GARMIN

eTrex®

personal navigator™

owner's
manual

On Your Mark. . .

Welcome

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

Why should you register your eTrex purchase?

• Notification of Product Updates

• Notification of New Products

Connect to our web site *(www.garmin.com)* and look for the Product Registration link on the home page. If your eTrex contains an 8-digit serial number, it can be found inside the battery compartment.

Thanks for choosing the Garmin eTrex. If you have any questions or comments regarding the use of the eTrex you can visit our web site (www.garmin.com) or contact our Customer Service Department:

**M-F, 8:00-5:00 CST (except holidays)
at 1-800-800-1020.**

Table of Contents

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.

CAUTION: Electronics are protected if immersed, but the battery compartment may get wet. Make sure the batteries and compartment are dry before using.

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 re-installing batteries. Follow the battery manufacturer's instructions on the proper care and handling of the batteries.

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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.

California's Proposition 65

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 www.garmin.com/prop65.

The eTrex is a six ounce, 12 channel, hand held GPS receiver. It has a built-in GPS antenna and five user-buttons. All buttons are located on the sides 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 alkaline batteries in battery save mode.

In addition to determining your location, the eTrex creates, names and saves 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 know where you are, where you've been and where you're going. And since you 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:	Allows you to navigate a course of 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 for and capable of navigating without the eTrex. It is designed to augment other forms of basic navigation, not entirely replace them.

eTrex Buttons   Operating the eTrex is as simple as pressing a 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 NavigationPage

The **ENTER** Button:

- Confirms data entry or menu selections
- Displays options on main pages
- Pressing and holding the **ENTER** button activates the Mark Waypoint Page

The **PAGE** Button:

- Switches between pages and moves 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 **POWER** Button:

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

**eTrex
Description**

Internal
GPS Antenna

UP Button

DOWN Button

ENTER
Button

PAGE
Button

POWER
Button

READY
TO NAVIGATE
ACCURACY:
15ft

SIGNAL

GARMIN

LCD Display
(with backlight)

External Power
and
Data Connector

Waterproof Case

Battery
Compartment

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Accessories

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
Attaches to a slot on the bottom of the unit for convenient carrying.

Owner's Manual

Quick Start Guide

Optional Accessories

Carrying Case
Protects the eTrex when not in use.
Belt Clip
Allow easy access to the eTrex when clipped to a belt..

Auto Power Adapter

Provides eTrex operation from an automobile cigarette lighter.

PC Data Cable

Allows for transfer of data from a PC to an eTrex.

Data Cable

Wiring harness. Connections for data input/output.

Bicycle Mounting Kit

Allows the eTrex to be mounted on a bicycle handle bar.

PC Cable/Auto Power Adapter

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 two AA batteries (not included), which are installed at the back of the unit. To install the batteries, remove the battery cover by turning the D-ring on the back of the unit 1/4 turn counter-clockwise. Insert the batteries observing proper polarity. Attach the battery cover by turning the D-ring 1/4 turn clockwise. Two AA alkaline 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 the 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 displays graphic tracking of 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, the eTrex needs only about 15 to 45 seconds to find your location.*

When you see the "READY TO NAVIGATE" message on the Satellite Page, the 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. . .
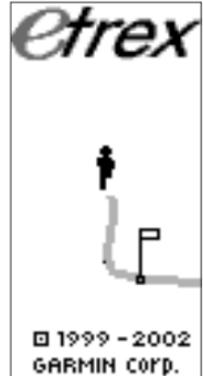
The Welcome Page
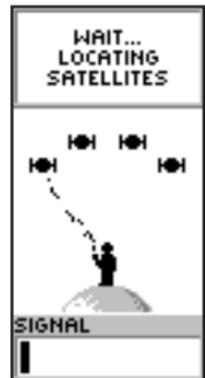
The Satellite Page

Page Basics
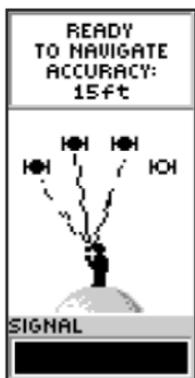
The "READY TO NAVIGATE" message must appear before you can begin using your eTrex to navigate.

Pressing ENTER on the Advanced Skyview Page also offers the options of Orienting the Sky Ahead or Northward, Setup Display (backlighting/ contrast), and returning to Normal Skyview.

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   Map   Navigation   Menu
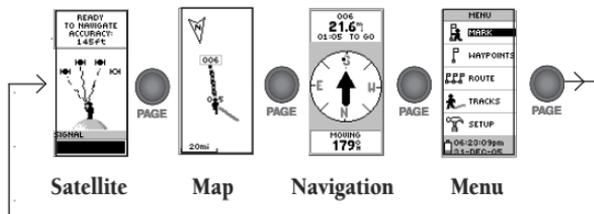
Satellite Page Basics

The Satellite Page shows the eTrex gathering all the necessary satellite information in order to work. There are two display options on the Satellite Page, Normal Skyview and Advanced Skyview. Normal Skyview shows you (in animation), the satellites, satellite signal strength, and the eTrex's estimated location accuracy.

To activate the Advanced Skyview page, simply press **ENTER** when on the Satellite Page, select 'Advanced Skyview' and press **ENTER** again. This page displays the numbered satellites the eTrex is using, their proximity to your current position, and their individual signal strengths. To determine the location of the satellites being used around you, the outer circle of the display represents the horizon and the center represents the sky directly overhead.

Status Message
Location Accuracy (estimated)
Satellites
Satellite Signal Strength Bars
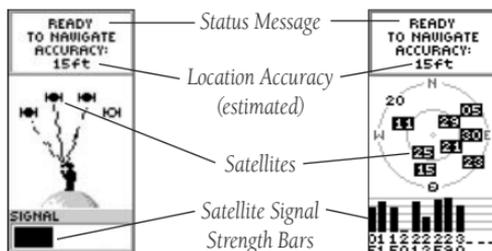
Normal Skyview   **Advanced Skyview**

Map Page Basics

North Pointer

Destination Waypoint

CAMP

"You"; Your Location

Path to Destination

0.5

"Trail" (track log)

Map Scale

20mi
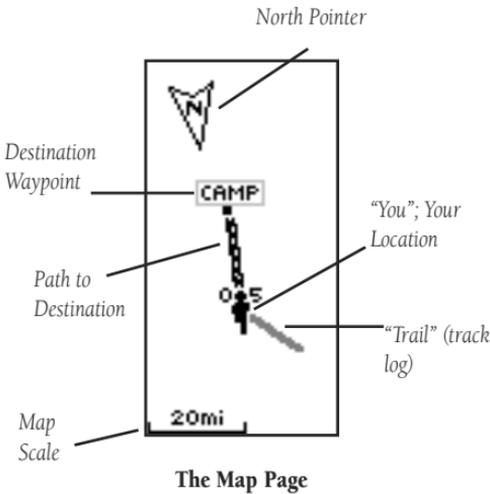
The Map Page

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 GPS Navigation" section.

To help you better visualize the "real world", the 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 200 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 200 feet to 800 miles.*
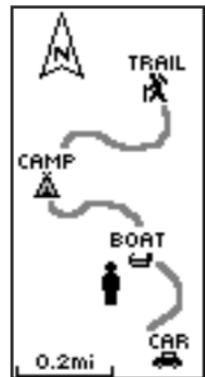
The Map Page showing different symbols and waypoints.

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Page Basics

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

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

Navigation Page Basics

Waypoint (Location) Name

Time to reach the Destination

HOME
69.3ᵐ
04:45 TO GO

Straight Line Distance to the Destination

Moving Direction Line

Direction Arrow (follow this)

Compass Ring

Destination Symbol
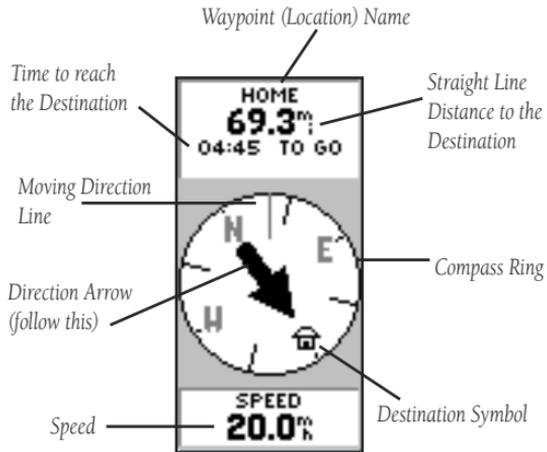
Speed

SPEED
20.0ᵐₕ

The Navigation Page

The Navigation Page helps guide you to a destination. When you're moving with no particular destination in mind, the Navigation Page shows you your moving direction and speed. When you're moving towards a specific destination, the Navigation Page shows you the name of the location, the distance and time to go, and displays a direction arrow in the compass ring. To navigate, simply follow the arrow.

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, position coordinates, elevation, time of sunrise/sunset, trip timer and trip odometer.

NOTE: The direction arrow, destination symbol and bearing information only appear on the Navigation Page when you have started a GOTO, a Route or a TracBack.

Main Menu Basics

MENU

Menu Options

Time and Date

Battery Capacity

The Main Menu Page

Backlight Indicator
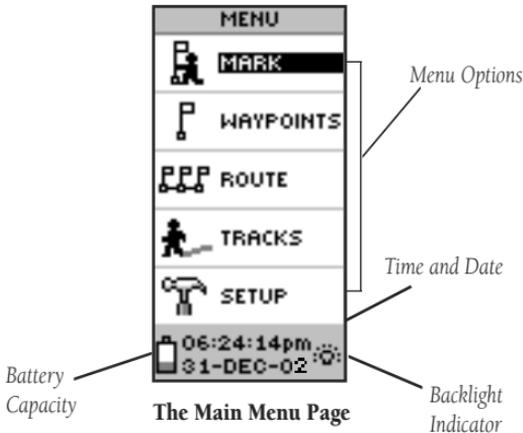
The Main Menu gives you access to the eTrex's more advanced features. With the Main Menu you can create and view waypoints, create a route, save and view track logs or access the system setup features. Information on all these advanced features is included in the reference section of this manual.

Changing the Time Zone

Practice using the Main Menu 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' Menu 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

*From the Main Menu Page, the **UP** and **DOWN** Buttons are used to cycle through menu options and access advanced features.*

TIME

TIME FORMAT
12 HOUR

TIME ZONE
US - Central

US - Alaska
US - Atlantic
US - Central
US - Eastern
US - Hawaii
US - Mountai
US - Pacific
other

You can choose from 30 time zones, plus 'other'.

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Let the Fun Begin!

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

The Elevation and Position Coordinates are 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.

Discovering GPS Navigation

Discovering how to use 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).

Creating a Waypoint

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 state "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**.

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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, 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 see your change in direction displayed on the Map.

Edit Waypoints

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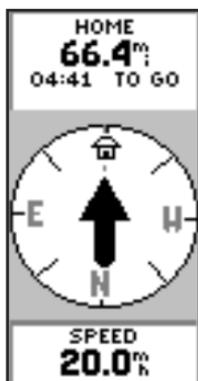

The 'EDIT WAYPOINT NAME' Page.

Follow the Arrow

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

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

Guidance by Garmin

The eTrex guides you to a destination using a GOTO (GOTO means GOing TO a destination in a direct line). Now let's use the GOTO feature and the Navigation Page to travel back to our starting location.

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 Navigation Page appears and you're now ready for the 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 Navigation Page. The arrow 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. When you are nearing to your destination, the eTrex will display the message "ARRIVING DESTINATION".

Cancelling A GOTO

Anytime you want to stop a GOTO:

1. Press the **PAGE** Button and switch to the 'NAVIGATION' 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 movements. 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 'TRACK LOG' 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 the eTrex and you're ready to navigate! To turn the eTrex off, press and hold the **POWER** Button.
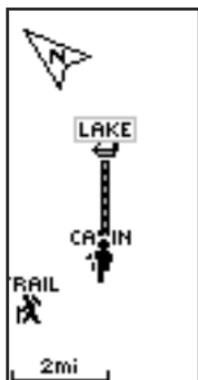
You've Made It!

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

Clear the Track Log when the Map Page gets too cluttered.

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 Northward' 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/Northward:** When 'AHEAD' is selected, the top of the map is oriented in the direction you are currently moving. When 'NORTHWARD' 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.

- **Show/Hide Waypoints:** Allows you to view the map with or without waypoints.

- **Show Course Line/Bearing Line:** 'SHOW COURSE LINE' displays the path from your starting point to your destination. 'SHOW BEARING LINE' displays the path from your current location to your destination.

- **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.

Navigation Page Options

In addition to the Navigation Page basics that were covered on page 12, the following Navigation 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 Navigation Page option:

  1. Press the **ENTER** Button on the 'NAVIGATION' 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 Navigation 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.

The Navigation 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 current location.

Main Menu Selections

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

*Remember that pressing and holding the **ENTER** Button displays your location on the 'MARK WAYPOINT' Page.*

Bearing—the compass direction from your location to a destination.

Elevation—the measurement of height above mean sea level.

Location—shows your current position coordinates.

Sunrise—the time of sunrise at your present location.

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.

Main Menu Selections

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

Mark Waypoint Page

The 'MARK WAYPOINT' Page allows you to change the waypoint symbol, name, elevation and location (latitude and longitude). The information on page 14-15 explains how to change the waypoint symbol and name.

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To change the location (position coordinates):

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 'POSITION COORDINATES' field and press **ENTER**. The 'EDIT LOCATION' Page appears.

3. Scroll through the 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 position coordinates are now stored in memory.

To change the elevation:

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 'ELEV' field and press **ENTER**. The 'ENTER CORRECT ELEVATION' Page appears.

3. Use the **UP** or **DOWN** Button to highlight the desired digit and press **ENTER**. A selection window appears. Press the **UP** or **DOWN** Button to select a new number and press **ENTER**. Repeat until all numbers are changed.

4. Press the **UP** or **DOWN** Button to highlight the 'OK' field and press **ENTER**. The 'MARK WAYPOINT' Page appears with the correct elevation displayed.

Mark Waypoint Page


```
    EDIT
  LOCATION

 N 38°51.393'
 W094°47.939'

    USE
ENTER BUTTON
  TO EDIT,
  UP/DOWN
 BUTTONS TO
  SELECT

    OK
```

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


```
  ENTER
 CORRECT
ELEVATION

 0 1111ft

    USE
ENTER BUTTON
  TO EDIT,
  UP/DOWN
 BUTTONS TO
  SELECT

    OK
```

The 'ENTER CORRECT ELEVATION' Page allows you to change the elevation for the waypoint.

21

Waypoints Page

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

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

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' for a separate list, 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.

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 within 250 miles appear in a list showing their name and the 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**.

   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.

Review Waypoint Page

The Review Waypoint Page allows you to change the waypoint symbol, name, elevation and location (just like on the Mark Waypoint Page). 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**.

    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 with bearing and distance. You can use the **UP** or **DOWN** Buttons to zoom in and out on the map. Press the **PAGE** Button and switch back to the 'WAYPOINTS' Page.
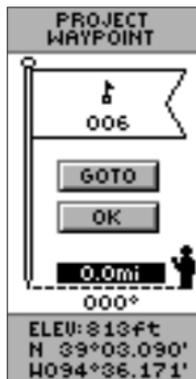
Review Waypoint Page

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

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

23

Review Waypoint Page

The 'PROJECT WAYPOINT' Page

The 'EDIT NUMBER' Page

Using the Project feature can create a waypoint at a specified distance and bearing using a new or existing waypoint as a reference. This works best when using a map and compass to determine distance and bearing. You can also change the name, symbol and elevation on this page.

Projecting a waypoint:

1. To project a waypoint from a waypoint on the waypoint list (in order to insert a new waypoint in a route, for example), select the route waypoint from the list on the 'WAYPOINTS' Page and press **ENTER**. The 'REVIEW WAYPOINT' Page displays.

    To project a waypoint from your current location (i.e., in order to travel to a location sighted in the distance), press and hold the **OK** Button to mark your location and save it as a waypoint. Then, select it from the waypoints list, and press **ENTER** to display the 'REVIEW WAYPOINT' Page.

2. Using the **UP** or **DOWN** Button, highlight the 'PROJECT' field and press **ENTER**. The 'PROJECT WAYPOINT' Page displays and a numeric name is assigned to the new waypoint.

3. The distance field is highlighted by default. Press **ENTER** to display the 'EDIT NUMBER' Page.

4. On the 'EDIT NUMBER' Page, pressing the **DOWN** Button moves the highlight to the next number in the field. With the desired digit selected, press **ENTER** to activate the drop-down number list.

5. Using the **UP** or **DOWN** Button, select the correct number and press **ENTER**. When all numbers are entered correctly, highlight 'OK' and press **ENTER**.

6. Using the **DOWN** Button, highlight the bearing field and press **ENTER** to display the 'EDIT ANGLE' Page.

7. On the 'EDIT ANGLE' Page, pressing the **DOWN** Button moves the highlight to the next number in the field. With the desired digit selected, press **ENTER** to activate the drop-down number list.

8. Using the **UP** or **DOWN** Button, select the correct number and press **ENTER**. When all numbers are entered correctly, highlight 'OK' and press **ENTER**.

9. Highlight 'GOTO' and press **ENTER** to save the waypoint and begin direct navigation to the point.

'Route' and Route Page

Routes

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.

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 buttons. 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 Two waypoints (up to a maximum of 50) are linked together to form a route.

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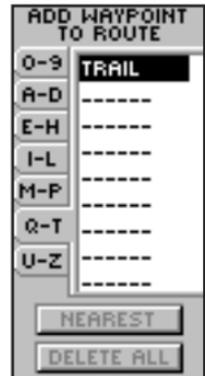
When you start your trip, you activate the route feature and the eTrex points the way you should travel to get from the first waypoint to the second. You can then use the Navigation page to give you steering guidance.

TracBack, is discussed on page 28.
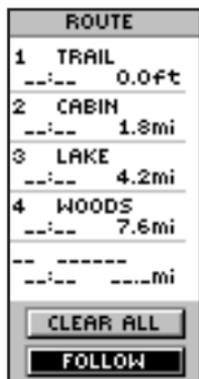
The 'ROUTE' feature is found on the 'MENU' Page.

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

Routes

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

Press 'FOLLOW' to activate a route.

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 use "Save To Device" to download the 'ROUTE' to the eTrex. See your Garmin dealer for more information on using MapSource (MapSource 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 (the eTrex has one route).

To create a route from the waypoints 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 **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.

There are two ways to insert a waypoint into an existing 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.

Routes

To insert a waypoint into an existing route:

1. From the **Route** page, press the **UP** or **DOWN** Button to select the entry point for the new waypoint. Stop at the waypoint on the route list that you want to follow the new waypoint or use the last open slot if you want the new point at the end of the route. 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 desired field on the 'ROUTE' Page.

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 'Navigation' 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**.

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. 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' and press **ENTER.**
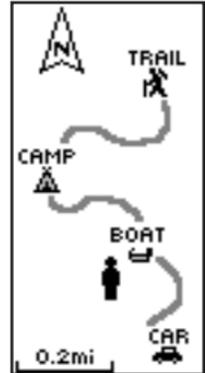
The eTrex draws an electronic breadcrumb trail as you travel.

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

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Track Logs

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

'CLEAR' the track log before starting a new trip.

What is a Track Log?

The eTrex draws an electronic breadcrumb trail or 'track log' on the Map Page as you travel. 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 the track memory is filled and it begins to overwrite the earliest tracks, you can save it to the 'Saved Tracks' list. You can save a total of ten tracks in the eTrex. Saved tracks can be used for navigation later. After a track log is saved, the saved track will have a beginning (BEGIN) and ending (END) point. This simply shows the "when/where" of the starting and ending points of the saved track.

When you are ready to return to where you started, the eTrex will take you back by following the track log that you left behind. 'TracBack' allows you to return along a traveled path without marking any waypoints. 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 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.

Clearing the current track log:

1. With the 'MENU' Page displayed, press the **UP** and **DOWN** Buttons to highlight 'TRACKS' and press **ENTER**. The 'TRACK LOG' Page will appear.

2. Highlight the 'CLEAR' Button and press **ENTER**.

3. You will be asked 'DO YOU REALLY WANT TO CLEAR THE TRACK LOG?'. Use the **DOWN** Button to highlight 'YES' and press **ENTER** to clear the current track log.

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.

> *NOTE: Saving a Track Log does not remove those points from the active memory.*

Renaming a saved track log:

1. With the 'MENU' Page displayed, highlight 'TRACKS' and press **ENTER**. The 'TRACK LOG' Page will appear.

2. Place the highlight on a saved track and press **ENTER**. The saved track will be displayed on a map.

3. A default name will be displayed at the top of the map. Using the **UP** or **DOWN** Button, highlight the name and press **ENTER**. The 'EDIT TRACK NAME' Page will be displayed.

4. With the 'EDIT TRACK NAME' Page displayed, pressing the **DOWN** Button will move the highlight to the next place in the name field. When the desired place is selected, press **ENTER** to activate the drop-down alphanumeric list.

5. Using the **UP** or **DOWN** Button, select the correct character and press **ENTER**. When the name has been entered correctly, highlight 'OK' and press **ENTER**.

Track Logs

You can save a track from a specific time or save the entire track log.

The 'EDIT TRACK NAME' Page.

Track Logs

31-AUG-00

END

BEGIN

0.2mi

TO BEGIN
TO END

TRACEBACK

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 press **PAGE** to exit).

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). 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 'TRACBACK'. 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 'NAVI-GATION' Page guides you to your destination.

   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.

Setup Menu

The Setup Menu allows you to customize the eTrex. From the Setup Menu 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 Page

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 Menu
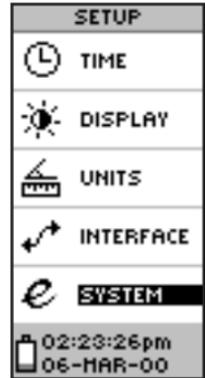
The 'SETUP' Menu

Choose a 12 hour or 24 hour time setting.

Setup Menu

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.

The Daylight Savings time options.

Time Zone

The time zone can be set to any one of thirty 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 'lcl' (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.

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. (Refer to the UTC Offset Chart on page 44.)

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.

> *NOTE: Daylight Savings time settings will not affect the UTC offset number.*

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' slider bar and press **ENTER**.

3. Press the **UP** or **DOWN** Button to move the slider to adjust the contrast, then press **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 eighteen different grids. The eTrex supports the UTM/UPS and latitude/longitude grids because together they cover the world.

Display and Units Pages

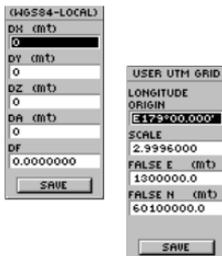*You can set the backlight to stay On all the time, but watch your battery power!*

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

33

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 coordinates 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 datums 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** or **DOWN** Button 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** or **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.
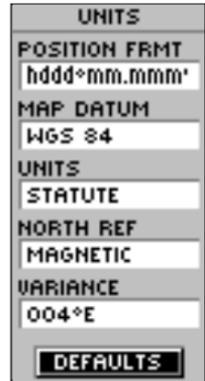
To change the Units of Measure:

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** or **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.
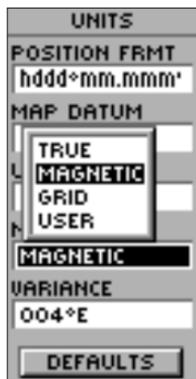
Units of Measure

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.

35

Units of Measure


```
UNITS
POSITION FRMT
hddd°mm.mmm'
MAP DATUM
   TRUE
   MAGNETIC
   GRID
   USER
MAGNETIC
VARIANCE
004°E
   DEFAULTS
```

'MAGNETIC' north is the default north reference setting.

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 a 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** or **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 with 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 3.0 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 3.0 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


```
INTERFACE
I/O FORMAT
GARMIN

GARMIN
GARMIN DGPS
NMEA OUT
TEXT OUT
RTCM IN
RTCM/NMEA
RTCM/TEXT
NONE
```

*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.
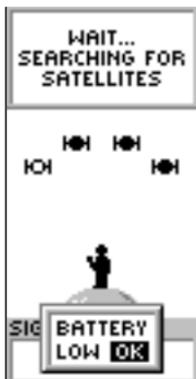
A 'BATTERY LOW' message appears at the bottom of every page when there are approximately ten minutes of battery life left (when using alkaline batteries).

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 eTrex's current software version and allows you to choose from three modes of operation:

- Normal
- Battery Save
- Demo (Demonstration)

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's GPS receiver will turn off and stop tracking satellites, but the unit itself will not power off). To do so, press **ENTER.**

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

Battery Save

The eTrex's batteries will last up to 22 hours in 'BATTERY SAVE' mode (when using alkaline batteries).

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 (with alkaline batteries)[4]

Specifications subject to change without notice.

[1]With optional Garmin Differential Beacon Receiver Input (such as Garmin GBR 21).

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

[3]The 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 or PC Interface Cable with Auto Power Adapter (This cable contains a voltage regulator). Modifications or other applications will void the product warranty.

[4]Alkaline 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.

*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 to 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 to highlight 'NO'. Press **ENTER**.

2. eTrex then asks: 'HAVE YOU MOVED HUNDREDS OF MILES/KM SINCE LAST USE?' Press the **UP** or **DOWN** Button to 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.***

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 to highlight 'NO'. Press **ENTER**.

2. eTrex then asks: 'HAVE YOU MOVED HUNDREDS OF MILES/KM SINCE LAST USE?' Press the **UP** or **DOWN** Button to 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.

**Appendix C
Reception Tips**

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

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 3.0 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 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 the Garmin web site *www.garmin.com* for ordering information). Refer to the wiring diagram and the eTrex unit data connection illustrated below.

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

45
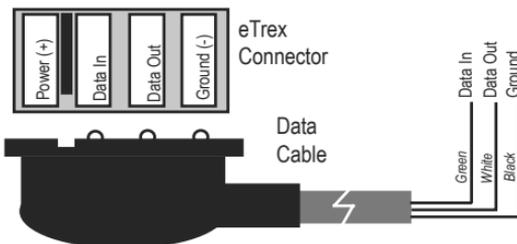
**Appendix F
Troubleshooting**

The 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 42.

The arrow on the Navigation 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 magnetic compass it cannot show you which way you are facing while you are standing still.

The eTrex coordinates do not match the location on your map:

1. Check to make sure the eTrex is configured to use the same position format and datum as your map. See page 34.

NOTE: The Auto Power Adapter converts 12 VDC to 3 VDC output for the eTrex. This adapter is not interchangeable with auto power adapters designed for the Garmin VHF 720 and 725, GPS 170, 175, 190 and 195.

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

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 S/A. It is not
uncommon to see the altitude continuously drift up and
down when S/A is being imposed.

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.

**Appendix G
FAQs**

What Grid Formats does the eTrex Support?
hddd.ddddd° (degrees, decimal degrees)

hddd°mm.mm (degrees, minutes, decimal minutes)

hddd°mm'ss.s (degrees, minutes, seconds, decimal seconds)

British Grid

Dutch Grid

Finnish KKJ27 Grid

German Grid

Irish Grid

Maidenhead

MGRS (Military Grid Reference System)

New Zealand

Qatar Grid

Swedish Grid

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.

What does the message "NO DGPS POSITION" mean?
eTrex had a differential fix and lost it.

Limited Warranty

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

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

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

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

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

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.

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