



# **GPS Tuner**

**Version 5, 2006**

# Users' Manual

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## Overview

GPS Tuner is an off-road navigation application for Pocket PC devices. While most in-car or on-road navigation software gives you the ability of planning your trip based on a road network, **GPS Tuner gives you the ability to continue navigating where and when the roads end.**

GPS Tuner is an excellent tool for hiking, geocaching, boating, flying, driving and many other sporting activities, where monitoring of duration, distance and speed can be important.

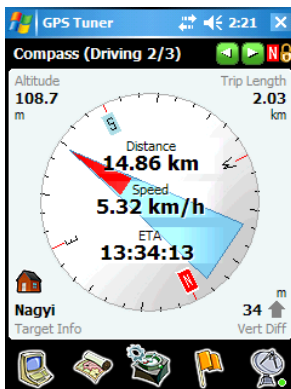
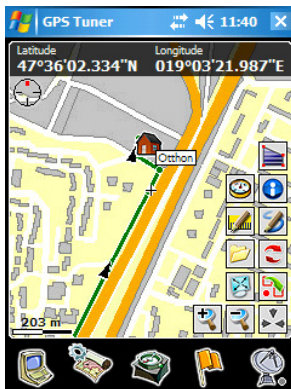
Also, if you purchased a 'Geo license', you will get extended features like **Area Calculation**, a function which makes it easy to measure **perimeter and area**. All you need to do is active GPS and walk (or drive) around the boundary. The created area (shape) can be saved, exported in DXF format and even reloaded.



### System Requirements:

- ▶ Windows Mobile Pocket PC
- ▶ 20 MB free program memory
- ▶ GPS Receiver
- ▶ .NET Compact Framework 2.0





## Features

### Multilingual

- ▶ English, German, Italian, Spanish, French, Dutch, Portuguese, Czech, Swedish, Norwegian, Slovakian, Russian, Hungarian, Finnish, Afrikaans, Romanian, Japanese, Chinese

### Units and National Coordinate Formats

- ▶ Optional Metric, Imperial or Nautical units
- ▶ 24 Coordinate Format supported (like WGS-84, British (OSGB36), NAD27, NAD83...)

### Mapping

- ▶ GPS Tuner supports JPG files as maps
- ▶ Easy Calibration on Pocket PC or using Desktop Map Calibrator (Freeware)
- ▶ Auto map loading feature
- ▶ Zoom and Pan by pen or joystick
- ▶ Flexible layer and track/route display
- ▶ Blank map support
- ▶ Measure distances and define routes by drawing directly on the map

### Navigation, Digital Compass

- ▶ Real time rotating compass with large target arrow
- ▶ Custom target from entered coordinate
- ▶ Any waypoint, trackpoint or point of map can be selected as target
- ▶ 6 different types of Compass views
- ▶ 38 selectable Compass tools
- ▶ Voice navigation and next turn indication for routes

### Trip Computer

- ▶ Monitor your whole trip
- ▶ Save, Load and Reset is possible
- ▶ Push track data into Trip Computer to get a full track analysis
- ▶ 31 selectable Trip Computer tools
- ▶ Graph for Altitude and Speed
- ▶ Selectable tool window size

### Waypoints, POIs, Track, Routes

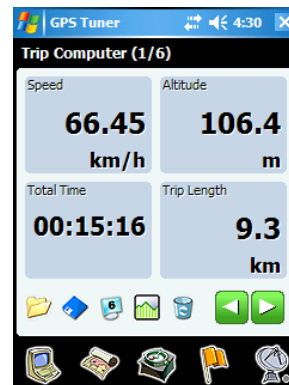
- ▶ Waypoint, POI: GPX, LOC, KML files supported
- ▶ Track, Route: GPX, TRK, KML files supported
- ▶ Track recording by configurable Auto, Time or Distance interval
- ▶ View your waypoints and tracks in Google Earth directly (KML export/import)
- ▶ Flexible waypoint management
- ▶ You can easily convert track to route and reverse the direction of route

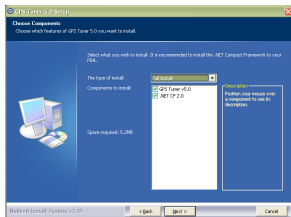
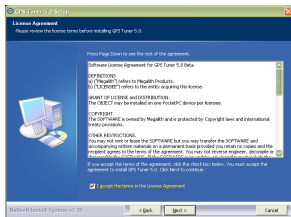
### NMEA

- ▶ NMEA recording
- ▶ NMEA playback (with selectable speed)
- ▶ You can jump to any position of NMEA files (skipping unnecessary data)

### GPS Share

- ▶ Share your position in real time with other users
- ▶ See your friends' position displayed in GPS Tuner
- ▶ Monitor your (and your friends') position on your web browser





# Installation

GPS Tuner runs on any **Pocket PC 2003 (Windows Mobile 2003)**, **Pocket PC 2003 Second Edition (WM2003SE)**, and **Windows Mobile 5 (WM5)** devices. Before running GPS Tuner, you must install **.NET Compact Framework 2.0** on your PDA. The .NET Compact Framework 2.0 installer is included in the GPS Tuner installation package for your convenience.

### Installation Steps:

- 1) Download the GPS Tuner installer from the [www.gpstuner.com](http://www.gpstuner.com) site.
- 2) Connect your Pocket PC to your PC via ActiveSync.
- 3) Start the installer on your PC.
- 4) Follow the onscreen instructions.
- 5) Check the .NET Compact Framework 2.0 box if not already installed.
- 6) You may install GPS Tuner on your SD card instead of Main Memory. Accordingly, it is recommended that you use a fast SD card for optimal performance.
- 7) After installation, the GPS Tuner icon will appear on the Start/Programs menu.

**You can download GPS Tuner from:**

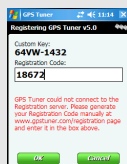
► <http://www.gpstuner.com>

## Registration

You may try out GPS Tuner in DEMO mode (with some limitations) for two weeks. If you find that this software meets your needs, you must **purchase a license key** on the [www.gpstuner.com](http://www.gpstuner.com) website in order to use GPS Tuner with full functionality. After purchasing your license, you will receive a **Serial Number** for registration. Registration is required, and the registration process requires an Internet connection.

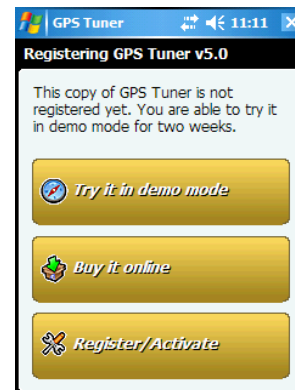
### Registration Steps:

- 1) Start GPS Tuner.
- 2) Connect your PDA to the host PC with Internet access, or use your WiFi Wireless connection to connect to the internet.
- 3) Select Register/Activate button.
- 4) Enter you Serial Number, Name and E-mail.
- 5) Click OK button.
- 6) GPS Tuner will contact the registration server and finalize your registration.



### Registering your GPS Tuner Serial Number manually at [www.gpstuner.com](http://www.gpstuner.com)

If GPS Tuner can not connect to the registration server, you have to generate your own registration code manually at [www.gpstuner.com/registration](http://www.gpstuner.com/registration) then enter it in GPS Tuner.



## Quick Reference

### Main Buttons



GPS Info Window



Settings



Map Window



Map Settings



Manager Window



Manager Options



Digital Compass



Set Target



Trip Computer

### Map Buttons



Zoom in



Zoom out



Buttons show/hide



Open map



Change to Blank Map



Fullscreen mode



Change Infobox type



Enable/Disable Autoselect



Flip/Rotate map



Distance drawing



Route drawing



Show/hide Area buttons



Add/Rec/Stop

### Other Buttons



Open



Save



Reset/Clear



Search



Graph



Zoom in Graph



Zoom out Graph



Trip Comp tool number



Select waypoint



Picture/Sound



URL

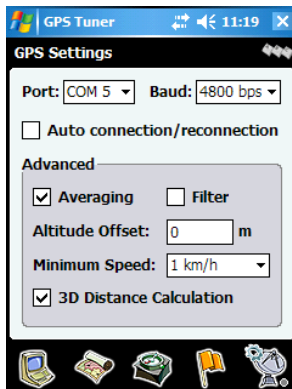
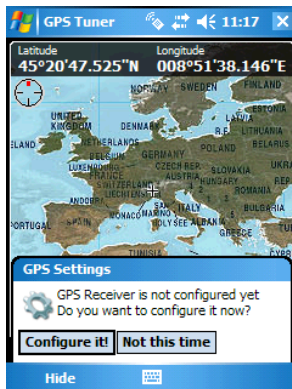


Keyboard on/off



Lock to North





## GPS Settings

When using GPS Tuner for the first time, you must define the **COM port** and **Baud Rate** in order for the GPS Receiver and your PDA to communicate properly. If you choose the option "Configure it!", GPS Tuner will try to find your Receiver. In this case, please be sure to turn on your GPS Receiver first!

### Options

#### Auto connection/reconnection

GPS Tuner will try to reconnect to your GPS Receiver if the communication is lost.

#### Averaging

When Averaging is on, the program will collect and use averaged coordinates if you are not moving.

#### Filter

If this option is enabled, Trip Computer works and Track is logged only when PDOP<15.

#### Altitude Offset

Helps you to correct the altitude value

#### Minimum speed

Below this speed GPS Tuner will convert your speed to zero.

#### 3D Distance Calculation

GPS Tuner calculates distances in 2D/3D

#### Port: Auto

GPS Tuner tries to search your GPS

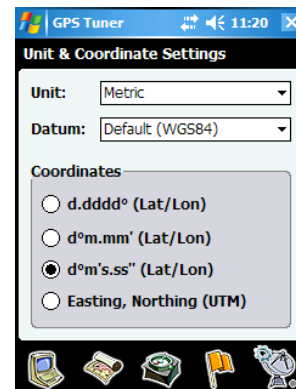
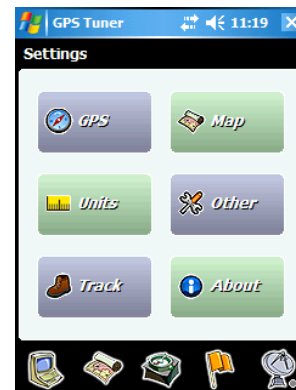
## Unit and Coordinate Settings

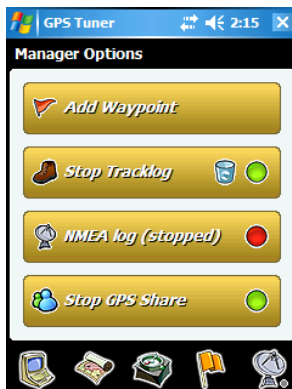
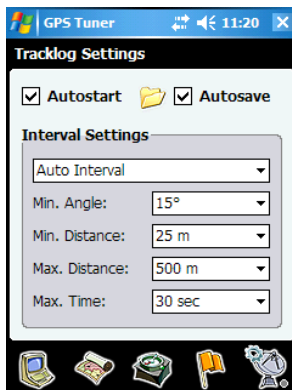
You may choose between the three major units of measurement: **Metric**, **Imperial**, and **Nautical**. All GPS data obtained from your GPS Receiver will be converted and correctly displayed in your preferred measurement format.

Additionally, you may select your preferred Coordinate Grid and Datum format from among the **24 different National Map Grids** that are implemented in GPS Tuner, as well as coordinate display type from any of three different types of Latitude/Longitude & UTM. All coordinate display and input is based on these settings (except the GPS Info Window display, which is always in WGS84 datum).

### National Grids

Default (WGS84)	Finnish (KKJ) Z3	New Zealand (GD49)
Australian (AGD84)	Finnish (KKJ) Z4	Norwegian (NGO48)
Austrian (MGI) M28	German (DH) Z1	Swedish (RT90) 0gon
Austrian (MGI) M31	German (DH) Z2	Swedish (RT90) 2.5gon0
Austrian (MGI) M34	German (DH) Z3	Swedish (RT90) 2.5gonV
British (OSGB36)	German (DH) Z4	Swedish (RT90) 5gon0
Dutch (AMERSFRT)	German (DH) Z5	Swedish (RT90) 5gonV
Egyptian (EGY1907BB)	Greek (GGRS87)	Swedish (RT90) 7.5gonV
European (ETRS89)	Hungarian (EOV)	Swiss (CH1903) LV03
European (ED1950)	Irish (IRLND65)	USA (NAD27)
Finnish (KKJ) Z1	Italian (ROME40) Z1	USA (NAD83)
Finnish (KKJ) Z2	Italian (ROME40) Z2	





## Tracklog Settings

To configure GPS Tuner track recording capability, select Settings/Track option.

### Options

#### Autostart

After launching the program, GPS Tuner will start Track recording automatically.

#### Autosave

If you select this option, GPS Tuner saves your recorded track automatically into the predefined folder when you quit the program.

#### Auto Interval

GPS Tuner records the necessary points only according to the given settings. GPS Tuner records a position:

- Min. Angle:** If the direction change is greater than selected **AND**
- Min. Distance:** If the distance from the last recorded point is greater than selected **OR**
- Max. Distance:** If the distance from the last recorded point is greater than selected **OR**
- Max. Time:** If the time lapse since the last recorded point greater than selected

#### Time Interval

GPS Tuner will record points according to your time settings. For a detailed track record set a time interval 1 or 2 seconds.

#### Distance Interval

GPS Tuner records points based on your distance settings.

#### Start/Stop Track logging

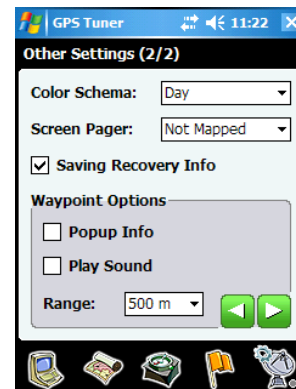
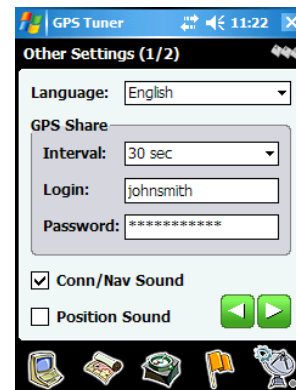
Track logging can be easily activated and deactivated in the Manager Options window.

## Other Settings

Define various uncategorized settings in this section.

### Options

<b>Language</b>	Language of User Interface
<b>GPS Share</b>	Connect to GPS Share System and send/receive position data. Enter your registered login and password and the interval of data exchange.
<b>Conn/Nav Sound</b>	Enable/Disable the voice instructions for navigation and connection.
<b>Position Sound</b>	Enable/Disable the position processing sound
<b>Color Scheme</b>	Choose between Day or Night User Interface design. The 'Auto' option sets Day/Night automatically, based on time and sunrise/sunset values.
<b>Screen Pager</b>	Define a Hardware Button to switch to the next screen.
<b>Saving Recovery Info</b>	If this option is enabled, GPS Tuner creates backup files for track and area recording in case of an unwanted system halt.
<b>Waypoint option</b>	GPS Tuner can notify you about waypoints near you. When approaching a waypoint in the selected range, GPS Tuner displays a popup info window and plays a sound file (if it is attached to the waypoint).






## Using Maps

GPS Tuner can **handle customized maps**. The maps can be blank maps, as well as any **JPEG image file**. JPEG maps can also be created **from other image formats (GIF, PNG or BMP)** by the **free desktop program Map Calibrator**. The size limitation for the use of JPG maps depends on your storage card capacity. By loading only the necessary area of map files needed for your immediate use, GPS Tuner becomes a very "memory friendly" solution for large map images.

### Basic Map Operations:

**Showing tool buttons** Press the  button

**Opening Map** Press the  button then select JPG map file from the list

**Changing to Blank Map** Press the  button to change map type

**Zooming and panning with five-way joystick** Use the middle button to switch between panning and zooming mode. Use the four-way buttons for panning and the up & down buttons for zooming.

**Zooming in/out** Press the   buttons for zooming in/out the map

**Panning the map** In order to move (pan) the map with your pen, simply drag it. If you click shortly over a map position, GPS Tuner centerizes it.

**Map menu** Tap & hold your pen over the map to reach the map menu. Please do not move the pen!

## Creating Maps

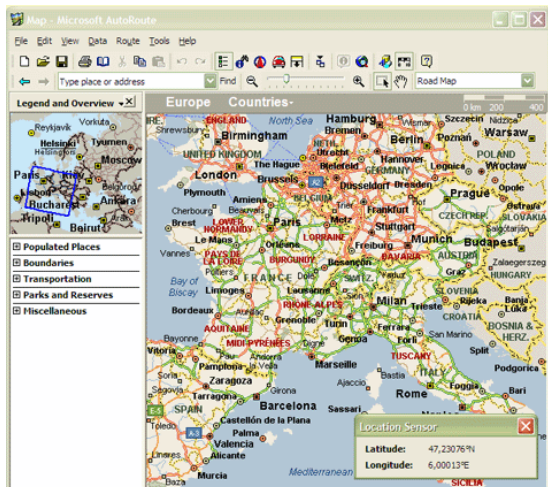
### Creating maps from printed maps

- 1) **Scan** your printed map (with a scanner or a digital camera) and save it as a JPG file.
- 2) **Do not use progressive encoding** during JPG saving.
- 3) **Upload** map image file to your **Pocket PC** (via ActiveSync / IrDA / Bluetooth or copy it to a Memory Card).
- 4) **Start** GPS Tuner.
- 5) **Open** the map image file.
- 6) **Set** the calibration points. ☞ *See details in the section "Calibrating maps"*

**Tip:** When using a scanned/photographed map in GPS Tuner, please note the following:

- ▶ When scanning maps for GPS Tuner, we suggest a 96 dpi resolution.
- ▶ For best results, keep map pixel size under 5000 x 5000 pixels.
- ▶ Keep file size under 20 MB (use higher compression if necessary).
- ▶ Although GPS Tuner supports the calibration of rotated maps, for best results we suggest to use North-oriented maps.





### Creating maps from desktop applications

- 1) Start your desktop mapping application.
- 2) Export a map slice as JPG file.
- 3) Do not use progressive encoding during JPG saving.
- 4) Upload the map image file to your Pocket PC (via ActiveSync / IrDA / Bluetooth or copy it to a Memory Card).
- 5) Start GPS Tuner.
- 6) Open the map image file.
- 7) Obtain position data from the mapping application and set the calibration points in GPS Tuner.
- 8) See details in the section "Calibrating maps"

**Tip:** Try the following mapping applications for map export:

- ▶ Google Earth (free application) – <http://earth.google.com>
- ▶ Microsoft AutoRoute – <http://www.microsoft.com/uk/homepc/autoroute/>
- ▶ Route 66 – <http://www.66.com>
- ▶ List of other Desktop Mapping Applications: [http://www.directionsmag.com/companies/products/category/Desktop\\_Mapping/](http://www.directionsmag.com/companies/products/category/Desktop_Mapping/)

## Creating maps from the internet

- 1) **Go** to a mapping site (like [www.expedia.com](http://www.expedia.com))
- 2) **Export** a map slice as JPG, GIF, PNG or BMP file (right click over the image and select the **Save image as...** option, or use the command "print screen", then paste into a photo editor application).
- 3) If the saved image is not a JPEG file **please convert it into a JPG file** with desktop Map Calibrator or any photo editor program
- 4) **Upload** the map image file to your **Pocket PC** (via ActiveSync / IrDA / Bluetooth or copy it to a Memory Card)
- 5) **Start** GPS Tuner
- 6) **Open** the map image file
- 7) **Obtain position data** from a mapping site (if possible) and **set** the calibration points in GPS Tuner.



**Tip:** Try the following mapping sites for map export:

- ▶ Expedia – <http://www.expedia.com> (Maps section)
- ▶ Multimap – <http://www.multimap.com>
- ▶ Google Maps – <http://maps.google.com>
- ▶ Map24 – <http://www.map24.com>



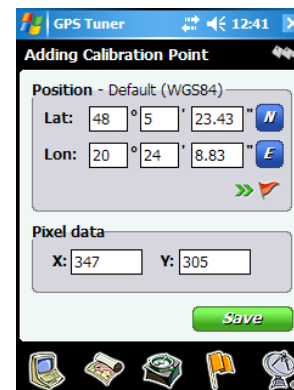
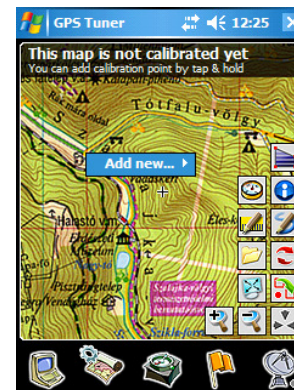
## Calibrating Maps

After creating a map out of a picture file, you must calibrate it. This process adds two geographical coordinates as reference points on the map. Only after calibrating the map will GPS Tuner be able to display your correct position (or your partner's position, track and route) on the map. **Calibration is easy, all you need to do is to provide the geographical coordinates of at least two points.**

### Calibration Steps:

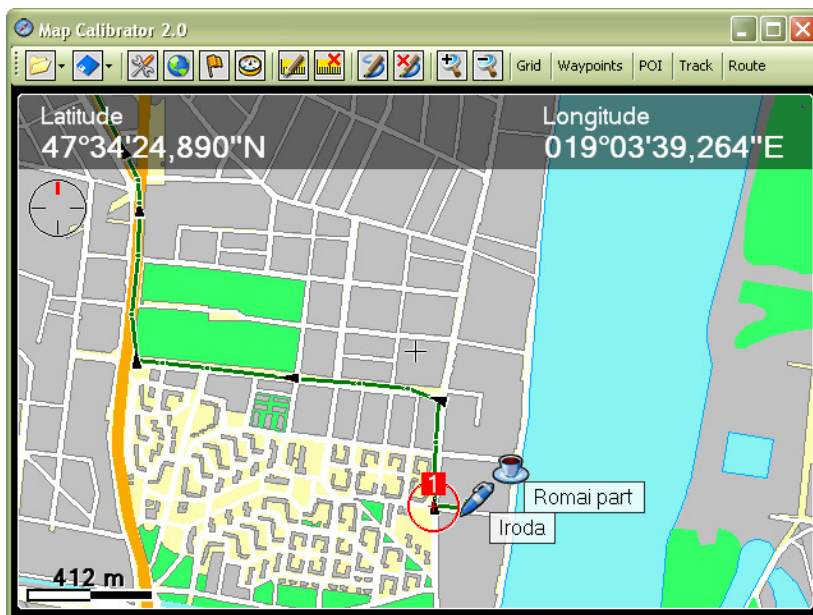
- 1) Open a map image file
- 2) **Tap & hold** a point on the map (if you are calibrating a map with active GPS, tap your location on the map).
- 3) Select the option **Add new/Calib point** from the popup menu.
- 4) **Enter** the point's **Lat/Lon or UTM** coordinate of the point or select one of your waypoints. If you are using active GPS, GPS Tuner will enter your current coordinate into the text boxes.
- 5) **Press the OK button** and **add another calibration point** (if necessary).
- 6) Calibration points **should be as far from each other as possible, and not be in line** (neither horizontally nor vertically)

After you have added or modified a calibration point, GPS Tuner saves your calibration data file automatically. The data of the calibrated map is stored in a .gmi file with the same base name as the picture file. **The map can be recalibrated any time.** The map image file and .gmi file have to be in the same folder. You can also **see your calibration points on the list in the Manager window.**



## Map Calibrator

If you would like to calibrate maps on your desktop PC, use the program Map Calibrator (freeware). Map Calibrator is also useful to create map slices from a huge bitmap image file. You can also convert GIF, BMP and PNG files into JPG files to use in GPS Tuner.



### Tip: Get free Map Calibrator

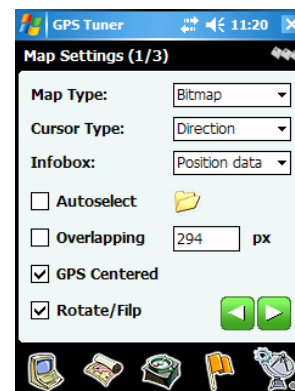
- ▶ Get a free copy of Map Calibrator on <http://www.gpstuner.com>
- ▶ Map Calibrator can also open and save waypoint, track, route and area files.
- ▶ You can download calibrated maps from internet into Map Calibrator and save them to use on your PDA.
- ▶ You can change the slice size and JPEG file quality.
- ▶ Map Calibrator also supports National Map Grids.

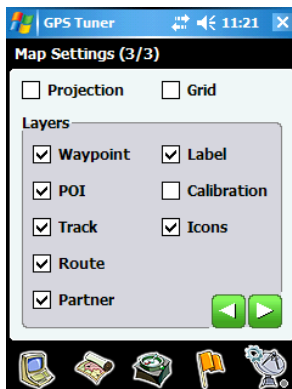
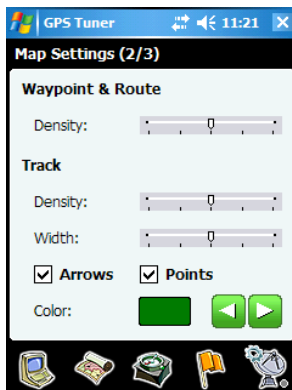
## Map Settings

Reach the Map Settings by tapping the Map icon (you can also reach this window from the Settings panel).

### Settings:

<b>Map Type</b>	Choose between Bitmap type map or Blank Map
<b>Cursor Type</b>	Choose between a Directional arrow or a Cross indicator as your cursor type
<b>Infobox</b>	Selectable info box on top of the map screen
<b>Autoselect</b>	With this option enabled, GPS Tuner will try to find and load new maps from a preconfigured map folder (and its subfolders) once you leave the current map border.
<b>Overlapping</b>	To load a new map before you reach the edge of the current one, enable the Overlapping function and enter its value (only works together with the Autoselect option).
<b>GPS Centered</b>	With this option enabled, GPS Tuner centers the map to your GPS position. If you pan the map while this option is enabled, it will automatically re-center to your position 5 seconds after the last interaction.
<b>Rotate/Flip</b>	With this option enabled, GPS Tuner flips (the bitmap map type) or rotates (the Blank Map type) the map according to your moving direction.







## Settings:



















<b>Waypoint Density</b>	Defines the amount of displayed waypoints & routepoints.
<b>Track Density</b>	Controls the displayed track details.
<b>Track Width</b>	Controls the displayed track width.
<b>Track Arrows</b>	Displays small direction arrows on your track.
<b>Track Points</b>	Displays small dots (representing the trackpoints) on your track.
<b>Track Color</b>	Defines the displayed track color.
<b>Projection</b>	Displays/disables a light cone according to your direction, or a red line to your selected target.
<b>Grid</b>	Displays a Latitude/Longitude grid on the map.
<b>Layers</b>	Defines which objects are displayed on the map.

**Tip:** You can improve the displaying speed of the map by switching off unnecessary display features.





- ▶ Set Waypoint and Track Density to 1 or 2
- ▶ Turn off Track Arrows and Points
- ▶ Disable Map Grid display and Icons in Layer section

## Map Tools




You can control the map by map tools (buttons) very easily. Use   buttons to show/hide map tools in the map window.

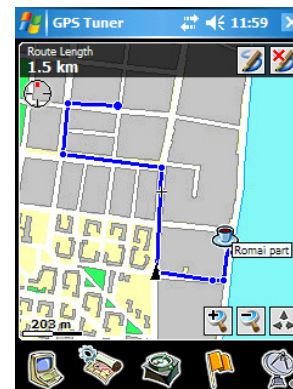
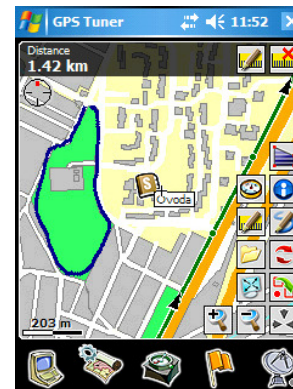
-  **Zoom in**
-  **Zoom out**
-   **Buttons show/hide**
-  **Open map**
-  **Change to Blank Map**
-  **Fullscreen mode**
-  **Change Infobox type**
-  **Enable/Disable Autoselect**
-  **Flip/Rotate map**
-   **Distance drawing**
-   **Route drawing**
-  **Show/hide Area buttons**
-    **Add/Rec/Stop**

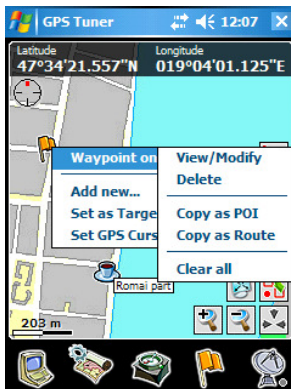
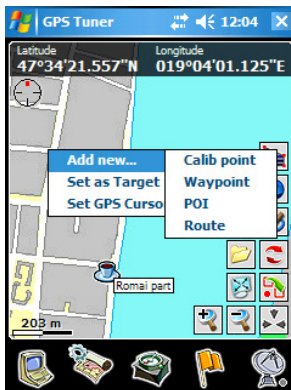
### Measuring Distances:

- 1.) Select  button from tools. Distance header box will appear.
- 2.) Click  button in the header to start measuring and draw your path on the map
- 3.) Click  button to reset the distance counter
- 4.) After drawing a distance path you will see a  sign. This helps you to continue the drawing if necessary.

### Drawing Route on the Map:

- 1.) Select  button from tools. Route header box will appear.
- 2.) Click  button in the header and draw your path on the map
- 3.) Click  button to reset the route





## Map Menu

Several important operations are done through the map menu. **To activate the map menu, hold down your pen for half a second over the map** (or over a waypoint). Please do not move the pen!

### Basic Operations

#### Add new...

You can add new Calibration Point, Waypoint, POI or Route at this map position. If your map is not yet calibrated, you will be able to add a Calibration Point only.

#### Set as Target

You can select this map position as target. If you have activated the menu over a waypoint, the selected target will be the waypoint itself.

#### Set GPS Cursor

If your GPS is not active, you can relocate the GPS cursor to this map position.

### Waypoint Operations








**Additional operations** can be done when bringing the map menu over a map object (calibration point, waypoint, trackpoint, etc). The operations are similar to the ones used in the context menus of the Manager window.

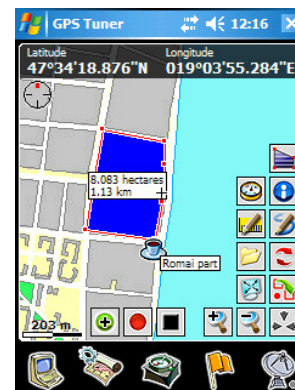
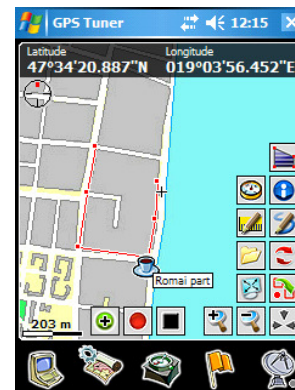
Generally you can **View/Modify, Delete, Copy** an object. You can also **split or combine tracks, and delete track segments**.

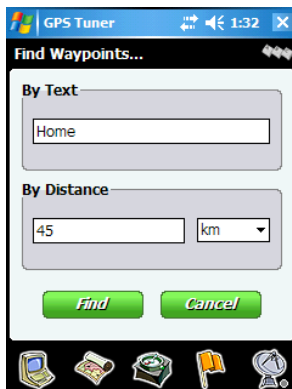
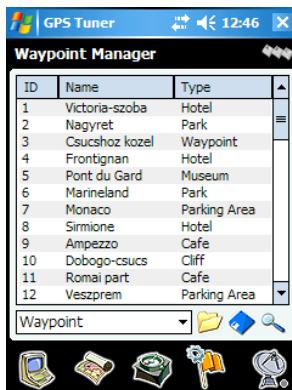
## Area Calculation

If you purchased a 'Geo license', you will get extended features like **Area Calculation**, a function which makes it easy to measure **perimeter and area**. All you need to do is active GPS and walk (or drive) around the boundary. The created area (shape) can be saved, exported in DXF format and even reloaded.

### Measuring steps:

- 1) Load a map  by icon or use a **Blank** map.
- 2) Tap the  icon to show the Area Calculation toolbar.
- 3) Choose  icon for starting **automatic recording** (the recording interval is the same as the Track recording interval and can be set in the Settings/Track section).
- 4) You also have the opportunity to **manually add a point**: tap the  button and your actual position will be added to the already existing boundary points.
- 5) If you decide to **finish** measuring, tap the  button. The area (shape) will be closed. Make sure that the polygon does not intersect itself.
- 6) The result (area and perimeter) is displayed in the map window (while the Label layer is active), and in the Manager window (select View from the context menu).
- 7) If you would like to save the Area file, please use the Save icon  in the Manager window. You can reload an Area file by selecting the  button.





## Waypoint Manager


In GPS Tuner you can use several types of waypoint objects: waypoint, poi, track, route, area. With the help of the Waypoint Manager, you can easily create, modify, open, and save any type of waypoint objects.

### Basic Operations

#### Select type

Changes the type of listed waypoints by the combo box below the list.


#### Open

To open a waypoint, poi, track, route or area file please select  icon.

#### Save

To save a waypoint, poi, track, route or area file please select  icon.

#### Find

Click on the  icon to display the Find Waypoints window. Only the waypoints containing the entered text or closer to your position than the entered distance will appear on the list.

#### Sort

The waypoint list can be sorted by clicking on the header of the different columns.

#### Context Menu

You can do several operations with your waypoint data through context



The waypoints labeled 'Waypoint' are your own waypoints which are saved automatically in the GPS Tuner folder (so you don't have to save them manually before quitting the program). Waypoint and POI types will be loaded automatically at the next startup. **We suggest you to use the 'POI' category as a temporally waypoint storage (for example for geocaching points), while putting your own recorded positions into the 'Waypoint' category.**

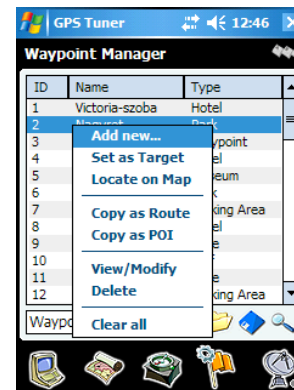


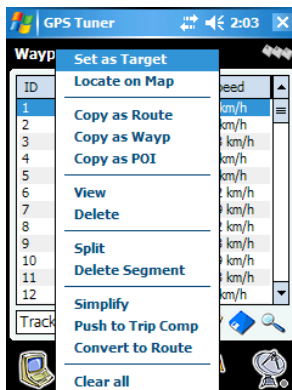
## Waypoints and POIs

A Waypoint is a geographical coordinate (latitude and longitude) with some additional information such as: altitude, name, type, description, linked photo or sound. An important or significant waypoint is referred to as a 'POI' (Point of Interest), and is usually saved for future reference. A good example of POI's are geocaching points, or a favorite restaurant.

### Operations:

<b>Add new...</b>	Adds a new Waypoint/POI with this option. If your GPS is active, GPS Tuner will fill out the actual coordinate.
<b>Set as Target</b>	Sets a Target Point to the selected Waypoint/POI.
<b>Locate on Map</b>	Displays the selected Waypoint on the map.
<b>Copy as Route</b>	Copies the Waypoint/POI as Route Point.
<b>Copy as Waypoint/POI</b>	Copies the Waypoint as POI (or POI as Waypoint).
<b>View/Modify</b>	View and modify Waypoint/POI data.
<b>Delete</b>	Delete Waypoint/POI with this function.
<b>Clear all</b>	Clears all Waypoints/POIs. While your waypoints are deleted physically, the POI data will stay in the file (just unlinked from GPS Tuner). Please note that you can not undo the Delete and Clear operations.
<b>Open/Save</b>	Open and save Waypoint/POI by the  and  buttons.







## Track data

With Track Logging enabled, GPS Tuner saves your path as trackpoints. Besides the geographical coordinates, also altitude, speed and heading information is saved.

### Operations:

<b>Set as Target</b>	Sets the Target Point to the selected Trackpoint.
<b>Locate on Map</b>	Displays the selected Trackpoint on the map.
<b>Copy as Route/Waypoint/POI</b>	Copies the Trackpoint as Route/point/Waypoint/POI.
<b>View</b>	Displays Trackpoint data.
<b>Delete/Clear all</b>	Deletes one or all Trackpoint(s).
<b>Split/Combine</b>	Splits (divides into two segments) or combines the track.
<b>Delete Segment</b>	Deletes a whole track segment.
<b>Simplify</b>	Eliminates unnecessary points from the track line display.
<b>Push to Trip Comp</b>	Analyses the track by pushing its data into the Trip Computer. Your current Trip Computer values will be lost.
<b>Convert to Route</b>	Converts track to route by eliminating unnecessary points.
<b>Open/Save</b>	Open and save a Track using the  and  buttons.

## Route

A chain of waypoints defines a **route**. You can create a route by defining the waypoints, or convert a previously saved track into a route. **GPS Tuner navigates you over your route point by point** (even accompanied by voice navigation).

### Operations:

**Add new...** Adds a new Waypoint/POI. If your GPS is active, GPS Tuner will fill out the actual coordinate.

**Set as Target** Sets Target Point to the selected Routepoint.

**Locate on Map** Displays the selected Routepoint on the map.



**Copy as Waypoint/POI** Copies the Routepoint as Waypoint/POI.

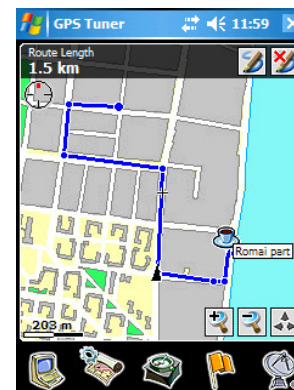
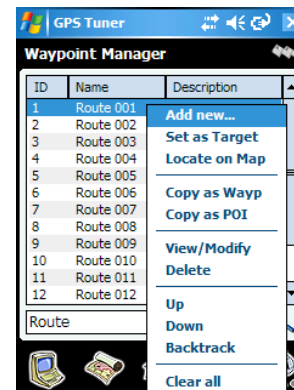
**View/Modify** View and modify Waypoint/POI data.

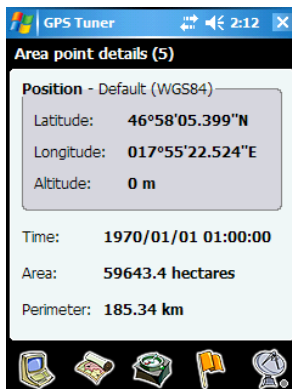
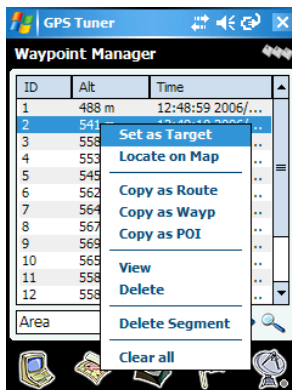
**Delete** Deletes Waypoint/POI.

**Up/Down/Backtrack** Change the order of Routepoints by the Up and Down commands, or change the direction of the whole route by the Backtrack command.

**Clear all** Clear all Routepoints.

**Open/Save** Open and save Route using the  and  buttons.







## Area data

If you record an area shape or load an area from a file, you can view or modify it in the Manager Window. The Area Calculation Function is available with a Geo license of GPS Tuner.

### Operations:

<b>Set as Target</b>	Sets Target Point to the selected Area point.
<b>Locate on Map</b>	Displays the selected Area point on the map.
<b>Copy as Route/Wayp/POI</b>	Copies the Area point as Routepoint/Waypoint/POI.
<b>View</b>	Displays point, area and perimeter data.
<b>Delete/Clear all</b>	Deletes one or all Area point(s).
<b>Delete Segment</b>	Deletes a whole area segment.
<b>Open/Save</b>	Open and save Area using the  and  buttons.



**Tip:** If you export area shapes as DXF files, polygons will be saved in UTM coordinate format (WGS84 datum).

Please note that **DXF is an export format only**, so you will not be able to load DXF files into GPS Tuner next time! We suggest to save areas also as GPX or TRK files.

## Digital Compass

With the help of the Digital Compass, you can easily get to a previously set geographical coordinate, a selected waypoint, or pass along a way (or its waypoints) from the beginning to the end.

### Setting Target:

- 1.) Tap the Compass icon again, and **type in the geographical coordinates of the target point or choose an item from the waypoint list** (   ).
- 2.) Then click on the 'Set' button.
- 3.) To reset (clear) the target point, press 'Reset'.

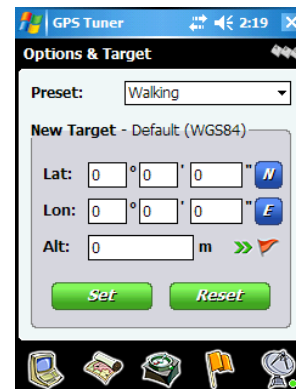
OR

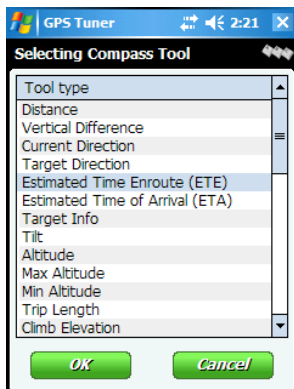
- 1.) **Tap a point on the map** and select the **Set as target** option from the appearing menu.

OR

- 1.) **Tap an object** (waypoint, geocaching point, track point, route point, partner) **on the map** and select the **Set as target** option from the appearing menu. Now the exact coordinates of the given object will become a target point.

If you set a route point to be a target point, and you come close to it, GPS Tuner will automatically select the next route point in order to help you **pass along your route continuously**. You will see the direction of the next target point displayed and also a small sign will appear which shows you which way to turn (this is especially useful when driving your car). Also, before reaching turns, a human voice will tell you which way to turn, in a distance depending on your speed. In case you set a **Partner** as a target point (moving target point), GPS Tuner will continuously change the geographical coordinates of the target point (**hold on target mode**).





## Compass Tools

You can choose from **seven categories (Walking, Climbing, Biking, Driving, Boating, Flying, Custom)** with predefined tools. Change categories by pressing Up and Down on the joystick, or by clicking in the Map Options window.

**Each category has three pages.** The first page is dedicated to “no-target” navigation, the second one for a single target and third one for route navigation. You can go to the next or previous page by pressing Right and Left on the joystick, or by pressing the green arrows.

In the Digital Compass window **there are seven configurable tool places for each category, containing 38 different tools.** Change a tool by clicking on it.





### Compass tools

Distance	Climb Elevation	Moving Average Speed
Vertical Difference	Climb Distance	Vertical Speed
Current Direction	Climb Rate	Acceleration
Target Direction	Climb Time	Max Acceleration
Estimated Time Enroute (ETE)	Descent Elevation	Min Acceleration
Estimated Time of Arrival (ETA)	Descent Distance	Total Time
Target Info	Descent Rate	Moving Time
Tilt	Descent Time	Stopped Time
Altitude	Flat Distance	Next Turn
Max Altitude	Flat Rate	Sunrise
Min Altitude	Flat Time	Sunset
Trip Length	Speed	Actual Time
	Max Speed	
	Average Speed	




## Trip Computer

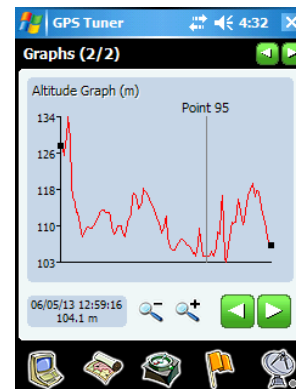
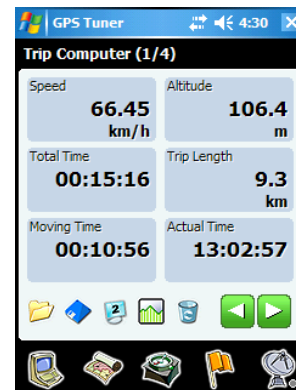
The Trip Computer **helps you to monitor the characteristics of your trip**. While GPS is active (the green Start button is pressed), the Trip Computer collects trip data. You can define the number of tools/page and also the order of tools. By pressing the Graph button, you can view the **Altitude and Speed graph** (in case of tracklogging).

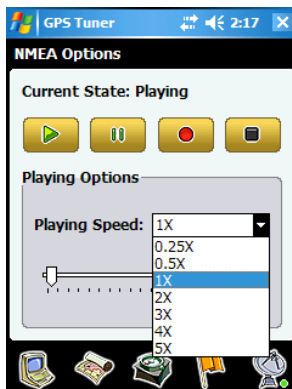
### Trip Computer Options:

- Tool number** Tap  icon to change the number of tools on a page (2,4 or 6).
- Tool type** You are able to redefine a tool by clicking on it and selecting a new one from the list.
- Reset** Tap  button to reset the Trip Computer.
- Open/Save** Opens and saves Trip Computer data by  and  buttons.

### Graph Options:

- Show** Tap  icon in Trip Computer to view Altitude or Speed Graph.
- Graph type** Change the type of Graph by the arrows in the headline or using the middle button.
- Zoom & Pan** Zoom in/out the Graph by   buttons or using the Up & Down joystick buttons. Pan the graph using the big green arrows or the Left & Right joystick buttons.
- Info** By clicking on a point of the graph, you get detailed information about that point.





## NMEA Recording and Playback

With the help of GPS Tuner, you can **save and playback the NMEA sentences** from the GPS receiver (containing the position, speed, direction and satellite signal data in raw format).

### Saving NMEA data:

- 1.) Press the **Record button** and set the location and name of the NMEA file you want to save.
- 2.) Press the 'Save' button.
- 3.) GPS Tuner starts NMEA recording automatically.
- 4.) You can stop recording by pressing the **Stop** or **Play buttons**, and pause it by **Pause button**.

### Replaying NMEA data:

When opening a TXT file containing NMEA data, **GPS Tuner will turn simulation mode on** and starts to play back the recorded NMEA sentences. **During simulation mode, GPS Tuner works as if it acquired signs from a GPS Receiver.**

- 1.) Press the **Play button** and open an NMEA file.
- 2.) You can define replay speed (0.25X—5X, with 1X being real-time speed)
- 3.) You can jump to any position of the NMEA file (skipping unnecessary data) with the help of the trackbar.
- 4.) You can stop replay by pressing the **Stop** or **Record buttons**, pause it by the **Pause button**.



## GPS Share™

If your Pocket PC has an **active internet connection while traveling**, then you will be able to **share your actual position** with other GPS Tuner users. This function is available to you after you have **registered on the website of GPS Share** ([www.gpstuner.com/gpsshare](http://www.gpstuner.com/gpsshare)), using the Serial Number you acquired when purchasing the program.

**You can also see your and your partners' position on the GPS Share website. This feature turns GPS Tuner into a personal tracker.**

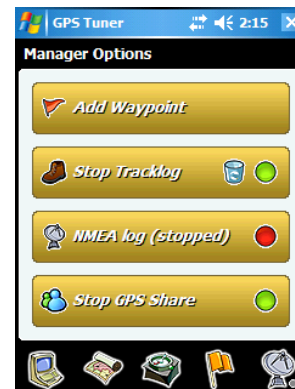
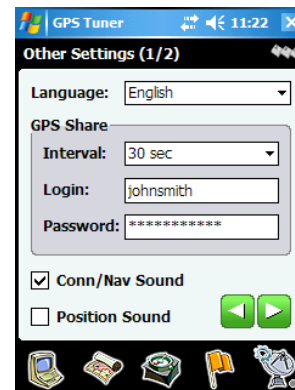
Via the GPS Share service, GPS Tuner sends your actual position data to the GPS Share server for your authorized partners to access. At the same time, you will access the positions of your partners who authorized you to share their position data as well. Partner authorization can be done on the GPS Share website.

### ► GPS Share settings

By selecting the **Settings/Other** option, you can enter your registered login and password, so GPS Share can identify you independently from your device. Depending on your **interval** settings, GPS Tuner creates a connection with the GPS Share server, transmits your actual position and downloads your partners' data.

### ► Start/Stop GPS Share

Active data exchange can be started or stopped with the **Start GPS Share/Stop GPS Share** button in the **Manager Option** window. After GPS Tuner has downloaded your partners' data, their positions are displayed in the Map window and on the list in the Manager window (Partner category).



## Technical Specification



<b>Minimal memory requirement</b>	15 MB free program memory
<b>Resolution</b>	QVGA (240 x 320) , VGA (480 x 640) and Square screen types are supported
<b>GPS Data format</b>	NMEA 0183 standard data sentences
<b>Map Grid</b>	24 Coordinate Format supported
<b>Track buffer</b>	15.000 points
<b>Custom waypoints</b>	5.000 points
<b>Routepoints</b>	5.000 points
<b>Area point buffer</b>	5.000 points
<b>Max. number of maps for auto select function</b>	1000 maps
<b>NMEA buffer (in each category)</b>	5 NMEA sentences
<b>Processing rate (in each category)</b>	5 NEMA sentences/sec
<b>Supported NMEA sentences</b>	GGA, GSA, GSV, RMC, VTG

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- b) ("LICENSEE") refers to the entity acquiring this license.

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