

ARECON

The solution company

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GPSEngine

1. Requirements

- Pocket PC with ARM-Processor
- For real time navigation almost any GPS receiver with NMEA 0183 output of the GPRMC or GGA or GLL sentence. These include an external GPS connected to the CE Device serial port, a compact flash GPS plugged into a compact flash slot, or a Navman GPS sleeve (for iPaqs).
- For an external GPS, a cable to connect the standard CE device serial cable to the standard GPS serial cable is required.

2. Installation

1. Download the installation file to suit your CE device type.
2. Start the GPSengine_install.exe and choose a temporary directory on your PC.
3. Connect your CE device to the PC using ActiveSync.
4. Run setup.exe in the directory CD1 on the PC and you will be prompted to install GPSengine file to CE device.
5. In general there will be no need for overwriting existing files on your device, so you can leave this messages by choosing "No."

3. Using

- Move to the program directory, you will find there the GPSengine application.
- Click on the icon.
- Leave the initial screen by clicking either on the logo or the label "Let's start".
- At the first time or in the case of a corrupted file you will get a message, that the initial values are set. This message is just information.
- You enter the main screen. Here you will find all crucial settings for running the application. But for the first time, check the parameters by choosing Parameters from the File-Menu in the menu bar.
- The parameter screen holds values about the connection with your GPS-receiver. Select the values you need. The timer interval indicates the time between a refresh of the GPS data on your CE in milliseconds.
- In the textbox beside "output file" you define the path and file name for storing the data.
- You can leave the parameters form by clicking on the "OK"-Button in the title.
- Back to the main screen you are now able to release the "Stop" item. Just click on it. The systems will now show "Active" and displays the present GPS data on the screen.
- The reason for getting the message "Serial port ... not available" results mostly from a task or a program already using the serial port, e.g. a keyboard service in the background. Stop this and the message will disappear.
- To increase the performance, you can switch off the display.
- Leave the program via File -> Exit.

4. Formats

The created file, stores the GPS data in the following sequence:

- Time, like 14:12:59
- Latitude, like 47.51233; a positive value stands for north, a negative for south
- Longitude, like 9.53821; a positive value stands for east, a negative one for west
- True Track, like 240.9; the number reflects degree
- Speed, like 69.3; the number reflects nautical miles per hour
- Altitude, like 1445; the number reflects the altitude above sea measured by feet

5. Sample Coding

Below you will find a simple embedded visual basic coding reading the data from the output file of GPSEngine:

```
Sub read_gpsdata()  
Dim txt  
file.Open gpsdata,1,1  
gps_time = file.LineInputString()  
txt = file.LineInputString()  
If isnumeric(txt) Then gps_la=cdbl(txt)  
txt = file.LineInputString()  
If isnumeric(txt) Then gps_lo=cdbl(txt)  
file.Close  
End Sub
```