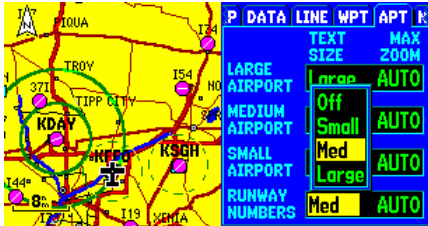

'Night' Color Mode switches to a darker background color and softer feature colors to prevent unwanted distractions in a dark cockpit. Use the 'Auto' option to have the GPSMAP 295 automatically switch color modes at sunset or sunrise.
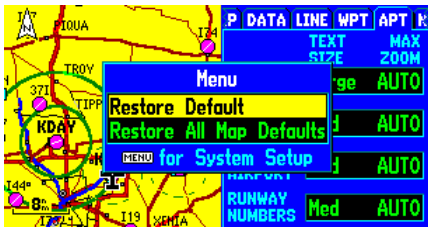
21

Map Page Options: Setup Map

The text size for airports and runway numbers can be adjusted between large, medium and small sizes. The 'Max Zoom' setting determines the maximum scale at which the feature will appear on the map.

Select 'Restore Defaults' or 'Restore All Map Defaults' to return the map settings to the factory defaults.

7. For airports, runway labels, VORs, NDBs, intersections, active route waypoints, user waypoints, rivers/lakes, cities/towns, railroads, local road names, highway exits, geographic landmarks, parks, points of interest, topographic contour lines or marine navaids: use the **ROCKER KEYPAD** to select the appropriate tab (per the chart on page 20) and press **ENTER**. Highlight the zoom field adjacent to the desired feature and press **ENTER**. Select the maximum scale at which the feature should appear on the map, or 'Off' to never display the feature, and press **ENTER**. Highlight the text field for the desired feature and press **ENTER**. Select the text size for the desired feature, or 'Off' to disable text, and press **ENTER**.

8. For airspace boundaries (controlled or special-use), freeways, highways, local roads, metro areas, track log data, active route lines, latitude/longitude grid lines and topographic land cover: use the **ROCKER KEYPAD** to select the appropriate tab (per the chart on page 20) and press **ENTER**. Highlight the zoom field for the desired feature and press **ENTER**. Select the maximum scale at which the feature should appear on screen, or select 'Off' to never display the feature. Press **ENTER** to accept the settings.

As you may have noticed from the steps above, a wide variety of information can be depicted on the map display! After making a number of changes to map settings, you may wish to return the map settings for a particular file tab, or all map setups, back to the factory defaults.

To restore map settings to factory defaults:

1. To restore the settings for a single map setup file tab: select the 'Setup Map' option, as described above. Use the **ROCKER KEYPAD** to select the desired file tab. Press **MENU** to display an options window. Highlight 'Restore Default' and press **ENTER**.

2. To restore ALL map settings: select the 'Setup Map' option, as described above. Press **MEN**U to display an options window. Highlight 'Restore All Map Defaults' and press **ENTER**.

Additional descriptions of map settings:

- Active Route lines are lines drawn connecting the waypoints in the currently active route.
- Active Route waypoints are those waypoints you added to the currently active route.
- 'Other' SUAs includes training, caution, danger, warning and alert areas.
- 'Geo' points are landmarks provided by optional MapSource CD-ROMs (Roads and Recreation/ MetroGuide). These landmarks include peaks, cemeteries, dams, marinas, boat ramps and golf courses.
- 'Marine Navaids' are provided by optional MapSource CD-ROMs (Roads and Recreation/ WorldMap). These navaids include day markers, mile markers, buoys and lighted markers.
- 'POI' (points of interest) are included on optional MetroGuide cartridges and the optional MapSource MetroGuide CD-ROM. Included are food, lodging, attractions, entertainment, shopping, services and interstate rest areas.
- 'Other' Areas include wetlands, glaciers, parking lots, university campuses and reservations.

The last file tab available from the 'Setup Map' option displays version and map name(s) for any MapSource CD-ROM data stored on an installed cartridge. A box appears to the immediate left of each map name (directly under 'SHOW'). When the box is checked, the designated MapSource data will appear on the map—at the appropriate map scales and when within the boundaries of that map's area.

To turn individual MapSource maps on or off:

1. Optional MapSource data must first be uploaded to a cartridge installed in your GPSMAP 295.
2. Select the 'Setup Map' option, as previously described, then use the **ROCKER KEYPAD** to scroll through the map settings file tabs. Select the right-most tab, labeled 'MAPSOURCE'. A list of any available maps will appear below the tab.
3. If a check mark appears in the box to the left of a map name, that map is turned on and will appear on the map display. If necessary, highlight the name of any listed map and press **ENTER** to add or remove the check mark.

Map Page Options:Setup Map
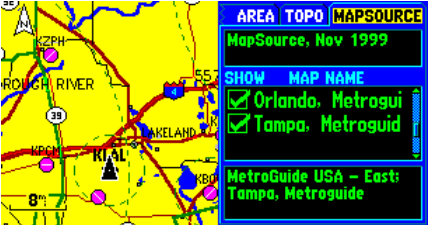
Select the 'MAPSOURCE' file tab to display a list of any MapSource CD-ROM data stored on a cartridge. MapSource CD-ROMs and cartridges are available as optional equipment.
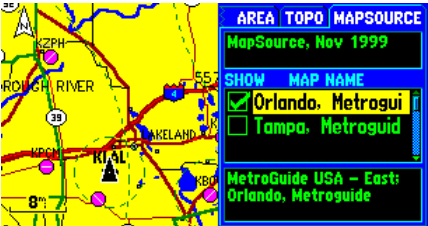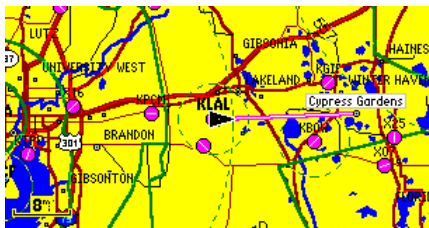

A check mark adjacent to a listed 'Map Name' means the data for that map will appear on the Map Page.

Map Page Options

Select '2 Big-Number Fields' to display a map and two large-character data fields.

'Full Screen Map' removes the data fields and displays a large area map.

Full Screen Map— selects a full-screen map display, without data fields along the right-hand side.

2 Big-Number Fields— selects a map display with two large-character data fields along the right-hand side of the page. Select the desired data items using the 'Change Fields' option on page 19.

2 Fields with HSI— selects a map display with two small-character data fields in the top right corner of the page and a smaller HSI graphic in the bottom right corner of the page. Select the desired data items (for the data fields) using the 'Change Fields' option on page 19. When using Land Mode, '2 Fields with RMI' will appear as an option instead. See page 6 for more information on Land Mode.

4 Fields— selects a map display with four small-character data fields along the right-hand side. Select the desired data items using the 'Change Fields' option on page 19.

8 Fields— selects a map display with eight small-character data fields along the right-hand side. Select the desired data items using the 'Change Fields' option on page 19.

To select the number of data fields to display, add an HSI (or RMI), or select a full screen map:

1. With the Map Page displayed, press **MENU** to display the Map Page options.
2. To select the desired number of data fields, use the **ROCKER KEYPAD** to highlight '2 Big-Number Fields', '4 Fields' or '8 Fields' and press **ENTER**.
3. To select a split screen with map and HSI (or RMI in Land Mode), use the **ROCKER KEYPAD** to select '2 Fields with HSI' (or '2 Fields with RMI') and press **ENTER**.
4. To select a full screen map, use the **ROCKER KEYPAD** to select 'Full Screen Map' and press **ENTER**.

When using the '2 Fields with HSI' option, the default full-scale limits of the course deviation scale and needle are ±1.25 (nautical mile/statute mile/kilometer). To select a different scale setting— ±0.25 and ±5.0 are also available—refer to the HSI Page Options on pages 27 and 30.

Show Next Street (Land Mode only)**—** displays a banner at the top of the map, which indicates the next street ahead, next interstate exit, the road you're currently on or the direction you're driving. When travelling on an interstate highway, the banner will display the next exit and distance to the exit. When on all other road types (other than interstate highways), the banner will display the next street ahead or indicate the road you're currently on. If the road you're driving on is not displayed on the map, the banner will indicate driving direction only. If 'Show Next Street' is currently selected, 'Hide Next Street' will appear as an option instead.

To enable/disable the 'Next Street' banner at the top of the map:

1. With the Map Page displayed, press **MENU** to display the Map Page options.

2. Use the **ROCKER KEYPAD** to highlight 'Show Next Street' (or 'Hide Next Street' and press **ENTER**.

Measure Distance— allows you to measure the bearing and distance between any two points on the map display.

To measure bearing and distance between two points:

1. With the Map Page displayed, press **MENU** to display the Map Page options.

2. Use the **ROCKER KEYPAD** to highlight 'Measure Distance' and press **ENTER**. An on-screen pointer will appear on the map display at your present position.

3. Use the **ROCKER KEYPAD** to move the on-screen pointer to the desired reference location (the point you want to measure from) and press **ENTER**.

4. Use the **ROCKER KEYPAD** to move the on-screen pointer to the point you want to measure to. The distance and bearing from the reference point will appear at the top of the page.

5. To exit the 'Measure Distance' option, press **QUIT**.

Restore Default— resets the data field options to the factory default settings.

To return the data field options to factory settings:

1. With the Map Page displayed, press **MENU** to display the Map Page options.

2. Use the **ROCKER KEYPAD** to highlight 'Restore Default' and press **ENTER**.

Map Page Options

*To measure the distance between two map locations, choose the 'Measure Distance' option, select a starting point with the **ROCKER KEYPAD** and press **ENTER**...*

...then place the pointer on the point you want to measure to. The bearing and distance from the first point to the second point appears in the window at the top of the map.

HSI Page (Aviation Mode)

This example shows the aircraft heading parallel to the desired course, to the right more than 0.5 nm.

This example shows the aircraft even further off course, beyond the limits of the course deviation scale. The course deviation needle will stay at the edge of the scale until your cross-track error (XTK) is less than the limits of the scale.

26

Bug Indicator

Compass Card
(Ground Track)

Course Deviation Needle

VNAV Indicator

Desired Course Pointer

TO/FROM Indicator

User-selectable
Data Fields

Course Deviation
Scale Setting

The HSI Page appears only when the GPSMAP 295 is in Aviation Mode (see page 6). The graphic HSI depicts the desired course to the destination waypoint (or the next waypoint in a route), current ground track, off course error and a TO/FROM indication. The rotating compass card indicates your current ground track at the top of the page. The desired course pointer and course deviation needle indicate the desired course and whether or not you're on the desired course. A bug indicator provides course to steer (CTS) information, guiding you back to the desired course should you stray off course.

The course deviation scale appears behind the course deviation needle. If you move off course, the needle will indicate how far off course you are, left or right, based upon its placement along the course deviation scale. To get back on course and center the needle, simply steer toward the needle. The course deviation scale setting is adjustable for ±0.25, 1.25 or 5.0 (nautical mile/statute mile/kilometer) full scale deflection. The default setting is 1.25, which represents the distance from the center of the CDI to full left or right limits.

As you reach your destination, a TO/FROM indicator at the center of the HSI will indicate waypoint passage. By default, eight user-selectable data fields appear along the right-hand side of the page showing: distance and time to next waypoint, name of next waypoint, current ground speed and track, desired course, cross track error and vertical speed to target (a vertical navigation function, described on page 79). Each data field may be configured to display any one of twenty-one data options, or you can replace some data fields with a smaller map display, using the HSI Page Options.

Many features of the GPSMAP 295 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 HSI Page Options, press MENU (with the HSI Page displayed).

The following options are available:

• **Change Fields**	• **Set OBS and Hold**	• **Release Hold**
• **Set Bug Indicator**	• **VNAV Indicator Off**	• **Capture VNAV Profile**
• **Cancel Capture**	• **Show Map**	• **2 Big-Number Fields**
• **2 Fields with Map**	• **8 Fields**	• **Set CDI Scale**
• **Restore Default**		

Change Fields— allows you to choose the data types displayed on two or eight user-selectable data fields along the right-hand side of the page. There are twenty-one available data types: Altitude, Bearing, Course, Course to Steer (CTS), Cross-Track Error (XTK), Distance to final Destination (DIS DEST), Distance to Next waypoint (DIS NEXT), ETA to final Destination (ETA DEST), ETA to Next waypoint (ETA NEXT), ETE to final Destination (ETE DEST), ETE to Next waypoint (ETE NEXT), Estimate Time to VNAV (ETV), Glide Ratio (GR), Glide Ratio to Target (GRT), Speed, Track, Turn (direction and angle), User Timer (USR TMR), Vertical Speed (VS), Vertical Speed to Target (VST), Destination Waypoint name (WPT DEST), Next Waypoint name (WPT NEXT). See page 97 for descriptions of these terms.

To change a data field:

1. Use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.

2. Highlight the data field you wish to change and press **ENTER**.

3. Use the **ROCKER KEYPAD** to select the type of data you want to appear on this field and press **ENTER**.

HSI Page Options

The HSI Page Options allow you to change the type of data displayed, select the OBS function, access vertical navigation features, add a map to the HSI Page, adjust CDI scale and more.
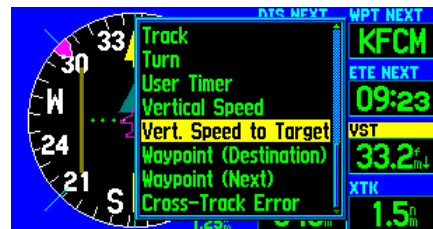
*To change the type of data displayed, select the 'Change Fields' option, highlight the field you wish to change and press **ENTER**. A pop-up window will list the available data types.*

27

HSI Page Options

*Select 'Set OBS and Hold' to define the inbound course to your destination waypoint. When you select this option a pop-up window appears at the center of the HSI. Use the **ROCKER KEYPAD** to select the desired course.*
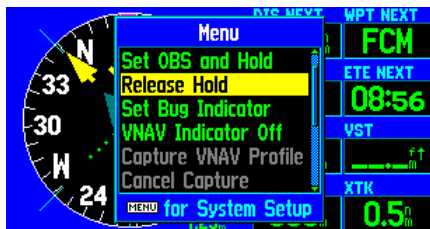
'Release Hold' maintains the selected OBS course but cancels the hold. This re-enables automatic sequencing to the next route waypoint upon waypoint passage.

Set OBS and Hold— allows you to manually define the course to your destination waypoint. Once selected, the GPSMAP 295 will use the OBS course setting for steering guidance with the course deviation needle and desired course pointer.

> ⚠ *When using the GPSMAP 295's route features, 'Set OBS and Hold' will prevent the unit from automatically sequencing to the next route waypoint. To maintain the OBS course and retain automatic sequencing, you must also select the 'Release Hold' option.*

To manually set a course to the destination waypoint:

1. With the HSI Page displayed, press **MENU** to display the HSI Page Options. (Keep in mind, you must have a destination waypoint select using a 'GOTO' or a route.)

2. Highlight 'Set OBS and Hold' and press **ENTER**. An OBS data field will appear on the HSI display.

3. Select the desired OBS course using the LEFT/RIGHT keys on the **ROCKER KEYPAD** and press **ENTER**. The course deviation needle and desired course pointer will now provide steering guidance to the selected course.

To cancel the OBS course and reset a direct course to the waypoint, press ⤏WPT followed by ENTER (or re-activate the route).

Release Hold— cancels the 'hold' feature enabled when 'Set OBS and Hold' is selected. This option returns the GPSMAP 295 to automatic sequencing of waypoints along the active route. However, if an OBS course has been selected, that course setting will be retained until cancelled (as described above) or until waypoint passage.

To release a waypoint hold and return to automatic sequencing of route waypoints:

1. With the HSI Page displayed, press **MENU** to display the HSI Page Options.

2. Highlight 'Release Hold' and press **ENTER**.

Set Bug Indicator— allows you to define the use of the bug indicator, which appears in magenta along the outside edge of the rotating compass card, or turn it off. By default, the bug indicator shows course to steer (CTS), but can also show bearing (BRG) to waypoint or be 'User Selected'. The 'User Selected' option allows you to mark a heading reference on the graphic HSI. This provides a visual cue of an important heading for current or future use.

   To select a bug heading function:
   1. With the HSI Page displayed, press **MENU** to display the HSI Page Options.
   2. Use the **ROCKER KEYPAD** to highlight 'Set Bug Indicator' and press **ENTER**.
   3. Select the desired bug heading function—'User Selected', 'Bearing', 'Course to Steer' or 'Off' and press **ENTER**.

   To set a user-defined bug heading reference:
   1. Use the steps above and choose the 'User Selected' function. A window will appear at the center of the HSI, showing the current bug heading.
   2. Select the desired heading reference using the LEFT/RIGHT portion of the **ROCKER KEYPAD** and press **ENTER**. The bug indicator will remain fixed on the selected heading until a new bug heading is chosen.

VNAV Indicator Off— allows you to disable/enable the vertical navigation indicator (horizontal line) on the graphic HSI. If the VNAV indicator is disabled, 'VNAV Indicator On' will appear as an HSI Page Option instead. (See page 79 for more information on vertical navigation.)

Capture VNAV Profile— is used to center/re-center the VNAV indicator on the graphic HSI. To utilize this feature, a GOTO or route must be in use and a valid vertical navigation profile must be entered on the vertical navigation setup page. (See page 79 for more information on vertical navigation.)

Cancel Capture— is used to return the VNAV indicator to the settings originally entered on the vertical navigation setup page. (See page 79 for more information on vertical navigation.)

HSI Page Options

The 'Set Bug Indicator' option allows you to define the purpose of the bug indicator or remove it from the HSI. The default setting is 'Course to Steer'.

A VNAV indicator appears as a horizontal line on the graphic HSI when a vertical navigation profile is selected and you are near the descent path defined by the profile.

29

HSI Page Options

'Show Map' displays a split screen HSI and Map.

'2 Big Number Fields' displays the HSI with two large-character data fields along the right-hand side of the page.

Show Map— selects a split-screen HSI display, with a map along the right-hand side.

2 Big-Number Fields— selects an HSI display with two large-character data fields along the right-hand side of the page. Select the desired data items using the 'Change Fields' option on page 27.

2 Fields with Map— selects a split-screen HSI display with two small-character data fields in the top right corner of the page and a smaller map in the bottom right corner of the page. Select the desired data items (for the data fields) using the 'Change Fields' option on page 27.

8 Fields— selects an HSI display with eight small-character data fields along the right-hand side.

To select the number of data fields to display and/or a split-screen with map:

1. With the HSI Page displayed, press **MENU** to display the HSI Page Options.
2. Use the **ROCKER KEYPAD** to select 'No Data Fields', '2 Big-Number Fields', '2 Fields with Map' or '8 Fields' and press **ENTER**.

Set CDI Scale— sets the full scale limits of the course deviation scale and needle. The default setting is ±1.25 (nautical mile/statute mile/kilometer), but can also be set to ±0.25 or ±5.0 ranges. The current setting is always displayed at the lower right corner of the graphic HSI (on the HSI Page).

To change the CDI Scale:

1. With the HSI Page displayed, press **MENU** to display the HSI Page Options.
2. Use the **ROCKER KEYPAD** to select 'Set CDI Scale' and press **ENTER**. A window will appear at the center of the HSI, showing the current scale setting.
3. Use the LEFT/RIGHT portion of the **ROCKER KEYPAD** to select the desired scale and press **ENTER**.

The IN and OUT zoom keys may also be used to adjust CDI scale when no map is displayed.

Restore Defaults— resets the data field options to the factory default settings.

To return the data field options to factory settings:

1. With the HSI Page displayed, press **MENU** to display the HSI Page Options.
2. Use the **ROCKER KEYPAD** to highlight 'Restore Defaults' and press **ENTER**.

Bearing Pointer

Compass Card
(Ground Track)

User-selectable
Data Fields

The RMI Page appears only when the GPSMAP 295 is in Land Mode (see page 6). The graphic RMI indicates bearing to the destination waypoint (or the next waypoint in a route) using a 'bearing pointer'. The rotating compass card indicates your current ground track at the top of the page.

As you reach your destination, the bearing pointer will swing from top to bottom to indicate waypoint passage. By default, eight user-selectable data fields appear along the right-hand side of the page showing: distance and time to next waypoint, name of next waypoint, current ground speed and track, desired course, cross track error and vertical speed to target (a vertical navigation function, described on page 79). Each data field may be configured to display any one of twenty-one data options, or you can replace some data fields with a smaller map display, using the RMI Page Options.

RMI Page Options

Much like the HSI Page, the RMI Page has an options menu, allowing you to custom tailor the RMI Page to your preferences and/or select special features which specifically relate to the RMI Page. The RMI Page Options are a subset of the HSI Page Options described on pages 27 through 30.

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

The following options are available:

- **Change Fields**
- **Show Map**
- **2 Big-Number Fields**
- **2 Fields with Map**
- **8 Fields**
- **Restore Default**

RMI Page (Land Mode)
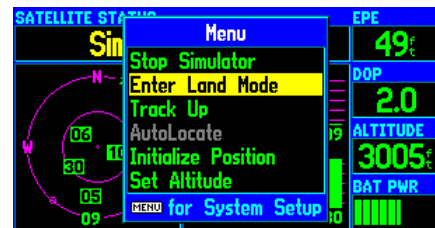
The RMI Page is displayed by selecting 'Enter Land Mode' from the Satellite Status Page Options. The RMI is particularly useful in an automobile, where it is often not possible to follow a straight-line course to your destination.

*RMI Page Options are displayed by pressing **MENU** with the RMI Page displayed. The RMI Page Options are a subset of the options provided for the HSI Page (as previously described).*

31

Active Route Page

When a GOTO destination is selected, only one waypoint will appear on the Active Route Page—with a 'GOTO' arrow beside the waypoint name.

*To rename the active route, highlight the route name field, press **ENTER** and use the **ROCKER KEYPAD** to select a new name.*

'ACTIVE ROUTE' (or GOTO/ APPROACH/TRACBACK) and Route Name Field

GOTO or Route Waypoint Names (Current destination denoted by arrow)

Current Speed and Track

Desired Course, Distance and Time To each route waypoint

The last page appearing in the main sequence is the Active Route Page. Whenever you have activated a route, GOTO or TracBack, the Active Route Page will show each waypoint (by name) of the active route, along with desired course, distance and time enroute (default selections). As you navigate the route, the information on the Active Route Page will automatically update to indicate the current destination waypoint, any remaining interim waypoints and the final destination waypoint.

The three data field columns following the route waypoint names are user-selectable to display the information you desire. There are ten different data items available: desired Course, Distance to next waypoint, ETA or ETE to Next waypoint, Fuel requirements, Leg Distance, Leg Fuel requirements, Leg Time, Sunrise and Sunset times.

From the Active Route Page, you can change the name of the active route, review information on a route waypoint, edit the route, or bypass route waypoints and GOTO any waypoint in the route.

To change the name of the active route:

1. With the Active Route Page displayed, use the **ROCKER KEYPAD** to highlight the active route name field, in the top left corner of the page, and press **ENTER**.

2. Use the **ROCKER KEYPAD** to enter the desired route name. Use the UP/DOWN portion to select the desired character and RIGHT to move to the next character field.

3. Press **ENTER** once you have entered all characters for the desired route name.

To review database information for a waypoint in the active route:

1. With the Active Route Page displayed, use the **ROCKER KEYPAD** to highlight any listed waypoint and press **ENTER** to display a pop-up window.

2. Use the **ROCKER KEYPAD** to highlight 'Review' and press **ENTER**.

3. The waypoint information pages will appear. For airports, use the **ROCKER KEYPAD** to highlight the 'AVIATION', 'RUNWAY', 'COMM' or 'APPROACH' file tabs, as desired.

4. To return to the Active Route Page, highlight the on-screen 'OK' button and press **ENTER**.

To edit the active route:

1. With the Active Route Page displayed, use the **ROCKER KEYPAD** to highlight the route waypoint you wish to remove, change or move—or the waypoint in front of which you will insert a new route waypoint—and press **ENTER**. A pop-up window will appear.

2. To remove the selected route waypoint: Highlight 'Remove' and press **ENTER**.

3. To change the selected route waypoint: Highlight 'Change' and press **ENTER** to display the waypoint information pages. Select the identifier, facility name or city name field (as appropriate) and press **ENTER**. Use the **ROCKER KEYPAD** to select the new waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the new waypoint have been entered. With the on-screen 'Use' button high-lighted, press **ENTER**.

4. To move the selected route waypoint: Highlight 'Move' and press **ENTER**. Use the UP/DOWN portion of the **ROCKER KEYPAD** to move the waypoint to its new location and press **ENTER**.

5. To insert a new waypoint in front of the selected waypoint: Highlight 'Insert' and press **ENTER** to display the waypoint information pages. Select the identifier, facility name or city name field (as appropriate) and press **ENTER**. Use the **ROCKER KEYPAD** to select the new waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the new waypoint have been entered. With the on-screen 'Use' button highlighted, press **ENTER**.

Active Route Page

*As you approach a route waypoint, you may wish to review field elevation, runway layout or communication frequencies. You can do this by highlighting the desired Active Route Page waypoint and pressing **ENTER**...*

...a pop-up window provides options for reviewing database information for active route waypoints or editing the route.

Active Route Page

When a GOTO destination is selected along the active route, the GPSMAP 295 will bypass any interim waypoints and guide you directly to the designated waypoint. Once you reach the GOTO destination, the GPSMAP 295 will guide you to any remaining route waypoints.

The Active Route Page Options include options to deactivate the currently active route, invert the route, select an instrument approach and change the types of data displayed on the Active Route Page.

34

To skip ahead and bypass a waypoint(s) in the active route:

1. With the Active Route Page displayed, use the **ROCKER KEYPAD** to highlight the new destination waypoint.

2. Press **Ð► WPT** and **ENTER** to set a course directly to the designated waypoint.

Selecting an active route waypoint as a 'GOTO' destination is referred to as an "on route GOTO". Once you reach the GOTO destination, the GPSMAP 295 will automatically revert back to the active route and navigate to any remaining waypoints which occur in the route after the selected 'GOTO' destination. (This differs from an "off route GOTO" where there are no additional waypoints available once the 'GOTO' destination is reached.)

Active Route Page Options

Many features of the GPSMAP 295 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 Active Route Page Options, press MENU (with the Active Route Page displayed).

The following options are available:

• **Deactivate**	• **Re-evaluate**	• **Invert**
• **Select Approach**	• **Remove Approach**	• **Vectors**
• **Show Map**	• **Set Fuel Flow**	• **Delete Route**
• **Change Fields**	• **Restore Default**	

Deactivate— cancels navigation of the route you are currently using.

Re-evaluate— reactivates the current route and selects the route leg closest to your current position as the active leg. The active leg defines the current 'from' and 'to' waypoints. This feature is handy if you stray well off course and later wish to return to the route.

Invert— reactivates the current route in reverse order and navigates from the end waypoint back to the beginning waypoint.

To deactivate, re-evaluate or invert the active route:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.

2. Use the **ROCKER KEYPAD** to highlight 'Deactive', 'Re-evaluate' or 'Invert' and press **ENTER**.

Select Approach— allows you to select the final course segment of a published approach, replacing the final destination airport (in a GOTO or route) with the sequence of waypoints for the selected approach. Approach features are described in greater detail on page 71.

To add an approach for the destination airport to the active route:

1. Create and activate a route which ends at an airport with a published approach.

2. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.

3. Use the **ROCKER KEYPAD** to highlight 'Select Approach' and press **ENTER**. A pop-up window will appear listing the available approaches for the destination airport.

4. Use the **ROCKER KEYPAD** to select the desired approach and press **ENTER**. A second pop-up window will appear, asking if you want to activate 'Vectors?' (i.e., vectors-to-final; see the 'Vectors' option on the following page).

5. Use the **ROCKER KEYPAD** to select the on-screen 'Yes' or 'No' button, as desired, and press **ENTER**.

In some situations you may wish to load the approach while still some distance away, enroute to the destination airport. Select 'No' in step 5 above and you can later select 'Vectors' (described on the following page) to activate the final approach course.

Active Route Page Options
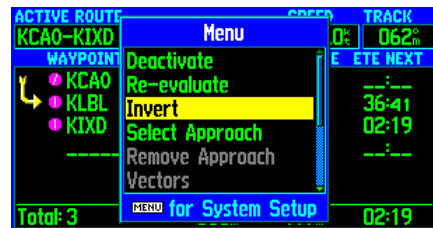
Select 'Deactivate' to cancel route navigation. The route will still be retained in memory for future use.
'Invert' allows you to reverse the order of the route, when it is time to return home.
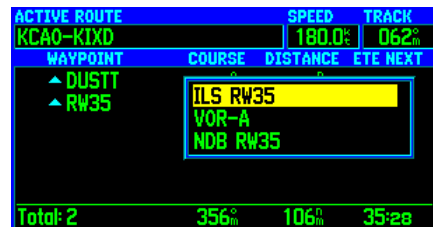
Choose the 'Select Approach' option and a pop-up menu will appear, showing the available approaches at your destination airport. A 'Vectors' option activates an extension of the final course, allowing you to intercept the final course segment prior to reaching the final approach fix.

35

Active Route Page Options

When you remove an approach from the active route, it is replaced by the corresponding airport waypoint.

'Vectors' guides you to intercept the final course of an approach prior to reaching the final approach fix. When activated, an extension of the approach course appears on the map and a 'Vector to Final' symbol appears on the Active Route Page.

Remove Approach— removes the approach waypoints from a GOTO or route, replacing them with the corresponding airport waypoint (which is normally the center of the airfield).

To remove an approach from the active route, replacing it with the corresponding airport waypoint:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.

2. Use the **ROCKER KEYPAD** to highlight 'Remove Approach' and press **ENTER**.

Vectors— activates the final course segment of a published approach (after using 'Select Approach' option described on the previous page), guiding you to intercept the final course prior to the first approach waypoint in the database (typically the final approach fix [FAF]). With 'Vectors' selected, the course deviation needle on the graphic HSI will remain off center until you're established on the final approach course. The Map Page will display an extension of the final approach course using a magenta double line. On the Active Route Page, a 'Vector to Final' symbol will appear adjacent to the first approach waypoint.

To activate the final approach course for an approach in the active route:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.

2. Use the **ROCKER KEYPAD** to highlight 'Vectors' and press **ENTER**.

Set Fuel Flow— allows you to enter a fuel flow figure, which the GPSMAP 295 uses to calculate the fuel required for each leg of the active route.

To enter a fuel flow figure:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.

2. Use the **ROCKER KEYPAD** to highlight 'Set Fuel Flow' and press **ENTER**. A pop-up window will appear, allowing you to enter a per-hour fuel flow figure.

3. Use the **ROCKER KEYPAD** to enter the fuel flow rate—UP/DOWN to change the highlighted character and RIGHT to move to the next character—then press **ENTER**.

⚠️ *The units of measure for fuel flow (gallons or liters) are not included on the GPSMAP 295, since they are not required for calculations. Keep in mind the units from which the original flow rate figure was derived as you view the calculated fuel requirements figures.*

Show Map— displays the active route on a map display. The active route may be edited directly from the map display using this option.

To display/edit the active route on a map:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.

2. Use the **ROCKER KEYPAD** to highlight 'Show Map' and press **ENTER**. The map display will appear, centered on the next destination waypoint in the route.

3. Use the **ROCKER KEYPAD** and **IN**/**OUT** Zoom keys to pan the map and display the desired detail.

4. To review the database information for an active route waypoint: Place the panning pointer on the desired route waypoint and press **ENTER**. From the pop-up window, use the **ROCKER KEYPAD** to highlight 'Review' and press **ENTER**. Press **ENTER** again to return to the map display.

5. To remove a waypoint from the active route: Place the panning pointer on the desired route waypoint and press **ENTER**. From the pop-up window, use the **ROCKER KEYPAD** to highlight 'Remove' and press **ENTER**.

6. To insert a waypoint in the active route: Place the panning pointer on the route leg where the new waypoint will be added. Notice that when the pointer is on a route leg, the route leg changes from magenta to a black/white dashed line. Press **ENTER** to activate a "rubber band" line for the selected route. Use the **ROCKER KEYPAD** to highlight the new route waypoint and press **ENTER**. (If no waypoint exists at the pointer location, a new user waypoint will be created and added to the active route. You can also use the 'Add Turns' pop-up window option to add waypoints to the beginning or end of the active route.)

7. To center the map on the next route waypoint: With the panning pointer on an active route waypoint, press **ENTER**. From the pop-up window, use the **ROCKER KEYPAD** to highlight 'Next' and press **ENTER**.

Active Route Page Options

Select 'Remove' from the pop-up window to remove the chosen waypoint from the active route.
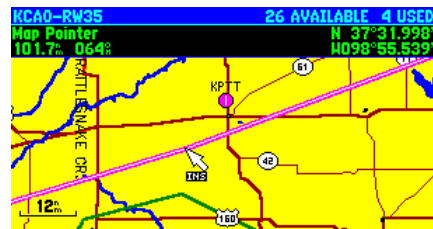
Select the route leg where the new waypoint will be added. Press ENTER to display a "rubber band" line for that route leg. Then, use the ROCKER KEYPAD to select the new waypoint.

37

Active Route Page Options
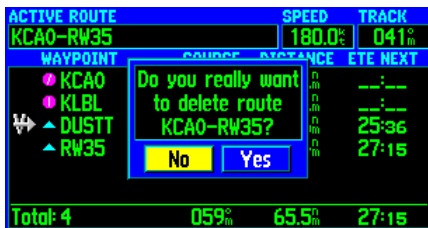
'Delete Route' deactivates and deletes the route from memory in one step. A confirmation window will prevent you from accidentally deleting a route you wish to keep.
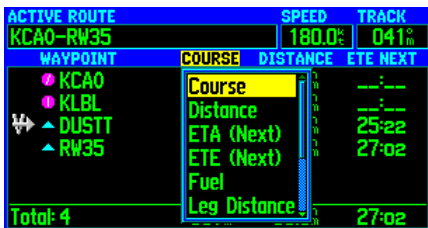
*To change the types of data displayed, select the 'Change Fields' option and press **ENTER**. A list of available data types will appear. You can return the data types to factory settings by selecting the 'Restore Default' option.*

Delete Route— deactivates the currently active route and removes it from memory. Any user-created waypoints contained in the route will still appear in memory, but not as part of the route.

To delete the currently active route:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.
2. Use the **ROCKER KEYPAD** to highlight 'Delete Route' and press **ENTER**.
3. A confirmation window will appear. Use the **ROCKER KEYPAD** to highlight the on-screen 'Yes' button and press **ENTER**.

Change Fields— allows you to choose the data types displayed on three user-selectable data field columns adjacent to the route waypoint name(s). There are ten available data types: Course, Distance (cumulative), ETA to Next waypoint (ETA NEXT), ETE to Next waypoint (ETE NEXT), Fuel requirements (cumulative), Leg Distance (LEG DIST), Leg Fuel, Leg Time, Sunrise and Sunset times at waypoint location. See page 95 for descriptions of these terms.

To change a data field:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.
2. Use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.
3. Highlight the data field you wish to change and press **ENTER**.
4. Use the **ROCKER KEYPAD** to select the type of data you want to appear on this field and press **ENTER**.

Restore Default— resets the data field options to the factory default settings.

To return the data field options to factory settings:

1. With the Active Route Page displayed, press **MENU** to display the Active Route Page Options.
2. Use the **ROCKER KEYPAD** to highlight 'Restore Default' and press **ENTER**.

The GPSMAP 295 includes an internal Jeppesen® database, additional memory for up to 500 user-created waypoints and accepts optional memory cards to display MapSource data. The Jeppesen database provides position and facility information for thousands of airports, VORs, NDBs and intersections. Each facility in the database is stored as a 'waypoint', with its own latitude/longitude location, identifier (up to six letters and/or numbers) and other pertinent information. Updates to the Jeppesen database are available every 28 days online (www.garmin.com). The update program is designed to operate on Windows®-compatible PCs and requires the included PC Interface Cable to connect your GPSMAP 295 to the PC's serial communications port.

The following information is provided from the internal Jeppesen database:

- **Airports**— identifier, facility name, city/state/country, position (latitude/longitude), field elevation, available fuel types, runway designations/layout, runway surface(s), runway length(s), runway width(s), runway lighting, communication frequencies and published approaches.
- **VORs**— identifier, facility name, city/state/country, position (latitude/longitude), frequency and co-located weather, DME or TACAN availability.
- **NDBs**— identifier, facility name, city/state/country, position (latitude/longitude), frequency and co-located weather broadcast availability.
- **Intersections**— identifier, nearest VOR, radial and distance from nearest VOR, position (latitude/longitude) and region/country.

Any user-created waypoints will include the following information:

- **User Waypoints**— name (up to ten characters in length), symbol, position (latitude/longitude), elevation.

Optional memory cards and MapSource CD-ROMs enhance the versatility of your GPSMAP 295—allowing you to display additional street detail, topographic maps, highway exit information and points of interest. With optional MapSource MetroGuide data, you can view listings of nearby restaurants, lodging, shopping centers, attractions and entertainment, and even retrieve addresses and phone numbers for any listed location. The same PC Interface Cable, mentioned above for database updates, is required to transfer MapSource CD-ROM data to the optional memory card.

Waypoint Categories
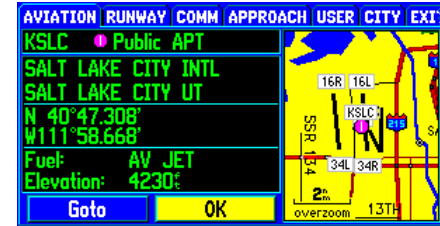
The waypoint information pages display information from the Jeppesen database, any user-created waypoints in memory and any MapSource cartridge data. MapSource data provides address lookup capability and thousands of listings for restaurants, lodging, shopping, entertainment and more.

Intersection information includes name, radial/distance from nearest VOR, position and region. The nearest VOR displayed on this page is simply the nearest facility and may not be the facility used to define the intersection.

39

Jeppesen Database Information
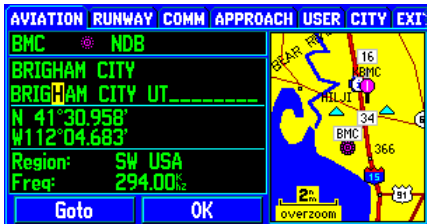
Select the 'AVIATION' tab to view database information for airports, VORs, NDBs and intersections. Airports, VORs and NDBs may be selected by identifier, facility name or city. Intersections may only be selected by identifier.
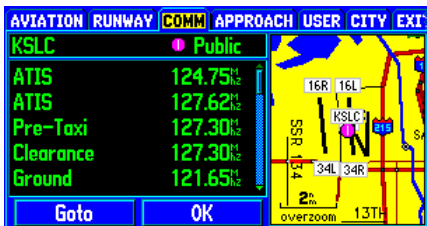
*If an airport is selected on the 'AVIATION' information page, use the **ROCKER KEYPAD** to select the 'RUNWAY', 'COMM' or 'APPROACH' tabs and view additional database information for the selected airport.*
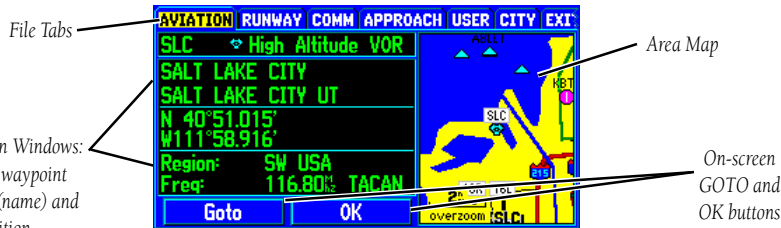
File Tabs

Information Windows: includes waypoint identifier (name) and position

Area Map

On-screen GOTO and OK buttons

Waypoint information pages are displayed by pressing the ➔WPT key and are organized by a series of 'file tabs' across the top of the page. The first four tabs are used exclusively for Jeppesen data.

To view the Jeppesen database information for a waypoint:

1. Press ➔WPT to display the waypoint information pages.

2. Use the **ROCKER KEYPAD** to select the 'AVIATION' file tab at the top of the page.

3. Press the DOWN portion of the **ROCKER KEYPAD** to select the identifier, facility name or city field (in that order; identifier only for intersections) and press **ENTER**.

4. Use the **ROCKER KEYPAD** to enter the identifier, facility name or city—UP/DOWN to select the highlighted character and RIGHT to move to the next character field. As you scroll through the characters the GPSMAP 295 will display any database entries with the same characters you have entered to that point. (If more than one entry exists in the database for the characters you have entered, a duplicate waypoint window will appear listing the country/region for each entry.)

5. Press **ENTER** once the desired waypoint is displayed.

6. If an airport is selected, use the **ROCKER KEYPAD** to select the 'RUNWAY', 'COMM' or 'AP-PROACH' file tabs at the top of the page and display additional database information.

You can select an airport directly from the 'RUNWAY', 'COMM', or 'APPROACH' informa-tion pages by entering the airport identifier at the top of the page. See step 4 above.

The layout of the 'AVIATION' information page will change subtly based upon the type of waypoint selected. The identifier will always appear in the top left corner of the page, an area map will always appear on the right-hand side and on-screen 'GOTO' button will appear at the bottom. Page 39 describes the information available for VORs, NDBs and Intersections. The following pages describe the information available for airports.

Regardless of the type of waypoint displayed (airport or navaid), some functions available from the 'AVIATION' information page will always be the same. This includes the ability to adjust the scale of the area map, to select the waypoint as a GOTO destination or to add the waypoint to a 'favorites' list.

To adjust the scale of the area map:

1. With any waypoint information page displayed, press the **IN** zoom key to show greater detail for a smaller map area, **OR**...

2. Press the **OUT** zoom key to show a larger map area.

To select the waypoint as a GOTO destination:

1. With the desired airport or navaid displayed, use the **ROCKER KEYPAD** to highlight the on-screen GOTO button and press **ENTER**. A course is plotted from your present position to the selected destination waypoint.

In Land Mode, the GOTO line appearing on the map is constantly updated to your present position. In Aviation Mode, the GOTO line and navigation guidance are fixed, with the 'from' point being the position where the GOTO was initiated.

To add the selected waypoint to a list of favorites:

1. With the desired waypoint displayed on any waypoint information page, press the **MENU** key to display an options window.

2. Use the **ROCKER KEYPAD** to highlight 'Add to Favorites' (if necessary) and press **ENTER**.

Airport/Navaid Information
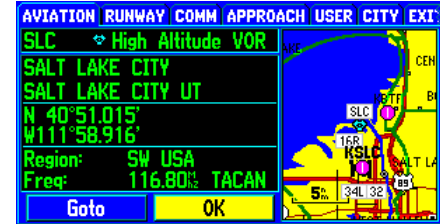
*VOR information includes identifier, facility name, city, position, region, frequency and co-located DME or TACAN. To adjust the area map scale and see more detail around the VOR, use the **IN** and **OUT** zoom keys.*

*To add a displayed waypoint to a list of favorites, press **MENU** and select 'Add to Favorites'. The favorites list is a handy shortcut to retrieve frequently used waypoints.*

Airport Information

Airports are retrieved from the database by identifier, facility name or city. In this example, all the airports in Chicago can be retrieved by scrolling through the entries by city.

Note that the 'K' prefix is not required for smaller airports that have Letter and Number identifiers.

Airport information is divided between the first four file tabs: 'AVIATION', 'RUNWAY', 'COMM' and 'APPROACH'. The following pages describe the information provided under each file tab:

AVIATION— displays identifier, facility name, city, latitude and longitude, available fuel types and field elevation.

Available fuel types include:

- **AV—** AVGAS: 80/87 octane, 100 LL, 100-130 octane
- **JET—** Jet A, Jet A-1, or Jet A+
- **MO—** MOGAS: 87 octane unleaded

Airport Identifier, Facility Name and City

Available Fuel types

Field Elevation

Area Map

Latitude/Longitude Position

The GPSMAP 295 uses International Civil Aviation Organization (ICAO) identifiers to designate airports. In the United States, the prefix letter for airports is 'K'. This applies to airport identifiers that are letters only. For example, 'LAX' becomes 'KLAX'. Airport identifiers that use numbers, such as 'H34' or '7M5', do not use the 'K' prefix.

RUNWAY— displays identifier, facility name, city, runway designations/layout, runway surface(s), runway length(s), runway width(s), runway lighting (and frequency for pilot-controlled lighting).

Runway surface types include:

• **Hard**	• **Turf**	• **Sealed**	• **Gravel**
• **Dirt**	• **Soft**	• **Unknown**	• **Water**

Runway lighting types include:

• **Part Time**	• **Full Time**	• **Pilot-Controlled**
• **No Lighting**	• **Unknown**	

Airport Identifier, Facility Name and City

Runway Designation Field

Runway Length and Width

Area Map

Runway Surface

Runway Lighting
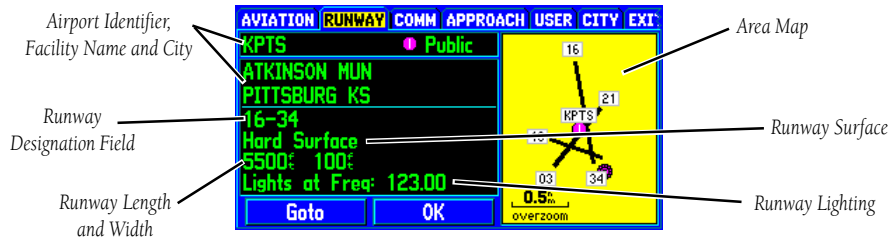
To view information for additional runways:

1. With the 'RUNWAY' information page displayed and the desired airport selected, use the **ROCKER KEYPAD** to highlight the runway designation field and press **ENTER**. A pop-up window will appear, listing all runways for the selected airport. (This window is not available if the airport only has one runway.)

2. Use the **ROCKER KEYPAD** to highlight the desired runway and press **ENTER**. The information for the selected runway is displayed on the page.

Airport Information

To view information for additional runways, use the ***ROCKER KEYPAD*** *to highlight the runway designation field and press* ***ENTER***...
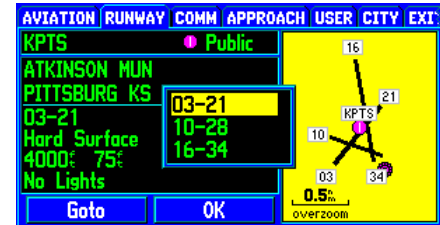
...a pop-up window will appear (if there is more than one runway for the selected airport) showing the available runways. Use the ***ROCKER KEYPAD*** *to select the desired runway and press* ***ENTER*** *to display the runway data.*

Airport Information

A frequency with usage restrictions is denoted by an asterisk after the frequency type. Highlight the desired frequency and press ENTER to display the Usage Restrictions Page.
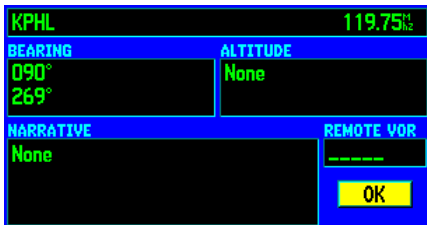
The Usage Restrictions Page will describe any bearing, altitude and/or narrative descriptions for the selected frequency.

44

COMM— displays identifier and list of available frequencies. When a frequency type is followed by an asterisk (*), that frequency has usage restrictions, typically based upon sector and/or altitude.

Frequency categories include:

• **ATIS**	• **Pre-Taxi**	• **Clearance**
• **Ground**	• **Tower**	• **Unicom**
• **Multicom**	• **Other (e.g., AWOS, ASOS)**	• **Departure**
• **Approach**	• **Arrival**	• **Class B**
• **TMA**	•**CTA**	• **Class C**
• **TRSA**		

Airport Identifier

Frequency Types (asterisk denotes usage restrictions)

Area Map

Frequency (in MHz)

To view usage restrictions for a communication frequency:

1. With the 'COMM' information page displayed and the desired airport selected, use the **ROCKER KEYPAD** to highlight any frequency with usage restrictions (as denoted by an asterisk) and press **ENTER**. A Usage Restrictions Page will appear describing the restrictions for the selected frequency.

2. To return to the 'COMM' information page press **ENTER**.

APPROACH— displays the final course segment and waypoints for each published approach to the selected airport. Only one approach is shown at a time, but the information for any additional approaches (to the selected airport) may also be displayed.

Approach types include:

- **ILS**
- **GPS**
- **NDB**

- **Localizer**
- **VOR**

- **RNAV**
- **VOR/DME**

Airport Identifier

Approach Name

Final Approach Waypoints

Area Map

On-screen 'Vectors' and 'GOTO FAF' buttons

To view additional approaches:

1. With the 'APPROACH' information page displayed and the desired airport selected, use the **ROCKER KEYPAD** to highlight the approach name field and press **ENTER**. A pop-up window will appear, listing the available approaches to the selected airport.

2. Use the **ROCKER KEYPAD** to select the desired approach and press **ENTER**.

Airport Information
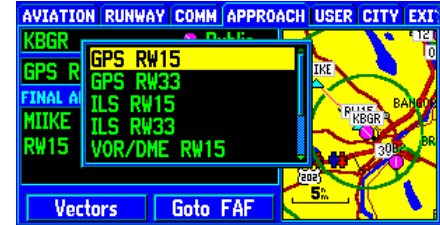
To display information for additional approaches to the same airport, highlight the approach name field and press **ENTER**...

...a pop-up window will appear listing all approaches to the selected airport. Use the **ROCKER KEYPAD** *to select the desired approach and press* **ENTER** *to display information for the approach.*

45

Airport Information
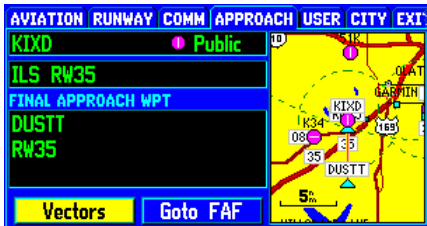
'Vectors' will guide you to an extension of the final course segment, placing you on the final course prior to reaching the FAF (final approach fix).
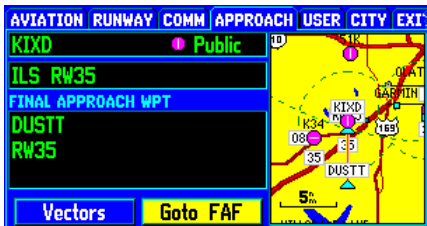
'Goto FAF' will guide you directly to the first approach waypoint in the database.

On the 'APPROACH' information page, the on-screen 'GOTO' and 'OK' buttons which would normally appear on the other waypoint information pages are replaced with 'Vectors' and 'Goto FAF'.

Vectors— activates the final course segment of a published approach, guiding you to intercept the final course prior to the first approach waypoint in the database (typically the final approach fix [FAF]). With 'Vectors' selected, the course deviation needle on the graphic HSI will remain off center until you're established on the final approach course. The Map Page will display an extension of the final approach course using a magenta double line. On the Active Route Page, a 'Vector to Final' symbol will appear adjacent to the first approach waypoint.

Goto FAF— activates a direct course from present position to the first approach waypoint in the database (typically the final approach fix [FAF]). The course deviation needle on the graphic HSI will guide you along the this direct course (not an extension of the final course as is the case for the 'Vectors' selection).

'Vectors' creates an extension of the final course, beyond the final approach fix

'Goto FAF' guides you directly to the final approach fix

User waypoint information is provided on the fifth file tab of the waypoint information pages.

To display user waypoint information:

1. Press **Ð→ WPT** to display the waypoint information pages.
2. Use the **ROCKER KEYPAD** to select the 'USER' file tab at the top of the page.

The 'USER' information page includes on-screen buttons to create a new waypoint, delete or edit an existing waypoint, or select an existing waypoint as a GOTO destination. An area map along the right-hand side of the page shows the map area surrounding the user waypoint's location. The **IN** and **OUT** zoom keys adjust the map scale.

To create a new user waypoint by entering position coordinates:

1. Display the user waypoint information by following the steps above, then use the **ROCKER KEYPAD** to highlight the on-screen 'New' button and press **ENTER**. A 'New User Waypoint' page will appear.
2. With the 'IDENTIFIER' field highlighted, press **ENTER**. Use the **ROCKER KEYPAD** to enter a name for the new user waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the new waypoint have been entered.
3. Use the **ROCKER KEYPAD** to highlight the 'SYMBOL' field and press **ENTER**. A list of available symbols will appear in a pop-up window. Use the UP/DOWN portion of the **ROCKER KEYPAD** to select the desired symbol and press **ENTER**. (The selected symbol will appear on the map display.)
4. Use the **ROCKER KEYPAD** to highlight the 'POSITION' field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the latitude/longitude coordinates for the new user waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once the entire latitude/longitude coordinates have been entered.
5. Use the **ROCKER KEYPAD** to highlight the 'ELEVATION' field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the elevation for the new user waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the elevation have been entered. (Remember to insert any leading zeros to get the correct reading.)
6. To save the new waypoint in memory, highlight the on-screen 'OK' button and press **ENTER**.

User Waypoints

*To display user waypoint information press **Ð→ WPT** and select the 'USER' file tab.*
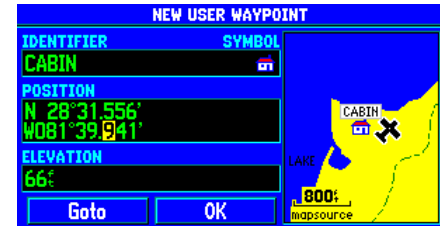
New user waypoints are created by selecting the on-screen 'New' button and entering identifier, symbol, position and elevation.

47
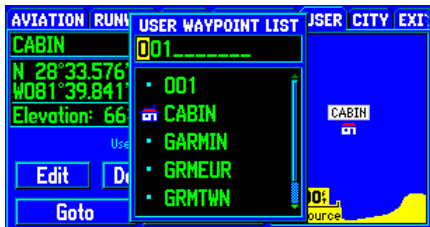
User Waypoints

To delete an existing waypoint, select the desired waypoint on the user waypoint information page, then select the on-screen 'Delete' button.

The on-screen 'Edit' button allows you to edit identifier, symbol, position or elevation for the selected waypoint.

To create a new waypoint by referencing an existing airport, navaid or waypoint:

1. Display the existing waypoint you will use as a reference by following the steps on pages 40 or 47.
2. Press **MENU** to display the options menu, then use the **ROCKER KEYPAD** to highlight 'Reference Waypoint' and press **ENTER**.
3. Use the **ROCKER KEYPAD** to enter a bearing from the reference waypoint to the new waypoint's location. Press **ENTER** once all characters for the new user waypoint have been entered.
4. Use the **ROCKER KEYPAD** to enter a distance from the reference waypoint to the new waypoint's location. Press **ENTER** once all characters for the new user waypoint have been entered.
5. With the 'Create Waypoint' button highlighted, press **ENTER** to create the new waypoint.

To delete an existing user waypoint:

1. Display the user waypoint information by following the steps on the previous page.
2. Use the **ROCKER KEYPAD** to highlight the 'IDENTIFIER' field (top left) and press **ENTER**.
3. Use the **ROCKER KEYPAD** to highlight the name of waypoint you wish to delete and press **ENTER**.
4. Use the **ROCKER KEYPAD** to highlight the on-screen 'DELETE' button and press **ENTER**. Press **ENTER** again to confirm.

To edit an existing user waypoint:

1. Display the user waypoint information by following the steps on the previous page.
2. Use the **ROCKER KEYPAD** to highlight the 'IDENTIFIER' field (top left) and press **ENTER**.
3. Use the **ROCKER KEYPAD** to highlight the name of waypoint you wish to edit and press **ENTER**.
4. Use the **ROCKER KEYPAD** to highlight the on-screen 'EDIT' button and press **ENTER**.
5. Use the **ROCKER KEYPAD** to highlight the 'IDENTIFIER', 'SYMBOL', 'POSITION' or 'ELEVATION' field (depending upon which waypoint information you wish to change) and press **ENTER**.
6. Use the **ROCKER KEYPAD** to enter the new data and press **ENTER** (once all characters have been entered, if changing identifier/position/elevation).
7. Use the **ROCKER KEYPAD** to highlight the on-screen 'OK' button and press **ENTER**.

To select an existing user-created waypoint as a GOTO destination:

1. Display the user waypoint information by following the steps on page 47.

2. Use the **ROCKER KEYPAD** to highlight the 'IDENTIFIER' field and press **ENTER**.

3. Use the **ROCKER KEYPAD** to highlight the name of the destination waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the waypoint name have been entered. Press **ENTER** again to return to the user waypoint information page

4. Use the **ROCKER KEYPAD** to highlight the on-screen 'GOTO' button and press **ENTER**.

With the user waypoint information displayed, press **MENU** to display an options window with the following options:

> • **Add to Favorites**   • **Delete By Symbol**   • **Delete All**

Add to Favorites— adds the displayed waypoint to a list of favorites (see page 56).

Delete By Symbol— allows you to select a user waypoint and all waypoints with the same corresponding symbol will be deleted from memory

Delete All — deletes all user waypoints currently stored in memory.

To delete all user waypoints or all waypoints with a common symbol:

1. Display the user waypoint information by following the steps on page 47.

2. To delete all waypoints with a common symbol: Use the **ROCKER KEYPAD** to highlight the 'IDENTIFIER' field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the name of the desired waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the waypoint name have been entered. Press **ENTER** again to return to the user waypoint information page

3. Press **MENU** to display an options window.

4. Use the **ROCKER KEYPAD** to highlight 'Delete All' or 'Delete By Symbol' (as appropriate) and press **ENTER**.

User Waypoints

To delete all user waypoints, press **MENU** *and select the 'Delete All' option.*

To delete all waypoints with the same map symbol, select a waypoint with the symbol you wish to delete, press **MENU**, *then select 'Delete By Symbol'.*

49

City Information

City information is built into your GPSMAP 295's internal memory and supplemented/updated with data contained on an optional cartridge and MapSource CD-ROM. To select a city, highlight the city name/state/country field...
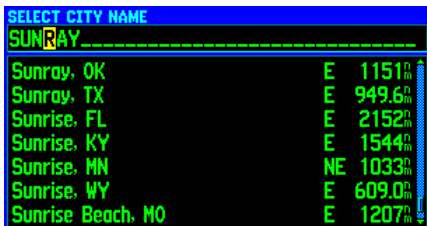
...press ENTER and use the ROCKER KEYPAD to select the desired city.

The remaining five tabs on the waypoint information pages use a combination of internally-stored data and optional MapSource data when installed on a cartridge. These additional file tabs provide lookup and information display for cities, highway exits, points of interest (POI), addresses and crossroads (intersection between two roads in the data). The following pages describe the available information and any additional functions of these information pages.

CITY— displays city name, state or province, country, city size, heading to city (from current position), distance to city (from current position), and position (latitude/longitude) of city.

City sizes include:

- **Large City—**approximate population is greater than 200,000
- **Medium City—**approximate population is greater than 50,000 (but less than 200,000)
- **Small City—**approximate population is greater than 5,000 (but less than 50,000)
- **Small Town—**approximate population is less than 5,000 or population size is unknown

To select a city and view the information:

1. Press **WPT** to display the waypoint information pages.
2. Use the **ROCKER KEYPAD** to select the 'CITY' file tab at the top of the page.
3. Press the DOWN portion of the **ROCKER KEYPAD** to highlight the city name/state/country field and press **ENTER**.
4. Use the **ROCKER KEYPAD** to enter the name of the desired city—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the city name have been entered. Press **ENTER** again to return to the city information page.
5. To select the city as a destination waypoint, verify that the on-screen 'GOTO' button is highlighted and press **ENTER**.

EXIT— displays an interstate highway (by name) and a list of exits on that highway. The list can include all exits or just those with desired services.

The following exit categories are available:

- **All Types—**includes exits with and without services, rest areas, toll booths, welcome centers and weigh stations.
- **Services—**includes exits with fuel, restaurants, service stations, convenience stores, lodging and RV parks.
- **Rest Areas—**includes rest areas and roadside parks.
- **Other—**includes exits without services, toll booths, welcome centers and weigh stations.

To view highway exit information:

1. Press **D→WPT** to display the waypoint information pages.
2. Use the **ROCKER KEYPAD** to select the 'EXIT' file tab at the top of the page.
3. Press the DOWN portion of the **ROCKER KEYPAD** to highlight the exit name field and press **ENTER**. The GPSMAP 295 will search through memory and display a list of exits.
4. To select exits for a different highway, highlight the highway name field and press **ENTER**. Use the **ROCKER KEYPAD** to select the desired highway and press **ENTER**. Press **ENTER** again to return to the exit information page. The GPSMAP 295 will again search through memory and display a list of exits for the chosen highway.
5. To filter the exit list, showing only exits within a desired category (see categories above), highlight the category field and press **ENTER**. A pop-up window shows the available categories, select the desired category and press **ENTER**.
6. To view information for an individual exit, use the UP/DOWN portion of the **ROCKER KEYPAD** to highlight the desired exit and press **ENTER**. (For guidance to the exit, verify that the on-screen 'GOTO' button is highlighted and press **ENTER**.)

Highway Exits
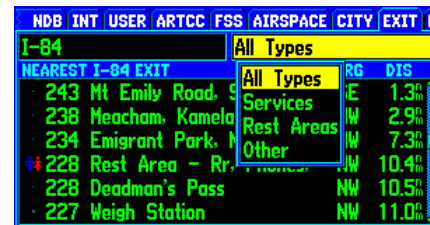
Exit categories include exits with services (such as fuel/restaurants/lodging/service stations), rest areas and 'other' (which includes toll booths, welcome centers and weigh stations).
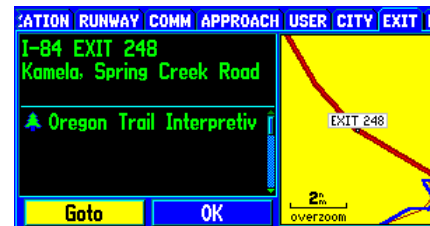
*Highlight an exit on the list and press **ENTER** to display additional information.*

Points of Interest
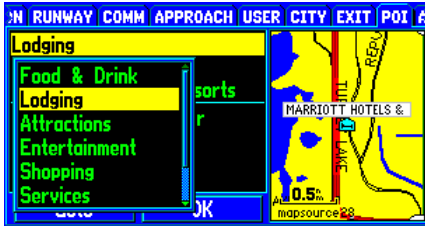
*Use the **ROCKER KEYPAD** to highlight the POI category field and press **ENTER** to view available categories...*
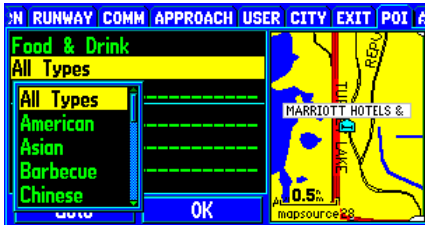
...once you select the desired POI category, you can narrow your search further by selecting additional criteria. For example, a specific type of restaurant, as shown above.

POI— allows you to search the optional MapSource data for points of interest, including restaurants, lodging, attractions, entertainment, shopping, services, transportation and hospitals. The MapSource data includes addresses, phone numbers and position location of each listing. You can designate any point of interest as your destination and the GPSMAP 295 will guide you there.

The following POI categories are available:

• **Food & Drink—**lists name/address/position of restaurants based upon the following criteria: All Types, American, Asian, Barbecue, Chinese, Deli/Bakery, International, Fast Food, Italian, Mexican, Pizza, Seafood, Steak/Grill, Bagel/Donut, Cafe/Diner, French, German, British Isles, Other.

• **Lodging—**lists name/address/position of lodging facilities based upon the following criteria: All Types, Hotel/Motel, Bed & Breakfast Inn, Campground/RV Park, Resort, Other.

• **Attractions—**lists name/address/position of attractions based upon the following criteria: All Types, Amusement/Theme Park, Museum/Historical, Library, Landmark, School, Park/Garden, Zoo/Aquarium, Arena/Track, Hall/Auditorium, Winery, Other.

• **Entertainment—**lists name/address/position of entertainment based upon the following criteria: All Types, Live Theater, Bar/Nightclub, Movie Theater, Casino, Golf Course, Skiing Center/Resort, Bowling Center, Ice Skating, Swimming Pool, Sports/Fitness Center, Public Sport Airport, Other.

• **Shopping—**lists name/address/position of shopping areas based upon the following criteria: All Types, Department, Grocery, General Merchandise, Shopping Center, Pharmacy/Chemist, Convenience, Other.

• **Services—**lists name/address/position of services based upon the following criteria: All Types, Auto Fuel, Auto Repair, Post Office, Band/ATM, Dealer/Auto Parts, Marina/Boat Repair and Storage, Wrecker Service, Parking, Rest Area/Tourist Info, Automobile Club, Car Wash, Other.

• **Transportation—**lists name/address/position of transportation based upon the following criteria: All Types, Auto Rental, Air Transportation, Ground Transportation.

• **Emergency & Government—**lists name/address/position of emergency and government facilities based upon the following criteria: All Types, Police Station, Hospital, City Hall, Court House, Community Center, Border Crossing, Other.

To select and view points of interest information (and select a destination):
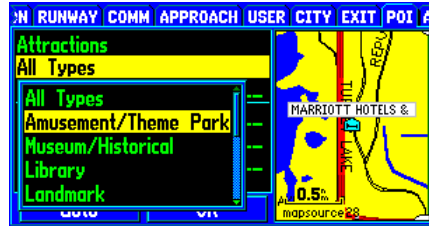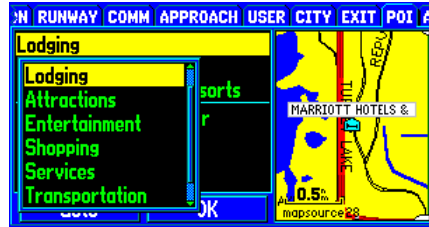

1. Press **✈ WPT** to display the waypoint information pages.

2. Use the **ROCKER KEYPAD** to select the 'POI' file tab at the top of the page.

3. Press the DOWN portion of the **ROCKER KEYPAD** to highlight the POI category field and press **ENTER**. A pop-up window will list available POI categories.

4. Use the **ROCKER KEYPAD** to select the desired category and press **ENTER**. A second pop-up window will appear, allowing you to narrow your search criteria.

5. Use the **ROCKER KEYPAD** to select your search criteria and press **ENTER**. If you do not wish to narrow the search, select 'All Types'.

6. All points of interest for the specified criteria will be listed, use the **ROCKER KEYPAD** to select a desired point—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once the entire name has been entered.

7. The cursor will move to the list. Use the UP/DOWN portion of the **ROCKER KEYPAD** if you wish to search through the list. Once the desired item is highlighted, press **ENTER** to display name, address, phone number and an area map.

8. To select the point as your destination, verify that the on-screen 'GOTO' button is highlighted and press **ENTER**.

Points of Interest
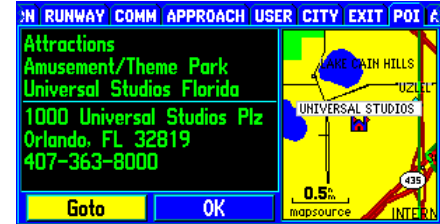
Points of interest data is available from optional MapSource CD-ROMs. The data is stored on an optional cartridge. This data includes business names, addresses and phone numbers.

The MapSource data includes hundreds of listing for each point of interest category.

53
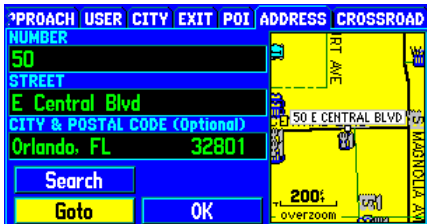
Address Search

With the optional MapSource data, you can also search for specific addresses and specify the address as your destination...
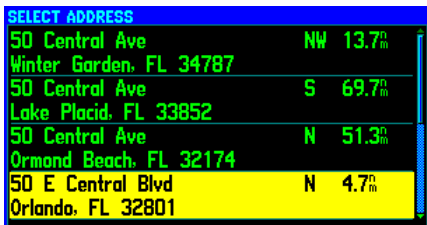
...once you enter the street number and street name, select the on-screen 'Search' button and the GPSMAP 295 will search through all entries in the MapSource data—displaying any matches it finds.

ADDRESS— allows you to search for a particular address within the optional MapSource data.

To search for specific address and/or select an address as your destination:

1. Press ⬦➧**WPT** to display the waypoint information pages.
2. Use the **ROCKER KEYPAD** to select the 'ADDRESS' file tab at the top of the page.
3. Press the DOWN portion of the **ROCKER KEYPAD** to highlight the address number field and press **ENTER**.
4. Use the **ROCKER KEYPAD** to enter the address number—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once the entire number has been entered.
5. Press **ENTER** and use the **ROCKER KEYPAD** to enter the street name. As you enter the first few characters of the street name, the GPSMAP 295 will show the first available entry in the MapSource data. Once the desired street name is displayed, press **ENTER**.
6. Use the **ROCKER KEYPAD** to scan through additional entries in the street name list and press **ENTER** once the desired street name is highlighted.

7. To further narrow the search, you may enter a city and postal code. These entries are not required to search the MapSource data. Follow steps 5 and 6 to enter city and postal, if desired.
8. Use the **ROCKER KEYPAD** to highlight the on-screen 'Search' button and press **ENTER. The** GPSMAP 295 will search all entries in the MapSource data, showing any matches. If there are multiple matches, use the **ROCKER KEYPAD** and **ENTER** key to view each item.
9. To select the address as your destination, verify that the on-screen 'GOTO' button is highlighted and press **ENTER**.
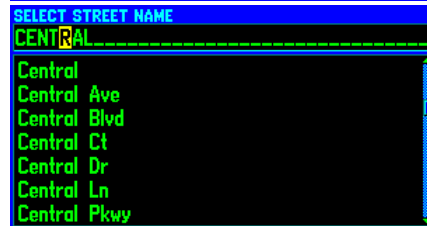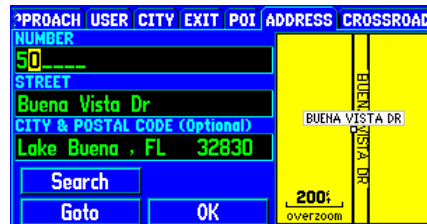
CROSSROAD— allows you to search for a particular street intersection within the optional MapSource data.

To search for a specific street intersection and/or select a street intersection as your destination:

1. Press **⊡► WPT** to display the waypoint information pages.
2. Use the **ROCKER KEYPAD** to select the 'CROSSROAD' file tab at the top of the page.
3. Press the DOWN portion of the **ROCKER KEYPAD** to highlight the first street name field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the street name. As you enter the first few characters of the street name, the GPSMAP 295 will show the first available entry in the MapSource data. Once the desired street name is displayed, press **ENTER**.
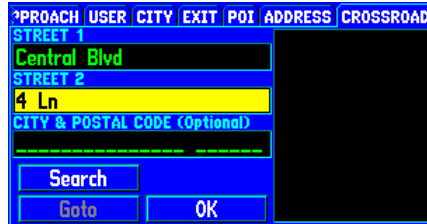
4. Use the **ROCKER KEYPAD** to scan through additional entries in the street name list and press **ENTER** once the desired street name is highlighted.
5. Press **ENTER** and use the **ROCKER KEYPAD** to enter the second street name. As you enter the first few characters of the street name, the GPSMAP 295 will show the first available entry in the MapSource data. Once the desired street name is displayed, press **ENTER**.

6. Use the **ROCKER KEYPAD** to scan through additional entries in the street name list and press **ENTER** once the desired street name is highlighted.
7. To further narrow the search, you may enter a city and postal code. These entries are not required to search the MapSource data. Follow steps 5 and 6 to enter city and postal, if desired.
8. Use the **ROCKER KEYPAD** to highlight the on-screen 'Search' button and press **ENTER**. The GPSMAP 295 will search all entries in the MapSource data, showing any matches. If there are multiple matches, use the **ROCKER KEYPAD** and **ENTER** key to view each item. (If no matches are found the GPSMAP 295 will provide a "None Found" message. Press **ENTER** to acknowledge this message.)
9. To select a matching street intersection as your destination, verify that the on-screen 'GOTO' button is highlighted and press **ENTER**.

Crossroad Search
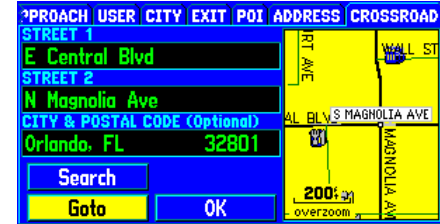
With the optional MapSource data, you can also search for specific street intersections and specify the intersection as your destination.
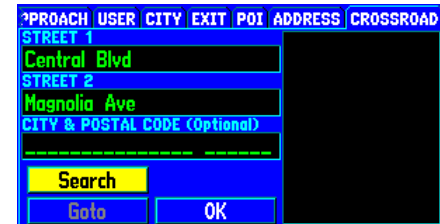
Enter the name of each street and select the on-screen 'Search' button to search for any matching entries.

55

Favorite Waypoints List

*The 'Add To Favorites' option, available from any waypoint information page by pressing **MENU**, allows you to add the waypoint to a favorites list for quick retrieval later. Up to 30 waypoints may be added to the Favorite Waypoints List.*

*To navigate to a favorite waypoint, highlight the desired waypoint on the favorites list , press↴**WPT** , followed by **ENTER**.*

Each waypoint information page includes options (available by pressing the **MENU** key) to add the selected airport, navaid, user waypoint, city, highway exit, point of interest, street address or crossroad to a list of favorite waypoints. A menu option for viewing this list is also provided, however you can quickly access this list by pressing and holding the ↴**WPT** key.

To add an item listed on any waypoint information page to a list of favorite waypoints:

1. Press ↴**WPT** to display the waypoint information pages.
2. Use the **ROCKER KEYPAD** to select the desired file tab at the top of the page. Then select the desired item from that waypoint information page. Refer to specific steps on pages 40 through 55.
3. With the desired item displayed, press **MENU** to display an options window.
4. Use the **ROCKER KEYPAD** to select 'Add To Favorites List' and press **ENTER**.

An 'Add Wpt' on-screen button, on the Favorite Waypoints List, may also be used to add a waypoint to the list. Selecting this button will display the waypoint information pages, where you can search for the desired waypoint by name.

To display the list of favorite waypoints:

1. With any waypoint information page displayed, press **MENU** to display an options window, then select 'Show Favorites List' and press **ENTER**. **OR**,
2. Press and hold ↴**WPT**.

To select a favorite waypoint as your destination:

1. Select the Favorite Waypoints List using either step above.
2. Use the **ROCKER KEYPAD** to highlight the desired waypoint, press ↴**WPT**, followed by **ENTER**.

*A 'GOTO' option is also provided from the Favorite Waypoints List by highlighted the desired waypoint and pressing **ENTER**. A pop-up menu lists this and several other options.*

By highlighting any waypoint on the favorites list and pressing **ENTER**, a pop-up window will provide options for reviewing, removing, changing, inserting or moving a favorite waypoint.

To review information for a favorite waypoint on the list:

1. Select the Favorite Waypoints List using the steps on the previous page.
2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to review and press **ENTER**.
3. A pop-up menu will appear. Select 'Review' and press **ENTER** to display the waypoint information.

To delete a favorite waypoint:

1. Select the Favorite Waypoints List using the steps on the previous page.
2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to delete and press **ENTER**.

> A 'Remove All' on-screen button, on the Favorite Waypoints List, is also provided to delete ALL waypoints from the favorites list.

To replace a favorite waypoint with another waypoint (or insert a new waypoint):

1. Select the Favorite Waypoints List using the steps on the previous page.
2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to replace (or the waypoint following the list location where you wish to add a new waypoint) and press **ENTER**.
3. A pop-up menu will appear. Select 'Change' (or 'Insert') and press **ENTER**.
4. The waypoint information pages will appear. Use the **ROCKER KEYPAD** to select a new waypoint and press **ENTER** once the new waypoint name/identifier/facility/city has been entered.
5. Highlight the on-screen 'Use' button and press **ENTER** to accept the new waypoint.

To move a favorite waypoint to another location on the favorites list:

1. Select the Favorite Waypoints List using the steps on the previous page.
2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to move and press **ENTER**.
3. A pop-up menu will appear. Select 'Move' and press **ENTER**.
4. Use the **ROCKER KEYPAD** to move the waypoint to the desired place in the favorites list.

Favorite Waypoints List

*Highlight any waypoint on the favorites list and press **ENTER** to display a pop-up window with additional options. An on-screen 'Remove All' button can be used to delete all waypoints from the favorites list.*

*To rearrange the order of the Favorite Waypoints List, select the 'Move' option and use the **ROCKER KEYPAD** to move the waypoints to the desired order.*

Marking Present Position

*Press and hold the **ENTER** key to mark your present position as a user-created waypoint. A three-digit number is automatically assigned as the waypoint name, but you can enter a different name.*

Select a symbol for the new waypoint. This symbol will appear at the waypoint's location on the Map Page.

In addition to its use for data entry, the **ENTER** key serves a secondary function which allows you to capture your present position and save it as a user-created waypoint. In order to use this feature, your GPSMAP 295 must be receiving a sufficient number of satellites to have a valid position fix.

To mark your present position and save as a user waypoint:

1. Press and hold the **ENTER** key for approximately two seconds. A 'MARK USER WAYPOINT' page will appear with a pre-assigned name, symbol, position and elevation for the new waypoint.

2. The GPSMAP 295 will automatically assign a three-digit number as the waypoint name, but you may select any name you want, up to ten characters in length. To change the name, highlight the identifier field, press **ENTER** and use the **ROCKER KEYPAD** to enter the desired waypoint name. Press **ENTER** once all characters for the waypoint name have been entered.

3. To select a different waypoint symbol, which will appear on the map: Highlight the symbol field and press **ENTER**. A list of available symbols will appear. Use the **ROCKER KEYPAD** to select the desired symbol and press **ENTER**.

4. To save the new waypoint, highlight the on-screen 'OK' button and press **ENTER**. (To select the waypoint as your destination, select the on-screen 'GOTO' button and press **ENTER**.)

Identifier Field
(waypoint name)

Symbol Field

Waypoint Position
and Elevation

On-screen 'GOTO' and
'OK' buttons

The GPSMAP 295's **NRST** key provides detailed information on the nine nearest airports, VORs, NDBs, intersections and user waypoints within 200 miles of your present position. Information regarding the five nearest FSS (flight service station) and center (ARTCC) points of communication, along with associated frequency(s) is available, as well. When an airspace alert is provided, the Nearest Pages will even provide additional detail about the airspace.

On the ground, use the **NRST** key to display up to 50 nearest cities, highway exits and (with optional MapSource data) 50 points of interest in each category.

The Nearest Pages are organized by a series of file tabs across the top of the page. The following information is displayed on the Nearest Pages:

AIRPORT	nine nearest with identifier, bearing to and distance, length of longest runway, and field elevation.
VOR	nine nearest with identifier, facility type, bearing to and distance, frequency, and co-located weather broadcast availability.
NDB	nine nearest with identifier, bearing to and distance, frequency and co-located weather broadcast availability.
INT	nine nearest with identifier, bearing to and distance.
USER	nine nearest with name, bearing to and distance.
ARTCC	five nearest with bearing to, distance and frequency(s)
FSS	five nearest with bearing to, distance, frequency(s) and VOR (for duplex operations)
AIRSPACE	up to four (depending on number of alerts provided) with name, time to entry (when applicable) and status.
CITY	up to 50 nearest with name, state/province, bearing to and distance.
EXIT	selectable by highway number; places you in the list at the nearest exit from your location; displays exit number, exit name or crossing road, bearing to and distance.
POI	up to 50 for each selectable category; displays current category and criteria, name, bearing to and distance.

Nearest Pages / File Tabs

The Nearest Pages can be used for emergencies, to retrieve database information, to view airspace information once an alert is provided or to select a nearby point as a destination.

Nearest pages are also provided for use on the ground. A list of nearby cities, highway exits and points of interest are always available.

Using Nearest Pages
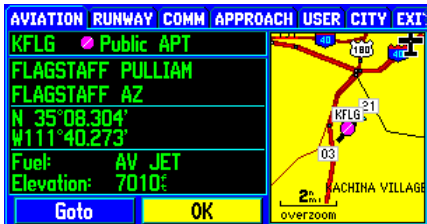
*To view database information for a nearby waypoint, highlight the desired waypoint on the list and press **ENTER**.*

*To select a nearby waypoint as your destination, highlight the waypoint on the list, press ⮂ WPT and then press **ENTER**.*

*While panning on the Map Page (see page 16), pressing **NRST** will display a list of cities, highway exits and points of interest nearest to the map pointer's location - NOT your present position. The list of nearest airports and navaids is ALWAYS relative to your present position.*

To view the Nearest Pages:

1. Press the **NRST** key.
2. To select a different category, use the **ROCKER KEYPAD** to select the desired file tab along the top of the page.

*The nearest airports are displayed by selecting the leftmost tab at the top of the page, titled 'AIRPORT'. When an airspace alert is provided, pressing **NRST** will automatically display nearest airspace information. Press **NRST** a second time to quickly display the nearest airports list.*

Additional information for airports, navaids, user waypoints, cities, highway exits and points of interest are available from the waypoint information pages, described on pages 38 through 53.

To view additional information for a nearby waypoint:

1. Display the nearest pages and select the desired file tab as described above.
2. Use the **ROCKER KEYPAD** to highlight the desired waypoint on the list and press **ENTER**. The corresponding waypoint information page will appear, showing additional waypoint information.
3. For airports, use the **ROCKER KEYPAD** to select the file tabs across the top of the waypoint information pages and display the desired airport data.
4. Highlight the on-screen 'OK' button and press **ENTER** to return to the Nearest Pages.

In an emergency, a few simple keystrokes can be used to guide you to the closest point to set down.

To select a nearby waypoint as your destination:

1. Display the nearest pages and select the desired file tab as described above.
2. Use the **ROCKER KEYPAD** to highlight the desired waypoint, press ⮂ **WPT**, then press **ENTER**.

From the nearest airport list, an options window allows you to filter out airports that don't meet a defined criteria. This allows you to weed out airports with an undesired surface type and/or insufficient runway length. Pilots of larger, high-performance aircraft may define the nearest airport search to ignore airports at which it would be difficult, if not impossible, to land.

The following runway surface settings are available:

- **Any—**displays any runway, regardless of surface type, including water landing facilities.

- **Hard Only—**displays only runways with a concrete, asphalt or similar sealed surface.

- **Hard or Soft—**displays all runways except water landing facilities.

- **Water Only—**display only water landing facilities.

To select the nearest airport criteria:

1. Display the nearest airports list by following the steps on the preceding page.

2. Press **MENU** to display an options window, then press **ENTER**. A pop-up window will appear with the current settings for runway surface and minimum runway length.

3. With the runway surface field highlighted, press **ENTER**. Use the **ROCKER KEYPAD** to select the desired surface type and press **ENTER**.

4. Highlight the minimum runway length field and press **ENTER**. Use the **ROCKER KEYPAD** to select the minimum acceptable runway length and press **ENTER** once all numbers have been entered.

⚠️ *Use caution when changing the nearest airport criteria. In an emergency, a short runway is still typically preferable to an off-field landing. If you set the runway length too high or exclude many runway surfaces, you may not be alerted to a nearby airport that would otherwise would be listed.*

Nearest Airport Criteria

*To display the Nearest Airport Criteria, select the nearest airports list, press **MENU**, then **ENTER**.*

Select the desired runway surface, or select 'ANY' to display any airport in the database.

Nearest FSS or ARTCC
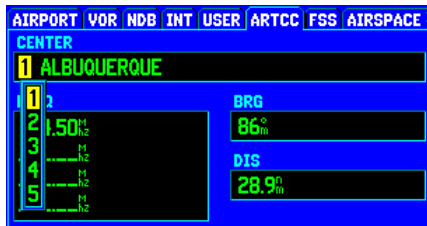
To view additional points of communication, select the desired point from the numbered list. The lowest numbers correspond to the closest points.
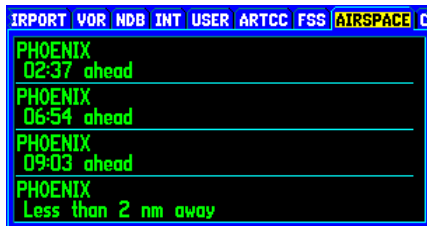
*When airspace alerts are issued, pressing **NRST** will automatically display airspace information—including airspace name, time to entry (when applicable) and status.*

The Nearest Pages list up to five nearest flight service station (FSS) and air route traffic control center (ARTCC) points of communication. The closest communication point—along with frequency(s), bearing to and distance—is displayed first, with additional points available when selected. For duplex operation, the corresponding VOR is listed (by identifier) and the transmit and receive frequencies are denoted by a 'TX' and 'RX' respectively.

To view additional communication frequencies:

1. Display the Nearest Pages by following the steps on page 60.

2. Use the **ROCKER KEYPAD** to select the 'ARTCC' or 'FSS' file tab, as desired.

3. Use the DOWN portion of the **ROCKER KEYPAD** to highlight the 'CENTER' or 'STATION' field (depending upon selection of 'ARTCC' or 'FSS' tab) and press **ENTER**.

4. Select the desired numbered item from the list and press **ENTER** to display the communication information. (The lowest numbers on the list are the closest communication points.)

Nearest Airspace Information

When an airspace alert is provided, the Nearest Pages automatically default to display nearby airspace information. This information includes name, time to entry (if applicable) and status. Up to four nearby airspaces will be listed. Normally, only one or two airspace alerts will occur at a time, but with sectorized controlled airspace (such as many Class B areas) you may have more.

Status information can appear as follows:

- **Ahead—**your projected course will take you inside an airspace within the next ten minutes or less.

- **Near—**you are within two nautical miles of an airspace, but not projected to enter it.

- **Near & Ahead—**you are within two nautical miles of an airspace and your current course will take you inside the airspace.

- **Inside Airspace—**you are within the boundaries of the airspace.

From the Nearest Pages you can display additional airspace information as well, such as floor and ceiling limits or communication frequency(s).

To view additional airspace information:

1. Once an airspace alert had been provided, press **NRST** to display the Nearest Pages and the airspace information. (If already viewing the Nearest Pages, use the **ROCKER KEYPAD** to select the 'AIRSPACE' file tab.)

2. Use the **ROCKER KEYPAD** to select the desired airspace alert entry on the page, then press **ENTER**. An information page will indicate controlling agency, status and floor/ceiling limits.

3. To display a communication frequency for the airspace, select the on-screen 'Frequencies' button and press **ENTER**.

4. To return to the Nearest Pages, select the on-screen 'OK' button and press **ENTER**.

Nearest Highway Exits

The nearest highway exit information is grouped by highway name. Exit types include those with services, rest areas and other exit types (e.g., weigh stations, welcome centers; see page 51). The exits displayed on the list are the closest exits to your current position. Use the **ROCKER KEYPAD** to scroll through the exit list.

To view highway exit information:

1. Select the Nearest Pages and the 'EXIT' file tab using the steps described on page 60.

2. To select exits for a different highway, highlight the highway name field and press **ENTER**. Use the **ROCKER KEYPAD** to select the desired highway and press **ENTER**. Press **ENTER** again to return to the exit information page. The GPSMAP 295 will search through memory and display a list of exits for the chosen highway.

3. To filter the exit list, showing only exits within a desired category (see page 51), highlight the category field and press **ENTER**. Select the desired category and press **ENTER**.

4. To view information for an individual exit, use the UP/DOWN portion of the **ROCKER KEYPAD** to highlight the desired exit and press **ENTER**.

Nearest Airspace Information

*To view additional airspace information, highlight the listed airspace and press **ENTER**. The detailed information includes controlling agency, floor/ceiling limits and communication frequency(s).*

*The nearest highway exits listing will begin at the exit nearest your current position. Use the **ROCKER KEYPAD** to scroll through the list to see exits ahead of (or behind) your current location.*

63

Nearest Points of Interest

To search for a nearby hotel, start by selecting the Nearest Pages and the 'POI' file tab. Then, select the category field and press ENTER to display a list of categories...

...once you've chosen the category, highlight the search criteria field to narrow your search even further.

64

With optional MapSource MetroGuide CD-ROM data and a cartridge, your GPSMAP 295 can provide a wealth of restaurant, lodging, entertainment and shopping listings (and more!). With this information stored in your GPSMAP 295, and available at a moments notice, you'll find the unit to be an invaluable travelling companion on the ground as well as in the air.

Nearby points of interest are available by pressing the **NRST** key and selecting the desired category and search criteria. Points of interest categories are described in detail on page 52.

To view information for nearby points of interest:

1. Press **NRST** to display the Nearest Pages and use the **ROCKER KEYPAD** to select the 'POI' file tab.

2. Press the DOWN portion of the **ROCKER KEYPAD** to highlight the POI category field and press **ENTER**. A pop-up window will list available POI categories (see page 52).

3. Use the **ROCKER KEYPAD** to select the desired category and press **ENTER**.

4. Use the RIGHT portion of the **ROCKER KEYPAD** to highlight the search criteria field and press **ENTER**. A second pop-up window will appear, allowing you to narrow your search criteria.

5. Use the **ROCKER KEYPAD** to select your search criteria and press **ENTER**. If you do not wish to narrow the search, select 'All Types'.

6. All points of interest for the specified criteria will be listed. Use the **ROCKER KEYPAD** to scroll through the list. Once the desired item is highlighted, press **ENTER** to display name, address, phone number and an area map.

7. To select the point as your destination, highlight the on-screen 'GOTO' button and press **ENTER**.

8. To return to the Nearest Pages, highlight the on-screen 'OK' button and press **ENTER**.

Pressing the GPSMAP 295's **ROUTE** key will display a Route List. The Route List lists the names of any routes currently stored in memory, the available and used route memory, and provides on-screen buttons to create a 'New Route' and 'Delete All' routes.

Route Name(s)

Available/Used Route Memeory

Currently Active Route

On-screen Buttons

To display the Route List, press the ROUTE key.

To create a new route:

1. With the Route List displayed, use the **ROCKER KEYPAD** to select the on-screen 'New Route' button and press **ENTER**. The Route Plan Page will appear with a blank line for the first route waypoint.

2. Press **ENTER** to begin selection of the first route waypoint.

3. The waypoint information pages will appear. Use the **ROCKER KEYPAD** to select the desired field and press **ENTER**. For example, airports can be selected from the identifier, facility name or city field.

4. Use the **ROCKER KEYPAD** to select the waypoint—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the identifier/facility name/city have been entered. Press **ENTER** again to return to the Route Plan Page.

5. Highlight the next blank line and repeat steps 2 through 4 to enter each additional route waypoint. As you add waypoints to the route, the route name (appearing at the top left corner of the Route Plan Page) is updated to include the first and last waypoints in the route.

6. To return to the Route List, press **QUIT**.

Route List

*The Route List displays the name(s) of any user-created routes stored in memory. To create a new route, select the on-screen 'New Route' button and press **ENTER**...*

*...the Route Plan Page will appear with a blank line for the first route waypoint. Use **ENTER** and the **ROCKER KEYPAD** to select each waypoint for the route.*
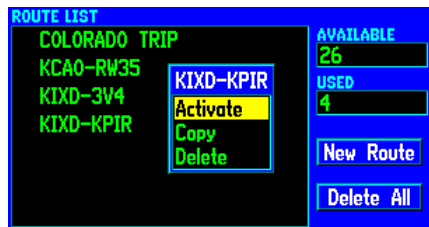
Route List

*Use the **ROCKER KEYPAD** to highlight a route on the Route List, then press **MENU** to display the Route List Options.*
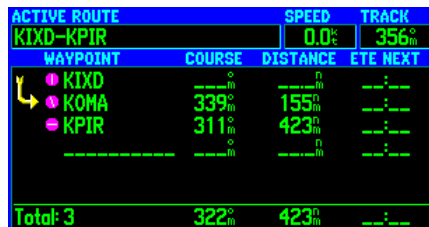
Select 'Activate' to use a route for navigation guidance. The GPSMAP 295 will automatically select the closest leg of the route and begin navigating along that leg's desired course.

To delete all routes from memory:

1. Press **ROUTE** to display the Route List.

2. Use the **ROCKER KEYPAD** to select the on-screen 'Delete All' button and press **ENTER**.

3. A window will appear asking you to confirm the selection. Use the **ROCKER KEYPAD** to select 'Yes' and press **ENTER**. (Or, select 'No' to cancel.)

Route List Options

Highlight any route on the Route List and press **MENU** to display an options window.

The following options are available:

    • **Activate**   • **Copy**   • **Delete**

Activate— selects the highlighted route and begins navigation guidance along the closest leg. If you're departing from the first waypoint in the route, 'Activate' will place you on the first leg and guide you along the entire route. If you later stop for fuel at a point along the route, 'Activate' will place you on the current leg and guide you through the remainder of the route.

To activate a route:

1. Press **ROUTE** to display the Route List, then use the **ROCKER KEYPAD** to select the desired route.

2. Press **MENU** to display the Route List Options.

3. Use the **ROCKER KEYPAD** to select 'Activate' and press **ENTER**.

Copy— copies the highlighted route to another route memory location. The copied route will have the same name as the original route, followed by a number. Use the 'Copy' option as a prelude to creating a new route IF the new route will be very similar to an existing route. Rather than creating the route from scratch, you can edit the copied route to include any new waypoints.

To copy a route:

1. Press **ROUTE** to display the Route List, then use the **ROCKER KEYPAD** to select the desired route.

2. Press **MENU** to display the Route List Options.

3. Use the **ROCKER KEYPAD** to select 'Copy' and press **ENTER**. The copied route will be added to the list using the same route name, followed by a number.

Delete— removes the highlighted route from memory. Any user-created waypoints contained in the route will remain in memory when you delete the route. Only the route itself is deleted.

To delete a route:

1. Press **ROUTE** to display the Route List, then use the **ROCKER KEYPAD** to select the desired route.

2. Press **MENU** to display the Route List Options.

3. Use the **ROCKER KEYPAD** to select 'Delete' and press **ENTER**.

4. A confirmation window will appear asking you to verify deletion of the route. Use the **ROCKER KEYPAD** to select 'Yes' and press **ENTER**. (Or, select 'No' to cancel.)

Route List Options
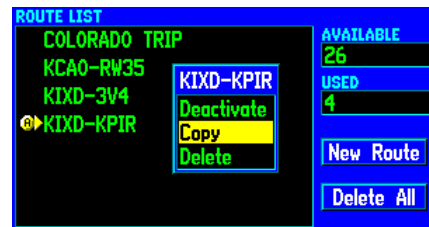
Use the 'Copy' option when you want to edit a route, but also keep the original route. This allows you to make minor changes to an existing route instead of creating an entirely new route.
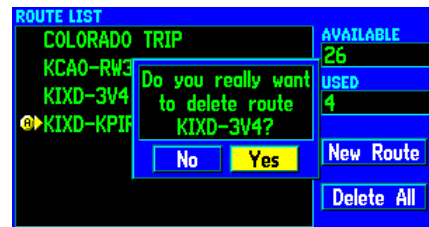
When you select 'Delete', a confirmation window will ask you to verify deletion of the selected route.

67

Route Plan Page

The Route Plan Page is selected by highlighting a route on the Route List and pressing ENTER. The Route Plan Page will show the waypoints in the selected route, along with desired course, leg distances and leg times.

To change the name of a saved route, enter the new name in the field at the top left corner of the Route Plan Page.

The Route Plan Page is displayed by highlighting any route on the Route List and pressing **ENTER**. By default, the Route Plan Page shows the waypoints contained in the route, the desired course and distance for each leg, and the time enroute along each leg. The top of the page displays the route name, along with a selectable speed (for trip time/fuel calculations) and total fuel required (for fuel planning).

Route Name
Speed and Total Fuel Required (for trip and fuel planning)
Route Waypoint Identifiers
User-selectable Data Fields

To display the Route Plan Page for a saved route:

1. Press **ROUTE** to display the Route List.
2. Use the **ROCKER KEYPAD** to highlight the desired route.
3. Press **ENTER** to display the Route Plan Page with information for the selected route.

The name of a route can be changed from the Route Plan Page. A speed can also be entered at the top of the page, and is used to calculate trip time figures and fuel requirements (when used in conjunction with a selectable flow rate figure).

To change the name of a saved route:

1. Follow the steps above to display the Route Plan Page for a saved route.
2. Use the **ROCKER KEYPAD** to highlight the route name field (if necessary) and press **ENTER**.
3. Use the **ROCKER KEYPAD** to enter a new name for the route—UP/DOWN to select the high-lighted character and RIGHT to move to the next character field—and press **ENTER** once all characters for the route name have been entered.

To enter a ground speed (for trip time/fuel calculations):

1. Follow the steps on the previous page to display the Route Plan Page for a saved route.

2. Use the **ROCKER KEYPAD** to highlight the speed field and press **ENTER**.

3. Use the **ROCKER KEYPAD** to enter a planned ground speed for the route—UP/DOWN to select the highlighted character and RIGHT to move to the next character field—and press **ENTER** once the entire figure has been entered.

Route Editing

Route editing is performed on the Route Plan Page. By highlighting any waypoint on the route and pressing **ENTER**, an options window is displayed to review, remove, change or move waypoints, or insert additional waypoints.

To review information for a route waypoint:

1. Follow the steps on the previous page to display the Route Plan Page for a saved route.

2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to review and press **ENTER**.

3. A pop-up menu will appear. Select 'Review' and press **ENTER** to display the waypoint information.

4. To return to the Route Plan Page, select the on-screen 'OK' button and press **ENTER**.

To delete a route waypoint:

1. Follow the steps on the previous page to display the Route Plan Page for a saved route.

2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to delete and press **ENTER**.

3. A pop-up menu will appear. Select 'Remove' and press **ENTER**.

Route Plan Page

Enter a planned ground speed to perform trip time and trip fuel calculations.

*Highlight a waypoint in the list and press **ENTER** to display a pop-up options window. Select 'Remove' to delete the highlighted waypoint from the route.*

Route Editing

*To rearrange the sequence of waypoints in a route, select 'Move' from the pop-up menu and use the **ROCKER KEYPAD**.*

The Route Plan Options provides additional options for useing a stored route, including inverting the sequence of waypoints in a route and adding/removing published approaches to the route.

To replace a route waypoint with another waypoint (or insert a new waypoint):

1. Follow the steps on the previous page to display the Route Plan Page for a saved route.
2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to replace (or the waypoint in front of which a new waypoint will be placed) and press **ENTER**.
3. A pop-up menu will appear. Select 'Change' (or 'Insert') and press **ENTER**.
4. The waypoint information pages will appear. Press **ENTER** and use the **ROCKER KEYPAD** to select a new waypoint. Press **ENTER** once the new waypoint identifier/facility name/city has been entered.
5. Highlight the on-screen 'Use' button and press **ENTER** to accept the new waypoint.

To move a route waypoint and change the sequence:

1. Follow the steps on the previous page to display the Route Plan Page for a saved route.
2. Use the **ROCKER KEYPAD** to highlight the waypoint you wish to move and press **ENTER**.
3. A pop-up menu will appear. Select 'Move' and press **ENTER**.
4. Use the **ROCKER KEYPAD** to move the waypoint to the desired place in the list and press **ENTER**.

Route Plan Options

Like each of the main page, the Route Plan Page is menu driven. With the Route Plan Page displayed, pressing **MENU** will display an options menu, allowing you to customize the page to your preferences and/or select special features which specifically relate to the selected route.

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

The following options are available:

• **Activate**	• **Invert**	• **Select Approach**
• **Remove Approach**	• **Set Fuel Flow**	• **Delete Route**
• **Copy**	• **Change Fields**	• **Restore Default**

Activate— selects the route and begins navigation guidance along the closest leg.

Invert— reverses the sequence of waypoints in the route.

To activate or invert the route:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to select 'Activate' or 'Invert' and press **ENTER**.

Select Approach— allows you to select the final course segment of a published approach, replacing the final destination airport with the sequence of waypoints for the selected approach. The approaches provide <u>only</u> the final course segment, usually from final approach fix (FAF) to missed approach point (MAP), and are based on existing GPS, RNAV, VOR, NDB, localizer or ILS approach procedures. Regardless of what type of approach it's based upon, the procedure is flown as a sequence of waypoints in the route. In order to select an approach and add the waypoints to the route, the final destination in the route <u>must</u> be an airport with a published approach.

To add an approach for the destination airport in the route:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Select Approach' and press **ENTER**. A pop-up window will appear listing the available approaches for the destination airport.

4. Use the **ROCKER KEYPAD** to select the desired approach and press **ENTER**. The GPSMAP 295 will remove the destination airport from the route and replace it with the approach waypoints.

> ⚠ *The approaches provided in the Jeppesen database are for monitoring purposes only. The GPSMAP 295 is not an IFR-approved instrument and should not be used as a primary source of navigation guidance in instrument conditions.*

Route Plan Options

'Invert' reverses the sequence of the waypoints in a route.

'Select Approach' replaces the destination airport in a route with the sequence of waypoints along the final course segment of a published instrument approach.

Route Plan Options

'Remove Approach' removes the approach waypoints and restores the original airport waypoint in the route.

'Set Fuel Flow' is used in conjunction with the 'SPEED' field at the top of the Route Plan Page to calculate trip time and fuel figures.

Remove Approach— removes the approach waypoints from the route, replacing them with the corresponding airport waypoint (which is normally the center of the airfield).

To remove an approach from the selected route:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Remove Approach' and press **ENTER**.

Set Fuel Flow— allows you to enter a fuel flow figure, which the GPSMAP 295 uses to calculate the fuel required for each leg of the route.
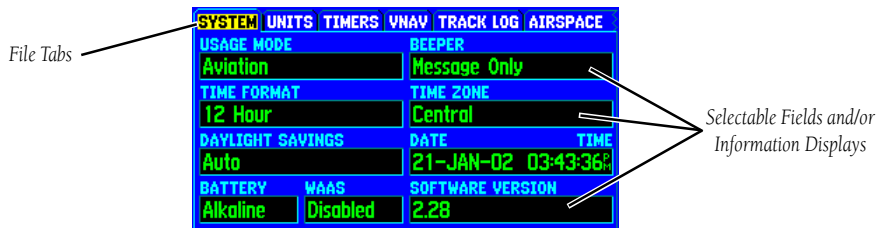
To enter a fuel flow figure:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Set Fuel Flow' and press **ENTER**. A pop-up window will appear, allowing you to enter a per-hour fuel flow figure.

4. Use the **ROCKER KEYPAD** to enter the fuel flow rate—UP/DOWN to change the highlighted character and RIGHT to move to the next character—then press **ENTER**.

The units of measure for fuel flow (gallons or liters) are not included on the GPSMAP 295, since they are not required for calculations. Keep in mind the units from which the original flow rate figure was derived as you view the calculated fuel requirements figures.

For trip time and fuel planning on the ground: create the new route as outlined on page 65, enter a fuel flow rate using the option above, and enter a planned ground speed as described on page 69. The planning figures will appear on the Route Plan Page and additional figures can be selected using the 'Change Fields' option (see page 74).

Delete Route— removes the selected route from memory. Any user-created waypoints contained in the route will still appear in memory, but not as part of the route.

To delete the selected route:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Delete Route' and press **ENTER**.

4. A confirmation window will appear asking you to verify deletion of the route. Use the **ROCKER KEYPAD** to select 'Yes' and press **ENTER**. (Or, select 'No' to cancel.)

Copy— copies the selected route to another route memory location. The copied route will have the same name as the original route, followed by a number.

To copy the selected route:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Copy' and press **ENTER**. The copied route will be added to the list using the same route name, followed by a number.

Route Plan Options

To delete the route displayed on the Route Plan Page, press ***MENU*** *and select 'Delete Route'.*

The 'Copy' option copies the seelected route and adds it to the Route List with a new name (original name followed by a number). Use this option to save a backup copy of the route before editing the route from the Route Plan Page

73

Route Plan Options

Use the 'Change Fields' option to display additional trip time and fuel figures for the selected route.

'Restore Default' will return the data field selections to the original factory settings.

Change Fields— allows you to choose the data types displayed on three user-selectable data field columns adjacent to the route waypoint name(s). There are seven available data types: Course, Distance (cumulative), ETE to Next waypoint (ETE NEXT), Fuel requirements (cumulative), Leg Distance (LEG DIST), Leg Fuel and Leg Time. See page 95 for descriptions of these terms.

To change a data field:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Change Fields' and press **ENTER**.

4. Use the **ROCKER KEYPAD** to highlight the data field you wish to change and press **ENTER**.

5. Use the **ROCKER KEYPAD** to select the type of data you want to appear on this field and press **ENTER**.

6. Press **QUIT** to exit the 'Change Fields' function. (Or, select another data field you wish to change, press **ENTER** and repeat step 5.)

Restore Default— resets the data field options to the factory default settings.

To return the data field options to factory settings:

1. Follow the steps on page 69 to display the Route Plan Page for a saved route.

2. Press **MENU** to display the Route Plan Options.

3. Use the **ROCKER KEYPAD** to highlight 'Restore Default' and press **ENTER**.

From any page, press the GPSMAP 295's **MENU** key twice to display the Main Menu. The Main Menu provides access to configuration settings, timers, vertical navigation, E6B calculators and alarms.

Main Menu

File Tabs

Selectable Fields and/or Information Displays

*The Main Menu is organized using a serice of file tabs. Use the **ROCKER KEYPAD** to select the desired file tab at the top of the page.*

To display the Main Menu, press MENU twice (from any page).

The Main Menu is organized by a series of 'file tabs' across the top of the page. The file tabs group the various menu settings based upon their general function. The table below describes each file tab and the options/information available from that file tab.

SYSTEM	Land/Aviation Mode, Beeper On/Off, Date/Time Settings, Battery Type, WAAS
UNITS	Units of measure for distance, speed, altitude; Position Format, Map Datum
TIMERS	Count Up/Down and Battery timers; usage time for current day
VNAV	Vertical Navigation; settings for target altitude, climb/descent rate, distance
TRACK LOG	Recording On/Off, Memory Used; buttons for clearing memory & TracBack
AIRSPACE	On/Off by category: Class B, C, D, MOA, Restricted, etc.; Altitude Buffer
ALARMS	Approach and Arrival, with distance; Course Deviation; Alarm Clock
SUA	Special-use Airspace: Restricted, MOA, Mode C Veil, Other
E6B	Calculations for Density Altitude, True Airspeed, Winds Aloft
INTERFACE	Input/Output Settings: GARMIN proprietary, DGPS, NMEA, Text, RTCM

The 'SYSTEM' file tab allows you to select between Aviation and Land mode, turn the keypad beeper off or change time settings/format. This screen also displays the current operating software version.

Main Menu: System

*Select the 'SYSTEM' tab to select between Aviation Mode and Land Mode. To change this setting, select the USAGE MODE field, press **ENTER** and select the desired mode from the pop-up window.*

If TIME ZONE is set to 'Other', a UTC OFFSET field will appear, allowing you to enter the difference between UTC (zulu) time and your local time zone.

The 'SYSTEM' file tab provides the following settings/information:

- **USAGE MODE—**selects between Aviation and Land modes (see page 6).

- **BEEPER—**internal beeper sounds when a key is pressed, when a message is provided, or is off.

- **TIME FORMAT—**displays current time in a 12-hour (AM/PM) or 24-hour format.

- **TIME ZONE—**selects the correct time zone for display of local time.

- **DAYLIGHT SAVINGS—**selects between Auto detection or Daylight Savings time on/off.

- **DATE/TIME** (information only)**—**displays current date based upon Time Format, Time Zone and Daylight Savings settings.

- **BATTERY—**selects Alkaline or NiCad battery type for proper display of battery level (see page 9).

- **WAAS—**enables/disables Wide Area Augmentation System satellite reception for improved position accuracy (see Appendix B).

- **SOFTWARE VERSION** (information only)**—**displays the version number of the Operating Software.

To change system settings:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select the 'SYSTEM' file tab.

2. Use the **ROCKER KEYPAD** to select the desired field and press **ENTER**. A pop-up window will show the available settings for the selected field.

3. Use the **ROCKER KEYPAD** to select the desired setting and press **ENTER**.

4. If 'Other' is selected for the TIME ZONE setting, a 'UTC OFFSET' field will appear. Select this field, press **ENTER** and use the **ROCKER KEYPAD** enter the difference between UTC (zulu) time and your local time. Press **ENTER** once all figures for the UTC OFFSET have been entered.

The 'UNITS' file tab provides the following settings:

- **DISTANCE, SPEED—**selects units of measure for distance and speed readouts; available units are Nautical (nautical mile/knots), Statute (statute mile/mph) and Metric (kilometer/kph)

- **VERTICAL SPEED—**selects vertical speed readings in Feet/Minute or Meters/Minute.

- **ALTITUDE—**selects altitude display in Feet or Meters.

- **TEMPERATURE—**selects temperature display in degrees Fahrenheit or Celsius.

- **PRESSURE—**selects display of barometric pressure (altimeter setting) in Inches (Hg) or Millibars.

- **HEADING—**displays heading information based upon True north reference, Auto Mag (automatically determined magnetic north reference), User Mag (user defined magnetic north) or Grid.

- **POSITION FORMAT—**selects position readouts in latitude/longitude (degrees, degrees/minutes or degrees/minutes/seconds); British Grid; German Grid; Irish Grid; Maidenhead; MGRS; Swedish Grid; Swiss Grid; Taiwan Grid or UTM/UPS.

- **MAP DATUM—**selects from a list of 107 built-in map datums. A map datum is a mathematical model which defines where a given position is placed upon a map. The default setting is 'WGS 84' and should only be changed if you are using a map or chart which specifies a different datum.

To change units of measure, heading reference, position format or map datum:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'UNITS'.

2. Use the **ROCKER KEYPAD** to select the desired field and press **ENTER**. A pop-up window will show the available settings for the selected field.

3. Use the **ROCKER KEYPAD** to select the desired setting and press **ENTER**.

4. If 'User Mag' is selected for Heading, use the **ROCKER KEYPAD** to highlight the magnetic variation field and press **ENTER**. Use the **ROCKER KEYPAD** to enter local magnetic variation and press **ENTER**.

5. If 'User' is selected for Map Datum, a pop-up window will appear to enter the differences, from the WGS 84 norm, for each datum parameter. Use **ENTER** and the **ROCKER KEYPAD** to enter the data.

Main Menu: Units

The 'UNITS' tab allows you to change units of measure for distance, speed, vertical speed, etc. This screen also allows you to change position format (e.g. latitude and longitude in degrees/minutes vs. degrees/minutes/seconds, etc.).

The MAP DATUM should only be changed if your chart specifies a different datum. Selecting the wrong map datum can result in substantial errors. When in doubt, use the default WGS84 datum or select each datum applicable to your region until you find the best positioning at a known point.

Main Menu: Timers
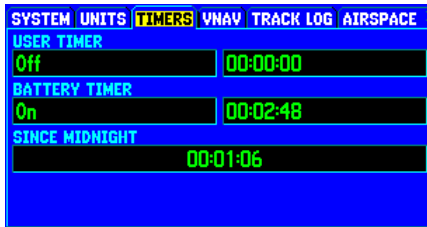
The 'TIMERS' tab provides count down and count up timers, a battery timer and elapsed timer for the current day's usage.
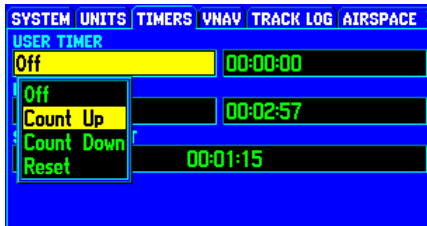
To enter a countdown time, first enter the count duration (in the right-hand column) then select 'Count Down' and press ENTER. For a count up timer, select 'Reset' then select 'Count Up'.

The 'TIMERS' file tab provides the following settings/information:

- **USER TIMER—**lets you select a count up or count down timer. For a count down timer, you may also specify the count down duration.

- **BATTERY TIMER—**provides a running count of how long the GPSMAP 295 has been in operation with the current batteries. The timer automatically stops when using an external power source. The timer will automatically reset when depleted batteries are replaced, or can be manually reset.

- **SINCE MIDNIGHT** (information only)**—**displays a running count of how long the GPSMAP 295 has been in operation since midnight of the current day.

To set the user timer or reset the battery timer:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select the 'TIMERS' file tab.

2. Use the **ROCKER KEYPAD** to select the 'USER TIMER' or 'BATTERY TIMER' field and press **ENTER**. A pop-up window will show the available settings for the selected field.

3. For the user timer: Use the **ROCKER KEYPAD** to select 'Off', 'Count Up', 'Count Down' or 'Reset' and press **ENTER**.

For 'Count Up' you may wish to select 'Reset' first to zero the counter. For 'Count Down' you may wish to enter a count down duration first in the field to the immediate right.

4. To reset the battery timer (or turn the timer off), select 'Reset' (or 'Off') and press **ENTER**.

The 'VNAV' file tab provide settings for the vertical navigation feature. These settings create a three-dimensional profile which guides you from your present position and altitude to a final (target) altitude at a specified location.

Once the profile is defined, message alerts and additional data on the HSI Page will keep you informed of your progress. The user-defined data fields on the HSI Page can display time to beginning of VNAV maneuver (ETV), glide ratio and vertical speed to target. Expect the following to occur when using the GPSMAP 295's VNAV features:

Main Menu: VNAV

When using the vertical navigation features, a VNAV indicator (moving horizontal bar) will guide you as you descend to the target altitude.
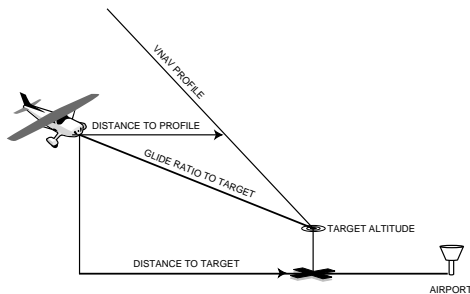
- As you approach the initial descent point, the time to vertical navigation field (ETV) indicates the time to reach the initial descent point.
- At one minute prior to the initial descent point, a message 'Approaching VNAV Profile' occurs. The time to vertical navigation will sequence from indicating time to initial descent point to indicating time to reach the target altitude. Finally, the descent angle will lock to prevent changes in speed from altering the profile. Keep this in mind, since the VNAV feature will not take into account any changes in groundspeed that occur during the transistion from level flight to descent or climb.

- At 500 feet above the target altitude, an 'Approaching Target Altitude' message appears. The time to vertical navigation will go blank and the VNAV indicator will disappear from the HSI Page.

The 'VNAV' settings define the target altitude and where it should occur. The default settings are intended to guide you to pattern altitudes.

GPS accuracy may be degraded by the U.S. Department of Defense imposed Selective Availability (SA) program. With 'SA' on, GPS altitude may be in error by several hundred feet. Errors of this magnitude may result in fluctuations in the VNAV indicator on the HSI Page. The GPSMAP 295 is a VFR navigation tool and should not be used to perform instrument approaches.

Main Menu: VNAV
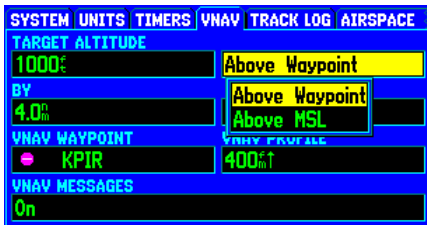
The Jeppesen database includes elevations for airports only. The TARGET ALTITUDE may be set to a height 'Above Waypoint' for airports or 'Above MSL' for navaids and user waypoints.
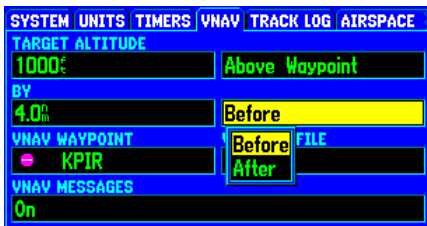
Select the target location by defining the distance 'Before' or 'After' any waypoint in the active route (or GOTO). Select a distance of zero to specify the target location at a route waypoint.

80

The following 'VNAV' settings are available.

- **TARGET ALTITUDE—**defines the altitude you want to be at when you reach your target location. Specified as 'Above Waypoint' (using field elevation for airports in the database) or 'Above MSL' (to specify an exact MSL altitude target).

- **BY—**defines the target location with settings of distance 'Before' or 'After' a reference waypoint (normally the destination airport). To set a target location AT a reference waypoint, enter a distance of zero.

- **VNAV WAYPOINT—**allows you to select any waypoint along the currently active route (or GOTO) as your reference waypoint. The reference waypoint defines the target location (see above).

- **VNAV PROFILE—**allows you to select the desired descent rate.

- **VNAV MESSAGES—**allows you to enable/disable the VNAV alert messages.

To define the VNAV profile settings:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'VNAV'.

2. Use the **ROCKER KEYPAD** to select the TARGET ALTITUDE field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the target altitude and press **ENTER** once all characters have been entered. If necessary, select the field in the right column, press **ENTER** and choose 'Above Waypoint' or 'Above MSL'. Then press **ENTER** again.

3. Use the **ROCKER KEYPAD** to select the 'BY' field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the distance and press **ENTER** once all characters have been entered. If necessary, select the field in the right column, press **ENTER** and choose 'Before' or 'After'. Then press **ENTER** again.

4. Use the **ROCKER KEYPAD** to select the 'VNAV WAYPOINT' field and press **ENTER**. Select any waypoint along the currently active route (or GOTO) and press **ENTER**.

5. Use the **ROCKER KEYPAD** to select the 'VNAV PROFILE' field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the descent rate and press **ENTER** once all characters have been entered.

To enable/disable VNAV messages:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'VNAV'.
2. Use the **ROCKER KEYPAD** to select the 'VNAV MESSAGES' field and press **ENTER**.
3. Use the **ROCKER KEYPAD** to 'On' or 'Off' and press **ENTER**.

Track Log

The 'TRACK LOG' tab allows you to turn track log recording on or off, shows the amount of memory used and provides on-screen buttons to 'Clear Track' or initiate a 'TracBack'. A track log is essentially an electronic 'bread crumb' trail showing where you have been. The track information can be displayed on the Map Page to show your flight path, or a driving history when used in an automobile.

The TracBack feature allows you to retrace your path using the track log automatically stored in the receiver's memory. This eliminates the need to manually store waypoints along the way. TracBack routes are created by reducing the track log points into a route and activating the route in reverse order along those points. Once activated, a TracBack route will lead you to the oldest track log point stored in memory, so it's a good idea to clear existing track log memory at the beginning of each trip, before you get started. Keep the following tips in mind when using TracBack:

- Always clear the track log at the point you want to return to (e.g., your home, home airport, etc.)
- There must be at least two track log points in memory to create a TracBack route.
- If the receiver is turned off or satellite coverage is lost during your trip, TracBack will draw a straight line between any point where coverage was lost and where it resumed.
- If there are frequent changes in direction and distance in your track log, the TracBack route may not accurately depict your path. The GPSMAP 295 will then focus on the most significant points of your track log, and simplify segments with fewer changes in direction.

Main Menu: VNAV
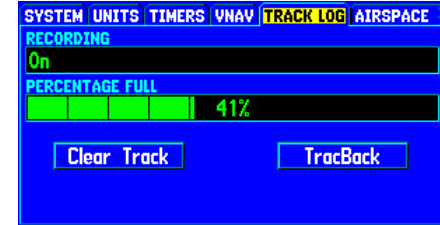
A Track Log is a record of positions (over time) showing where you have been.
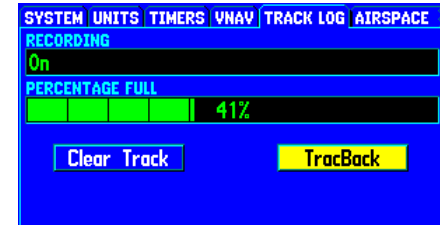
A TracBack route retraces the points in your track log, taking you back to the oldest point in track memory.

Main Menu: Track Log
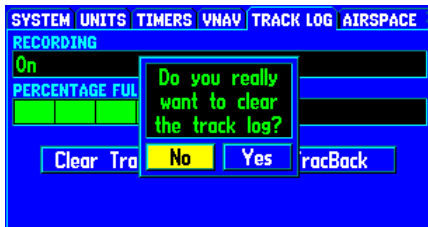
To utilize the TracBack feature, you should clear the track log memory before leaving the departure airport (or any point you wish to return to).
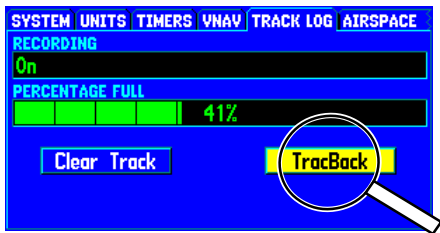
Select the on-screen 'TracBack' button to create and activate a TracBack route.

The 'TRACK LOG' tab provides the following settings/information:

- **RECORDING—**allows you to enable/disable track log recording.

- **PERCENTAGE FULL** (information only)**—**displays the percentage of track log memory currently used, along with a bar graph.

- **Clear Track** (on-screen button)**—**clears track log memory.

- **TracBack** (on-screen button)**—**converts the track log data in memory into an inverted route and begins navigation along the route.

To turn track log recording on or off:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'TRACK LOG'.

2. Use the **ROCKER KEYPAD** to select the RECORDING field and press **ENTER**. Use the **ROCKER KEYPAD** to select 'On' or 'Off' and press **ENTER**.

Selecting 'Off' will prevent you from recording track points for use with the TracBack feature.

To clear the track log and define the starting point for a TracBack route:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'TRACK LOG'.

2. Use the **ROCKER KEYPAD** to select the on-screen 'Clear Track' button and press **ENTER**.

To create and activate a TracBack route:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'TRACK LOG'.

2. Use the **ROCKER KEYPAD** to select the on-screen 'TracBack' button and press **ENTER**.

Airspace alarms are designed to provide message alerts in several stages, depending on whether you are projected to enter an airspace or are just in close proximity. The GPSMAP 295 provides the following airspace alerts:

- **Ahead—**your projected course will take you inside an airspace within the next ten minutes or less.

- **Near—**you are within two nautical miles of an airspace, but not projected to enter it.

- **Near & Ahead—**you are within two nautical miles of an airspace and your current course will take you inside the airspace.

- **Inside Airspace—**you are within the boundaries of the airspace.

⚠️ *Some airspace altitude limits may be charted in terms of altitude above ground level (AGL). If the actual lower limit of an airspace is charted in AGL, the GPSMAP 295 will alert you at any altitude below the upper limit. However, if the actual upper limit is also charted in AGL, the GPSMAP 295 will provide the alert at all altitudes.*

✅ *Alarms for most categories by be turned off, except for Prohibited Areas. Disabling an airspace alert will prevent the alert message, but the airspace boundary will still appear on the map.*

✅ *If you fly above or below an airspace, then descend or climb to enter the airspace, the 'Inside Airspace' message may be the only alert provided! The 'Airspace Ahead' and/or 'Airspace Near' messages will not occur if you are outside the vertical limits defined by the airspace plus the altitude buffer setting.*

Main Menu: Airspace

'Inside Airspace' occurs when you are within the boundaries of an airspace.
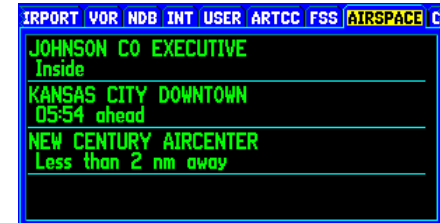
Select the 'AIRSPACE' tab to view airspace alert settings. You may enable/disable the airspace alerts by the individual categories.

Main Menu: Airspace

*To turn an airspace alarm on or off: select the field corresponding to the desired category, then use **ENTER** and the **ROCKER KEYPAD** to select 'On' or 'Off'.*

The altitude buffer provides an added margin of safety beyond the floor/ceiling limits of a given airspace.

The 'AIRSPACE' tab provides the following settings:

- **CLASS B, CTA—**enable/disable alarm for Class B or CTA (ICAO control areas) airspace.

- **CLASS C, TMA—**provides alarm for Class C or TMA (ICAO terminal control areas) airspace.

- **TOWERS, CONTROL ZONES—**provides alarm within a 4.3 nm radius from airports with control towers which are not associated with Class B or Class C airspace. (Typically Class D airspace.)

- **RESTRICTED AREAS—**enable/disable alarm for restricted areas.

- **MOAs—**enable/disable alarm for military operations areas.

- **MODE C VEILS—**provides alarm within the outer limit of an airspace (usually Class B or C) where a Mode C altitude-encoding transponder is required.

- **OTHER SUAs—**provides alarm for other special-use airspace categories including: training, caution, danger, warning and alert areas.

- **ALTITUDE BUFFER—**expands the vertical range of an airspace, providing an added margin of safety. For example, if the buffer is set to 500 feet, and you are more than 500 feet above or below an airspace, you will not be notified with an alert message. If you are less than 500 feet from the floor/ceiling limits of the airspace, you will be notified with an alert message.

To turn an airspace alarm on or off and enter an altitude buffer:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'AIRSPACE'.
2. Use the **ROCKER KEYPAD** to select the field corresponding to the desired airspace category and press **ENTER**.
3. Use the **ROCKER KEYPAD** to select 'On' or 'Off' and press **ENTER**.
4. To change the altitude buffer, use the **ROCKER KEYPAD** to select the 'ALTITUDE BUFFER' field and press **ENTER**. Use the **ROCKER KEYPAD** to enter a new buffer setting and press **ENTER** once all characters for the new setting have been entered.

The 'ALARMS' file tab provides the following settings:

- **APPROACH ALARM—**provides an alarm message within a set time or distance from the first waypoint in the approach portion of the active route. This message is only provided if you use the 'Select Approach' option, as described on page 71. As you near the first approach waypoint, an 'Approach Waypoint Ahead' message will appear.

- **ARRIVAL ALARM—**provides an alarm message within a set time or distance from your destination waypoint. As you approach the destination waypoint, an 'Arrival at _____' message occurs.

- **COURSE DEVIATION ALARM—**provides a message when you deviate off course beyond the specified distance.

- **CLOCK ALARM—**uses the internal clock to provide an 'Alarm Clock' message at the time you specify. The GPSMAP 295 must be on when the alarm time is reached for the message to occur.

To set the approach, arrival, course deviation, or clock alarm:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'ALARMS'.

2. Use the **ROCKER KEYPAD** to select the 'APPROACH ALARM', 'ARRIVAL ALARM', 'COURSE DEVIATION ALARM' or 'CLOCK ALARM' field and press **ENTER**. A pop-up window will show the available settings.

3. For the approach or arrival alarm: Use the **ROCKER KEYPAD** to select 'Off', 'Distance' or 'Time' and press **ENTER**. If necessary, select the adjacent field (in the right column), press **ENTER**, use the **ROCKER KEYPAD** to enter the desired time or distance and press **ENTER** once all characters have been entered. (Time is entered as hours:minutes:seconds.)

4. For the course deviation and clock alarms: Use the **ROCKER KEYPAD** to select 'Off' or 'On' and press **ENTER**. If necessary, select the adjacent field (in the right column), press **ENTER**, use the **ROCKER KEYPAD** to enter the distance or alarm time and press **ENTER** once all characters have been entered.

Main Menu: Alarms
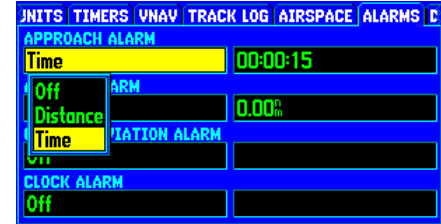
The APPROACH ALARM provides an alarm within a selectable time or distance from the first approach waypoint.
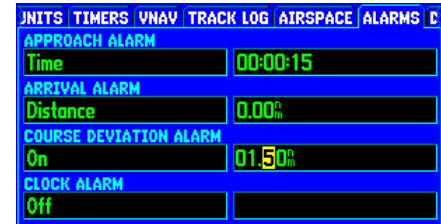
The COURSE DEVIATION ALARM provides an alert if you drift off course beyond the limits you have set. To use this alarm, first select 'On' in the left-hand column, then enter the alarm distance in the adjacent field to the right.

Main Menu: E6B

True Airspeed is calculated by entering the required figures and may then be used for determining winds aloft. Or, you may enter the True Airspeed from an alternate source.

Winds aloft calculations will provide a head/tail wind component, wind direction and wind speed.

The 'E6B' file tab provides the following settings:

- **INDICATED ALTITUDE—**required entry for density altitude/true airspeed calculation. Use altitude displayed on your altimeter.

- **CALIBRATED AIRSPEED—**required entry for density altitude/true airspeed calculation. Use speed displayed on your airspeed indicator.

- **BARO PRESSURE—**required entry for density altitude/true airspeed calculation. Use current altimeter setting (barometric pressure).

- **TOTAL AIR TEMPERATURE—**required entry for density altitude/true airspeed calculation. TAT is the temperature of the air including the heating effect caused by speed. The temperature reading on a standard outside air temperature gauge found on most piston aircraft is TAT.

- **DENSITY ALTITUDE** (calculated figure)**—**determined from entry of indicated altitude, baro pressure and total air temperature.

- **TRUE AIRSPEED** (calculated figure or user entered)**—**determined from entry of calibrated airspeed, baro pressure and total air temperature. Also can be entered directly for winds aloft calculations.

- **HEADING—**required entry for winds aloft calculation. Use heading from directional gyro or compass.

- **HEAD/TAIL WIND** (calculated figure)**—**determined from entry of heading and true airspeed.

- **WIND FROM** (calculated figure)**—**determined from entry of heading and true airspeed.

- **WIND SPEED** (calculated figure)**—**determined from entry of heading and true airspeed.

If a True North reference is currently selected on your GPSMAP 295 (see page 77), you must enter HEADING using a True North reference to accurately determine winds.

To calculate density altitude and true airspeed:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'E6B'.

2. Use the **ROCKER KEYPAD** to select the INDICATED ALTITUDE field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the altitude from your altimeter and press **ENTER** once the <u>entire</u> altitude reading has been entered.

3. Use the **ROCKER KEYPAD** to select the CALIBRATED AIRSPEED field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the airspeed from your airspeed indicator and press **ENTER**.

4. Use the **ROCKER KEYPAD** to select the BARO PRESSURE field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the current altimeter setting (barometric pressure) and press **ENTER**.

5. Use the **ROCKER KEYPAD** to select the TOTAL AIR TEMPERATURE field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the TAT and press **ENTER**.

6. The calculated figures for DENSITY ALTITUDE and TRUE AIRSPEED will now be displayed.

To calculate winds aloft:

1. Follow the steps above to determine TRUE AIRSPEED. Or, use the **ROCKER KEYPAD** to select the TRUE AIRSPEED field, press **ENTER**, use the **ROCKER KEYPAD** to enter the true airspeed (as derived from an alternate source) and press **ENTER**.

2. Use the **ROCKER KEYPAD** to select the HEADING field and press **ENTER**. Use the **ROCKER KEYPAD** to enter the heading from your directional gyro or compass, and press **ENTER** once the <u>entire</u> heading has been entered.

3. The calculated figures for HEAD/TAIL WIND, WIND FROM and WIND SPEED will now be displayed.

Main Menu: E6B

Enter each item required for the calculation. As you enter the figures, the GPSMAP 295 will calculate the result.

The HEAD/TAIL WIND figure will automatically select head wind or tail wind and display the wind component.

Main Menu: Interface
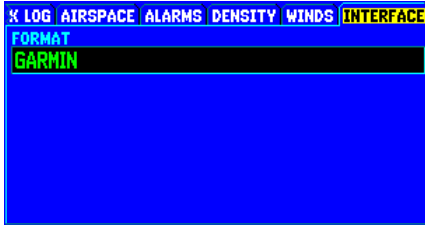
Select the GARMIN interface format for connection to a PC or with another GPSMAP 295. This setting is used for database updates and to load MapSource data onto a cartridge.

When GARMIN DGPS or RTCM In/NMEA Out is selected, additional lines appear to select manual or automatic frequency scanning, and (if manual) a beacon frequency and bit rate.

The 'INTERFACE' file tab provides the following input/output settings:

- **Aviation In—**the proprietary format used for connection to a GARMIN panel-mounted GPS receiver. Allows GOTO or route selection on the panel-mounted GPS receiver to be automatically displayed on the GPSMAP 295. This eliminates the need to enter the destination on both units.
- **GARMIN—**the proprietary format used to exchange waypoint, route, track log data with a PC. The format used for database updates and to save optional MapSource CD-ROM data to an installed data cartridge (also optional).
- **GARMIN DGPS—**the proprietary format used to receive differential corrections from a GARMIN DGPS Beacon Receiver and automatically scan/tune beacon frequencies.
- **NMEA OUT—**supports the input/output of standard NMEA 0183 version 2.30 data.
- **Text Out—**supports a standardized, fixed-column ASCII output with data for position, track, speed, etc.
- **RTCM In—**allows Differential GPS (DGPS) input using a standard RTCM SC-104 format, without any output capabilities.
- **RTCM In/NMEA Out—**allows DGPS input using a standard RTCM format and also provides NMEA 0183 version 2.30 output.
- **RTCM In/Text Out—**allows DGPS input using a standard RTCM format and also provides a standardized, fixed-column ASCII output with data for position, track, speed, etc.
- **None—**provides no interfacing capabilities.

To select an input/output interface format:

1. Press **MENU** twice to display the Main Menu, then use the **ROCKER KEYPAD** to select 'INTERFACE'.
2. Use down portion of the **ROCKER KEYPAD** to select the 'FORMAT' field and press **ENTER**. A pop-up window will show the available settings.
3. Use the **ROCKER KEYPAD** to select the desired setting and press **ENTER**.
4. If required for the setting, highlight the 'BAUD RATE' field, press **ENTER**, select the desired rate and press **ENTER** again.
5. For GARMIN DGPS and RTCM In/NMEA Out, the 'BEACON' field may be set to 'Scan' or 'Manual'. If 'Manual' is selected, enter the beacon frequency and bit rate in the appropriate fields.

A dash mounting bracket is included in the GPSMAP 295 package, allowing you install the unit at the best viewing location. At the end of your trip, the unit can be quickly removed from the mount and packed away for safekeeping. Semi-permanent and temporary adhesives are both provided for securing the mounting bracket within your vehicle.

To secure the mounting bracket base within the vehicle:

1. Identify the desired mounting location and clean the area with a non-residue cleaner (e.g., alcohol or window cleaner). Allow to dry or wipe clean with a dry towel.
2. Remove the backing paper from one side of the adhesive disk (semi-permanent two-sided tape or the temporary adhesive putty disk) and place the adhesive disk on the desired mounting location.
3. Remove the backing paper from the other side of the adhesive disk and press the mounting bracket base onto the adhesive disk.

To attach the GPSMAP 295 to the mounting bracket:

1. Locate the two tabs on the bottom of the GPSMAP 295 unit and the mounting bracket.
2. Place the bottom of the unit onto these two tabs and rotate the top of the unit into the bracket until it snaps into place. There is a single wide tab at the top of the unit/bracket which will secure the unit in the bracket when properly installed.
3. For added security, thread the small knob at the top of the bracket into the GPSMAP 295 unit.

To attach the unit/bracket assembly to the mounting bracket base:

1. Slide the assembly into the bracket base until you hear it snap into place.
2. Adjust the unit to achieve the desired viewing angle.
3. Slide the locking lever to the right to lock the unit in place.

⚠ **WARNING:** *Do not mount the GPSMAP 295 over automotive airbag panels or in a location which could cause injury in the event of an accident or collision. Refer to your vehicle owner's manual for airbag locations and safety precautions.*

Mounting Bracket

Tabs

Locking Knob (back side)
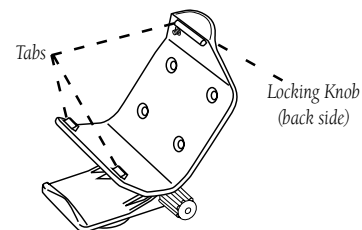
Place the unit onto the two Tabs at the bottom of the bracket. Rotate the unit until the wide Tab at the top snaps into the unit. Secure with the Locking Knob.
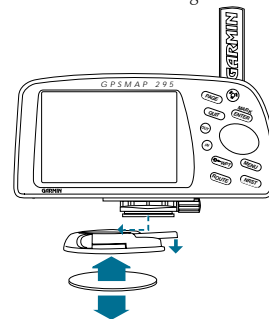
Secure the mounting bracket base using the adhesive disk. Slide the unit/bracket assembly into the mounting bracket base and lock into place with the locking lever.
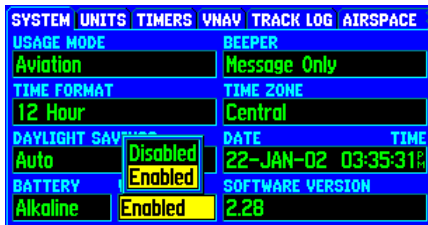
WAAS

The WAAS feature is enabled/disabled from the Main Menu's 'SYSTEM' file tab. See page 76 for step-by-step instructions.
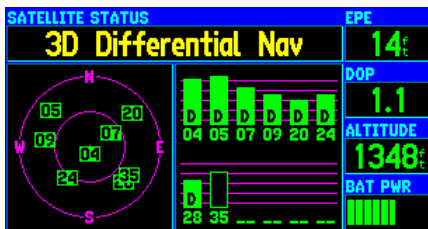
With WAAS enabled, a "D" will appear on the signal strength bar of each satellite for which correction data is available. Note the EPE, or estimated position error, reading in this example.

What is WAAS?

The Wide Area Augmentation System (WAAS) is a system of geostationary satellites that support the Global Positioning System (GPS) by offering improved position accuracy. WAAS satellites transmit differential correction data that is applied, by your GPSMAP 295, to the range measurements from each applicable GPS satellite in view. WAAS satellites also transmit information about the health and integrity of each GPS satellite. The end result is an improved position accuracy, both horizontally (lat/lon) and vertically (altitude).

When enabled on your GPSMAP 295, this feature searches for any WAAS satellite in view and then receives differential data for correcting GPS satellite signals. WAAS satellites transmit on the same frequency as GPS satellites and are displayed as additional satellites on the Satellite Status Page. The GPSMAP 295 will display WAAS satellite numbers, beginning at 33 or above, on the Sky View and on the Signal Strength Bars (see page 7). Once correction data is received from the WAAS satellite, a "D" will appear in the signal strength bars of all satellites for which correction data is available.

In general, you should expect horizontal position accuracy to be around three meters (10ft) with WAAS enabled and fifteen meters (49ft) with WAAS disabled. Of course, many variables will affect your actual results, including the number of GPS satellites currently be received.

WAAS is still under development and additional satellites are being deployed. Currently, two WAAS satellites provide coverage from Hawaii to the eastern U.S. To obtain the latest information on the WAAS system, access the Federal Aviation Administration website (gps.faa.gov) for a comprehensive description and links to detailed information.

When should you use WAAS?

Utilizing the WAAS feature will improve the horizontal position and altitude accuracy of your GPSMAP 295. Consider using this feature when you need the benefits of improved accuracy, but keep the following limitations in mind:

• WAAS satellites are located at low elevation angles in the southern sky. If you are flying a northbound heading and using an antenna located inside the cockpit, it is doubtful that the GPSMAP 295 will be able to see a WAAS satellite. Similarly, when using the GPSMAP 295 in your car, the buildings and trees that you pass will likely block WAAS satellites from view.

• Decoding the differential data provided by WAAS satellites involves considerable microprocessor activity. You may notice a decrease in overall performance when the WAAS feature is enabled, as indicated by slower response times and a slower map screen redraw rate. If you experience significant operational delays, disable the WAAS feature.

• WAAS is currently available in the United States and adjacent areas of Canada and Mexico. If you are using the GPSMAP 295 in other parts of the world, disable the WAAS feature to increase unit response times. WAAS will be available in Europe and other parts of the world in the future.

WAAS
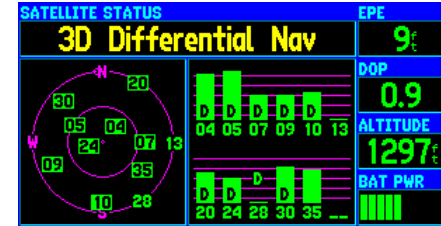
Throughout the United States, WAAS satellites (#35 in this example) will appear at low elevation angles in the southern sky. Objects such as buildings, trees, or the aircraft itself can interfere with reception of WAAS satellites. For aircraft use, optimum WAAS reception is acheived by installing an outside antenna.

Specifications / Wiring

The GPSMAP 295 may be hard-wired to an aircraft, or automobile, supplying 10-35 volts DC. The supplied cigarette lighter may be used, or you can purchase an optional power/data cable for direct wiring connections. The round four-pin connector attaches to the back of the GPSMAP 295, near the top of the unit. The diagram below depicts the connector <u>on the unit</u> and describes the function of each pin.

(-) Ground

Data In   **Data Out**

(+) Power
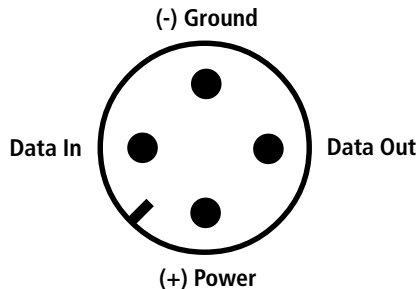
Physical Specifications

Case:	Rugged; Fully gasketed
Size:	3.2"H x 6.8"W x 2.6"D (8.0 x 17.3 x 6.5 cm)
Weight:	1.4 pounds (635g)
Temperature Range:	5°F to 158°F (-15°C to 70°C)

Performance

Receiver:	Differential-ready , 12 parallel channel
Acquisition Time:	Approx. 15 seconds (warm)
	Approx. 45 seconds (cold)
	Approx. 2 minutes (AutoLocate)
Update Rate:	Once per second, continuous
Position Accuracy:	1-5 meters (3-16 ft) with differential GPS input (DGPS/RTCM)
	15 meters (49 ft) standard positioning (Subject to accuracy degradation to 100 m 2DRMS under U.S. DOD-imposed Selective Availability program.)
Velocity Accuracy:	0.1 knot RMS steady state
Dynamics:	6g's

Power

Source:	10-35v DC or 6 AA alkaline batteries
Usage:	6 watts max. — battery life up to 2.5 hours

Memory Capacity

User Waypoints:	up to 500 (with selectable map symbol)
Routes:	up to 30 (with up to 30 waypoints per route)

Interfacing

The following formats are supported for connection external devices: GARMIN proprietary, GARMIN proprietary Differential GPS (DGPS), NMEA 0183 output (version 2.30), ASCII Text output, RTCM SC-104 input (version 2.0).

Airspace Ahead, Within 10 Min: Your projected course will place you in special use/controlled airspace with in ten minutes.

Airspace Near and Ahead: Your current position is within two nautical miles of an airspace boundary and you are projected to enter the airspace, based on your current ground track and ground speed.

Alarm Clock: The alarm clock time set from the alarms submenu has been reached.

Antenna Shorted To Ground: Check antenna wiring or antenna placement.

Approaching: You are one minute away from reaching the specified destination waypoint.

Approaching VNAV Profile: You are within one minute of reaching the initial VNAV descent point.

Arriving At: You are within the arrival alarm circle of the indicated waypoint.

Battery Voltage Low: The batteries are low and should be replaced.

Beacon Comm Failed: Communication with the beacon signal has been interrupted.

Basemap Failed: The unit's basemap has failed. Return your unit to GARMIN for service.

Cant Navigate Locked Rte: You have attempted to navigate a route with a locked waypoint. A waypoint can be locked when the database is updated if the waypoint does not exist in the new database.

Data Card Required: You have accessed a unit feature which requires an optional data card and MapSource data.

Data Transfer Complete: Transfer of data to the unit, for database update or using the PC software, has been completed.

Database Error: A user waypoint failed to store in memory. If the problem persists, return to GARMIN for service.

Duplicate Route ID: The route name you have selected is already in use for another route.

Duplicate Waypoint ID: The waypoint name you have selected is already in use for another user waypoint.

Favorites List Is Full: There is no more room in the Favorite Waypoints list. Delete unwanted waypoints before adding new waypoints.

Invalid Waypoint: A waypoint was received during upload transfer that has an invalid indentifier.

Leg Not Smoothed: The upcoming route leg is too short for smooth waypoint transitions.

Lost Satellite Reception: The unit has lost satellite signals. Check antenna connections or try moving it to a location with a clear view of the sky.

Memory RAM Failed: The unit has detected a failure in its internal memory. If this message persists the unit is unusable. Return to GARMIN for service.

Memory ROM Failed: The unit has detected a failure in its permanent memory. If this message occurs the unit is unusable. Return to GARMIN for service.

Near Airspace, within 2 nm: Your current position is within two nautical miles of an airspace boundary, but you are not projected to enter the airspace.

Messages

No Diff GPS Position: 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.

Off Course: You are left or right of course, beyond the limits set on the Course Deviation Alarm.

Processor Failed: The unit has detected a fault in its internal processor. If the problem persists, the unit is unstable. Return to GARMIN for service.

Requires MetroGuide Maps: The unit feature you are using requires MapSource MetroGuide data. The currently installed datacard contains non-MetroGuide data (e.g. Topo, Roads & Recreation map data).

Route Full: You have attempted to add more than 30 waypoints to a route.

Route Memory Full: Route memory is full and no additional routes can be added from another GPS unit or a PC.

Route Truncated: The route has truncated because not enough space existed to insert an approach. Waypoints must be removed from the beginning of the route to make space for the approach waypoints.

Steep Turn: Approximately one minute prior to a turn that requires a bank angle in excess of 25 degrees in order to stay on course.

Sunrise, Switching To Day Mode: The map is switching to the Day Mode display.

Sunset, Switching to Night Mode: The map is switching to the Night Mode display.

Timer Has Expired: The countdown timer has expired.

Track Memory 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 into memory. The oldest track log points were deleted to make space for the most recent data.

Waypoint Added Successfully: The waypoint has been successfully entered into the unit memory or added to the Favorite Waypoints list.

Waypoint Already Exits: You have entered a waypoint name that already exists in memory. Modify the waypoint name or delete the previous waypoint name.

Waypoint Does Not Exist: A Jeppessen database waypoint was deleted during a database update, but the position and waypoint name remain in a route. This message appears when you attempt to review database information for a deleted waypoint.

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

VNAV Apprch Targ Alt: The current altitude is within 1000 feet of the final VNAV target altitude.

VNAV Cancelled: The VNAV function has been cancelled due to a change in the active route.

Abbreviations

APP	Approach
APT -	Airport Waypoint
ATF -	Aerodrome Traffic Frequency
ATIS -	Automated Terminal Information Service
AV -	Aviation Gas
BRG -	Bearing
CAS -	Calibrated Airspeed
CDI -	Course Deviation Indicator
CL B -	Class B
CL C -	Class C
CTA -	ICAO Control Area
CTAF -	Common Traffic Advisory Frequency
CTS -	Course To Steer
CUM -	Cumulative
DEG -	Degrees
DIS -	Distance To Waypoint
DME -	Distance Measuring Equipment
DOP -	Dilution of Precision
DTK -	Desired Track
ELEV -	Elevation

EPE -	Estimated Position Error
ETA -	Estimated Time of Arrival
ETE -	Estimated Time Enroute
ETV -	Estimated Time to VNAV
FLOW -	Fuel Flow Rate
FOB -	Fuel On Board
FPM -	Feet Per Minute
FR -	From
FSS -	Flight Service Station
FT -	Feet
FT -	Full Time
GL -	Gallons
GPS -	Global Positioning System
GR -	Glide Ratio
GRT -	Glide Ratio to Target
GS -	Ground Speed
HDG -	Heading
HG -	Inches of Mercury
ILS -	Instrument Landing System
IG -	Imperial Gallons

JET A -	Jet Fuel - Type A
JET B -	Jet Fuel - Type B
KH -	Kilometers
KT -	Knots
LB -	Pounds
LCL -	Local
LFOB -	Leftover Fuel On Board
LOC -	Localizer
LT -	Liters
MAG VAR -	Magnetic Variation
MB -	Millibars of Pressure
MH -	Statute Miles Per Hour
MI -	Statute Miles
MIN -	Minimum
MIN -	Minutes
MOA -	Military Operations Area
MPM -	Meters Per Minute
MPS -	Meters Per Second
MT -	Meters
MUL -	Multicom

Abbreviations

NDB -	Non-Directional Beacon (NDB Waypoint)	**RTE -**	Route	**USR -**	User Waypoint
NM -	Nautical Miles	**RX -**	Receive Only	**UTC -**	Universal Time Coordinated (GMT/Zulu)
NMEA -	National Marine Electronics Association	**SEC -**	Seconds	**VNAV -**	Vertical Navigation
OBS -	Omni-Directional Bearing Select (Inbound Course Select)	**SID -**	Standard Instrument Departure	**VOR -**	VHF Omni-Directional Range (VOR Waypoint)
°C -	Degrees Celsius	**SPD -**	Ground Speed	**VS -**	Vertical Speed
°F -	Degrees Fahrenheit	**SRFC -**	Surface	**VST -**	Vertical Speed To Target
PC -	Pilot Controlled	**STAR -**	Standard Terminal Arrival Route	**WPT -**	Active (Destination) Waypoint Name
POSN -	Position	**STR -**	Steer To	**WX -**	Weather
PRES -	Barometric Pressure (Altimeter Setting)	**TACAN -**	Tactical Air Navigation Aid		
PT -	Part Time	**TAS -**	True Airspeed		
PWR -	Power	**TAT -**	Total Air Temperature		
RDR -	Radar	**TEMP -**	Temperature		
REQ -	Required	**TMA -**	ICAO Terminal Control Area		
RF -	Reference	**TRK -**	Ground Track		
RNG -	Range	**TRN -**	Turn Angle to Waypoint		
RNWY -	Runway	**TRSA -**	Terminal Radar Service Area		
RSTCD -	Restricted	**TWR -**	Tower		
RCTM -	Radio Technical Commission for Maritime Services	**TX -**	Transmit Only		
		U -	UTC Time		
		UNI -	Unicom		
		USER -	User Waypoint		

Glossary of Navigation Terms

Bearing (BRG): The compass direction from your present position to a destination waypoint.

Course: The compass course between the 'From' and 'To' waypoints.

Course to Steer: The recommended direction to steer in order to reduce course deviation and return to the course line. Provides the most efficient heading to get back to the desired course and proceed along your route.

Crosstrack Error (XTK): The distance you are off a desired course in either direction, left or right.

Distance (DIS): The distance to your destination or the next waypoint in a route.

Estimated Time of Arrival (ETA): The estimated time that you will reach your destination waypoint (or next route waypoint), based on current ground speed and track.

Estimated Time Enroute (ETE): The estimated time required to reach the destination waypoint (or next route waypoint), from your present position, based on current ground speed and track.

Estimated Time to VNAV (ETV): Prior to reaching the initial descent point, ETV indicates the time it will take to reach the initial descent point. After passing the initial descent point, ETV indicates the time to reach the target altitude following the designated vertical navigation parameters.

Glide Ratio (GR): The ratio of horizontal distance traveled to vertical distance traveled. For example, a 6:1 glide ratio indicates a 1000' vertical descent for every 6000' horizontal distance traveled.

Glide Ratio to Target (GRT): The glide ratio required to descend from your present position and altitude to the target altitude at the location specified on the vertical navigation submenu.

Grid: A coordinate system that projects the earth on a flat surface with position measurements based on northing and easting distances from square grid zones.

Ground Speed (or Speed): The velocity you are traveling relative to a ground position.

Ground Track (TRK): See Track.

Latitude: A north/south measurement of position perpendicular to the Earth's polar axis.

Longitude: An east/west measurement of position in relation to the Prime Meridian (an imaginary reference line originating at the north and south poles and passing through Greenwich, England).

Position: An exact, unique location based on a geographic coordinate system.

Track (TRK): The direction of movement relative to a ground position.

Turn: The difference between Bearing (BRG) and Track (TRK). 'L' indicates that you should turn to the left, 'R' indicates that you should turn right. The degrees indicates the difference angle and the number of degrees you should turn.

Universal Transverse Mercator/Universal Polar Stereographic (UTM/UPS): A grid coordinate system that projects global sections onto a flat surface to measure position in specific zones.

Vertical Speed to Target (VST): The speed at which you are descending to the target altitude. A VST higher or lower than specified on the vertical navigation submenu indicates you are descending too fast or too slowly.

Glossary of Navigation Terms

This diagram illustrates some of the terms used with the vertical navigation (VNAV) features of the GPSMAP 295.

VNAV PROFILE

DISTANCE TO PROFILE

GLIDE RATIO TO TARGET

TARGET ALTITUDE

DISTANCE TO TARGET

AIRPORT
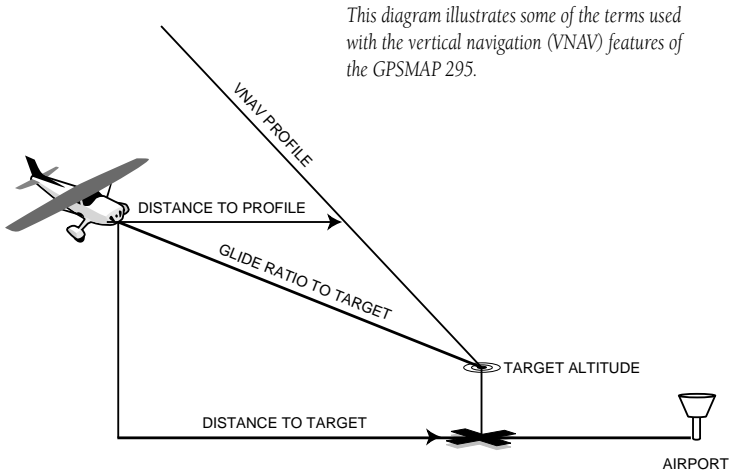
This diagram illustrates some of the basic navigation terms used with the GPSMAP 295.

WPT 2

NORTH

Course

Distance

Bearing

Track

Speed

Course Error

AIRPLANE

WPT 1

Index

Index

Index

Index

**For the latest free software updates throughout the life of your
GARMIN products, visit the GARMIN web site at www.garmin.com**

ⓈGARMIN®