

eTrex

personal navigator

owner's
manual



©2000 GARMIN Corporation

GARMIN International, Inc.
1200 East 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 9AQ, U.K.
Tel. 44/1794.519944
Fax 44/1794.519222

GARMIN (Asia) Corporation
No. 68, Jangshu 2nd Road., Shijr, Taipei County, Taiwan
Tel. 886/2.2642.8999
Fax 886/2.2642.9099

All rights reserved. Except as expressly provided herein, no part of this manual may be reproduced, copied, transmitted, disseminated, downloaded or stored in any storage medium, for any purpose without prior written consent of GARMIN Corporation. GARMIN Corporation hereby grants permission to download a single copy of this manual onto a hard drive or other electronic storage medium to be viewed for personal use, provided that such electronic or printed copy of this manual contains the complete text of this copyright notice and provided further that any unauthorized commercial distribution of this manual is strictly prohibited.

Information in this manual is subject to change without notice. GARMIN Corporation reserves the right to change or improve its products and to make changes in the content without obligation to notify any person or organization of such changes. Visit the GARMIN website for current updates and supplemental information concerning the use and operation of this and other GARMIN products.

Website address: www.garmin.com

GARMIN is a registered trademark and eTrex is a trademark of GARMIN Corporation and may not be used without the express permission of GARMIN Corporation.

Let the Fun Begin

fun (*noun*):

1. A source of enjoyment, amusement, or pleasure.
2. Enjoyment; amusement: *have fun at the party.*
3. Playful, often noisy, activity.

We don't know about the *noise*, but fun and simplicity is what the eTrex is all about. To get the most out of your new eTrex, take the time to read through this Owner's Manual to understand the operating features of the unit. This manual has been designed to provide all that you need to know to operate your eTrex.

eTrex Registration

Help us better support you by completing your on-line registration today!

Why should you register your eTrex?

- Notification of Product Updates
- Notification of New Products
- Lost or Stolen unit tracking

Connect to our website (www.garmin.com) and look for the Product Registration link on the home page.

Thanks for choosing the GARMIN eTrex. If you have any questions or comments regarding the use of the eTrex you can visit our website or contact our Customer Service Department M-F, 8:00-5:00 CST (except holidays) at 1-800-800-1020.

On Your Mark...



If you have previously registered your GARMIN product purchase using a mail-in registration card, we invite you to reregister using our NEW on-line system. Many services provided by our new product registration system are now being automated and reregistering your purchase ensures you the best possible support from GARMIN.

Table of Contents

Introduction	1-8
Getting Started	9-17
Reference Section	18
Map Page Options	18
Pointer Page Options	19
Menu Page Selections	20
Mark Waypoint Page	21
Review Waypoint Page	22
Nearest Waypoints	23
Routes	24-26
Track Logs	27-28
Setup Page	29-30
Display and Units Pages	31
Map Datums	32
Units of Measure	33-34
Interface Page	35
System Page	36
Demo Mode	37
Appendix A: Specifications	38
Appendix B: What is GPS?	39
Appendix C: Reception Tips	40-41
Appendix D: Time Offset Chart	42
Appendix E: Wiring Diagram	43
Appendix F: Troubleshooting	44
Appendix G: FAQ's	45-46
Appendix H: Index	47-49
Warranty	50

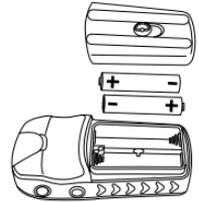
WARNING: If you choose to use the eTrex in a vehicle, it is the sole responsibility of the owner/operator of the eTrex to secure the GPS unit so that it will not cause damage or personal injury in the event of an accident. Do not mount the eTrex over airbag panels or in a place where the driver or passengers are likely to have an impact with it in an accident or collision.

WARNING: If you choose to use the eTrex in a vehicle, it is the sole responsibility of the operator of the vehicle to operate the vehicle in a safe manner, maintain full surveillance of all driving conditions at all times, and never become distracted by the eTrex to the exclusion of safe operating practices. It is unsafe to operate the eTrex while you are driving. Failure by the operator of a vehicle equipped with an eTrex to pay full attention to operating the vehicle and road conditions while the vehicle is in motion could result in an accident or collision with property damage and personal injury.

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

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

Warnings and Cautions



Remove the batteries from your eTrex if you don't expect to use it for several months. Be sure to observe the proper polarity when inserting the batteries. Follow the battery manufacturer's instructions on the proper care and handling of the batteries.

FCC Compliance Statement



The eTrex complies with Part 15 of the FCC limits for Class B digital devices. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions may cause harmful interference to radio communications.

There is no guarantee that interference will not occur in a particular instance. If this equipment does cause harmful interference to other equipment, try to correct the problem by relocating the equipment.

Consult an authorized GARMIN dealer or other qualified service technician if the problem cannot be corrected. Operation is subject to the following conditions: (1) This device cannot cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The eTrex does not contain any user-serviceable parts. Repairs should be made only by an authorized GARMIN service center. Unauthorized repairs can void the warranty.

The eTrex is a six ounce, 12 channel, hand held GPS receiver. It has a built-in GPS antenna and only five user-buttons. All buttons are located on either side of the unit, allowing for simple, one-handed operation that won't obstruct your view of the display. It runs for 22 hours on two AA batteries in battery save mode.

In addition to determining your location, the eTrex will create, name and save a location (as an electronic waypoint) in its memory, allowing you to navigate back to this point any time you want. And once you start moving, your GPS provides other data, like speed, direction of movement, time and distance to destination, and more.

From these basic features, your GARMIN GPS can provide one more critical benefit; *peace of mind*, because, with GPS you'll know where you are, where you've been and where you're going. And since you'll always know the way back home, you can concentrate on what you set out to do and enjoy the great outdoors.

Other features include:

- Waypoints:** 500 with name and graphic symbol.
- Tracks:** Automatic track log; 10 saved tracks let you retrace your path in both directions.
- Route:** Route lets you navigate up to 50 waypoints in sequence.
- Trip Computer:** Current speed, average speed, maximum speed, direction of movement, bearing, elevation, time of sunrise/sunset, trip timer and trip odometer.

eTrex Features



NOTE: You should always be prepared and capable of navigating without the eTrex. It is designed to augment other forms of basic navigation, not entirely replace them.

eTrex Buttons



The eTrex is ergonomically designed to be held in your left hand.



This symbol identifies notes throughout the manual which will give you helpful information.

Operating the eTrex is as simple as pressing a button!



PWR

The **POWER** Button:

- Turns the unit on and off
- Turns the display backlight on and off



PAGE

The **PAGE** Button:

- Switches between pages and backs you out of pages. If you start to do something and you don't want to continue, you can stop by pressing the **PAGE** Button.



The **UP/DOWN** Buttons:

- Select options on pages and menus
- Adjust Display Contrast on Satellite Page
- Zoom in and out on Map Page
- Cycle through trip data on Pointer Page



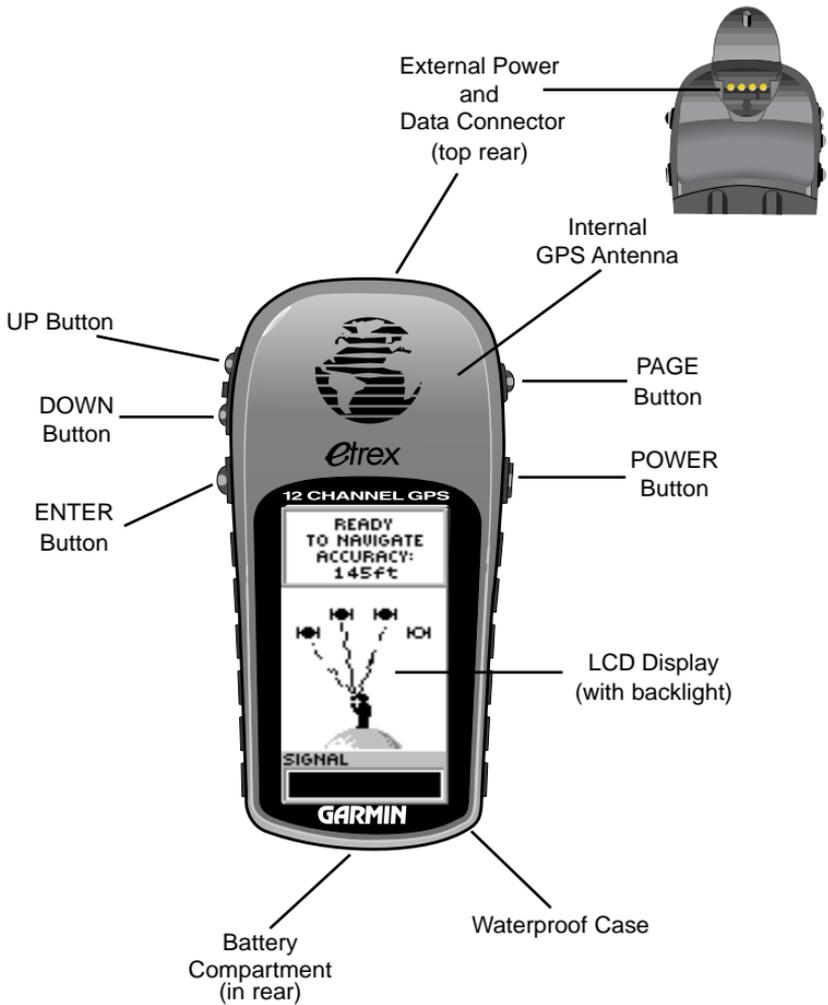
ENTER

The **ENTER** Button:

- Confirms data entry or menu selections



eTrex Description



Accessories



Lanyard



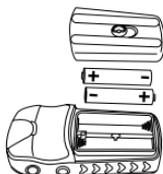
Auto Power Adapter- Converts 12VDC output from the lighter to 3VDC input to the eTrex. Not interchangeable with power adapters for GARMIN VHF 720, 725, and 725e, or GPS 170, 175, 190, and 195.



Bicycle Mounting Kit



PC Interface Cable with Auto Power Adapter



Standard Accessories

- Lanyard Part No. 013-00052-00
Provides convenient method for carrying the eTrex. Attaches to a slot on the bottom of the unit.
- Owner's Manual Part No. 190-00205-00
- Quick Start Guide Part No. 190-00205-01

Optional Accessories

- Carrying Case Part No. 010-10266-00
Protects the eTrex when not in use.
- Auto Power Adapter Part No. 010-10203-00
Provides eTrex operation from a automobile cigarette lighter.
- PC Data Cable Part No. 010-10206-00
Allows for transfer of data from a PC to an eTrex.
- Data Cable Part No. 010-10205-00
Wiring harness. Connections for data input/output.
- Bicycle Mounting Kit Part No. 010-10267-00
Allows the eTrex to be mounted on bicycle handle bars.
- PC Cable/Auto Power Adapter Part No. 190-10268-00
Allows transfer of waypoints and routes from a PC to the eTrex and provides unit operation from an automobile cigarette lighter.
- MapSource® Map Data CD-ROMs
An excellent tool for creating waypoints and routes on your PC using a background map and downloading them to your eTrex. See your GARMIN dealer for MapSource details.

Installing the Batteries

The eTrex operates on 2 AA batteries (not included), which are installed at the back of the unit. To install the batteries, remove the battery cover by turning the lock ring at the back of the unit 1/4 turn counter-clockwise. Insert the batteries observing proper polarity. Attach the battery cover by turning the locking 1/4 turn clockwise. The 2 AA batteries should last about 22 hours in battery save mode.

The *Getting Started* Section introduces you to the basic operation of the eTrex. The *Reference* Section shows you how to use all of eTrex's remaining features.

The First Step

The eTrex operates on information gathered from satellites. To gather this information, take your eTrex outside and find a large, open area that has a clear view of the sky (a nearby park would work fine). Press and hold the **POWER** Button to turn the unit on. You'll see the Welcome Page for a few seconds while the eTrex performs a self-test, followed by the Satellite Page.

The eTrex needs to receive at least three strong satellite signals to find your location. The Satellite Page shows you graphically eTrex tracking satellites, the strength of the satellite signals, and the satellite tracking status.



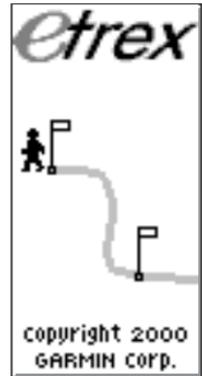
NOTE: When you use the eTrex for the first time, it will take up to five minutes to find your location. After the first use, eTrex only needs about 15 to 45 seconds to find your location.

When you see the "READY TO NAVIGATE" message on the Satellite Page, eTrex has found your location and you are ready to go!

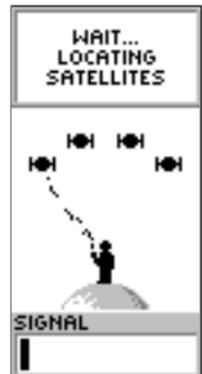
Backlighting and Contrast

If the lighting conditions make it hard for you to see the screen, you can adjust the contrast or turn on the backlight. Press and release the **POWER** Button from any screen to turn on the backlight. The backlight is timed to stay on for 30 seconds to save battery power. To adjust the screen contrast, press the **PAGE** Button until you see the Satellite Page. Press the **UP** button to make the screen darker, press the **DOWN** Button to make the screen lighter.

Here We Go . . .

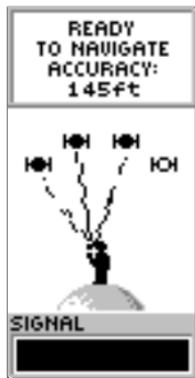


The Welcome Page



The Satellite Page

Page Basics

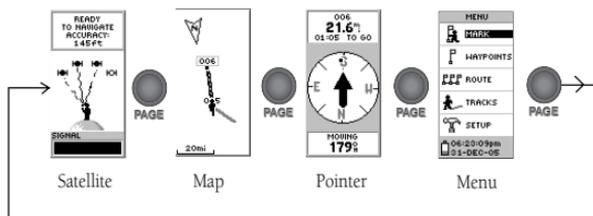


The “READY TO NAVIGATE” message must appear before you can begin using your eTrex to navigate.

Selecting a Page

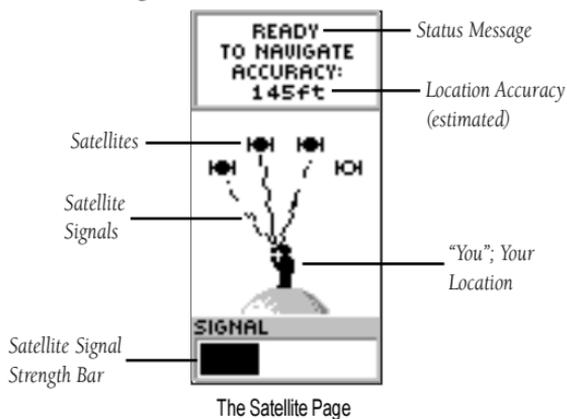
All of the information needed to operate the eTrex is found on four main “pages” (or display screens). These pages are the Satellite, Map, Pointer, and Menu.

Simply press the **PAGE** Button to switch between pages.

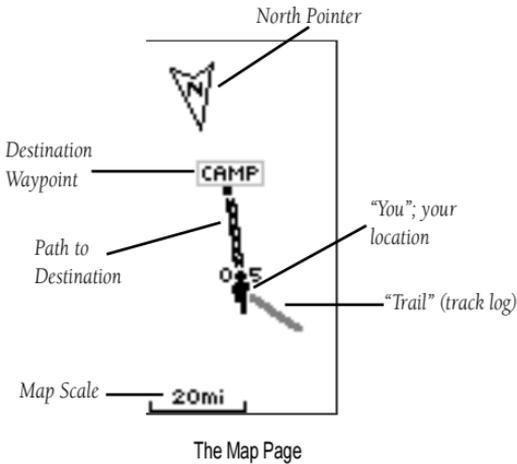


Satellite Page Basics

The Satellite Page shows you in animation, the eTrex gathering the necessary satellite information in order to work. It also shows you when the satellite signals are weak or when you need to move to a different location for better reception. The shorter the signal strength bar, the weaker the signals.



Map Page Basics



The Map Page shows where you are (the animated figure) and provides a real picture of where you are going. As you travel (the animated figure “walks”) and leaves a “trail” (track log). Waypoint names and symbols are also shown on the map. We will show you how to record your location by marking a waypoint in the “discovering the fun” section.

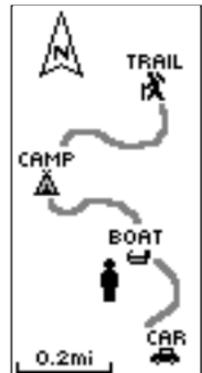
To help you better visualize the “real world”, eTrex automatically rotates the map as you move, so that waypoints that are ahead of you are always displayed in front of the animated figure. The North Pointer always shows you where north is.

To make sure you can see your entire trip, you can change the map scale (from 500 feet to 800 miles!) by pressing and holding the **UP** Button to view a larger area, and the **DOWN** Button for viewing a smaller area.

Page Basics



On the Map Page, the **UP** and **DOWN** Buttons are used to adjust the map scale from 500 feet to 800 miles.



The Map Page showing different symbols and waypoints.

Page Basics

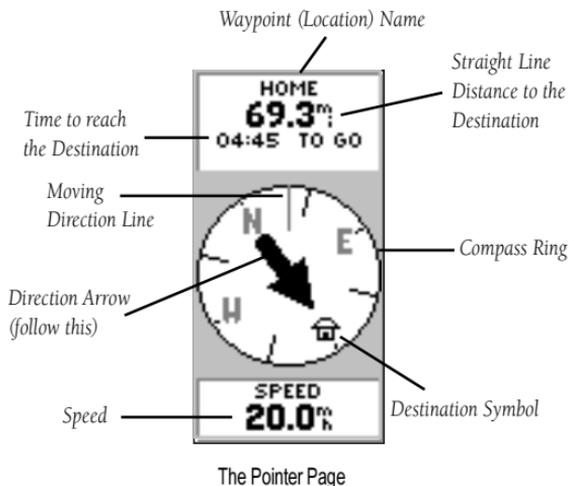


On the Pointer Page, the **UP** and **DOWN** Buttons are used to cycle through different trip data.



The eTrex is not a compass. You must be moving in order for it to track your movement.

Pointer Page Basics



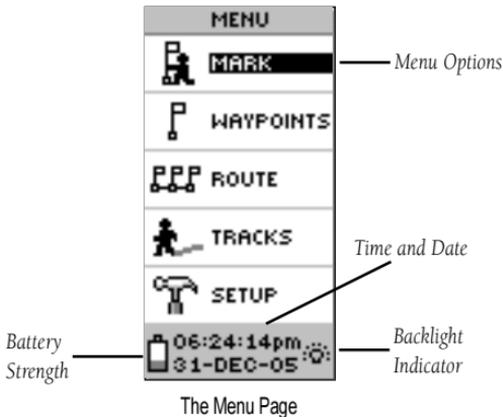
The Pointer Page helps guide you to a destination. When you're moving with no particular destination in mind, the Pointer Page shows you your moving direction and speed. When you're moving towards a specific destination, the Pointer Page shows you the name of the location, the distance, and time to go.

By pressing the **UP** or **DOWN** Buttons, you can cycle through other trip computer information such as average speed, maximum speed, moving direction (heading), bearing, lat/lon, elevation, time of sunrise/sunset, trip timer and trip odometer.



NOTE: The direction arrow and destination symbol only appear on the Pointer Page when you have started a GOTO.

Menu Page Basics



The Menu Page gives you access to eTrex's more advanced features. With the Menu Page you can do neat things like customize the display, transfer information from a computer to eTrex and back again, and manage and organize all of your waypoints.

What Time is it?—Changing the Time Zone

Let's practice using the Menu Page and change the time zone.

To change the time zone:

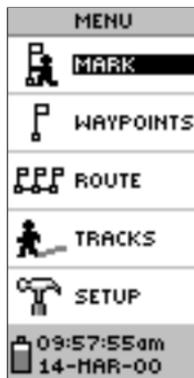
1. Press the **PAGE** Button and switch to the MENU Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. The SETUP Page appears.
2. Press the **UP** or **DOWN** Button and highlight 'TIME' and press **ENTER**.
3. Press the **UP** or **DOWN** Button and select the 'TIME ZONE' field and press **ENTER**.
4. Press the **UP** or **DOWN** Button, scroll through the selections, and press **ENTER** when you have found the correct zone. Press **PAGE** to get back to the page of your choice.

Page Basics



You can select your particular time zone on the TIME page.

Let the Fun Begin!



You'll find the **MARK** option on the **MENU** Page



The Latitude and Longitude is displayed at the bottom of the **MARK WAYPOINT** Page and the **REVIEW WAYPOINT** Page.

This completes a basic explanation of the page features of the eTrex. Now let's have some fun.

Discovering the Fun

Discovering the fun of using your eTrex is as easy as taking a quick walk around an open outdoor area. In this brief exercise, you'll mark your current location (your home for example), travel a short distance away, and then have the eTrex guide you back to where you started (to get the most out of this exercise, make sure to walk for at least the time noted for each step).

"X" Marks the Spot

The first step in the exercise is to mark your location as a waypoint so you can return to it later.



NOTE: The eTrex must be "READY TO NAVIGATE" before you mark a waypoint.

To Mark a Waypoint:

1. Press the **PAGE** Button and switch to the **MENU** Page.
2. Press the **UP** or **DOWN** Button and highlight the 'MARK' field.
3. Press **ENTER**. The **MARK WAYPOINT** Page appears with 'OK?' highlighted.

Before we actually mark the waypoint, let's change the symbol to a house and the name '001' to something a little more meaningful such as **HOME**.

To change the waypoint symbol:

1. On the **MARK WAYPOINT** page, press the **UP** or **DOWN** Button to highlight the small flag symbol and press **ENTER**. Using the **UP** or **DOWN** Button, scroll through the symbols and highlight the house symbol. Press **ENTER**.

Edit Waypoints

To change the waypoint name:

1. On the MARK WAYPOINT page, press the **UP** or **DOWN** Button to highlight the Waypoint Name '001'.
2. Press **ENTER**. The EDIT WAYPOINT NAME Page appears.
3. Press **ENTER**. Using the **UP** or **DOWN** Button, scroll through the letter selections. Select 'H' and press **ENTER**. Repeat this process and finish the word 'HOME'.
4. Press the **UP** or **DOWN** Button to highlight the 'OK' field and press **ENTER**. The MARK WAYPOINT page appears.
5. Press the **UP** or **DOWN** Button to highlight the 'OK' field and press **ENTER**. Your location, named HOME, is now marked and stored in memory.



NOTE: As a shortcut tip, press and hold **ENTER** to mark a waypoint.

Now that you've marked your location, it's time to go for a brisk walk. Press the **PAGE** Button and switch to the MAP Page

Walk in a straight line for 3-4 minutes at a fast pace and watch the Map Page.

Your location is shown by the figure in the middle of the screen. As you move, watch the animated figure walk, and a line—called a “track”—appear along the path you have just covered.

Now take a sharp right turn and walk at a brisk pace for another 3-4 minutes.



You can create or edit a waypoint on the EDIT LOCATION Page. From the MARK WAYPOINT Page, highlight the Lat/Lon field and press **ENTER**. Then follow the on-screen instructions.

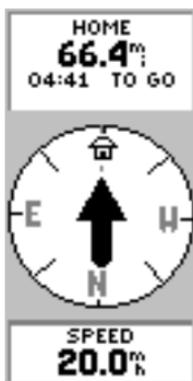


The EDIT WAYPOINT NAME Page.

Follow the Pointer



The pointer tells you what direction you should move. When the pointer is pointing right as shown here, just move right until the pointer is pointing straight up and points to the moving direction line (see picture below).



When the pointer points straight up as shown, you're on track!

Now let's use the GOTO feature and the Pointer Page to travel back to our starting location.

Guidance by GARMIN

The eTrex guides you to a destination using a GOTO (GOTO means GOing TO a destination in a direct line).

To Start a GOTO:

1. Press the **PAGE** Button and switch to the MENU Page.
2. Press the **UP** or **DOWN** Button and highlight 'WAYPOINTS'.
3. Press **ENTER**. The WAYPOINTS Page appears.
4. Press the **UP** or **DOWN** Button and select the tab containing 'HOME' and press **ENTER**.
5. Press the **UP** or **DOWN** Button to select 'HOME' and press **ENTER**. The Review Waypoint page appears.
6. Press the **UP** or **DOWN** Button to highlight the 'GOTO', and press **ENTER**.

The Compass Page appears and you're now ready for eTrex to guide you back to your starting location!

Heading in the Right Direction

The eTrex will guide you back to where you started using the Pointer Page. The pointer tells you the direction to the destination. Walk in the direction the arrow is pointing until the arrow points to the top of the compass ring. If the arrow points to the right, you need to go to the right. If the arrow points to the left, go left. When the arrow is pointing straight up, you are on the correct track!

The destination name, distance to the destination and time to reach your destination are displayed at the top of the screen. The speed you are traveling is shown at the bottom of the screen. Once you are getting close to your destination, eTrex will give you the message “ARRIVING DESTINATION”.

Stop the Train—I Want to Get Off

Anytime you want to stop a GOTO:

1. Press the **PAGE** Button and switch to the POINTER Page. Press **ENTER**.
2. Highlight ‘STOP NAVIGATION’ on the OPTIONS Page and press **ENTER**.

Clearing a Cluttered Map Display

After you’ve used the eTrex for a few trips, the map display will become a bit messy from keeping track of your every move. You can clean up the screen by clearing the track log (the lines left on the Map Page):

To clear the track log:

1. Press the **PAGE** Button and switch to the MENU Page.
2. Press the **UP** or **DOWN** Button and highlight ‘TRACKS’.
3. Press **ENTER**. You are now on the TRACKS Page. Use the **UP** Button and highlight CLEAR. Press **ENTER**.
4. Use the **DOWN** Button and highlight ‘YES’. Press **ENTER**. Press the **PAGE** Button to select any page.

You’ve now gone through the basic operation of eTrex and you’re ready to get out there and have some fun! To turn eTrex off, press and hold the **POWER** Button.

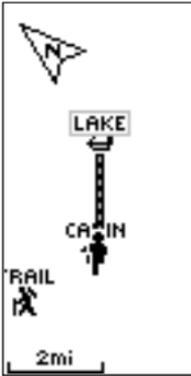
You’ve Made It!



Highlight **STOP NAVIGATION** and press **ENTER** on the Options Page to stop a GOTO.



Map Page Options



Selecting 'Orient Map Ahead' from the Map Page options orients the map to the direction you are moving.



When you select 'Orient Map Northwards' the figure icon is replaced by a 'direction' triangle. The tip of the triangle tells you the general direction you are moving.

Introduction

This section covers the remaining features of the eTrex that were not covered in the Getting Started section.

Map Page Options

In addition to the basic aspects of the Map Page that were covered on page 11, there is a 'MAP OPTIONS' feature which allows you to customize the Map Page. The following options are available:

- **Orient Map Ahead/Northwards:** When 'AHEAD' is selected, the top of the map is oriented in the direction you are currently moving. When 'NORTHWARDS' is selected, the map is always oriented to the north.
- **Auto Zoom On/Off:** When 'AUTO ZOOM' is turned on, the map automatically adjusts its scale to display your entire navigating route. When it's turned off, you must press the **UP** or **DOWN** buttons to select the appropriate map scale.
- **Stop Navigation:** 'STOP NAVIGATION' stops any active navigation (navigation means there is a destination waypoint, page 16). This option cannot be selected if there is no active navigation.

To select a Map Page Option:

1. Press the **ENTER** button on the Map Page.
2. The Map Options Menu appears. Press the **UP** or **DOWN** button and highlight the desired option and press **ENTER**. Once you press **ENTER**, the change is made and the Options Menu disappears.

You will notice on the Map Page the little grey "man". The man stands still when you are not moving, he moves when you move, and a blinking "?" means the eTrex has lost satellite reception (weak signals). You should relocate the eTrex or move to a place that has a clear view of the sky.

Pointer Page Options

In addition to the Pointer Page basics that were covered on page 12, the following Pointer Page options are available:

- **Reset Max Speed:** this resets the Maximum Speed achieved during a trip.
- **Reset Trip:** the trip time, trip distance (odometer) and average speed are reset to zeros.
- **Stop Navigation:** stops any active navigation.

To select a Pointer Page Option:

1. Press the **ENTER** button on the Pointer Page.
2. The Options Menu appears. Press the **UP** or **DOWN** button, highlight the desired option, and press **ENTER**. Once you press **ENTER**, the change is made and the Options Menu disappears.

You can also change the fields at the bottom of the Pointer Page to display different data:

Speed—like the speedometer in your car, ‘SPEED’ tells you how fast you are going regardless of whether or not you are on the right track.

Average Speed—the average speed traveled since last trip reset.

Max Speed—the maximum speed traveled since last reset.

Heading—the direction you are traveling.

Bearing—the compass direction between your location and destination.

Elevation—the measurement of height above mean sea level.

Location—shows your current latitude and longitude.

Sunrise—the time of sunrise at your present location.

Pointer Page Options



The Pointer Page allows you to display eleven types of different data, such as ‘Elevation’.



The eTrex will tell you the time of sunrise and sunset at your destination.

Menu Page Selections



The Menu Page allows you to customize the eTrex's features.

Sunset—the time of sunset at your present location.

Trip Time—the total time you have traveled since the last trip reset.

Trip Odometer—like the odometer in your car, 'TRIP ODOMETER' tells you how far you've gone since the last trip reset.

To change a data field:

1. On the Pointer Page, press the **UP** or **DOWN** button and scroll through the available options, stopping on the data you want the eTrex to display.

Menu Page Selections

The Menu Page turns the eTrex into a powerful navigation tool. With the Menu Page you can customize the display, transfer information from a computer to eTrex and back again, and manage and organize all of your waypoints. Now let's take a look at each of the Menu Page selections.



Mark Waypoint Page

The 'MARK WAYPOINT' page allows you to change the waypoint symbol, name, and location (latitude and longitude). The information on page 14 showed you how to change the waypoint symbol and name.

To change the location (latitude/longitude):

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** button and highlight 'MARK'. Press **ENTER**. The 'MARK WAYPOINT' Page appears.
2. Press the **UP** or **DOWN** button and highlight the 'LAT/LON' field and press **ENTER**. The 'EDIT LOCATION' Page appears.
3. Scroll through the latitude and longitude position places using the **UP** and **DOWN** button (**UP** button to move right to left, **DOWN** button to move left to right). When you reach the position place you want to change, stop and press **ENTER**. Using the **UP** or **DOWN** button, scroll through the choices and highlight the one you want. Press **ENTER**. The position place is now changed.
4. Press the **UP** or **DOWN** button to highlight the 'OK' field and press **ENTER**. The 'MARK WAYPOINT' Page appears.
5. Press the **UP** or **DOWN** button to highlight the 'OK' field and press **ENTER**. Your location with the new latitude/longitude is now stored in memory.

Mark Waypoint Page



The 'EDIT LOCATION' Page displays on-screen instructions on how to edit the waypoint location.



Remember that pressing and holding the **ENTER** button gives you the 'MARK WAYPOINT' Page where you can mark a waypoint.

Review Waypoint Page



The 'REVIEW WAYPOINT' Page allows you to delete a waypoint.



You can start a GOTO from the 'REVIEW WAYPOINT' Page.

Waypoints Page

The Waypoints Page organizes all of your waypoints in alphabetical order for easy selection. It also allows you to select nine of the 'NEAREST WAYPOINTS', and if you want, delete all waypoints.

To select a waypoint:

1. Press the **PAGE** button and switch to the 'MENU' Page. Press the **UP** or **DOWN** button and highlight 'WAYPOINTS'. Press **ENTER**. The 'WAYPOINTS' Page appears.
2. Press the **UP** or **DOWN** button and highlight the alphabetical tab containing the desired waypoint. Press **ENTER**. Press the **UP** or **DOWN** button to select the desired waypoint. Press **ENTER**. The 'REVIEW WAYPOINT' Page appears.

Review Waypoint Page

The 'Review Waypoint' Page allows you to change the waypoint symbol, name, and location (covered previously). You can also delete the waypoint, display the waypoint on the Map Page, and start a GOTO.

To delete a waypoint:

1. On the 'REVIEW WAYPOINT' page, press the **UP** or **DOWN** button and highlight 'DELETE'. Press the **ENTER** button. A confirmation message box appears asking if you really want to delete the waypoint. If you do, press the **UP** or **DOWN** button, highlight 'YES' and press **ENTER**.
2. If you change your mind and do not want to delete the waypoint, press the **UP** or **DOWN** button, highlight 'NO' and press **ENTER**. The confirmation message box disappears and the waypoint remains in memory (you can also press the **PAGE** button to exit).

To start a GOTO:

1. On the 'REVIEW WAYPOINT' page, press the **UP** or **DOWN** button and highlight 'GOTO'. Press the **ENTER** button. The 'GOTO' is activated with the selected waypoint as the destination.

To view the selected waypoint on the Map Page:

1. On the 'REVIEW WAYPOINT' page, press the **UP** or **DOWN** button and highlight 'MAP'. Press the **ENTER** button. The selected waypoint is displayed on a map. You can use the **UP/DOWN** buttons to zoom in and out on the map. Press the **PAGE** Button and switch back to the 'WAYPOINTS' Page.

To view the 'NEAREST' waypoints page:

1. On the 'WAYPOINTS' page, press the **UP** or **DOWN** button and highlight 'NEAREST'. Press the **ENTER** Button. The 'NEAREST WAYPOINTS' Page appears.

The nine closest waypoints appear in a list showing their name and distance from your location. You can select a waypoint from this list by pressing the **UP** or **DOWN** button and selecting the desired waypoint. Once selected, press **ENTER**. The 'REVIEW WAYPOINT' appears allowing you to edit the waypoint if you desire.

To delete all waypoints:

1. On the 'WAYPOINT' Page, press the **UP** or **DOWN** button and highlight 'DELETE ALL'. Press the **ENTER** button. A confirmation message box appears asking if you really want to delete all waypoints. If you do, press the **UP** or **DOWN** button and highlight 'YES'. Press **ENTER**.
2. If you change your mind and do not want to delete the waypoint, press the **UP** or **DOWN** button and highlight 'NO'. Press **ENTER** (or press the **PAGE** button). The confirmation message box disappears and all of the waypoints remain in memory.

Nearest Waypoints

NEAREST WAYPOINTS	
LAKE NE	0.4mi
CABIN SH	1.9mi
WOODS S	3.1mi
TRAIL H	3.4mi

--	----mi

--	----mi

The nine closest waypoints appear in a list showing their name and distance from your location (four shown here).

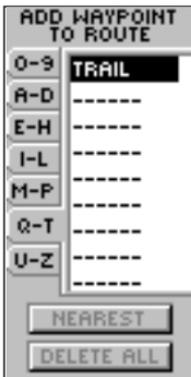


MAKE SURE you want to delete all of the waypoints before you press **ENTER**!

Routes



The 'ROUTE' feature is found on the Menu Page.



You can use existing waypoints to 'build' the route.

'Route' and Route Page

The eTrex allows you to navigate using one of three methods:

- GOTO
- Route
- TracBack

The GOTO method of navigation was briefly discussed on page 16. This section discusses the route method. The third method, TracBack, is discussed on page 27. In the eTrex, a route is at least two waypoints that describe the path you are going to travel. The route feature is very convenient because it allows the eTrex to guide you from the first waypoint in the route, to each successive waypoint until you reach your final destination. The route feature and the GOTO feature are comparable in that they both guide you to destination waypoints.

However, the route feature is more powerful because it is more automatic. When you reach one waypoint, the eTrex automatically guides you to the next waypoint on the route without needing to touch any button. When you use the 'GOTO' feature you have to stop and select the next waypoint before you start moving. When you plan a trip, you can select waypoints from a waypoint list and put them into the eTrex's memory. At least 2 waypoints (up to a maximum of 50) are linked together to form a route.

When you start your trip, you activate the route feature and the receiver points the way you should travel to get from the first waypoint to the second. You can then use the pointer page to give you steering guidance.

Routes

There are two ways to create a route:

1. Use existing waypoints that reside in the eTrex. Choose 'ROUTE' on the Menu Page, then add a waypoint into the route from a list of available waypoints.
2. Plan a 'ROUTE' in MapSource on a PC, and upload the 'ROUTE' to the eTrex. See your GARMIN dealer for more information on using MapSource (Map Source is an optional accessory, and is not included with the eTrex).

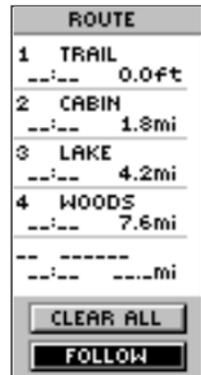
In either case, you can navigate to a destination using 'ROUTE' if a route has more than two waypoints. A single waypoint route is only a normal waypoint, not a route. The eTrex will not allow the 'FOLLOW' button to be highlighted if there is only one waypoint in the route. When you select the 'FOLLOW' button, a list with two items is displayed letting you choose where to go. The list will always show the FIRST (BEGINNING) and the LAST (END) waypoint in the route. The eTrex will guide you to the selected final destination following each waypoint in the route (eTrex has one route). There are two ways to insert a waypoint into a route. One way is to insert the waypoint before an existing waypoint in a route. The other way is to insert the waypoint at the end of the waypoint list in a route.

To insert a waypoint into a route:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** button and highlight 'ROUTE'. Press **ENTER**. The 'ROUTE' Page appears. Press **ENTER**. The 'ADD WAYPOINT TO ROUTE' Page appears.
2. Press the **UP** or **DOWN** button to select the waypoint of your choice and press **ENTER**. The waypoint you selected is placed in the first field on the 'ROUTE' page. Repeat this process until all of the waypoints you want are entered into the route list. Press **PAGE** to get back to the page of your choice.

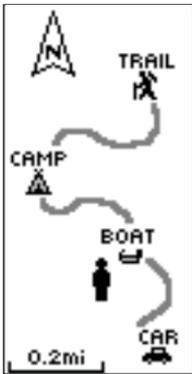


You can insert a waypoint before an existing waypoint in the list or at the end of waypoint list.

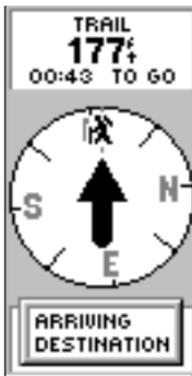


Press 'FOLLOW' to activate a route.

Routes



The eTrex draws an electronic breadcrumb trail as you travel.



The message 'ARRIVING DESTINATION' is displayed on every page when you are 15 seconds from reaching the destination.

To activate a route:

1. Press the **PAGE** button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'ROUTE'. Press **ENTER**. The 'ROUTE' Page appears.
2. Press the **UP** or **DOWN** button and highlight 'FOLLOW' and press **ENTER**. The choices are the first (beginning) waypoint and the last (end) waypoint.
3. Press the **UP** or **DOWN** button and select the desired waypoint and press **ENTER**. The Pointer Page appears giving you steering guidance to the destination waypoint.

To remove a waypoint from the 'ROUTE' list:

1. Press the **PAGE** button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'ROUTE'. Press **ENTER**. The 'ROUTE' Page appears. Press the **UP** or **DOWN** button and highlight the waypoint you want to remove. The 'INSERT/REMOVE' window appears. Press the **UP** or **DOWN** button and highlight 'REMOVE'. Press **ENTER**. The waypoint is removed from the list.

To clear all route waypoints:

1. Press the **PAGE** button and switch to the 'MENU' Page. Press the **UP** or **DOWN** button and highlight 'ROUTE'. Press **ENTER**. The 'ROUTE' Page appears.
2. Press the **UP** or **DOWN** button and highlight 'CLEAR ALL' and press **ENTER**. The confirmation window appears asking you if you really want to clear all of the route waypoints. If you do, select 'YES'. If you change your mind, press the **UP** or **DOWN** button and select 'NO'. Press **ENTER**. The waypoints remain in the route list.

'TracBack' Navigation and the Tracks Page

'TracBack' allows you to return along a traveled path without marking any waypoints. The eTrex draws a 'track log' or 'electronic breadcrumb trail' as you travel. When you are ready to return to where you started, eTrex will take you back by following the 'electronic breadcrumb trail' you left behind. You can save a total of ten tracks in the eTrex. The track log starts recording as soon as the eTrex gets a location fix. If you want to keep a record of a certain track log before deleting it, go ahead and save it.

The saved tracks can be used for navigation later. After a track log is saved as a "saved track", the saved track will have a beginning (BEGIN) point and an ending (END) point. It simply means "when/where" is the starting point and ending point of the saved track. The percentage of memory used by the current track log is displayed at the top of the page. After the track log is 'CLEARED', it will show zero percent. When the display shows 99%, the most recent track points will start overwriting the least recent track points. Thus, in order to avoid losing any track points, you should save the track log before it reaches 99% of memory usage.

To save a track for navigation later:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'TRACKS'. Press **ENTER**. The Track Log Page appears.
2. Press the **UP** or **DOWN** Button and highlight 'SAVE' and press **ENTER**. The 'SAVE BACK THROUGH' window appears giving you a time frame for saving a track or 'ENTIRE LOG'. Press the **UP** or **DOWN** button and select the desired option. Press **ENTER**. The saved track appears graphically on a sub page. Press the **UP** or **DOWN** button and select 'OK'. Press **ENTER**.
3. The track is now saved and appears in the 'SAVED TRACKS' list on the Track Log Page.

Track Logs



You need to save the track log first before you can use the TracBack feature.

NOTE: For effective use of the 'TRACBACK' feature, 'CLEAR' the track log before starting a new trip or after saving the track log. To clear the track log, follow the steps given on page 17, "Clearing a Cluttered Map Display".

Track Logs



The 'BEGIN' point is the point defining the starting point when saving a track log. 'END' is the last point that was saved. Each saved track will always have a 'BEGIN' and 'END' point for navigation. The 'BEGIN-END' pair imply the direction of the saved track. If you want to retrace the track, navigate to 'END'. If you want to track back to the starting point, navigate to 'BEGIN'.

To delete all tracks:

1. On the Track Log Page, Press the **UP** or **DOWN** button and highlight 'DELETE ALL'. Press **ENTER**. The verification window appears.
2. If you really want to delete all saved tracks, press the **UP** or **DOWN** button and highlight 'YES'. Press **ENTER**. If you change your mind, press the **UP** or **DOWN** button and select 'NO'. Press **ENTER**. The tracks remain in memory (or you can press **PAGE** to exit at any time).

To delete a saved track:

1. On the Track Log Page, Press the **UP** or **DOWN** button and highlight the saved track that you want to delete from the 'SAVED TRACKS' list. Press **ENTER**. The saved track appears graphically.
2. Press the **UP** or **DOWN** button and highlight 'DELETE'. Press **ENTER**. A confirmation window appears asking you if you really want to delete the saved track. If you do, press the **UP** or **DOWN** button and highlight 'YES'. Press **ENTER**. If you change your mind, press the **UP** or **DOWN** button and select 'NO'. Press **ENTER** (or you can press **PAGE** to exit at any time). The tracks remain in memory.

To start TracBack Navigation:

1. On the Track Log Page, press the **UP** or **DOWN** button and highlight the saved track from the 'SAVED TRACKS' that you want to travel. Press **ENTER**. The track graphically appears.
2. Press the **UP** or **DOWN** Button and highlight 'TRACKBACK'. Press **ENTER**. The direction window appears asking you if you want the destination to be at the beginning of the track or the end of the track (see sidebar). Press the **UP** or **DOWN** button and select the desired destination point. The Pointer Page appears guiding you to the destination you selected.

You may not remember the original direction of the saved track, but by using 'BEGIN' or 'END', you can always select where you want to "TracBack to" without remembering the directions of the saved track.

To rename a saved track:

1. The information on page 15 shows how to rename a waypoint name. Use the same method to change a saved track name.

Setup Page

The Setup Page allows you to customize the eTrex. On the Setup Page you can change coordinate systems, map datums, and distance units. You can also change the time format, north reference, operating mode, display contrast, and display back light timeout.

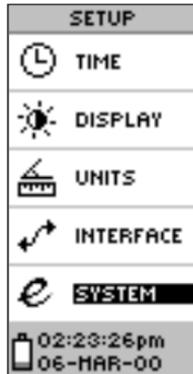
Time Format

The 'Time' Page allows you to select a 12 hour or 24 hour time format, enter the proper time zone, and choose Daylight Savings Time. When you select 12 hour time formatting, the clock will read like a standard clock with 12 hour AM and 12 hour PM cycles. The 24 hour option sets the eTrex to display a 24 hour cycle (Military Time).

To change the time format:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP** or **DOWN** Button and highlight 'TIME' and press **ENTER**.
3. Press the **UP** or **DOWN** Button and select the 'TIME FORMAT' field and press **ENTER**.
4. Press the **UP** or **DOWN** Button, select 12 or 24 hours and press **ENTER**. Press **PAGE** to get back to the page of your choice.

Setup Page



The Setup Page



You can choose from eight time zones plus 'other'.

Setup Page



UTC stands for 'Coordinated Universal Time' and replaced Greenwich Mean Time (GMT) as the World standard for time in 1986. It is based on atomic measurements rather than the earth's rotation.

Time Zone

The time zone can be set to any one of eight pre-programmed zones or by entering the UTC Time Offset value in the UTC offset field below the time zone field. When you select the 24 hour time format, the letters 'lc' (local) appear next to the time. You can find time offset values for your longitude by following instructions and the Time Offset Chart (Appendix D). To change the time zone, follow the steps given on page 13, "What Time is it?".

UTC Offset

When you select 'OTHER' for the time zone, you can access the UTC Offset field and make a change to match the time zone you selected. Other than that, you can't change it.

Daylight Savings Time

Daylight savings time can be set to 'Automatic' (using the built-in almanac to automatically change the clock settings when daylight savings goes into or out of effect). You can choose 'Yes' to manually add daylight savings or 'No' to remain on standard time.

To change the Daylight Savings Field:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP** or **DOWN** Button and highlight 'TIME' and press **ENTER**.
3. Press the **UP** or **DOWN** Button and select the 'DAYLIGHT SAVINGS' field and press **ENTER**.
4. Press the **UP** or **DOWN** Button, select 'AUTO', 'YES', or 'NO' and press **ENTER**. Press **PAGE** to get back to the page of your choice.

Display Page

The Display Page allows you to set the display backlight timeout (on all the time, 15 or 30 seconds, and 1 or 2 minutes) and the display contrast.

To change the Light Timeout:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP** or **DOWN** Button and highlight 'DISPLAY' and press **ENTER**. Press **ENTER** on the 'LIGHT TIMEOUT' field.
3. Press the **UP** or **DOWN** Button and highlight your selection and press **ENTER**. Press **PAGE** to get back to the 'SETUP' page.

To adjust the display contrast:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP** or **DOWN** Button and highlight 'DISPLAY' and press **ENTER**. Press the **UP** or **DOWN** Button and highlight the 'CONTRAST' icon and press **ENTER**.
3. Press the **UP** or **DOWN** Button and adjust the contrast and **ENTER**. Press **PAGE** to get back to the 'SETUP' page.

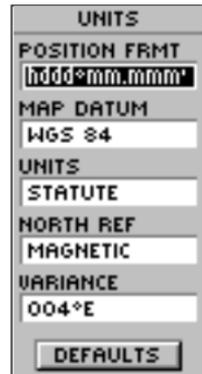
Units Page

Using your eTrex with a paper map increases the navigation power of both. If you are going to use a map in conjunction with the eTrex, you must select the position format (grid), map datum, map units, and north reference to match the map's units. This is the purpose of the Units Page. Regarding position format, the eTrex allows you to choose from more than thirteen different grids. The eTrex supports the UTM/UPS and latitude/longitude grids because together they cover the world.

Display and Units Pages



You can set the backlight to stay on all the time, but watch your battery power!

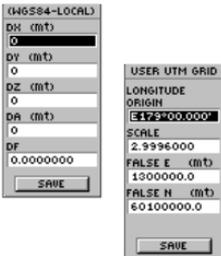


The Units Page allows you match the units of the eTrex to the units of a unique paper map you may be using.

Map Datums



Eighteen position formats are available in the eTrex.



Data Entry Pages exist for the User Grid Format and the User Datum Setup. These pages allow you to configure the eTrex for compatibility with custom designed grids. We recommend surfing the net for links to Garmin user-grid and user datum information. There are also excellent navigation and GPS articles available on-line which will enhance your overall knowledge of GPS.

Position Format

The default position format (and the one most commonly used) for the eTrex is latitude and longitude in degrees and minutes (hddd° mm.mmm'). You may also choose from 17 other position formats. There is also a "User" position format which allows you to approximate custom-designed grids. For more information on grids and datum we recommend you visit the National Imagery and Mapping Agency at <http://www.nima.mil>.

To change the Position Format (grid):

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. Use the **UP/DOWN** buttons to select 'UNITS'. Press **ENTER**. The 'UNITS' Page appears.
2. Press the **UP** or **DOWN** Button and select the 'POSITION FRMT' field. Press **ENTER**.
3. Press the **UP** or **DOWN** Button and select the desired format. Press **ENTER**. Press **PAGE** to get back to the page of your choice.

Map Datums

A map datum is a reference model of the earth's shape. Every map uses a map datum. The map datum is usually listed in the title block of the map. If you are comparing GPS coordinates to a paper map or other reference, the map datum in the eTrex should match the horizontal map datum used to generate the chart or other reference.

The default datum in the eTrex is WGS 84 (World Geodetic Survey, 1984). You should only change the datum if you are using maps or charts that specify a different datum than WGS 84. If no datum is specified, you can select each datum applicable to your region until you find the datum that provides the best positioning at a known point. You may also choose the "User" datum for use with custom-designed grids.

To change the Map Datum:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'SETUP'. Press **ENTER**. Use the **UP/DOWN** buttons to select 'UNITS'. Press **ENTER**. The 'UNITS' Page appears.
2. Press the **UP** or **DOWN** button and select the 'MAP DATUMS' field. Press **ENTER**.
3. Press the **UP** or **DOWN** button to select the desired datum. Press **ENTER**. Press **PAGE** to select the page of your choice.

Units of Measure

The eTrex lets you select statute (the default setting), nautical, or metric units of measure for all speed and distance readouts.

To change the Units of Measure:

1. Press the **PAGE** button and switch to the 'MENU' page. Use the **UP** and **DOWN** button and highlight the 'SETUP' field. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP/DOWN** button to select 'UNITS'. Press **ENTER**. The 'UNITS' Page appears.
3. Press the **UP** or **DOWN** Button and select the 'UNITS' field. Press **ENTER**.
4. Press the **UP** or **DOWN** button to select the desired unit. Press **ENTER**. Press **PAGE** to select the page of your choice.

Units of Measure



You can select statute, nautical, or metric units of measurement from the 'UNITS' page.



The 'DEFAULTS' setting will reset the eTrex units to all of its factory settings.

Units of Measure



'MAGNETIC' north is the default north reference setting.



You can use GARMIN'S MapSource® Map Data CD-ROMs to download waypoints, tracks, and routes.

North Reference

'Reference' refers to the orientation of a map's grid. Map makers try to align the vertical lines on a map with **'True North'**. **True North** is the direction from any location on the earth's surface to the "north pole". Maps are typically referenced to true north. Because a compass points to magnetic north, not true north, maps indicate the difference between true and magnetic north with something called 'declination'. The amount of declination changes as you move around the earth. **Magnetic North** is the direction in which a compass needle points. The eTrex bearings will correspond to the compass if the eTrex is set to magnetic north. Due to errors introduced when map makers flatten the earth's sphere onto paper, not all of the grid lines drawn on the map point exactly to the north pole, so the north indicated by the grid lines is called **'Grid North'**. But, the difference is usually small enough that 'Grid' north can be considered the same as True North for travelling on land. If necessary, you can correct for the difference between Grid North and True North manually.

To change the North Reference:

1. Press the **PAGE** button and switch to the 'MENU' page. Use the **UP** and **DOWN** button and highlight the 'SETUP' field. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP/DOWN** button to select 'UNITS'. Press **ENTER**. The 'UNITS' Page appears.
3. Press the **UP** or **DOWN** button and select the 'NORTH REF' field. Press **ENTER**.
4. Press the **UP** or **DOWN** button to select the desired reference. Press **ENTER**. Press **PAGE** to return to the page of your choice.

When you select the 'DEFAULTS' field and press **ENTER** the 'UNITS' page returns to the factory settings.

Interface Page

The Interface Page allows you to connect and use devices such as computers and differential GPS (DGPS) beacon receivers to the eTrex.

Input/Output Settings

The 'Interface' Settings Page allows you to use your eTrex with external NMEA devices, DGPS beacon receivers, a personal computer, etc. You can choose from seven different input/output serial data formats, or none at all. Below is a description of each format:

- **GARMIN** - the proprietary format used to exchange waypoint, route, and track data with a PC.
- **GARMIN DGPS** - Allows DGPS input using a GARMIN beacon receiver and a standard RTCM SC-104 format and DGPS tuning.
- **NMEA OUT** - supports the output of standard NMEA 0183 version 2.0 data.
- **TEXT OUT** - allows simple ASCII text output of location and velocity information, without any input capabilities.
- **RTCM IN** - allows DGPS input using a standard RTCM SC-104 format without any output capabilities.
- **RTCM/NMEA** - allows DGPS input using a standard RTCM SC-104 format and supports the output of standard NMEA 0183 version 2.0 data.
- **RTCM/TEXT** - 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.



NOTE: Use the 'RTCM IN' setting if your beacon receiver is self-tuning.

Interface Page



The interface options will allow you to use a PC to download waypoints, routes, and track logs.

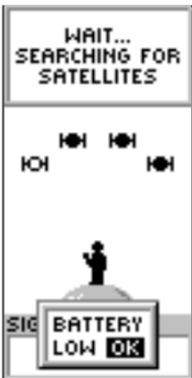


NMEA stands for "National Marine Electronics Association" and **RTCM** stands for "Radio Technical Commission for Maritime Services". Both are involved in developing technical standards for the marine electronics industry.

System Page



The System Page shows you the software version, allowing you to update from GARMIN'S web site.



A 'BATTERY LOW' message appears at the bottom of every page when there is approximately ten minutes of battery life left.

If 'GARMIN DGPS' or 'RTCM/NMEA' format is selected, additional fields are provided to control a GARMIN differential beacon receiver (e.g. GBR 21) directly from your eTrex. You can enter the beacon frequency and bit rate when you select 'User' from the Beacon pop-up list to manually tune the receiver (you can also 'scan' if you don't know what the nearby station is, but the unit could continue scanning if reception is temporarily lost).

To select an I/O Format:

1. Press the **PAGE** button and switch to the 'MENU' Page. Use the **UP** and **DOWN** button and highlight the 'SETUP' field. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP** or **DOWN** button and select the 'INTERFACE' field. Press **ENTER**. The 'INTERFACE' Page appears.
3. Press **ENTER** on the 'I/O FORMAT' field. Press the **UP** or **DOWN** button to select the desired format. Press **ENTER**. Press **PAGE** to return to the page of your choice.

System Page

The System Page shows you the current software version and allows you to choose from three modes of operation:

- Normal
- Battery Save
- Demonstration (DEMO)

Normal Mode

The GPS receiver is turned on all the time when it's in 'NORMAL' mode. The normal mode is more sensitive to sudden turns or change of speed/acceleration.

Battery Save

When the eTrex is in 'BATTERY SAVE' mode, the GPS receiver is turned on and off alternatively to conserve power.

To select battery save mode:

1. Press the **PAGE** button and switch to the 'MENU' Page. Use the **UP** and **DOWN** button and highlight the 'SETUP' field. Press **ENTER**. The 'SETUP' Page appears.
2. Press the **UP** or **DOWN** Button and select the 'SYSTEM' field. Press **ENTER**. The 'SYSTEM' Page appears.
3. Press **ENTER** on the 'MODE' field. Press the **UP** or **DOWN** button to select 'BATTERY SAVE'. Press **ENTER**. Press **PAGE** to return to the page of your choice.

Demo Mode

The 'DEMO' mode is designed for dealers to show the features and functions of the eTrex to potential customers inside a closed building where satellite reception is not possible. There is no navigation possible in 'DEMO' mode.

If you select the 'DEMO' mode, a window appears at the bottom of the screen asking you to verify that you want to turn the GPS off (the unit will stop tracking satellites, not power off). To do so, press **ENTER**.

Congratulations! You now know all there is to know about the GARMIN eTrex.

Demo Mode



The DEMO mode is designed for GARMIN dealers.



Appendix A Specifications

Physical

Case:	Fully-gasketed, high-impact plastic alloy, waterproof to IPX7 standards (waterproof to 1 meter for 30 minutes)
Size:	4.4"H x 2"W x 1.2"D
Weight:	Approx. 5.3 ounces (150g) w/batteries
Temperature Range:	5° to 158°F (-15° to 70°C) ³ (operating)

Performance

Receiver:	Differential-ready, 12 parallel channel
Acquisition time:	Approx. 15 seconds (warm start) Approx. 45 seconds (cold start) Approx. 5 minutes (First Time/AutoLocate™)
Update Rate:	1/second, continuous
Position Accuracy:	1-5 meters (3-15 ft) with DGPS corrections ¹ 15 meters (49 ft) RMS ²
Velocity Accuracy:	0.1 knot RMS steady state
Dynamics:	Performs to specifications to 6 g's
Interfaces:	NMEA 0183 (versions 2.00-2.30), RTCM 104 (for DGPS corrections) and RS-232 for PC interface
Antenna:	Built-In

Power

Input:	Two 1.5-volt AA batteries ³
Battery Life:	Up to 22 hours in Battery Save mode ⁴

Specifications subject to change without notice.

¹With optional GARMIN Differential Beacon Receiver Input (such as GARMIN GBR 21).

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

³The temperature rating for the eTrex may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures. External power can only be applied using the GARMIN Auto Power Adapter (P/N 010-10203-00) or PC Interface Cable with Auto Power Adapter (P/N 010-10268-00-this cable contains a voltage regulator). Modifications or other applications will void the product warranty.

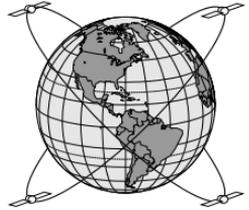
⁴Alkaline batteries lose a significant amount of their capacity as temperature decreases. Use lithium batteries when operating the eTrex in below-freezing conditions. Extensive use of screen backlighting will significantly reduce battery life.

GPS - the Global Positioning System - is a navigation revolution. It's a technology that pinpoints a user's location anywhere in the world, 24 hours a day, regardless of the weather.

Designed by the United States' Department of Defense for use by the military, the GPS System was made available to civilians for use in aviation, marine surveying and general outdoor/ recreation markets. Today, millions of people utilize the accuracy and convenience of this amazing technology to hunt, fish, hike, fly, cruise and sail. GPS consists of a constellation of 24 satellites orbiting some 12,000 miles above the earth.

These satellites transmit signals containing time and orbital data to calculate satellite position and almanac data. Meanwhile, receivers used on the ground, sea and air search the sky for the satellites. The GPS unit needs to acquire good signals from at least three satellites to determine a position on the surface of the earth. A fourth signal is required to get three-dimensional positioning which determines elevation or altitude.

Appendix B What is GPS?



Appendix C Reception Tips



Clouds and weather do not affect the operation of the eTrex!

Satellite Reception Tips

The basic steps in getting the eTrex 'ready to navigate' was covered on page 9. If the eTrex has problems with receiving satellite signals, you will be prompted to answer some questions. Please follow the steps that best describes your situation:

A. You are trying to use the eTrex indoors:

1. The message 'TROUBLE TRACKING SATELLITES. ARE YOU INDOORS NOW?' will appear. Press the **UP** or **DOWN** Button and highlight 'YES'. Press **ENTER**. The message will disappear.

OR:

2. Go outside. The eTrex will keep tracking.

B. You are not indoors and you have not moved hundreds of miles/km since you last used your eTrex:

1. The message 'TROUBLE TRACKING SATELLITES. ARE YOU INDOORS NOW?' will appear. Press the **UP** or **DOWN** Button and highlight 'NO'. Press **ENTER**.
2. eTrex then asks: 'HAVE YOU MOVED HUNDREDS OF MILES/KM SINCE LAST USE?' Press the **UP** or **DOWN** button and highlight 'NO'. Press **ENTER**.
3. eTrex asks: 'IS TODAY dd-mmm-yy?' If you answer 'YES' (the date matches the current date) the eTrex will continue tracking satellites and switch to the Satellite Page.
4. If you answer NO (the date is incorrect), the eTrex will do an 'AUTOLOCATE' and switch to the satellite page. **An 'AUTOLOCATE' forces the eTrex to search for any available satellite(s) to determine its (your) location.**

Appendix C Reception Tips

C. You are not indoors but you have moved hundreds of miles/km since you last used your eTrex:

1. The message 'TROUBLE TRACKING SATELLITES. ARE YOU INDOORS NOW?' will appear. Press the **UP** or **DOWN** button and highlight 'NO'. Press **ENTER**.
2. eTrex then asks: "HAVE YOU MOVED HUNDREDS OF MILES/KM SINCE LAST USE? Press the **UP** or **DOWN** button and highlight 'YES'. Press **ENTER**.
3. eTrex will do an "AUTOLOCATE" and switch to the Satellite Page. This option is useful if you've relocated a distance greater than 500 miles from the last location the eTrex was used.



The eTrex has a 12 parallel channel receiver for fast, accurate position fixes, even under heavy foliage and tree canopy.

Appendix D Time Offset

The table below gives approximate UTC time offset for various longitudinal zones. If you are in daylight savings time, add one hour to the offset.

Longitudinal Zone	Offset	Longitudinal Zone	Offset
W180.0° to W172.5°	-12	E007.5° to E022.5°	+ 1
W172.5° to W157.5°	-11	E022.5° to E037.5°	+ 2
W157.5° to W142.5°	-10	E037.5° to E052.5°	+ 3
W142.5° to W127.5°	- 9	E052.5° to E067.5°	+ 4
W127.5° to W112.5°	- 8	E067.5° to E082.5°	+ 5
W112.5° to W097.5°	- 7	E082.5° to E097.5°	+ 6
W097.5° to W082.5°	- 6	E097.5° to E112.5°	+ 7
W082.5° to W067.5°	- 5	E112.5° to E127.5°	+ 8
W067.5° to W052.5°	- 4	E127.5° to E142.5°	+ 9
W052.5° to W037.5°	- 3	E142.5° to E157.5°	+10
W037.5° to W022.5°	- 2	E157.5° to E172.5°	+11
W022.5° to W007.5°	- 1	E172.5° to E180.0°	+12
W007.5° to E007.5°	- 0		

A simple way to determine your local time offset is how many hours you are behind or ahead of UTC (also called 'Greenwich' or 'zulu' time) Example: EST (Eastern Standard Time) is 5 hours behind UTC, so your offset would be -5. Adding one hour for daylight savings would make EDT (Eastern Daylight Time) -4. Subtract an hour for each time zone as you travel west.

Offsets for Continental U.S. would be:

EST: -5	EDT: -4
CST: -6	CDT: -5
MST: -7	MDT: -6
PST: -8	PDT: -7

Appendix E Wiring Diagram

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

The NMEA 0183 version 2.0 interface format is supported by the eTrex and enables the unit to drive up to three NMEA devices.

NMEA 0183 Version 2.0 Approved Sentences:

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

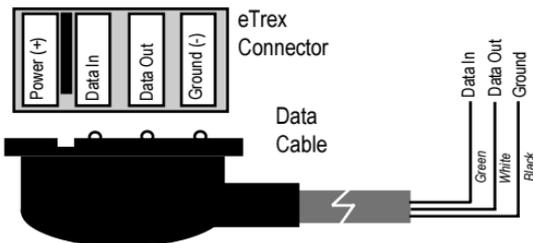
GARMIN Proprietary Sentences:

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

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

The eTrex may be hard-wired to a serial connector using the Data Cable (see page 8 for ordering information). Refer to the wiring diagram and the eTrex unit data connection illustrated below.

The optional PC Interface Cable (010-10206-00) allows you to connect your eTrex to a PC-compatible computer's serial port.



Appendix F Troubleshooting

eTrex does not turn on:

1. Check to see if the batteries are installed correctly and that the battery terminals are clean.

It takes more than 10 minutes to get a location fix:

1. There may be large obstacles overhead; move to a new location with a clear view of the sky.
2. See "Satellite Reception Tips" on page 40.

The pointer on the Pointer Page does not point to the destination:

1. Navigation information is based on your movement. If you are standing still, the information is not updating.

Since the eTrex is not a compass it cannot show you which way you are facing while you are standing still.

eTrex coordinates do not match the location on your map:

1. Check to make sure the eTrex is configured to use the same datum as your map. See page 32.



NOTE: *The Car Power Adapter (part number 010-10203-00) converts 12 VDC to 3 VDC output for the eTrex. This adapter is not interchangeable with car power adapters designed for the GARMIN VHF 720 and 725, GPS 170, 175, 190 and 195.*

Appendix G FAQ's

Can I use the eTrex indoors?

No. The DEMO mode is available, but we suggest that only dealers use it.

Do I need to subscribe to a service to use the eTrex?

No. The GPS satellites are owned by the United States Department of Defense (DoD) and have been funded by U.S. taxpayers' dollars. Reception of GPS satellite signals is free to everyone.

Does the eTrex work anywhere in the world and in any weather?

Yes.

How accurate is a GARMIN GPS?

The eTrex is accurate to within 100 meters under the DoD-imposed Selective Availability (S/A). Without S/A, the eTrex is accurate to within 15 meters. Using differential techniques, the eTrex can be as accurate as 1-5 meters.

Why can't I see the display in the daylight?

Adjust the contrast (see page 9).

Why can't I interface my computer with the eTrex?

Make sure that you have the correct INPUT/OUTPUT format selected on your eTrex.

What Grid Formats does the eTrex Support?

hddd.dddd⁰ (degrees, decimal degrees)

hddd⁰mm.mm

hddd⁰mm'ss.s

British Grid

Dutch Grid

Finnish KKJ27 Grid

German Grid

Irish Grid

Maidenhead

MGRS (Military Grid Reference System)

New Zealand

Qatar Grid

Swedish Grid

Appendix G FAQ's

Grid Formats (con't):

Swiss Grid

Taiwan Grid

User Defined Grid

UTM/UPS (Universal Transfer Mercator/Universal Polar Stereographic)

W Malaysian R

Can I turn off the Track Log?

No. You can clear the track log, but it is always activated.

Why is the elevation on my GPS incorrect by several hundred feet?

GARMIN GPS units have a potential position accuracy of 15 meters. This is the same accuracy available in all commercially available GPS receivers. The accuracy of the GPS units is not only dependent upon the GPS receiver design, but also the U.S. DoD Selective Availability program (SA). Selective Availability, also known as SA, is a program that allows the U.S. DoD to degrade the accuracy of non-military GPS system by as much as +/- 100 meters. At the present time, the accuracy of all commercial GPS receivers can vary Between 15 to 100 meters depending on the level of degradation being imposed by the U.S. DoD.

Another factor that will effect the accuracy of the GPS receiver is the geometry of the satellites in view of the GPS receiver. A poor geometry situation can provide less accurate position readings, and this especially applies to GPS altitude measurements. The altitude reading on the GPS unit can vary by +/- 450 ft. depending on the level of degradation being imposed under SA. It is not uncommon to see the altitude continuously drift up and down when SA is being imposed.

What does the message "NO DGPS POSITION" mean?

eTrex had a differential fix and lost it.

Appendix H Index

A

Accessories.....	8
Auto Zoom.....	18
Average Speed.....	19

B

Backlighting and Contrast.....	9
Batteries.....	8, 37
Battery Save.....	38
Beacon Receiver.....	35, 38
Bearing.....	19

C

Clear a Route Waypoint.....	26
Compass.....	12

D

Data Formats.....	35
Delete a Waypoint.....	22-23
Demo Mode.....	37
DGPS.....	35, 43, 46
Display Page.....	31

E

Edit Waypoints.....	22-23
eTrex Buttons.....	6
eTrex Description.....	7
eTrex Features.....	5
eTrex Registration.....	1

F

FCC.....	4
Frequently Asked Questions.....	45

G

Getting Started.....	9
GOTO.....	16, 17, 23
GPS.....	39
GPS Accuracy.....	46
Grid Formats.....	45

Appendix H Index

H	
Heading.....	19
I	
I/O Format.....	35-36
Interface Page.....	35
L	
Latitude/Longitude.....	14, 21
Low Battery.....	36
M	
Map Datum.....	31, 32, 33
Map Display.....	17
Map Orientation.....	18
Map Page.....	11, 18
Map Scale.....	11
Map Source CD.....	34
Maps.....	31
Marine Autopilot.....	43
Mark a Waypoint.....	14
Max Speed.....	19
Menu Page Basics.....	13
Military Time.....	29
N	
Navigation.....	5, 18
Nearest Waypoints Page.....	23
NMEA.....	35, 43
North reference.....	34
P	
Page Basics.....	11-13
Pointer Page.....	12, 16, 19
Position Format.....	32
R	
Ready to Navigate.....	10
Review a Waypoint.....	22
Routes.....	24-26
RTCM.....	35

Appendix H Index

S

Satellite Page.....	9, 10
Satellite Reception.....	40-41
Setup Page.....	29
Signal Strength Bar.....	10
Software Version.....	36
Specifications.....	38
Speed.....	19
System Page.....	36

T

Time Format.....	29
Time Offset Chart.....	42
Time Zones.....	13, 42
Tracback Navigation.....	27
Track Logs.....	17, 27-28
Tracklog.....	45
Trip Odometer.....	20
Troubleshooting.....	44

U

Units of Measure.....	33
Units Page.....	31
User Grid Format.....	32
UTC.....	30

W

Warnings and Cautions.....	3
Warranty.....	50
Waypoint Page.....	22
Waypoint Symbol.....	14
Website.....	1, 32
Welcome Page.....	9
Wiring Diagram.....	43

Warranty

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

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, 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 EXCLUSIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

To obtain warranty service, call the GARMIN Customer Service department (913/397.8200) for a returned merchandise tracking number. The unit should be securely packaged with the tracking number clearly marked on the outside of the package, and sent freight prepaid and insured to a GARMIN warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs. GARMIN retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.



© 2000 GARMIN Corporation

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 9AQ, U.K.

GARMIN (Asia) Corporation
No. 68, Jangshu 2nd Road., Shijr, Taipei County, Taiwan

www.garmin.com

Part Number 190-00205-00 Rev. A