GARMIN

Rino® 520/530

2-way radio & GPS

owner's manual

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Garmin International, Inc.
1200 East 151st Street
Olathe, Kansas 66062, U.S.A.
Tel. 913/397.8200 or 800/800.1020
Fax 913/397.8282

Garmin (Europe) Ltd.
Unit 5, The Quadrangle
Abbey Park Industrial Estate
Romsey, SO51 9DL, U.K.
Tel. 44/0870.8501241
Fax 44/0870.8501251

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

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Introduction

Thank you for choosing the Garmin® Rino® 520 or the Rino® 530 (**R**adio **I**ntegrated with **N**avigation for the **O**utdoors). To get the most from your new Rino 520 or Rino 530, read through the *Quick Start Guide* first, then this *Owner's Manual* to understand all of the operating features.

The *Quick Start Guide* describes the process of navigating the Main Pages and the Option Menus, along with some basic unit operations to familiarize you with your new Rino 520/530 right out of the box. Read the *Quick Start Guide* first.

This manual is organized into the following sections:

The **Introduction** section provides FCC, safety, warranty, and product registration information, as well as the Table of Contents.

The **Getting Started** section provides basic information about the Rino 520/530.

The **Unit Operation** section provides information on each of the Main Pages, listed in the same order as viewed on the unit. The section for each page provides an overview that describes how it functions, and step-by-step instructions for using the page and its features. It also includes an overview of some additional features and step-by-step instructions for using those features.

The **Appendix** includes additional information about the Rino 520/530

The **Index** provides keywords and the pages on which they appear.

Note that: Significant differences between the Rino 520 and Rino 530 features are noted throughout the *Quick Start Guide* and the *Owner's Manual*. The Rino 530 contains all of the features of the Rino 520 with the addition of a seven channel NOAA weather receiver with weather alert, an electronic compass, and barometric pressure altimeter.

Warnings and Cautions

The GPS system is operated by the United States government which is solely responsible for its accuracy and maintenance. The system is subject to changes which could affect the accuracy and performance of all GPS equipment. Although the Garmin Rino 520/530 is a precision electronic NAVigation AID (NAVAID), any NAVAID can be misused or misinterpreted and, therefore, become unsafe.

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

Use the Rino 520/530 at your own risk. To reduce the risk of unsafe operation, carefully review and understand all aspects of this *Owner's Manual*. When in actual use, carefully compare indications from the Rino 520/530 to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety, always resolve any discrepancies before continuing navigation.

WARNING: The Rino 520/530 contains a lithium-ion rechargeable battery pack. The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above 140°F (60°C), or incinerate.

WARNING: If the original battery pack must be replaced, dispose of the used battery properly. Contact your local waste disposal department for information on proper disposal of lithium-ion batteries. Keep used batteries away from children. Do not disassemble or dispose of batteries in fire.

MAP DATA INFORMATION: One of the goals of Garmin is to provide customers with the most complete and accurate cartography that is available to us at a reasonable cost. We use a combination of governmental and private data sources, which we identify (as required) in product literature and copyright messages displayed to the consumer. Virtually all data sources contain inaccurate or incomplete data to some degree. This is particularly true outside the United States, where complete and accurate digital data is either not available or prohibitively expensive.

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

IMPORTANT: READ THIS INFORMATION BEFORE USING YOUR RINO:

Exposure to Radio Frequency Signals—Your wireless handheld radio is a low power radio transmitter and receiver. When it is on, it receives and also sends out radio frequency (RF) signals. In August 1996, The Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless radios. Those guidelines are consistent with safety standards previously set by both U.S. and international standards bodies: American National Standards Institute (ANSI) IEEE. C95.1-1992; National Council on Radiation Protection and Measurements (NCRP) Report 86; International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996. Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. For example, over 130 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard (C95.1). The design of your radio complies with the FCC guidelines (and those standards).

For body-worn and face-held operation, this radio demonstrates compliance and meets the FCC RF exposure guidelines for uncontrolled exposure (general population) when used with approved accessories supplied with or designed for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Antenna Care—Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations. **Do not use any radio that has a damaged antenna, because if it comes into contact with your skin, a minor burn can result.**

Electronic Devices—Most modern electronic equipment is shielded from RF signals. However, certain equipment may not be shielded against the RF signals from your wireless radio.

Pacemakers—The Health Industry Manufacturers Association recommends that a minimum separation of six inches (6”) be maintained between a handheld wireless radio and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. Persons with pacemakers should ALWAYS keep the radio more than six inches from their pacemaker when the radio is turned on, should not carry the radio in a breast pocket, should use the ear opposite

the pacemaker to minimize the potential for interference, and should turn the radio off immediately if you have any reason to suspect that interference is taking place.

Hearing Aids—Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices—If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Turn your radio OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles—RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities—Turn your radio OFF in any facility where posted notices so require.

Commercial Aircraft—Many commercial airlines prohibit the use of FRS/GMRS radios on board. Switch OFF your radio before boarding an aircraft or check the airline rules.

Blasting Areas—To avoid interfering with blasting operations, turn your radio OFF when in a "blasting area" or in areas posted: "Turn off two-way radio." Obey all signs and instructions.

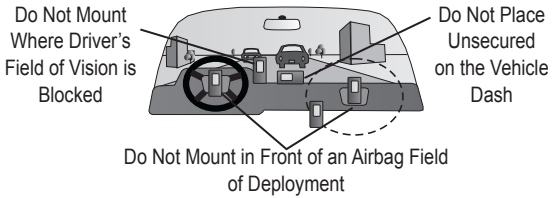
Potentially Explosive Atmospheres—Turn your radio OFF and do not remove your battery when you are in any area with a potentially explosive atmosphere. Obey all signs and instructions. Sparks from your battery in such areas could cause an explosion or fire resulting in bodily injury or even death.

Areas with a potentially explosive atmosphere are often, but not always clearly marked. They include fueling areas such as gasoline stations, below deck on boats, fuel or chemical transfer or storage facilities; vehicles using liquefied petroleum gas (such as propane or butane); areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

WARNING: This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our Web site at http://www.garmin.com/prop65.

Because the Garmin Rino 520/530 can be used for vehicular navigation, important safety considerations must be followed. Please read and observe the following instructions.

WARNING: For use in vehicles, it is the sole responsibility of the owner/operator of a vehicle with the Rino 520/530 installed to place and secure the device so it will not interfere with the vehicle operating controls and safety devices, obstruct the driver's view of driving conditions, or cause personal injury in the event of an accident.



Introduction i

Getting to Know Your Rino 520/530 1

Front of the Rino 520/530 2

Back of the Rino 520/530 3

Main Display Pages 4

Operating the Rino 520/530 5

Status Bar Overview 6

Unit Operation 7

Radio Page 7

Initializing the Rino 520/530 7

Using Name and Symbol Fields 8

Setting the Channel and Code 10

Adjusting the Volume and Squelch Level: 11

Scanning and Monitoring 12

Radio Page Option Menu 13

Setup Radio 14

Setup Tones 16

Use Weather Radio 17

Use Weather Alert 17

Turn Radio/GPS On/Off 18

Status Window 18

GPS Status 18

Radio Transmission/Reception Status 18

Using the Rino 520/530 Radio Features 20

Peer-to-Peer Positioning 20

New Contact Page Overview 20

Sending a Location 23

Map Page 24

Map Page Options 26

Using the Pan Map Option 27

Programming the Data Fields 28

Setting up the Map 29

Measuring Distance 31

Compass Page 32

Using the Compass Page 32

Compass Page Options 34

Using Sight 'N Go 35

Calibrating the Compass 35

Altimeter Page 37

Altimeter Page Options 38

Viewing Pressure/Elevation Plots 39

Adjusting the Zoom Ranges 39

Pan Plot 40

Resetting Data 40

Calibrating the Altimeter 41

Programming Data Fields 41

Main Menu Page 42

Satellite Page 43
Sky View Graphic 43
WAAS 44
Satellite Strength 44
Satellite Page Options 45
Trip Computer Page 47
Trip Computer Page Options 47
Waypoints 48
Mark Waypoint Page 48
Creating Waypoints 49
Averaging a Waypoint 50
Projecting a Waypoint 50
Editing a Waypoint 50
Find 52
Finding a Waypoint 53
Finding a Geocache 54
Finding a Contact 55
Finding a City 56
Finding an Exit 57
Finding a Point of Interest 58
Finding an Address or Intersection 60
Recent Finds 62
Using Go To Navigation 63
Tracks Page 64
Using the TracBack Feature 65
Setting up the Track Log 67
Using Track Profiles 67
Routes Page 68
Editing a Route 69
Adding or Editing from the Route Map Page 72
Setting Up Routing Methods 73
Navigating a Route 74
Using the Turn-By-Turn Active Route Page 74
Highway Page 75
Setup Pages 76
System Setup Page 76
Radio Setup Page 77
Display Setup Page 77
Tones Setup Page 78
Page Sequence Setup 78
Map Setup Page 78
Routing Setup Page 79
Geocache Setup 79
Marine Setup 79
Time Setup Page 80
Units Setup Page 81

LORAN TD Format 81
Heading Setup Page 83
Calibration Setup Page 83
Altimeter Setup 84
Welcome Page Setup 84
Interface Setup Page 85
Proximity Waypoints 87
Calendar 88
Alarm Clock 90
Calculator 91
Stopwatch 92
Sun & Moon 93
Hunt & Fish 94
Games 95
Memory Race 95
Geko Smak 95
Nibbons 96
Gekoids 96
Beast Hunt 96
Assimilation 97
Clothesline 97
Waypoint Bomber 97
Appendix 98
About FRS/GMRS Radio 98
Specifications 100
Standard Accessories Provided with the Unit 102
Optional Accessories 102
Installing Accessories 102
Transferring MapSource Data 103
GPS Troubleshooting Guide 105
Radio Frequency Charts 106
Data Field Definitions 109
Interface Information 111
FCC Compliance Information 112
FCC Licensing Information 113
Limited Warranty 114
Software License Agreement 116
Product Registration 116
Index 117

Getting to Know Your Rino 520/530

The Rino 520/530 (**R**adio **I**ntegrated with **N**avigation for the **O**utdoors) is a FRS/GMRS radio with a 12 channel GPS receiver. It has integrated radio functionality to provide two-way communications for up to two miles using FRS (Family Radio Service) channels. The Rino 520/530 also provides 15 high-performance GMRS (General Mobile Radio Service) channels and 8 GMRS repeater channels (U.S. versions only) for communication up to 14 miles. GMRS channels are limited to 2 watts of power when used in Canada. GMRS repeater channels are not approved for use by the Canadian government, so they are disabled on Rino 520/530 units sold in Canada.

The Rino 520/530 has three user-selectable GMRS power levels: 0.5 W, 2.0 W, and 5.0 W (USA only). Keep in mind that FRS channels only transmit at 0.5 W. The Rino 520/530 also has a rechargeable lithium-ion battery pack with charger. Be certain to fully charge the lithium-ion battery while attached to the Rino 520/530 prior to the first use to ensure accurate battery capacity reporting. Follow the charging instructions contained in the Rino Quick Start Guide

If you wish, you can purchase a spare lithium-ion battery pack or an optional alkaline battery pack with transmit power limited to 2.0 W.

The unit contains built-in cartography of a North American basemap that includes Interstate and State Highways and Exit Information. The Rino uses compatible MapSource®map data software (not included). The Rino 520/530 can display up to 56 MB of a variety of detailed map data. Some of the mapping options that are compatible with the Rino 520/530 include City Select, MetroGuide, Topo, Fishing Hot Spots, and BlueChart® data. Check your local dealer or the Garmin Web site (www.garmin.com) for a complete listing of MapSource products.

The Rino 520/530 is waterproof to IPX7 standards and is designed for rugged use. Garmin's user-friendly interface allows you to start navigating almost immediately.

Front of the Rino 520/530

Power button:
- Press and hold to turn the unit On/Off
- Press to adjust contrast and backlighting

Call button:
- Press to send out Call Tone
- Sends position when released (if enabled)

Talk button:
- Press and hold to talk
- Sends position when released (if enabled)

Page/Quit button:
- Press to cycle through main pages
- Used to quit or escape menu items

Volume (V) button:
- Press to open volume/squelch control
- Press and hold to mute/unmute the speaker

Speaker

TFT Display

Thumb Stick
- Press In to enter highlighted options and to confirm messages
- Move Up, Down, Right or Left to move through lists, highlight fields, on-screen buttons, icons, enter data, or move the map panning arrow

- Press In and hold to display Shortcuts Menu.

Zoom/Map (Z) button:
- From the Map Page, press to open Zoom control window
- From any other page, press to display Map Page and press again to open Zoom control
- Press and hold to turn the electronic compass On/Off (Rino 530 only)

Microphone:
- Hold unit 3-4 inches away when talking

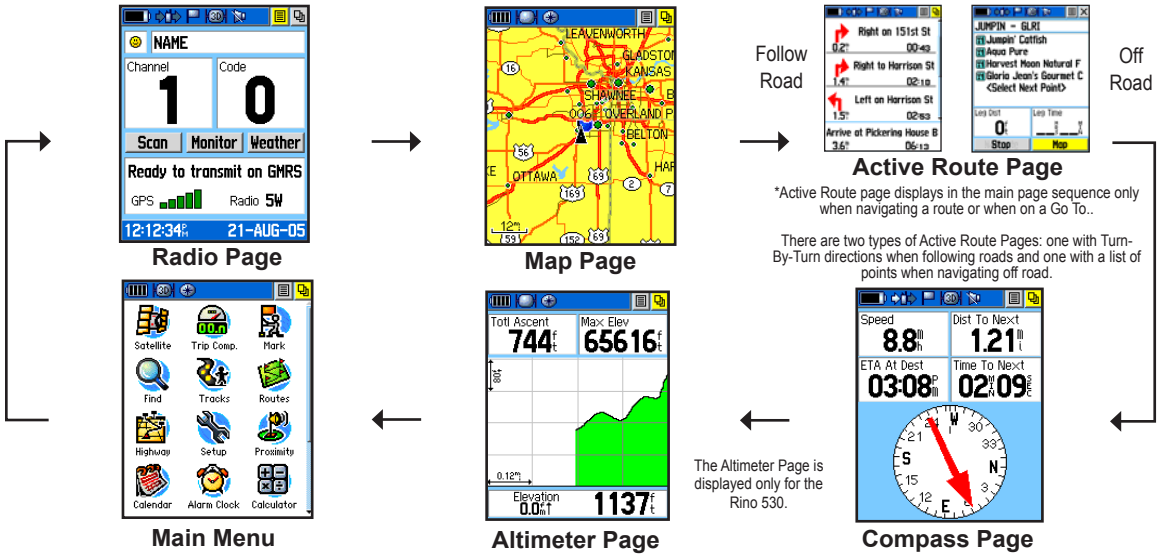
Back of the Rino 520/530

Lithium-Ion Battery Information

- Completely charge with the battery attached to the Rino prior to use to ensure accurate capacity reporting. Refer to the Quick Start Guide.
- Avoid prolonged exposure to direct sunlight and high temperatures as this can reduce useful battery life. See “Specifications”
- Do not store a fully discharged battery for long periods of time. This may prevent the battery from recharging.
- See the section on Warnings and Precautions for instructions on proper disposal of batteries no longer capable of being recharged.
- If the battery capacity gauge becomes inaccurate; fully discharge the battery by leaving the unit On, in normal mode, until it shuts off. Then fully charge the battery while attached to the unit.

Main Display Pages

All of the information you need to operate the Rino 520/530 can be found on five default main pages (four for the Rino 520). Simply press and release the **Page/Quit** button to cycle through the Radio Page, Map Page, Active Route Page*, Compass Page, Altimeter Page (Rino 530 only), and Main Menu Page. You can also access the Main Pages by pressing the on-screen Main Page button . Customize the Main Page sequence by using the Page Sequence Setup (see page 78).

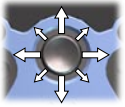


Operating the Rino 520/530

For best results, you should initialize the GPS receiver in your Rino 520/530 unit before you use it the first time. See page 7 for instructions on initializing the unit. The compass and altimeter contained in the Rino 530 should also be calibrated. Refer to the "Calibrating the Compass" and "Calibrating the Altimeter" sections.

To use the Thumb Stick:

- Press In to enter highlighted options and to confirm messages.
- Move Up, Down, Right or Left to move through lists, highlight fields, on-screen buttons, icons, enter data, or move the map panning arrow.



- Press In and hold to display Shortcuts Menu.

To use the Page Option Menu:

1. Highlight the **Option Menu** on-screen button at the top of the display screen and then press the **Thumb Stick** In to open the menu.
2. Highlight the desired menu option and press the **Thumb Stick** In to activate the option.
3. To close without making a selection, move the **Thumb Stick** to the Right.

To Close a feature or setting page:

1. Highlight the **Close** button at the top of the page and press the**Thumb Stick** In to return to the previous page, or press the **Page/Quit** button.

Shortcuts Menu

The Shortcuts Menu, accessed by holding the **Thumb Stick** In, provides quick access to frequently used features and the Lock Keys option.

To lock/unlock the buttons (keys):

1. Press and hold the **Thumb Stick** In to access the Shortcuts Menu. Highlight **Lock Keys** and press the **Thumb Stick** In. Only the **Call** and the **Press To Talk** buttons are functional.
2. To unlock, press and hold the **Page/Quit** button until "Keylock Disabled" is displayed (about 5 seconds).

Status Bar Overview

As you move around any of the Main Pages, the current page's title briefly displays (3 seconds) and then is replaced by the Status Bar. The Status Bar displays current settings and operational icons and contains the Main Page and Page Option Menu buttons.

The available icons are:

- Battery Level
- Using External Power
- Receiving Radio signal
- Transmitting Radio signal
- Radio On
- Peer-To-Peer On/Location Ready to Send
- Keylock On
- Alarm Clock On
- GPS On, 3D Position Fix
- Speaker Muted
- Weather Alert On (Rino 530 only)

You can adjust the backlight level by pressing the POWER key and releasing, then tap the **POWER** key or press the Thumb Stick Up/Down to cycle through the levels of backlight adjustment. See page 77 for information on changing the display colors and backlight timeout and brightness levels. Backlighting is Off when you power up the unit. When On, it uses a significant amount of battery power.

Pop-Up Messages

Whenever a significant event in the operation of the unit occurs, an on-screen message displays to advise you of the occurrence. In each case, the condition is described and often a remedy provided. Pressing the Thumb Stick acknowledges the message and closes the window.

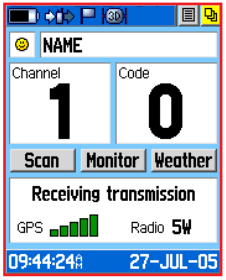
On-Screen Message

Unit Operation

Radio Page

The Radio Page is the first of the default Main Pages. This page provides the user interface for FRS (Family Radio Service) and GMRS (General Mobile Radio Service) radio operations. Garmin Rino units work with third party FRS/GMRS radios using standard FRS/GMRS frequencies. To take advantage of all of the Rino features, communication with other Rinos is necessary.

The Radio Page also provides access to the Weather Radio (available in Rino 530 only), which provides a constant update of current weather conditions by receiving NOAA weather broadcasts for your area. The Weather Alert feature further enhances the Weather Radio by automatically notifying you of any weather alerts, even when the Weather Radio is not is use and the FRS/GMRS radio is not transmitting or receiving an audio transmission. These features are helpful while outdoors or planning any trips or activities.



Radio Page

Initializing the Rino 520/530

To take full advantage of the Rino 520/530 features, the GPS receiver must be initialized. The initialization process allows the Rino 520/530 to receive and store satellite information and begin using the satellites for navigation. Initialization is automatic and should only take a few minutes. If this is the first time the unit is used or if you have moved more than 600 miles from your last used location, initialization may take up to 5 minutes.

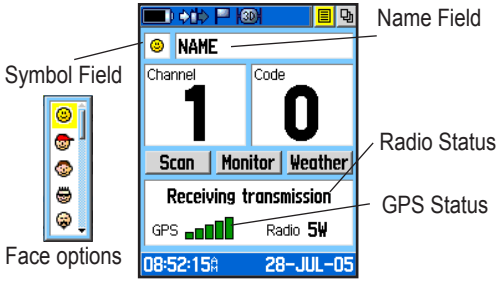
To initialize the unit:

1. Take the Rino 520/530 outside where there is an unobstructed view of the sky and turn it on.
2. The unit begins to search for satellite signals. A Satellite Signal graph is displayed on the Radio page or you can get more detailed information by accessing the Satellite Page from the Main Menu.
3. The first time you initialize your Rino it could take up to five minutes. When the GPS is initialized and ready for navigation, three or more green GPS signal bars are displayed.

If for some reason the unit is not able to gather the necessary satellite information, refer to the GPS Trouble-shooting Chart in the Appendix.

Using Name and Symbol Fields

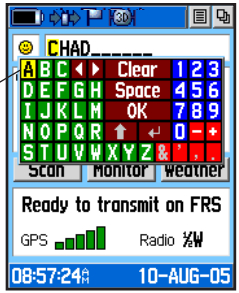
The **Name** field allows you to enter a name that appears on other Rino units as you communicate with them. You may enter a name using a combination of up to 10 letters, numbers, or spaces. The **Symbol** field allows you to choose a face icon from a list to further personalize your identity.



To enter a name:

1. Using the **Thumb Stick**, highlight the **Name** field. Press the **Thumb Stick** In to activate the field and display the keyboard.
2. Move the **Thumb Stick** Up, Down, Left, or Right to highlight the **Clear** field, then press the **Thumb Stick** In to clear the default **Name**.
3. To enter a new name, use the **Thumb Stick** to move the cursor to the desired character (letter, number, or a space). Press the **Thumb Stick** In to select that highlighted character. Choose **Back** to delete the character to the left of the cursor. You may enter up to 10 characters for your name.

Entering a name with the on-screen keyboard

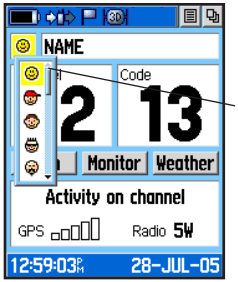


4. When you have entered your new name, use the **Thumb Stick** to highlight **OK** and then press the **Thumb Stick** In.

To change the user symbol:

1. Using the **Thumb Stick**, highlight the face symbol on the left of the Name field. Press the **Thumb Stick** In to show a list of available face icons.
2. Move the **Thumb Stick** Up or Down to scroll through the selections. Because not all the selections can fit in the window, a slider bar on the right side indicates your current position in the list.

Changing the user symbol



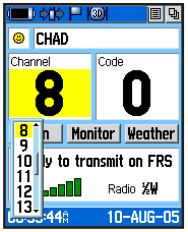
TIP: Hold the Thumb Stick Up or Down to scroll through the list more quickly. Once you reach the end of the list, you can wrap back to the top or bottom by releasing the Thumb Stick then pressing in the same direction again. This same method may also be used on other selection windows.

3. Once you have highlighted the desired icon, press the **Thumb Stick** In to change the symbol.

Setting the Channel and Code

The Rino 520/530 has a total of 22 channels (not including GMRS repeater channels) and 38 codes to select from using the Channel and Code fields. Channels 1–7 and 15-22 are GMRS channels, 8-14 are FRS channels, and 15R–22R are GMRS repeater channels (repeater channels are available on U.S. units only and are disabled by default). To communicate with other Rino and FRS/GMRS users, you must be on the same channel and code. Garmin Rino units work with 3rd party FRS/GMRS radios, provided the other radios use standard FRS/GMRS frequencies. A chart of Rino frequencies may be found in the "Appendix."

Squelch codes allow you to hear calls from only specific persons. Thirty-eight (38) Codes (called Continuous Tone Controlled Squelch System or CTCSS) allow your Rino 520/530 to ignore unwanted calls from other persons using the same channel. Simply select the same code (number) as selected by the other person(s) with which you plan to communicate.

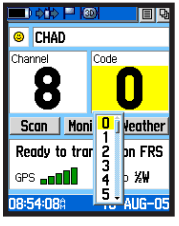


Select from FRS 8–14, GMRS 1-7 & 15–22, and 15R–22R GMRS repeater channels (with Repeater Channels enabled).

NOTE: *Codes do not cause your conversation to be private. They only allow you to filter out other users on the same channel, so you only hear the radios you want to hear. Codes on are not a scrambling system! Refer to the section on Voice Scramble operation.*

Setting the code to 0 (code off) allows you to hear all activity on the selected channel, but you must be set to the same code as the other person(s) to transmit back. See the “Appendix” for a table listing all of the 38 Codes and their frequencies.

As you change channels, the Rino 520/530 remembers the last channel/code combination that you were using. For example, you may set the unit channel to 5 and code to 21, then change the channel to 8 and code to 2. If you change the channel back to 5, the code changes back to its previous setting of 21. See the “Appendix” for more information on FRS/GMRS and its operational aspects.



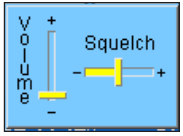
Choose from 38 codes. Setting the unit to zero will allow you to hear all transmissions on that channel, but you must be on the same code to radio back.

To change the Channel and/or Code:

1. Using the Thumb Stick, highlight the **Channel** or **Code** field and then press the **Thumb Stick** In to show a list of available channels/codes.
2. Move the **Thumb Stick** Up or Down to scroll through the selections. Because not all the items fit in the window, a slider bar on the right side indicates your current position in the list.
3. Highlight the selection, press the **Thumb Stick** In.

Adjusting the Volume and Squelch Level:

1. Press the **Volume Control (V)** button to display the Volume/Squelch Level Control window.
2. Move the **Thumb Stick** Up or Down to adjust the volume level.
3. Use the **Thumb Stick** to set the squelch level by moving the slider all the way to the Left to unmute the background noise (weak signals that you don’t want to hear). Then slowly move it to the Right until the background noise stops. The squelch is set.



Volume/Squelch Adjustment

Scanning and Monitoring

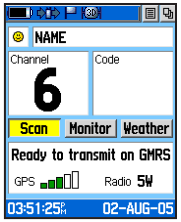
The Scan option allows you to scan through the available channels for activity. As the unit scans and detects activity on a channel, it pauses on that channel/code for a few seconds, then continues scanning. If you transmit at that time you will be on that channel. When the Rino 520/530 is scanning and it receives an incoming signal, the Rino 520/530 automatically decodes the Code used by the incoming signal. The Rino 520/530 then uses that Code when it transmits back to that unit. However, if you transmit when the scan has not paused, the transmission uses the channel set before scanning.

You may use the Set Scanlist option to pick which channels/codes to scan. Scanning through all channels can take time: Selecting only specific channels/codes decreases the scan time and helps prevent the chances of missing a transmission. The Scanlist also has Option Menu choices to Scan Current Codes or Scan All Codes. Choosing Scan Current Codes scans only the Channel and Code combination in memory.

The Monitor option lets you listen to a single channel for all activity, including static and weak signals. The Rino requires the user to adjust the squelch for a frequency to filter out unwanted noise. Using the Monitor option temporarily turns off the squelch, allowing you to hear the open channel. If you see an “Activity...” message, there is activity on your selected channel, but the incoming signal does not match the Code your unit is using. You may choose to monitor a channel if you want to hear all the activity on a channel.

To scan or monitor a channel(s):

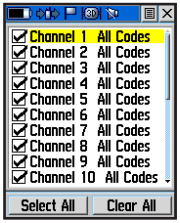
1. Using the Thumb Stick, highlight the **Scan** or **Monitor** button and then press the **Thumb Stick** In. **Scan** starts searching through the available channels. **Monitor** opens the channel to listen to any radio transmissions on that channel.
2. To stop using either option, highlight the button with the **Thumb Stick** and press In.



The Code field is blank when the unit is scanning or monitoring channels until a signal is received and it pauses.

To set up a Scanlist:

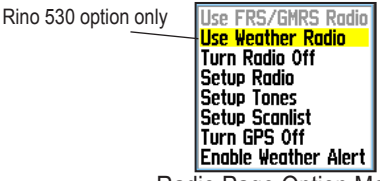
1. Using the Thumb Stick, highlight the **Option Menu** button and press In. Highlight **Setup Scanlist** and press the **Thumb Stick** In.
2. To add/remove a channel from the list, highlight the channel and press the **Thumb Stick** In to add/remove the check mark in front of the name. Only channels that are checked will be scanned.
3. To select all channels or clear all channels, highlight either the **Select All** or **Clear All** buttons and press the **Thumb Stick** In.
4. To Scan Current Codes, highlight the **Option Menu** and press the **Thumb Stick** In. Choose the desired setting and press the **Thumb Stick** In.



Scanlist Page

Radio Page Option Menu

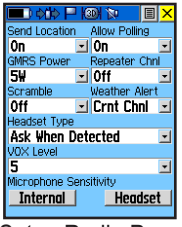
The Radio Page Option Menu allows you to customize aspects of your Rino 520/530, such as setting up the radio, programming call and ring tones, and setting up a scanlist.



Radio Page Option Menu

Setup Radio

The Setup Radio option displays the Radio Setup Page. This page determines how the radio functions and enables you to adjust the radio operation to your needs. The following options are available:



Setup Radio Page

Send Location—Enables/disables the peer-to-peer positioning feature. See the "Peer-to-Peer" section for more on this feature.

Allow Polling—Enables/disables your Rino 520/530's ability to respond to a polling request from another Rino.

GMRS Power—Use this to set the power level used to transmit GMRS channels (1-7, 15-22 and repeater channels 15R-22R, if applicable) 1/2 watt is used for FRS channels 7-15. If the battery is too low to support the higher power levels, it automatically decreases the transmit power and sends a notification message.

Scramble—Adds a level of privacy to your conversations. When On, the voice transmission sounds garbled to other non-scrambled Rino units, as well as other third party radios.

***NOTE:** When Scramble is set to **On**, in order for peer-to-peer and Send Location features to work, the receiving radio must have Scramble enabled also.*

Repeater Channel—Use this option to turn On/Off GMRS repeater channels 15R–22R. Repeater channels use repeaters, when available, to enable communication around obstacles that normally block transmission and can increase tranmission distance. GMRS repeater channels are not available in Rino units sold in Canada.

Weather Alert—When Weather Alert is enabled (See Weather Radio section), the receiver is set to look for weather alert tones either only on the current channel or on all channels .

Headset Type—Allows you to choose which accessory headset or microphone you are using with the unit, or have the unit automatically detect the type. If you use more than one type of headset or microphone, you need to set the unit to **Ask When Detected** before changing accessories.

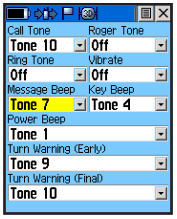
NOTE: *If the headset has a PTT (Push to Talk) button, it must be pressed for the unit to detect the headset.*

VOX Level—Controls the sensitivity level of any Voice Operated Transmission (VOX) accessory. VOX accessories allow you to use the unit hands-free. A lower VOX setting is recommended for quiet environments while a higher VOX setting should be used in noisy environments. Setting the VOX level to 5 is recommended for most environments, but it may be necessary to adjust the level to achieve the desired voice trigger level. You will hear yourself talking in the headset when transmitting successfully using VOX.

Microphone Sensitivity—Allows you to set the sensitivity of the internal microphone and the sensitivity of a headset microphone. When selected, a sensitivity adjustment slider displays. Adjusting the sensitivity requries the assistance of another radio user to advise of the voice quality received while adjusting the slider.

Mic Adjustment Slider

Setup Tones



Setup Tones Page

Call Tone—When the **Call** button is pressed, an attention tone is transmitted. This option allows you to choose one of 10 tones.

Roger Tone—When the **Talk** button is released, a tone is sent to signify the end of the transmission. This option allows you to choose one of four tones, or set the tone to Off.

Ring Tone—When an incoming transmission is received, an attention tone will sound. This option allows you to choose one of 10 tones or set the tone to Off. The Ring tone will not sound again until there has been 45 seconds of radio inactivity.

Vibrate—Choose from On or Off to have the unit vibrate when an incoming transmission is received. Once received, the unit will not vibrate again until there has been 45 seconds of radio inactivity. The unit also vibrates at Power On when set to do so.

Message Beep—Choose from 19 options or Off to have the unit emit a tone when a message or note is received.

Key Beep—Choose from four tones or Off to emit a tone when a key is pressed.

Power Beep—Enable or disable the tone the unit makes when it is turned on and off.

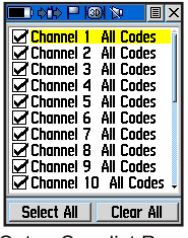
Turn Warning (Early)—Choose from 19 tones or Off to signal an upcoming turn on a route.

Turn Warning (Final)—Choose from 19 tones or Off to signal the final turn on a route.

A "Set Quiet Mode" is available to mute all tones using the Option Menu.

Setup Scanlist

Refer to "Scanning and Monitoring" for complete information about this feature and the options in this page.



Setup Scanlist Page

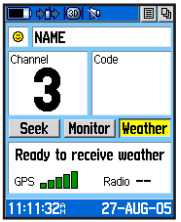
Use Weather Radio

Available for the Rino 530 only, the Weather Radio provides a constant update of the weather conditions. The Weather Alert feature further enhances the Weather Radio by automatically detecting any weather alert tones if you are not actively transmitting or receiving with the radio.

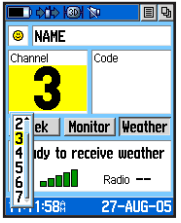
To access the Weather Radio, select the **Weather** button and press the **Thumb Stick** In or select the Radio Page **Option Menu** button. Press the **Thumb Stick** In when **Use Weather Radio** is highlighted to turn on the weather radio. You can also access the Weather Radio through the Shortcuts Menu.

When the Weather Radio is on, a "Ready To Receive Weather" message displays if no signal is present or the squelch is set too high. A "Receiving Weather" message is displayed if weather is being received, if squelch is too low, or monitor is on. The Weather Radio has a separate squelch setting from the FRS/GMRS radio. Refer to Page 11 for instructions on setting the squelch for weather radio.

Change the Weather Radio channel in the same manner as changing the FRS/GMRS radio channel. There are seven Weather Radio channels (1 through 7) available.



Radio Page with Weather Radio On



Changing the Weather Radio Channel

Selecting the "Seek" button increments the radio to the next active weather channel. Selecting the "Monitor" button monitors the selected channel for activity.

Use Weather Alert

When the radio is on, **Enable Weather Alert** is located at the bottom of the Radio Page Option Menu. Press the **Thumb Stick** In when **Enable Weather Alert** is highlighted to turn it on. You can then turn the Weather Radio off and continue FRS/GMRS radio operations.

When a Weather Alert tone is detected, the Rino 520/530 automatically turns on the Weather Radio and broadcasts the Weather Alert if you are not actively transmitting or receiving on the radio. The volume changes to 3/4 the maximum when a Weather Alert is broadcast. Select **Disable Weather Alert** to turn off this feature.

To turn the weather radio off, press the **Thumb Stick** In when **Use FRS/GMRS Radio** is highlighted. This switches the Rino 520/530 back over to the FRS/GMRS radio operation. Weather Alert is disabled whenever the FRS/GMRS and Weather Radio is turned off.

Turn Radio/GPS On/Off

Press the **Thumb Stick** In on either of these two options to toggle them from on to off. For example, to turn GPS Off, press the **Thumb Stick** In when **Turn GPS Off** is highlighted.

Status Window

The Status Window on the bottom half of the Radio Page shows current GPS and radio status, and radio actions. As you operate the unit, the graphics change depending on what actions you are taking and the unit settings.

GPS Status

The GPS signal bars indicate the strength of satellite arrays overhead. More bars mean more satellites in view. As the unit collects satellite information, the satellite signal bars increase to indicate a 3D position fix. The more satellite signal bars, the better your position fix. Three or more green bars are required for GPS navigation.

Radio Transmission/Reception Status

As the radio transmits and receives, a variety of messages appear to indicate the type and status of the transmission or reception.

Radio Page Status Indicators

The Radio Page status bar displays icons and the status window displays messages and icons to describe current operating conditions, depending on what you are doing. See below for explaination of messages and icons.

Message		Radio Status	GPS Status	Status Bar
Activity on channel	A signal is being received, but doesn't match the code.	Radio -- Radio feature Off	GPS Off GPS receiver Off	Radio On
Radio Off	The 2-way Radio is turned Off			Radio Receiving
Ready to transmit on FRS	FRS Channel is selected and you can transmit	Radio ½W Transmit Power at 1/2 watt	GPS Acquiring Satellites	Radio Transmitting
Ready to transmit on GMRS	GMRS Channel is selected and you can transmit		GPS Weakest Signal	Peer-to-peer On Position Ready to transmit
Receiving transmission	You are receiving a transmission on the selected channel	Radio 2W Transmit Power at 2 watts	GPS 2D GPS Location	GPS On - Position Ready
Ready to receive weather	Set to a weather channel and waiting to receive weather broadcast		GPS 3D GPS Location	Weather Alert On
Receiving weather	Receiving a weather broadcast	Radio 5W Transmit Power at 5 watts	GPS 3D GPS Location	
Transmitting on FRS	You are transmitting on an FRS channel		GPS Strongest Signal	
Transmitting on GMRS	You are transmitting on an GMRS channel			
Transmitting position data	Your position (current location) is being sent			

Using the Rino 520/530 Radio Features

Your Rino 520/530 unit provides many features to enhance your radio experience, such as transmitting your location or any location and receiving contact information. This section reviews some of the advanced radio features. Refer to the "Features" section for information on all of the features of the Rino 520/530.

Peer-to-Peer Positioning

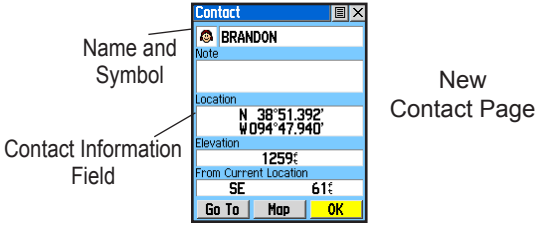
The Rino 520/530's most unique feature is being able to send its location to another Rino, which is called Peer-to-Peer positioning. With peer-to-peer positioning enabled (see the "Setup Radio" section) and a GPS position, whenever you press and release either the **Call** button or the **Talk** button, the Rino 520/530 automatically sends out its location. This information is available to all other Rino users that are monitoring the same channel and squelch code. This feature allows you to track the movement of other Rino users and even navigate to their location. Locations may only be sent once every 30 seconds due to FCC restrictions. Your Rino 520/530 can respond to polling requests from other units more frequently.

To transmit your location to other Rino users:

1. Enable **Send Location** (see "Setup Radio").
2. Press and release either the **Talk** or **Call** button. A bright flag on the Status Bar indicates the unit is ready to transmit its position. A dimmed flag is waiting for the 30 second delay to expire.

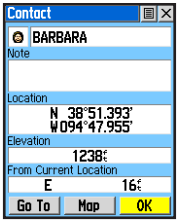
New Contact Page Overview

The first time that a signal is received from another Rino user, a New Contact page is displayed. From the New Contact page you can show their location on your **Map**, **Go To** their location, or select **OK** to add it to the Contact List. Press the **Page/Quit** button to disregard the contact.



The Rino 520/530 can manage up to 50 contacts at any time. Each time you receive a signal from a contact, your map is updated showing their new position. A Track Log of their movement is created and shown on your map (see the "Track Logs" section). After a contact has been established, a "<contact name> Updated" message briefly appears at the bottom of your display each time the contact updates.

All contacts are listed on the Find Contact Page and are also displayed in the Contact Bar on the Map Page (see the "Map Page" section). Contacts behave like waypoints and count towards the 500 maximum waypoint total. If the contact did not have a GPS location on the last transmission, the last known position appears overlayed by a question mark in the Location field. To view the contact details (such as Direction and Distance from Current Location, Elevation, Location, and Notes that have up to 30 characters), use the **Thumb Stick** to move to the next data field to add or change information.



Use the **Thumb Stick** to view or edit different contact data.

To accept a new contact:

1. When a new contact is received, the New Contact page automatically appears.
2. Highlight **OK** and press the **Thumb Stick** In. If you do not select **OK**, the contact is not saved.

To review a contact and contact details:

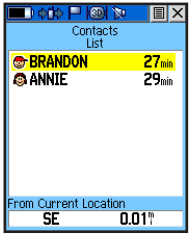
1. From the Map Page, highlight the desired contact on the Contact Bar and press the **Thumb Stick** In. As you highlight the contacts on the Contact Bar, the Map page centers the map on that contact and display its name, direction and distance near the top of the screen.

Or

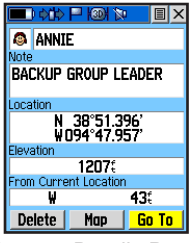
1. Press the **Thumb Stick** In and hold it until the Shortcuts Menu is displayed. Highlight **Find** and press the **Thumb Stick** In.
2. Highlight **Contacts** and press the **Thumb Stick** In.
3. From the Contacts List, select the desired contact and press the **Thumb Stick** In.

To change contact details:

1. The Elevation, Position, and Note fields may be manually edited. Select the desired field and press the **Thumb Stick** In.
2. For Notes, highlight the field and press the **Thumb Stick** In to start entering data, up to 30 characters. For other fields, highlight the field and press the **Thumb Stick** In to start changing the data.
3. Highlight **OK** and press the **Thumb Stick** In when done.



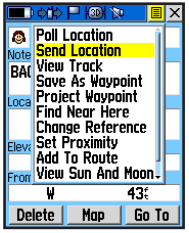
Contacts List



Contact Details Page

Sending a Location

Another feature is the ability to send a specific location to other Rino users. This comes in handy when you are trying to round-up the group or you just want to meet at a specific location. You may send any point found from the Find menu. If the unit needs to wait until 30 seconds have elapsed since the last position transmission, a "Waiting to send location..." message appears until the unit is able to transmit. If a location is sent more than once, a number is automatically added to the end of the name (for example: CAMP, CAMP 1, CAMP 2, etc.).



To send a location, highlight the Option Menu from the Waypoint Review Page, select Send Location, and press In.

To send a location:

1. Press the **Thumb Stick** In and hold it until the Shortcuts Menu is displayed.
2. Highlight **Find** and press the **Thumb Stick** In.
3. Highlight the desired category and press the **Thumb Stick** In. (For the Contacts List, select the desired contact and press the **Thumb Stick** In.)
4. Depending on which category you select, highlight the desired item and press the **Thumb Stick** In to display the Information page for that item.
5. From the Information Page, highlight the **Option Menu** button in the upper right corner of the page and press the **Thumb Stick** In.
6. Highlight **Send Location** and press the **Thumb Stick** In again. The unit now sends the point to the other Rino users on your channel/squelch code.

Map Page

The Map Page displays your present position and direction of movement using a triangular Position Icon that is shown on the map. As you travel the map display leaves a “trail” (track log) of your movements.

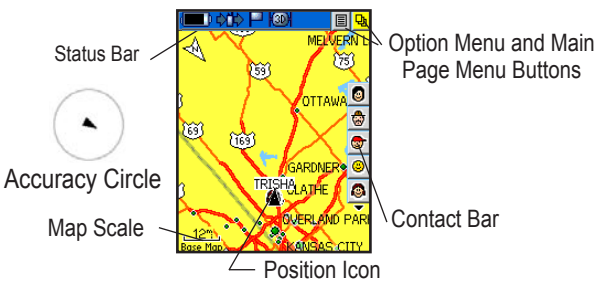
The map displays geographic details such as rivers, lakes, highways, and towns. The map can display a higher level of detail than the basemap provided with the unit (i.e. residential streets, parks, etc.), if Garmin MapSource data has been downloaded to the unit using a CD-ROM mapping program. When using MapSource data, the word “mapsource” displays below the map scale whenever you zoom in to view map details.

At the top of the Map Page, you can choose to show either the Contact Bar, Data Fields, Guidance Text, or only the Map. As you highlight the contacts on the Contact Bar, the Map Page centers the map on that contact and displays its name, direction, and distance.

Highlighting the Contact on the Map Page and pressing the **Call** button polls the contact.

In many instances the map displays an Accuracy Circle surrounding the Position Icon. The Rino 520/530 uses both map resolution and GPS accuracy in defining your location to a point within the circle. The smaller the circle, the more accurate your location.

When using the Pan Map feature (accessed from the Map Page Option Menu), a small outline arrow (Map Pointer) can be moved about the page to highlight and identify map items or to scroll the map to view areas not shown on the display screen.



To view a Contact from the Map Page:

1. Highlight the **Contact** icon using the **Thumb Stick**. As you highlight the contacts on the Contact Bar, the Map page centers the map on that contact and displays its name, direction, and distance near the top of the screen.
2. Press the **Thumb Stick** In to view the details of the Contact.
3. Press the **Thumb Stick** to the Left or Right to re-center the map on your current position.

The scale can be changed from 20 feet to 500 miles. A lower zoom scale displays less area but more map detail, while a higher zoom scale shows you a larger area with less map detail. The **Thumb Stick** and **Z** (Zoom) button on the front right of the unit allow you to zoom in and out on the map. Press the **Z** (Zoom) button from any page (other than the Map Page) to open the Map Page.

To change scales on the Map Page:

1. Press the **Z** (Zoom) button to open the Zoom window.
2. Use the **Thumb Stick** and **Z** (Zoom) button to change the map scale in order to show more map area with less detail or less map area with more detail.

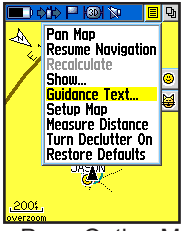
   Press and hold Up or Down on the **Thumb Stick** to zoom the map scale rapidly. Press the **Thumb Stick** In or to any direction to close the Zoom window.

The map scale in the lower left hand side of the display is shown in units of measurement selected in the Units field of the Unit Setup Page (accessed through the Main Menu Setup Page). If you zoom in so far that the resolution of the map data is exceeded and the appearance of the map is no longer accurate, the word, “overzoom” displays just below the map scale.

Up to Zoom Out;
Down to Zoom In

Map Page Options

Map Page options allow a variety of operating and custom features for your Rino 520/530. The Map Page options are:



Map Page Option Menu

Pan Map—Allows you to move the Panning Arrow (Map Pointer) about on the map. Refer to the "Using the Pan Map Option" section for complete instructions.

Stop Navigation—Quits navigation of a Go To, Route or Track in progress. When you are not navigating to a destination, the Stop Navigation option is "grayed out" and is non-functional.

Recalculate—Recalculates the current route.

Show... Data Fields—Displays two, three, or four navigation data fields, Map Only, and Contacts. Data fields can be programmed to display various data options.

Guidance Text—Displays guidance information such as direction to turn at the next intersection, etc. It can be set for Always Show, Never Show, or Show When Navigating.

Setup Map—Displays the Setup Map Pages, which allow you to tailor the map to your requirements such as changing text size, map orientation, and map detail. Refer to the "Setting up the Map" section for complete instructions.

Measure Distance—Displays the distance from one point on the map to another.

Turn Declutter On—Turns the Declutter feature on to reduce the amount of map details when zoomed out.

Restore Defaults—Returns the Map Page to the original factory settings (defaults).

Using the Pan Map Option

The Map Page pan function allows you to display an arrow used to point at and identify items on the map, and to move the map in order to view areas beyond the current viewing area on the display.

The map panning function is activated from the Option Menu on the Map Page. Use the **Thumb Stick** to move the panning arrow (also referred to as the map pointer) in the desired direction. If the arrow moves to the edge of the map display, the map also moves to reveal more area.

Whenever you place the panning arrow on a map item, the name of that item is highlighted. This feature applies to waypoints, roads, lakes, rivers; nearly everything that is displayed.

Press the **Thumb Stick** In to mark the arrow location or display the map item information page. The Option Menu allows you to: send the location of that item, project a waypoint from it, save it as a waypoint, set a proximity circle around it, add it to a route, or view the Sun & Moon phase or view Hunt & Fish information from it.

On-screen buttons at the bottom of the page allow you to Go To the map item, display it on the map or to select **OK** and return to the Map Page. Press the **Page/Quit** button to stop panning the map.

To Find an item near the map pointer:

1. When using the panning arrow, press and hold the **Thumb Stick** In to display the Shortcuts Menu.
2. Select **Find** to display items. Select the category you wish to search (waypoints, contacts, etc.). The Rino 520/530 then searches for the items nearest the location of the map pointer instead of your actual location.

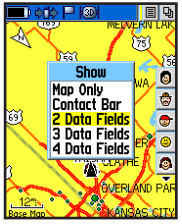
Map Page with Panning Arrow

Programming the Data Fields

Select **Show... Data Fields** to view from two, three, or four optional Data Fields at the top of the screen that can be programmed to provide a variety of travel and navigation information. A list of the choices is shown to the right. Not all data types are available on every page.

To program a data field:

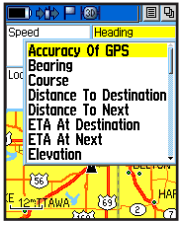
1. Use the **Thumb Stick** to highlight the data field and then press In to display the list of data options.
2. Highlight the desired option and then press the **Thumb Stick** In to change the data field type.



Selecting Data Fields

Data Field Options

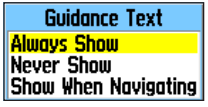
Thee data field options apply to the Map Page data fields and the Trip Computer data fields. For definitions of all data fields used in the Rino 520/530, refer to the "Appendix."



Changing Data Fields

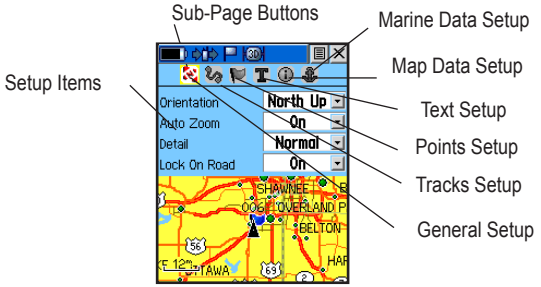
Guidance text

The Guidance Text option displays upcoming intersections, points, or direction to navigate. The three options are: Always Show, Never Show, and Show When Navigating.



Setting up the Map

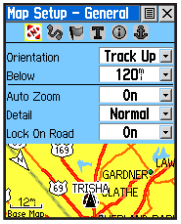
The Setup Map option displays the five Map Setup Pages, each accessed by an on-screen button.



To use Map Setup options:

1. Select **Setup Map** from the Options Menu and then press the **Thumb Stick** In to display the Map Setup Page.
2. Press Right or Left on the **Thumb Stick** to highlight the desired sub-page button, which displays the options for that sub-page.
3. Press Up or Down on the **Thumb Stick** to highlight an item on the list. Press Right to return to the sub-page buttons.
5. Use the **Thumb Stick** to highlight the desired option and then press it In to activate.
6. Press the **Page/Quit** button or the **Close** button to return to the Map Page.

General Setup



Orientation—Track Up or North Up; fixes the top of the map display to the current track heading or to a north heading.

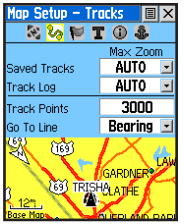
Below—Sets the map scale at which Track Up displays. Above that scale the map reverts to North Up.

Auto Zoom—On or Off; automatically scales the map to display both your current location and the next point to which you are navigating.

Detail—Most, More, Normal, Less, or Least; controls how much map detail you see. This setting only applies to a map feature set to Auto. Those features which have a specified scale or are turned Off are unaffected by this setting.

Lock on Road—On or Off; available only if MapSource Data is loaded. When On, the triangle icon locks to the road that you are traveling.

Tracks Setup

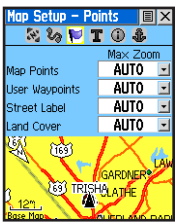


Saved Tracks and Track Log—Scale options; Off, Auto, or 20 ft–500 miles, sets the maximum scale at which the feature should appear on the screen. Some types of data display only at certain zoom scales.

Track Points—Select the number of track points per track. Up to 10,000 active Track Points allowed

Go To Line—Bearing to or Course line displayed on a Go To route.

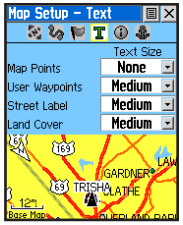
Map Points Setup



Map Points, User Waypoints, Street Label, and Land Cover—Off, Auto, or 20 ft–500 miles, sets the maximum scale at which that feature should appear on the screen. Some types of data display only at specific zoom scales.

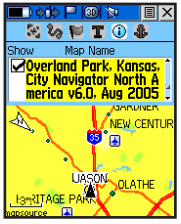
Text Setup

Map Points, user Waypoints, Street Label, and Land Cover—None, Small, Medium, or Large; control the screen size of the name.



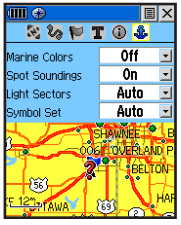
Map Information Setup

Show—Check box; check mark determines if map data is used or not. Option Menu allows you to choose to show all, show none, or show specific MapSource Data. See also the "Appendix."



Marine Setup

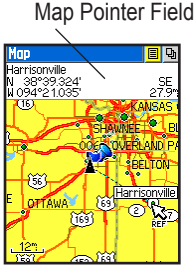
Show—Options for categories are On, Off, and Auto.



Measuring Distance

To use the Measure Distance option:

1. Select **Measure Distance** from the Option Menu and then press the **Thumb Stick** In to display the Panning Arrow. **Ref** displays under the arrow.
2. Use the **Thumb Stick** to move about on the Map Page until you reach the point to which you want to measure. A new Map Pointer field displays showing the location of the pointer and the direction and distance from where you began the measuring.
3. To begin measuring from a different point, press the **Thumb Stick** In at the desired location.
4. To stop measuring, press the **Page/Quit** button.



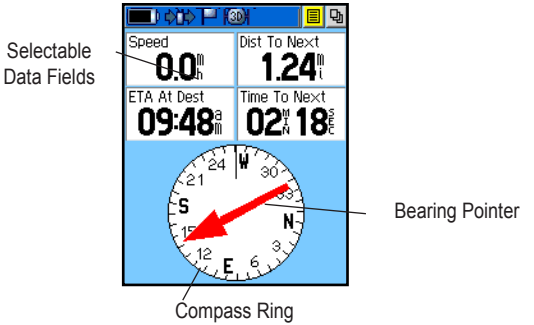
Measuring distance

Compass Page

The Compass Page provides active guidance with a rotating compass ring that shows your course (heading) while you are moving and a bearing pointer to indicate the current direction to your destination (bearing) relative to the course.

The Data Fields at the top of the page provide you with navigation information. The list of data field choices and definitions may be found in the "Appendix."

The Compass Ring functions as a magnetic compass when you are stationary (Rino 530 only). When you are moving, the heading is controlled by the GPS receiver (based upon settings customized in the Heading Setup Page).



NOTE: *The Compass on the Rino 530 must be calibrated for the greatest accuracy. Refer to page 36 for information on calibrating the compass.*

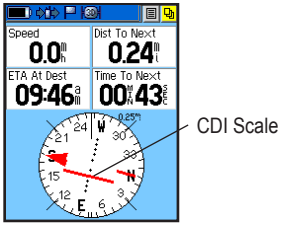
Using the Compass Page

The two main components of the Compass Page are the Bearing Pointer and Compass Ring. The Bearing Pointer always points directly to the destination, no matter what your current location might be. The Compass Ring displays your heading.

While you are navigating a route, the bearing pointer indicates the direction (a bent arrow) of the turn to the next point in the route as well as the direction to the current point when you get within 15 seconds Estimated Time of Arrival of the current point.

For example, if the arrow is pointing straight up, you are going directly to your destination. If it points any direction other than up, turn and move towards the direction the arrow is pointing until it points up, and then continue in that direction. If you are using the Course Pointer option instead and you drift away from the original line of travel to your destination, the Course Deviation Indicator (CDI) provides graphic indication of drift (right or left) and displays the distance off course.

When you are not on an active GoTo, Track, or Route (in other words, not traveling to a recorded destination), the Compass Ring displays your heading while you are moving, but the data fields at the top of the page will not display any destination related data, such as Estimated Time of Arrival.



Compass Page with Course Pointer and Course Deviation Indicator (CDI) Scale active.

To stop navigating:

1. Highlight the **Option Menu** button at the top of the Compass, Highway, or Map Page and press the **Thumb Stick** In.
2. Select **Stop Navigation**, then press the **Thumb Stick** In.

Compass Page Options

Sight 'N Go—Use the Sight 'N Go feature to locate a landmark visually and then lock in a magnetic heading to it. Rino 530 feature only.

Stop Navigation/Resume Navigation—Cancels/resumes navigation ("Grayed out" or disabled unless you are navigating on a Go To, Track, or Route.)

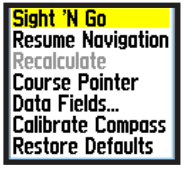
Recalculate—Recalculates the active route.

Bearing Pointer/Course Pointer—Toggles between Bearing (always directed toward your destination) and Course (shows amount of correction needed to get back on course.)

Show Data Fields—Toggles to display data fields on the right side of the display or removing the data fields

Calibrate Compass—Calibrates the electronic compass. Follow the on-screen instructions. Rino 530 feature only.

Restore Defaults—Returns options and data field choices to factory designations.



Compass Page Option Menu

To change data fields:

1. Use the **Thumb Stick** to highlight the desired data field and then press it In to display the list of data options.
2. Select the desired option from the list and press the **Thumb Stick** In. The list of data field choices and definitions may be found in the Appendix.

Using Sight 'N Go

Available for the Rino 530 only, this feature allows you visually locate an object and navigate to it.

To use Sight 'N Go to navigate:

1. Use the **Page** button to access the Compass Page and then use the **Thumb Stick** to access the **Option Menu.**
2. Use the **Thumb Stick** to highlight **Sight 'N Go** and press In. Note that the compass ring with pointer is in-line with the two sighting marks on the case.
3. Hold the Rino 530 at eye level and line up the two sighting marks on the case with a distant object. Press the **Thumb Stick** In to Lock Direction.
4. To navigate to your destination, select **Set Course** and press the **Thumb Stick** In. Begin traveling to your destination using the pointer as a guide.

   To view your destination as a waypoint, select **Project Waypoint** and press the **Thumb Stick** In. To re-sight the destination, press the **Thumb Stick** In when **Re-Sight** is highlighted.

Rino 530 held level
for Sight 'N Go

Calibrating the Compass

When you first use the Rino 530, the Electronic Compass must be calibrated outdoors and away from metal objects. The accuracy of the Electronic Compass is adversely affected if the unit is not held level or is held near items that generate magnetic fields, such as cars, large belt buckles, etc. Recalibration is recommended after significant environmental changes such as location changes, temperature fluctuations, switching from lithium-ion battery power to alkaline or NiCad. etc.

To calibrate the Electronic Compass:

1. Use the **Page** button to access the Compass Page.
2. Use the **Thumb Stick** to highlight the **Option Menu** button and press In.
3. Highlight the **Calibrate Compass** option and press the **Thumb Stick** In.
4. Press the **Thumb Stick** In to activate the **Start** button and then follow on-screen directions for holding and turning the unit. Hold the unit level when calibrating the compass.

Calibrating the compass: Hold the unit face up and level while slowly rotating it.

The unit displays a “Just Right,” “Too Fast,” or “Too Slow” message to help you to adjust your turning speed as needed.

The “Calibration Successful” message displays when finished. If a “Calibration Failed” message displays, repeat the process.

When you manually turn the Compass Off, it stays off until you manually turn it On again.

To turn the compass on and off:

- Press and hold the Zoom (**Z**) button. A message appears on the screen indicating that the compass has been turned on or off.

Altimeter Page

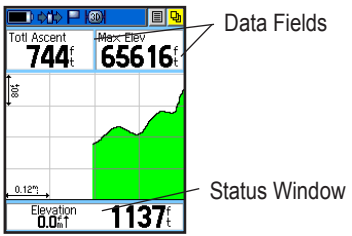
Available for the Rino 530 only, the Altimeter Page provides the current elevation, rate of ascent/descent, a profile of elevation changes over distance or time, or a profile of pressure changes over time. The Altimeter Page's Option Menu allows you to select from a variety of display options such as plotting over time, plotting over distance, displaying the zoom ranges of measurement, viewing elevation or pressure points, and resetting data displays. Two user selectable data fields allow you to display a variety of current and recorded pressure and elevation related data.

NOTE: *To achieve the greatest accuracy, the Altimeter should be calibrated. Refer to page 41 for information on calibrating the Altimeter.*

The Status Window is located at the bottom of the page and displays the current elevation and your current rate of ascent or descent when moving. It can also display the ambient or the barometric pressure.

The Plot or Profile Field is located in the center of the page and can be configured to display either elevation or ambient pressure or barometer plots as selected from the Altimeter Page Option Menu.

Data Fields at the top of the page are user selectable and display a variety of recorded or current data.



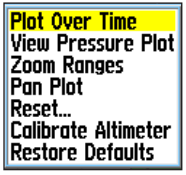
Four types of plots are possible:

- Elevation vs Time
- Elevation vs Distance
- Barometric Pressure* vs Time
- Ambient Pressure* vs Time

* Ambient Pressure is the actual pressure at your location. Barometric Pressure is the ambient pressure measured relative to sea level.

Altimeter Page Options

The Altimeter Page Option Menu allows you to select the type of information and how it is to be displayed. Altimeter Page Options include:



Altimeter Page Option Menu

Plot Over Time/Distance—Plots the changes in elevation over a length of time or over a distance. When Plot Over Distance is selected, Plot over Time is displayed in the Option Menu (and vice versa).

View Pressure/Elevation Plot—Displays a record of changes in barometric pressure or elevation for a set period of time.

Plot Ambient/Barometer—Changes between plotting ambient pressure versus time and barometric pressure versus time.

Zoom Ranges—Sets the zoom range for elevation, distance, or time.

Pan Plot—Allows you to scroll through the collected data plots to view elevation, time of day, and date a specific point was created

Reset…—Clears recorded data from the page to begin recording new data.

Calibrate Altimeter—Increases the accuracy of the altimeter. You must know your elevation or pressure to calibrate the altimeter. See page 41 for detailed instructions on calibration.

Restore Defaults—Returns the Altimeter Page to the original factory settings (defaults).

Viewing Pressure/Elevation Plots

When selecting the View Elevation Plot option, you can plot a profile of elevation changes that occur as you navigate over a set distance or period of time. When you select View Pressure Plot, you can view a record of changes in the ambient or the barometric pressure for a set period of time. When one option is active the other displays on the Altimeter Page Option Menu.

To view elevation or pressure plots:

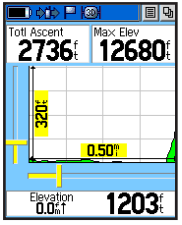
1. Use the **Thumb Stick** to highlight the desired option from the Option Menu and then press In to display the plot.
2. Adjust time and distance measurement as desired using the Elevation Plot Zoom Ranges feature explained below.
3. To clear the plot and start a new one, you must clear the Track Log.

Adjusting the Zoom Ranges

You can set the Zoom Ranges for elevation, distance, or time when you display the View Elevation Plot. You may change the ranges for the horizontal and vertical scales.

To adjust zoom ranges:

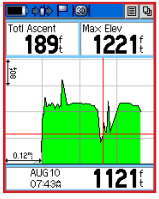
1. Select the type of plot you want to display and use the **Thumb Stick** to highlight **Zoom Ranges** from the Option Menu.
2. Press the **Thumb Stick** In to display the Zoom Ranges Page.
3. Move the **Thumb Stick** Up or Down to adjust the vertical distance and Left or Right to adjust either the time or distance. Press In to return to the Plot Page.



Zoom Range selection

Pan Plot

The Pan Plot option allows you to scroll through the stored elevation or pressure profile and to view a single point along the profile. When the pointer is stopped at a location along the profile, the display shows the elevation, time of day and date the point was created. The most recent data is displayed on the right side of the plot.



Pan Plot Option Page

To use the Pan Plot option:

1. Use the **Thumb Stick** to access the Option Menu.
2. Highlight the **View Points** option and press the **Thumb Stick** In to display the View Points Page.
3. Move the **Thumb Stick** Right or Left to scroll the profile past the pointer in the center of the page.

   As the profile moves past the pointer, the status window at the top of page changes to display the date, time, and altitude for the point indicated.

Resetting Data

You can reset the elevation data and the maximum elevation data by selecting the Reset option from the Altimeter Page Option Menu.

To reset the elevation data and max elevation fields:

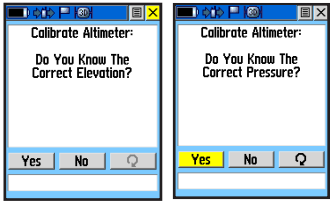
1. Use the **Thumb Stick** to highlight the **Reset** option from the page Option Menu and press it In to display the Reset page.
2. Use the **Thumb Stick** to highlight the elevation options on the page and then press it In to place a check mark in the box next to a selected item.
3. Move to the **Apply** button and press the **Thumb Stick** In to reset the data fields.

Calibrating the Altimeter

Because the Rino 530 relies on the barometric pressure to determine the elevation and the pressure at any given elevation can fluctuate, you can calibrate the altimeter to increase its accuracy. You must know the elevation (from a map point or other reliable data) or the pressure (calibrated to sea level - information you can obtain from the NOAA weather forecasts received on your Rino 530 or other reliable source) for your current location.

To manually calibrate the altimeter:

1. Use the **Thumb Stick** to access the Option Menu.
2. Highlight the **Calibrate Altimeter** option and press the **Thumb Stick** to display the Calibration Page.
3. At the message asking “Do You Know The Correct Elevation?” highlight the on-screen **Yes** button and press the **Thumb Stick** In to enter your elevation. When finished, highlight **OK** and press it In to return to the Altimeter Page. If you don’t know your current elevation, press **No** to move to the pressure calibration page.
4. At the message asking “Do You Know The Correct Pressure?” highlight the on-screen **Yes** button and press the **Thumb Stick** In to enter your pressure. When finished, highlight **OK** and press it In to return to the Altimeter Page.



Calibrate Altimeter Pages

Programming Data Fields

Two, user-selectable, data fields support this page and can be programmed to display the data options.

To program a data field:

1. Use the **Thumb Stick** to highlight the desired data field and then press it In to select desired data from the options list.

Main Menu Page

The Main Menu provides access to additional Rino 520/530 feature pages. The pages listed below provide enhancements to Rino 520/530 operation. Press the **Page** button to cycle to the Main Menu or select it from the **Main Page** button at the top of each main page.

Main Menu Page

Satellite Page—Provides a picture of the satellite signal tracking and tells you when the unit is ready to navigate.

Trip Computer Page—Provides navigation data.

Mark Waypoint Page—Allows you to mark a waypoint for your current location or a map pointer location.

Find Menu—Allows you to locate and Go To Waypoints, Favorite Locations, Cities, Interstate Exits, Points of Interest, Addresses, and Intersections.

Tracks Page—Provides access to the track log, saved tracks, and contact tracks.

Routes Page—Allows you to create and store routes.

Highway Page—Provides a graphic perspective of your current route.

Setup Menu—Controls the settings for many of teh units operating features.

Proximity Page—Activates an alarm for a defined radius around a specified waypoint.

Calendar—An outdoor calendar with data access and waypoint association.

Alarm Clock—Allows use of the Rino as an alarm clock.

Calculator—A standard or scientific calculator.

Stopwatch—A multi-featured stopwatch.

Sun & Moon—Sunrise/Sunset times, Moon phases, sun and moon positoin tables.

Hunt & Fish—A table of best hunting and fishing times for agiven location and date.

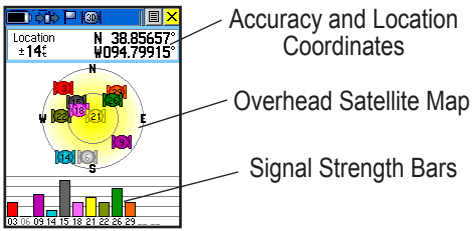
Games—A series of challenging games, some use GPS.

Satellite Page

The Satellite Page provides a picture of satellite signal tracking, tells you when the unit is ready for navigation, and shows your location coordinates.

To access the Satellite Page:

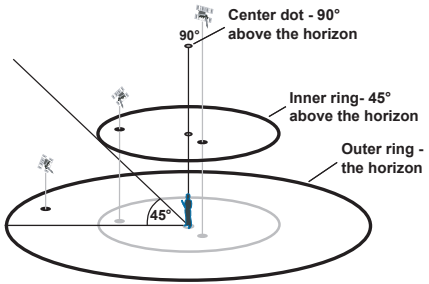
1. Press the **Page** button or the **Main Page** button to open the Main Menu.
2. In the Main Menu, scroll down and select **Satellite**.



Satellite Page

Sky View Graphic

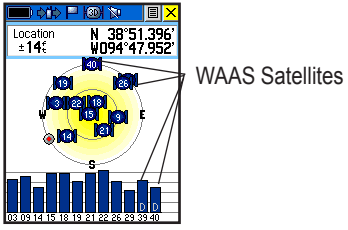
The Sky View graphic represents a view looking up at the sky from your current location showing satellites and their assigned numbers. The outer ring represents the horizon around you. The inner ring represents a view above you at a 45° angle from vertical. The center represents directly overhead. Signal Strength Bars for each satellite are shown below the Sky View. Satellites and their signals appear as hollow shapes until a signal is received and then they appear darkened in. The stronger the signal, the taller the signal bar.



WAAS

The Wide Area Augmentation System (WAAS) capability produces a more accurate position fix. When enabled (GPS set to **Normal** and WAAS set to **Enabled** through the System Setup Page, also the interface must be set to something other than RTCM mode), this feature searches for WAAS satellites near your location and then receives data for correcting differentials in the GPS satellite signals. WAAS satellite numbers begin at number 33 and are displayed on the Satellite Page. When differential correction data has been received for GPS satellites (numbers 32 or below), a **D** displays in the signal bar beneath the skyview. It is helpful to orient the unit antenna toward the WAAS satellite shown in the skyview. To learn more about the WAAS System, refer to the Federal Aviation Administration Web site (http://gps.faa.gov/).

Because the Rino 520/530 relies on satellite signals to provide you with navigational guidance, the unit's view of the sky determines how fast you achieve navigational status. GPS signals do not travel through heavy objects or people: For best results, keep the unit in clear view of the sky.



Satellite Page using WAAS

Satellite Strength

At least three satellite signals are needed to determine your location, otherwise the unit displays a "Poor Satellite Reception" message with four options:

Use with GPS Off—Select this option if you want to turn GPS off.

New Location—Select this option if you have moved more than 600 hundred miles (from where you last used the unit).

Restart Search—Select this option if today is not the date provided.

Continue Acquiring—Select this option if no other option applies. The unit will attempt to gather GPS signals.

Satellite Page Options

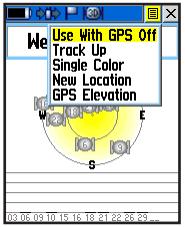
Use With GPS Off—Use this option when you are indoors, your view of the sky is obstructed, or you want to save battery power. You can enter data, create routes, etc., but cannot navigate in this mode.

Track Up/North Up—You can orient the satellite skyview by selecting 'Track Up' (your direction of travel) or 'North Up' (the satellite skyview oriented to the north).

Display Color Options—You have two color options for displaying the satellite array and signal strength bars, 'Single' or 'Multicolor.'

New Location—If you are more than 600 miles (from where you last used the unit), select the **New Location** and then the **Use Map** options to approximate your location. This gives the unit reference information and speeds satellite acquisition. Once a location fix has been made, this option is grayed out.

GPS Elevation—Allows you to view the elevation at your current location as calculated by the GPS receiver.



Satellite Page Option Menu

To select the Use With GPS Off option:

1. Use the **Thumb Stick** to highlight the **Option Menu** button at the top of the page and then press it In.
2. Use the **Thumb Stick** to highlight the **Use With GPS Off** option and then press it In.

   The Rino 520/530 stops tracking satellites and should not be used for navigation. However, the next time you turn the unit on, it returns to Normal GPS operation.

To select Track Up or North Up:

1. Use the **Thumb Stick** to highlight the **Option Menu** button at the top of the page and then press it In to display the Option Menu.
2. Highlight either the **Track Up** or **North Up** option (depending on which is currently in use), and press the **Thumb Stick** In to activate.

To enter a new location:

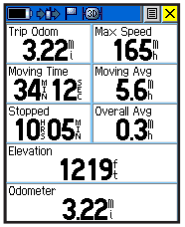
1. Use the **Thumb Stick** to highlight the **Option Menu** button at the top of the page and then press it In.
2. Highlight **New Location** and press the **Thumb Stick** In to display choices of **Auto** or **Use Map**.

   If you choose **Automatic** the Rino 520/530 determines your new location automatically.

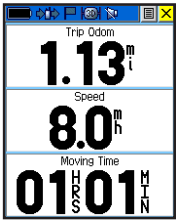
   If you choose **Use Map** a map page displays with instructions stating, “Point to your approximate location and press ENTER”. Use the **Thumb Stick** to move the map pointer to your location on the map and press the **Thumb Stick** In to enter the new location.

Trip Computer Page

The Trip Computer Page by default displays up to eight different types of navigation data. Choosing **Big Numbers** will display three large data fields.



Trip Computer Page, Small Numbers



Trip Computer Page, Big Numbers

Each data field is selectable and can contain one of many data information options. The default settings for these fields are shown in the illustration. The list of data field choices and definitions may be found in the "Appendix." When the data field title is selected, press the **Thumb Stick** In to select a new data field choice. By selecting the information options that you prefer and arranging them in a desired order on the page, you can customize the Trip Computer Page to meet your navigation needs.

Trip Computer Page Options

The Option Menu allows you to reset the Trip Computer data when you are ready to start a new trip, choose between Big or Small Numbers, and Restore Defaults.

Reset—Clears recorded data from the page to begin recording new data.

Big/Small Numbers—Changes the display from eight small data fields to three large data fields.

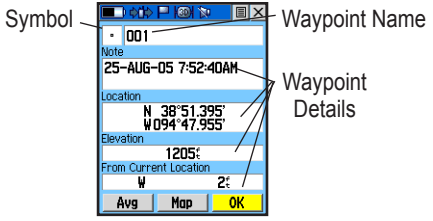
Restore Defaults—Returns the Trip Computer Page to the original factory settings (defaults).

Waypoints

There are numerous ways to create, edit, and use waypoints. Use the Shortcut Menu, "Mark" from the Main Menu, Panning from the Map page, the "Save" option from Map Point Review page, and the "Save as Waypoint" option on the Contact Review page. The Rino 520/530 can store up to 500 waypoints.

Mark Waypoint Page

The Mark Waypoint Page allows you to mark and record your current location as a waypoint. It appears with a graphic name field that displays the assigned number for that waypoint, a waypoint symbol, a date and time notation, location coordinates, approximate elevation, and direction and distance from your current location.



Mark Waypoint Page

To mark your current location and open the Mark Waypoint Page:

1. Press and hold the **Thumb Stick** In until the Shortcut Menu opens.
2. Highlight **Mark Waypoint** and press the **Thumb Stick** In to save your current location as a waypoint. You can also access this page by highlighting **Mark** on the Main Menu Page and pressing the **Thumb Stick** In.
3. If you do not want to save it as a new waypoint, highlight the **Close** button and press the **Thumb Stick** In to cancel.

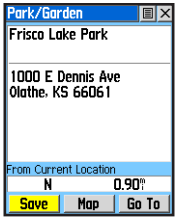
To use Mark Waypoint Page Options:

- To change the name of the waypoint, use the **Thumb Stick** to highlight the waypoint name field.
- To assign an identifying symbol to a waypoint, use the **Thumb Stick** to highlight the symbol block just to the left of the waypoint name.
- To view the waypoint on the map, highlight the **Map** button and press the **Thumb Stick** In.

Creating Waypoints

To create a waypoint for a map feature contained in the Find feature:

1. Access the Find Menu from the Main Menu and open a categories list to select the desired map item.



Saving a map feature as a waypoint

2. Press In and release the **Thumb Stick** to display the map item information page.
3. Highlight the **Save** button and press the **Thumb Stick** In to save the item as a waypoint.

To create a waypoint using the map panning arrow:

1. With the Pan Map feature active (refer to the Map Page section of this manual), move the panning arrow (map pointer) on the map to the location or map item you want to mark, then press the **Thumb Stick In** to display a prompt for a location or information page for a map item
2. A prompt asks you if you want to save the location as a Waypoint. Press **Yes** and the Waypoint Page displays, automatically assigning a number to the waypoint. Highlight the **Close** button and press the **Thumb Stick** In to exit the page.

To create a waypoint by entering coordinates:

1. Press In and hold the **Thumb Stick** to access the **Mark Waypoint** page. You can also use the Find Menu to display a previously saved waypoint.
2. Highlight the Location field and press in on the **Thumb Stick** to open the on-screen keyboard. Use the keyboard to change the location coordinates and press the **OK** button to exit.
3. You may also change the waypoint name, symbol, or add notes using the same process.

Averaging a Waypoint

Averaging a waypoint location can increase the accuracy of a waypoint at your current location by taking multiple position readings and averaging the results.

To average a waypoint:

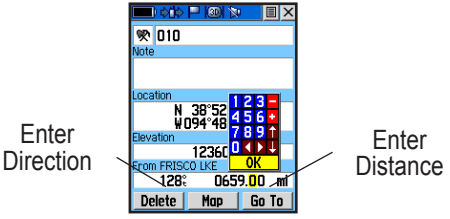
Select **Average Location** from the options list or the **Avg** button on the Mark Waypoint page when marking a new waypoint only. Press the **Thumb Stick** In to activate the Averaging Page. The longer you allow averaging to run the greater the location accuracy. Press **Save** when done.

Projecting a Waypoint

Projecting a waypoint from any map item (another waypoint, etc.) allows you to establish a new waypoint on a bearing and distance projected from that map item.

To project a waypoint:

1. Select a map item from the Find Menu.
2. Access the **Option Menu** using the on-screen button at the top of the Information Page. Highlight **Project Waypoint** and press In.
3. Highlight either the bearing or distance field, then press the **Thumb Stick** In to display the numerical keyboard. Enter the new bearing or distance, then highlight **OK** and press In to finish.



Project Waypoint Page

Editing a Waypoint

A waypoint or contact can be edited to add notes or change the map symbol, name, coordinates, or elevation. You can also delete a waypoint or contact.

To edit a waypoint:

Use the Find Menu to display the waypoint/contact or highlight it on the Map Page and press the **Thumb Stick** In.

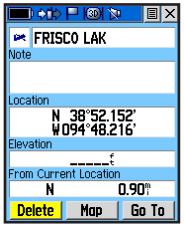
To delete a waypoint or contact:

1. Use the Find feature to display the point.
2. Highlight the **Delete** button and then press the **Thumb Stick** In. Confirm the deletion.

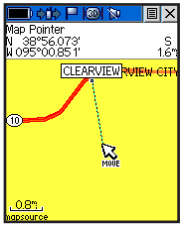
To move a waypoint by dragging it:

1. Use the Find Menu to display the Waypoint Page for the waypoint you want to move.
2. Highlight and press the **Map** on-screen button to display the waypoint on the map.
3. With the waypoint highlighted by the panning arrow, press In and release the **Thumb Stick**. The word “Move” displays beneath the panning arrow.
4. Use the panning arrow to drag the waypoint to the new location and then press the **Thumb Stick** In to place it.

   Press the **Page/Quit** button before pressing the **Thumb Stick** to cancel moving the waypoint and return to the Main Pages.



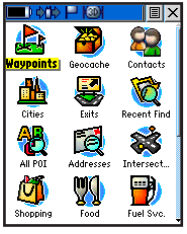
Deleting a Waypoint



Moving a Waypoint

Find

The Find Menu allows you to Find stored locations (waypoints and contacts) and map items (cities, exits, etc.). They can be found by name or by those nearest to your current location. If you are using Rino compatible Garmin MapSource detailed mapping data, the list of Find locations is expanded to include categories for Points of Interest, Street Addresses, and Intersections.



Find Menu

To access the Find Menu:

1. Use the **Thumb Stick** to highlight the **Main Pages** button and then press it In to display the list of Main pages.
2. Highlight **Main Menu** and press In to display the Main Menu.
3. From the **Main Menu**, highlight the **Find** icon and press the **Thumb Stick** in to display the Find Menu.

Categories can be listed in several different ways: By Name, Nearest Current Location, and Nearest a Referenced Map location. The By Name list contains every item in the map database for the selected category, while the Nearest lists contains only those items that are near to your Current Location or a referenced location. The distance defined by “Nearest” varies because it is determined by the density of items near you in the selected category. There are more restaurants near you than cites for example.

These pages are structured with a set of sub-menus and location information pages that guide you through the process of Finding locations.

Finding a Waypoint

Waypoints that you have created and stored in the Rino 520/530 can be found by selecting the **Waypoint** option from the Find Menu. You can Find a waypoint from the list of waypoints using the Nearest current location, By Name (all waypoints in alphabetical order), or Nearest referenced location options as explained on the previous page. When selected from the list, the waypoint displays on the Waypoint Information Page.

The Waypoint Information Page displays the waypoint name or number, a map symbol, the location in lat/lon, elevation, distance, bearing, and three on-screen buttons for Go To, Map, and Delete functions.

To Find a waypoint by nearest:

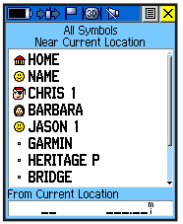
1. Use the Thumb Stick to select **Waypoint** from the Find Menu. Press the **Thumb Stick** In to display the Waypoints List. The List is displayed as "All Symbols Near Current Location."
2. Use the **Thumb Stick** to select the desired waypoint from the list and then press the **Thumb Stick** In to display the Information Page for that waypoint.
3. Select **Go To** to create a direct line of travel to the waypoint. Select **Map** to view the waypoint location on the map or select **Delete** to delete the waypoint.
4. Press the **Option Menu** button to access additional features. You can select: Send Location (to other Rino users), Project Waypoint, Set Proximity (alarm), Add to Route, View Sun & Moon (reports for that waypoint), View Hunt & Fish (reports for that waypoint), or Reposition Here.

To Find a waypoint by selecting a symbol:

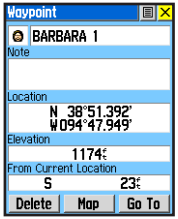
1. With the Waypoints List displayed, use the Options Menu to view waypoints using the same type symbol by highlighting "Select Symbol" and pressing In on the **Thumb Stick**.
2. A "Used Symbol" window appears with a list of all the symbol types assigned to waypoints.

To Find a waypoint by name:

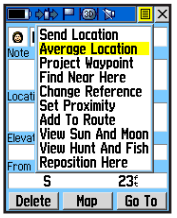
1. Use the **Thumb Stick** to select **Waypoint** from the Find Menu. Press the **Thumb Stick** In to display the Waypoints List.



Waypoints List



Waypoint Information Page



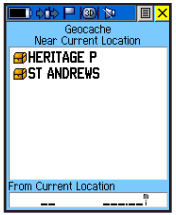
Information Page Options Menu

2. Use the **Thumb Stick** to enter the name of the waypoint that you would like to Find.
3. Select **OK** when you are finished entering the name. The waypoint list opens with the name closest to the name you entered on the top.
4. Select the desired waypoint from the list and then press the **Thumb Stick** In to display the Information Page for that waypoint.
5. With the Waypoint Information Page displayed, select **Go To** to create a direct line of travel to the waypoint. Select **Map** to view the waypoint location on the map or select **Delete** to delete the waypoint.
6. Press the **Option Menu** button to access additional features.

Finding a Geocache

The Find Geocache feature allows you to view and navigate to geocache locations you created using your Rino or downloaded from your computer. For more information about geocaching, visit the Garmin web site *www.garmin.com/outdoor/geocaching/*.

To Find a geocache:



Geocache List

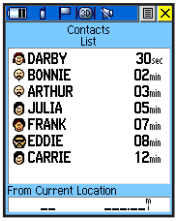
1. From the Find Menu, select the Geocache icon and press the **Thumb Stick** In.
2. If you have not established a geocache list, you are presented with the Geocache setup page. Here you are asked to select symbols for geocache locations. Standard symbols for geocaching are presented along with a calendar entry option.
3. Change the symbols if desired and select “Yes” or “No” for calendar entry, then use the **Close** button.

Finding a Contact

Contacts that you have received in the Rino 520/530 can be found by selecting the Contacts icon from the Find Menu.

To Find a contact:

1. From the Find Menu, highlight **Contacts** and press the **Thumb Stick** In.



Contact List

2. From the Contacts List, select the desired contact and press the **Thumb Stick** In.
3. With the Contact Information Page displayed, select **Go To** to create a direct line of travel to the contact. Select **Map** to view the contact’s location on the map or select **Delete** to delete the contact.

   If the contact did not have a GPS location on the last transmission, a question (?) mark appears in the location field.
4. Press the **Option Menu** button to access additional features.

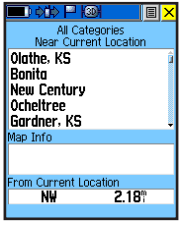
Finding a City

Cities can be found by selecting the **Cities** option of the Find Menu, selecting the city from the list of **Nearest** or **By Name**, and then displaying the City Information Page.

The City Information for the selected city displays, including the city name, the size by population, and distance from your location. You can view it on the map, or create a Go To direct route to the city from your current location or from a location defined by the Panning Arrow (Map Pointer). You can also save the city as a waypoint or add it to an existing route.

To Find a city:

1. From the Find Menu use the **Thumb Stick** to select the **Cities** option, then press it In to display the Find **Nearest** or Find **By Name** prompt. Selecting **By Name** displays the keyboard as an alternative to scrolling through the list of nearest cities.



Find Nearest Cities List

2. If using Find **By Name**, begin spelling the name of the city by using the keyboard. When you have entered enough characters to begin to define the name, a match list displays.

   If you are using Find **By Nearest**, scroll through the list to Find the city you want. Use the **Thumb Stick** to select the desired city from the list and then press it In to display the Information Page for that city.

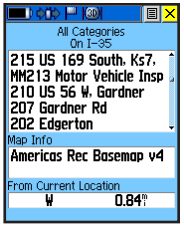
   If you use **Select Map** (which is displayed only when you have more than one type of detailed data map downloaded from MapSource to your Rino), you have the option to choose which map you want data from.

   If using **Change Reference**, follow instructions when the map displays and select a location to base the city search from.

3. With the Information Page displayed, you can select **Go To**, **Map**, or **Save** options.
4. Press the **Option Menu** button to access additional features.

Finding an Exit

You can use the Find Exit option to locate a nearby exit on an interstate highway. Exits are listed only by Nearest to your current location or a referenced location you can specify.



Find Nearest Exits List

Exit information pages provide a variety of information about services near each exit, such as rest stops, lodging, restaurants, and service stations. Some services can be selected and a separate information page displays with specific information concerning what types of fuel, mechanical, and food services are available.

To Find an exit:

1. Use the **Thumb Stick** to highlight the **Exits** icon and then press it In to display the Exits List.
2. A list of exits nearest to you displays. The header text indicates the interstate highway that is served by the exits. A field at the bottom of the page indicates distance and bearing to the exit. Scroll through the list to highlight the desired exit.
3. Press the **Thumb Stick** In to display the Information Page for that exit. This page contains the exit description with a list of available services near that exit along with the distance and bearing.
4. Use the **Thumb Stick** to move to the list of services and highlight a selection from the list.
5. Press the **Thumb Stick** In to display the Information Page for the selected service.

   The Exit Services Information Page displays a list of services. Highlight the desired service and press the **Thumb Stick** for details.

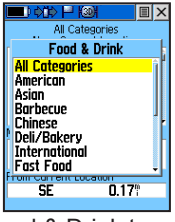
   At the bottom of these Information Pages are on-screen buttons for **Go To**, **Map**, and **Save**.
6. Press the **Option Menu** button to access additional features.

Finding a Point of Interest

You can use the Find Points of Interest option to locate a nearby restaurant, lodging, landmark, public building, park, etc. However, you must have transferred a MapSource CitySelect or MetroGuide map to the unit map database. Otherwise, this option, plus Address and Intersection options, are not displayed on the Find Menu. Here is a list of Point of Interest categories:

- Food & Drink
- Lodging
- Attractions
- Entertainment
- Shopping
- Marine Points
- Recreation
- Geographic Points
- Fuel Services
- Transportation
- Hospitals
- Geographic Points
- Auto Services
- Community
- Marine Points
- Other

In many instances, these categories are subdivided into types, such as in the instance of Food & Drink. When you select Food & Drink from the list of categories, you have the option of choosing from a list of types that includes All Types and cuisine options such as American, Asian, Barbecue, Chinese, etc.

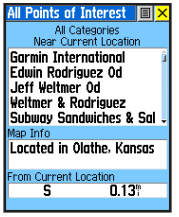


Food & Drink types

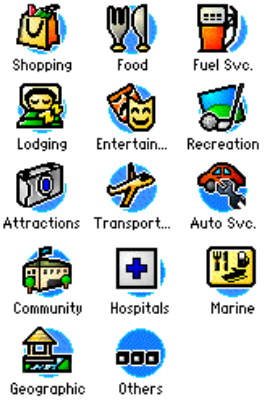
Once you have selected an item, you can display the Information Page for that item. You can then use the on-screen buttons to Go To or view the location on the Map; or use the Option Menu for more choices.

To Find a point of interest:

1. Use the **Thumb Stick** to select the desired category and then press it In to display the list for that category.
2. Use the **Option Menu** button at the top of page to select from either **By Name** or **Nearest** options. Selecting **By Name** displays a keyboard allowing you to enter the characters of the name you want. A list of matches displays when enough characters are entered.
3. Use the **Thumb Stick** to highlight your selection from the list and then press it In to display the Information Page for that item.
4. Use the on-screen buttons to **Go To** or view on the **Map**, or use the page **Option Menu**.
5. Press the **Option Menu** button to access additional features. You can select: Send Location (to other Rino users), Project Waypoint, Find Near Here, Change Reference, Set Proximity (alarm), Add to Route, View Sun & Moon (tables for that waypoint), View Hunt & Fish (tables for that waypoint) or Map Information.



All POI's By Name



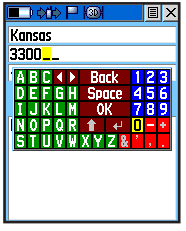
POI's By Category

Finding an Address or Intersection

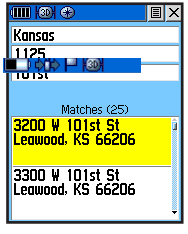
You can enter a street number, choose a street name from a list and Find an address within the area of map data coverage or enter two street names and locate the intersection. To use these options, however, you must be using a MapSource product that provides this type of map data.

To locate an address:

1. From the Find Menu, use the **Thumb Stick** to highlight the **Address** icon and press it In to display the **Find Address** page.
2. Highlight the **Number** field and use the keyboard for entering numbers.
3. Move to the **Street** field using the **Thumb Stick**.
4. Press the **Thumb Stick** In to display the Select Street Name list. Find the street by using the keyboard to enter characters until a list appears.
5. With the desired street highlighted, press the **Thumb Stick** In to place the street name on the Find Address page. A window at the bottom of the page displays a list of matches and the quality of each match. You may also use the Option Menu to **Clear Region**, **Enable City Filter** or **Clear All**.
6. Use the on-screen buttons at the bottom of the page to **Go To**, view the item on the **Map**, **Save** to save as a waypoint, or use the Option Menu for other choices. Highlight the Main Page Menu button and press In to close.



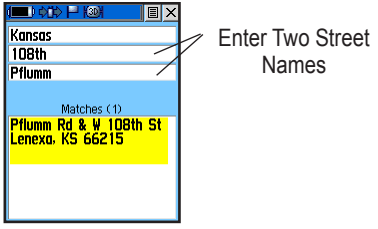
Entering a Street Number



Address Matches

To locate an intersection:

1. Display the Find Menu and use the **Thumb Stick** to highlight the **Intersection** category and press it In to display the **Find Intersection** page.
2. Highlight the first **Street** field and then press the **Thumb Stick** In to display the Street list.
3. Enter the name of the street in the name field at the top of the list using the keyboard data entry method discussed in the *Quick Start Guide*. Once you have spelled enough of the street name, a list of matches displays, often with several streets on the list. Press the **Thumb Stick** In to move the highlight to the street list and then scroll up or down until you Find the street name you want. Press it In to place the name in the field.
4. Repeat the process for the second street name. When the second street has been entered, a search for matches begins.
5. Highlight the best match and then press the **Thumb Stick** In to display the Information Page for the intersection. Use the on-screen buttons at the bottom of the page to **Go To**, view the item on the **Map**, **Save** to close, or use the Option Menu for other choices.



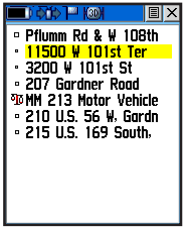
Finding an Intersection

Recent Finds

You can use the Recent Finds option to locate Points of Interest, Cities, Waypoints, Contacts, Intersections and other locations you have recently retrieved. The process for Finding recent points from the Find Menu is the same as Finding a regular waypoint.

To Find a Last Found Place:

1. Use the **Thumb Stick** to select the **Recent Finds** option from the Find Menu and then press it In.
2. Press Left then Up or Down on the **Thumb Stick** to highlight an item on the list and press the **Thumb Stick** In to display the Information Page for that item.
3. With the Information Page displayed, you can select **Go To** to create a direct line of travel to the item. Select **Map** to view the waypoint location. For Waypoints and Contacts, you may also choose to **Delete** to permanently remove that item. Access the Options Menu for other choices.



Recent Finds List

Recent Finds Page

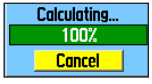
To clear the list, access the Options Menu to display the “Remove All” option.

Using Go To Navigation

The Go To is the basic function that allows you to create a route to a destination, (waypoint, city, or point of interest). Once you have accessed the Information Page for an item, use the Go To button at the bottom of the page to initiate travel, using the Map and Compass Pages for guidance.

To activate a Go To:

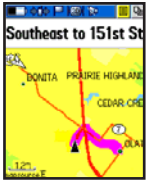
1. Use the Find Menu to access the Information Page for any desired destination and use the **Thumb Stick** to highlight the **Go To** button.
2. Press the **Thumb Stick** In to start navigation. A "Follow Road/Off Road" prompt displays before the route is calculated if activated in the Routes Setup or you have loaded detailed routable maps .
3. If you select "Follow Road" a "Calculating Route" message displays with percentage timer to completion. "Off Road" immediately projects a line to your destination.



4. The Map page is displayed where you can observe your movements and a navigation line indicating the path from your current location to your destination.
5. Use the **Page/Quit** button or Main Menu button to access one of the other navigation pages; Compass Page, Highway Page or Active Route Page with Turn-By-Turn instructions.

When you are close to your destination, an "Arriving at Destination" message appears.

To stop navigation, select the on-screen **Option Menu** button at the top of a Navigation Page. Select **Stop Navigation**, then press the **Thumb Stick** In.



Viewing a Go To on the Map Page

Tracks Page

The Rino 520/530 draws an electronic bread crumb trail on the Map Page as you travel along. This bread crumb trail is the Track Log. The Track Log contains information about points along its path, including time, and position. The Rino 520/530 uses this information to allow you to navigate using the saved track. You may also save tracks from other Rino users as they communicate with you.

To open the Tracks page:

1. Access the Menu Page by using the on-screen menu button or the **Page** button.
2. Select the **Tracks** icon and press the **Thumb Stick** In. The Tracks page opens.

To save and use a Track:

1. Access the Tracks page from the Main Menu.

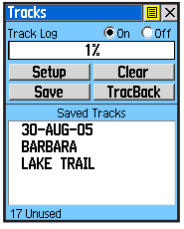
   Press the on-screen **Off** button In to pause track logging. When track logging is active the **On** button is filled by a dot.

2. Highlight the **Save** on-screen button and then press the **Thumb Stick** In to display the track log "Do you want to save the entire track?" prompt.
3. If you choose **Yes** the entire track is saved.
4. If you choose **No**, the track is displayed on the map along with a panning arrow. You are asked to select a beginning point for the part of the track you want to save. Move the panning arrow to the desired point and then press the **Thumb Stick** In.
4. The prompt then asks you to select the ending point for the saved track. Move the panning arrow to the desired point. Press the **Thumb Stick** In to save the track log and display the Track Page. The Track Page shows the track name (which can be renamed using the keyboard for data entry), the total distance of the track, track area (if available), a **Show on Map** option, and on-screen buttons for **Delete**, **Map**, **OK**, and **TracBack**.

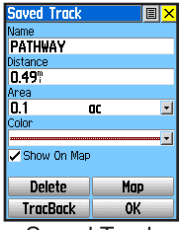
Using the TracBack Feature

The TracBack feature allows you to return along a traveled path (or another Rino user's path) without marking any waypoints. When you are ready to return to where you started, the Rino 520/530 takes you back by following the Track Log that you left behind. You can save a total of 20 tracks in the unit memory. The Track Log starts recording as soon as the unit gets a satellite location fix and the Track Log feature is turned on. When you no longer need a Track Log you can press the on-screen **Clear** button to remove it.

If you want to keep a record of a certain track log or use the TracBack feature, it is recommended that you clear the Track Log before you start traveling. The percentage of memory used by the current track log is displayed in a window at the top of the page. After the Track Log is Cleared, it displays zero percent.



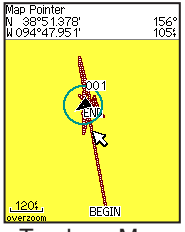
Tracks Page



Saved Track

When the track log memory field reaches 100%, the most recent track points start to overwrite the least recent if the default setting **Wrap When Full** remains selected on the track log setup. To avoid losing track points you want, save the Track Log when it approaches the 99% mark. The active track log stores up to 10,000 points.

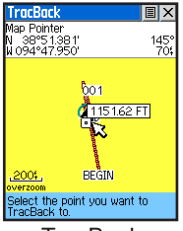
The Saved Track Page displays the track and it can also be displayed on the Main Map Page as you navigate. You may save up to 20 tracks with 500 points per track in the unit. Saved Contact tracks count towards this total. Tracks are marked BEGIN and END.



Track on Map

To use the TracBack feature:

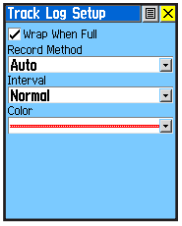
1. Highlight the **TracBack** button on the Tracks Page and press the **Thumb Stick** In. The track is displayed on the map and you are prompted to "Select the point you want to TracBack to."
2. Use the panning arrow to select the desired point and press the **Thumb Stick** In to enable.
3. Use the Map Page or the Compass Page to navigate the Track.



TracBack

Setting up the Track Log

You can set the track recording interval to Distance, Time, or Automatic. You can set the Track display resolution to High, Medium, Low, and Lowest. You can also use the Option Menu to delete all saved tracks.



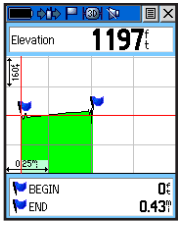
Track Log Setup

To use Track Log Setup options:

1. Highlight the Tracks Page **Setup** button on the page and press the **Thumb Stick** In to display the Setup Page.
2. You can check the **Wrap When Full** option by highlighting it and then pressing the **Thumb Stick** In. You can highlight the **Record Method** and **Interval** fields and press the **Thumb Stick** In to display their options. **Interval** options change to accommodate the **Record Method** choices.

Using Track Profiles

Once you have saved a track, you not only have a record of the path you traveled but an altitude profile as well. (Rino 530 Only)



Track Profile

To view a Track Profile:

1. With the Saved Track Page for the desired track displayed, press the **Option Menu** button to display the **Profile** option.
2. Press the **Thumb Stick** In to display the Track Profile.

   The beginning of the track is marked by a flag and you can scroll across the profile using the **Thumb Stick**.

   As you scroll, the elevation for each point is displayed at the top of the page and the distances of that point from the Start and End points are displayed at the bottom of the page.
3. At any point on the profile, you can press the **Thumb Stick** In to display that point on the map.

Routes Page

Route navigation allows you to create a sequence of intermediate waypoints that leads you to your final destination. The Rino 520/530 stores 20 routes, each with up to 50 waypoints. A route can be created and modified from the Routes Page, and waypoints can be added to a route from the Find Menu.

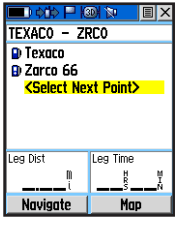
Routes List Page

Creating and Using a Route

To create a route:

1. Access the Routes page from the Main Menu. The page has a **New** button, a list of routes, and an **Active** route button.
2. Use the **Thumb Stick** to highlight the **New** button and press it In to display the Route Setup Page.
3. With an empty row (dashed) in the route list highlighted, press the **Thumb Stick** In to display the Find Menu.
4. Select a route waypoint from one of the Find Menu categories and display the Information Page for the selected waypoint, city, exit, point of interest, etc. Highlight the on-screen **Use** button and press the **Thumb Stick** In to place it on the Routes List.
5. To add more waypoints to the route, repeat the process in Steps 3 and 4. The route is named for the first and last waypoints on the route.

You can add waypoints to the end of an existing route at any time by using the Find Menu.



New Route Page

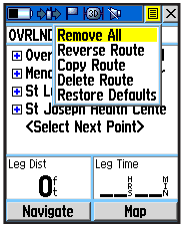
To add a Find Menu item to a route:

1. Select an item from the Find Menu and display its Information Page. If a contact is used in a route, the route changes as the contact's position is updated, or it may be saved as a Waypoint to serve as a stationary point.
2. Select the page **Option Menu** and select **Add To Route** to display the Routes List.
3. Highlight and select the route desired and then press the **Thumb Stick** In. A "Waypoint Added Successfully" message displays.

Editing a Route

To remove all waypoints:

1. From the Route Page, select the on-screen **Option Menu** button and press the **Thumb Stick** In to access the Option Menu.
2. Highlight the **Remove All** option and then press the **Thumb Stick** In to remove all waypoints from the list. When you see the prompt "Do you really want to remove all waypoints from the route?", select **Yes**.



Route Options

To reverse the route:

1. From the Route Page, select the on-screen page **Option Menu** button and press the **Thumb Stick** In to access the Option Menu.
2. Highlight the **Reverse Route** option and then press the **Thumb Stick** In to reverse the order of waypoints in the list. You can now navigate back to your original location. To change the route back to the original order, repeat this process.

To copy the route:

1. From the Routes Page, select the on-screen page **Option Menu** button and press the **Thumb Stick** In to access the Option Menu.
2. Highlight the **Copy Route** option and then press the **Thumb Stick** In to copy. The copied route displays on the Routes Page and is named the same but followed by the numeral 1 (one). You may then rename and/or modify the copied route.

To delete the route:

1. From the Route Page, select the on-screen page **Option Menu** button and press the **Thumb Stick** In to access the Option Menu.
2. Select **Delete** and then press the **Thumb Stick** In. When you see the prompt "Do you really want to delete route?", select **Yes**.

To restore default settings for the route:

1. From the Route Page, select the on-screen page **Option Menu** button and press the **Thumb Stick** In to access the Option Menu.
2. Select **Restore Defaults** and then press the **Thumb Stick** In to restore factory settings.

To review a route point:

1. Select the point from the Route Points List and press the **Thumb Stick** In to access the Option Menu for the waypoint.
2. Highlight **Review** and then press the **Thumb Stick** In to display the Information Page.
3. Highlight the **Close** button and then press the **Thumb Stick** In or use the **Page/Quit** button to return to the Route List.

To insert a new point on the route list:

1. Select the row where you want the new point inserted before. Press the **Thumb Stick** In.
2. Highlight **Insert** and press the **Thumb Stick** In to display the Find Menu and select a new waypoint, city, exit, point of interest, etc.

3. With the new point highlighted, press the **Thumb Stick** In to display the Information Page for the new point and then select the on-screen **Use** button to add it the route.

Route point review options

To remove a point from the route list:

1. Select the point that you want to remove from the Route Waypoints List and press the **Thumb Stick** In.
2. Highlight **Remove** and press the **Thumb Stick** In to remove the waypoint from the list.

To change a route point:

1. Select the waypoint that you want to change from the Route Waypoints List and press the **Thumb Stick** In.
2. Highlight **Change** and press the **Thumb Stick** In to display the Find Menu or create a new waypoint and add it to the points list.
3. Select a new waypoint, access its Information Page and press the on-screen **Use** button to replace the old route waypoint.

To move a route point:

1. Select the point from the Route Points List and press the **Thumb Stick** In.
2. Highlight the **Move** option and press the **Thumb Stick** In to select the waypoint.
3. Use the **Thumb Stick** to move the point up or down in the list. Press the **Thumb Stick** In to leave the waypoint in the new list order.

Adding or Editing from the Route Map Page

You can use the panning arrow with the Route Map Page displayed to add or edit route waypoints.

To add a point at either end of a route:

1. Select the Route from the Routes List. Press the **Thumb Stick** In to display the Route Page.
2. Highlight the on-screen **Map** button at the bottom of the page and press the **Thumb Stick** In to display the Route Map Page.
3. Use the **Thumb Stick** to move the panning arrow to either end of the displayed route until the end point is highlighted. Then press the **Thumb Stick** In and select **Add Turns**. This option appears only when highlighting the end point of a route.
4. Move the panning arrow to highlight a map item where you would like to extend the route and press the **Thumb Stick** In to add the new point. If on a point where there is not a highlighted map item, a prompt to save as a waypoint appears.
5. Select "Yes" save as a waypoint to view the waypoint information page. Close the page to save and view it on the map.
6. Press the **Thumb Stick** In to place the new route point. Use the **Page/Quit** button to exit.

To add a route point within a route:

1. Follow steps 1 and 2 in the previous instructions.
2. Use the **Thumb Stick** to move the panning arrow to a route line. When the arrow touches the line, the line highlights in a different style. Press the **Thumb Stick** In to display the word **ADD** next to the line.
3. Drag the line to a highlight a map item then press the **Thumb Stick** In to place the new route point. If on a point where there is not a highlighted map item, a prompt to save as a waypoint appears.
4. Select "Yes" save as a waypoint to view the waypoint information page. Close the page to save and view it on the map.
5. Press the **Thumb Stick** In to place the new route point. Use the **Page/Quit** button to exit.

To review or remove a route point:

1. Select the Route from the Routes List. Press the **Thumb Stick** In to display the Route Page.
2. Highlight the Map button and press the **Thumb Stick** In to display the route.
3. Use the **Thumb Stick** to move the map panning arrow to the point you want to review and press In.

   Select **Review** or **Remove** and press In again to either display the Information Page or remove it from the route.

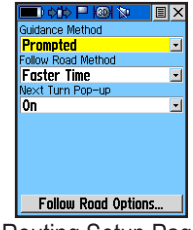
   Select **Next** and press In to view the next waypoint.

Setting Up Routing Methods

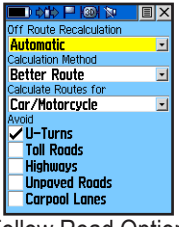
The Routing Setup Page allows you to customize how routing functions behave. There are setup options for route creation and methods of navigation.

To use the Routing Setup:

1. Use the **Page/Quit** button or **Main Page** button to access the Main Menu.
2. Use the **Thumb Stick** to highlight the Setup Icon and then press it In to open the Setup Menu.
3. Select **Routing** and press the **Thumb Stick** In to open the Routing Setup Page.
4. Select the Guidance Method and choose "Prompted" if you want to choose from "Follow Road" or "Off Road" each time a route is being calculated.
5. In the **Follow Road Method** field make a selection from the options provided.
6. If you want a Next Turn Preview to display, select "On".
7. When using the "Follow Road" guidance method, select the **Follow Road Options** button and press the **Thumb Stick** In to choose from a page of options.



Routing Setup Page



Follow Road Options

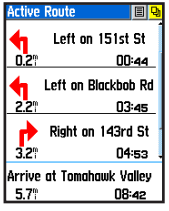
Navigating a Route

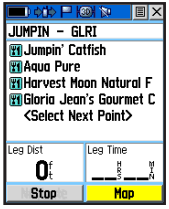
A Route can be navigated using the Map Page, the Compass Page, or the Highway Page. To stop navigation, highlight the Stop Navigation option on any of the three page's Option Menus or select Stop on the Route Page.

To navigate a route:

1. Select a route from the Routes List and then press the **Thumb Stick** In.
2. Highlight the on-screen **Navigate** button at the bottom of the page and then press the **Thumb Stick** In to begin navigating the route on the map.
3. To review the Active Route highlight the Active button on the Routes Page. Two versions of the Active Route can be displayed, one for "Follow Road" and one for "Off Road."

Follow Road (Turn-By-Turn)





Off Road (Point-to-Point)

Using the Turn-By-Turn Active Route Page

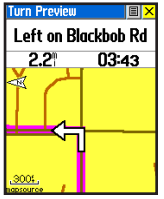
When navigating a Route that follows roads, the Active Route Page is displayed as a Turn-By-Turn Page with each turn on the route listed in order and defined by a graphic arrow, a description of the turn and direction to go, the distance to that turn, and the time remaining before you reach the turn. Each turn on the route displays a turn preview page just before you reach the turn location. The preview page shows you a detailed map of the turn and the direction to go.

To view the Turn-By-Turn Active Route Page:

When on a Route that follows roads, press the **Page/Quit** button to cycle to the page or press the **Main Page** button to select it from the Main Page Menu.

To view the preview page for any turn on a route:

Use the **Thumb Stick** to highlight a turn on the Page and then press In to display the preview page for that turn.



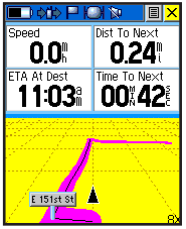
Highway Page

When you are navigating a Go To or Route, the Highway Page can guide you to your destination using navigation data fields and a graphic highway. Up to four user-selectable data fields display information such as speed, distance, time to next point on the route, etc. The Show Data Fields options are similar to the Map and Compass pages.

The highway graphic provides a visual path to your destination. Your course is represented by a center line in the middle of the graphic. As you move toward each point on the route, the graphic shows the direction you should move to stay on course to the point. You can add this page to the page sequence by using the Page Sequence Setup option.

To navigate using the Highway Page:

1. While on an active route, press the **Page/Quit** button or the **Main Page** button to access the Main Menu.
2. Highlight the Highway Page icon from the Main Menu and press the **Thumb Stick** In to observe your path of travel displayed on the highway graphic.
3. Press the **Options Menu** button to display the Options Menu and select Data Fields to customize the page to your requirements.
4. Select “Show: 3 Data Fields or 4 Data Fields”
5. Highlight the first field and press the **Thumb Stick** In to display the list of data options. Repeat for each field.



Highway Page

Setup Pages

The Setup Pages allow you to customize the Rino 520/530 to your personal preferences. You can choose time settings, units of measure, display backlighting and timeout settings, heading measurement, interface options and system operating mode.

By highlighting the icons on the Setup Menu and then pressing the **Thumb Stick** In, you can display the Setup Page for each of the menu items.

To access the Setup Menu

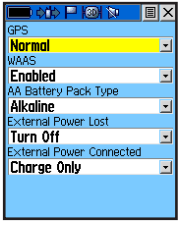
1. Press the **Page** button or the **Main Page** button to open the Main Menu.
2. In the Main Menu, scroll down and select **Setup**. There are then several more icons to choose from in the Setup Menu.

System Setup Page

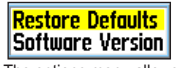
The System Setup Page allows you to change GPS operation modes, use the WAAS capabilities, set AA battery type, external power loss settings, and external power connection settings. See the "Appendix" for WAAS capability information.

To access the System Setup page:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Setup**.
3. Select the **System** icon to open the System Setup page.



System Setup Page



The options menu allows you to restore Default settings and view the version of unit operating software.

The Option Menu allows you to restore defaults or display the current version of unit operating software and the Unit I.D. Number. Software updates and instructions

for downloading are available from the Garmin Web site (www.garmin.com).

Choose one of the GPS options other than Normal to significantly save battery power. The Battery Saver mode reduces the rate of satellite signal position updating and the GPS Off option stops satellite signal reception altogether. The Demo Mode simulates navigation.

Enable or disable WAAS.

Set the Battery Type for more accurate battery capacity status when using the optional battery pack for alkaline or NiMH "AA" batteries.

Set the unit to turn Off if external power is lost.

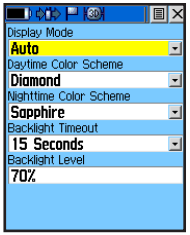
Set the unit to power On when the charger is connected or to charge the unit only.

Radio Setup Page

This setup page allows you to adjust the radio operation to meet your requirements. (See page 14 for detailed instructions.)

Display Setup Page

You can choose a display mode, a color scheme for day and for night viewing, adjust the amount of time that the backlighting feature stays on, and set the level of brightness.



Display Setup Page

To access the Display Setup page:

1. Press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Setup** and then **Display**.

Display Mode—Can be set for Auto (changes from day to night mode and back again at dusk and dawn), Day only, or Night only.

Color Scheme Selection—Can be set in Day and Night modes to one of 10 color schemes. As you scroll up and down the list of schemes, each color scheme previews.

Backlighting Timeout—Choose from **Stays On** or delays of 15 seconds, 30 seconds, one minute, or two minutes before timing out.

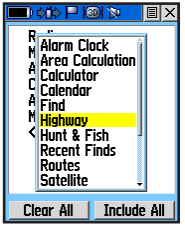
Backlight Intensity Level—Use a pop-up slider to adjust the brightness to your preferences. The percent set displays when you close the slider.

Tones Setup Page

This setup page allows you to select a unique tone for each of the different tone applications. (See page 16 for detailed instructions.)

Page Sequence Setup

You can add, remove, or reorder any of the Main Pages, plus additional pages. The default Main pages are Radio, Map, Navigation, Altimeter, Trip Computer, and Main Menu. The Main Menu cannot be removed from the page sequence. If a page is added to the Main Page Sequence, it does not appear in the Main Menu.



Inserting a new page in the Page Sequence

To move, insert or remove a Main Page:

1. From the Main Menu, highlight the **Option Menu** button and press the **Thumb Stick** In. Highlight **Page Sequence Setup** and press In.
2. To rearrange a page in the page sequence, highlight the page and press In. Select **Move** then move the Menu item Up or Down using the **Thumb Stick**. When the desired position is displayed, press the **Thumb Stick** In.
3. To insert a new page, highlight the page you want to insert it before and press the **Thumb Stick** In. Select **Insert**, then choose a page from the list and press the **Thumb Stick** In.
4. To remove a page in the order, highlight the page and press In. Select **Remove** and press the **Thumb Stick** In.

Map Setup Page

This setup page has six sections and allows you to customize the way the map page displays. (See page 29 for detailed instructions.)

Routing Setup Page

This setup page allows you to set methods for guidance, navigation methods, and next turn prompts, and route type selection. (See page 73 for detailed instructions.)

Geocache Setup

The Geocache Page setup allows you to find and record items hidden at geographic locations. Refer to the Garmin web site for information on how to download geocache locations from the internet, *www.garmin.com/outdoors/geocache/*.

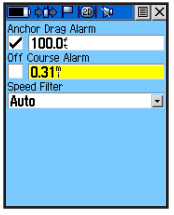
Geocache Setup

To setup the Geocache feature:

1. Press the **Page/Quit** button or the **Main Page** button to access the Main Menu.
2. Highlight the Setup icon from the Main Menu and press the **Thumb Stick** In to display the Setup Menu.
3. Select **Geocache** and press the **Thumb Stick** In to display the setup page.
4. Use the **Thumb Stick** to highlight the symbol fields if you want to assign other symbols than the standard geocache symbols already in place.
5. Select “Yes” or “No” for a calendar entry when a geocache is found.

Marine Setup

The Marine Page setup allows you to set values for the limits, which activate alarm features specific to maritime navigation.



Marine Setup

To setup the Marine alarms:

1. Press the **Page/Quit** button or the Main Page button to access the Main Menu.
2. Highlight the Setup icon from the Main Menu and press the **Thumb Stick** In to display the Setup Menu.
3. Select Marine and press the **Thumb Stick** In to display the setup page.
4. Highlight the box adjacent to each alarm field and activate by pressing the **Thumb Stick** In.

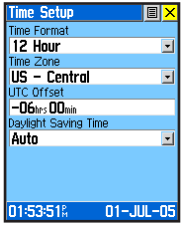
5. Then highlight each field to enter or select options or enter values.

Time Setup Page

You can set the time to match your geographical location.

To access the Time Setup page:

1. Press the **Page/Quit** button or the **Main Page** button to open the Main Menu.
2. In the Main Menu, scroll down and select **Setup**.
3. Select the **Time** icon to open the Time Setup page.



Time Setup Page

Time Format—Allows you to choose from 12-hour (like a standard clock with 12-hour AM and PM cycles) or 24-hour time format (a 24- hour cycle, also called Military Time).

Time Zone—Can be set to one of the eight US Time Zones, or 24 International Time Zones (nearest city or geographical region). Select **Other** so you can enter the UTC Time Offset.

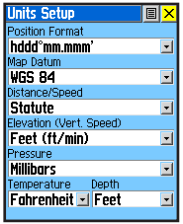
Daylight Saving Time—Can be turned On or Off or set to Automatic and will change according to your time zone.

To set the time:

1. Use the **Page** button to access the Main Menu.
2. Use the **Thumb Stick** to highlight the **Setup** Icon. Press the **Thumb Stick** In to display the Setup Menu.
3. Use the **Thumb Stick** to highlight the **Time** Icon. Press the **Thumb Stick** In to display the Time Page.
4. Use the **Thumb Stick** to highlight the **Time Zone** field. Press the **Thumb Stick** In to display the time zone list.
5. Highlight a time zone from the list and then press the **Thumb Stick** In.
6. If you choose **Other**, you must enter a UTC offset value.
7. The correct time displays at the bottom of the page.

Units Setup Page

The Units features are best used by individuals with a working knowledge of map grids and datums. To learn more about these subjects, visit the National Imagery and Mapping Agency at http://www.nima.mil or inquire at your local library.



Units Setup Page

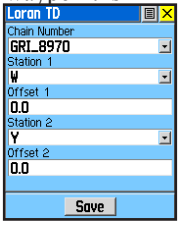
To access the Units Setup page:

1. Press the **Page/Quit** button or the **Main Page** button to open the Main Menu.
2. In the Main Menu, scroll down and select **Setup**.
3. Select the **Units** icon to open the Units Setup page.

Position Format—Allows you to choose from different grid formats. The default position format, 'hddd°mm.mmm' displays the latitude and longitude in degrees and minutes and is most commonly used.

LORAN TD Format

When creating new waypoints using LORAN TD coordinates, you must set the correct LORAN chain number and secondary stations in the Setup TD field before storing the waypoint. After the waypoint is stored in unit memory, it always references the LORAN chain number and secondary stations currently selected in the Setup TD field. If you enter a different LORAN chain number, change the secondary stations, or offsets in the Setup TD field, the active waypoint information reflects those changes. Because the unit does not rely on the LORAN signal for navigation, it can reference a different GRI chain and/or secondary stations and still navigate to the location stored in memory.



Loran TD Setup

To adjust the settings, select **Loran TD** as the Position Format to open the Loran TD setup window. To change the settings of any fields, highlight the field, press the **Thumb Stick** In. When done, highlight **Save** and press In.

For more information on Loran TDs, you may download Garmin's *Loran TD Position Format Handbook* from the Garmin web site at http://www.garmin.com/support/userManual.jsp.

Map Datum—Offers a selection of nearly all map datums in common use. Every map is based on a map datum (a reference model of the earth's shape) and is usually listed in the title block of the map. If you are comparing GPS coordinates to a paper map, chart, or other reference, the map datum in this field must match the horizontal map datum used to generate the map or other reference. The default datum is WGS-84 (World Geodetic Survey 1984) and should only be changed when using maps or charts specifying a different datum. If a map does specify a datum, use the options list to Find datums applicable to the region of the map, selecting the one that provides the best positioning at a known point. If necessary, you also may choose the **User** datum for custom designed grids.

NOTE: *The* ***User*** *datum is based on a WGS-84-Local datum and is an advanced feature for unlisted or custom datums. To learn more, check your local library or the Internet for educational materials on datums and coordinate systems.*

Distance/Speed—Choose from five units of measure to display your rate of travel.

Elevation/Vertical Speed—Choose from three units of measure to record your elevation and vertical speed.

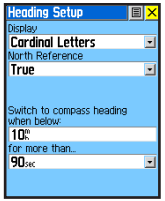
Pressure—Choose from inches, millibars, or hectopascals to measure the pressure.

Temperature—Choose from Celsius or Fahrenheit.

Depth—Choose from Feet, Fathoms, or Meters.

Heading Setup Page

You can select the type of heading displays, North References, or magnetic variation (when set to "User").



Heading Setup Page

To access the Heading Setup page:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Setup** then select the Heading Setup page.

Display—Allows you to choose from Cardinal Letters, Degrees or Mils.

North Reference—You can choose from True, Magnetic, Grid or User options. If User is chosen, you must correct for the Magnetic Variation. The Electronic or GPS compass uses the North Reference setting to create a bearing.

The following features apply to the Rino 530 only:

Switch to compass heading when below–Enter the desired speed for the Rino 530 to switch from using GPS to using the compass for guidance.

for more than…—Enter a time limit to switch to the compass. When you travel at the speed entered above for the time entered here, the Rino 530 switches from GPS to the compass.

To select either option:

Highlight the field and then press the **Thumb Stick** In to display the options.

Calibration Setup Page

Available for the Rino 530 only, the Calibration Setup Page allows you to calibrate both the Compass and Altimeter for increased accuracy in navigation.

To calibrate the Compass:

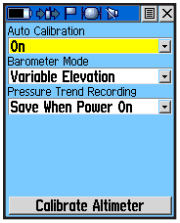
Refer detailed instructions on page 35.

To calibrate the Altimeter:

Refer detailed instructions on page 41.

Altimeter Setup

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



Altimeter Setup Page

To setup the Altimeter:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Setup**.
3. Select the **Altimeter** icon to open the Altimeter Setup page.
4. Highlight the **Auto Calibration** field and press the **Thumb Stick** In to select from On or Off. When On, elevation is corrected by GPS.
5. Highlight the **Barometer Mode** field and press the **Thumb Stick** In to select “Variable Elevation” (used when you are moving) or “Fixed Elevation” (Used when stationary.)
6. To manually calibrate the Altimeter, refer to detailed instructions on page 41.

Welcome Page Setup

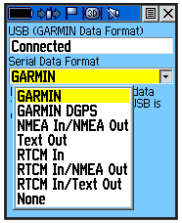
The Welcome Page setup allows you to insert a message such as ownership information on the Welcome Page (the first page to display when you turn the unit on.)

Welcome Page

To setup the Welcome Page:

1. Press the **Page/Quit** button or the **Main Page** button to access the Main Menu.
2. Highlight the **Setup** icon from the Main Menu and press the **Thumb Stick** In to display the Setup Menu.
3. Select **Welcome Message** and press the **Thumb Stick** In to display the setup page.
4. Use the on-screen keyboard to begin entering your message in the **Welcome Message** field.
5. Highlight **OK** and the press the **Thumb Stick** In to finish.

Interface Setup Page



Interface Setup Page

The Interface Settings Page allows you to choose from different input/output serial data formats. This feature is used when connecting to external NMEA devices, a DGPS beacon receiver, a personal computer, etc. To use non-Garmin data formats, you must use the RS232 to Mini USB interface cable described in the Accessories section of this manual. Refer to your Garmin Dealer or the Garmin web site *(www.garmin.com)* for availability.

To access the Interface Setup page:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Setup**.
3. Select the **Interface** icon to open the Interface Setup page.

The available interface formats are:

Garmin—The proprietary format used to exchange waypoint, track, and map data with a PC. Use this setting for transferring data when using a MapSource product.

Garmin DGPS—Allows DGPS input using a Garmin beacon receiver and a standard RTCM SC-104 and DGPS tuning.

NMEA In/NMEA Out—Supports the output of standard NMEA 0183 version 3.01 data. Use this for real-time plotting with MapSource or third party programs.

Text Out—Allows ASCII text output of location and velocity information without input capabilities.

RTCM IN—Allows DGPS input using a standard RTCM SC-104 format without output capabilities.

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

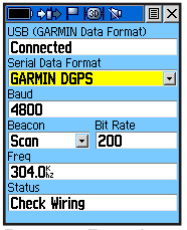
RTCM In/Text Out—Allows DGPS input using a standard RTCM SC-104 format and simple ASCII text output of location and velocity information.

None—Provides no interfacing capabilities.

If **Garmin DGPS** or **RTCM In/NMEA Out** format is selected, additional fields are provided to control a Garmin differential beacon receiver directly from your unit. Tuning is automatic with Scan or you can enter the beacon frequency and bit rate when you select **User** from the Beacon list to manually tune the receiver. Refer to the beacon receiver instructions.

To select a serial data format:

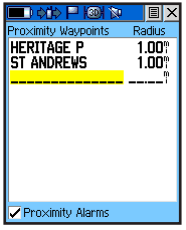
1. Highlight the **Serial Data Format** field and then press the **Thumb Stick** In.
2. Highlight an option and then press the **Thumb Stick** In to activate it.



Beacon Receiver Setup Page

Proximity Waypoints

This feature allows you to establish waypoints that have alarm circles around at a distance you can specifiy The alarm helps you to avoid locations that are restricted or hazardous.



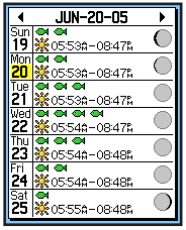
Proximity Waypoints Page

To use Proximity Waypoints:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. Access the Proximity Waypoints Page from the Main Menu by highlighting the Proximity icon and pressing In on the **Thumb Stick**.
2. With the Name field highlighted, press the **Thumb Stick** In to display the Find Menu.
3. Select a waypoint from the Waypoints List or from any other group of map points and press the **Thumb Stick** In to display the Information Page for that item.
4. Highlight the “Use” button at the bottom of the page and press the **Thumb Stick** In to place the point in the list on the Proximity Waypoints Page.
5. Next use the Thumb Stick to highlight the Radius field if you want to enter a value different than the default of 1 mile.
6. Highlight the “Proximity Alarms” check box and press the **Thumb Stick** In to activate the alarm feature. When you trigger an alarm, a tone will sound and a “Near Proximity Point” message appears. When you move outside the set radius, a “Leaving Proximity Point” message displays. When you choose a Contact, the Proximity location moves each time the contact updates.
7. To remove or review a single entry, press the **Thumb Stick** In. To remove all waypoints from the list, press the **Option Menu** button and choose **Remove All**.

Calendar

This feature provides you with a daily, weekly, or monthly calendar. The calendar allows you to view the following for any chosen location: Sunrise/Sunset time, moon phase, Hunt and Fish probabilities, and to archive waypoints for locations you have visited or want to navigate to.



Calendar Page

Options Menu

To access the Calendar:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Calendar**. Press the **Thumb Stick** in and the current week is displayed.

To view the calendar by days, weeks, or months:

1. Select the Option Menu button and press the **Thumb Stick** In to display the Option Menu.
2. Highlight and select **Day View**, **Week View**, or **Month View** and then press the **Thumb Stick** In.

To view a different day, week, or month:

Highlight the left or right arrows on either side of the date and press the **Thumb Stick** In. Depending on the view option selected, the left arrow shows past days, weeks, and months. The right arrow shows future days, weeks, and months.

To add a point (location) to a selected date:

1. Select the **Option Menu** button and press the **Thumb Stick** In to display the Option Menu.
2. Highlight and select **Add Point** to access the Find Menu.
3. Select a point from one of the categories in the Find Menu and press the **Thumb Stick** In to add it to the Calendar Page for that date.

To view information for a point:

1. In the calendar, select the desired date using the **Thumb Stick** to display the calendar date page.
2. Highlight the desired point on the page and press the **Thumb Stick** In to display the information page for that point.

To remove a point:

1. In the calendar, select the desired date using the **Thumb Stick** to display the calendar date page.
2. Select the **Option Menu** button and press the **Thumb Stick** In to display the Option Menu.
3. Select **Remove Points** and press the **Thumb Stick** In.
4. Select from **Older Than...1 Week, 2 Weeks, 3 Weeks, 4 Weeks** or **Remove All** and the press the **Thumb Stick** In.

To remove a selected point:

1. In the calendar, select the desired date using the **Thumb Stick** to display the calendar date page.
2. Highlight the desired point on the page and press the **Thumb Stick** in to display the Information Page for that point.
3. Highlight **Delete** button and then press the **Thumb Stick** In.

To view Sun and Moon or Hunt and Fish information for a selected date:

1. In the calendar, select the desired date using the **Thumb Stick** to display the calendar date page.
2. Select the **Option Menu** button and press the **Thumb stick** In to display the Option Menu.
3. Select **View Sun And Moon** or **View Hunt And Fish** and press the **Thumb Stick** In.

Alarm Clock

Enter a time in the time field and turn the alarm on and off from the control field menu. Remember to enter alarm times in the same time format (UTC or local) you are using for your system.

Alarm Clock Page

To access the Alarm Clock:

1. Press the **Main Page** button to open the Main Menu.
2. In the Main Menu, scroll down and select **Alarm Clock**.

To set an alarm clock time:

1. Use the **Thumb Stick** to highlight the time field and then press In to display the keyboard.
2. Use the **Thumb Stick** to enter the desired time, choose **OK,** and press In.

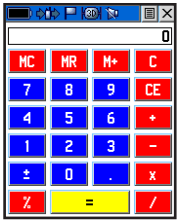
To turn the alarm clock on/off:

1. Use the **Thumb Stick** to highlight the **Alarm Mode** field and then press In to display the options.
2. Choose **On** or **Off** and press the **Thumb Stick** In.

When you turn the alarm On, an "Alarm Set" message appears and allows you to turn the unit Off. When the "Set Time" arrives, the unit switches on and sounds the alarm beep. Press the **Thumb Stick** In to silence the alarm.

Calculator

This feature provides you with all the basic functions of both of standard or scientific calculator. You can perform most calculations identified by the function symbols along the sides of the keypad and can save the results temporarily in the memory. The memory is cleared either manually or when you turn off the Rino 520/530.



Calculator Page

To access the Calculator:

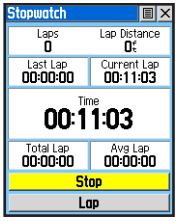
1. Press **Page/Quit** button or the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select **Calculator**.

To change calculator options:

1. Highlight the page **Option Menu** and press the **Thumb Stick** In to display the Scientific/Standard and Radians/Degrees options.
2. Highlight the option you want to change and then press the **Thumb Stick** In.
3. Use the **Thumb Stick** to move about the calculator, enter numbers, and perform calculations.

Stopwatch

This feature allows you to use the unit as a stopwatch, including using it as a lap timer. You may also have the unit record the lap time based on distance. For example, if you set the lap distance to one mile, the unit records the time it takes you to travel one mile.



Stopwatch Page

To access the Stopwatch:

1. Cycle the **Page/Quit** button or press the **Main Page button** to access the Main Menu.
2. In the Main Menu, scroll down and select the **Stopwatch** icon.

To use the Stopwatch:

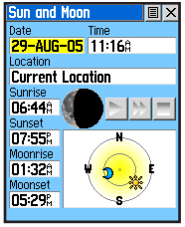
1. Use the **Thumb Stick** to highlight the **Start** field and then press In.
2. Use the **Thumb Stick** to highlight the **Stop** field and then press In.
3. To mark a lap, use the **Thumb Stick** to highlight the **Lap** field and then press In, with the stopwatch running.
4. Reset the stopwatch when the timer is stopped. Use the **Thumb Stick** to highlight the **Reset** field and then press In.

Stopwatch Lap Options

You can set the stopwatch to **Lap by Distance** so that each time a certain distance has been travelled, the stopwatch automatically marks a lap. You can enter a specific lap distance by selecting **Set Lap Distance**. To return to manually marking each lap, open the **Option Menu** and select the **Lap by Button Press** option.

Sun & Moon

This feature provides you with a graphic display of both sun and moon positioning for a certain date, time and location with times for sunrise, sunset, moonrise, and moonset.



Sun & Moon Page

To access the Sun & Moon Page:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select the **Sun & Moon** icon.

To set the date and time:

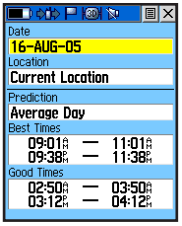
1. For the Date and Current Time, highlight each field, then press the **Thumb Stick** In to begin data entry of individual characters.
2. To display the current date and time, highlight the page Option Menu and press the **Thumb Stick** In to display **Use Current Time** and then press the **Thumb Stick** In.

To set the location:

1. Highlight the **Location** field and then press the **Thumb Stick** In to display the **New Location** options list.
2. Highlight the option desired and then press the **Thumb Stick** In to activate. If you choose **Current Location** the field values displayed on the page are for your location. If you choose **Use Map**, a map page displays. Use the map pointer to identify the desired location and then press the **Thumb Stick** In. If you choose **Use Find Menu** follow instructions in the Find section.

Hunt & Fish

This almanac type feature provides you with a table of predicted best times for hunting and fishing for a selected location and date.



Hunt & Fish Page

To access the Hunt & Fish Page:

1. Cycle the **Page/Quit** button or press the **Main Page** button to access the Main Menu.
2. In the Main Menu, scroll down and select the **Hunt & Fish** icon.

To set the date:

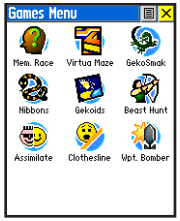
1. Highlight the date field and then press the **Thumb Stick** In to begin data entry of individual characters.
2. To display the current date, highlight the page Option Menu and press the **Thumb Stick** In to display the **Use Current Date** option and then press the **Thumb Stick** In.

To set the location:

1. Highlight the Location field and then press the **Thumb Stick** IN to display the **New Location** options list.
2. Highlight the option desired and then press the **Thumb Stick** In to activate. If you choose **Current Location** the field values displayed on the page reflect the times at your current location.
3. If you choose **Use Map**, a map page displays. Use the map pointer to identify the desired location and then press the **Thumb Stick** In. If you choose **Use Find Menu** follow instructions for using the Find Menu.

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

Games



Games Menu

The Games Page includes Memory Race, Geko Smak, Virtua Maze, Nibbons, Gekoids, Beast Hunt, Assimilate, Clothesline, and Waypoint Bomber. Highlight the appropriate icon and then press the **Thumb Stick** In to play the desired game. Brief instructions are displayed when you start each game. All players must be on the same channel/code to play games involving multiple players.

Memory Race

In this GPS game be the first to clear the board by matching all of the two symbols sets together. Each symbol is in a square (you can adjust the size) that you need to walk or travel to. Once your position appears in a square, highlight **Open** at the bottom of the screen and press the **Thumb Stick** In. Play by yourself or race against others. Press **Page/Quit** to exit at any time.

To adjust the Grid Size or Square Size:

1. Highlight the **Grid Size** or **Square Size** field and press In on the **Thumb Stick**.
2. Choose the desired size and press In.
3. Highlight **Start** and press In to begin the game.

Geko Smak

Geko Smak is a GPS-based game that features you as the player piece. In measured rhythm, Gekos will appear on the screen. Before the Geko disappears, move toward the Geko and press the Thumb Stick to smack the Geko with a hammer. If you get the Geko, an "!" mark displays above the hammer. If not, just a hammer displays momentarily.

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

The difficulty levels are Easy, Normal and Hard. These levels determine how often Gekos appear. The pace quickens and values vary as difficulty levels increase. Press the **Page/Quit** button to exit.

Nibbons

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

Gekoids

This game, which can be played without GPS on, is all about blasting gekoids. The catch is, you are the space ship and you can survive only when you avoid getting hit by Gekoids. Before you begin to play, make certain to choose your game settings. Orient Map "Northwards" rotates your ship in the center of the map. The map is stationary and north is always up. Orient Map "Ship Up" rotates the virtual world around your ship. Your ship always points Up.

Press the **Thumb Stick** to start and blast away! Press the **Page/Quit** button to exit.

Beast Hunt

The objective is to find and kill the beast with an arrow before it incinerates you or you fall into one of several pits while navigating a maze of platforms. You can be transported by slides that curve or move diagonally. When you think you know where the beast is press the **Thumb Stick** In to initiate aiming when you are in an adjacent spot. With the **Thumb Stick**, point the arrow in the direction where you think the beast is and press the **Thumb Stick** In to fire. When you lose a game, the layout of hazards, slides, warning platforms, and the location of the beast is shown. A scoreboard keeps track of your wins and losses. Press **Page/Quit** anytime during the game for further instructions, to turn the sound On/Off, or to quit.

Assimilation

Think of this as a high-tech game of tag. In this GPS game team members select the same user symbol and then attempt to assimilate others into their team by getting within 30 feet of them and pressing the **Talk** button. Press **Call** to show the score and **Page** to quit the game. You can set a time limit so the largest team wins, or play until the other team is completely assimilated. Set your own rules and enjoy!

Clothesline

In this GPS game team members select the same user symbol and then attempt to "hit" or "clothesline" other players by pressing the **Talk** button when an opposing team member is between them. You may also mark a point and assign it a symbol to be used as a stationary team member. Wait 30 seconds between attempts. Press **Call** to view the score and **Page** to quit the game.

Waypoint Bomber

In this GPS game, it is good to stay on the move! Two or more players attempt to "bomb" each other. Move your cursor around on the map page using your **Thumb Stick**. When you think an opponent is close to your cursor, drop a bomb. The receiving radio shows an "Incoming" message. If the receiving radio is within the blast circle (about 45 feet), it displays a message that you have been hit. You must wait 30 seconds between shots to reload. Either have a timed game with the winner being the one with the least amount of hits on their radio, or play until someone gets a specified number of hits (that person loses). Press the **Page/Quit** button to exit.

About FRS/GMRS Radio

FRS Radio

FRS, or Family Radio Service, is a UHF radio frequency band allocated by the FCC for general public use. The operating frequency ranges from 462.5625 to 467.7125 MHz, with a maximum transmitting power of one half watt. FRS radios are small and lightweight, making them ideally suited for outdoor activities. You can expect your FRS radio to offer reliable operation at a distance of one-mile. If the area between you and another FRS operator is free of obstructions, operation up to two miles can be achieved. FRS radios broadcast on one of 14 channels, each with a specific frequency within the FRS band.

The use of FRS radios does not require a license. FRS was intended for use by families and small groups as an inexpensive means of two-way communication. FRS is intended for use throughout the United States, its territories and possessions. It may also be used in Canada. FRS is not approved outside of these areas and may interfere with local government communication frequencies (fire, police, etc.).

FRS Features

FRS radios also include call functions, squelch codes, channel scan features, and voice scramble capabilities. Call functions allow you to push a Call button on the radio to alert other radios set on the same channel. This feature generates a call tone and is handy in a noisy environment where the tone is easier to initially identify than plain speech.

Squelch codes allow you to selectively block out other FRS users that are not part of your group. They will still be talking with others in their own group, but you will not hear them on your radio. They may or may not hear you and members of your group on their own radios. Squelch codes act as a filter, blocking your FRS radio from hearing other unwanted FRS users. Remember though, these are public-use frequencies and everyone has a right to talk or listen in.

Channel scan allows your FRS radio to scan all FRS frequencies for signals. After scanning briefly to see what channels other users are on, set your FRS radios to an unused channel and enjoy less interference. For greater privacy, some FRS radios have a voice scramble feature. This feature causes your message to sound garbled to other FRS users that are not part of your group. However, it does not guarantee your conversations will be 100 percent private and secure. Other casual FRS users will not hear your messages, but users with similar radios or more technically-oriented users can still monitor your conversations.

FRS Limitations

If you are operating in an urban environment or in varying terrain, some features (such as canyons or mountains) act as obstructions limiting the maximum reception range of your FRS radio. The UHF FRS frequencies are "line of sight", meaning that the signals do not follow the surface of the earth, but instead radiate in a straight line from the transmitting antenna. If there is an obstruction between the transmitting FRS radio and the receiving FRS radio, the signal will not be received. Smaller obstructions, such as trees, cars and even crowds of people cause some loss of signal, resulting in reduced maximum range.

GMRS Radio

The use of a GMRS (General Mobile Radio Service) radio requires an FCC license (refer to the Web site *http://www.wireless.fcc.gov/uls/* for details.) No license is required in Canada to operate on GMRS channels. The operating frequency of GMRS ranges from 462.550 to 462.725 MHz. GMRS radios can use repeater channels (15R–22R) and repeater towers to extend the range of the operation. A repeater tower simultaneously receives GMRS signals on a 467 MHz frequency and then rebroadcasts the signal on a 462 MHz frequency. Refer to the "Frequency Charts" for a complete list of each channel's frequency. GMRS repeater channels are not approved for use by the Canadian government, so they are disabled on Rino 520/530 units sold in Canada.

Specifications

Physical

Case: Fully-gasketed, high-impact plastic alloy, waterproof to IPX7 standards (waterproof to one meter for 30 minutes)

Size: 5.1" H x 2.3" W x 1.8" D; 7.5" H with antenna (13.2 x 5.8 x 4.6 cm; 19 cm with antenna)

Weight: Approx. 10.3 ounces (294 g) with Li-Ion battery pack; 6.2 ounces (175g) without battery pack

Display: 1.7H x1.3"W; 176 x 220 pixels, 256- color transreflective TFT

Compass: Accuracy; +/- 5 degrees[1], resolution ; 1 degree

Altimeter: Accuracy;+/- 10 feet[1], resolution; 1 foot

Temperature Range:
-4° to 140° F (-20° to 60° C) (operating range)
32° to 113° F (0° to +45° C) (charging range)

Performance

GPS Receiver: WAAS Enabled, Differential-ready, 12 parallel channel

Acquisition time:

Cold:	Approx. 15 seconds
Warm:	Approx. 45 seconds
AutoLocate™:	Approx. 5 minutes

Update Rate: 1/second, continuous

GPS Accuracy: <15 meters (49 ft) RMS, 95% typical[2]

DGPS (USGC) Accuracy: 3–5 meters (10–16 ft), 95% typical with DGPS corrections[3]

DGPS (WAAS) Accuracy: <3 meters (10 ft), 95% typical with DGPS corrections[3]

Velocity Accuracy: 0.05 meter/sec steady state

Dynamics: Performs to specifications to 6 g's

Interfaces: NMEA 0183, RTCM 104 (for DGPS corrections) and RS-232 for PC interface. Requires RS232 Cable Accessory (not included).

Antenna: Quad-helix

Radio

Channels: Ch 8–14 FRS,
Ch 1-7, 15–22 GMRS (FCC license req. in U.S.)
WX 1–7 Weather Radio channels

Codes: 1–38

Range: Up to 2 miles on FRS; up to 14 miles on GMRS

Radio Output Power:
FRS 0.5 W; GMRS 2.0 W or 5.0 W (5.0 W - US only)
Alkaline battery pack, 0.5, 2.0 W

Power

Input: 8.4 V, 2400mAh, rechargeable 2–cell lithium-ion battery pack

Battery Life:
Li-Ion Pack: Up to 16 hours (GMRS 5 watt TX, GPS On)[4]
Alkaline Pack: Up to 18 hours (GMRS 2 watt TX, GPS On)[4]

Recharging Time:
Up to 6 hours for a fully depleted Li-Ion Pack

Specifications are subject to change without notice.

[1]Subject to proper user calibration.

[2]Subject to accuracy degradation to 100m 2DRMS under the U.S. DoD-imposed Selective Availability program.

[3]With optional Garmin Differential Beacon Receiver Input (such as Garmin GBR 23).

[4]5, 5, 90 Duty Cycle - 5% receive with audio unmuted, 5% transmit and 90% standby (receive with audio muted)

Standard Accessories Provided with the Unit

Belt Clip Assy.—Attaches to the back of the unit and clips to belt or waistband.

A/C Adapter and Charger—Provides an auxilliary power source and recharges the lithium-ion battery. *(Not shown)*

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

USB Interface Cable and MapSource Trip and Waypoint Manager CD-ROM—Provides interface to a PC, USB Divers and mapping data management.

Owner's Manual—Detailed operation reference. *(Not shown)*

Quick Start Guide—Abbreviated overview of unit operation. *(Not shown)*

Optional Accessories

12-volt Adapter Cable—Provides power from an automobile cigarette lighter.

Spare Li-Ion **Battery Pack**—can replace the included lithium-ion battery pack.

Alkaline Battery Pack—Uses 4 "AA" Alkaline or NiCad batteries. *(Not shown)*

Carrying Case—Protects the Rino from dust and damage. *(Not shown)*

Earbud with PTT (Push To Talk) Mic—Earbud and clip-on mic w/PTT button.

Flexible Ear Receiver—Comfortable earpiece for better hearing ability.

Headset with VOX Boom Mic—Utilizes the Rino's VOX (Voice Operated Transmission) feature.

PC RS-232 Data Cable —Required for transfer of NMEA interface data.

Automotive Mount—Allows you to mount your Rino on most smooth surfaces and automotive windshields. *(Not shown)*

Bicycle Mount—Allows you to mount your Rino on a handlebar. *(Not shown)*

Neck Lanyard—Allows you to carry the Rino around your neck. *(Not shown)*

To obtain accessories, see your local dealer or visit the Garmin web site at www.garmin.com.

Transferring MapSource Data

If you have purchased a Garmin MapSource Data program you may want to transfer detailed map data before beginning use. The Rino 520/530 accepts up to 56 MB of map data from most MapSource products. It is not possible to transfer thirrd party maps into Garmin products.

You cannot view multiple types of MapSource data in the same location at the same time (one replaces the other if there is an overlap). When you leave a CitySelect area for example, and enter the area of a topographic map, the display changes to contour lines. The same is true when moving from a topo map to a CitySelect map. The BlueChart maps are at the top of the hierarchy and will replace any other map information. Here is the list of the hierarchy of Rino compatible maps for your reference:

1. BlueChart
2. City Select
3. MetroGuide
4. Fishing Hot Spots
5. Points of Interest
6. U.S. Waterways & Lights
7. U.S. Topo
8. Roads and Recreation
9. WorldMap

Map data transfer requires the use of a PC, a Garmin MapSource Data Disk, and the PC Interface Cable with USB port connector supplied with this unit. Follow instructions for data transfer in the *MapSource User's Manual*.

To set up for data transfer:

1. Before attaching the data cable to your PC, install the Trips and Waypoints Manager CD-ROM provided with your unit. It also installs USB drivers specifically needed to communicate with your Rino.
2. Remove the Data Port cover on the back of the unit by lifting up on the protective cover on the back of the unit.
3. Connect the Mini-USB connector on the cable to the PC USB port.
4. Connect the remaining Mini USB connector to the back of the Rino 520/530 by orienting the connector with the slot on the back of the unit.
5. Turn on the Rino 520/530 and follow instructions for map data transfer provided in the *MapSource User's Manual*.

Radio Troubleshooting Guide

Symbol	Probable Cause	Remedy
Radio not transmitting	**Talk** key may not be fully depressed.	Press and hold **Talk** key until done talking.
	FRS/GMRS Radio feature not on or battery low..	Turn radio on or recharge battery..
Messages not being received by others.	Incorrect Channel/Code setting	Make sure other radios are on the same channel, code and scramble.
	Out of range or obstructed.	Decrease distance between radios. Adjust Squelch setting.
Limited talk range.	Natural or man-made obstructions can decrease range.	Decrease distance between radios or obtain a better line of sight between radios. If GMRS, power may be set too low..
You can hear others, but they cannot hear you, or you see an incoming transmission, but nothing is heard.	You are on the same channel, but a different Code.	If you are using Code zero (0), you will hear all transmissions on that channel. Use the same Code (1-38) as the other party or use Scan to Find what Code they are using.
Message garbled.	Scramble option is enabled.	Both radios need to have this feature set the same.
Too many unwanted conversations being heard.	Too many users on channel or Code is set to zero.	Switch to a different channel and/or different Code other than zero (1–38).
Interference or static.	Radios too far apart or too close. Obstructions in radio line of sight.	Keep radios at least 3 feet apart. Obtain a better line of sight between radios. Also, try increasing the squelch to accept only strong signals.
	Interference from other electronics.	Shut off other devices or move to a different area.
Cannot transmit location.	Could be one of a few things: Your view of the satellite is obstructed and a GPS fix is not available. **Send Location** is off. 30 seconds have not elapsed since last location transmission. GPS is set to off.	Move to a location with a clear view of the sky. Enable **Send Location**. Wait 30 seconds between location transmission. Enable GPS.
Only **Call** and **Press To Talk** keys work.	Keylock is enabled.	Hold the **Page/Quit** button for 5 seconds to release key lock.

GPS Troubleshooting Guide

Symptom	Probable Cause	Remedy
Unit does not turn on.	Battery exhausted.	Recharge or replace batteries.
Unit does not turn on, even with new AA batteries.	AA Batteries may be installed backwards.	Reinstall batteries.
	You are pressing and releasing the **Power** button.	You must press and hold the **Power** button for 2 seconds.
The unit turns on, then turns off.	Battery may be nearly exhausted.	Recharge or replace batteries.
It takes more than 10 minutes to get a location fix	The unit's view of satellites is obstructed.	Move to a location with a clear view of the sky.
Cannot access a WAAS system satellite after 2 to 5 minutes.	Your view of the satellite is obstructed or you are located too far from satellites currently in service for the Americas	Move to a location with a clear view and point the unit antenna in the direction of the satellite.
	System GPS operation is set to something other than **Normal** and/or interface setting is set for RTCM.	Set system GPS to **Normal** and interface to something other than RTCM. Or simply turn off WAAS.
Cannot obtain a differential position from WAAS	You have not collected enough information from the WAAS satellite.	Wait up to 5 minutes for the initial collection, then 1–2 minutes afterwards.
Cannot access Point of Interest, Street, or Intersection Find Lists.	Detailed MapSource map data is not loaded, unlocked, or not activated.	Load detailed mapping and unlock, or access the Map Setup **Map** option and activate the check box.
Cannot view a track being laid down on the map page when traveling.	The Track Log feature is turned off.	Access the Tracks Page, highlight the **On** button and press the **Thumb Stick** In.
Cannot see the panning arrow on the Map Page easily.	There is too much map clutter or the scale is such that map features are too densely displayed.	Use the Map Page Setup Page to reduce map clutter or change the map scale.
Cannot exit a menu or page by moving the **Thumb Stick** to the Left.	Some menus and pages have an "X" (Exit) on-screen button in the upper right corner.	Highlight the on-screen button and then press the **Thumb Stick** In.

Radio Frequency Charts

FRS/GMRS Radio Frequency Chart

Channel Number	Transmit Frequency (MHz)	Receive Frequency (MHz)	Channel Description
1	462.5625	462.5625	GMRS Interstitial 1, FRS 1
2	462.5875	462.5875	GMRS Interstitial 2, FRS 2
3	462.6125	462.6125	GMRS Interstitial 3, FRS 3
4	462.6375	462.6375	GMRS Interstitial 4, FRS 4
5	462.6625	462.6625	GMRS Interstitial 5, FRS 5
6	462.6875	462.6875	GMRS Interstitial 6. FRS 6
7	462.7125	462.7125	GMRS Interstitial 7, FRS 7
8	467.5625	467.5625	FRS-8
9	467.5875	467.5875	FRS-9
10	467.6125	467.6125	FRS-10
11	467.6375	467.6375	FRS-11
12	467.6625	467.6625	FRS-12
13	467.6875	467.6875	FRS-13
14	467.7125	467.7125	FRS-14
15	462.5500	462.5500	GMRS Primary 1
16	462.5750	462.5750	GMRS Primary 2
17	462.6000	462.6000	GMRS Primary 3
18	462.6250	462.6250	GMRS Primary 4
19	462.6500	462.6500	GMRS Primary 5
20	462.6750	462.6750	GMRS Primary 6
21	462.7000	462.7000	GMRS Primary 7
22	462.7250	462.7250	GMRS Primary 8

FRS/GMRS Radio Frequency Chart (cont.)

Channel Number	Transmit Frequency (MHz)	Receive Frequency (MHz)	Channel Description
15R	467.5500	462.5500	GMRS Repeater 1
16R	467.5750	462.5750	GMRS Repeater 2
17R	467.6000	462.6000	GMRS Repeater 3
18R	467.6250	462.6250	GMRS Repeater 4
19R	467.6500	462.6500	GMRS Repeater 5
20R	467.6750	462.6750	GMRS Repeater 6
21R	467.7000	462.7000	GMRS Repeater 7
22R	467.7250	462.7250	GMRS Repeater 8

Weather Radio Frequency Chart

Channel Number	Receive Frequency (MHz)	Channel Description
WX 1	162.550	NOAA 1 (Weather Radio)
WX 2	162.400	NOAA 2 (Weather Radio)
WX 3	162.475	NOAA 3 (Weather Radio)
WX 4	162.425	NOAA 4 (Weather Radio)
WX 5	162.450	NOAA 5 (Weather Radio)
WX 6	162.500	NOAA 6 (Weather Radio)
WX 7	162.525	NOAA 7 (Weather Radio)

NOTE: *For use in countries outside of the U.S. or Canada, please check with that government for any restrictions on FRS or GMRS use.*

CTCSS Frequency Chart for the Rino

Code Number	Frequency (Hz)	Code Number	Frequency (Hz)	Code Number	Frequency (Hz)
0	199.5	19	127.3	38	250.3
1	67	20	131.8		
2	71.9	21	136.5		
3	74.4	22	141.3		
4	77	23	146.2		
5	79.7	24	151.4		
6	82.5	25	156.7		
7	85.4	26	162.2		
8	88.5	27	167.9		
9	91.5	28	173.8		
10	94.8	29	179.9		
11	97.4	30	186.2		
12	100	31	192.8		
13	103.5	32	203.5		
14	107.2	33	210.7		
15	110.9	34	218.1		
16	114.8	35	225.7		
17	118.8	36	233.6		
18	123	37	241.8		

NOTE: *If you plan to purchase FRS radios from third party manufacurers be aware that there are Continuous Tone Controlled Squelch System (CTCSS) differences in some radios. Some of the tones on one radio may not be available on other radios. Charts showing the different Squelch Codes and manufacturers can be located on the Internet.*

Data Field Definitions

The following data field options are available on the Map, Navigation, Altimeter, and Trip Computer Pages.

Accuracy GPS—The estimated accuracy of the GPS signal.

Ambient Pressure—Actual pressure at unit location. (Altimeter Page Only.)

Ascent-Average—The average vertical distance of ascents. (Altimeter Page Only.)

Ascent-Maximum—The maximum ascent rate in feet per minute. (Altimeter Page Only.)

Ascent-Total—The total distance ascended. (Altimeter Page Only.)

Barometer—Ambient pressure relative to sea level. (Rino 530 Altimeter Page Only.)

Bearing—The direction from your current location to a destination.

Course—The direction from your starting location to a destination.

Descent-Average —The average vertical distance of descents. (Altimeter Page Only.)

Descent-Maximum—The maximum descent rate in feet per minute. (Altimeter Page Only.)

Descent-Total—The total distance descended. (Altimeter Page Only.)

Distance to Destination—The remaining distance to your next waypoint.

Distance to Next—The distance to next waypoint on your route.

ETA at Destination—The estimated time of arrival at your destination, if you maintain your current speed and course.

ETA at Next—The estimated time of day you will arrive at your next waypoint.

Elevation—The altitude (height) above or below sea level.

Elevation-Average—The average elevation achieved. (Altimeter Page only)

Elevation-Maximum—The highest elevation reached. (Altimeter Page only)

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

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

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

Odometer—A running tally of distance travelled, based upon the distance between second-by-second position readings.

Off Course—The distance left or right you are from the original course (path of travel).

Pointer—Indicates the direction to the next destination.

Speed—Display rate of travel in miles per hour, kilometers per hour, or nautical miles per hour.

Speed-Maximum—The maximum speed the unit has moved.

Speed-Moving Avg.—Average speed of the unit while moving.

Speed-Overall Avg.—Your average speed.

Sunrise—The time at which the sun rises on this day.

Sunset—The time at which the sun sets on this day.

Temperature—The current outside (ambient) temperature as measured by the sensor contained in the lithium-ion battery pack. For best accuracy allow the unit to adjust to ambient temperature when it has been in a warmer/colder environment such as indoors, an auto, in direct sunlight, or held with your hand around the battery. (Temperature is not available while the battery is charging.)

Time of Day—The time for the selected time zone.

Time to Destination—The time remaining before your reach your destination.

Time to Next—The time remaining before you reach the next point on a route.

To Course—The compass direction you must go in order to get back to the original course.

Trip Odometer—A running tally of distance travelled since last reset.

Trip Time–Moving—A running tally of movement time elapsed since last reset.

Trip Time–Stopped—A running tally of stopped time elapsed since last reset.

Trip Time–Total—A running tally of all time since last reset.

Turn—The angle difference (in degrees) between the bearing to your destination and your current line of travel. L means turn Left. R means turn Right.

Velocity Made Good—The speed at which you are closing on a destination along a desired course.

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

Vertical Speed To Destination—The measurement of your rate of ascent/descent to a predetermined altitude.

Waypoint at Destination—Indicates the name of the destination waypoint.

Waypoint at Next—Indicates the next waypoint on a route.

Interface Information

Interface formats are selected in the Setup Interface Page. See also the "MapSource Setup" section of this Appendix for information on using the Rino 520/530 with MapSource. The input/output lines on your Rino 520/530 unit can be made RS232 compatible by using the optional RS232 PC Interface Cable accessory available from Garmin, in order to interface to a wide range of external devices, including PCs, differential beacon receivers, marine autopilots, or a second GPS receiver. Refer to the Garmin web site *www.garmin.com* for the RS232 Cable Accessory ordering information.

The NMEA 0183 version 3.01 interface format is supported by the Rino 520/530 and enables the unit to drive up to three NMEA devices.

NMEA 0183 Version 3.01 Approved Sentences:

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

GARMIN Proprietary Sentences:

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

DGPS (Differential GPS) corrections are accepted in RTCM-SC-104 version 2.0 format through the 'Data IN' line. The Garmin GBR 21 and GBR 23 are the recommended beacon receivers for use with the Rino 520/530. Other beacon receivers with the correct RTCM format may be used, but may not correctly display status or allow tuning control from the GPS unit.

FCC Compliance Information

The Rino 520/530 complies with Part 15 of the FCC regulations and with Canadian RSS-210 and ICES-003 for Class B digital devices. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment generates, uses, and can radiate radio frequency energy and may cause harmful interference to radio communications if not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one 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 that is on a different circuit than the receiver's circuit.
- Consult the dealer or an experienced radio/TV technician for help.

The Rino 520/530 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.

FCC Licensing Information

The Rino 520/530 two-way radio operates on General Mobile Radio Service (GMRS) frequencies regulated by the Federal Communications Commission (FCC) in the United States. Operation on the GMRS frequencies is subject to additional rules as specified in 47 CFR Part 95.

In order to transmit on GMRS frequencies, you are required to obtain a license from the FCC. An individual 18 years of age or older, who is not a representative of a foreign government, is eligible to apply for a GMRS license. To apply for a GMRS license, you will need FCC Form 605 (605 Main Form and Schedule F) and FCC Form 159. You can download the application forms from the FCC web site at http://www.fcc.gov/Forms/. You can also request them through the FCC forms hotline at 1-800-418-FORM (1-800-418-3676). You can file Form 605 online at http://wireless.fcc.gov/uls/. A filing fee, which may change from time to time, is associated with this application.

For information on fees, see the FCC fee information web page at http://wireless.fcc.gov/feesforms/index.html. General information may be found at http://wireless.fcc.gov/services/personal/generalmobile/.

For questions concerning the license application, contact the FCC at 1-888-Call-FCC (1-888-225-5322)

No license is required to operate on GMRS channels in Canada. However, GMRS repeater channels are not approved for use by the Canadian government.

For use in countries outside of the U.S. and Canada, please check with that government for any restrictions of FRS or GMRS use.

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 Product Support 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 E 151st Street, Olathe, Kansas 66062 U.S.A.
Tel. 913/397.8200
Fax. 913/397.8282

Garmin (Europe) Ltd.
Unit 5, The Quadrangle, Abbey Park Industrial Estate,
Romsey, SO51 9DL U.K.
Tel. 44/0870.8501241
Fax 44/0870.8501251

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

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

The Garmin Rino 520/530 has no user-serviceable parts. Should you ever encounter a problem with your unit, please take it to an authorized Garmin dealer for repairs.

The Rino 520/530 is fastened shut with screws. Any attempt to open the case to change or modify the unit in any way will void your warranty and may result in permanent damage to the equipment.

Software License Agreement

BY USING THE RINO 520/530, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

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

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

Product Registration

Help us better support you by completing our online registration today! Have the serial number of your Rino 520/530 handy and connect to our Web site (http://www.garmin.com). Look for the Product Registration link on our Home page.

Use this area to record the serial number (8-digit number located in the battery compartment) in case your Rino 520/530 is lost, stolen, or needs service. Be sure to keep your original sales receipt in a safe place or attach a photocopy inside the manual.

Serial Number: ___ ___ ___ ___ ___ ___ ___ ___

Contact Garmin

If you should encounter any difficulty while using your Rino 520/530, or if you have any questions, in the U.S.A. contact Garmin Product Support by phone: 913/397.8200 or 800/800.1020, Monday–Friday, 8 AM–5 PM Central Time; or by e-mail at sales@garmin.com. In Europe, contact Garmin (Europe) Ltd. at 44/0870.8501241.

INDEX

A

Accessories 102
Accuracy 100
Acquisition time 100
Address 60
Add to Route 53, 59
Alarm 90
Alarm Clock 90
Altimeter Page 37
Altitude 37
Arriving at Destination 63
Arrow, Panning 27
Ascent 37, 109
Auto Zoom 30

B

Barometric Pressure 38, 39
Basemap 1
Battery icon 6
Battery Life 101
Bearing 32
Bearing Pointer 32, 34
BlueChart 103
Bread Crumb Trail 64

C

Calculator 91
Calendar 88
Calibrating the Altimeter 41
Calibrating the Compass 35
Call 98
Call Tone 16
CDI 33
Channel 10
City 56
Code 10
Compass
  Calibrate 35
Contact 20, 55
Course Deviation Indicator 33
Course Pointer 33, 34
CTCSS 10, 108
Current location 48

D

Data Fields 34, 40, 41
  Definitions 109
Data Transfer 103
Defaults 4, 26, 34, 38, 47, 70, 76
Delete Waypoint 51
Descent 37, 109
DGPS 111

E

Editing
  Routes 69
  Waypoints 50
Electronic Compass 36
Elevation 37, 38, 39
  Cchanges 39
  Changes 37
  Plot 39
Exit 57

F

Family Radio Service 1, 98
FCC 98
  License 99
Finding
  By name 52, 53
  Contact 54, 55
  Intersection 61
  Point of Interest 58
FRS 7, 10, 108

G

Games 95
Garmin sentences 111
General Mobile Radio Service 1
GMRS 1, 7, 10, 14, 98
Goto 53, 54, 55, 56, 57, 63
GPS
  On/Off 18, 44
  Status 18
GRI chain 81

H

Headset 15
Hunt & Fish 53, 59, 94

I

Initialize 8
Interface formats 111
Intersection 60, 61

L

Lap 92
License Agreement 116
Line of sight 99
Lock
  Buttons/Keys 5
  Direction 35

on Road 30
LORAN TD Format 81

M

Main Display Pages 4
Main Menu Page 42
MapSource 1, 24, 60, 85
Setup 94
Map Data 31, 60, 103
Map Detail 30
Map Page
Options 26
Pan Map 26
Restore Defaults 26
Setup Map 26, 28, 29
Map Pointer 27
Mark Waypoint 48
Measure Distance 26, 31
Message Tone 16
Microphone 15
Monitor Channels 12
My ID 8

N

Name 8
Navigate 33, 73
Navigation Page 32
Options 34
Restore Defaults 34
New Contact 20
New Location 45, 46
NMEA 0183 111
North Heading 30
North Up 30, 45, 46

O

Operating the Rino 5
Options Menu 5
Orientation 30

P

Pan Map 26, 27
Pan Plot 40
PC 103, 111
PC Interface Cable 103
Peer-to-Peer 14, 20
PIT 15
Points of Interest 58, 59, 103
Pressure 39
Changes 37
Plot 38, 39
View Plot 39
Programming the Data Fields 28
Project Waypoint 35, 53, 59
Proximity Waypoints 87

R

Radio 17
Radio Page 7
Status Window 18
Weather Radio 17
Re-Sight 35
Recently Found Places 62
Restore Defaults 26, 38, 47
Reverse Route 69
Review Route 70
Ring Tone 16
Roger Tone 16
Routes 68
Copy 70
Create 68
Delete 70
Edit 69
Navigate 73
Remove waypoints 69
Restore defaults 70
Reverse 69
Review 70

S

Satellite Page 43
Scanlist 12, 13, 16
Scan Channels 12, 99
Scan Codes 12
Scramble 14, 99
Sending a Location 23
Setup
Map 26, 28, 29
Scanlist 16
TD field 81
Tones 16
Shortcut Menu 5, 48
Show Data Fields 34
Sight 'N Go 34, 35
Signal Strength 43
Sky View 43
Specifications 94
Squelch codes 10, 98
Status Bar Overview 6
Status Indicators 19
Stopwatch 92
Stop Navigation 26, 34
Sun & Moon 53, 59, 93

Symbol 8, 9

T

Thumb Stick 2, 5
Tones 16
  Call 16
  Ring 16
  Roger 16
  Setup 16
Topo map 103
TracBack 65
Track
  Log 64
  Points 30
Track Up 30, 45, 46
Transmit Location 20, 23
Trip Computer Page 47
Two-way Radio 1, 98, 113

U

UHF 98
Units Page 78, 81
Unlock Buttons 5

V

Vibrate 16
Voice Operated Transmission 15
Voice Scramble 99
VOX 15

W

WAAS 44, 76
Waterproof 1, 100
Waypoint 48, 49
  Create 48
  Delete 51
  Edit 50
  Move 51
Weather Alert 17
Weather Radio 17, 63

Z

Zoom 25, 30
  Ranges 38, 39
    Altimeter Page 38

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

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Garmin International, Inc.
1200 East 151st Street, Olathe, Kansas 66062, U.S.A.

Garmin (Europe) Ltd.
Unit 5, The Quadrangle, Abbey Park Industrial Estate, Romsey, SO51 9DL, U.K.

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

www.garmin.com

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