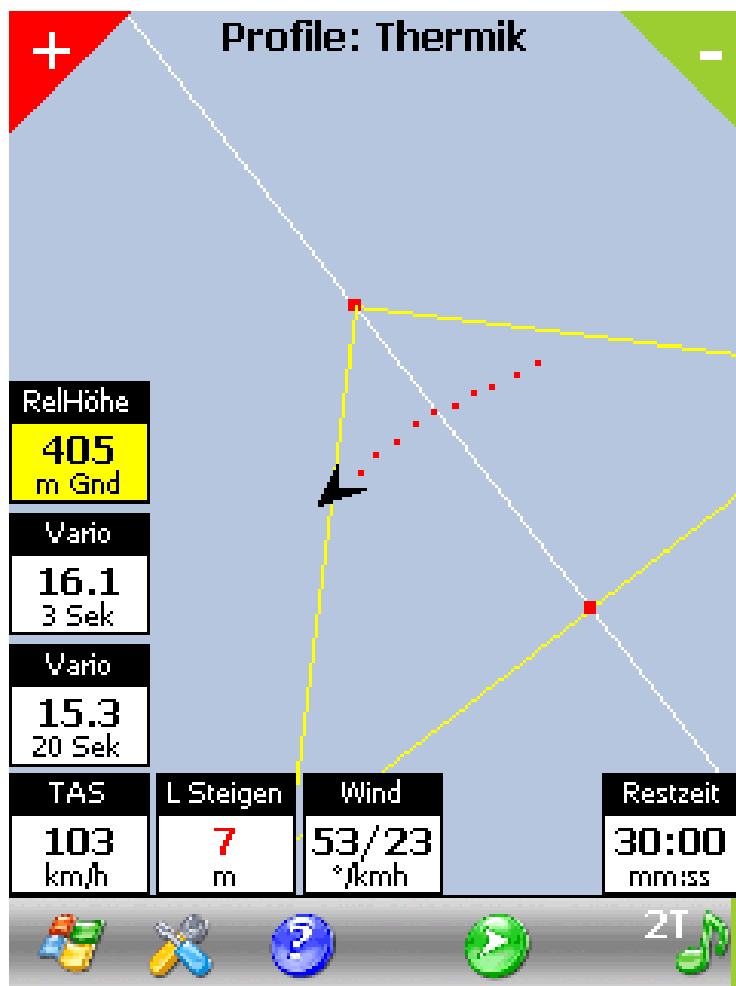


SkyNavGPS-Flyer Handbook

Version 1.0.2230



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Introduction

The SkyNavGPS – Flyer programme has been specially developed to use GPS technology in model flying. Emphasis has been placed on simple operation and overview but with a broad software spectrum. Planned expansion modules will allow every modeller to achieve his own navigational solution. The chosen operating system is the well known and powerful 'Windows for Pocket PC'.

The basic software version can display several different flight parameters. Triangular tasks can be flown with the pilot receiving real-time information about the task to be flown. The programme also offers the possibility to easily measure model sailplane performance.

The addition of the optional speech module enables audio monitoring of practically all parameters, making it possible to fly without constant reference to the Pocket PC screen.

Requirements:

- Pocket PC running Windows Mobile 2003 or later and 15Mb free memory.
- .Net Framework with latest Service-Pack installed (Can be downloaded and installed from the SkyNavigator homepage)

No Programme is perfect!

The development team is grateful for all feedback in the event of problems or unavailability of functions. A special software forum is available at www.skynavigator.ch
Please address all failures or complaints here.

Don't be afraid to ask!

Questions concerning use of the programme will be answered by the development team as soon as possible on the relevant forum at www.skynavigator.ch

A special request!

Please do not address personal questions to the development team, rather post them on the relevant forum so that others can profit from the answers. They could otherwise be overwhelmed and have little time remaining to improve and refine the product.

Starting SkyNavGPS-Flyer



The programme can be started after programme installation on a Pocket PC; how this is done depends on the operating system. Most have a menu prompt '**Programs**'. This allows access to the programme by clicking on the blue triangle icon.

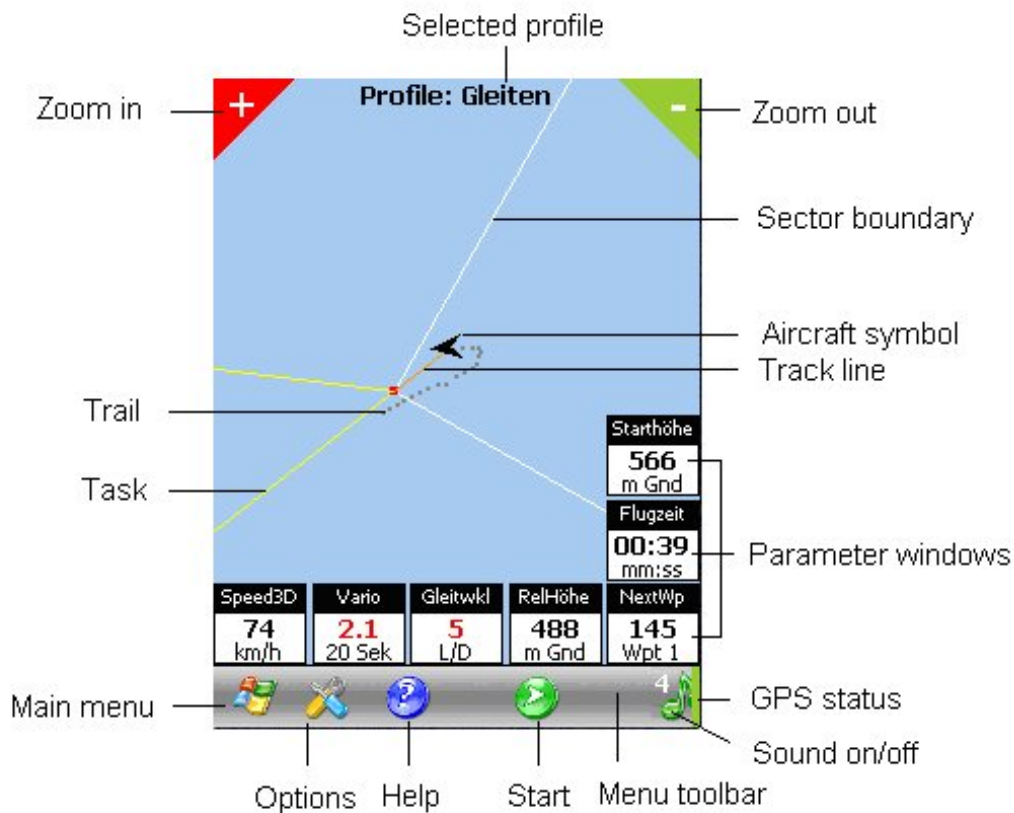
Due to the complexity of the programme, loading takes longer than usual. Eventually the following message will appear:

Soll die automatische Hintergrundbeleuchtungsabschaltung deaktiviert werden?

(Should backlight automatic power saving be deactivated?)

If background lighting during use of the programme is desired, answer this question with **Ja(Yes)**. Otherwise the background lighting turns itself off after a defined delay, making the display difficult to read. Background lighting is usually unnecessary in direct sunlight.

Main Screen



Main menu

GPS -> Parameter

GPS setup parameters can be entered here. GPS derived data such as position, time and satellite status will also be displayed.

GPS -> Stop

Data from the GPS receiver is no longer processed or displayed.

Aufgabe(Task) -> Erstellen(Create)

A new task can here either be entered or an existing task slewed .

Aufgabe(Task) -> Import
Callup of a stored task.

Aufgabe(Task) -> Export
The displayed task can be stored at the selected location.

Beenden(Exit)
The programme is closed and all settings are automatically stored.

Options

Sound
Only functions after purchase of the speech module. Select which parameters are audio linked here. New software installation is not required. The respective activation key must be entered on the registration page.

Farben(Colours)
Select colour of individual elements on the main screen.

Map
Select properties of individual elements on the main screen.

Screen
Only available on Pocket PC's running operating system 2003 SE. The display can be rotated 90 degrees if desired.

Help menu

Info
Brings up the introductory screen showing SkyNavigator version and credits.

Parameter
SkyNavGPS-Flyer parameters can be adjusted to suit personal requirements, however adjustments should be made with caution as mistakes may result in inability to start the programme .

Demo
Runs a simulated task, enabling comfortable setting of individual profiles. .

Click **Demo Stop** in the same menu to stop the demo.

Screen Appearance

Adjust size

Zoom in or out by clicking on + (red) or – (green) symbols.

Profile

4 different performance profiles can be assigned to the 4 mode buttons on the Pocket PC. The active profile is shown at the top of the screen.

Aircraft

The aircraft symbol always shows the flown track. The symbol automatically re-centres on the screen if it approaches the edge.

Trail

The length of the trail can be adjusted under Options. Each point represents a measured position, and its colour shows if the model was climbing or sinking – red for climb and blue for sink, a more intense colour shows a higher rate.

Task

The task is always displayed North up.

Sector Boundary

For every turning point a 90 degree turning sector is shown. The start/finish line is similarly displayed. When the aircraft enters a sector zone an aural alert is generated and the next turning point with its sector becomes active.

Course Line

Shows the direct route to the next turning point.

Start

Press the green Start button to activate the start line. A red Stop button then appears. This can be used in case of a desired restart, typically if the startline is overflown too high.

GPS Status

With a valid GPS signal blinks alternately red/green.

Sound On/Off

The green music note symbol switches the variometer tone on or off. When deselected a red cross appears over the symbol. After programme start the sound is off by default. When selected 'On' a number appears above the symbol, showing the selected vario sensitivity. This can be adjusted by further clicking of the symbol. There are 4 levels of sensitivity, 1 being the highest (weak climbs heard) and 4 the lowest (only strong climbs heard) Total Energy Compensated (TEK) vario is used by default, uncompensated vario function can be selected in 'Parameter'.

Value Windows

For each profile a maximum of 7 value windows are available. They can be removed or dragged to a desired position on the screen. The displayed value can also be changed.

Move a Value Window

Hold the stylus on the title bar of the window and drag it to the desired location.

Alter a Value Window

Click on the window title to scroll through the available parameters.

Remove Value Window

Go to **Optionen -> Map** to activate or remove individual value windows.

Colour of Value Windows

The background colour of the windows is normally white. Yellow means that an audio function is active. The associated audio parameters can be selected in **Optionen -> Sound**.

The audio function can be activated in all windows except time displays.

Flying a Task (Step by Step)

A step by step explanation of how a task is generated and how to fly it.

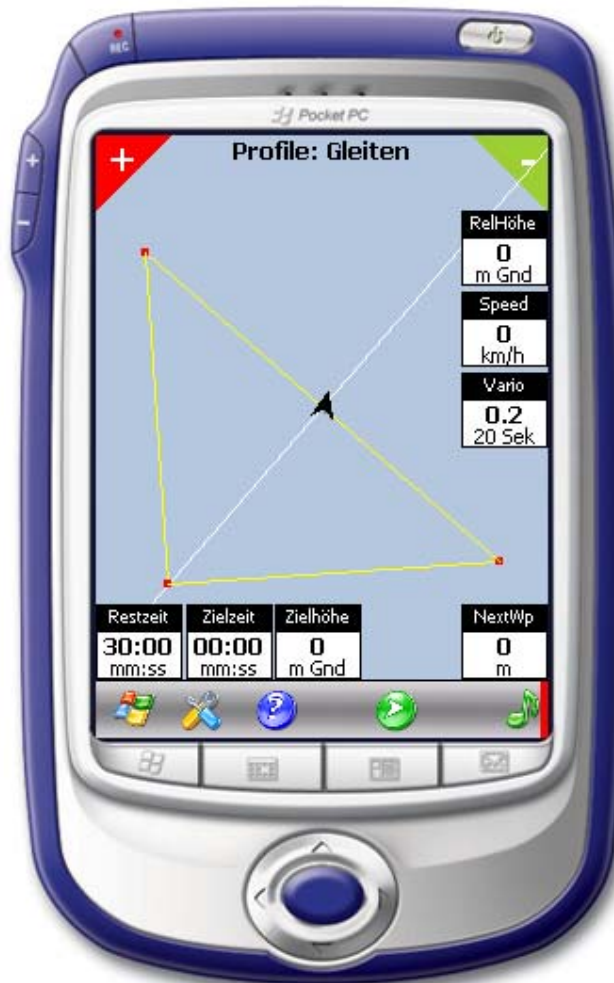
Generate a Task

The SkyNavigator programme must already be running.

The programme has been devised so that no supplementary inputs are required.

In the main menu under **GPS -> Parameter** check for correct operation of SkyNavigator with a valid position displayed. Normally select **Com1** and **4800** Baud.

Close this window by clicking on the green tick mark.



In the main menu select **Aufgabe -> Erstellen**.

Place the SkyNavigator equipped model at the desired start position.

Click on the camera symbol to the right of the Pos 1 input fields. The measured GPS position is automatically entered.

Walk with the model about 20-50m in the direction of the first desired turn point. The further you go, the more accurate will be the task triangle layout.

Now click the camera symbol to the right of Pos 2, the coordinates are again automatically entered.

Click on the green tick mark to return to the main display where the calculated triangular task will be shown.

Flying the Task

The task has now been defined and is displayed. The model should be somewhere near the startline.

The model can now be launched and climbed to altitude. The start line can be overflown as it is not yet been activated.

To activate the task, click **Start** (green button) before entering the triangle and overflying the startline.

As the startline is overflown towards the first turning point a signal will be heard and simultaneously the sector of the first turning point becomes active. As soon as the model enters this sector a signal tone is heard and the next turning point sector becomes active.

The start/finish line becomes active after rounding the third turning point.

If at the commencement of the task the startline is overflown above 500m agl a warning will be generated. Reset the task by clicking **Stop** (red button) when ready click **Start** to make a new start.

The entire sequence runs automatically and needs no input from the user. Running and observing the Demo will familiarise the user with the sequence and audio signals.

After landing click on the red Stop button. The triangle and task are then reset reset ready for another attempt.

Each successfully flown triangle is registered in the Pocket PC and can be recalled after the flight. This procedure is explained in the chapter **Flight Recording**.

Measuring Performance (Step by Step)

This section explains stepwise how the performance of a model sailplane can be measured with remarkable ease. The performance is measured by flying to and fro between two lines of fixed distance apart. A measured run always consists of an out and return leg so that wind effects can be compensated.

Generate Task

The course to be flown is defined in a similar manner to 'Generate a Task' (Step by Step) above. The only difference is that the box **Leistung(Performance)** must be clicked before leaving this screen by clicking on the green tick mark. Performance measurement is then activated.



In addition it is advisable to reduce the leg distance to 300m by entering this figure in the box **Distanz(Distance)**. To do this click on the pencil symbol to bring up the keyboard and enter the desired number. Click again on the pencil symbol to remove the keyboard.

Click on the green tick mark again to define and activate the task.

The measurement course startline should again be visible close to the aircraft symbol.

Measuring Sailplane Performance

Before starting select the ‚Auswertung‘ (Evaluation) mode by pressing the bottom right button on the Pocket PC.

As in a triangular task click on the green **Start** symbol to activate the measurement task.

On overflying the startline there is an audio signal and the finish line becomes active. Fly towards it at a constant speed and parallel to the task line, until another audio signal verifies that it has been crossed.

Turn the model around and fly the return leg at the same speed. Audible signals will again confirm entry and exit of the course.

After completion performance values such as average speed, sink rate, glide angle and wind component will be shown in the respective value windows.

Repeat the exercise with different speeds and flap positions. Flying as many legs as possible refines accuracy.

All measurement flights are recorded in the Pocket PC database for later recall and evaluation, or plotting of a polar curve for example. An explanation of the data recall procedure is to be found in the chapter **Flight Recording**.

Help Screen

Help files enable various inputs to the GPS and task definitions.

Screen GPS -> Parameter

Use this screen for GPS setup. To leave, click on the green tick mark.



Port:

Click on the arrow to see the drop-down menu. Normally use **COM1** when a SkyNavigator receiver is connected by cable to the Pocket PC. Bluetooth connections use either **COM5** or **COM8**.

Baud:

Click on the arrow to see the drop-down menu showing available Baud rates. The SkyNavigator system actually only supports a rate of 4800.

Startknopf(Start Button):

When all parameters are correctly set GPS reception can be started by clicking on the green arrow.

Latitude / Longitude:

Display of calculated position. Cannot be altered.

Zeit(Time):

Display of actual date and time (UTC). Runs when a valid GPS position is available.

Satelliten(Satellites):

Indication of satellite status, but not necessarily those that are being used. The row of columns show satellites and their signal strength. A very short column means signal received but satellite not used for navigation. Effective GPS reception is shown below the columns by movement of the red point along the green dots for every received data package. SkyNavigator GPS modules version 2.0 and later calculate 2 positions per second; it is no longer possible to show signal strength, however received satellites are represented by a small blue strip.

Main Menu: Aufgabe(Task) -> Erstellen(Create)

This is an important screen in the SkyNavigator programme, enabling definition or modification of GPS based tasks.

When a task has been defined all fields are filled by the appropriate data. The task can then be slewed or rotated to the desired geographic position.

Define Task:

The task can be defined in 2 ways: either with 2 positions or with 1 position and a track.



Pos / Pos: The first position (Pos1) establishes the start point. The second position (Pos2) lies on the track to the first turn point. These 2 positions should be as far apart as possible for greatest accuracy, recommended is at least 50m.

Pos / Kurs(Track): If the geographic layout of the task is known then all that is required is Pos 1 and the track to the first turn point.

Leistung(Performance): If this box is ticked the defined task is performance measurement on a straight course.

Pos 1 / Pos 2:

Enter the Latitude and Longitude of Pos 1 and 2 in the fields. If a GPS signal is available click on the camera symbol, the coordinates will be entered automatically

The correct entry format is:

Lat: HH.hhhhhh eg. 47.503271. This represents N 47:30:11.78. The first number can be from -90 (90 Deg South) to 90 (90 Deg North).

Long: HHH.hhhhhh eg. 8.932969. This represents E 008:55:55.42. The first number can be from -180 (180 Deg West) to 180 (180 Deg East).

Kurs (Track):

This defines the orientation of the task start/finish line. Range of values 0 to 360 degrees. Useful if the track to the first turn point is known but the start point is to be moved.

Distanz (Distance):

This is used to determine the distance from the start point to the first turn point. For triangular tasks this distance is normally 500m. For performance measurement a shorter distance is recommended, typically 300m, however if flying at high speed an even shorter course length of 150 to maximum 200m is recommended as height loss would be too great and maintenance of steady speed difficult.

Verschieben (Slew):

A defined task can subsequently be slewed by clicking the arrows in the X or Z axis fields, or by using the up/down buttons on the Pocket PC.

X: For positive entries slews the task towards the first turning point, negative entries towards the third turning point.

Z: For positive entries slews the task from the startpoint towards the second turning point; negative entries in the reverse direction.

Verdrehen (Rotate):

Rotates the task about the start point; positive entries rotate it clockwise, negative entries anti-clockwise. Use the same entry methods as described above.

Bleistiftsymbol (Pencil Symbol):

Clicking on this symbol brings up the virtual keyboard, enabling direct entry of values. Click again on the pencil to hide the keyboard.

Options: -> Sound

Use this screen to enter all parameters pertaining to audio functions. The lower half of the main screen is not yet active; it will be used to define window and script size in a later version.

There are 7 sub-windows reached by clicking on the lateral arrows at the lower right corner. Adjustments here are only possible if the respective value is active in a displayed profile. If the desired entry field is not available go to **Options->Map** to activate a value window and then return to the main 'Sound' screen.



Ein/Aus(On/Off):

Ticking this box enables audio function in the titled parameter.

Priorität(Priority):

3 levels of priority can be selected:

- High
- Medium
- Low

The audio function strictly follows these priorities.

For example: If the audio system is processing a low priority value and at the same time one of a higher priority is generated, then the system will not begin to announce or will suppress the low priority announcement.

Overflying the start line or entering a turn point sector always has the highest priority and is never suppressed.

Intervall (Interval):

There are two possibilities for entering a desired time interval:

- Repeating: in this mode an audio announcement is made whenever a value changes by the given amount, and in a linear fashion. For example in the screen shown on the previous page at 50m, 100m, 150m and so on.
- Fixed values: can be programmed as desired with the following limitations: they must be entered in ascending order, all subsequent values must be perfectly divisible by the first value, and they must be separated by colons. The following example clarifies this procedure:

Eg: Entering parameters for announcement of offset distance from the ideal direct track:

Ein / Aus ☒

Priorität: Hoch

Interval: 10:20:50:100:200

Zeit Intervall: 0 Sekunden

It is desired not to have announcements made at every 10m of deviation but at 10, 20, 50, 100, and 200m. Any distance beyond these is not announced to avoid unnecessary talk. When making entries ensure that all numbers are perfectly divisible by the first ie without remainder. In this example the values 20, 50, 100 and 200 are so divisible by 10.

Zeit Intervall (Time Interval):

A time interval can also be defined. It is always respected, which means that the system waits for the given elapsed time to pass before making a new announcement. By entering zero the system returns to basic intervals as described above.

Options: -> Farben (Colours)

This screen contains drop-down menus that enable individual colour schemes to be selected.

The uppermost field contains 3 types of colour schemes that are loaded to memory by clicking on the arrow:

Benutzerdefiniert (User Defined): Personally designed colour combinations.

Farbig-Normal(Normal Colours): Default standard colour schemes.

Farbig-SW(Colour-Black/White): High contrast setting for maximum contrast, gives the best readability on low resolution screens.



Hintergrund (Background):
Background colour; lighter colours are recommended.

Wendepunkt (Turn Point):
Colour of task turning points.

Linie (Line):
Colour of the lines joining turn points.

Sektor (Sector):
Colour of the sector boundaries.

Flugzeug (Aircraft):
Colour of the aircraft symbol.

Flugspur (Trail):
Colour of the trail behind the aircraft symbol.

Options -> Map

This screen enables personal preferences to be made to the 4 profile mode displays and the value windows in each profile, also to other elements in these displays

4 out of 6 available profiles (Thermal, Glide, Speed, Evaluation, Final Glide, Aerotow) can be assigned to the buttons on the Pocket PC. Each profile can display a maximum of 7 value windows, each of which can be assigned to a different parameter.



Fenster (Window):

Checking a box enables that parameter in the chosen profile. Uncheck the box to remove unwanted parameters and declutter the display.

Profile:

Click on an arrow to see the available names to assign to each of the 4 profiles. This permits easier identification.

Flugzeug (Aircraft):

Increase the size of the aircraft symbol by moving the slider to the right.

Wendepunkt (Turn Point):

Use the up/down arrows or Pocket PC buttons to change the size of the turn points in the display. Alternatively clicking on the pencil symbol allows direct value entry using the keyboard.

Anzeigespur (Trail):

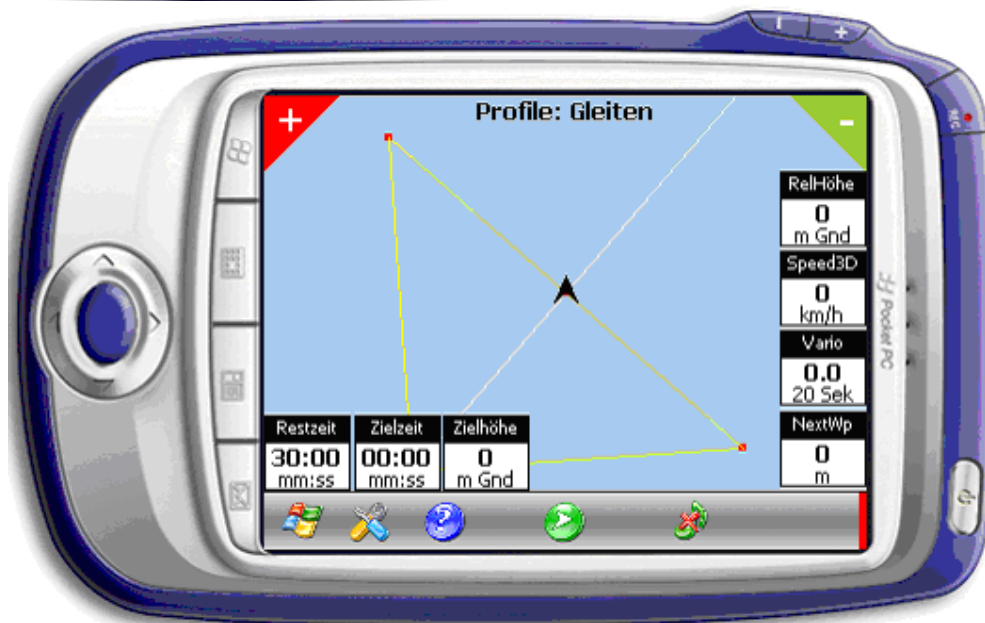
Change the size of the trail symbols.

Buffergrösse (Trail Length):

The aircraft symbol leaves a trail behind it showing ground covered, the length of this trail can be altered here.

Options -> Screen

The screen content can either be shown in **Hoch (Vertical)** or **Quer (Horizontal)** mode. This option is only available for Pocket PC's running Microsoft Pocket PC 2003 2nd edition or later.



Main Menu Aufgaben(Task)-> Import

Tasks can be saved for later recall. Several formats are available to allow compatibility with other programmes.

Click on the arrow in the Folder field to select the desired file type.

When importing task files all available files formats on the Pocket PC will be displayed.

The respective file is selected and imported by simply clicking on it. When the data has been loaded it is displayed and the task can be altered if necessary.



Aufgaben(Task) Files .afg

This is the standard format for the SkyNavGPS-Flyer programme.

SoaringPilot Files .pwi

This file type is used for Soaring Pilot programmes running on the Palm OS. Because of incompatibility between the two systems, an additional programme (such as Peacemaker) is required. Task files created in SkyNavGPS-Flyer can then be transferred to a Palm and read in Soaring Pilot. Similarly task files can be transferred from Palm to Pocket PC and read in SkyNavGPS-Flyer.

GPS_Log Files .tsk

GPS_log is a Pocket PC programme developed for full size sailplanes. This format permits transferring of tasks between the two programmes.

Main Menu > Aufgabe (Task) -> Export

Defined tasks can be filed in the same file formats as detailed on the previous page. Only triangular tasks can be saved. Performance measurement tasks cannot be saved, they first have to be converted to triangular tasks. This is done by clicking **Leistung(Performance)** in **Aufgabe -> Erstellen** and then saving the task file.



Name: Enter a suitable name here by clicking on the keyboard lower right.

Ordner(Folder): If no entry is made here the task is saved by default in **My Documents**. Otherwise enter the desired location.

Typ(Type): File types are as described in **Import** on the previous page.

Ort(Location): Specify the memory location to be used.

Click **OK** to save the task. Otherwise click **Abbrechen (Cancel)** to leave this screen.

Help Screen: Hilfe(Help) -> Registrierung(Register)

The programme is fully functional even if not registered, except that no GPS signals can be processed. The programme remains in Demo Mode; this can be confirmed in **Help>Info** where the programme status can be seen on the introductory screen. Modules require the purchase of keys for them to function. The key number is established using the individual Pocket PC's identification number. A separate key is required for each installed module. Presently 2 modules are available: Basic and Sound.

The key can be entered in the field **Key** by calling up the virtual keyboard.

The exact registration process is detailed in the chapter **Installation**.



Help Screen: -> Parameter

The user can alter the many programme parameters to suit his own personal preferences. .

CAUTION! Only alter parameters after careful consideration as mistakes can lead to problems in restarting the programme.

If this should happen, delete the file ***Init.xml*** in the programme directory. At the next programme start all parameters will then be restored to their default settings. All previously made changes will be lost.

As an example it will be shown how to switch the basic parameters in the vario system from standard vario to total energy vario (TEK_Vario _Sound).



The parameters are organised in trees. By clicking on the + sign sub-families are opened with their respective parameters.

To access the TEK_Vario_Sound parameter click on the + of ***Grunddaten(Basic Values)***, then on the + of ***Vario***.

By clicking on the + next to the parameter TEK_Vario_Sound the actual selected value can be seen, in this case ***False***.

This value must now be altered to ***True***. The vario system will use TEK inputs for audio outputs after the next restart.



Write **True** in the upper field, then click on **OK** to store the change.

The alteration is completed by clicking on the green tick mark.

IMPORTANT: As the new parameters are only loaded at programme start a restart must be made to activate the changes.

Value Windows

32 different value windows are available. They can be displayed in the basic profiles (Thermal, Glide, Speed, Evaluation, Final Glide, Aerotow). Each profile can display up to 7 value windows. A window itself can contain other related parameters, these can be scrolled through by clicking on the value. The windows can be moved to different locations on the screen by dragging and dropping the black title. Exact descriptions of each value window are stated below.



Relative Höhe (Relative altitude): Height above takeoff position. It is automatically reset to zero on takeoff. Takeoff is recognised as the model travelling at more than 5Km/hr for more than 8 seconds.



Höhe über Meer (Height above sea level): Actual height above sea level. Can vary according to the GPS system in use. The SkyNavigator V2 however measures altitude very accurately.



Maximal erreichte Höhe über Meer (Maximum achieved altitude above sea level): The maximum achieved altitude can be reset by restarting the programme.



Maximal erreichte Höhe über Startplatz (Maximum achieved altitude above takeoff position): This can be reset by restarting the programme.



Speed: Indicates groundspeed, not speed through the air. Shows the actual speed flown with great accuracy.



3D Speed: Speed in space, ie including vertical components. Diving speed can therefore be exactly displayed.



3D Speed integriert (Integrated): Speed in space integrated over a certain timespan (here 3 seconds).



Durchschnittsgeschwindigkeit (Average speed): Shows the average flown speed on completion of a triangular or performance measurement task.



Maximal erreichte Geschwindigkeit (Maximum achieved speed): The maximum achieved speed can be reset by clicking on the green **Start** symbol. 3d speed integrated over 3 seconds is taken as basic reference.



Aufgabengeschwindigkeit (Task speed): The average speed of flown tasks.

Vario
1.5
20 Sek

Vario Lang (Vario - long timespan): Shows rate of climb (in black) or sink (in red) integrated over a certain time, in this example over 20 seconds.

Vario
2.0
3 Sek

Vario: Shows average climb or sink over the last 3 seconds. More emphasis is placed on current values than previous.

Vario
32.5
Max

Maximal erreichtes Steigen (Maximum achieved rate of climb): Can be reset by clicking on the green **Start** symbol.

*Sinken
0.30
m/s

Durchschnittliches Sinken (Average rate of sink): Average rate of sink (or possibly climb) of a flown triangular or performance task.

Flugzeit
06:12
mm:ss

Flugzeit (Flight time): Started by crossing an activated start line.

Startzeit
13:38

Startzeit (Start time): Shows the time at which the model crossed the activated start line.

AufgZeit
05:54
mm:ss

Aufgabenzeit (Task time): Elapsed time of all completed laps of the task so far flown.

Flugzeit
00:24
mm:ss

Flugzeit (Flight time): Starts running after overflying an activated start line.

Runden t
05:54
mm:ss

Rundenzeit (Lap time): Elapsed time of the last completed triangular or performance task. Overwritten when starting a new lap.

Restzeit
29:50
mm:ss

Restzeit (Remaining time): Shows the remaining time available to complete the task after overflying the start line.

Zielzeit
01:28
mm:ss

Zielzeit (Time to finish): Shows how much time will be required to reach the finish at the current speed.

Uhrzeit
21:19
hh:mm

Uhrzeit (Time): System time.

Zielhöhe
385
m Gnd

Zielhöhe (Finish height): Estimated altitude when crossing the finish line, based on integrated sink rate over the previous few seconds.

NextWp
296
Wpt 1

Nächster Wendepunkt (Next turnpoint): Distance to next turning point and its number, (here turnpoint 1).

Gleitwkl
15
L/D

Gleitwinkel (Glide angle): Relationship between distance flown and altitude lost. The displayed value is integrated over the last 10 seconds. Climbs are shown by **CLB**.

*Gleiten
53.6
L/D

Durchschnittliches Gleiten (Average glide angle): The average glide angle over the previous lap of the task.

ZielDist
1728
m

Ziel Distanz (Distance to finish): Shortest distance via all remaining turn points to the finish line.

Starthöhe
566
m Gnd

Starthöhe (Start height): Established after overflying the start line. The start line cannot be overflowed above a certain altitude (normally 500m) so this value can be used to check this limitation.

Runden
0

Runden (Laps): Number of completed laps flown.

Strecke
330
m

Strecke (Distance flown): Ground distance covered on a task lap, including all deviations, circlings etc.

TStrecke
2414
m

Totale Strecke (Total distance flown): Total ground distance covered during the whole task .

Alt Diff
107
m/Kurs

Höhendifferenz (Altitude difference): Height lost in completing one lap of a task.

Wind Komp
0.0
km/h

Windkomponente (Wind component): Shows the influence of the wind on speed.

Kursindex
237.7
in %

Kursindex (Track ratio): Ratio of actual ground covered to effective task distance.

Vario TEK
0
m/s

TEK Vario: The Total Energy Vario shows the effective rate of climb or descent by filtering out elevator induced influences.

TAS
4
km/h

TAS: True Airspeed. Approximate speed through the air. Wind influence is referenced in its computation.

Wind
255/15
°/kmh

Wind: The wind is calculated during a flight. The display is not the actual wind but an integrated value over the whole flight. At least one circle must be flown for a realistic wind to be calculated.

WindQuali
99
%

WindQuali (Wind Measurement quality): Shown as a percentage, whereby the closer the value is to 100 the more accurate the wind calculation.

L Steigen
31
m

L Steigen (Thermal climb): Height gained in the last thermal turn. The value is reset to zero on resuming straight flight.

L Steigen
0.4
Vario

L Steigen Vario (Thermal climb vario average): Average rate of climb or descent in the last thermal turn. The value is reset to zero on resuming straight flight.

T Steigen
384
m

T Steigen (Total climb): Total altitude gained since last reset, ie since the last programme start. The gain is only calculated during circling flight. (Aerotow climbs are not included).

T Steigen
1.6
Vario

T Steigen Vario (Average climb rate): Average rate of climb during a flight. Can only be reset by a programme restart. Only circling flight is considered.

KursDiff
2
n. links

Kursdifferenz (Track difference): Shows the required course change in degrees to fly parallel to a task track. Used primarily to optimise the flying of a triangular task.

Distanz
131
Innen

Distanz (Distance): Distance to next turn point. Actually not the distance to the point itself but to the turn sector boundary assuming continued flight parallel to the task track.

KursTo
48
°

KursTo (Track to): Magnetic track to the next turning point. The point itself is taken as reference.

SkyNavGPS-Flyer Installation

System Requirements

Required programmes to enable correct installation are:

- Compact Framework (actual version SP3). This can be downloaded from www.Skynavigator.ch section Downloads -> Software Pocket PC, or from the CD under NETCFSetup.
- ActiveSync (actual version 3.8) can be downloaded from www.Skynavigator.ch or from the CD under MSASYNC

Both of these programmes must be installed on the Pocket PC before starting installation of SkyNavGPS-Flyer.

First of all download SkyNavGPS-Flyer_PPC.ARMV4.CAB (for PocketPC 2003 devices) or SkyNavGPS-Flyer_PPC.ARM (for PocketPC 2002 devices) and place the file on your desktop.

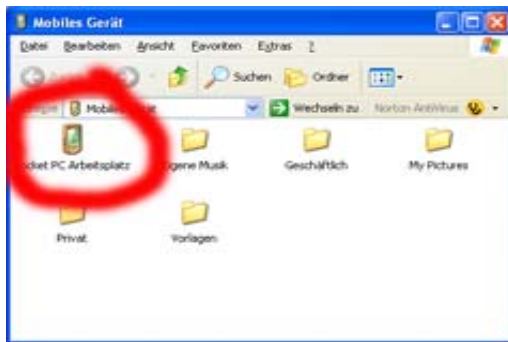
SkyNavGPS-Flyer Installation

The PDA must be connected and synchronised to the PC via ActiveSync.

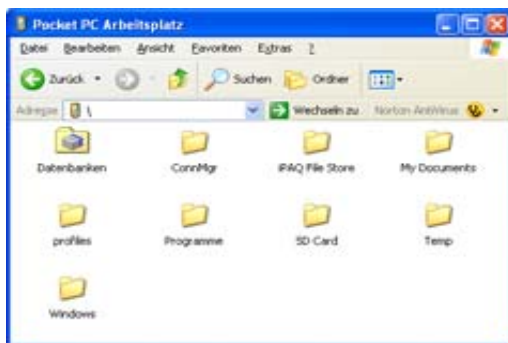
In the ActiveSync window click on 'Explore'



The 'Mobile Device' window opens. All PDA files are shown. The actual content might vary from the illustration depending on the Windows version.



Double click on 'My Pocket PC'. The new window will be similar to the following:



Drag and drop the previously downloaded SkyNavGPS-Flyer file icon into this window.

The file will now be copied to the PDA.



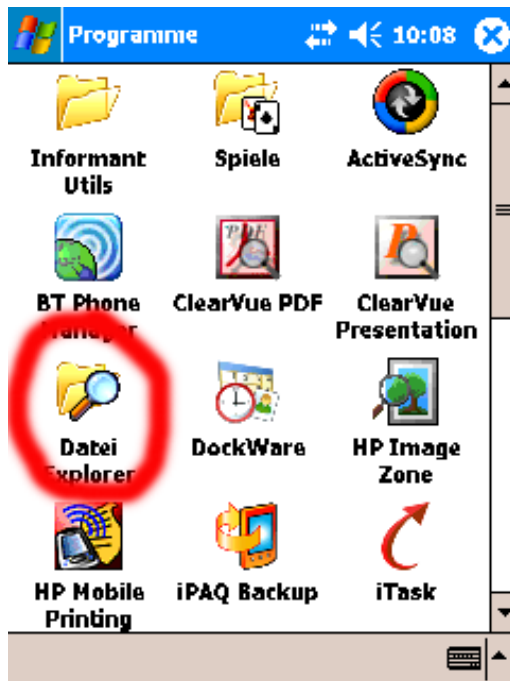
After the copying process it should look like this:



Disconnect the PDA from the PC. Click on the Windows Logo at the top left corner of the screen to see the drop down menu. Click further on **Programs**.

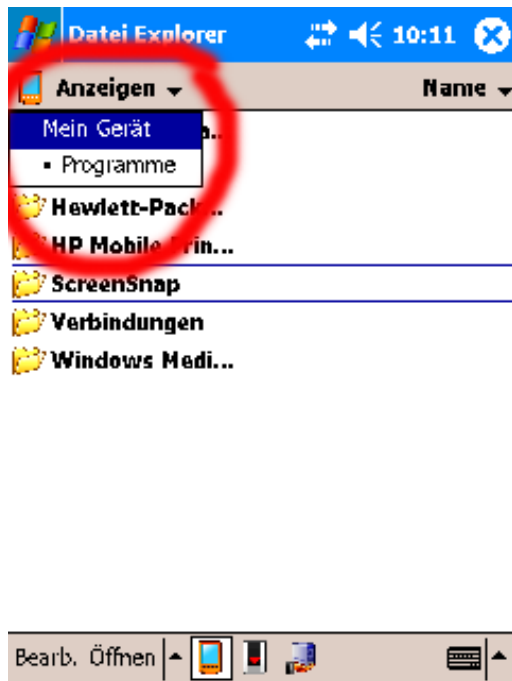


Find the icon ‚File Explorer‘ and click on it.

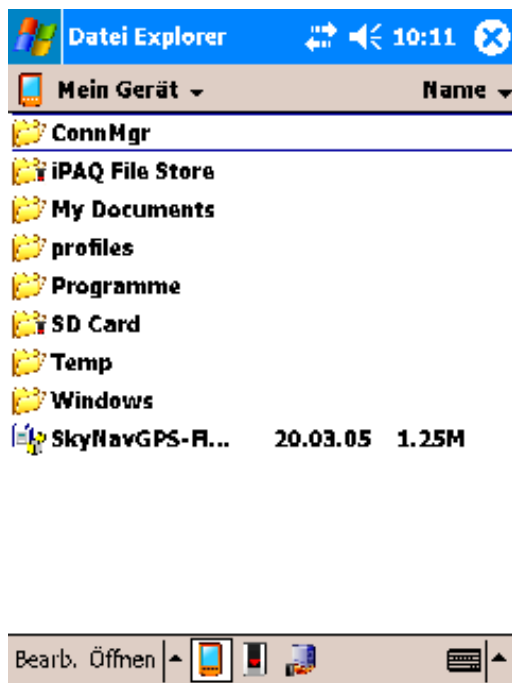


File Explorer shows the PDA file structure. Click on the PDA symbol just below the Windows logo to bring up 'My Device'.





In this screen the file **SkyNavGPS-Fl..** is listed.



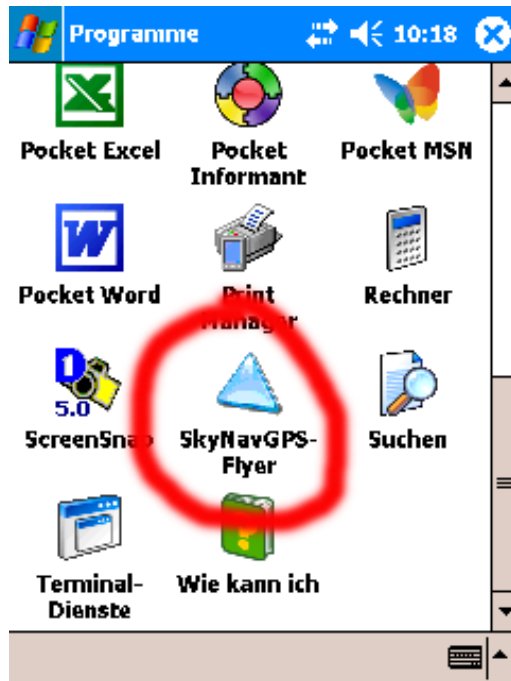
Click on this file to start the installation. When a warning screen appears click on **OK** at top right to clear it.

The programme is now installed and ready for use.

Close all remaining open windows.

Starting and Registering the Programme

Start the programme by clicking above left on **Windows Logo – Programs – SkyNavGPS-Flyer**.



The SkyNavGPS-Flyer programme runs initially in demo mode. The full programme will only run after purchase of a key costing 50 Swiss Francs from the online shop at www.skynavigator.ch or from Tun Modellbau.

After purchasing the key a username and password will be sent to the user via email. These are entered into the registration page at <http://www.romstyle.ch/skynavigator>.

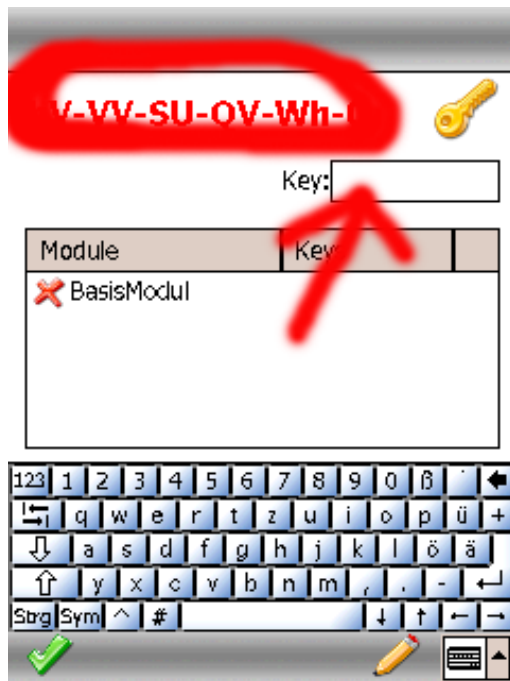


Enter the username and password on the above page.

On this page enter second and first names, PDA type, code, module and version. The key will then appear in the yellow field. Note the key number in case of a subsequent reinstallation. The displayed key is only valid for one registered device.

The code is unique to a specific device and is entered in ? – **Registrierung (Registration)** in the SkyNavGPS-Flyer Programme upper field.

The key number is entered as shown below.



The key number is entered in the **Key;** field. If the registration is accepted the Basismodul status changes from a red cross to a green tick mark.



This screen shows that registration was successful. The programme can now be restarted and is fully functional.