TwoNav Ultra 2.6

User's Manual

1 Introduction

Thank you for purchasing **TwoNav**, the dual (for outdoor and in-car) GPS navigating system that will help you enjoy the best assistance to orientate you in any type of environment while carrying out any type of activity.

Having an appliance which offers directional assistance, both on-road and off-road, can prove invaluable for increasing the safety of these journeys.

Despite this, there is the possibility that, under certain circumstances, the user may become distracted by misuse of this technology, whereby it may in the end become a hazard to him or her, and to his or her environment.

This possibility of using TwoNav in any type of vehicle makes it particularly important to consider a series of rules and regulations for using it so, far from being a source of potential risks, will contribute to personal safety.

Most of these recommendations are concerned with using the system fitted in vehicles, although the bases of them should also be taken into account for journeys on foot.

- **Fitting the appliance correctly**: The appliance should be fitted in a place where it will not obstruct the vehicle driver's visibility of the road. It should additionally be secured, to ensure it cannot fall off easily and hinder driving.
- **Do not handle the appliance whilst driving**: The route planning should be completed before setting out. Any change or clarification required must be made with the vehicle stopped in a safe place, away from traffic (not on the road or kerbs).
- **When on the road, you should be guided by the sound signals**: The program's voice system will warn you of upcoming manoeuvres and of the distance to when you will have to carry these out. A glance at the visual information may be useful, but you should resort to this only if it can be done safely (with the vehicle appropriately stopped). When driving, you should always keep your eyes on the road.
- **The front-seat passenger can be a great help**: The navigator is normally facing the driver. If you have a front-seat passenger, we recommend this person be in charge of handling the appliance, making any clarifications or changes as required.
- **Getting it wrong is not a problem**: Neither navigators nor people are infallible machines. In the event an indication cannot be followed and a direction other than the fixed one is taken, the system will automatically calculate a new route, which will adapt to the new situation and will take you to your destination just the same.

- **Maps always contain errors**: Despite the tremendous updating work done by Tele Atlas, it is impossible to have 100% accurate information. Recent changes in correct street directions, new streets or restrictions due to road works are examples of circumstances that may partially invalidate the route calculation made by TwoNav. It is very important to be alert to these changes and to adapt to the new situation. As soon as the program detects that it has not been able to follow the preset route, it will calculate a new one, which will take you to your destination just the same.
- TwoNav assists you in navigation. **Traffic regulations have always preference!**

2 Maintenance

2.1 Battery Recharge

The TwoNav Ultra Li-on battery is recharged via the USB port. It is normally fitted with 3 power sources:

- **AC/DC charger**: Included in the TwoNav Ultra kit.
- **PC**: When connecting the device to a computer, besides allowing you to manage the data present in the memory from the PC, the battery is also charged.

You can operate normally while the TwoNav is connected to the power source, except if it is connected to a PC.

Important: When unplugging the device from the power source, TwoNav will inform you of the disconnection. If you do not answer the message within 30 minutes, the system will turn off in order to avoid accidental discharges (you may deactivate this function form 'Configuration > System > Autonomy)

Warning: Avoid vibrations or rude movements on device while USB port is connected. It may deform USB port, being reparation out of warranty. Do not re-charge battery while driving a motorbike or any other vehicle which is causing vibrations.

2.2 Precautions

TwoNav Ultra is a device prepared to resist the strain of an intensive use during the practice of outdoor activities and, therefore, its performance must not be affected by exposure to small bumps or to rain or splashing water.

However, in order to make the most of the system's performance it is advised, as far as possible, to prevent the device from suffering serious bumps and that its permanent exposure to dust or water.

The resistance to water is based on the **correct** attachment of the rubber covers that give access to the slots and ports of the device. It is therefore important to check that these covers are well sealed prior to beginning our activities.

Never soak the device in water, not even when all the covers are well sealed.

Avoid vibrations or rude movements on device while USB port is connected. It may deform USB port, being reparation out of warranty.

Do not charge the battery during your motorbike trips. USB port would suffer deformation which is not covered by warranty. See next section to know how to optimize autonomy.

2.3 Autonomy

TwoNav Ultra may operate around 6 consecutive hours with the screen ON with no need of recharging the battery and up to 20 hours with the screen OFF and recording the track.

The screen uses an important part of the energy resources, so turning it off may make the life of the device longer.

The screen of the device will be turned off by default after 1 minute of inactivity.

You may also turn the screen of manually by a sustained pressure on the 'HOLD' button.

From "Main Menu > Configuration > System > Autonomy", you may deactivate or modify this time, as well as enter other options that may improve the autonomy of the device.

2.4 Connection to PC (storage unit)

When TwoNav Ultra is connected to the PC by means of the USB wire, the microSD card becomes a "storage unit".

This way you will be able to transfer data from the PC to the Ultra and vice versa. Please note that the folders to save data in the TwoNav Ultra are:

- Maps: TwoNavData\Maps
- Data (Waypoints, routes and tracks): TwoNavData\Data

Even 'copy/pasting' files is possible from Windows explorer, it is highly recommended to use CompeGPS Land PC software to manage them. CompeGPS Land allows easily creating, editing and transferring files to TwoNav, becoming a necessary reference to have an advanced control over your outdoor trips. (+info)

2.5 Using the electronic compass

TwoNav Ultra is fitted with a digital compass so you have accurate information available on the directions to follow even if you are stopped.

To be able to use the information supplied by the compass you must follow two steps:

1. Adjusting the compass: Go to 'Main Menu > Configuration > System > Calibrate Compass'. Once inside the adjusting utility, move device rotating in several directions place for a few seconds.
2. Go to 'Main Menu > Configuration > Navigation > Bearing' and select 'Automatic'. This way, the information coming from the compass will be considered when you are stopped or driving very slowly (in these cases, the GPS information is less reliable to determine orientation).

Note: Adjustments must be made outdoors and far from sources of alterations of the magnetic field, such as cars, buildings or electric lines. For further safety, it is recommended to adjust the compass prior to any outings.

2.6 Updating the software

The TwoNav software is continually being improved in order to add new functionalities and polish possible errors.

Normally, software updates are for TwoNav, but operating system can also have updates.

Visit regularly the TwoNav (www.twonav.com) and CompeGPS (www.compegps.com) web pages to be regularly informed about the latest available version for your device and get to know the steps to follow for installing it.

3 General description

3.1 The device

1. **POWER button:**
   - **Short press**: Start/Pause ('enter' if inside menu)
   - **Long press**: Power on / Shutdown menu

2. **PAGE button:**
   - **Short press**: Switch "*Map* > *Datafields* > *Menu"* pages ('back' if inside menu)
   - **Long press**: Tools for the present window

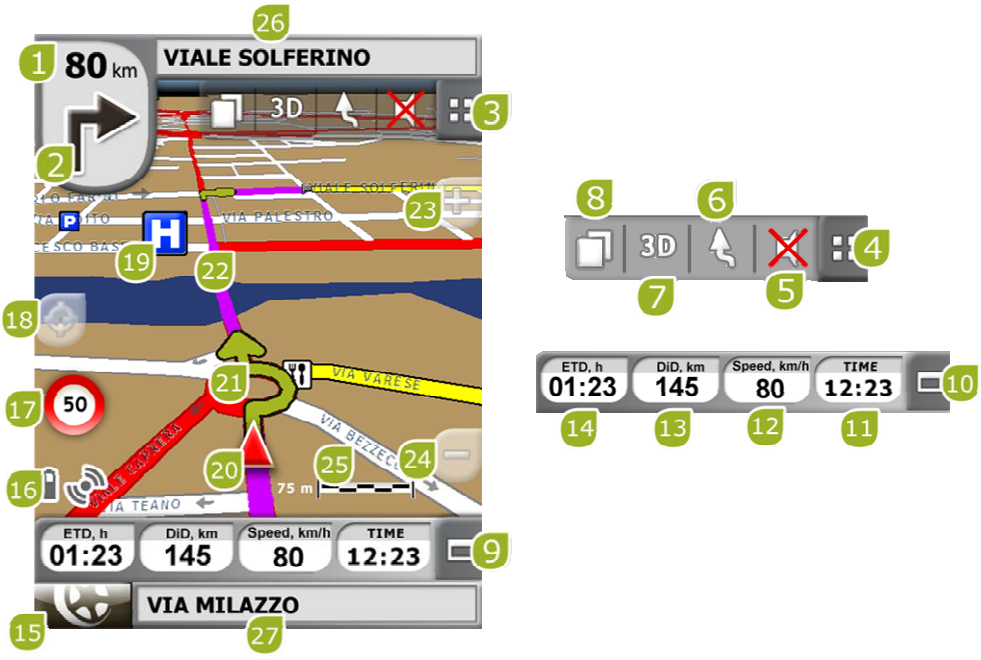
3. **& 4. UP/DOWN buttons**
   - **In map**: Zoom
   - **In Datapages**: Switch datapages
   - **In menu**: Move selection

Note: You can customize button functions from '*Menu* > *Settings* > *System* > *Keys*'.

3.2 Navigation window

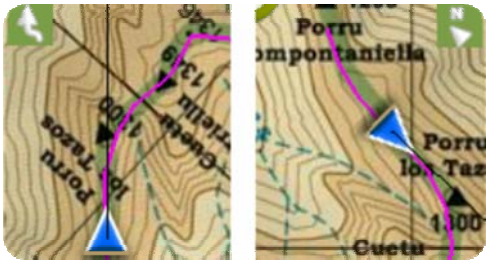
General/On-road

(On-road mode will only be available if V-map is available)



1. **Distance to next event:** Distance left to next event (roundabout, waypoint, exit).
2. **Next manoeuvre:** When navigating On-road, the 'next event' space will display a representation of the next manoeuvre to be done (right turn, left turn, roundabout, diversion, etc.).
3. **Tool Bar:** Its content can be customized from Tool bar manager
4. **Show/Hide tools**
5. **Mute**

6. **Orient map (north up/track up)*:** The map may be fixed on the north or rotate, depending on our movements.



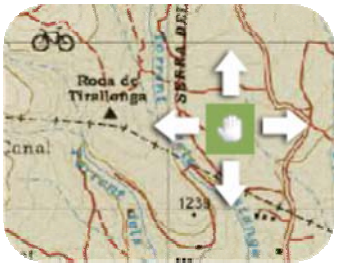
7. **2D/3D:** Changes the perspective between 2D and 3D (+info).
8. **Data pages:** Enter data pages to check all type of information relating to your present navigation.
9. **Data bar:** Shows the data that is set from 'Settings > Display > Data fields' (+info).
10. **Show/Hide Data Bar:** You may hide the data bar to get a broader view of the map.
11. **Time:** It is refreshed with the data received from the GPS
12. **Speed**
13. **Distance to Destination**
14. **Estimated time of arrival to destination**
15. **Menu button:** Goes to TwoNav Main menu.
16. **Status icons (enters status window):** To indicate the present battery and GPS coverage level. The page 'Status' is entered by pressing on them.
17. **Speed limit of present road:** Indicates the legal speed limit of the road on which we are.
18. **Re-centring (after sliding the map):** Press the 're-centre' button to focus on your present position after sliding over the map.
19. **POI**: V- map point of interest (petrol station, hotel, cash point, etc).
20. **Present position:** Indicates your position and present course. Its colour changes depending on the configured vehicle or if it is in 'Simulation' mode.

21. **Manoeuvre indication:** Illustrates the manoeuvres to be carried out on the map and more accurately.
22. **Calculated Route:** Shows the automatically calculated route to be followed.

23. **Zoom +**
24. **Zoom -**
25. **Scale ruler:** Visual ruler to quickly evaluate distances on the screen.
26. **Next Street:** Indicates the next street to be taken following navigation.
27. **Present Street:** Name of the street where you are.

Off-road

28. **Compass:** Shows the orientation of the device. The source of this datum (GPS, electronic compass or 'automatic') may be set from 'menu > Settings > Off-road > Bearing'. When current GPS position is inside radius of a waypoint, waypoint name will appear. If waypoint has an associated file, it can be reproduced clicking on its name (+info)
29. **Currently Recorded Track:** If the present track is being recorded, we can see its trace marks behind us.
30. **Guide line (waypoint direction/track):** Joins your present position to the place you are heading for (track or next waypoint)
31. **Next waypoint**
32. **Loaded Track**
33. **GOTO arrow:** Direction on which the next waypoint is. When following a track, it will indicate its direction (see Off-road navigation).
34. **Track name / Next Waypoint:** Name of the next waypoint or the track being followed.
35. **Loaded route**
36. **Pan/Rotate map:** Choose between two types of movements:
    a. Panning: you may move along the map without changing orientation in order to see some new parts.



b. Rotation: it changes the orientation of the map in a clock-wise or anti clock-wise sense (horizontal dragging) or up/down (vertical dragging).

You may move the map dragging it by means of the touch screen or the joystick.

37. **Altitude**
38. **Show/hide graph/data bar:** You may hide the data bar to get a broader view of the map.
    When navigating a route or a track, or just recording a track, graph will also be available here and this button will have 3 states:
    - **Data bar**
    - **Graph bar** (Won't be displayed for boat mode)
    - **Nothing**

3.2.1 **'Tool bar'**

Tool bar allows a quick access to some functions.

Available functions can be configured from 'menu > settings > display > tool bar'.

Tool bar manager allows to add functions like 'MarkWPT' (create waypoint in current position), 'Mark & edit WPT' (create and enter brief information about waypoint), 'screenshot' or many others.

Extra buttons are added automatically to tool bar in these specific situations:

- Simulating: functions to pause, stop and manage speed of simulation.

- Navigating a route, track with waypoints or itinerary: 'Next WPT' and 'Prev WPT' buttons to jump to next point or go back to the previous.

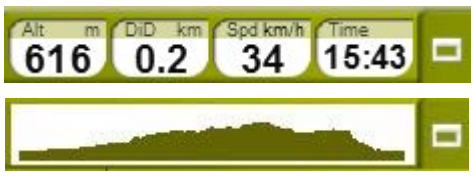
- Edit mode: press 'close edition'  when you finished creating your track or route.

Note: Press  to return to the original distribution you only have to click at the circular arrow.

3.2.2 **'Data bar'**

Data bar shows a few data fields and, when navigating a route or track, it has an extra state which shows altitude profile.

Click on the button at the right side to switch between data bar and graph bar or to hide it.



Data bar can be configured from 'menu > settings > display > Data bar'.

Data field manager also allows to customize data pages, which are accessed with the 'page'  button.

You can also change a concrete data field directly opening the context menu on it.

3.2.3 **'InfoCurrent' and 'InfoNext'**

At the top and at the bottom of the navigation window, there are two bars which may have various information related to navigation:

- **InfoCurrent**: Information related to present position:
  - Off-Road:
    - Default: Compass
    - Inside waypoint radius: Waypoint name. If waypoint has associated files, click on it to reproduce.

- On-Road:
  - Default: Current street
  - Inside waypoint radius: Waypoint name. If waypoint has associated files, click on it to reproduce.

Note: Attached files can be found at 'Infocurrent' bar represented in a clip icon.

- **InfoNext**: Information related to next events. Not shown if no destination is selected.
  - Off-Road: Name of the next waypoint. If waypoint has description, it will be shown after the name.
  - On-Road:
    - Default: Next street
    - Signpost: Some roads have information about signposts. If this information is available for 'next manoeuvre' (e.g. highway exit) InfoNext will show a reproduction of the real signpost you will see in the road.

InfoNext can be displayed in 3 states depending on the size of the text to show:

1. One line: If text is too big to fit in one line, a little triangle at right will inform about availability of extended state. Just click on it to extend.

2. Extended: If text still doesn't fit, triangle will still be there. Click to open text viewer.

3. Text viewer: If text is even too big to fit in extended space, third state will be available with unlimited space.

If you press 'InfoNext', you will be redirected by default to the main menu of the application.

This option can be changed by selecting 'Settings > System > Advanced' with the user redirecting the function to any of the three proposed commands of TwoNav:

- Main menu (by default)
- Data page
- Tool bar

3.3 **Menu**

Most of the options of the program may be entered from the TwoNav Main menu.

The On-road/Off-road mode selectors can be found in it, as well as the access to the different sections of functions and a direct access to the map.

3.3.1 **On-road/Off-road**

TwoNav features two navigation modes to meet the needs of any environment.

Press the corresponding tab on the main menu to activate the most suitable mode for you.

Important: On-road mode will only be available if you have a routable V-map present in maps folder. Otherwise, On-road tab will be disabled.

For further information, check the section On-road/Off-road selector

3.3.2 **Navigate…**

TwoNav features three basic ways of activating navigation towards a destination:

- By means of the Navigate button…
- By means of the waypoints, routes and tracks lists
- By means of selection on map

Check the section ‘Select destination’ for further information

3.3.3 **Data Lists**

By pressing on the data button on the main menu, you will be able to manage the available files on your device. This operation is carried out through the waypoints, routes, tracks and maps lists.

The files to be taken into consideration on this lists will be the ones saved in the folders ‘TwoNavData/Maps’ (for maps) and ‘TwoNavData/Data’ (tracks, routes and waypoints).

The general functions of these lists are as follows:

- **Available elements open**: The available elements on the data folder can be seen on this list. The open elements will be arranged on the top of the list with a ticked square. ☑
    - Press on the name of any element to open it.
    - Press on the left square ☑ to close it.
- **Sub-elements**: By briefly clicking on the name of an element (waypoints file or route) the waypoints which it contains will be displayed. Press again on the name of the element to hide its contents.
- **Actions on the elements**: You can carry out diverse actions on each element. When selecting an element (click briefly on it) the bottom buttons of the list will show the most important functions for this element (see properties, zoom on the element, add waypoints, etc.). Next you have a list of the elements you can find:
    - **Properties**: Inside properties you can also find :
        - **Navigate**
        - **Zoom to it**
    - **Zoom to it**: Show that element on map. Once in 'zoom to it' window, you can go to:
        - **Navigation window**
        - **Back**
    - **Create new waypoints file**: Then you can create waypoint inside it.

- **Create new route**: Then add waypoints successively to with button to build up the route.

  Note: You can also create routes, waypoints and tracks by opening the context menu on navigation window.

- **Create new waypoint**: Several ways to choose position for new waypoint will be presented (current position, By map, copying other waypoint...).

  Note: You can also create waypoints from context menu on navigation window and from the tool bar.

- **Show only maps from current area**:

- **Name filter**: Hides list elements which do not contain the entered combination of characters, so you can easily find elements in a long list.

To enter the list of all the functions keep the pressure on the element for a while context menu will open.

To get further knowledge of the elements included in the Data section, check the section Waypoints, Routes, Tracks and Maps.

3.3.3.1 Name filter

Elements of a list can be filtered to only show files which contain a combination of characters.

Press button to enter a character combination to filter.

If a waypoints file is opened when filter is applied, its content will also be filtered. This means that waypoints which don't contain that character combination will not be shown until filter is disabled.

This is useful if you are searching for a concrete waypoint inside a waypoints file or route. Just open the waypoints file and activate 'name filter'.

After activating, filter can be easily disabled:

- If an element is opened, filter will be disabled.
- When leaving list page, filter will be disabled, so full list will be shown next time list is visited.
- If button is pressed but no character is introduced, full list will be shown.

3.3.4 Discover

From the option 'Discover' on the main menu, you may enter useful tools in order to explore the areas you are going to visit:

- **Zoom to...:** Choose the element (address, POI, favourite, data or coordinates) that you wish to see on the map and it will be displayed on a new window.
- **Geocaching:** This section centralizes geocaching features, allowing to set a geocache as destination, see its information and generate field notes.
- **Simulate:** You may select two spots (present position, by address, by map, POI, etc.) to execute a simulation of navigation from spot **A** to spot **B**.
- **Stop simulation:** It stops the ongoing simulation.
- **3D Panorama:** By using this option you may get an aerial view of the surroundings. In order to do it, 3D mode must be activated.
- **Data pages** (+info)

3.3.5 Status

The 'Status' allows you to know the general status of the TwoNav by displaying fields such as battery level, reception and position of satellites, luminosity of the screen, sound volume or the recording of a track.

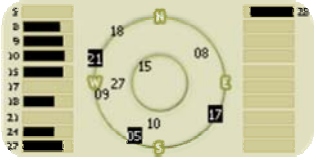
There are two ways of entering the 'Status' page:

- From 'Main Menu > Status' 

- From the map, with the icons located on the bottom left 

Once in the 'Status' page, you may enter to set the parameters it contains by pressing briefly on the percentage bar of each element. You will then enter the following items:

 **Satellites status:** enter to see the number of satellites available, their distribution orbiting over the vault and the coverage they reach.



To disconnect the GPS press on the  button. If the GPS is disconnected, TwoNav will not receive any position signal and many of the options will stop working properly.

TwoNav will attempt to fix the current position. If you are anywhere without GPS cover (e.g.: inside a building), the GPS status will be "**Without position**"; i.e.: TwoNav has successfully established communication with the GPS, but the GPS cannot fix your position because there is no satellite signal.

GPS possible states:

Disconnected	
Connecting...	
Error (not found)	
Connected without position	
Connected and with position	
Simulating	

 **Battery:** you will be able to see the percentage of load in the battery and, by clicking on it, you may manage the autonomy options of the device. (+info)

 **Brightness:** percentage of luminosity displayed by the screen. (+info).

 **Audio:** set the general audio and the volume of each audible element individually. (+info).

 **Triplog:** by keeping the 'record' button pressed, the present track will be saved. Data fields and recorded tracks are synchronized, so if you press 'pause', you pause both counters (chronometer, distance, mean speed...) and track recording until 'record' is pressed again. Press 'stop' to reset the triplog (+info).

3.3.6 Settings

The page 'Settings' enters the main options to customize TwoNav for each type of use (see section Settings for more details).

These options are grouped in the following sections 'Display', 'Vehicle', 'Navigation', 'System'.

3.4 Contextual menus

TwoNav uses Contextual Menus to enter the most adequate functions for each moment and option in an easy and quick manner.

To open the Contextual Menu of any element (track, map, waypoint…), **press on it for one second**. You may open contextual menus on the following settings of the user interface:

- **Navigation window (map)**: Depending on the element on which you open the Contextual, you may enter different functions. There is a description of the available functions on the menu of each element on the specific sections for waypoints, routes, tracks or maps.
- **Data fields**: When opening the Contextual on the data fields (on the data bar or the data pages) you will be able to modify the available fields, set an alarm or enter other functions that may change depending on the field (reset, countdown, etc.). (+info)
- **Lists**: The Contextual Menu may be opened to see the different actions to carry out on any given element (waypoints, routes, tracks and maps) by clicking on its name from the data lists.

3.5 Shifting over lists

TwoNav uses a system of lists on the various situations: data (tracks, waypoints, routes and maps), data fields, contextual menus, etc.

A *scroll* system has been developed in order to facilitate the shifting through these lists, which allows for the movement around the different options by dragging the pen or finger upwards or downwards.

If you execute a brief shift, the last displayed element will become the first on the list.

If you execute a long shift, the list will keep scrolling down and it will stop at the end or by pressing on the screen.

If you want to move along the lists in a more accurate way, you may use the side arrows to achieve a more controlled movement.

3.6 Using MicroSD slot

TwoNav Ultra allows to extend storage memory with a MicroSD card. By default, MicroSD card data must be placed following the typical TwoNav data organization:

- **Maps**: TwoNavData/Maps
- **Data** (tracks, rutas, waypoints): TwoNavData/Data

If you don't create a TwoNavData/Maps folder and save your maps in it, they will not be shown in TwoNav's maps list.

You can modify TwoNav's folders configuration to search for maps in other folders. Just go to 'Settings > System > Folders' and add a new maps folder or modify an existing one.

For example, you can choose MicroSD card root so any map in SD card will be read, no matter in which folder it is.

3.7 Activate sensors

After mounting sensor, follow next steps to receive information from them:

1. Go to data page (press 'page' button)
2. Check if sensor data fields (Heart Rate, Cadence and Sensor speed) are present. If not, you can add them following these steps:
    a. Make long press on the datafield you want to change

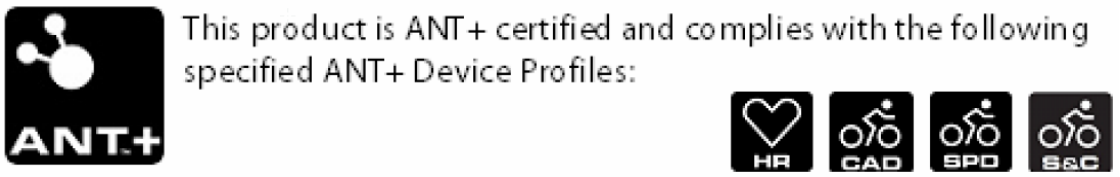
b. Select ‘Change this data field’

c. Choose the sensor datafield from ‘sensors’ category

3. Make long press on the data field you want to activate (Heart rate, Cadence or Sensor Speed).
4. Select 'Activate HR/Cad/SSp'.

Ultra will search for sensor signal and display it if available. Data will be also saved in currently recorded track for each track point, so you can analyse the complete trip from CompeGPS Land PC software.

Note: TwoNav will try to activate all ANT+™ sensors at start.



4 Settings

TwoNav is set by default so as to meet the needs of most users. However, it is important that you spend some time analyzing which are the best options for the use you want to give to it and to adapt it to the conditions in each moment.

4.1 On-road/Off-road Selector

TwoNav has two navigation modes: **On-road and Off-road**. You can clearly see the mode you are on by looking at the colour of the users interface (green or grey). The functionalities of the program also change in various aspects, which are generally explained in this section and are detailed in other sections of this manual.

You may change the TwoNav navigation mode by pressing on the tabs on the top of the Main menu:

- **Off-road**: The areas where open air activities are carried out do not usually have usable information for the automatic calculation of the route, and therefore cartography will only be useful as a visual reference. In order to have assistance for orientation you will have to use positional references (waypoints, routes and tracks) that you can create yourself or get from diverse sources, such as friends, web pages or Internet forums. See sections ‘Waypoints, Routes and Tracks’.

- **On-road**: It uses the information of the road maps (V-maps from CompeGPS) to calculate automatically the route that we must follow to reach our destination. This route will take into consideration the available roads and will give detailed orientation through them using visual and voice indications. See sections ‘Automaps’.
  Important: On-road mode will only be available if you have a routable V-map present in maps folder. Otherwise, On-road tab will be disabled.

Depending on the current mode, next features will change:

- Options: You can have specific options configuration for On-Road and another one for Off-Road. Not all options are profilable. Here you have the list of profilable options:
  - In 'Display' options:
    - Automaps
    - Orient (track up / North up)
    - Autozoom
    - Re-center
    - Rotate screen
    - Data fields
    - Tool bar
    - 3D Reliefs options
    - 3D mode
    - Scale bar
    - Pointer options
    - List menu
  - In 'System > Advanced' options:
    - Static navigation
- Data fields: Content of data bar and data pages is different to better fit the needs of each use. A change in one mode will not affect the other, so you can configure a specific set of data fields for On-Road and another one for Off-Road.
- Tool bar: You can also configure a specific set of tools for each mode.
- Menu: Availability and order of some functions will change. Check 'Navigation options' sections.

4.2 2D/3D/3D+

TwoNav offers three visualizing modes so you have the most adequate perspective in each moment.

- 2D: Zenith Plan.
- 3D: Three dimensional flat image, i.e. with no relief, but with a perspective.
- 3D+: Displays the holography of the terrain in real 3D.
  This mode will only be available if next requirements are met:
    - Elevation map loaded (CDEM)
    - Raster map loaded (normally RMAP or ECW)

Press 2D button in tools bar to change mode.

By default, this button has **2 positions**:

- **2D**
- **3D/3D+**: TwoNav will try to show 3D+ mode. If not possible, 3D (flat) will be shown.

From 3D mode options you can configure this button to have 3 positions instead of 2:

- **2D**
- **3D** (flat)
- **3D+**

Notes on 3D+:

1. Remember that it is required to have a raster map and an elevation map (CDEM). Otherwise this mode will not work.
2. In 'Off-road' mode, when trying to enter 3D+, an available CDEM in the area will be sought and it will open automatically. In On-road mode, you will have to load the CDEM manually.
3. Vectorial maps won't be displayed in 3D+ mode.

4.3 Data fields

TwoNav contains a multitude of data on your navigation that may be of great interest in your outings (speed, height, distances...). This data is basically found in two spaces:

1. **Data bar:** The data bar will be displayed at the bottom of the screen during navigation. You will be able to keep it visible or hide it by means of the icon.

When navigating a route or a track, or just recording a track, graph will also be available here and this button will have 3 states:

- **Data bar**
- **Graph bar**
- **Nothing**

2. **Data pages:** The data pages offer you an additional space to the data bar in order to display a larger number of fields in a more clear way. Press the button to enter them.

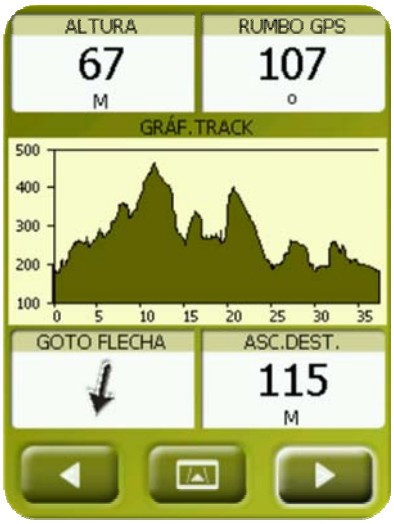
   TwoNav contains three pages of data that are displayed in order:

   1. Data page: 8 data fields.

   2. Compass page: a special field with an illustration of the compass and 6 data fields.

   3. Graph page: It contains a special field with an altitude profile. If you are navigating a route or a track, it will be shown with current position

marked by a vertical red line. You can zoom using buttons at top right. If not navigating a route or a track, currently recorded track will be shown. 4 data fields related with altitude accompany the graph.



Both the data bar as the data pages can be set in order to show the field that interests you most.

Besides, most of them have additional functions, such as an alarm programmer.

Data fields are configurable to have a different set for On-Road or Off-Road. Changes made in one mode will not affect the other.

4.3.1 Selection of the data fields

You can select data fields in two ways:

- **Change just one field**: By opening the contextual menu in any field (long click) and selecting 'Change this field'. This will let you choose directly the data to display in that field.
- **Data field manager**: From 'Main Menu > Settings > Display > Data fields'. Check the section 'Fields' for a more detailed description of the functionalities of this editor.

You can find the list of the available fields in appendix 1

4.3.2 Special Functions

When opening a contextual menu on a data field, you will find the available functions associated to this field.

The options are not the same in all fields. Here follows a description of the ones you may find:

1. **Data Fields:** Enters the editor of the available fields.
2. **Don't show this field:** Eliminates a datum immediately.
3. **Program alarm:** Define a higher or lower limit as the type of signal (visual or audible) to let you know when exiting this range. In case an audible signal is added, you must choose the sound file you wish to be reproduced.
4. **Reset:** Typically, you may find it in fields such as the travelled distance meter (odometer) o chronometer. They reset the counter to 0.
5. **Reset all:** Resets all data fields that can be reset except total odometer 1 and 2.
6. **Countdown:** You may define the value from which units of distance and time will keep being subtracted (according to field) until reaching 0.
7. **Compass calibration:** Direct access to the digital compass calibration.
8. **Barometer calibration:** Direct access to the digital barometer calibration.

4.4 Record the track

You may choose if you want to keep saving your present trip in a track or not.

Go to the Status window and press the 'record' key so your movements are added to the currently recorded track.

TripLog has been designed to control all track data ('trip computer') and points of track recording ('tracklog') at the same time. Data fields and recorded tracks are synchronized, so if you press 'pause', you pause both counters (chronometer, distance, mean speed...) and track recording until 'record' is pressed again. Press 'stop' to reset the triplog.

Access to triplog from:

- Status window
- Context menu at 'Chronometer' data field
- Adding 'Pause' command at the toolbar

Note: When starting new navigation or changing mode, the user is asked to re-start triplog.

You can configure accuracy level of recorded track from tracklog options (+info). Recorded tracks are placed at 'Tracklog' folder.

4.5 Favourites

Besides the possibility of creating geo-referenced points (waypoints), TwoNav also has the possibility of setting up all types of geographical locations, such as **Favourites** points to which navigate. Your home, a restaurant you like, a spectacular park you have visited, your children's school…, may become part of your favourites list.

You may enter to set up your **Favourites** from the main menu:

The **Favourites** list is not set by default, so you have to set it up yourself introducing the elements to make up this list. Therefore, the first time you enter **Favourites**, you will find the following screen:

Press on the 'stylus' icon to edit this list 

On the following screen, the 'add' icon lets you create your first **Favourite** point 

Choose the way you want to create your Favourite point:

- **Present position:** it will establish your current position as a favourite point, and will ask you directly to add a name or establish it as your home.

- **Present destination:** it will establish the present destination of the active navigation.
- **Address:** it will let you create by choosing an address (city, street, number).
- **By map:** you will be able to create a favourite on the map currently loaded. Press on the wished place and a red cross will indicate the point where this favourite will be established.
- **By waypoint:** Choose a waypoint from the available waypoints files in order to establish the favourite point using your coordinates.

Your **Favourites** will be displayed on the map and in the favourites list with the icon.

The point established as 'Home' will be represented by the icon

Once a **Favourite** point is created you will be able to:

- Edit the characteristics of your **Favourite** by means of the tool.
- Add or delete **Favourites** from your list by means of the tools
- Make this **Favourite** your present destination by means of the tool.

4.6 Display

4.6.1 Available commands Default/Advanced

Default:

- Automaps
- Orientate map
- Autozoom
- Night view
- Re-centring
- Rotate screen

Advanced:

- Data fields
- Tool bar
- Active POI
- Active personal POI
- 3D landscapes

- 3D mode
- Scale ruler
- Pointer
- List menu

4.6.2 **Automaps**

The easiest way to use the most suitable map for each situation is to activate the function 'Automaps', so in 'On-road' mode the Vmap road map will open automatically and in 'Off-road' mode it will close and the map with the best resolution for our present position will open.

The 'Automaps' option is off when a cross is displayed on the icon:

It is recommended to have the Automaps option always on, and more especially on those instances in which you need to make a change in navigation mode during the route. For example, if you switch from Off-road mode to On-road mode and 'Automaps' is not on, it will mean that the new On-road route won't be properly calculated and the Off-road mode will still be displayed on the screen in spite of having the most suitable map for each navigation mode.

'Automap' possibilities:

- **Auto-open maps:** Opens the most suitable map for each situation
- **Auto-open on-line maps:** Opens the most suitable on-line map (only visible in connected devices)
- **Auto-open reliefs (*.CDEM):** Opens the most suitable elevation map for each situation (enabled independently from 'Auto-open maps')

Note: The best map can also be opened from the contextual menu.

4.6.3 **Orientate map**

You may choose between two display modes for the elements loaded on the map window:

- Orientate map towards  course (track upwards): The map will rotate to adapt to your present course, and so the perspective in front of you will be displayed on the screen.

- No orientate the map  (north upwards): Your position will be marked with the pointer in the centre of the screen and the pointer will rotate to show your present course. The map won't rotate and the North will always be upwards.

You may modify this option from the button bar on the navigation window or from the 'display' menu.

4.6.4 **2D/3D**

If you want to change between 2D to 3D, or vice versa, you only have to alternate both modes at 'Menu > Settings > Display'. (information about 3D mode)

4.6.5 **Auto zoom**

If the Auto zoom mode is active, the program will calculate the most suitable zoom for the present speed. Generally, the higher the speed, the further it will go.

- **Automatic**
- **Show destination** (zoom window including the current position and the destination)
- **Show next event** (zoom window including the current position and the following route/waypoint/roadbook point,...)
- **Show all current leg** (zoom window including the current position and the present leg or full track)
- **Fixed by user** (settable from 'Fix scale')
- **100% of current primary map** (the whole map is displayed)

Moreover, during the navigation, if 'Force 2D' is enabled, 2D map view is automatically set even other views are currently displayed.

4.6.6 **Night view**

In low ambience light conditions, the colours and brightness of the TwoNav screen may dazzle you.

TwoNav contains a 'night mode' that reduces the brightness of the screen and displays a user interface of darker tones.

By activating the 'At night and tunnels' option, TwoNav changes to 'night mode' automatically at night or when inside a tunnel.

The option 'At night' makes it automatic but only for night and not for tunnels.

If 'automatic' is off, you will be able to select manually if you wish to have the night mode on or not.

Note: TwoNav always keeps the time updated as long as the device receives the GPS signal. Usually, inside buildings, there is no reception of satellite signals and so, automatic 'Night View' may be affected.

4.6.7 **Re-centring**

While navigating you may move the map to see other parts of the grounds, losing the reference of your present position. In these cases, a re-centring button  will be displayed on the screen.

TwoNav contains an automatic re-centring function, so if the map is not moved manually for 10 seconds, it will centre back to its present position.

The time for re-centring may be modified and even turn it off, leaving the option of pressing the re-centring button to go back to your position.

Re-centring can be performed with a smooth movement or instantaneously. Enable or disable 'smooth re-centre' option as you prefer.

Note: If the function 'auto zoom' is activated, when pressing re-centring, the zoom suitable for your present speed will also return, losing then the variation of the zoom level you may have done.

4.6.8 Rotate screen

By activating the option 'Rotate screen' you may get a landscape view of it and then use TwoNav horizontally.

Rotate the screen in the various angles to adapt it to your preferences.

4.6.9 Themes

You can select different color combinations according to your preferences.

4.6.10 Labels

Next parameters can be configured:

- Font size for all labels: Labels of elements like waypoints or POI will have this size.
- Font color for new WPTs: Default waypoint property for next waypoints that will be created. Waypoints which were created previously will keep their color.
- Background color for new WPTs: Same as 'font color' but for label's background
- Background transparent for new WPTs: Background can also be transparent.
- WPT icon position: waypoints on-screen presentation. Possible icon positions are:
    - Centered and without background (third example)
    - Centered (second example)
    - Elevated (first example)

4.6.11 Hint

Specific information for each clicked point on map will pop up on the screen in a yellow label showing fields with useful information.

This function can be personalized, or even disabled, according to the will of the user. There you will be able to add or exclude data fields which later on will be displayed on maps:

- Map info: only for vector maps like Vmaps.
- Coordinates
- Bearing (from current position)
- Distance (from current position)
- Height (if CDEM available)

4.6.12 **Data Fields**

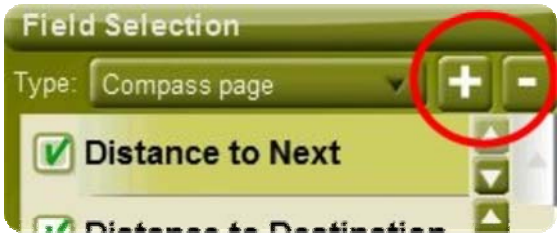
Data bar and data pages can be configured to fit your specific preferences. Once inside the editor, take the following steps:

1. Press on the 'Type' pull-down menu to choose the section to be set.
2. Select the space you wish to edit (bar, page, compass o graph).
3. You may delete data by pressing on the left 'check' mark and add other data by pressing on them. See a list of these variables and their meaning in Appendix 1.
4. On the compass and graph pages, a squared icon on the side shows the place corresponding to the enhanced field (normally compass and track graph) that will be enlarged on the screen.

5. You may modify the order of the data on screen with the arrows on the right of the window and they will shift the datum up or down one position.

Note: By default, only fields of frequent use will be shown, alphabetically ordered. If 'infinite' button is pressed, full list of data fields will be shown.

You can also add or remove pages to de default ones using the + or - symbols at top right of the data field manager window.



Just press - to remove currently selected data page.

Follow next steps to add a new page:

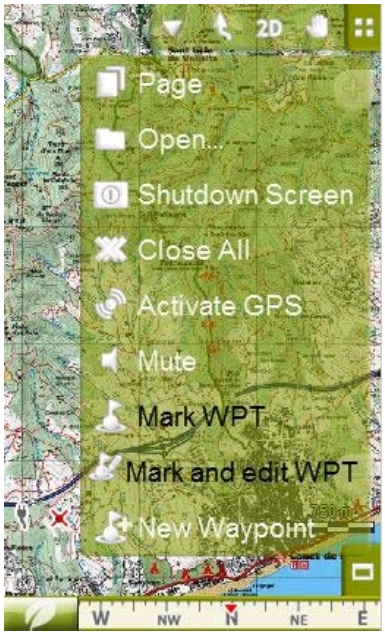
1. Press '+'
2. Enter a name for new page
3. Select a template for new data page

4. Choose data fields for it.

You can find a list of the available fields in appendix 1

4.6.13 **Tool bar**

Tool bar can be customized to show the better combination for user.



Tool bar manager works in the same way as data field manager.

Next functions can be added to the tool bar:

- Page: Access data pages
- 3D mode: Switch 2D-3D/3D+
- Orient map: Track up / North up
- Pan/Rotate: Movement mode
- Open...: Open file
- Shutdown screen
- Close all: Close all open files.
- Activate GPS: Start/Stop GPS connection
- Mark WPT: Creates waypoint in current GPS position with default name and icon in one click
- Mark and edit WPT: Creates a waypoint in current GPS position and access to properties so you can customize it.
- New waypoint: Create a waypoint choosing where to place it and customizing it properties.
- Mute
- Window zoom: draw an area on map to zoom to it.
- Full screen: Most of user interface elements will be hidden to get a wider view of the map.
- Zoom 100%: zoom will be automatically set so map is shown at its maximum resolution.
- Screenshot: saved in TwoNav/Temp folder.
- Search for a more detailed map: it will try to load a map of higher resolution than the currently loaded.

- Start/Stop: the user is able to start navigating by selecting any destination from 'Navigate...' menu. If the same button is pressed again, the navigation is stopped.
- Next Waypoint: When navigating a route or a track with waypoints, switch to the next one.
- Previous Waypoint: When navigating a route or a track with waypoints, switch to the previous one.

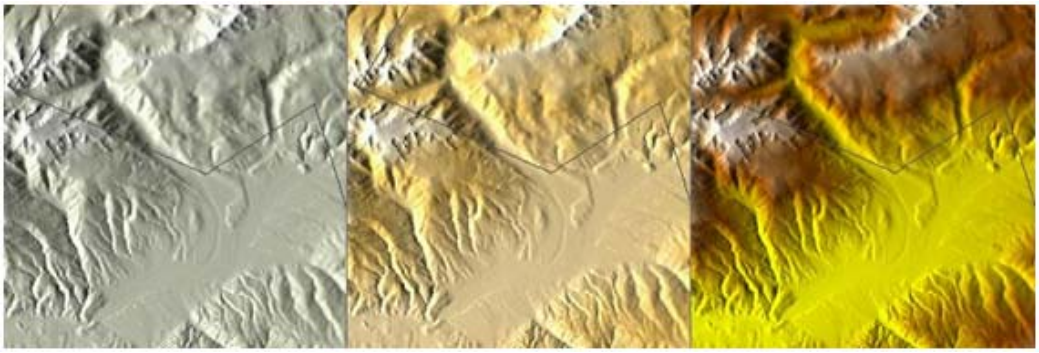
Note: NextWPT and Previous WPT tools will only be visible when navigating a route or a track which contains waypoints.

4.6.14 **3D Reliefs**

TwoNav may use elevation maps (grid with information on the height of the ground) to have the altitude data on the references created with the program (e.g. tracks, waypoints, etc.) to habilitate the visualizing mode 3D+ (3D real).

Besides remaining subjacent and supply the ground altitude data, the 3D relieves may be seen with the following options:

- **Draw landscapes on the 2D view:** It will be seen if a CDEM is loaded, although it will take position in the lowest layer so any other loaded map will be displayed on top.
- **Relief colour selector**: the user is able to select between three different hypsometric colour options for his maps: high contrast colours, low contrast colours or default palette of colours.



- **Draw landscape with shadow:** This visual option makes the relief drawing more attractive.
- **Flat colour steps:** Instead of using a fading colour, just one plain colour for each height interval will be used. This interval can be preset from the unfolding menu just below.
- **2D Shaded relief**: Relief shadows can be displayed on maps presented in 2D mode.

4.6.15 **3D mode**

You may set the following options for 3D mode:

- 3D mode: Choose the sequence for 2D button in tools bar:
  - 2D-3D+ (if raster map): 2 positions:
    - 2D
    - 3D/3D+: TwoNav will try to show 3D+ mode. If not possible, 3D (flat) will be shown.
  - 2D-3D-3D+: 3 positions:
    - 2D
    - 3D (flat)
    - 3D+

  3D+ mode will only be shown if its requirements are met (see 2D/3D/3D+ section)
- Altitude exaggeration: Multiplies the altitude of the relief to make a clearer effect in 3D+.
- Shading: This option will cause the relief to be displayed in a clearer and attractive way, as it features shadow simulations enhancing thus the variations of the grounds. This option is only effective on the 3D+
- Field of vision: the field of vision determines the angle from which the map will be seen. When introducing angles over 60º, it is like a camera with wide lenses.
- Misty horizon: the furthest part to the perspective becomes faded, creating a misty effect between the sky and the map that distinguishes them more clearly.
- Sea level: When the height is under the sea level, 3D mode can also represent the situation by fixing the current value of the sea level (*.CDEM elevation map required). By default, the level of the sea is set at 0 meters.

4.6.16 **Active POIs**

By means of the active POIs list you will be able to choose the POIs categories that the map is to show.

All the POIs will be shown by default, but if the vision of certain categories is useless for you or even interferes, you may take them off so the map does not show them.

When selecting destination or 'zoom to' you will have all the information of the POIs categories, even those not being shown on the map.

4.6.17 **Active personal POIs**

By means of the active personal POIs list you will be able to choose the personal POIs files that will be shown on navigation window.

When selecting destination or 'zoom to' you will have all the information of the POIs files, even those not being shown on the map.

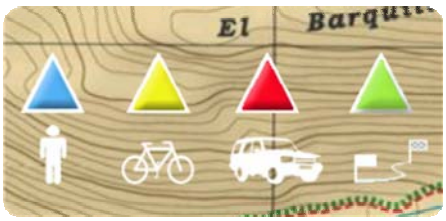
4.6.18 **Scale bar**

The Scale Ruler draws a metric visual reference over the distances managed by the screen. The scale changes size to represent 'rounded' measurements.

4.6.19 **Pointer**

The icon signalling your present position can be modified choosing among various designs.

Different icon can be chosen for each vehicle.



Besides, you may find different utilities to help you control your movement better:

- **Fixed ring and parallels:** a circumference encircling our position will be drawn and two lines will indicate the course.
- **Fixed ring radium**: it determines the size of the circumference surrounding our position.
- **Draw the parallel bow lines**: we may choose to display or not the parallel lines of the first option.
- **Prow lines:** you can configure the length of the prow line by setting a defined option:
    - Disabled
    - Pixels (pixels)
    - Real distance (meters)
    - Expected distance in time (minutes): TwoNav will calculate the estimated distance to be covered in that time at current speed.
    - Infinite

  Note: These properties depend on the selected vehicle.

- **Variable ring**: you may add more rings around your position. You have to define the radium of the inner ring and the number of successive rings which will be equidistant from the first inner ring.
- **See turning radium**: when turning, the radium corresponding to the circumference described will be displayed.
- **See bow line**: shows the direction line from the point of the position arrow (only in 'Off-road' mode).

4.6.20 **Smoother**

The smoother lets the program calculate an interpolation of movement between the positions that the GPS adopts with the aim of showing a gentler movement to allow for a better perception of the speed at which we are driving in relation with the surroundings. This helps

enormously the driver to calculate the distances and the exact moment in which to carry out a manoeuvre.

Besides, it also makes a prediction of GPS position, correcting delay on the signal caused by the system, achieving to show current position almost in real time.

Smoother is based on route calculated in On-Road mode, so it will only work if a destination is set and route has been automatically calculated on V-map.

4.6.21 List menu

You may choose between two display modes of the submenus:

- Button menu: This is the traditional mode. If there are more options than the screen can display, the 'next' button will appear in order to enter it.
- List Menu: The options will be displayed on a continuous list. To move the list UP and DOWN keep the finger or the stylus on the list and drag.

4.7 Vehicle

Choose your transport system to adapt aspects such as the types of roads allowed, the consideration of street direction or the expected average speed.

The icon indicating your position will change colour depending on the chosen system of transport.

Available vehicles are:

- Walk

- Bike
- Car
- Boat

Next parameters will vary depending on the current vehicle:

- Hint content
- Cruise speed
- Autorouting restrictions (On-Road)
- Estimated times
- Pointer
- 'Minimum moving speed'

4.7.1 Vehicle configuration

Next parameters can be configured for each vehicle:

- Cruise speed: Expected mean speed for that vehicle. This value will determine 'Estimated time at destinacion (cruise)' and 'Estimated time at next (cruise)' data field.

  Default 'Cruise speed' is:

  - Walk: 3km/h
  - Bike: 15km/h
  - Car: 80km/h
  - Boat: 20km/h

- Draft (only for 'Boat'): depth to which a vessel is immersed. This value will determine the 'depth alarms'.

4.7.2 Special stuff on 'Boat' vehicle

Since marine navigation has special needs comparing to terrestrial navigation, when 'Boat' vehicle is selected some special changes (in addition to normal changes related to vehicle) will take place:

- Specific 'Data fields' in Data bar and Data pages
- Specific main menu (specially changing 'Navigate...' section)
- Specific tool bar
- 'Man Over board' command available for main menu and tool bar
- Different skin
- Marine units (nautical miles, knots...)
- Marine charts will be loaded if present, only if 'Automaps' option is enabled.

Note: Since 'On-Road' navigation has no sense in 'Boat' vehicle, 'Off-Road' mode will be automatically enabled when 'Boat' is selected. If 'On-Road' tab is pressed, vehicle will be changed to the previously selected in that mode.

4.8 Navigation

4.8.1 Available commands Onroad/Offroad and Default/Advanced

4.8.1.1 On-Road

Default:

- Autoroute
- Speed limit
- Ecocalculator
- Smoother
- Tracklog

Advanced:

- WPT Alert
- Next WPT
- Altitude
- Bearing

4.8.1.2 Off-Road

Default:

- Tracklog
- WPT Alert
- Next WPT

Advanced:

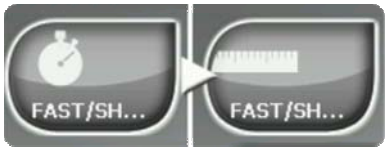
- Speed limit
- Ecocalculator

4.8.2 Auto route

The 'On-road' navigation mode can be adjusted so the automatic calculation of your routes is done according to your preferences:

- Fast/Short: The first option will calculate the estimated time of arrival, bearing in mind the speed of each road and will suggest the navigation which takes shorter. The second option will suggest a navigation based on distance, choosing the shortest way, although it may not be the fastest.

  When the option 'by time' is activated, a chronometer will be displayed as a key icon. If a rule is displayed, the shortest route in distance will be calculated.



- Tolls/Highways/Unpaved: Select to choose any of these types of roads.

A tick on the icon means that this type of route won't be used for the automatic calculation of the route.

- Re-calculation: Although TwoNav is configured with the most suitable relation for most cases, you may select the time or distance from the programmed route before it is considered that you are not following it and it is recalculated, adapting it to the present position.

4.8.3 Speed limit

This section gives you options related to the speed alerts and traffic radars and can be set according to your preferences:

- **Set a speed limit:** the speed limit of each particular road will be considered by default, but you can set a fixed speed limit disregards the limit of each road.
- **Speed alert:** If you wish TwoNav to let you know when you drive over the established speed limit, you may choose among the different alert types, such as a speed limit icon, a visual alert or a visual alert plus an audible alert, or on the contrary, choose that it does not inform of it.

- **Speed to block interface**: When is higher than this value, User Interface will be blocked to user can not manipulate the system. It is important to configure this function according to laws of each country.
- **Radar alert:** You may select if you wish to be informed of the presence of radars on your route by activating this option.
- **Radar distance alert:** You may select the distance at which you wish to be informed of the presence of a radar within some preset values.
- **Show radars:** The exact position of all radars will be indicated by means of an icon on the map. I have a question.

Note: For all the radar related functions to be operative you must have a file with this information in 'TwoNavData > Radars' (+info).

4.8.4 Ecocalculator

The Ecocalculator lets you know the CO_2 emissions of your car and show it after the Data Bar (Data fields) during navigation if preset. To be able to calculate this emission, TwoNav considers the following parameters:

- Type of fuel: choose if the fuel is diesel or gasoline and introduce directly the emission per grams of CO_2 per kilometre of your vehicle if you know this data.
- Administrative Power: engine power (CV), choosing among the preset options shown.

4.8.5 Tracklog

While navigating, TwoNav may automatically record the track of your departure and save it in the **TwoNavData folder**.

Set up according to your needs or preferences:

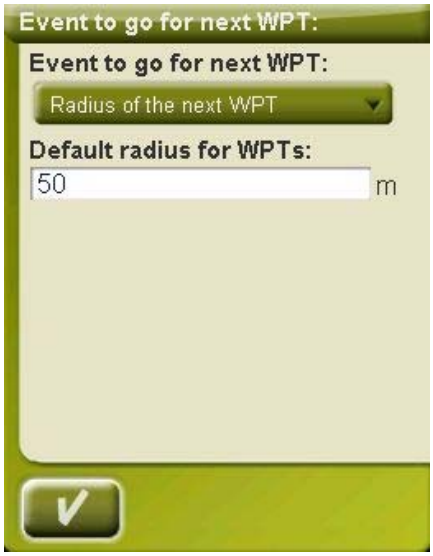
- **Recording interval**: Choose the type of recording and interval you wish for the track to be generated for your navigation.
  - **By time:** The point of each track will be recorder every X seconds.
  - **By distance**: The point of each track will be recorder every X meters.
  - **Automatic**: the track will be automatically recorded when changing course and depending on speed. In a straight line, the program will record few points.
- **Track colour***: Choose the colour for the generated track.
- **Thickness***: Choose the thickness of the line representing the track between values of 1 to 7 points.
- **Points shown without reduction***: The recorded track will be visible on the screen. Latest points will be shown as they are recorded (no reduction). You can choose how long will be this latest section of the track which will show all of its track points.
- **Reduction for previous points***: In order to save memory, it is recommended to make a reduction of the rest of the shown track. Choose a reduction % and the shown track (except the latest points) will be reduced. For example, if you choose 80% reduction, only 1 of every 5 points will be shown on screen.
  Important: This reduction does not affect the recorded track file, which will keep all points. Only concerns to what is displayed on screen at that moment.

***** Option only shown if 'advanced mode' is activated.

4.8.6 **Next WPT**

When navigating a route, you can select the required event to validate a waypoint and switch to next one:

- Radius of the next WPT: Enter inside the radius of the next waypoint (not any).
- Radius of any next WPT: Enter inside the radius of any of the next waypoint (next one and any of the succeeding ones are OK but not the previous).
- Roadbook mode: When entering the radius of any waypoint, it will be set as next. When going out of it, next one will be activated. This mode is thought for roadbooks, because when following a roadbook it is required to show the information of the current waypoint while in its surroundings. This way, instructions for each point can be followed correctly.
- Bisector inside next WPT: Enter inside the radius of next waypoint and cross the bisector that is formed with the previous and the next.
- Bisector inside next WPT or 10% of the radius of any WPT: Same as the previous, but if any waypoint is very near (10% of its radius) it will be validated and the next one will be activated.
- Only buttons bar: Never will automatically change to next waypoint, only manually with 'NextWPT' and 'PreviousWPT' buttons at buttons bar.



Also from this options section, a default radius can be assigned for route waypoints, which will be taken when this information is not available. It means, if we defined a radius for a concrete waypoint of the route, it will be respected. But if it doesn't have radius the default one will be used.

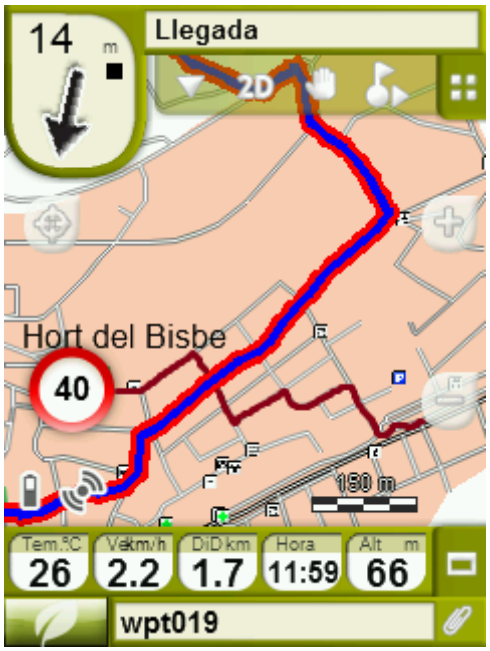
4.8.7 **Tracks**

Track navigation can be configured to on several points.

Especially interesting is to choose the distance from current position at which GOTO arrow will show track direction, so you can predict the bends.

- Virtual Coach (+info)
- Draw arrows over the track: To easily know its direction.
- GOTO arrow tangent at: GOTO arrow shows direction of the following section of the track. This parameter is the distance to calculate tangent to give direction. Normally higher speed of the vehicle will require higher distance value:

- Exit WPT after: If track has waypoints (roadbook), navigation will switch to next point when leaving the current one. This parameter determines the how far we have to go.
- Different display for active tracks: Once you are navigating a track you will see the difference between the active track and the other tracks. The active one has a different on-screen display which can be personalized by the user. Usually, the active track has a notable thickness and it is related to a different colour to make it different from the rest.



This parameters can be configured at 'settings > navigation > tracks', there you will be able to change the navigating track colour as well as double line's thickness, opacity and colour.

4.8.8 **Altitude**

TwoNav features several altitude data obtained in different ways:

- GPS altitude
- *.CDEM map altitude (*.CDEM elevation map required)

- Barometric altitude: manual calibration
- Barometric altitude: automatic calculation by GPS
- Barometric altitude: automatic calculation by *.CDEM map (*.CDEM elevation map required)

Note: Although the data shown by default is the generic 'Altitude', the data bar and the data pages can be preset so besides the generic 'altitude' they also show the GPS or the barometric altitude ('Fields' section).

The generic 'Altitude' data can be preset so it observes different values depending on your preferences. From 'Menu > Settings > Off-road > Altitude' you will be able to select among the following options:

- **GPS:** The values from the GPS will be directly taken.
- **Barometric altimeter:** The data from this utility will be taken disregards the GPS.

  It is important to calibrate the barometer in order to achieve reliable data. You may calibrate the barometer in 2 ways:

  - Manual calibration tool: If you know the present altitude, you can enter it into the TwoNav from 'Menu > Settings > Off-road > Calibrate barometer'.
  - Automatic calibration tool: If you select the 'Automatic' option in the 'altitude' selector menu, TwoNav will continuously calibrate the barometric altimeter using the GPS position along time (see following point).

    If after some time you select 'Barometric altimeter', the introduced calibration will be saved with the 'automatic' option, but it won't be updated with the new GPS measurements.
- **Automatic (recommended):** the barometric altitude will be used, but the barometer will be automatically calibrated using the altitude data from the GPS by means of an algorithm that optimizes the final result.

This is the recommended option for most users, as it minimizes the characteristic error of the altitude data from the GPS and, at the same time it overcomes the limitations of the barometric altimeter regarding atmospheric pressure and temperature, alien to altitude changes.

4.8.9 Estimated time

The user is able to configure the preferences to calculate the estimated time of destination arrival:

- **Use V-Map route speed:** Only for On-Road mode taking into consideration speed route.
- **Use navigated track time:** Only for Off-Road mode taking into consideration track time.
- **Interval for Partial Mean Speed:** Takes into consideration the partial mean speed of the selected interval of time.

Note: If no 'routing speed' or 'track time' are available, Mean Speed is used.

4.8.10 Bearing

The 'Bearing' data determines the orientation of the map when 'orientate map' (track up) is enabled. ('Orientate map' section).

TwoNav has three different ways of determining the bearing you are taking during navigation:

- **GPS:** The latest positions received from the GPS to calculate the bearing of our present movement will be considered. As soon as we stop, this reference won't be reliable, as there will be no movement it can refer to.
- **Compass:** The data taken from the electronic compass will be taken in order to determine the orientation of the device.
- **Automatic (recommended)**: When driving slowly the compass data will be taken. When driving fast the GPS position will be used.

Note: Remember to calibrate the compass to get reliable data from it.

4.8.11 Effort

- **Resting Heart Rate:** It has to be set in order to calculate the % of Heart Rate Reserve.
- **Set maximum Heart Rate manually:** If enabled, set the maximum Heart Rate beat in the following field. If not enabled, maximum Heart Rate is calculated using Tanaka's formula.

4.9 System

4.9.1 Audio

You can manage beep sound configurations selecting 'Status > Audio'. At this section you can enable or disable each sound alarm:

- Mute: general activation or deactivation of beep sounds.
- Voice: Due the fact that TwoNav Ultra has no voice indicator, voice alarm advices will be displayed as beeps. (More at 'Audible information')
- Alarm: specific navigation alarms for waypoints and tracks can be personalized at 'Settings > Navigation > Alarms'.
- Clicks: level of click's volume.

Note: 'Wpt alarm' and 'speed limit' sections have been moved to a new section 'Settings > Navigation > Alarms', which also contains 'Tracks' (set deviation alarm) and 'Radars' options.

4.9.2 Brightness

Regulate the amount of light you wish the screen to have and adjust it to each situation. The higher the percentage of brightness is the more highlighted will the contents be.

In night mode, the brightness will be automatically reduced to avoid dazzling.

Note: Backlight can be automatically adapted to the intensity of light impacting on the light sensor of the GPS which is located in the led.