

eTrex Summit

personal navigator

owner's
manual
and
reference
guide



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Registration



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WARNING: If you choose to use the eTrex Summit in a vehicle, it is the sole responsibility of the owner/operator of the eTrex Summit 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 Summit 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 Summit 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 Summit to the exclusion of safe operating practices. It is unsafe to operate the eTrex Summit while you are driving. Failure by the operator of a vehicle equipped with an eTrex Summit 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 Summit 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 Summit 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 Summit 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 Summit 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 Summit 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 up to 22 hours on two AA batteries in battery save mode.

The eTrex Summit contains a full function GPS, electronic compass and barometric altimeter. The eTrex Summit will track barometric pressure and altitude changes, providing data never before available in such a small package. Using the built in compass, the eTrex Summit will provide you with a reliable heading even while standing still. When moving, the eTrex Summit will provide you with more data, including speed, direction of movement, time, distance to destination, and more.

From these basic features, your eTrex Summit can provide one more critical benefit; peace of mind, because, with the combination of these technologies 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.

Routes: 20 Routes that let you navigate through a set of 50 waypoints.

Trip Computer: Current speed, average speed, maximum speed, bearing, elevation, location, time of sunrise/sunset, trip timer and trip odometer.

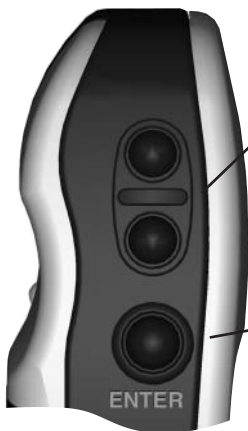
Elevation Computer: Total ascent, total descent, average ascent, average descent, maximum ascent, maximum descent, vertical speed, pressure, 12 hour pressure trend, maximum elevation, and minimum elevation.

Features



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

eTrex Summit Buttons



The **UP/DOWN** Button:

- Select options on pages and menus
- Adjusts Contrast on SkyView Page
- Zoom in and out on Map Page
- Cycles through trip computer data
- Cycles through elevation computer data

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



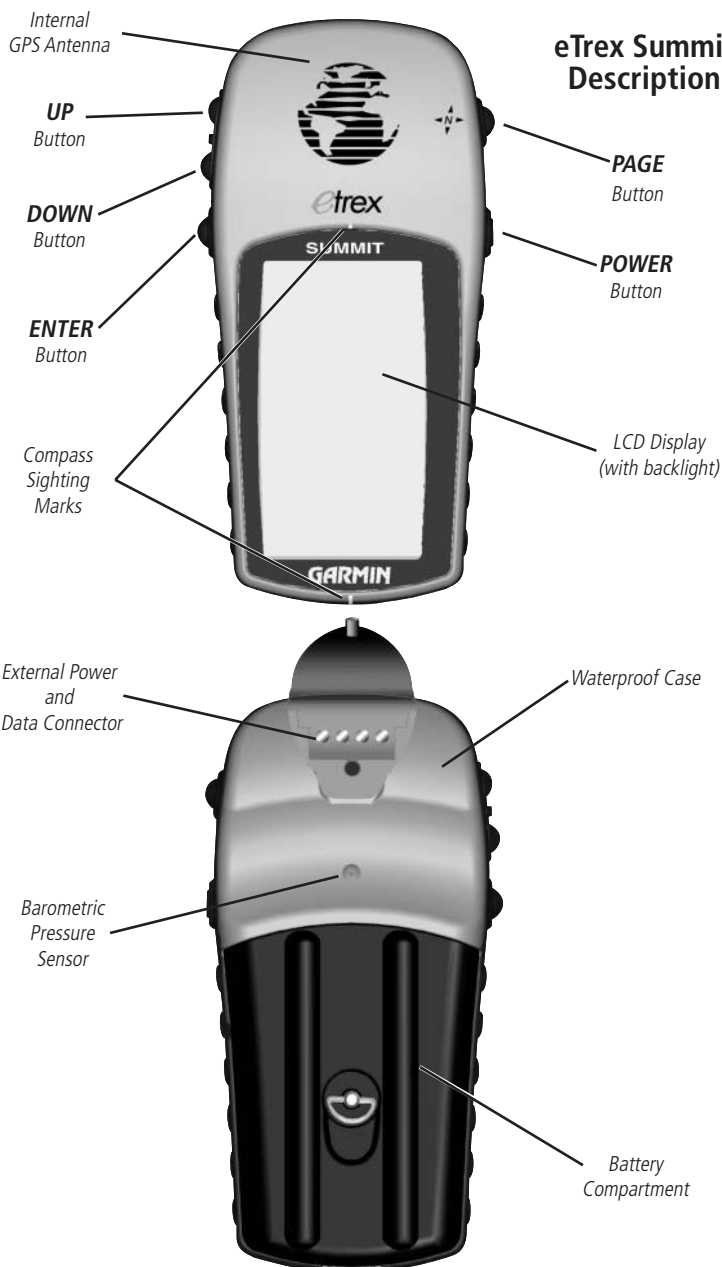
The **PAGE** Button:

- Switches display pages.
- Allows you to quit a function.
- Pressing and holding the **PAGE** Button will turn on the Electronic Compass and display the Pointer Page.

The **POWER** Button:

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

eTrex Summit Description



Battery Installation



Lanyard Installation

Installing the Batteries

The eTrex Summit 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 at 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. The two AA batteries can last up to 16 hours during typical use.

Battery Cover



D-ring



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

The First Step

The eTrex Summit's GPS operates using information gathered from satellites. To Initialize the eTrex Summit's GPS receiver the first time, take your eTrex Summit outside and find a large, open area that has a clear view of the sky. Press and hold the **POWER** Button to turn the unit on. You'll see the Welcome Page for a few seconds while the eTrex Summit performs a self-test, followed by the SkyView Page.



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

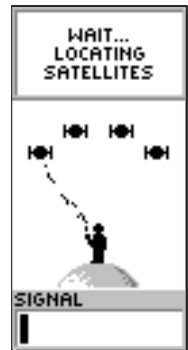
The eTrex Summit needs to receive at least three strong satellite signals to find your location. The SkyView Page shows you graphically eTrex Summit tracking satellites, and the strength of the satellite signals. The status is also displayed at the top of the page.

When you see the "READY TO NAVIGATE" message in the status box, eTrex Summit has found your location and the GPS receiver is initialize and ready for use.

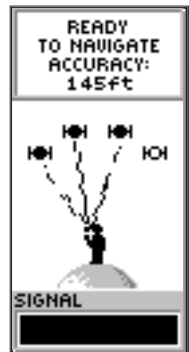
Backlighting and Contrast

If the lighting conditions make it hard for you to see the screen, 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 adjust the screen contrast, press the **PAGE** Button until you see The SkyView Page. Press the **UP** Button to make the screen darker, press the **DOWN** Button to make the screen lighter.

Here We Go

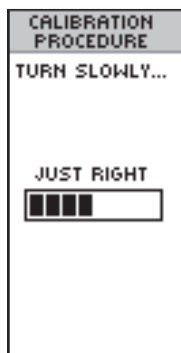


The SkyView Page



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

Calibrating the Compass



The Speed Scale indicates whether you are 'TOO SLOW', 'JUST RIGHT' or 'TOO FAST'.

Helpful Compass Tips

1. The Electronic Compass will need to be recalibrated outdoors every time the batteries are changed.
2. The Electronic Compass will not be accurate when used in a car or around items that radiate a magnetic field.
3. When using the compass, hold the unit as level as possible. The more that the unit is tilted, the less accurate the compass will become.

Calibrating the Electronic Compass

The eTrex Summit's Electronic Compass needs to be calibrated outdoors after the batteries have been changed before using the unit for navigation. Failure to calibrate the Electronic Compass can result in gross inaccuracy of the compass feature.

Compass Calibration:

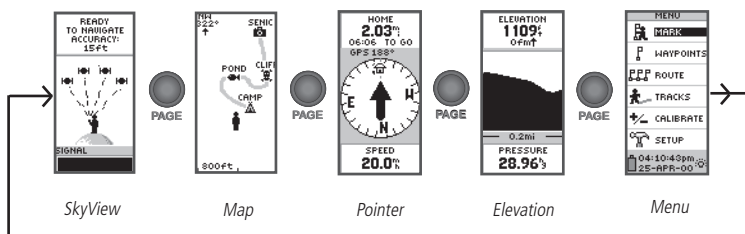
1. Press the **PAGE** Button until the MENU Page is displayed.
2. Using the **UP** or **DOWN** Button, highlight 'Calibrate' and press the **ENTER** Button.
3. Using the **UP** or **DOWN** Button, highlight 'Compass' and press the **ENTER** Button.
4. With 'Start' highlighted, press the **ENTER** Button to begin the calibration.
5. Making sure that the unit is level, rotate the eTrex Summit slowly two turns in the same direction. On the display there will be a speed scale that indicates whether you are rotating the unit 'Too Fast', 'Too Slow' or 'Just Right'. A message will be displayed when the compass has been successfully calibrated.



NOTE: The eTrex Summit needs to be level during compass calibration and use. If the unit is tilted on either axis the compass feature will become less accurate.

Selecting a Page

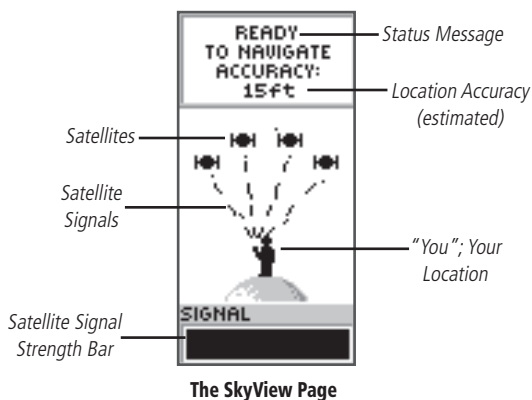
All of the information needed to operate the eTrex Summit is found on five main “pages” (or display screens). These pages are The SkyView, Map, Pointer, Elevation and Menu. Simply press the **PAGE** Button to switch between pages.



Page Basics

SkyView Page Basics

The SkyView Page displays the eTrex Summit's receiver status. It also shows the strength of the satellite signals that are being received. If the signals are weak you may need to try a different location for better reception. The shorter the signal strength bar, the weaker the signals. At the top of the page the unit displays the status of the receiver. The eTrex Summit displays the message 'Ready to Navigate' when the receiver has gathered enough satellite information to begin navigation.

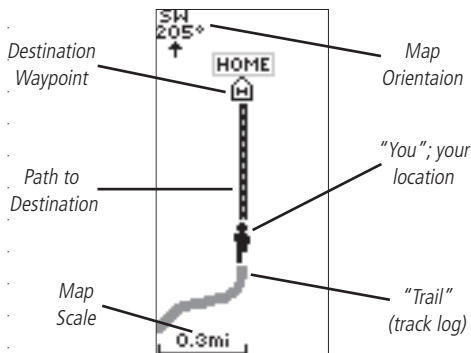


Page Basics



On the Map Page, the **UP** and **DOWN** Buttons are used to adjust the map scale from 200 feet to 800 miles.

Map Page Basics



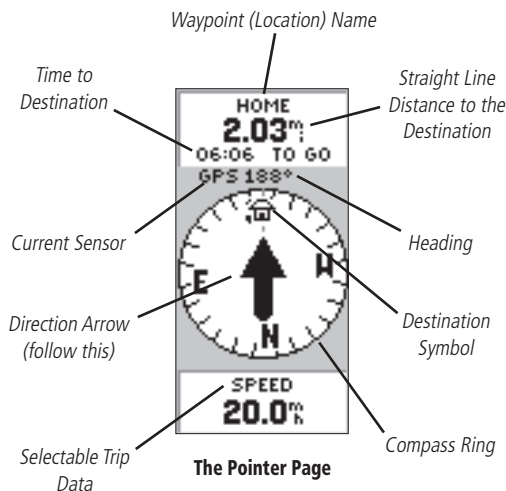
The Map Page

The Map Page shows where you are (the animated figure) and provides a picture of where you are going. As you travel, the animated figure “walks” and leaves a “breadcrumb trail” known as a Track Log. Waypoint names and symbols are also shown on the map.

To help you better visualize the “real world”, eTrex Summit automatically rotates the map as you move, so that waypoints that are ahead of you are always displayed in front of the animated figure. In the upper left corner of the screen, the Map Orientation is displayed.

To make sure you can see your entire trip, the map scale can be changed from 200 feet to 800 miles. To increase the map scale, press the **UP** Button. This will let you view a larger area in less detail. To decrease the map scale, press the **DOWN** Button. This will show a smaller

Pointer Page Basics



The Pointer Page helps guide you to a destination. When you're moving towards a specific destination, the Pointer Page shows you the name of the location, the distance, time to go and displays a direction arrow in the Compass Ring. To navigate, simply follow the arrow. If the arrow is pointing right, turn right until the arrow is pointing directly ahead and you will arrive at your destination.

The Compass Ring reflects your heading (direction of movement). The eTrex Summit will automatically select the correct sensor for you based on your speed.

By pressing the **UP** or **DOWN** Buttons, you can cycle through other trip computer information such as average speed, maximum speed, 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.

Page Basics



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

Page Basics

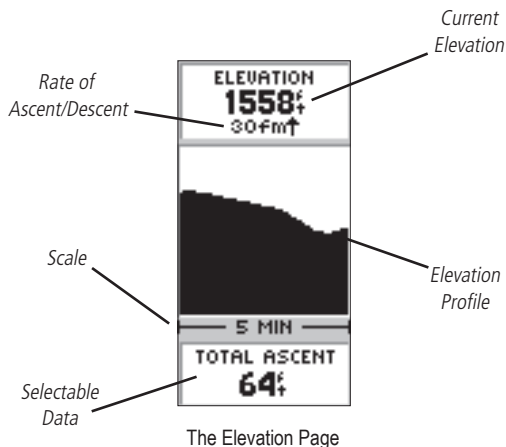


On the Elevation Page, the **UP** and **DOWN** Buttons are used to cycle through a variety of user-selectable data.



Press **ENTER** to access the Elevation Page 'OPTIONS'.

Elevation Page Basics

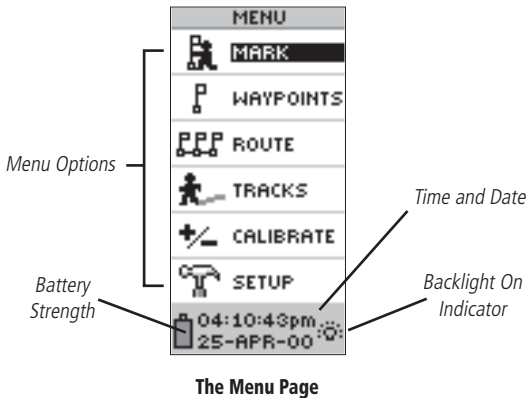


The Elevation Page will provide the user with the current elevation, rate of ascent/descent, and a profile of elevation changes over distance or time. The **UP** or **DOWN** Buttons can be used to scroll through a variety of user selectable data including Pressure, Vertical Speed, Max Descent, Max Ascent, Avg Descent, Avg Ascent, Total Descent, Total Ascent, Min Elevation, Max Elevation, and 12 Hour Pressure Trend.



The Altimeter should be calibrated for the greatest accuracy. See page 42 for more information on calibrating the Altimeter.

Menu Page Basics



The Menu Page gives you access to eTrex Summit's more advanced features. With the Menu Page you can create and view waypoints, create a route and view track logs, calibrate the electronic compass and altimeter or access the system setup features. Information on each of these advanced features is included in the Reference Section of this manual.

Changing the Time Zone

Let's practice using the Menu Page and set the eTrex Summit to display your local time.

To change the time zone:

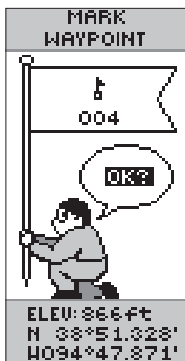
1. Using the **PAGE** Button, switch to the MENU Page. Using the **UP** or **DOWN** Button, highlight 'SETUP' and press **ENTER**. The SETUP Page appears.
2. Using the **UP** or **DOWN** Button, highlight 'TIME' and press **ENTER**.
3. Using the **UP** or **DOWN** Button, select the 'TIME ZONE' field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



The Latitude, Longitude and Elevation are displayed along the bottom of the MARK WAYPOINT and REVIEW WAYPOINT Pages.



You can select from 29 symbols to represent a waypoint on the map.

Discovering the Fun of GPS Navigation

Discovering the fun of using your eTrex Summit 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 Summit 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 Summit must be "READY TO NAVIGATE" before you mark a waypoint.

To mark a waypoint:

1. Press and hold the **ENTER** Button to activate the MARK WAYPOINT Page.

The waypoint is assigned a numeric name at the time it is created. You could press **ENTER** and save the waypoint now, but there are a couple of other things that you should take a look at.

The eTrex Summit comes equipped with 29 different waypoint symbols that can be displayed on the map to help quickly identify the waypoints.

To change the waypoint symbol:

1. On the MARK WAYPOINT Page, using the **UP** or **DOWN** Button, 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**.

As mentioned earlier the eTrex Summit will assign a numeric name at the time a waypoint is created. The assigned name can be easily changed to something more meaningful to help in identifying the waypoint.

To change the waypoint name:

1. On the MARK WAYPOINT Page, press the **UP** or **DOWN** Button to highlight the Waypoint Name '001'. Press **ENTER**. The EDIT WAYPOINT NAME Page appears.
2. 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'.
3. Using the **UP** or **DOWN** Button, highlight the 'OK' field and press **ENTER**. The MARK WAYPOINT Page appears.
4. Using the **UP** or **DOWN** Button, highlight the 'OK' field and press **ENTER**. Your location, named HOME, is now marked and stored in memory.

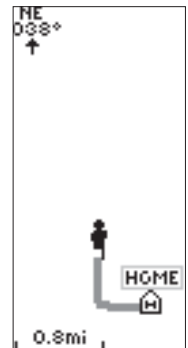
Now that you've marked your location, it's time to go for a walk. Press the **PAGE** Button and switch to the Map Page. Walk in a straight line for 2-3 minutes at a moderate pace and watch the Map Page.

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 or left turn and walk for another 2-3 minutes.

Edit Waypoint

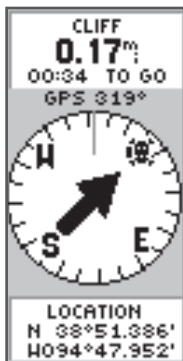


Edit Waypoint Name

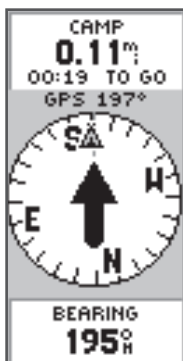


Map Page

Follow the Pointer



The pointer tells you what direction you should move. When the pointer is pointing right, 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!

Guidance by GARMIN

It is time to let the eTrex Summit guide you back to the waypoint we named 'HOME' using the GOTO function. The GOTO function provides you with a straight line navigation path to your selected destination.

To Start a GOTO:

1. Using the **PAGE** Button switch to the MENU Page.
2. Using the **UP** or **DOWN** Button, highlight 'WAYPOINTS' and press **ENTER**. The WAYPOINTS Page appears.
3. Using the **UP** or **DOWN** Button, select the tab containing 'HOME' and press **ENTER**.
4. Using the **UP** or **DOWN** Button, select 'HOME' and press **ENTER**. The REVIEW WAYPOINT Page appears.
5. Using the **UP** or **DOWN** Button, highlight 'GOTO', and press **ENTER**.3

The Compass Page appears and you're ready to begin navigating!

Heading in the Right Direction

The eTrex Summit will guide you back to where you started using the Pointer Page. The pointer shows the direction of the destination waypoint. 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 sensor that is being used, Compass or GPS, to determine your heading is displayed above the pointer. The speed you are traveling is shown at the bottom of the screen. Once you are getting close to your destination, eTrex Summit will give you the message "ARRIVING DESTINATION".

Cancelling a GOTO

Anytime you want to stop a GOTO:

1. Using the **PAGE** Button, 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 Summit a few times, 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. Using the **PAGE** Button, switch to the MENU Page.
2. Using the **UP** or **DOWN** Button, highlight 'TRACKS'. Press **ENTER**.
3. You are now on the TRACKS Page. Using the **UP** Button, highlight CLEAR, and press **ENTER**.
4. Using the **DOWN** Button, highlight 'YES'. Press **ENTER**.
5. Press the **PAGE** Button to select any page.

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



When you clear the Track Log you also clear the Elevation Profile. Learn how to save the Track Log and use it for 'Trackback' navigation on pages 39 and 40 in the Reference Section.

You've Made It!



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

SkyView Page Options



Normal SkyView Page Options

Introduction

This section will describe the features and use of the eTrex Summit in more detail than the Getting Started Section.

SkyView Page Options

In addition to the functions of the default SkyView Page as described on page 11, there is an 'OPTIONS' menu available. To activate the 'OPTIONS' menu, press **ENTER** with the SkyView Page displayed. There are two options available:

- **Setup Display:** The Setup Display feature allows you to change the display contrast and set the time that the backlight will stay on.

Changing the contrast:

1. Place the highlight over the Contrast Slider, press **ENTER** to activate the slider.
2. Use the **UP** Button to darken the contrast or the **DOWN** Button to lighten the contrast.
3. When finished press **ENTER** to save the setting.

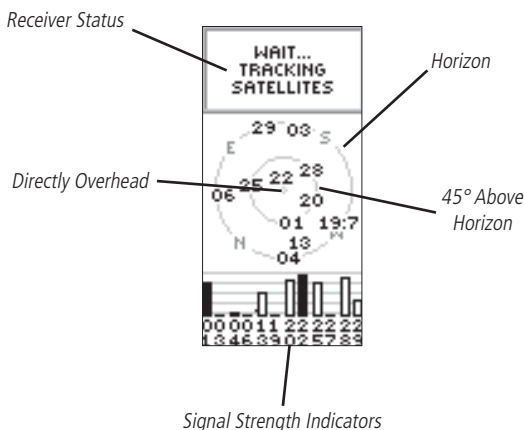
Setting the (Back) Light Timeout:

1. Place the highlight over the 'LIGHT TIMEOUT' field and press **ENTER**.
2. Choose the setting that you desire using the **UP** or **DOWN** Button.
3. Press **ENTER** to save the setting.

- **Advanced SkyView:** When you select the Advanced SkyView feature the eTrex Summit will display a different SkyView Page that contains more detailed information on the satellites including their position in relation to you and the signal strength for each satellite that is being received.

Selecting the Advanced SkyView Page:

1. Place the highlight over the 'ADVANCED SKYVIEW' field and press **ENTER**.



Advanced SkyView Page Options

The Advanced SkyView Page also has an 'OPTIONS' menu. To activate the 'OPTIONS' menu, press **ENTER** with the Advanced SkyView Page displayed. There are three options available:

- **Setup Display:** This is the same as on the default SkyView Page described on page 20.
- **Orient Sky Northward/Orient Sky Ahead:** As set from the factory, the eTrex Summit will orient the satellite view with your current track toward the top of the display. When you select 'ORIENT SKY NORTHWARD' the satellite position will be oriented with North at the top of the display. When 'ORIENT SKY AHEAD' is active, 'ORIENT SKY NORTHWARD' will be the available option.

To Select Orient Sky Northward or Ahead:

1. Place the highlight over the 'ORIENT SKY NORTHWARD' or 'ORIENT SKY AHEAD' field and press **ENTER**.

- **Normal SkyView:** This options displays the default SkyView Page.

To select Normal SkyView:

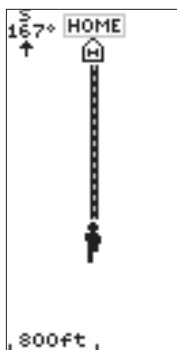
1. Place the highlight over 'NORMAL SKYVIEW' and press **ENTER**.

Advanced SkyView Page

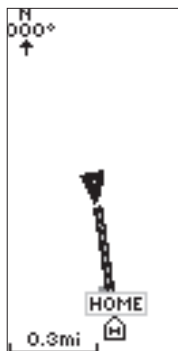


Advanced SkyView Page Options

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.

Map Page Options

In addition to the basic aspects of the Map Page that were covered on page 12, 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.
- **Hide Waypoints:** 'HIDE WAYPOINTS' will keep waypoint symbols and names from being displayed on the Map Page.
- **Stop Navigation:** 'STOP NAVIGATION' stops any active navigation (navigation means there is a destination waypoint or active route). 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. Using 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 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 Summit has lost satellite reception (weak signals). You should relocate the eTrex Summit 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 13, several Pointer Page options are available:

- **Sight 'N Go:** This feature allows the user to visually locate a landmark and lock its magnetic bearing. Once a bearing is locked you have the option of creating a projection waypoint or navigating along the locked bearing.

Projecting a waypoint using Sight 'N Go:

1. Press **ENTER** to activate the options list.
2. Using the **UP** or **DOWN** Button, highlight 'SIGHT 'N GO' and press **ENTER**.
3. Holding the eTrex Summit level, line up the sighting marks on the case with a distant landmark.
4. Press **ENTER** to lock the magnetic bearing.
5. Using the **UP** or **DOWN** Button, select either 'RE-SIGHT' or 'PROJECT'. If you select 'RE-SIGHT' you will return to step 3. If you selected 'PROJECT' proceed to step 6.



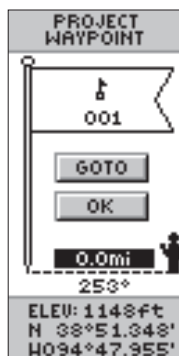
A Projection Waypoint is a waypoint created at a specified distance from the eTrex Summit's current GPS location.

6. The PROJECT WAYPOINT Page will be displayed with the Distance field highlighted. Press **ENTER**.
7. The EDIT NUMBER Page will be displayed. Use the **UP** or **DOWN** Button to select the desired digit. With the desired digit selected, press **ENTER** to activate the drop down number list.
8. Using the **UP** or **DOWN** Button, select the correct digit then press **ENTER**. When all digits are entered correctly, highlight 'OK' and press **ENTER**.
9. To save the waypoint, highlight 'OK' and press **ENTER**. To begin navigation to the waypoint, highlight 'GOTO' and press **ENTER**.

Pointer Page Options



When using the 'Sight 'N Go' or 'Set Course' feature of the eTrex Summit, hold the unit level and align the Sighting Marks on the case with a distant landmark.



Project Waypoint Page

Pointer Page Options



When using the 'Set Course' feature, the 'Pointer' indicates a direct bearing to your destination. The center of the pointer (D-Bar) will show your cross track (the distance you are right or left of the desired course). The example above shows that you are headed toward your destination but have drifted off course to the left about 50 feet. To return to your desired course turn toward the D-Bar (right) until the D-Bar aligns with the pointer

- **Set Course:** The Set Course feature allows the user to visually locate a landmark, lock in a bearing to the point and begin navigation on that bearing.

When using the Set Course feature the Pointer will point the direction you need to navigate, and display the cross track or the amount you are off course from straight line navigation.

Using the Set Course feature:

1. Press **ENTER** to activate the options list.
 2. Using the **UP** or **DOWN** Button, highlight 'SIGHT 'N GO' and press **ENTER**.
 3. Holding the eTrex Summit level, line up the sighting marks on the case with a distant landmark.
 4. Press **ENTER** to lock the magnetic bearing.
 5. Using the **UP** or **DOWN** Button, select 'SET COURSE'. Press **ENTER**. The eTrex Summit will begin navigation on the locked bearing
 6. To end navigation, press **ENTER**. Using the **UP** or **DOWN** Button, select 'STOP NAVIGATION' and press **ENTER**.
- **Big Heading/Compass:** this allows the user to select between seeing either large heading numbers or a large compass.
 - **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.

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.

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 Summit to display.

Pointer Page Options

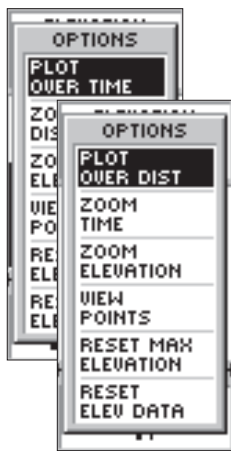


Pointer Page Options



User-Selectable Data Field

Elevation Page Options



Set the elevation profile to plot over distance or time.



Time Scale

Elevation Page Options

In addition to the Elevation Page basics explained on page 14, there are several options that allow the user to customize the elevation profile display.

'PLOT OVER TIME' sets the elevation profile to display changes over a set period of time.

To select 'PLOT OVER TIME':

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'PLOT OVER TIME' and press **ENTER**.

With the elevation profile set to 'PLOT OVER TIME' you can set the time duration using the 'ZOOM TIME' option. You can set the profile to display 2 minutes, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 1 hour, or 2 hours of elevation data.

To set Zoom Time:

1. With the Elevation Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'Zoom Time' and press **ENTER**. The display will switch back to the elevation profile.
3. Using the **UP** or **DOWN** Button, set the time scale.
4. When you have the correct time scale selected press **ENTER**.

'PLOT OVER DISTANCE' sets the elevation profile to display changes over a set period of time.

To select 'PLOT OVER DISTANCE':

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'PLOT OVER DISTANCE' and press **ENTER**.

With the elevation profile set to 'PLOT OVER DISTANCE' you can set the distance using the 'ZOOM DISTANCE' option. You can set the profile to display data over .2 miles, .5 miles, 1 miles, 5 miles, 10 miles, 15 miles or 25 miles.

To set Zoom Distance:

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'ZOOM DISTANCE' and press **ENTER**. The display will switch back to the elevation profile.
3. Using the **UP** or **DOWN** Button, select the time scale.
4. When you have the desired time scale selected, press **ENTER**.

The elevation profiles vertical distance can be changed using the 'ZOOM ELEVATION' option. The vertical elevation distance can be set to 200 feet, 400 feet, 600 feet, 800 feet, 1000 feet, 2500 feet, or 5000 feet.

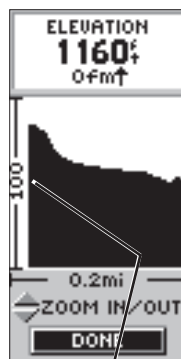
To set Zoom Elevation:

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'ZOOM ELEVATION' and press **ENTER**. The display will switch back to the elevation profile.
3. Using the **UP** or **DOWN** Button, select the vertical distance.
4. When you have the desired vertical distance selected, press **ENTER**.

Elevation Page Options



Distance Scale



Vertical Distance Scale

Elevation Page Options



Using the 'VIEW POINTS' option you can view any point in the elevation profile history.

The 'VIEW POINTS' options allows you to scroll through the stored elevation profile and view a single point along the profile. When the pointer is stopped at a location along the profile the elevation, time of day and date the point was created are displayed.

View Points:

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'ZOOM ELEVATION' and press **ENTER**. The display will switch back to the elevation profile.
3. Using the **UP** or **DOWN** Button (Up scrolls the display left Down scrolls the display right), select the point along the profile.
4. When finished press **ENTER** to exit 'VIEW POINTS'.

'RESET MAX ELEVATION' resets the maximum elevation data field at the bottom of the page.

To reset the Maximum Elevation:

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'RESET MAX ELEVATION' and press **ENTER**.

'RESET ELEVATION DATA' resets all of the data fields.

To reset the Elevation Data:

1. With the ELEVATION Page displayed, press **ENTER** to display the options list.
2. Using the **UP** or **DOWN** Button highlight 'RESET ELEV DATA' and press **ENTER**.

You can also change the data field along the bottom of the Elevation Page to display different data.

TOTAL ASCENT—Total distance ascended.

TOTAL DESCENT—Total distance descended.

AVG ASCENT—Average rate of ascent.

AVG DESCENT—Average rate of descent.

MAX ASCENT RATE—Maximum Ascent Rate.

MAX DESCENT RATE—Maximum Descent Rate.

VERTICAL SPEED—Vertical Speed.

PRESSURE—Current Normalized or Ambient pressure based on the pressure setting in System Setup, see page 55.

12HRS PRESSR—Tracks pressure changes over a 12 hour period.

MAX ELEVATION—Highest elevation reached.

MIN ELEVATION—Lowest elevation.

To scroll through the user selectable data:

1. The **UP** or **DOWN** arrow will scroll through the available data fields.

Elevation Page Data Fields



The Elevation Page Data Field has 11 user selectable options.



*On the Elevation Page, the **UP** and **DOWN** Buttons are used to scroll through the user-selectable data fields.*

Mark Waypoint Page



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



Highlight the small flag symbol and press **ENTER** to activate the symbol selections.

Menu Page Selections

The Menu Page turns the eTrex Summit into a powerful navigation tool. With the Menu Page you can customize the display, transfer information from a computer to eTrex Summit 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 create a waypoint at the eTrex Summit's current location or at a location you enter in the position field. You can also change the symbol, name and elevation.

To change the symbol:

1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'MARK'. Press **ENTER**.
2. Press the **UP** or **DOWN** Button and highlight the small flag and press **ENTER**.
3. Using the **UP** or **DOWN** Button, scroll through the symbols. Press **ENTER** to save the selection.

To change the name:

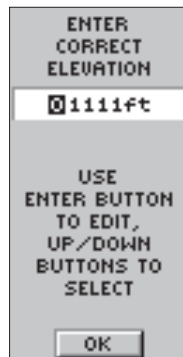
1. Press the **PAGE** Button and switch to the 'MENU' Page. Press the **UP** or **DOWN** Button and highlight 'MARK'. Press **ENTER**. The MARK WAYPOINT Page appears.
2. Press the **UP** or **DOWN** Button and highlight the numeric name and press **ENTER**. The EDIT WAYPOINT NAME Page will appear.
3. Use the **UP** or **DOWN** Button to highlight the desired letter, press **ENTER**. A letter selection window appears. Press the **UP** or **DOWN** Button to select a new letter and press **ENTER**. Repeat step 3 until all letters are changed.
4. Press the **UP** or **DOWN** Button to highlight the 'OK' field and press **ENTER**. The waypoint name is changed.

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, press **ENTER**. A selection window appears. Press the **UP** or **DOWN** Button to select a new number and press **ENTER**. Repeat step 3 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 corrected elevation displayed.

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. Use the **UP** or **DOWN** Button to highlight the desired letter or digit, press **ENTER**. A selection window appears. Press the **UP** or **DOWN** Button to select a new letter or number and press **ENTER**. Repeat step 3 until location is 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.

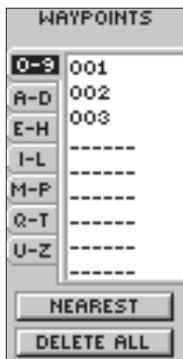
Mark Waypoint Page

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



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

Waypoints Page



Waypoint Page



*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 a organized alphabetical list. From the Waypoints Page you can also locate the nine nearest waypoints or delete all of the user 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 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 Page 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.

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, start a GOTO or project a new waypoint using the selected waypoint as a reference.

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.

Review Waypoint Page

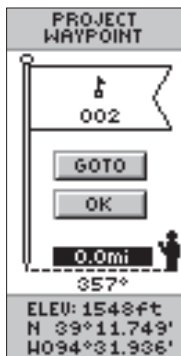


The REVIEW WAYPOINT Page allows you to delete a waypoint.



You can start a GOTO from the REVIEW WAYPOINT Page.

Review Waypoint Page



PROJECT WAYPOINT
Page



EDIT NUMBER
Page

Using the Project feature, the eTrex Summit can create a waypoint at a specified distance and bearing using an existing waypoint as a reference. You can change the name, symbol and elevation on this page.

Projecting a Waypoint :

1. Select a waypoint on the WAYPOINT PAGE and press **ENTER**.
2. Using the **UP** or **DOWN** Button, highlight the 'PROJECT' Button and press **ENTER**. The PROJECT WAYPOINT Page will be displayed and a numeric name will be assigned to the new waypoint.
3. The distance field will be highlighted by default. Press **ENTER** to display the EDIT NUMBER page.
4. With the EDIT NUMBER Page displayed, pressing the **DOWN** Button will move 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 then 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. With the EDIT ANGLE Page displayed, pressing the **DOWN** Button will move 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 then press **ENTER**. When all numbers are entered correctly, highlight 'OK' and press **ENTER**.
9. The name, symbol and elevation can be changed on this page as well. When all changes have been made, highlight 'OK' and press **ENTER** to save the waypoint. Highlight 'GOTO' and press **ENTER** to save the waypoint and begin direct navigation to the point.

'Route' and Route Page

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

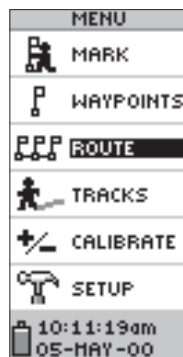
- **GOTO**
- **Route**
- **TracBack**

The GOTO method of navigation was briefly discussed on page 18. This section discusses the route method. The third method, TracBack, is discussed on page 40. In the eTrex Summit, 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 Summit 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 Summit 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 creating a route, you select waypoints from the waypoint list and place them into a route in the sequence that you want to navigate to them. Remember you need at least two waypoints (up to a maximum of 50) linked together to form a route. When you start your trip, you activate the route feature and the receiver begins navigation toward the first waypoint in the route. You can then use the Pointer Page to give you steering guidance.

Routes

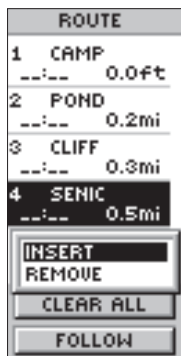


The 'ROUTE' feature is found on the Menu Page.

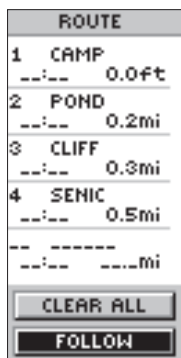


You can use existing waypoints to 'build' the route.

Routes



You can insert a waypoint before an existing waypoint in the list or at the end of 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 Summit. Choose 'ROUTE' on the MENU Page, then select 'NEW ROUTE'. You can now 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 Summit. See your GARMIN dealer for more information on using MapSource (Map Source is an optional accessory, and is not included with the eTrex Summit).

In either case, you can navigate using a 'ROUTE' if the route has at least two waypoints. The eTrex Summit 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 Summit will guide you to the selected final destination following each waypoint in the 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**. Highlight the 'NEW ROUTE' Button and 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.

To activate a route:

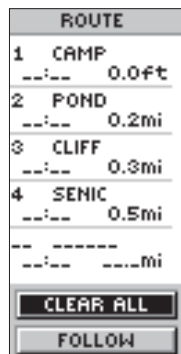
1. Press the **PAGE** Button and switch to the MENU Page. Press the **UP** or **DOWN** Button and highlight 'ROUTE'. Press **ENTER**. The ROUTE Page appears.
2. Using the **UP** or **DOWN** Button, select the route that you wish to follow and press **ENTER**.
3. Press the **UP** or **DOWN** Button, highlight 'FOLLOW' and press **ENTER**. The choices are the first (beginning) waypoint and the last (end) waypoint.
4. Press the **UP** or **DOWN** Button and select the desired destination waypoint and press **ENTER**. The POINTER Page appears giving you steering guidance to the first waypoint in the route list.

To remove a waypoint from the 'ROUTE' list:

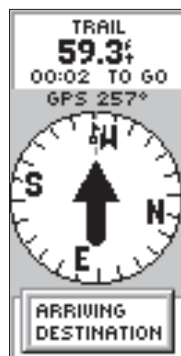
1. Press the **PAGE** Button and switch to the MENU Page. Press the **UP** or **DOWN** Button and highlight 'ROUTE'. Press **ENTER**. The ROUTE Page appears. Using the **UP** or **DOWN** Button select a route and press **ENTER**. Using the **UP** or **DOWN** Button, highlight the waypoint you want to remove and press **ENTER**. The INSERT/REMOVE window appears. Press the **UP** or **DOWN** Button and highlight 'REMOVE'. Press **ENTER** and 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. Using the **UP** or **DOWN** Button select a route and press **ENTER**.
2. Press the **UP** or **DOWN** Button and highlight 'DELETE' 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 will remain in the waypoint list.

Routes

With the 'CLEAR ALL' Button highlighted, press **ENTER** to remove all waypoints from the route.



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

Tracks



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

What is a Track Log?

The eTrex Summit draws an electronic breadcrumb trail on the Map Page as you travel along. This breadcrumb trail is the 'Track Log'. The 'Track Log' contains information about each point that it plots along the way, including time, position and elevation. After a Track Log is saved in the unit's memory, the eTrex Summit can use the Track Logs information to navigate, review the saved Track Log on the map or to review the Track Logs elevation profile.

'TracBack' allows you to return along a traveled path without marking any waypoints. When you are ready to return to where you started, eTrex Summit will take you back by following the Track Log that you left behind. You can save a total of ten Track Logs in the eTrex Summit. The Track Log starts recording as soon as the eTrex Summit gets a location fix. If you want to use the 'Tracback' feature it is recommend 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 Tracks 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 beginning track points, in order to avoid losing any track points, you should save the Track Log before it reaches 99% of memory usage.

Saved tracks can be used for navigation later. After a Track Log is saved, the saved track will have a beginning (BEGIN) point and an ending (END) point.

Clearing the Current 'Track Log':

1. With the MENU page displayed, 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?'. Highlight 'YES' and press **ENTER** to clear the current Track Log.

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 19, "Clearing a Cluttered Map Display".

Saving the Current 'Track Log':

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

Renaming a Saved Track Log:

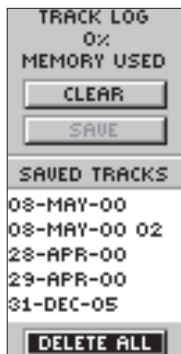
1. With the MENU Page displayed, highlight 'TRACKS' and press **ENTER**. The TRACK LOG Page will appear.
2. Place the highlight on a 'Saved Track' and press **ENTER**.
3. On the selection page highlight 'SHOW MAP' and press **ENTER**. The 'Saved Track' will be displayed on a map. At the top of the map is a default name. 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 alpha-numeric list.
5. Using the **UP** or **DOWN** Button select the correct character then press **ENTER**. When the name is entered correctly, highlight 'OK' and press **ENTER**.

Track Logs

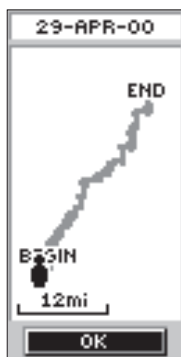


The 'BEGIN' point is the point defining the starting point when saving a track log. 'END' is the last point that was saved. Each saved track will always have a 'BEGIN' and 'END' point for navigation. The 'BEGIN-END' pair imply the direction of the saved track. If you want to retrace the track, navigate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

Track Logs



Delete All Tracks



Show Map

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).

There are four options that can be selected for a 'SAVED TRACK'. These options are 'TRACBACK', 'SHOW MAP', 'ELEVATION' and 'DELETE'.

To start TracBack Navigation:

1. With the 'TRACK LOG' page displayed highlight a 'SAVED TRACK' and press **ENTER**.
2. Using the **UP** or **DOWN** Button highlight 'TRACBACK' and 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.

Show Map:

1. With the TRACK LOG page displayed highlight a 'SAVED TRACK' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'SHOW MAP' and press **ENTER**. The 'SAVED TRACK' will be graphically displayed. When finished highlight 'OK' and press **ENTER**.

The 'ELEVATION' option displays the elevation profile for the entire track log graphically.

Elevation:

1. With the TRACK LOG Page displayed highlight a 'SAVED TRACK' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'ELEVATION' and press **ENTER**. The elevation profile for the 'SAVED TRACK' will be graphically displayed. When finished highlight 'OK' and press **ENTER**.

To delete a saved track:

1. With the 'TRACK LOG' page displayed highlight a 'SAVED TRACK' and press **ENTER**.
2. Press the **UP** or **DOWN** Button and highlight 'DELETE'. Press **ENTER**. A confirmation window appears asking 'DO YOU REALLY WANT TO DELETE THIS 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.

Calibrating the Compass and Altimeter

The 'CALIBRATE' selection on the MENU Page allows the Electronic Compass and the Altimeter to be calibrated for the most accurate performance.

The procedure for calibrating the Electronic Compass was covered on page 10 but here are some helpful tips.

The Electronic Compass:

1. The compass will need to be calibrated every time that the batteries are changed.
2. The compass will not be accurate if used in a car or around items that radiate a magnetic field.
3. When using the compass, hold the unit as level as possible for optimum performance.

Calibration**Track Log Elevation Profile****Calibration Page**

Calibration



The eTrex Summit can automatically calibrate the altimeter using GPS altitude. For optimum performance of the Altimeter, you should perform the calibration procedure entering either the correct elevation or barometric pressure.

The eTrex Summit will calibrate the altimeter automatically using GPS altitude. If you know the exact current elevation or barometric pressure, you can calibrate the altimeter manually.

Calibrating the Altimeter manually:

1. With the MENU Page displayed highlight 'CALIBRATE' and press **ENTER**.
2. Using the **UP** or **DOWN** Button highlight 'ALTIMETER' and press **ENTER**.
3. You will be asked 'DO YOU KNOW THE CORRECT ELEVATION'? Using the **UP** or **DOWN** Button select 'YES' or 'NO' and press **ENTER**.
4. **If you selected 'YES'**— the ENTER CORRECT ELEVATION Page will be displayed. Pressing the **DOWN** Button will move the highlight to the next number in the elevation field. With the desired digit selected, press **ENTER** to activate the drop down number list. Using the **UP** or **DOWN** Button select the correct number then press **ENTER**. When all numbers are entered correctly, highlight 'OK' and press **ENTER**. A message 'CALIBRATION COMPLETED SUCCESSFULLY' will be displayed, highlight 'OK' and press **ENTER** to end the calibration.
5. **If you selected 'NO'**—you will be asked 'DO YOU KNOW THE CORRECT BAROMETRIC PRESSURE'. Using the **UP** or **DOWN** Button, select 'YES' or 'NO' and press **ENTER**.
6. **If you selected 'YES'**— the ENTER CORRECT PRESSURE Page will be displayed. Pressing the **DOWN** Button will move the highlight to the next number in the pressure field. With the desired digit selected, press **ENTER** to activate the drop down number list. Using the **UP** or **DOWN** Button select the correct number then press **ENTER**. When all numbers are entered correctly, highlight 'OK' and press **ENTER**. A message 'CALIBRATION COMPLETED SUCCESSFULLY' will be displayed, highlight 'OK' and press **ENTER** to end the calibration.

7. If you selected '**NO**'—and you are tracking satellites, you will be asked 'DO YOU WANT TO USE CURRENT GPS ALTITUDE'? If you do highlight '**YES**' and press **ENTER**. A message 'CALIBRATION COMPLETED SUCCESSFULLY' will be displayed. Highlight '**OK**' and press **ENTER**. If you don't highlight '**NO**' and press **ENTER**. You will be prompted that 'YOU DO NOT HAVE ENOUGH INFORMATION' and referred to this manual. Highlight '**OK**' and press **ENTER** to return to the MENU Page.

Setup Page

The Setup Page allows you to customize the eTrex Summit. 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.

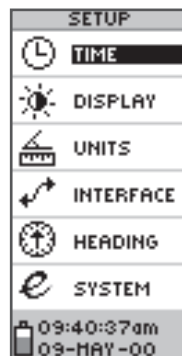
Time Format

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 Summit 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.

Calibration

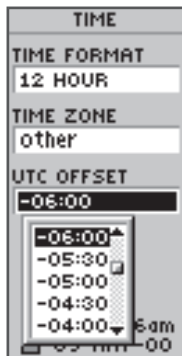


The Setup Page

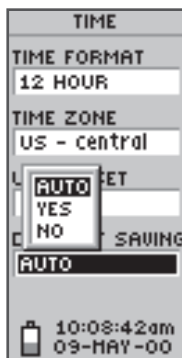


You can choose from eight time zones plus 'other'.

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.



The eTrex Summit can automatically select the Daylight Savings Time mode.

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 '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 15.

UTC Offset

When you select 'OTHER' for the time zone, you can access the UTC Offset field. Using the UTC Offset field you can enter a time offset from UTC time to manually set the eTrex Summit to match any time zone in the world.

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: The daylight savings time setting will not affect the UTC offset number.

Display Page

The Display Page allows you to set the display back-light 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 Summit with a paper map increases the navigation power of both. If you are going to use a map in conjunction with the eTrex Summit, 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 Summit allows you to choose from more than eighteen different grids. The eTrex Summit 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!

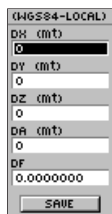


The Units Page allows you match the units of the eTrex Summit to the units of a unique paper map you may be using.

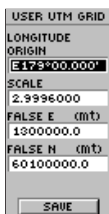
Map Datums



Eighteen position formats are available in the eTrex Summit.



User Datum



User Grid

Data Entry Pages exist for the User Grid Format and the User Datum Setup. These pages allow you to configure the eTrex Summit 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 Summit 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:

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 Summit should match the horizontal map datum used to generate the chart or other reference.

The default datum in the eTrex Summit 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. With the MENU Page displayed using the **UP** or **DOWN** Button, highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'UNITS'. Press **ENTER**. The UNITS Page appears.
3. Using the **UP** or **DOWN** Button select the 'MAP DATUMS' field. Press **ENTER**.
4. Using the **UP** or **DOWN** Button to select the desired datum. Press **ENTER**.

Distance/Speed Units

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

To change the Distance/Speed units:

1. With the MENU Page displayed, use the **UP** or **DOWN** Button to highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'UNITS'. Press **ENTER**. The UNITS Page appears.
3. Using the **UP** or **DOWN** Button 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.

Elevation/VSPD (vertical speed)

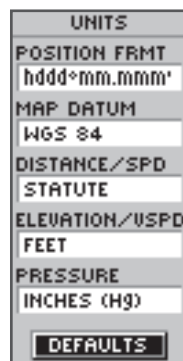
The eTrex Summit lets you select either feet or meters for all elevation and vertical speed readings.

To Change the Elevation/VSPD Units:

1. With the MENU Page displayed using the **UP** or **DOWN** Button highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'UNITS'. Press **ENTER**. The UNITS Page appears.
3. Using the **UP** or **DOWN** Button select the 'ELEVATION/VSPD' field. Press **ENTER**.
4. Press the **UP** or **DOWN** Button to select 'FEET' or 'METERS'. Press **ENTER**. Press **PAGE** to select the page of your choice.

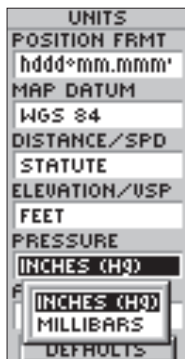
Units of Measure

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

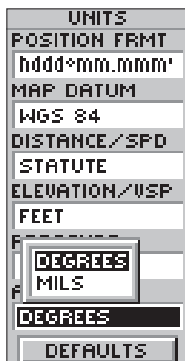


The 'DEFAULTS' setting will reset the eTrex Summit units to all of its factory settings.

Units Page



Pressure Units



Angle Units

Pressure

To change Pressure units:

1. With the MENU Page displayed, using the **UP** or **DOWN** Button highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'UNITS'. Press **ENTER**. The UNITS Page appears.
3. Using the **UP** or **DOWN** Button, select the 'PRESSURE' field. Press **ENTER**.
4. Press the **UP** or **DOWN** Button to select 'INCHES' or 'MILLIBARS'. Press **ENTER**. Press **PAGE** to select the page of your choice.

Angle

You can set the eTrex Summit to display directional information in 'DEGREES' or in 'MILS'.

To select an Angle setting:

1. With the MENU Page displayed using the **UP** or **DOWN** Button highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'UNITS'. Press **ENTER**. The UNITS Page appears.
3. Using the **UP** or **DOWN** Button select the 'ANGLE' field. Press **ENTER**.
4. Press the **UP** or **DOWN** Button to select 'DEGREES' or 'MILS'. Press **ENTER**. Press **PAGE** to select the page of your choice.

Interface Page

The Interface Page allows you to connect and use devices such as computers and differential GPS (DGPS) beacon receivers to the eTrex Summit. Below is a description of the available formats.

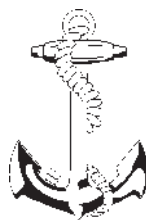
Input/Output Formats

- **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.

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.

Heading Page



*While mounted in a car or on a cycle the eTrex Summit will be tilted enough for the Electronic Compass to become inaccurate. The eTrex Summit will automatically switch to a GPS heading when you exceed 10 mph. To switch back to the compass press and hold the **PAGE** key or wait 90 seconds after slowing below 10*

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 Summit. 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.

Heading Page

The eTrex Summit will automatically switch between the Electronic Compass and GPS to determine your heading.

The eTrex Summit needs to be held level for the Electronic Compass to provide an accurate heading. When mounting the eTrex Summit in a car or on a cycle, the unit will need to be tilted in order to see the display, making the compass less accurate. eTrex Summit will switch over, using GPS to track your heading when you exceed 10 miles per hour. When you slow down, you can press and hold the **PAGE** Button to switch back to using the Electronic Compass.

Setting the Switch Over Speed:

1. With the MENU Page displayed use the **UP** or **DOWN** Button to highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button select 'HEADING'. Press **ENTER**. The HEADING Page appears.
3. Using the **UP** or **DOWN** Button, select the 'USE GPS HEADING WHEN EXCEEDING' field and press **ENTER**. The EDIT NUMBER Page will be displayed.
4. Pressing the **DOWN** Button will move the highlight to the next number in the speed field. With the desired digit selected, press **ENTER** to activate the drop down number list. Using the **UP** or **DOWN** Button select the correct number then press **ENTER**. When all numbers are entered correctly, highlight 'OK' and press **ENTER**.

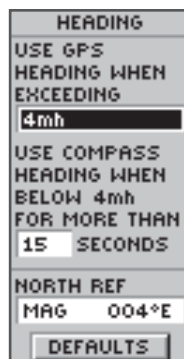
Setting the Switch Back Period:

1. With the MENU Page displayed using the **UP** or **DOWN** Button highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button, select 'HEADING' and press **ENTER**. The HEADING Page appears.
3. Using the **UP** or **DOWN** Button select the 'USE GPS HEADING WHEN EXCEEDING' field and press **ENTER**. A list of selections will appear.
4. Using the **UP** or **DOWN** Button will move the highlight through the list. When the desired selection is highlighted, press **ENTER**.

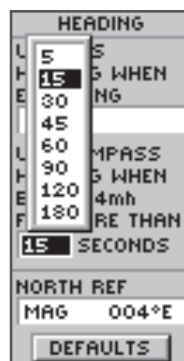
North Reference

'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 'variation' or 'declination'.

Heading



The eTrex Summit can be set to disable the Electronic Compass above a user selected speed. This helps to conserve battery power.



Set a time delay before switching to the electronic compass when moving at a speed slower than the user-selectable speed.

North Reference



The eTrex Summit automatically adjusts the variation/declination. While it should rarely be needed the user can manually adjust the variation/declination.



To manually set the variation or declination, highlight the Angle field, press **ENTER** and input a new angle.

The amount of variation/declination changes as you move around the earth. **'Magnetic North'** is the direction in which a compass needle points. 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. The eTrex Summit will reflect the North Reference setting when using the GPS or Electronic Compass for a bearing.



The Electronic Compass will reflect the North Reference setting. If you have selected 'TRUE NORTH' the Electronic Compass will point 'TRUE NORTH' not Magnetic North.

To change the North Reference:

1. With the MENU page displayed using the **UP** or **DOWN** Button highlight 'SETUP' and press **ENTER**.
2. Using the **UP** or **DOWN** Button to highlight 'HEADING' and press **ENTER**. The HEADING Page appears.
3. Using the **UP** or **DOWN** Button select the 'NORTH REF' field and press **ENTER**.
4. Using the **UP** or **DOWN** Button 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.

System Page

The System Page shows you the current GPS mode, Compass mode, Altimeter 'Auto Cal' mode, and Software Version. You can choose from four modes of GPS operation:

- **Normal**
- **Battery Save**
- **Demo** (Demonstration)
- **Off**

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 Summit is in 'BATTERY SAVE' mode, the GPS receiver is optimized to conserve power.

Demo Mode

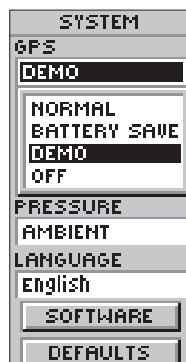
The 'DEMO' mode is designed for dealers to show the features and functions of the eTrex Summit to potential customers inside a closed building where satellite reception is not possible. There is no navigation possible in 'DEMO' mode.

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**.

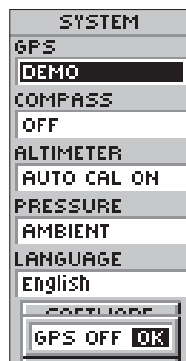
Turning the GPS Receiver 'Off'

Turning the GPS receiver 'OFF' will conserve battery power if you want to use the eTrex Summit as a compass or develop a 'Pressure Trend' on the Elevation Page.

System Page



Turn the GPS receiver off to conserve power when using as a compass or developing a pressure trend.



When the unit is in 'DEMO' mode, a warning will appear indicating that the GPS receiver is turned off.

System Page



Press and hold the **PAGE** key to activate the compass and display the Pointer Page



Auto Calibrate

To Select an operating mode:

1. With the MENU Page displayed, highlight 'SETUP' and press **ENTER**. The SETUP Page appears.
2. Using the **UP** or **DOWN** Button highlight 'SYSTEM' and press **ENTER**. The SYSTEM Page appears.
3. Using the **UP** or **DOWN** Button highlight the 'GPS' field and press **ENTER**. The Option List will appear.
4. Using the **UP** or **DOWN** Button highlight the desired mode and press **ENTER**.

Compass

The eTrex Summit will allow you to turn the Electronic Compass on and off. Turning the compass off when not needed will help conserve battery power.

Turning the compass On/Off:

1. With the MENU Page displayed highlight 'SETUP' and press **ENTER**. The SETUP Page appears.
2. Using the **UP** or **DOWN** Button, highlight 'SYSTEM' and press **ENTER**. The SYSTEM Page appears.
3. Using the **UP** or **DOWN** Button, highlight the 'COMPASS' field and press **ENTER**.
4. Using the **UP** or **DOWN** Button, highlight the desired mode and press **ENTER**.

Altimeter

The Altimeter can use GPS altitude to perform an automatic calibration. While this is not as accurate as the calibration procedure described on page 42, it can be useful in the event that you do not know your current elevation or the barometric pressure.

Turning 'AUTO CAL' On/Off:

1. With the MENU Page displayed highlight 'SETUP' and press **ENTER**. The SETUP Page appears.
2. Using the **UP** or **DOWN** Button, highlight 'SYSTEM' and press **ENTER**. The SYSTEM Page appears.
3. Using the **UP** or **DOWN** Button, highlight the 'ALTIMETER' field and press **ENTER**.
4. Using the **UP** or **DOWN** Button highlight the desired mode and press **ENTER**.

Pressure

You can set the eTrex Summit to display either normalized pressure or the local ambient pressure in the Elevation Page cycle field. The normalized pressure is referenced against the last calibrated altitude or pressure.

To select a pressure for display:

1. With the MENU Page displayed, highlight 'SETUP' and press **ENTER**. The SETUP Page appears.
2. Using the **UP** or **DOWN** Button, highlight 'SYSTEM' and press **ENTER**. The SYSTEM Page appears.
3. Using the **UP** or **DOWN** Button, highlight the 'PRESSURE' field and press **ENTER**.
4. Using the **UP** or **DOWN** Button, highlight the desired pressure and press **ENTER**.

Language

The eTrex Summit can display in 12 languages.

To select a language:

1. With the MENU Page displayed, highlight 'SETUP' and press **ENTER**. The SETUP Page appears.
2. Using the **UP** or **DOWN** Button, highlight 'SYSTEM' and press **ENTER**. The SYSTEM Page appears.
3. Using the **UP** or **DOWN** Button, highlight the 'LANGUAGE' field and press **ENTER**.
4. Using the **UP** or **DOWN** Button, highlight the desired selection and press **ENTER**.

Software Button

The Software Page shows the eTrex Summit's current software version. To update the eTrex Summit's software, visit the GARMIN web site www.garmin.com.

Defaults Button

The 'DEFAULTS' Button resets all of the 'SYSTEM' setting to the factory defaults.

System Page



The eTrex Summit can display in 12 different languages.



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

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 2.00-3.0), RTCM 104 (for DGPS corrections) and RS-232 for PC interface
Antenna:	Built-In
Compass:	accuracy; ± 5 degrees ³ , resolution; 1 degree
Altimeter:	accuracy; ± 10 feet ³ , resolution; 1 foot

Power

Input:	Two 1.5-volt AA batteries ⁴
Battery Life:	Up to 16 hours of typical use ⁵

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 Selective Availability program.

³Subject to proper user calibration.

⁴The temperature rating for the eTrex Summit 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.

⁵Alkaline batteries lose a significant amount of their capacity as temperature decreases. Use lithium batteries when operating the eTrex Summit in below-freezing conditions. Extensive use of screen backlighting will drastically reduce battery life.

The global positioning system is a satellite-based navigation system consisting of a network of 24 orbiting NAVSTAR satellites that are eleven thousand nautical miles in space and in six different orbital paths. The satellites are constantly moving, making two complete orbits around the Earth in less than 24 hours.

A Little Satellite Info:

- The first GPS satellite was launched in February, 1978.
- Each satellite weighs about 2,000 pounds and is 17 feet across with the solar panels extended.
- Transmitter power is only 50 watts, or less!
- Each satellite transmits two signals, L1 and L2. Civilian GPS uses the 'L1' frequency of 1575.42 MHz.
- Each satellite is expected to last approximately 10 years. Replacements are constantly being built and launched into orbit. The GPS program is currently funded with replacements through 2006.

The orbital paths of these satellites take them between roughly 60 degrees North and 60 degrees South latitudes. What this means is you can receive satellite signals anywhere in the world, at any time.

One of the biggest benefits over previous land-based navigation systems is GPS works in all weather conditions. No matter what your application, when you need it the most, your GPS receiver will keep right on working.

So what information does a GPS satellite transmit? The GPS signal contains a 'pseudo-random code', ephemeris (pronounced: ee-fem-er-is) and almanac data. The pseudo-random code identifies which satellite is transmitting—in other words, an I.D. code. We refer to satellites by their PRN (pseudo-random number), from 1 through 32, and this is the number displayed on a GPS receiver to indicate which satellite(s) we are receiving. Ephemeris data contains important information such as satellite status (healthy or unhealthy), and the current date and time. The almanac data tells the GPS receiver where each GPS satellite should be at any time throughout the day. Each satellite transmits almanac data that provides orbital information for all of the satellites in the GPS network.

Appendix B What is GPS?



Appendix B What is GPS?

By now the overall picture of how GPS works should be getting much clearer. Each satellite transmits a message which essentially says, “I’m satellite #X, my position is currently Y, and this message was sent at time Z.” Of course, this is a gross oversimplification, but you get the idea. Your GPS receiver reads the message and saves the ephemeris and almanac data for continual use. Now, to determine your position, the GPS receiver compares the time a satellite signal was transmitted with the time it was received by the GPS. The time difference tells the GPS receiver how far away that particular satellite is. If we add distance measurements from a few more satellites, we can triangulate our position. This is exactly what a GPS receiver does. With a minimum of three or more satellites, your GPS can determine a latitude/longitude position—what’s called a 2D position fix. With four or more satellites, a GPS receiver can determine a 3D position fix which includes latitude, longitude, and altitude. By continuously updating your position, a GPS receiver can also accurately provide speed and direction of travel (referred to as ‘ground speed’ and ‘ground track’).

How accurate is your GPS? There are several things that can have an affect on GPS accuracy, satellite geometry, multipath errors, atmospheric delay, and the United States Department of Defense just to mention a few. The descriptions of these items are covered in depth on our web site www.garmin.com. In general you can expect your GPS to be accurate from 60 to 255 feet depending on the number of satellites available and their geometry.

Satellite Reception Tips

If the eTrex Summit has problems receiving satellite signals, you will be prompted to answer some questions.

A. You are using the eTrex Summit 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 Summit will keep tracking.

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

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 Summit then asks: 'HAVE YOU MOVED HUNDREDS OF MILES/KM SINCE LAST USE?'. Press the **UP** or **DOWN** Button, highlight 'NO'. Press **ENTER**.
3. eTrex Summit asks: 'IS TODAY dd-mmm-yy?' If you answer 'YES' (the date matches the current date) the eTrex Summit will continue tracking satellites and switch to the Satellite Page.
4. If you answer NO (the date is incorrect), the eTrex Summit will do an 'AUTOLOCATE' and switch to the Satellite Page.

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

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 Summit 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 Summit will do an "AUTOLOCATE" and switch to the Satellite Page.

Appendix C Reception Tips



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

'AUTOLOCATE' forces the eTrex Summit to search for any available satellite(s) to determine its (your) location.

Appendix D
Time Offset
Chart

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

Accessories

Manuals

*Owner's Manual..... Part No. 190-00193-00

*Quick Start Guide Part No. 190-00193-01

Bracket Mounts

Automotive Mounting Bracket..... Part No. 010-10274-00

Can be temporarily or permanently mounted on the dash.

Handlebar Mounting Bracket..... Part No. 010-10267-00

Allows the eTrex Summit to be mounted on handle bars.

Cables

Cigarette Lighter Adapter Part No. 010-10203-00

Provides power for eTrex Summit from a automobile cigarette lighter.

PC Interface Cable..... Part No. 010-10206-00

Allows for serial transfer of data between a PC and eTrex Summit.

Data Cable (bare wires) Part No. 010-10205-00

Wiring harness. Connections for data input/output.

PC Cable with Cigarette Lighter ... Part No. 010-10268-00

Allows for serial transfer of data between a PC and an eTrex Summit while providing unit power from an automobile cigarette lighter.

Other

Carrying Case..... Part No. 010-10266-00

Protects the eTrex Summit when not in use (nylon, neoprene).

*Lanyard Part No. 013-00052-00

Provides convenient method for carrying the eTrex Summit.

*Battery Cover..... Part No. 011-00529-00

Instructional Video Part No. 010-10281-00

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 Summit.

* Included with unit

Appendix E Accessories



Automotive Mounting Bracket



Handlebar Mounting Kit



Cigarette Lighter Adapter



PC /Cigarette Lighter Adapter



Carrying Case

Appendix F Wiring Diagram

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

The NMEA 0183 version 2.0 interface format is supported by the eTrex Summit 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, GPWPL, GPBOD, HCHDG

GARMIN Proprietary Sentences:

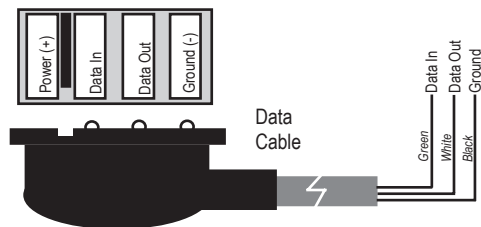
PGRME (estimated error), PGRMM (map datum),
PGRMZ (altitude), PSLIB (beacon receiver control)

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 Summit. 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 Summit may be hard-wired to a serial connector using the Data Cable (see page 61 for ordering information). Refer to the wiring diagram and the eTrex Summit unit data connection illustrated below.

The optional PC Interface Cable (010-10206-00)

eTrex Summit Connector



eTrex Summit does not turn on:

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



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

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 59.

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

1. Check to make sure the eTrex Summit is configured to use the same datum as your map. See page 46.

The Electronic Compass heading is incorrect:

1. Have you changed batteries? Remember that the compass needs to be recalibrated every time that the batteries are changed. See page 10 for the compass calibration procedure.
2. Are you inside or around a device that may radiate a magnetic field? The compass will not operate properly inside or around items that radiate a magnetic field like metal buildings or cars.
3. Is the eTrex Summit using the GPS to provide heading information? Press and hold the **PAGE** key to reactivate the Electronic Compass.

Appendix G Troubleshooting

Appendix H FAQ's

Can I use the eTrex Summit 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 Summit?

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 Summit work anywhere in the world and in any weather?

Yes.

How accurate is a GARMIN GPS?

The eTrex Summit is accurate to within 100 meters under the DoD-imposed Selective Availability (S/A). Without S/A, the eTrex Summit is accurate to within 15 meters. Using differential techniques, the eTrex Summit 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 Summit?

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

What Grid Formats does the eTrex Summit Support?

hddd.ddddd ⁰ (degrees, decimal degrees)	Qatar Grid
hddd ⁰ mm.mm	Swedish Grid
hddd ⁰ mm'ss.s	Swiss Grid
British Grid	Taiwan Grid
Dutch Grid	UTM/UPS Grid
Finnish KKJ27 Grid	W Mayalan R
German Grid	User Grid
Irish Grid	
Maidenhead	
MGRS (Military Grid Reference System)	
New Zealand	

Can I turn off the Track Log?

No. You can clear the track log, but it is always activated. Remember that if you clear the track log you are also clearing the elevation profile.

What does the message "NO DGPS POSITION" mean?

eTrex Summit had a differential fix and lost it.

Appendix H FAQ's

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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.



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