

Garmin eTrex

10, 20, & 30

Setup & Use



This booklet describes a small subset of the features of the Garmin eTrex 10, 20, and 30 models. Other Garmin GPSRs will operate in a similar manner. The setup and concepts covered in the booklet will still be useful. But the buttons, icons, and menus may be somewhat different.

**Garmin eTrex
10, 20 & 30
Set Up and Use**

version 1.0

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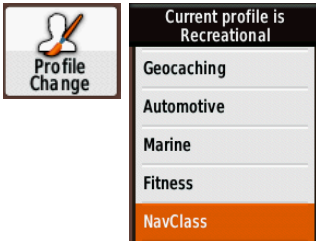
**John Carnes
www.MapTools.com**

Configuration Profiles



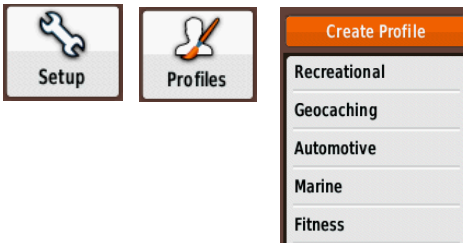
The eTrex GPSrs supplied for class use, have been set up to match the descriptions in this booklet. The class GPSrs have two profiles one called **NavClass**, and one called **Student**. They are identical. If you want to experiment with changing data fields, and menu order, use the **Student** profile.

To change profiles select the Profile Change icon from the main menu, and select the profile you wish to use.



If you are using your own GPSr, you will want to create a new profile. Then setup your GPSr to look like the ones the rest of the class will be using.

To create a new profile, select Setup, Profiles and Create Profile.



Setup



Access the Setup Menu by selecting the **Setup** icon in the Main Menu. The most commonly changed setup pages are picture below with their most common options. At the beginning of class, set you GPSr to the options highlighted in yellow.

<p>hddd.dddd° hdddmm.mmm' hddd°m'ss.s" MGRS US National Grid UTM UPS</p> <p>NAD27 CONUS NAD 83 WGS 84</p> <p>Map Spheroid will nge automatically with the datum.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Setup</div> <div style="text-align: center;"> Position Format</div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="background-color: #f4a460; padding: 2px;">Position Format UTM UPS</p> <p style="padding: 2px;">Map Datum WGS 84</p> <p style="padding: 2px;">Map Spheroid WGS 84</p> </div>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Setup</div> <div style="text-align: center;"> Units</div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="background-color: #f4a460; padding: 2px;">Distance and Speed Metric</p> <p style="padding: 2px;">Elevation (Vertical Speed) Feet (ft/min)</p> <p style="padding: 2px;">Depth Feet</p> <p style="padding: 2px;">Temperature Fahrenheit</p> </div>	<p>Statute Metric</p> <p>Feet (ft/min) Meters (m/min)</p>
<p>Directional Letters Numeric Degrees Mils</p> <p>True Magnetic Grid User</p> <p>Bearing (Large) Bearing (Small) Course (CDI)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Setup</div> <div style="text-align: center;"> Heading</div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="background-color: #f4a460; padding: 2px;">Display Numeric Degrees</p> <p style="padding: 2px;">North Reference Magnetic</p> <p style="padding: 2px;">Go To Line (Pointer) Course (CDI)</p> </div>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Setup</div> <div style="text-align: center;"> System</div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="background-color: #f4a460; padding: 2px;">Satellite System GPS + GLONASS</p> <p style="padding: 2px;">WAAS/EGNOS On</p> <p style="padding: 2px;">Language English</p> <p style="padding: 2px;">Battery Type Alkaline</p> <p style="padding: 2px;">USB Mode Mass Storage</p> </div>	<p>GPS + GLONASS GPS</p> <p>On Off</p> <p>Alkaline Lithium Rechargeable NiMH</p>

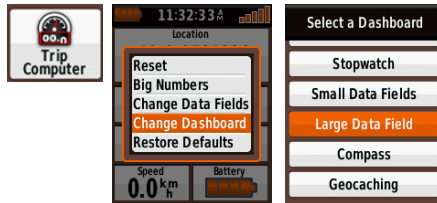
User Configurable Data Fields



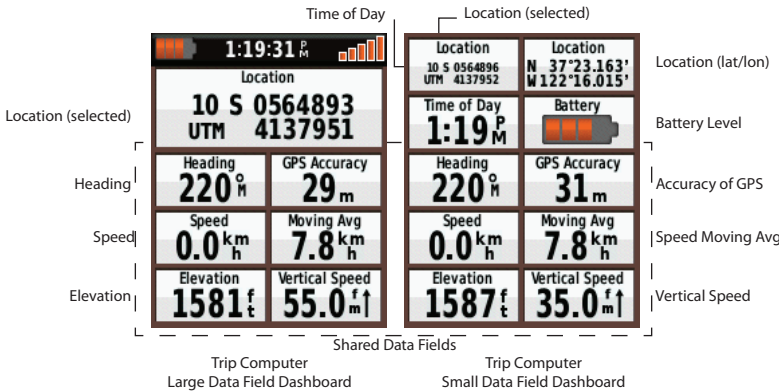
The **Trip Computer**, **Compass**, and **Map** each have user configurable data fields.

The top of the Trip Computer is called the Dashboard, which can also be configured.

From the **main menu** select the **Trip Computer**, press the **menu** button, select **Change Dashboard**, and select **Large Data Field**.







Then press the **menu** button, select **Change Data Fields**, select the individual data fields, and configure the data fields as shown below.



When you are finished changing data fields, press the **back button** to exit the change mode.

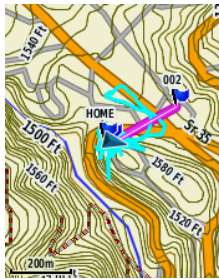
You should also change the data fields on the **Compass** screen.

Bearing		Dist to Next		Distance to Next
Heading		Destination		Waypoint at Dest.



I prefer no data fields on the **Map** screen.

While viewing the **Map** screen, press the **Menu** button, and select **Setup Map**. Then select **Data Fields**, and set it to 0.



Your Location



The **Trip Computer** will be able to show you the coordinates for your current location.

When I'm using UTM but working with folks that may need lat/lon, I prefer the Small Data Field Dashboard configured to also show lat/lon coordinates.

1:19:31 ^P _M	
Location	
10 S 0564893 UTM 4137951	
Heading	GPS Accuracy
220 ^o _H	29 _m
Speed	Moving Avg
0.0 _{km} ^h	7.8 _{km} ^h
Elevation	Vertical Speed
1581 _f ^t	55.0 _f ^m ↑

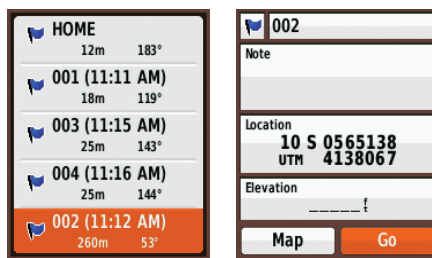
Location	Location
10 S 0564896 UTM 4137952	N 37°23.163' W 122°16.015'
Time of Day	Battery
1:19 ^P _M	
Heading	GPS Accuracy
220 ^o _H	31 _m
Speed	Moving Avg
0.0 _{km} ^h	7.8 _{km} ^h
Elevation	Vertical Speed
1587 _f ^t	35.0 _f ^m ↑

Selecting and Navigating to an Existing Waypoint

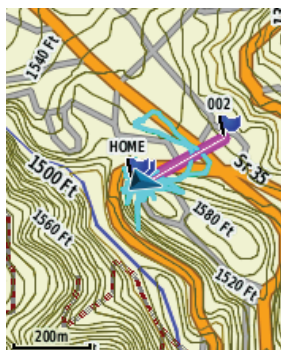
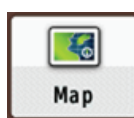
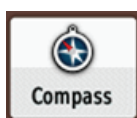


- From the **main menu** select the **Waypoint Manager**.
- Find and select the waypoint you wish to navigate to.
- Select **Go** to start navigation.

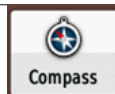
The list will display the distance and bearing from your current location to each waypoint. You can change the sort order of the list using the **menu button**. Sorting by nearest is often useful.



The Compass and Map pages can be used to navigate to waypoint. The data on these pages represents a straight line course from your current location to the waypoint.



Navigating to a Waypoint



When you are navigating to a waypoint, your GPSr is constantly calculating a straight line course from your current location to the waypoint you selected.

Remember a straight line is rarely the best route to follow over land!



I prefer to use the compass page for this kind of navigation. The **Bearing** data field is the direction you need to go to reach the waypoint.

The **Dist to Next** data field is the distance from your current location to the waypoint.

The **Destination** data field shows the name of the waypoint you are navigating to.

The **Heading** data field and the Compass Rose both indicate your direction of travel.

The longer pointer in the compass rose points to the waypoint. The shorter arrow is the **course deviation indicator (CDI)**. It indicates how far off course you are. The distance shown at the top right of the compass rose is the distance between dots on the CDI. The start of the course is the location at which the waypoint navigation was started.

Note: The eTrex 10 and 20 do not have an electronic compass. Heading information is only valid when you are moving, and is based on the calculated direction between your current location and your location several seconds earlier.

Map Display



The map screen is where you will end up when you start navigation to a waypoint. I usually switch back to the Compass screen. (Too bad there is no way to make that the default.)


I almost always carry a better map of the area than the one in my GPSr. So I almost never use the map screen on my GPSr. I don't spend my money on GPSrs with more map capability, nor do I buy maps to install. I don't think I fit Garmin's ideal customer profile.

The small screen, and the need to constantly zoom in for detail and out for context makes for a poor map experience.

I do have an open source topo map of California on an SD card in one of my GPSrs. And I have occasionally needed to use it when I found myself off the maps I had brought with me.

Creating a New Waypoint



 003
Note
Location 10 S 0564910 UTM 4137938
Elevation 1456'
Map Done

From the **main menu** select **Mark Waypoint**. The Mark Waypoint screen will appear. The waypoint will have a sequential 3 digit number assigned as its default name. and your current location and elevation will be displayed.

I rarely rename my waypoints. Instead I make a note of the waypoint number on my map or notepad.

To save your current location in this waypoint, just press the **Done** button.

Entering Coordinates for a Waypoint



Mark a new waypoint and select the location. This will bring up a screen to edit the coordinate. Use the right and left arrow buttons to move the cursor between digits. If the location is nearby, you will only need to change a few digits of the coordinates. In this example we are entering a UTM coordinate of 10S 565587mE 4137247mN. Don't let the leading zero on the easting mess you up. Press the **Done** button at the bottom, when you are finished entering the new coordinate,

008
Note
Location 10 S 0565010 UTM 4137750
Elevation 1509!
Map Done

Location 10 S 0565010 UTM 4137750
Elevation
1 2 3
4 5 6
7 8 9
- 0 +
Done

Location 10 S 0565510 UTM 4137750
Elevation
1 2 3
4 5 6
7 8 9
- 0 +
Done

Location 10 S 0565580 UTM 4137750
Elevation
1 2 3
4 5 6
7 8 9
- 0 +
Done

Location 10 S 0565587 UTM 4137750
Elevation
1 2 3
4 5 6
7 8 9
- 0 +
Done

Location 10 S 0565587 UTM 4137247
Elevation
1 2 3
4 5 6
7 8 9
- 0 +
Done

008
Note
Location 10 S 0565587 UTM 4137247
Elevation 1509!
Map Done

Don't forget to press the **Done** button on the Mark Waypoint screen to save the waypoint.

Entering a Coordinate with a Different Format or Map Datum

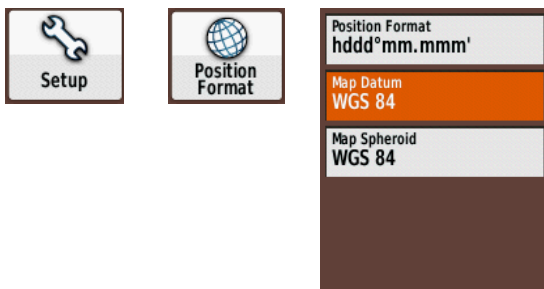


It's very common to get a coordinate from someone that is in a different format or that uses a different map datum than the one you commonly use.

For example let's put in a lat/lon WGS84 coordinate.

N 37° 25.423' W 122° 12.541' WGS 84

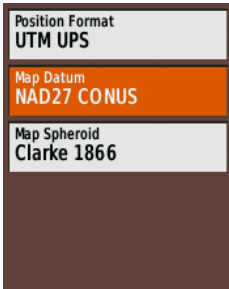
Select **Position Format** under the **Setup** icon and set the position format fields to match the coordinate you have.



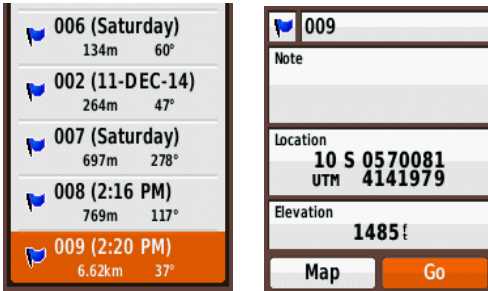
Select **Mark Waypoint** to create a new waypoint and edit its location to match the coordinate you have. The coordinate will be displayed in the format you just set.



Return to the **Position Format** screen and reset the fields to the values you wish to use.



When you select the waypoint using the **Waypoint Manager**, it will have been converted to display in your newly selected format and datum.



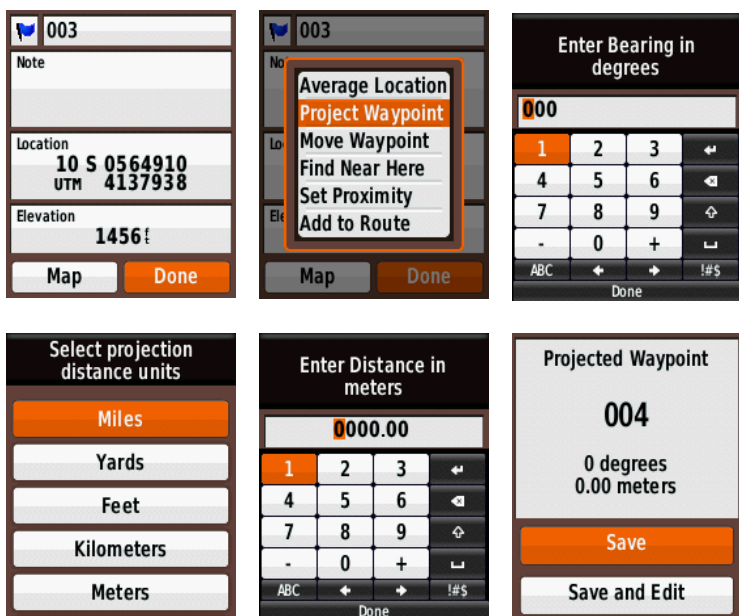
It a tedious process. If you have lots of coordinates to convert, you will want to use an online or computer based coordinate conversion program.

Navigate by Bearing and Distance



If you have a course describe by compass bearings and distances you can create a new waypoint using a bearing and distance.

Either select a starting waypoint or create a new one if you are currently at the starting point. Then press the **menu** button and select **Project Waypoint**. You'll see a series of screen that allow you to enter the bearing and distance information. Then a new waypoint will be created for the new location.



Using your GPSr for bearing and distance course legs is much easier than using your compass. Since the GPSr is continuously calculating a course to the destination, you can walk around obstacles or follow easier terrain, without having to worry about how to get “back on course.” If you need to stay “on course” to avoid potential hazards, you can make use of the **CDI arrow** and the **Off Course** data field.

Trip Computer Compass Where To? Waypoint Manager Setup Route Planner Track Manager Waypoint Averaging

Map Mark Waypoint Satellite Active Route Profile Change Area Calculation Sun and Moon

Compass

Bearing **045°** Dist to Next **220 m**

Heading **090°** Destination **002**

0.25°/m

Trip Computer

1:19:31 P Location

10 S 0564893

UTM 4137951

Heading **220°** GPS Accuracy **29 m**

Speed **0.0 km/h** Moving Avg **7.8 km/h**

Elevation **1581 f** Vertical Speed **55.0 m/h**

Mark Waypoint

003

Note

Location **10 S 0564910**

UTM 4137938

Elevation **1456 f**

Map Done

Waypoint Manager

001 (11:11 AM) 6m 105°

HOME 12m 245°

003 (11:15 AM) 13m 161°

004 (11:16 AM) 14m 161°

002 (11:12 AM) 257m 50°

Map

Satellite

10 S 0564923

UTM 413794

GPS + GONASS

17m

Elevation **1473 ft**

Position Format System Display Routing Page Sequence Tones Marine About

Units Heading Map Tracks Profiles Time Geocaches Reset