

AFTTrack v1.22

[Deutsch](#)
[Italian \(extern\)](#)

GPS Tracking for Symbian OS Series 60

and a Bluetooth GPS

[Info S60 3rd Generation v1.07](#)

[Info S60 5th Generation v1.01](#)

AFTTrack is the display for your GPS mouse and activates the world of hiking, biking, sailing, geocaching or more for your phone. The program handles tracking with smart and fixed logging features. It sends reports via GPRS or SMS. It receives SMS position messages and show it as a waypoint. It exports and imports waypoints and routes. And more.

Features:

- Six views to the GPS data - position, goto, track summary, map, altitude profile, satellite
- Big display
- Tracking the current way
- Export tracks (PCX, IGC with security record (registered at <http://www.onlinecontest.org/>), KML viewable with Google Earth)
- Import routes from routes or tracks (PCX)
- Degree or UTM format
- Edit position in selected output format
- Import JPG, GIF, PNG, BMP, TIFF, GeoTiff or BSB as map - BMP, TIFF, GeoTiff and BSB size can be larger than phone memory
- Calibrate maps with various types
- Automatic calibration from different cal file formats
- Automatic map selection from the map storage
- Waypoint group to organize the waypoints
- Save current position as waypoint
- GoTo a waypoint
- Import waypoints (PCX, Geocache LOC, GPX)
- Export waypoints (PCX, KML)
- Using extra text files for waypoint description (e.g. details of a geocache, groundspk:long_description is supported)
- Make route from a track
- Makes way points to area
- Reverse routes
- Alarm on reached POIs, anchor alarm
- GPRS position sending
- SMS position sending
- SMS position receiving
- Reset GPS from SIRF to NMEA mode

- Automatic reconnection to GPS if connection lost
- Filter the altitude and speed values with a Kalman filter
- Logging the NMEA sentences
- Long time tracking
- Support for GLONASS satellites (extern gps only)

Note: This application requires an external Bluetooth GPS device. ([Info internal gps for 3rd generation](#))

Installation

Use the PC Suite to transfer and install this software. Make sure to switch your Application Manager settings to 'All' for Software installation.

Application structure

Main View - a little bit different in 2nd generation version

Track	Goto	Map	Big View	Satellites
Data Collection				
Tracks	Way point groups	Way points	Routes	Maps
Settings				
GPS	Display	SMS Report	HTTP Report	IGC Export



Main window

The main view shows you the standard values for navigation. Additionally, you'll find some indicators on the bottom: satellites, connected to GPS, 2D or 3D view and logging on.

- - no satellites
- - 2D
- - 3D
- - EGNOS/WAAS

In the 3rd edition of the OS the view is added with track information.



Other Views in main window



GoTo

In this view a hold position is used to show you the way to this point.

D = distance

B = bearing

S = speed

C = course

TimeToGo has no label.



The outer circle represents the course angle the inner triangle the bearing.

TTG is build from the average speed of the current track. If this is zero the current speed is used.



Routing

This view is alternate to the GoTo view. It is shown when routing is on. Some useful values are available:

Route name

Distance

Direction to the next point (big arrow)

Direction of the next point

Distance to the next point



Map

The map view shows the current track or route or both. A red sign shows the position - when running as arrow of your direction.

The map can have different meaning. The '*' key switches between position, track, route or map centered. When on a track always the position is in the center.

See this sign

- ⊕ position center
- ⊖ track center
- ⊖ route center
- ⊖ map center

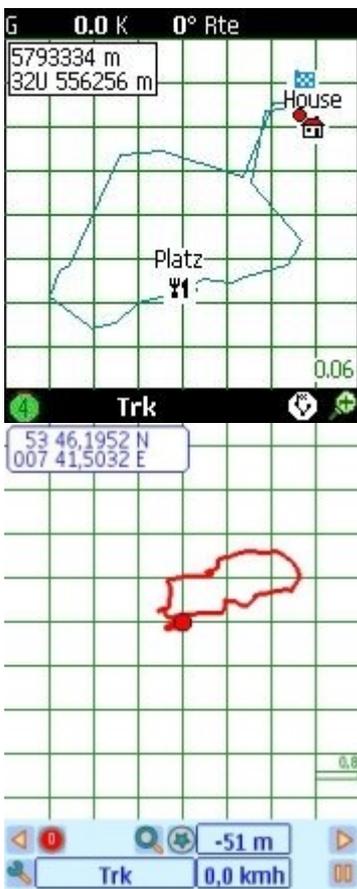
Use the up and down key for scaling.

Press '#' for a change of the key meaning.

Now you can move the map. But can't go left or right to the next view.

A background map can selected from the map list - calibrate map first. When back from the list the map view and track or route are set to the map dimensions.

In 3rd generation hardware you can leave the map list with 'back' to get a single map or via the menu 'auto map' (shortcut '0') to activate the automatic selection of map at your view point.





Trip

The statistical view. The values are

- current speed
- max. speed
- average speed
- current altitude
- min. altitude
- max. altitude
- starting time
- duration
- saved track points
- counted distance

Is added to main view in 3rd edition phones.



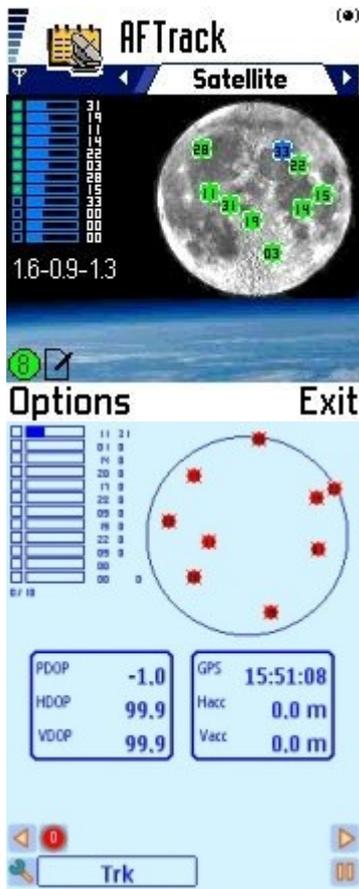
Profile

This view shows the elevation profile from your active track.

- max. and min. altitude
- track length
- duration
- last altitude
- after normalization the rising and falling values

With up or down button the view can be switched between high and speed values.

In 3rd edition this will be found at the track menu.



Satellite

The view shows all visible satellites in its position and gives the information about the level of received signal strength and which satellites are used for the fix. The position, horizontal and vertical dilution of precision are also shown (PDOP, HDOP, VDOP). Last value is the altitude correction.

In 3rd edition with more than 12 satellites when available.



Waypoint

The waypoint information for the current point:

Short name

Little description

The bitmap with the point symbol

An indicator if a long description is available

Distance and bearing from your position

The text is stored in the **AFTrack** txt directory.



Big display

The top view is changable in the display settings. For the bottom view use the up or down button.

Menu values

Track menu

Start Track - Toggles the flag for tracking on/off. If the flag is ON the views show a log sign at the bottom.

Edit Track - Brings a dialog to edit the track name (12 characters) and the track description (60 characters).

List Track - Shows the list of the saved tracks. The selected value is also the current track for saving locations.

New Track - Inserts a new track when there is no running track. This then is the current saving track.

Delete Track - Deletes the selected track. There will always be a last track. If you want to delete all tracks to get a blank new track please use the menu 'Database' - 'Clear DB'.





Export Track - Exports the active track (PCX, KML, IGC or GPX format).

Track to Route - defines an old track as a new route. The track is lost. If the track is still needed go the way around export track (PCX format) and import route.

Normalize Track - The counted track values MaxAlt, MinAlt, AvgSpeed and so on are calculated from the GPS values which you normally receive every second. The track values for position and time are saved in the selected matter. The track time can be stopped. All other programs for track interpretation will get another result as this program shows. The other values are unknown for it. So you can normalize your data after a track.

Database menu

Exports the complete database or let you clear all saved dates.

GPS menu

This enables the sirf commands for power save and additional data sentences (GLL, VTG). For the power save command is no answer, so when we start the status is undefined.

'Reset GPS' brings the GPS from SIRF mode to NMEA mode.

A GPS sentence is send as SMS to the draft by pressing the menu entry. Send it from there.

If you running parallel to the log a HTTP report, please activate 'Start HTTP Send'

Keyboard

The key short cuts help to get a quick access to some features.

- > Moving to next view
- < Moving to next view
- ^ Map scale up, waypoint up, switch to routing, select new view in big view
- v Map scale down, waypoint down, switch to routing, select new view in big view
- OK Main views: Menu for a to-do list with the current position

In lists: edit item
 Calibration view: edit points
 Position: edit values
 send position

1 Position view (3rd Edition: position/track view)
 2 GoTo view
 3 Map view
 4 Trip view (3rd Edition: big view)
 5 Profile view
 6 Satellite status view
 7 Track list
 8 Waypoint list
 9 Route list
 0 Map list, in map list Auto Map

all 0- Send SMS (when selected in settings)
 9
 Map view: Toggles view between map zoom and map move or waypoint list and single waypoint view
 #
 Position view: Toggles displayed position format

Map view: Toggle between viewing map position, track centered or route centered
 *
 Waypoint view: gets a text if available
 Calibration view: toggles between 22 points, 88 points and 1 point moving around

c
 Delete entry or delete parameter (in HTTP settings)

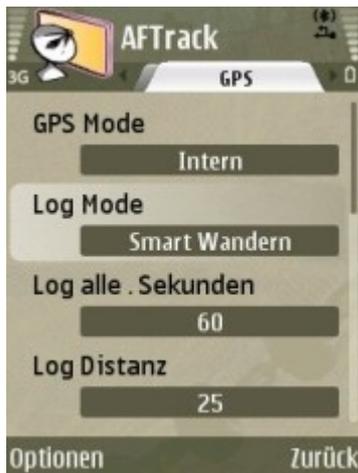


Settings

Select your configuration here. Four modes are available.

GPS mode:

- GPS Mode - select internal, external or none gps hardware (3rd generation only)
- Log Mode - handles the different modes for logging.
- Log Seconds - frequency for logging only used at log on second (values



from 1 to 600 seconds, make sure you have enough space when select 1 second steps)

- Log Distance - log after a distance of x (in 1/1000 sm 1 sm = 1854m)
- Altitude - select meter or feet
- Speed - select knots, miles or kilometers per hour
- Position Display - shows teh position on the map or calibration window
- Kalman Filter - Set the filter on/off (does a smooth operation on the flipping values for altitude and speed)
- Logging angle - in smart logging the angle when a new track point is generated
- Pause on speed less - when the speed is below the value the program register a pause (value is in 1/1000 knots (nautical mile per hour) e.g. 50 mean 0.050 knots)
- Altitude correction - the altitude correction (send in the \$GPGGA sentence) is used or not
- NMEA checksum test (on/off)

In 3rd edition the signed version works with internal gps.

Display mode

- Wpt Sort - How to present the waypoint lists
- Map Display - Waypoint are shown, with or w/o label
- Map Position Display - If set to 'on' the position is shown on the map
- Display Map at Start - Loads the selected map direct after program start.
- Map Center - The center of the map view is defined by the position. To move around without map refresh select a value bigger than 1. This builds a square around the map center where the position reminder is moving but not the map (values between 1 and 80 points).
- Map Show Grid - The grid on the map display is on/off
- Map Show Bearing - Offers a red line to the GoTo waypoint or the next routing point
- Color of Track - Sets the beauty of the track
- Color of Route - Sets the same for the route
- Line Size - Sets the thickness of the track or route in points
- View track as line or points
- Show Icon grid - The selection of a bitmap for the waypoint can be displayed as grid or icon list
- Lock Keys - Will protect your phone (this will only work when lights are off)
- Light always on - Holds the background light all the time but costs a lot of battery power

SMS Report mode

- Log Mode - Can be off, send to the draft folder of your phone, send direct to the selected number or send always with a saved track point. Be careful with this option. When you select in log mode 15 seconds the SMS could be still on your phone without sending yet.
- Report Mode - Select what to send: GGA or RMC (both are only possible when GPS is connected), the Live-Tracking.com format or a plain text version of the position

- SMS number - Where to send the short message.
- SMS reason - use this only with the Live-Tracking format

HTTP mode

- Log Mode - Select the sending features: off, manual or direct with a tracking point (works only if a track is running)
- Some parameter for the HTTP connection:
 - Server - the server address w/o http://
 - Port - used port address
 - File - file on the server to read the values
 - Id - the name of the identity parameter
 - Id Mode - send your IMEI for identity or define an own value
 - Id Value - the value for the id
 - Password - parameter name for a password
 - Password Value - the value for the password
 - Latitude - name of the parameter
 - Longitude - name of the parameter
 - Altitude - name of the parameter
 - Speed - name of the parameter (value belongs to the speed settings kmh, knots, mi)
 - Direction - name of the parameter
 - Message - name of the parameter
 - Message value - a message text to send
 - Proxy use and ip address
 - Proxy port

The settings for the internet connect you will find in the 'access points' dialog of the general settings. The parameter for this entries you will get from you carrier.

The default entries in this menu makes a connection to <http://www.whererya.com>.

To define other server leave the unused parameter blank. E.g FindU to get <http://www.findu.com/cgi-bin/inputpos.cgi?call=mycall&passwd=xyz&lat=12.3&lon=-12.3>
fill only this

```
[Id] call
[Id Mode] Define
[Id Value] mycall
[Password] passwd
[Password Value] xyz
[Latitude] lat
[Longitude] lon
```

IGC Settings

- Pilot name (must be filled)
- Glider type
- Glider id
- Wettkampf id

- Wettkampf class

Waypoints

The waypoints are shown as a list or a single view. Each of them has a position with altitude, a bitmap for the display, an alarm distance and an alarm function.

Alarm distance and function is set on the import and is predefined on the used waypoint group. Same with the bitmap - if this is not announced in the import file. E.g. a new waypoint is added. It gets the values from its waypoint group

To add a waypoint from bearing means the start is the current position and you have to enter the distance (input depends on the selected speed mode - m, ft or nm) and the angle to run.

Another option uses the current waypoint to create a new point via the bearing and distance.

To add a waypoint from map needs a calibrated map. Please enter the calibration view (see menu in map list). Select a point with the cursor, press the enter key and select the waypoint entry.

Define a waypoint from main map:

First select a calibrated map from the map list. Press '*' until you have the map centered and visible. Then in the waypoint menu a new entry is shown - 'Define Waypoint'. This brings a red circle to the screen center. Move around to find your waypoint. Then press the center of navigation button and select 'Position as Waypoint' or 'Cancel'.

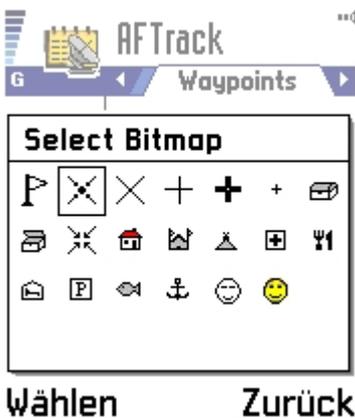
Set the current waypoint as new position - this only works in offline GPS mode.

A special waypoint mode is the anchor alarm. It defines a position and when leaving an area of ~ 50 meter an alarm sounds.

Waypoint Groups

Waypoint groups are selections of waypoints to organize the system. Here are placed the import and export routines for the waypoints. Please use only geodetic coordinates (not UTM format) for import.

All waypoints in a group can get the definition of the group.



Special: Use of Areas

A group of way points can be used as an area. The border is made point by point in its normal order. The last point is connected to the first point, so a final point over the first one is not necessary. The area may defined as ToGo or

NotToGo area - this regulates the color of the area.
(3rd Generation only)

User defined bitmaps

The bitmaps are stored in the **AFTrack** data subdirectory pics. There is a text and a bmp file (icons.txt and icons.bmp). To define own pictures rename this and place a new icons.* file here. Bitmap size is 16x16 pixels for each. See sample in the pics directory.

Sample for waypoint import

To build a nice sample for the waypoint import go to these address http://www.alertegps.com/Download_index.asp?a=ar&s= (2006-03-24) and get the file **Pcx5.wpt** with some radar Point of Interest

To use your radar file do this:

- create a waypoint group 'radar'
- edit the group and set the alarm distance (meters) and sound (no sound - no alarm)
- import the file to this wpt group

Or just use the samples files (wpt or loc) with some waypoints.

To get text to your waypoint just place text file with the short name of your waypoint in the **AFTrack** txt directory. E.g. for a waypoint 'GC4711' use a text file named 'gc4711.txt'.

[Geotoad](#) offers to collect all informations from geocaching.com in one GPX file. e.g.in DOS mode

```
c:>geotoad -f gpx -q coord "N40 45.0, E014 30.0" -y 5
```

gets all point inside 5 miles around the coords. The waypoints are imported and from the groundspeak:long_description tag the needed text file is saved.

All file import or export uses the directory ?:/Nokia/Others/AFTrack

Routing

A route can be generated from an old track or by using the import function - this needs a PCX file from a track or a route (*.trk or *.rte - on 3rd generation hardware you may use also *.gpx or *.kml).

Please use only files in this formats:

```
H IDNT LATITUDE LONGITUDE DATE TIME ...
W TR0000 N52.371971 E010.145681 18-SEP-04 09:24:17 ...
W TR0001 N52.372024 E010.019382 18-SEP-04 09:25:50 ...
W TR0002 N52.372168 E010.895003 18-SEP-04 09:27:21 ...
or
H LATITUDE LONGITUDE DATE TIME ...
T +52.371971 +010.145681 18-SEP-04 09:24:17 ...
T +52.372024 +010.019382 18-SEP-04 09:25:50 ...
T +52.372168 +010.895003 18-SEP-04 09:27:21 ...
```

The flags points to the end of the route. When a route is started and there is a nearer point than the start point the program asks for the entry point. So it's possible to do only a part of a route.

All file import or export uses the directory ?:\Nokia\Others\AFTrack

In the version for the 3rd generation the import for GPX tracks or routes is also available. The files are found in ?:\Data\Others\AFTrack.

Map support and calibration

First load a map from a place in the phone or the memory card. The file is not transferred to **AFTrack**. The program only stores the map information. The maps can be in jpg, gif or bmp format. The GPS values are use direct so the map date has to be WGS84.

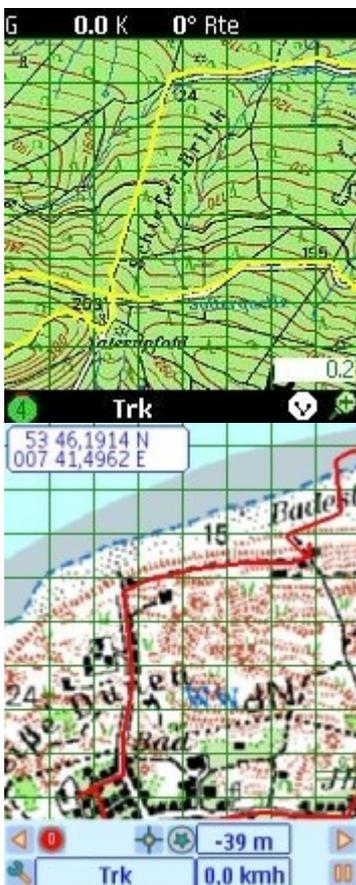
The second thing is the calibration of the map. Enter the calibration dialog over the menu, select at least two points on the map and define this points manually or use the current position for it. The map is only calibrated when the 'save' menu is selected. Don't keep the calibration point to near to each other.

A good source to solve the calibration problems is for me the TerraServer. The sat pictures helps to find some special calibration points and it coordinates. Or try infosports.com a small geo coder (25th April 2006).

For moving around in the map use the navigation button. Switch between 1 point or 22 point moving by pressing the * key

Notice: Only BMP, TIF and BSB can be bigger in size then the phone memory. Normally the bitmap should have only 8-bit color to save space and should be with no compression.

The usable chart size belongs to the ram size of the phone (Nokia 3650 4MB Ram, 6600 8 MB). A map uses this size: a Gif file (300 KBytes file size) and 866x502 pixels uses around 900KBytes of space in the 1:1 view. Only the bsb





file needs less space - see below.

Sample Map Source: Part of the German Topographic Maps 1:50000



Auto calibration

The bitmap file needs a calibration file in the same directory and with the same name.

Supported are

- GeoTIFF World Files (tfw or jgw) only in geodetic coordinates (e.g. 12.456, -45.123) or UTM
- OziExplorer map files in geodetic coordinates
- Mapshare gmi files version 1, 2 and 3 (see [here](#))
- UI-View inf file format
- TOP50 log file (see [German doc](#))

To read a tfw file in the UTM format please add the UTM zone information. Sample:

```
25.0000000000
0.0000000000
0.0000000000
-25.0000000000
319462.5000000000
6263637.5000000000
```

56 H

Using and making BSB maps

With this format it's possible handle maps dimensions greater than phone memory.

The OziExplorer is able to import this file format. A simple graphic viewer for BSB get here [ImageVisu](#) (2006.02.01).

How to design a bsb file:

Download this package from [libbsb.sourceforge.net](#) and read the description.

The bitmap must assigned as tif format and must have less than 128 colors

You will need a template file like this, edit only the red part. REF are the calibration points with x,y,latitude,longitude, so there is no separate calibration file.:

```
!Handmade Meran.kaptmp
VER/2.0
BSB/NA=Meran
```

```
RA=3693,5190,DU=254
KNP/SC=1729000,GD=WGS84,PR=MERCATOR,PP=55.00,PI=0.000,SP=,SK=0.0000000
TA=90.0000000,UN=METERS,SD=MEAN SEA LEVEL,DX=172.90,DY=172.90
CED/SE=2000,RE=03,ED=01/01/2000
OST/1
REF/1,183,3198,46.68122,11.09301
REF/2,2208,1976,46.727896,11.20246
DTM/0,0
CPH/0
IFM/5
```

Call the program as: c>tif2bsb my.kapmtp my.tif my.kap

There can be more the two calibration points. Only three of them are used (2 with the greatest distance and one other point). Make sure that the points are in a triangle.

When an error correction is defined in BSB header it is used.

Only bsb3 files are available. The file extension of BSB files is *.kap

There is a tool that uses the BSB library and has a graphical interface. Please try [RasterChart2BSB](#)

Using GeoTiff maps

GeoTiffs are maps with the calibration information inside. They are usable only with uncompressed tiff and in WGS84 coordinates (geodetic or UTM)

To make the included information visible use the tools from this site.

<http://dl.maptools.org/dl/geotiff/libgeotiff/>

more information about this format see

<http://www.remotesensing.org/geotiff/geotiff.html>

Using OpenStreetMap maps

Select in the map list the wms option 'OpenStreetMap'. If there are no maps available the bitmaps are loaded via the internet. The cache is always in the memory card at e:\Data\Others\AFTrack\cache\osm. Start is always zoom level 13.

You may load maps without having internet connection via your pc. Look for the application [OSM2palm](#) (German but ...) Select the region and the zoom level you need and start download. In the directory file all files are stored in zoom level directories. Copy all to the cache directory 'osm' to your memory card.

Here other addresses for getting OSM tiles www.opentom.org, [JTileDownloader](#)

An other idea of using OSM is to transfer it to BSB format

<http://sites.google.com/site/tintenbrotproject/osm2bsb>

In ?\Data\Others\AFTrack\Pics you will find a server config file named 'osm.wms'. This contains samples for the define of different servers. Always use in the same way.

```
label=OpenStreetMap
host=tile.openstreetmap.org
path=/
port=80
cache=osm
label=OSM Cloudmade
host=c.andy.sandbox.cloudmade.com
path=/tiles/cycle/
port=80
cache=osmcloud
```

Make sure to save this settings before install a new version of AFTrack

Beware of deleting the cache. That take a long while and is better done with the PC Suite.

(OSM maps for 3rd Generation only)

SMS Reports

SMS reports a send to a phone number defined in the settings.

This sends the \$GPGGA, the \$GPRMC sentence or just the position as plain text. Select this feature in the settings for SMS.

This can be use for the reporting on live-tracking.com

Other programs can use this as input to show your position.

This program also receive SMS report (select GGA mode) from other **AFTrack** users and store the incoming values as a waypoint. For the name of the waypoint the phone book entry is used - if not already there.

For the automatic sending of a sms you'll need three options: a track must be running, the sms option must set to 'automatic log' and in GPS menu the SMS sending must be activated.

HTTP Reports

There are several parameters to set up a HTTP connection. Select 'manual' or 'with log' as the log mode in the HTTP Report settings to get a manual or an automatic logging. Automatic logging runs with the frequency selected as GPS log mode. Make sure that the time for the logging is greater than the GPRS answering time. For all other things use the defaults to get in first contact with this features.

Then you will need a running GPRS connection. See your manual to establish one.

To use this in an easy way just set log mode to 'Manual' and use the default values.

The correct running connection will place a position report at the defined server www.mapserver.co.nz. To see your position online use this page

<http://www.mapserver.co.nz/aftrack/index.phtml> is deprecated.

The new address is <http://www.whererya.com/>

<http://www.whererya.com/addposition.aspx?id=???&pass=ABCDEFGF&lat=1.23&lon=4.56>

is the new default. You will need your IMEI to replace the ???.

To get the information about your IMEI send ***#06#** to your phone.

You can get your last position with
http://www.whererya.com/data/???_ABCDEFGF_latest.kml
??? your IMEI please replace

or

the history of your messages
http://www.whererya.com/data/???_ABCDEFGF_history.kml
??? your IMEI please replace

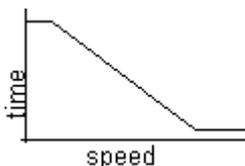
Or just use the user interface at the start page.

The logic to build is:
<http://server:port/file?key=value&key=value...>

Another tracking page is [MyTracking](#), uses Google Earth satellite pics.
Or www.reperion.com also has free tracking accounts.

At magnalox.net you have animated tracks and a information how to handle the parameters.

<http://forum.magnalox.net/index.php?t=msg&th=79>



Log Modes

- No Log
- Manual
- Smart for Car
- Smart Boat/Bike
- Smart Walking
- 1 to 600 Seconds
- after Distance
- Long Time Tracking

NMEA log

Keep in mind the logging uses a lot of space and consumes also a lot of system power. The refresh of the GPS is mostly 1 second. So all active screens follow this feature and refresh all seconds. That means recount the track, the route, the map and so on.

Manual logging only logs by pressing the middle navigation button. This is also used in all other log modes except the log off mode.

Smart logging gives you the chance to have various logging times at different speeds. All values under or above the limits have the max. or min. logging time.

```
Car    10 km/h - 10 Minutes, 120 km/h - 1.5 Minutes
Bike   2 km/h - 10 Minutes,  18 km/h - 1.5 Minutes
Walk   1 km/h - 10 Minutes,   5 km/h - 1.5 Minute
```

Or after x degree change of the corner. Select the 'log on angle' value in the GPS settings - the values are possible between 5 and 35 (default 25).

Das NMEA log writes out all received sentence and doesn't save this values in the database. So no statistic values are available.

Special: Long Time Tracking

Long Time Tracking switches the gps modul off. When a track is started the gos is switched on and the user has to take the first point manually. After this the modul is shut down again and after a definated time the program logs in to the gps and when the signals are good a point is taken. Switches off after this. The settings of seconds are used as minutes now. A good gps hardware to perform this method is the Nokia GPS-Modul LD-3W. It has a 7 days standby time. Also the phones life time is growing up with no permanet bluetooth signal.

Special for OpenStreetMap

OpenStreetMap is a project to collection free geographical data. See wiki.openstreetmap.org for more information.

AFTTrack could give some small help for the collecting process.

What to do for prepare:

1. Define a list with of your favourite tags your like to collect. The rule is each entry one line e.g.

```
highway
primary
secondary
cyclepath
footpath
```

or make it different with groups

```
highway=highway  
highway=primary  
highway=secondary  
waterway=river  
waterway=channel
```

2. Define a color for each so you can see it in different color on the map. The rule is ';' is the separator and the color value is hexadecimal. Some thing like on this link en.wikipedia.org/wiki/Web_colors

```
highway;ff0000  
primary;ff00ff  
secondary;bb3333  
cyclepath;bb7733  
footpath;773300
```

3. Name this osm.txt and copy it to your AFTrack directory/pics. AFTrack comes with one file sample.

What to do for use:

1. Select 'new Track' to define a new object
2. Select 'new waypoint group' in waypoint menu
3. Select in navigation button menu the 'OpenStreetMap' and define the kind of track.
4. Start track.

The OSM feature is made visible by add 'OSM:' to the track name. And the line is shown in the color of the selected kind. (At kind 'None' the color is the standard track color selectable in the option/display menu)

Optional:

- During the track is running the kind of track can be changed to an other kind or to none.
- Collect also way points by pressing the navigation button.

After collecting the track can be exported to KML (included with the defined colors) or GPX format. Both contain the track parts and the entries in the current waypoint group.

Log file

[track samples](#)

The log files are saved in the \Nokia\Others\AFTrack directory.

Log file format (PCX):

```

H SOFTWARE NAME & VERSION
I PCX5 2.08 by AFTrack 1.01
H R DATUM IDX DA DF ...
M G WGS 84 100 +0.000000e+00 +0.000000e+00 ...
H R DATUM
U LAT LON DEG
H TRACK SUMMARY
H Track Pnts Date Time Duration
H TN Trk1 126 07-04-04 11:15:29 01:13:20 Track 1
H LATITUDE LONGITUDE DATE TIME ALT
T +44.1234567 +009.0000000 07-APR-04 10:15:21 27
T ...

```

Use this format to get a chart view from your tracks at [GPS Visualizer](#) (nice SVG output) or with other programs.

In UTM notation the export is done in UTM format.

```

H ZONE EASTING NORTHING DATE TIME ALT
T 32U 556080.2 5793195.9 31-Mrz-05 17:41:49 65

```

Use other options of translation with [GPS Babel](#) or other programs like this.

A newer option is the export into the IGC, GPX or KML format. In IGC log file this software is registered for glider constests at <http://www.onlinecontest.org/>

IGC has a security line for all point lines and it can be verified with a separate tool that the log was not changed after export. Use in DOS mode:

```
c:>vali-aft mytrack.igc
```

Get the validate program [here](#)

Problems

Please notice always the bluetooth sign in top of the most windows. When the connection to the GPS is lost a message will remind you and you have to reconnect. Since version 1.01 reconnect works automatically. After 5 minutes this feature is stopped to save the battery.

When there is a problem with the phone - e.g. you have to reboot it - just start **AFTrack** again and select the used track. All tracks are saved in time and you can add new positions. May be you have to normalize the track before continue the track.

When you are in an area with lower GSM signals the phone is scanning for gsm cells. This costs a lot of battery power and computing power as well. So I use an old SIMM card. It doesn't looks for cells and this will give longer tracks. But no calls.

The T-Mobile-Navigate-GPS only send RMC (Recommended Minimum Specific Data) so there is no information about the altitude and the used satellites. See

www.martin-dehler.de/gps/navigate.htm for a detailed information (German).

BT-338 and may be other gps has a static navigation mode which makes problems for slower moving see this for more detail and the how to http://www.gpspassion.com/forumsen/topic.asp?TOPIC_ID=25575
On other hardware with moving problems use the pause speed value in the settings.

Big XML files are sometimes a problem. The parsing is completely done in the phone RAM. A work around for GPX files comes from Philippe K uchler for PC and MacOS (see below). The points are bundled to smaller packages.

A strong use of the hardware brings a disconnecting from the gps every few minutes.

What to do:

- Make sure there are no other programs running
- Switch the update frequency of the gps to one per second - if it sends in a higher speed
- Set logmode to 'smart' (only during tracking)
- Set the map center to a value between 60-80 (normally the position is map centered, so it moves a bit)
- Use BSB as map format - a little bit harder to handle but more effective
- Use smaller maps

On Nokia N70 the dialog box for waypoints doesn't show the labels (better with OS update).

The N70 also has problems with sending SMS.

This program is tested only with the 6600/6630 and GPS Holux GR-230/BT-338.

Please report other constellations.

Nokia N-Gage and GlobalSat BT308 Bluetooth GPS

Nokia 6600 with GPSSmart - BT by Fortuna

Nokia 6600 and Teletype GPS

Siemens SX1 with Fortuna Clip-On Bluetooth GPS Maus

Nokia 6600 and T-Mobile-Navigate-Receiver

Nokia 6600 and RoyalTeck RBT-100

Siemens SX1 and Falcom Navi1 Bluetooth

Nokia 6600 and TomTom Wireless GPS Modul

Nokia 6600 and Navman 4400 GPS

Nokia 6620 and a Fortuna Clip-On Bluetooth GPS

Nokia 6600 and Micronet bluetooth GPS

Siemens SX1 and Leadtek 9537 Bluetooth GPS

Nokia 6600 and BT-GPS Leadtek 9537

Nokia 6630 and Holux 230

Panasonic X700 and XAiOX Wonde-X

Nokia 6680 and Garmin GPS 10

Nokia 6600 and Globalsat bt308

Nokia 6600 and Falcom Navi1 Bluetooth (Mobilcom Label)

Siemens SX1 and Navilock BT 338
Nokia 6260 and Royaltek RBT-1000 (XTRAC2 Version)
Nokia 6260 and Aktronix GPS
Nokia 6630 and Xaiox Wonde XL Bluetooth
Nokia 6260 and Evermore BT-R500
N-Gage QD with SysOnChip SIRF III GPS mouse
Nokia 3230 and GPS MKII receiver
Nokia 6630 and QStarZ BT
Nokia 6260 and Earthmate Blue Logger GPS
Nokia 6670 and Haicom HI-406BT GPS
Nokia N90 with Nokia LD-1w mouse
Nokia 6630 and Navilock BT-308
Nokia 6630 and Haicom 406 BT GPS
N-Gage QD and Xiaox NaveOne BT Maus
Nokia N70 and GPSSmart BT or Tomtom Wireless GPS
Nokia 6680 and Bluei GPS
Nokia 6600 and EMTAC bluetooth GPS (BTGPS III)
Nokia Ngage with FTech Solar BT GPS
Nokia 7610 and Holux GPSlim236
Nokia 3650 and Adapt AD-500 GPS
Nokia 6260 and Rikaline Bluetooth model LR9537 GPS receiver
Siemens SX1 and RoyalTek RBT 2001 Sirf3
Nokia 3650 and Mainnav MG-910 BT GPS
Nokia 6630 with QStarZ BT
Nokia 6670 and Royaltek RBT-1000
Sendo X and Klicktel GPS

List of hardware with problems in bluetooth connection:

6630 and Holux GPSlim236 (There is a report for that: they can be solved with a NOKIA firmware upgrade, free at NOKIA website. The latest firmware solves several Bluetooth issues, check it at:

<http://newlc.com/Nokia-Series-60-Firmware-History.html>)

N70 and Holux 236 with Sirf 3

Please try you GPS with the trial version first.

History:

- Version 1.22 - Jan 2009
 - new calibration logic for mpr files
 - OSM GPX review
 - add Ellipsoidal height if present
 - bsb maps correction repair
- Version 1.21 - Oct 2008

- repair GPX export problem
 - Set time from GPS
 - long time tracking mode
 - http mode: key value can be longer then 16 character (64)
 - qpe calibration file format
 - mpr Top50 map files
 - Anchor alarm
 - support for GLONASS satellites
- Version 1.20 - December 2007
 - close on low battery
 - add time stamp on GPX export
 - add gps log after a defined distance
 - add search field in waypoint list
 - add cal (TTQV) calibration file format
 - define a waypoint from main map
- Version 1.19 - September 2007
 - repair proxy problem
 - repair manually calibration
 - set http values for alt, speed and course to integer values
 - make visible/unvisible of waypoint groups
 - use filename for imported routes
 - added profile for the speed
 - add kal format as calibration file (GlopusMapManager)
 - add GPX format for track export
 - add OpenStreetMap functions
- 1.18 - June 2007
 - refresh KML export, start and end point, coordinates
 - add 'show waypoints' in way point menu
 - bring waypoint group to route
 - 3 different pointer for the position (small, big, sailing pointer)
- 1.17 - March 2007
 - add timestamp for kml format
 - changed default url for http transfer
 - new gmi format for more than 2 calibration points
 - new kml overlay as calibration file
 - set position from waypoint with altitude
 - use automatic map selection from position
 - select storage before save tracks
 - import function with directory selection first
 - delete all maps
 - load all maps from directory
 - new big view for waypoint distance, bearing, cross track error (XTE)
- 1.16 - August 2006
 - GeoTiff with WGS84 or UTM calibration
 - tfw files with UTM coordinates and UTM zone accepted
 - BSB chart can have more than 2 calibration points

- BSB with error correction if defined in BSB header
 - for BSB 3 calibration points are used
 - Tiff format 1,4,8,24 no compression for maps bigger than memory
 - Bmp format 1,4,8,24 no compression for maps bigger than memory
 - calibration view '*' switch to 1,22,88,1,... points to move
 - import waypoints from KML format
 - enable SMS report for live-tracking.com
 - add altitude for gpx files
 - repair goto from waypoint screen
 - repair big display for altitude
 - NMEA checksum test (on/off)
- 1.15 - April 2006
 - Export tracks to KML format (viewable with Google Earth)
 - Export waypoint group as KML format
 - Text SMS contains selected position format
 - push up the timeout for the first http connection
 - add new option in display settings: view track as line or points - for a better view in static mode
 - add max speed control for normalizing a track
 - add a speed parameter for the http connection
 - add angle to next route point
 - add menu button to next route point
 - add big display for some output values
 - add settings menu for IGC export
 - add SMS feature 'send on any key'
 - changed validation program (vali-xft.exe)
 - repair: map rename
- 1.14 - December 2005
 - support for bsb files
 - show map on start
 - proxy settings for http
- 1.13 - September 2005
 - repair xml import
 - smarter zoom function
 - short cut for map list (0)
 - '8' toggles between waypoint list and waypoint group list
 - add waypoint entry from current waypoint bearing
 - set current waypoint as position (offline mode)
- 1.12 - September 2005
 - add waypoint entry from bearing
 - add new waypoint from calibrated map
 - send also GPRMC sentence via SMS
 - send position as readable text via SMS

- use gmi file format version 2.0 for calibration
 - use UI-View inf file format for calibration
 - logging angle for smart logging is editable (5 to 35 degree)
 - pause by speed less than (in 1/1000 nm)
 - altitude correction selectable
 - NMEA direct log
- 1.11 - June 2005
 - automatic calibration with TOP50 log file
 - also tfw or jgw file format with geodetic values (no tiff support)
 - also OziExplorer map files
 - also gmi files
 - edit map name
 - edit position in the selected output format
- 1.10 - Junu 2005
 - add mapping
 - add loading maps from jpg, gif or bmp file.
 - calibrate the maps on board
 - scale the maps until no more memory or to small
 - add waypoint group setting for all members
 - free logging interval
 - set map view between goto and trip view
 - icon in map refresh after changing
- 1.09 - April 2005
 - add variable format on position view
(UTM, DD.DD, DD MM.MM, DD MM SS.SS)
 - add position display in map view
 - add export for IGC file format with security record to test the integrity of the log file
- 1.08 - February 2005
 - save last track point
 - add routing
 - add making route from track
 - routing import from as PCX
 - the waypoint view is added
 - copy the current position into the clipboard
 - feature for geotoad: make text file from groundspeak:long_description
 - add Italian and Dutch
- 1.07 - December 2004

- Waypoint import from GPX file format
- 1.06 - November 2004
 - Waypoint import from LOC file (Geocaching XML)
 - Text files for a bigger description of a waypoint e.g. Geocaching find rules
- 1.05 - November 2004
 - German version
 - Fix a problem with the Telekom Navigate GPS
- 1.04 - November 2004
 - HTTP parameter handling (delete value on key 'c')
 - Alarm also on reached POIs
- 1.03 - October 2004
 - New menu: Waypoint
 - Save position as waypoint
 - List waypoint (all)
 - Edit active waypoint
 - Select waypoint group
 - List of waypoints in the group
 - Import waypoints for the group
 - Export waypoints for the group
 - Export all waypoints
 - HTTP position sending
 - SMS position sending
 - SMS position receiving
 - New settings menu
- 1.02 - September 2004
 - Bugfix South-West problem
- 1.01 - August 2004
 - Added a map view.
 - The keys '1' to '6' reaches one of the six views
 - A GPS sentence is send as SMS to the draft
 - Reset GPS from SIRF to NMEA
 - Automatic reconnection to GPS if connection lost
 - Stop reconnection if not necessary
 - Filter the altitude value with a Kalman filter
 - Manual logging
- 1.00 - June 2004

Initial program start

Note: only 2nd generation, not usable on a **3rd** or **5th** generation Symbian phone (E60, E61, ...)

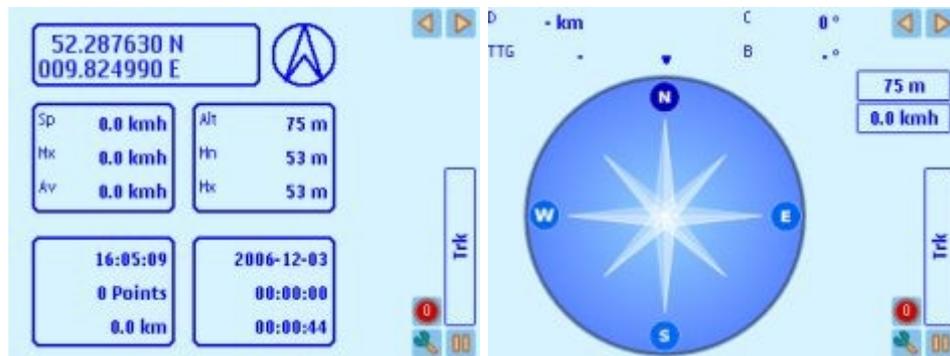
[Trial SIS download](#) English (351k) or
[Trial SIS download](#) English, Deutsch, Italian, Dutch, Spanish (381k)
[zip download](#) (1045k)
buy at [Handango](#)

Download over air use this [page](#)

Get the validation for IGC format [program](#) (Dos 52K)

A tool for GPX cache files splitting by Philippe K uchler [AFTrack Assistant_1_0_0.zip](#)
[AFTrack description as PDF](#)

Trial version exports only 3 points, only 3 maps, send HTTP reports only manually, send SMS reports only to draft folder and it is time limited.



Sample Map Source: Part of the German Topographic Maps 1:50000



AFTrack and 3rd Generation of S60

The version for the 3rd generation has the nearly the same features as the current version.

It only differs a little bit in the screen design. The main and track view comes now in one screen. The profile screen is moved to the track menu and the waypoint view to the waypoint menu. The new generation also has better xml support.

The new path for saving is c:/Data/Others/AFTrack or e:/Data/Others/AFTrack

Comparing internal and external gps runtime (gsm offline, 10s per point):

N95 internal ~7.5 h

N95 external ~16 h

This software is not Symbian signed. So you have to switch the application manager settings 'Software installation' to 'All'.

Note: An external GPS receiver is needed. See below.

Tested with Nokia E60/E61/N95 and BT-338 or XaioX InstantFix

Reported from others for

phone E70, N71, N73, N93, N80, 5500, N91, N95, LG KS-10, Samsung i7110

Problems are reported for

N73: GPS user report - "Updating the firmware worked like a charm. No drops in bluetooth connection. Here is a link on N73 firmware
<http://www.allaboutsymbian.com/forum/showthread.php?t=51669>"

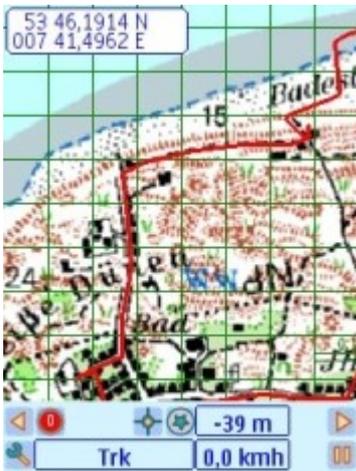
E62: logging problem with GPSSlim240

Version 1.07 - July 2009

- Download rate displayed
- OSM map server define
- Transparency for way point icons on white color (see samples in Pics directory)
- add VMG (Velocity made good)
- add OVL track export
- new menu structure
- lines thickness up to 5 points
- set time from gps is moved to the plugin (please use plugin 1.2 now)
- add French, Swedish, Finnish

Version 1.06 - Jan 2009

- repair http report for German users
- define colors for background and lines
- OSM refresh mode, reloads only viewed maps to cache
- new calibration logic for mpr files
- OSM GPX review
- add Ellipsoidal height from \$PTNL,GGK - if present
- modify sat view layout, add alt correction and quality indicator
- BSB maps correction repair (French sea maps)
- new icons
- sort moved to list menu



- set time from gps is moved to the plugin (please use plugin 1.1 now)

Version 1.05 - Oct 2008

- repair GPX export problem
- Set time from GPS
- long time tracking mode
- http mode: key value can be longer then 16 character (64)
- qpe calibration file format
- mpr Top50 map files
- Anchor alarm
- add support for GLONASS satellites (extern gps only)
- add split routes import in GPX
- opencaching.de tags used
- make waypoint groups to areas
- alarm sound used for waypoint reaching
- moving on the map works also on auto map
- gpx waypoint export
- using OpenStreetMap
- internal gps

Version 1.04 - December 2007

- close on low battery, battery low dialog
- add timestamp on GPX export
- add gps log after a defined distance
- repair sms text coord
- repair route compass on 5500
- GPX import with more groundspk features
- profile for height also from route
- route import with altitude
- add search field in waypoint list
- add cal (TTQV) calibration file format
- define a waypoint from main map

Version 1.03 - September 2007

- repair proxy problem
- make visible/unvisible of waypoint groups
- use filename for imported routes
- added profile for the speed
- add kal format as calibration file (GlopusMapManager)
- add GPX format for track export
- add GPX format for route import
- add OpenStreetMap functions

Version 1.02 - June 2007

- short keys for E61 also with letters
- compass problem on E61, E70, N95 fixed
- repair http send problem on German phones
- refresh KML export, start and end point, coordinates
- add 'show waypoints' in way point menu
- again: AFTrack directory changed ?:/data/others/AFTrack

- bring waypoint group to route
- 3 different pointer for the position
- Rotate screen in option menu (not for E61)

Version 1.01 - Mar 2007

- changed default url for http transfer
- new gmi format for more than 2 calibration points
- new kml overlay as calibration file
- set position from waypoint with altitude
- use automatic map selection from position
- select storage before save tracks
- import function with directory selection first
- delete all maps
- load all maps from directory
- new big view for waypoint distance, bearing, cross track error (XTE)
- repair automatic http position reporting
- repair black numbers in big view on N73
- work around for compass problem on N80
- use new xml routine for gpx import
- some smaller problems fixed
- switch the directory for a phone installation to c:/data/others/AFTrack

Version 1.0 - January 2007

Notice for internal gps

Now (Febr. 2008) the symbiansigned.com portal for 'Open Signing' seems to be ready - but there are some starting problems - please be patient the site had problems with heavy traffic in the past. .

This are some words from the signing guide:

The main features of this signing option are:

- the process is online
- no Publisher ID is required
- no Symbian Signed account is required
- no tool downloads are required, so it is platform independent
- all user and most system capabilities may be requested (excludes the Restricted System Capabilities CommDD, DiskAdmin, NetworkControl, MultimediaDD and Device Manufacturer capabilities)
Just select 'All Capability information'.
- applications are restricted to one device, specified by IMEI

AFTrack uses a plugin for the internal gps. Here is the version **1.2** for self

signing: [download](#) (**not** usable when unsigned) und visit symbiansigned.com

For the 5th generation please use this [plugin](#).

The IMEI (*#06#) is needed and please select all capabilities

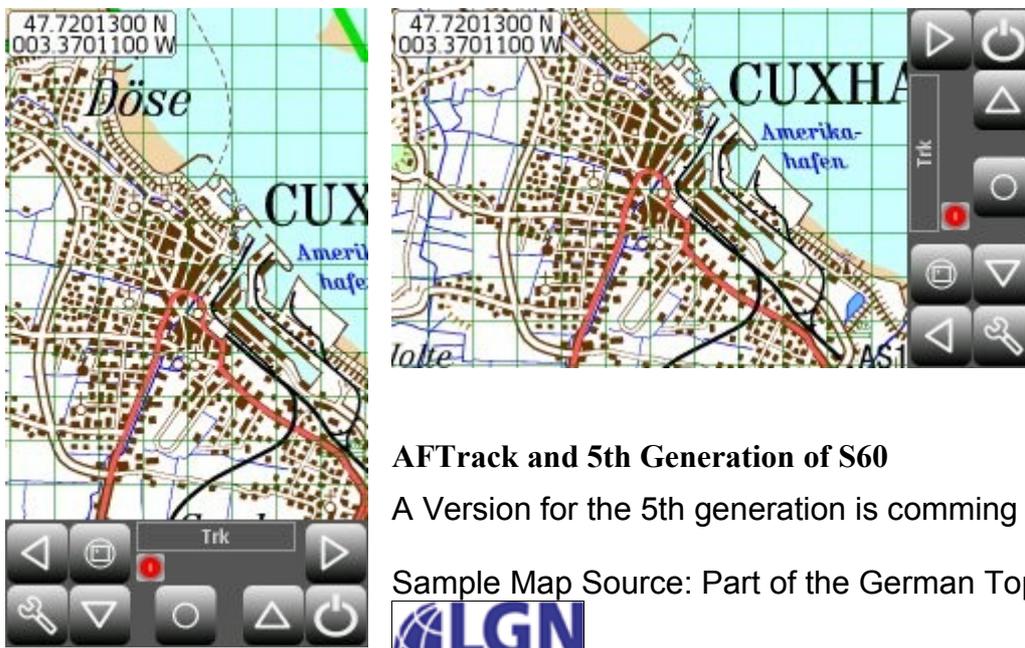
If there is an older AFTrack91 please uninstall it first - both version have different UID from Symbian. The data files are usable. But be careful the signed version must delete all files during an uninstall process. The 'normal' version doesn't delete all.

Note: only for 3rd generation, not usable on a **2nd** or **5th** generation Symbian phone (like 6600, 6630, 5800, ...)

[Demo SIS download](#) OS 9.1 English, Deutsch, Italian, Dutch, Spanish (571k) - not using internal gps

buy it at [Handango](#)

use it with this [plugin](#) for the internal gps ([how to](#))



AFTrack and 5th Generation of S60

A Version for the 5th generation is comming soon.

Sample Map Source: Part of the German Topographic Maps 1:200000



There are no short cuts available.

But the touch screen enables some new features.

map - every movement on the map move it to a new location

- a long tap on a point centers the map at this point
other - move left / right selects the next view
views - move up / down gives more data in view - if present
toolbar each button has its function

Version 1.01 - July 2009

- Download rate displayed
- OSM map server define
- Transparency for way point icons on white color (see samples in Pics directory)
- add VMG (Velocity made good)
- add OVL track export
- new menu structure
- lines thickness up to 5 points
- repair: set time from gps is moved to the plugin (please use plugin 1.2 now)
- repair: calibration view
- add French, Swedish, Finnish
- add a little more time for tap delay on touch screen

Version 1.00 - January 2009

- same function then the version for the 3rd generation

Note: only 5th generation, not usable on a **2nd** or **3rd** generation Symbian phone (like 6600, 6630, N95, ...)

[Demo SIS download](#) OS 9.4 English, Deutsch, Italian, Dutch, Spanish (522k) -
not using internal gps
buy it at [Handango](#)
use it with this [plugin](#) for the internal gps ([how to](#))

some other software

Java: [JDBC/HTML/XML](#) | [dispServ](#) | [Sailing](#) | [search](#) | [VRML](#)
Pilot: [Astronavigation](#) | [MorseTrainer](#) | [Satellite](#) | [TTMobil](#) | [XMLTree](#)
SymbianOS: [Sun Compass](#) | [TimeTrack](#) | [CellTrack](#)

A. Fischer, afischer (at) dbServ.de
[home](#) [txt.home](#)