



GPS Tuner

Version 5, 2008

Users' Manual

Table of Contents

Overview	3
Features	4
Installation	6
Registration	7
Quick Reference	8
GPS Settings	9
Unit and Coordinate Settings	10
Tracklog Settings	11
Other Settings	12
Using Maps	13
Creating Maps	14
Calibrating Maps	15
Map Calibrator	18
Map Settings	19
Map Tools	21
Map Menu	22
Area Calculation	23
Waypoint Manager	24
Waypoints and POIs	25
Track data	26
Route	27
Area data	28
Digital Compass	29
Trip Computer	31
NMEA Recording and playback	33
GPS Share	34
Technical Specification	36
Software License Agreement for GPS Tuner	37

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.

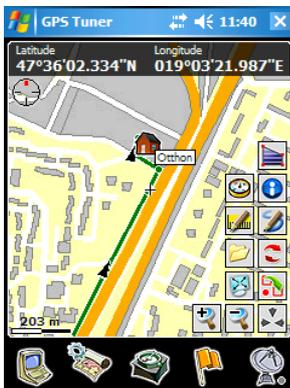
Also, if you purchased a 'Geo license', you will get extended features like **Area Calculation**, a function which makes it easy to measure **perimeter and area**. All you need to do is active GPS and walk (or drive) around the boundary. The created area (shape) can be saved, exported in DXF format and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



System Requirements:

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





Features

Multilingual

- ▶ 25 Languages

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
- ▶ Online map downloading from Google Maps and TerraServer
- ▶ 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
- ▶ Speedometer with speed limit warning

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
- ▶ SMS interface



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 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.

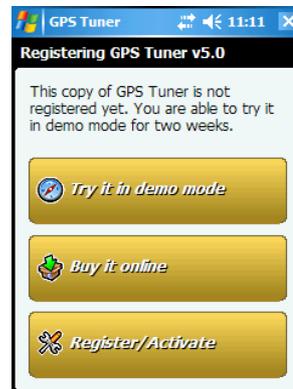
Registration Steps:

- 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

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



Quick Reference

Main Buttons

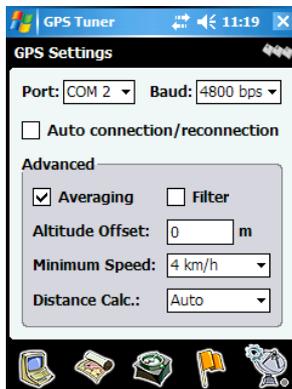
-  GPS Info Window
-  Settings
-  Map Window
-  Map Settings
-  Manager Window
-  Manager Options
-  Digital Compass
-  Set Target
-  Trip Computer
-  Speedometer

Map Buttons

-  Zoom in
-  Zoom out
-  Buttons show/hide
-  Open map
-  Change map type
-  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.
Distance Calculation	GPS Tuner calculates distances in 2D/3D/Auto mode
Port: Auto	GPS Tuner tries to search your GPS

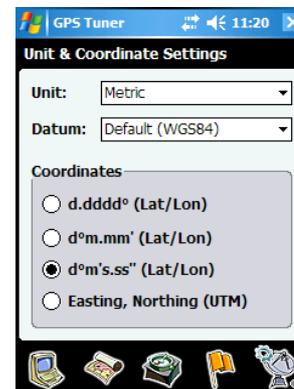
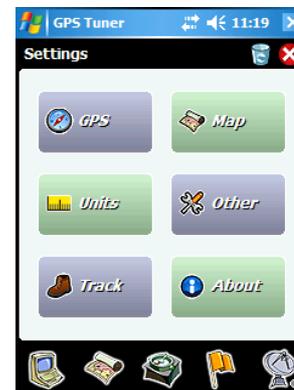
Unit and Coordinate Settings

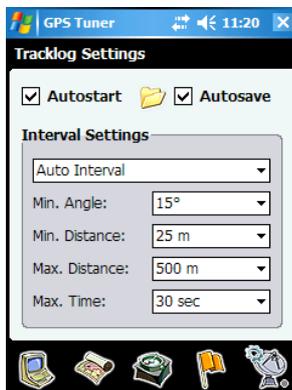
You may choose between the three major units of measurement: **Metric**, **Imperial**, and **Nautical**. All GPS data obtained from your GPS Receiver will be converted and correctly displayed in your preferred measurement format.

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	Italian (ROME40) Z2
Australian (AGD84)	Finnish (KKJ) Z4	New Zealand (GD49)
Austrian (MGI) M28	German (DH) Z1	Norwegian (NGO48)
Austrian (MGI) M31	German GK2	Swedish (RT90) Ogon
Austrian (MGI) M34	German GK3	Swedish (RT90) 2.5gon0
British (OSGB36)	German GK4	Swedish (RT90) 2.5gonV
Dutch (AMERSFRT)	German GK5	Swedish (RT90) 5gon0
Egyptian (EGY1907BB)	Greek (GGRS87)	Swedish (RT90) 5gonV
European (ETRS89)	Hungarian (EOV)	Swedish (RT90) 7.5gonV
European (ED1950)	Indian (Bangladesh)	Swiss (CH1903) LV03
Finnish (KKJ) Z1	Irish (IRLND65)	USA (NAD27)
Finnish (KKJ) Z2	Italian (ROME40) Z1	USA (NAD83)





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

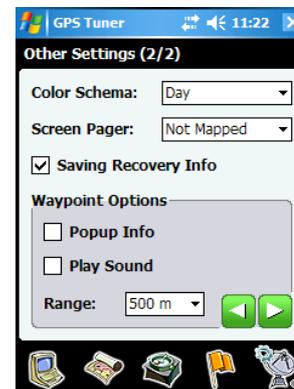
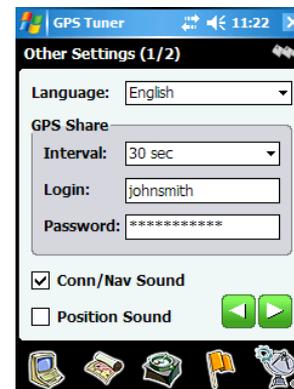
Track logging can be easily activated and deactivated in the Manager Options window.

Other Settings

Define various uncategorized settings in this section.

Options

Language	Language of User Interface
GPS Share	Connect to GPS Share System and send/receive position data. Enter your registered login and password and the interval of data exchange.
Conn/Nav Sound	Enable/Disable the voice instructions for navigation and connection.
Position Sound	Enable/Disable the position processing sound
Color Scheme	Choose between Day or Night User Interface design. The 'Auto' option sets Day/Night automatically, based on time and sunrise/sunset values.
Screen Pager	Define a Hardware Button to switch to the next screen.
Saving Recovery Info	If this option is enabled, GPS Tuner creates backup files for track and area recording in case of an unwanted system halt.
Waypoint option	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 Map Type

Press the  button to change map type (Bitmap, Blank Map, Online Maps — like Google Maps or TerraServer Maps)

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

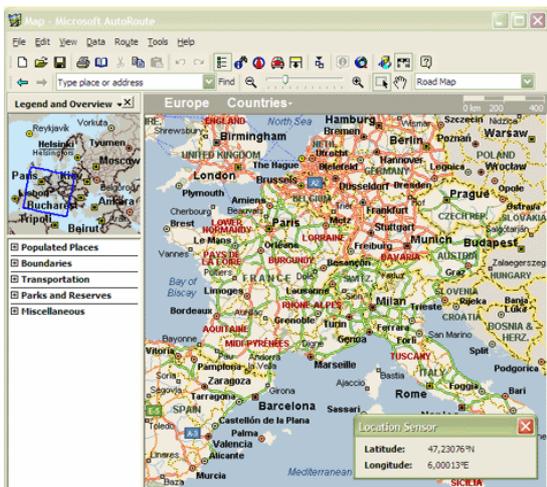
Creating maps from printed maps

- 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/

Creating maps from the internet

- 1) Go to a mapping site (like 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>

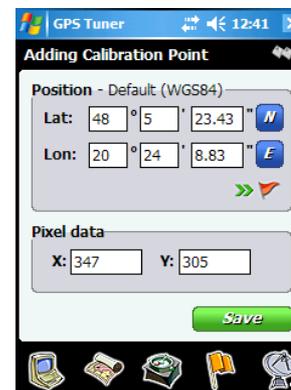
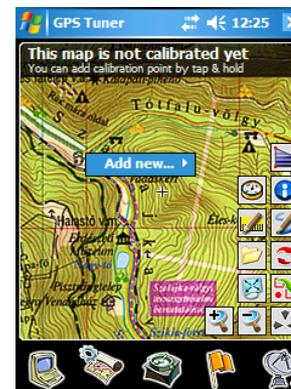
Calibrating Maps

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:

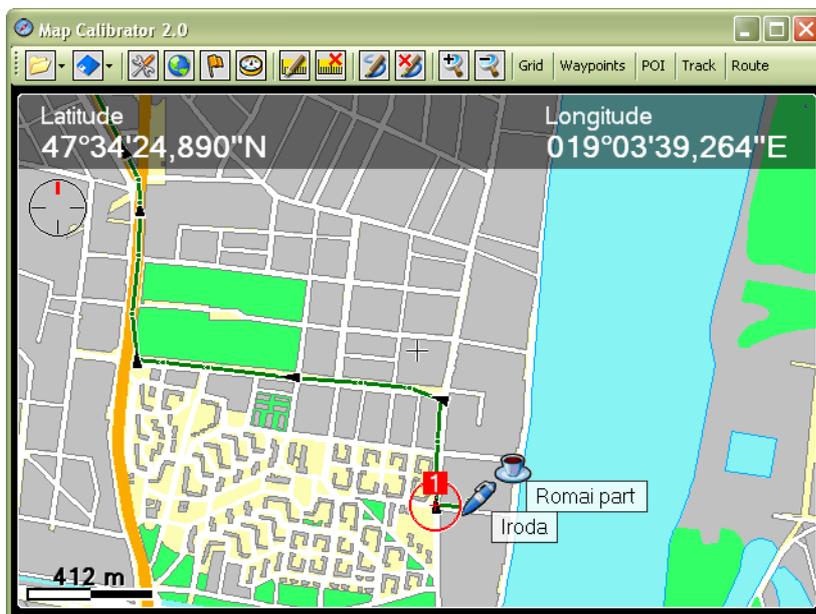
- 1) Open a map image file
- 2) **Tap & hold** a point on the map (if you are calibrating a map with active GPS, tap your location on the map).
- 3) Select the option **Add new/Calib point** from the popup menu.
- 4) **Enter** the point's **Lat/Lon or UTM** coordinate of the point or select one of your 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

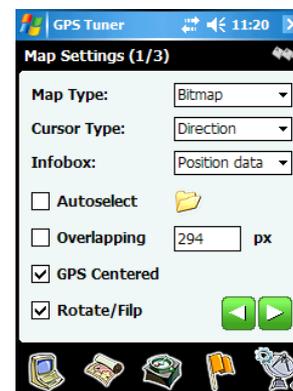
- ▶ Get a free copy of Map Calibrator on <http://www.gpstuner.com>
- ▶ Map Calibrator can also open and save waypoint, track, route and area files.
- ▶ You can download calibrated maps from internet into Map Calibrator and save them to use on your PDA.
- ▶ You can change the slice size and JPEG file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

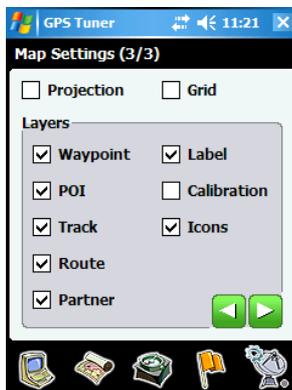
Map Settings

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

Settings:

Map Type	Choose between Bitmap, Blank Map, Google Map, Google Sat, TerraServer Topo, TerraServer Sat or TerraServer Urban map type
Cursor Type	Choose between a Directional arrow or a Cross indicator as your cursor type
Infobox	Selectable info box on top of the map screen
Autoselect	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.
Overlapping	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).
GPS Centered	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.
Rotate/Flip	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:

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

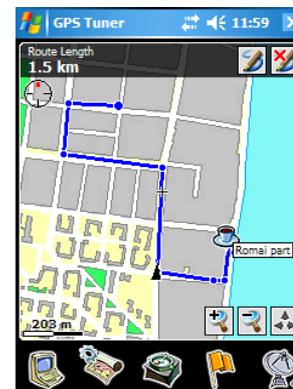
-  Zoom in
-  Zoom out
-   Buttons show/hide
-  Open map
-  Change map type
-  Fullscreen mode
-  Change Infobox type
-  Enable/Disable Autoselect
-  Flip/Rotate map
-   Distance drawing
-   Route drawing
-  Show/hide Area buttons
-    Add/Rec/Stop

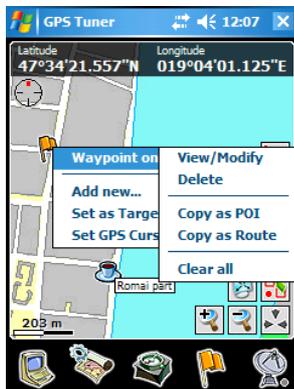
Measuring Distances:

- 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**.

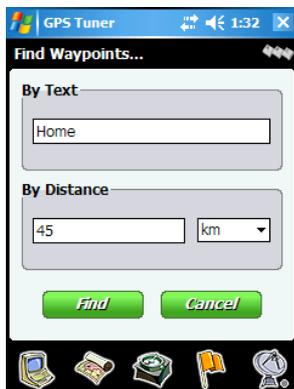
Area Calculation

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 menus. Activate the Context Menu by tap & hold your pen over a list item.

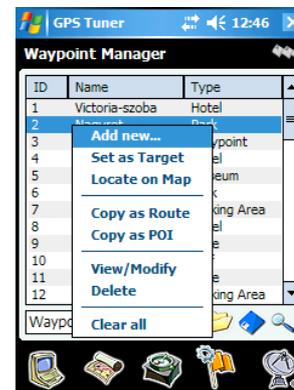
The waypoints labeled 'Waypoint' are your own waypoints which are saved automatically in the GPS Tuner folder (so you don't have to save them manually before quitting the program). Waypoint and POI types will be loaded automatically at the next startup. **We suggest you to use the 'POI' category as a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

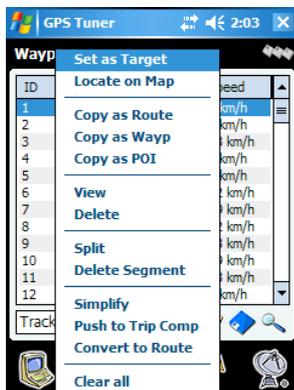
Waypoints and POIs

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:

Add new...	Adds a new Waypoint/POI with this option. If your GPS is active, GPS Tuner will fill out the actual coordinate.
Set as Target	Sets a Target Point to the selected Waypoint/POI.
Locate on Map	Displays the selected Waypoint on the map.
Copy as Route	Copies the Waypoint/POI as Route Point.
Copy as Waypoint/POI	Copies the Waypoint as POI (or POI as Waypoint).
View/Modify	View and modify Waypoint/POI data.
Delete	Delete Waypoint/POI with this function.
Clear all	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.
Open/Save	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:

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

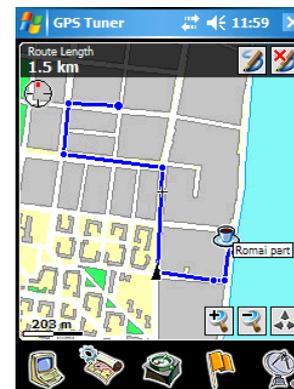
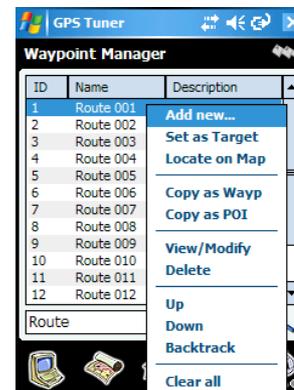
View/Modify View and modify Waypoint/POI data.

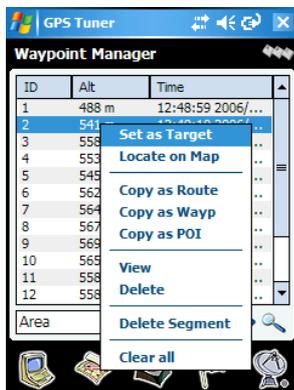
Delete Deletes Waypoint/POI.

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:

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

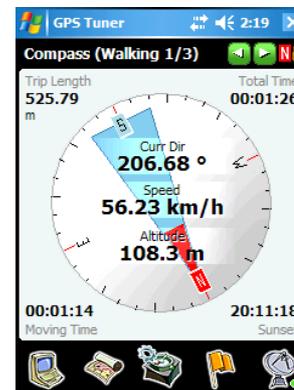
OR

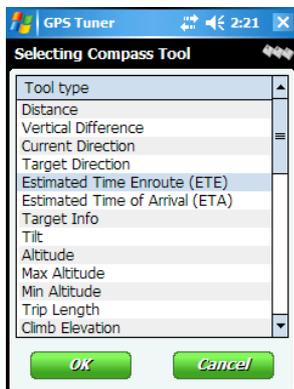
- 1.) Tap a point on the map and select the **Set as target** option from the appearing menu.

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.

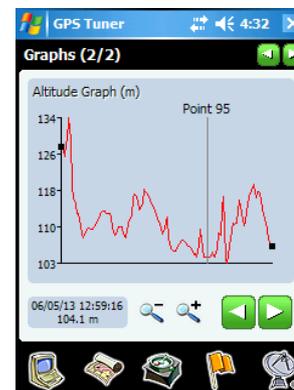
Graph Options:

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.



Speedometer

Graphical speedometer helps you to visualize your actual movement speed. One configurable **Trip Computer tool** is also available. You are able to pre-select and set four speed limit values. When you reach the **speed limit**, it changes its color from green to red and you will hear warning beeps in every 3 seconds.

Activating/deactivating speed limit:

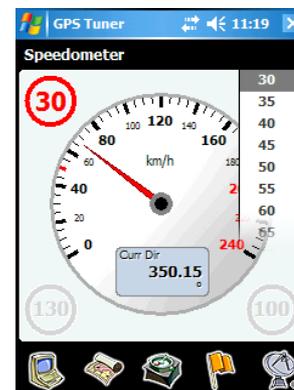
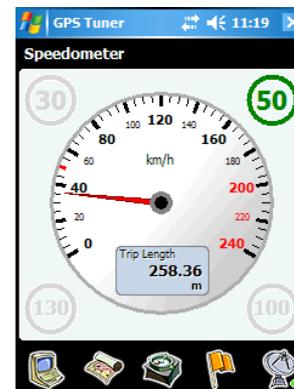
Activating	Tap one of the four speed limit circle
Deactivating	Tap the active (green) speed limit circle

Setting new speed limit value:

- 1) **Tap & hold** your pen over one of the four speed limit circle
- 2) **Select** a new speed limit value from the list

Setting new Trip Computer tool:

- 1) **Tap & hold** your pen over the Trip Computer field
- 2) **Select** a new tool from the list





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.gpsshare.com), 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.

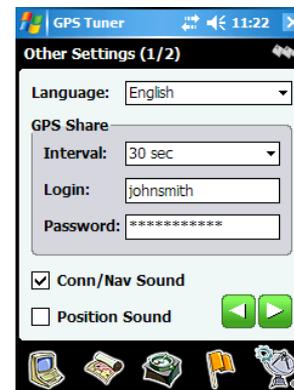
Via the GPS Share service, GPS Tuner sends your actual position data to the GPS Share server for your authorized partners to access. At the same time, you will access the positions of your partners who authorized you to share their position data as well. Partner authorization can be done on the GPS Share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



SMS Interface for GPS Share™

If your PDA is a Pocket PC Phone, you are able to **remotely activate/deactivate** GPS Share service on your by sending a SMS message to it. You can start/stop the GPS or GPS Share on your PDA, set the time interval or just simply **get the actual position of your device in an answer SMS**. After you have sent a control SMS, you will get an answer SMS back with the last known position of your PDA and your command status.

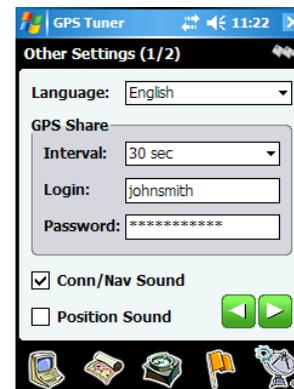
SMS Commands:

gs:PWD	All SMS has to start with "gs:PWD" where PWD is your GPS Share password.
start	Starting the GPS and GPS Share on your PDA
stop	Stopping the GPS and GPS Share on your PDA
interval X	Setting the time interval of GPS Share data exchange
gpsstart	Starting the GPS only
gpsstop	Stopping the GPS only

SMS Sample:

gs:mypass12 interval 30 start

- ▶ This SMS will set the GPS Share's interval to 30 sec and start your GPS and GPS Share data exchange.





Technical Specification

Minimal memory requirement	15 MB free program memory
Resolution	QVGA (240 x 320) , VGA (480 x 640) and Square screen types are supported
GPS Data format	NMEA 0183 standard data sentences
Map Grid	24 Coordinate Format supported
Track buffer	15.000 points
Custom waypoints	5.000 points
Routepoints	5.000 points
Area point buffer	5.000 points
Max. number of maps for auto select function	2000 maps
NMEA buffer (in each category)	5 NMEA sentences
Processing rate (in each category)	5 NEMA sentences/sec
Supported NMEA sentences	GGA, GSA, GSV, RMC, VTG

Software License Agreement for GPS Tuner

DEFINITIONS

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

GRANT OF LICENSE and DISTRIBUTION.

The OBJECT may be installed on one PocketPC device per licensee.

COPYRIGHT.

The SOFTWARE is owned by Megalith and is protected by Copyright laws and international treaty provisions.

OTHER RESTRICTIONS.

You may not rent or lease the SOFTWARE but you may transfer the SOFTWARE and accompanying written materials on a permanent basis provided you retain no copies and the recipient agrees to the terms of the agreement. You may not reverse engineer, decompile or disassemble the SOFTWARE. If the SOFTWARE is an update, any transfer must include the update and all prior versions in your possession.

PROPRIETARY RIGHTS.

All copyrights, patents, trade secrets, trademarks and other intellectual and proprietary rights in the SOFTWARE are and shall remain the valuable property of Megalith, or the Author of the SOFTWARE. You agree to take all necessary steps to ensure that the provisions of this agreement are not violated by you or by any person under your control or in your service.

LIMITED WARRANTY.

Megalith warrants that the SOFTWARE will operate substantially in accordance with its accompanying documentation for a period of trial days. This warranty is void if failure of the SOFTWARE has resulted from accident, abuse or misapplication. YOU ARE THE ONLY BENEFICIARY OF THIS WARRANTY. YOU MAY NOT PASS THIS WARRANTY ON TO OTHERS. Although Megalith has tested the SOFTWARE on several software and hardware platforms, this SOFTWARE is licensed AS IS and you, the licensee, are assuming the entire risk as to its quality and performance.

NO LIABILITY FOR CONSEQUENTIAL DAMAGES. IN NO EVENT SHALL Megalith BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING WITHOUT LIMITATION, DAMAGES FOR BUSINESS INTERRUPTION, LOSS OF PROFITS OR DATA, OR OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE OR DOCUMENTATION EVEN IF Megalith HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Megalith SHALL HAVE NO LIABILITY FOR ANY DATA READ, ACCESSED, STORED OR PROCESSED WITH THE SOFTWARE, INCLUDING THE COSTS OF RECOVERING SUCH DATA. IN NO CASE SHALL Megalith's LIABILITY EXCEED THE FEES PAID BY YOU FOR THE SOFTWARE. BECAUSE SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

GENERAL

If any provision of this agreement is found to be invalid by any court of competent jurisdiction, the balance of this agreement shall remain in full force and effect.

GPS Tuner © 2008 - Megalith, Gabor Tarnok