



Version 4.00  
April 2007

© 2002-2007 HenkeSoft  
Dreiweidenstr. 4  
65195 Wiesbaden / GERMANY

8F Computer GmbH  
Jakob Lengfelder Strasse 46  
61352 Bad Homburg / GERMANY  
Tel: +49 6172 942848  
Fax: +49 6172 942847  
<http://www.strepla.de>

Apr-18-2007

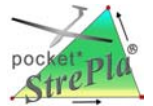


## Table of contents

<b>0</b>	<b><i>What's the news?</i></b> .....	<b>4</b>
<b>1</b>	<b><i>Introduction</i></b> .....	<b>6</b>
<b>2</b>	<b><i>Notes</i></b> .....	<b>7</b>
2.1	General notes.....	7
2.1.1	Never depend only on your electronic equipment! .....	7
2.1.2	Maintain a good lookout!.....	7
2.1.3	Abbreviations .....	7
2.1.4	The pocket* <i>StrePla</i> PC-Simulator .....	7
2.2	Trouble shooting .....	8
2.2.1	pocket* <i>StrePla</i> runs very slowly .....	8
2.2.2	pocket* <i>StrePla</i> reads airports and airspace rather slowly.....	8
2.2.3	pocket* <i>StrePla</i> seems to be terminated and the PDA behaves slowly .....	8
2.2.4	iPAQ 38xx: Maps are drawn very slowly .....	9
2.2.5	iPAQ 38xx: Storage card warning.....	9
2.2.6	Airspace and airports are mirrored or displayed with an offset .....	10
2.2.7	The small circlet will not turn green .....	10
2.2.8	Pocket * <i>StrePla</i> freezes or locks up .....	10
<b>3</b>	<b><i>Installation</i></b> .....	<b>11</b>
3.1	Installation using <i>StrePla4</i> 's built-in setup functions.....	11
3.2	Installation using setupPocket <i>StrePla</i> .exe delivered separately .....	11
3.3	License key .....	11
3.4	Transferring the license file to the PDA .....	12
3.4.1	Without <i>StrePla4</i> – without license.key.txt.....	12
3.4.2	Without <i>StrePla4</i> – with license.key.txt.....	12
3.4.3	With <i>StrePla4</i> .....	12
3.5	Transferring maps, waypoints, etc. ....	13
3.6	De-installation of the PDA program .....	13
<b>4</b>	<b><i>Using pocket*StrePla</i></b> .....	<b>14</b>
4.1	Launching pocket* <i>StrePla</i> .....	14
4.1.1	Launching from the Start Menu .....	14
4.1.2	Installation from memory card .....	14
4.1.3	General information .....	14
4.2	Loading the base configuration.....	15
4.3	Map Views #1 and #2 .....	16
4.3.1	Map View #2 .....	16
4.3.2	Arrival altitudes .....	16
4.3.3	Colored flight track.....	17
4.4	Barogram View.....	17
4.5	Climb Maximizer View.....	18
4.5.1	Flying straight ahead .....	18
4.5.2	Circling – dot mode.....	18
4.5.3	Circling – line mode .....	19
4.6	Functions and dialogs .....	19
4.6.1	Hardware Keys .....	20
4.6.2	Screen Corners.....	20
4.6.3	Main Menu Items .....	20
4.7	Description of all Functions and Dialogs.....	20



4.7.1	Thumbs .....	53
4.8	Task planning .....	59
<b>5</b>	<b>Exporting data from StrePla4.....</b>	<b>61</b>
5.1	File format of "airport.txt" .....	61
5.2	File format of "turnpoint.txt" .....	61
<b>6</b>	<b>Appendix .....</b>	<b>63</b>
6.1	Manual Installation .....	63
6.1.1	Directories .....	63
6.1.2	Files .....	63
6.1.3	Start menu entry .....	65
6.1.4	Installation of pocket* <i>StrePla</i> on a memory expansion card (SD, MMC, CF, iPAQ File Store, etc.)	65
6.2	Creating your own checklists .....	65



## 0 What's the news?

Compared to the previous version V3.60a **pocket\**StrePla*** V4.00 offers the following new features.

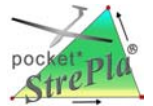
- (1) Climb Maximizer: You already know the two Map Views and the Barogram View. Now there is a fourth view named Climb Maximizer View which will support you to optimize your rate of climb in a thermal. In Climb Maximizer View you can toggle between Line Mode and Dot Mode. If you have activated the Automatic Circling Mode you can now switch to the Climb Maximizer View instead of the second Map View.
- (2) OLC-League Optimization ("Bundesliga", "Landesliga"): This feature is only relevant for Germany. The duration of an OLC League flight is exactly 2,5 h. It is crucial that at the end of the time window you altitude is at or above your start altitude. p\*S helps you to optimize your average speed.
- (3) Optimizations Dialog: You can now switch on or switch off certain optimizations (OLC Yo-yo, triangle, DMSt Yo-yo, OLC League). It is possible to calculate **all** optimizations in parallel but you should bear in mind that - depending on the speed of your PocketPC hardware – the overall performance of p\*S might degrade. We advice you to only switch on the optimizations that you really need.
- (4) Base configuration: This new feature has been created with a club operation in mind. You can now – once and for all – define a certain base configuration of p\*S. Each time you launch p\*S the user can decide to load this base configuration or not. (You can also revert back to the base configuration during flight with one constraint.) A base configuration includes **all** p\*S settings. For example: Arrangement of Thumbnail Windows, goals for the Goals Dialog (with the home airport assigned to the upper left button), configuration of main menu items, screen corners and hardware keys, communication settings for the logger, etc.
- (5) Airspace export: If you export airspace data from **desktop\**StrePla*** to **pocket\**StrePla*** the appearance of the various airspaces (line width, line color, filling color) will be included in the airspace file. **pocket\**StrePla*** will read such definitions and display airspaces in Map View exactly the same as in **desktop\**StrePla***.

The various airspace types have been synchronized between **desktop\**StrePla*** and **pocket\**StrePla***:

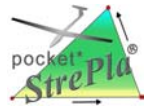
Airspace type	Identifier	Description
A, B, ..., G	A, B, ..., G	ICAO airspace types A through G
CTR	CTR	Control zone.
TMZ	TMZ	Transponder Mandatory Zone. Airspace can only be entered with a working transponder.
Danger	Q	Entering this type of airspace poses certain dangers.
Restricted	R	Use of this type of airspace is restricted.
Prohibited	P	Never enter this airspace.
GliderProhibited	GP	Gliders are not allowed in this airspace.
GliderSector	GLD, GLIDER, W	Special airspace for gliders, e.g. wave windows.
Unknown	UKN	Unknown airspace.

In an Open Airspace file each airspace description starts with an "AC <identifier>" line. If an identifier does not match one of the above identifiers the airspace will automatically be classified as "Unknown/UKN".

- (6) Licensing: So far you had to receive a new license key if you wanted to run **pocket\**StrePla*** on your new PDA. This was necessary because the license key had to match the CPU-ID of your PDA. Now things are much easier: The license key is now only based on your name.



- (7) Goals Dialog: The Goals Dialog will **not** automatically disappear anymore after you have assigned a button to a new goal. The traffic light color logic will be applied to the glide path difference. So you can tell by the color how well you can reach the goal.
- (8) Zooms Dialog: By default the changes in this dialog will be applied to **all** zoom levels (0 through 7). In previous version of **pocket\*StrePla** all checkmarks were grayed out. That has been changed: If a setting is already the same for **all** zoom levels a checkmark will be set or it will not be set. Only in the case that a setting varies through the zoom levels a checkmark will be gray. Bear in mind that you can always easily jump to a specific zoom level to apply changes.
- (9) Automatic Circling Mode: If automatic circling mode has been switched on and you leave the thermal and fly straight ahead again **pocket\*StrePla** will now switch back to the previous Map View.



## 1 Introduction

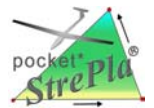
**pocket\*StrePla** is a software that is used by glider pilots as a navigation aid for successfully completing cross country flights.

Thank you very much for choosing **pocket\*StrePla**!

Personally I am not too fond of reading manuals. Therefore I have chosen to summarize really important information and "stumbling blocks" at the beginning of this manual. I recommend that you read at least the information completely pertaining to you in the following chapter.

It goes without saying that we also advise you to read all "remaining" chapters since we are convinced that it is time well invested. **pocket\*StrePla** is a very powerful piece of software. At the same time it is fairly easy to use. The detailed features you will find out much quicker by reading the manual instead of learning **pocket\*StrePla** by trial-and-error.

In case you have questions not answered by this handbook please check the FAQ section of our homepage <http://www.strepla.com>. If that doesn't help too much you are welcome as a U.S. customer to call StrePla USA (Lee Kuhlke) phone 303-781-5717, [lee.kuhlke@strepla.com](mailto:lee.kuhlke@strepla.com) or Cumulus Soaring, Inc. phone 952-445-9033 (Paul Remde) during his business hours, Knauff & Grove Inc, phone 814-355-2483 (Tom Knauff) or - as a non U.S. customer -8F Computer GmbH phone +49 6172 942848 (Wolfgang Joschko) during our business hours from 9:00 a.m. to 9:00 p.m. European time.



## 2 Notes

### 2.1 General notes

#### 2.1.1 Never depend only on your electronic equipment!

Always keep in mind when you fly with **pocket\*StrePla** that there is no software free of bugs. It goes without saying that we spent a considerable amount of time to avoid software bugs and to develop a stable piece of software which delivers correct results. The developer of **pocket\*StrePla** is a competition pilot himself and therefore quite interested in **pocket\*StrePla** running smoothly in the cockpit. However, nobody can rule out that **pocket\*StrePla** produces unrealistic results. Reasons for such behavior could be implementation faults or the utilization of wrong mathematical models. Moreover you may encounter meteorological influences (like strong sink that occurs suddenly and unexpectedly) that will even make an exact and correct calculation irrelevant. Therefore, you may never depend solely on the results presented by **pocket\*StrePla** or any other electronic tool – that said being especially true for conducting final glides. When you make decisions always consider hardware or power supply failures. Your waypoint and airspace database may not be correct.

Competition pilots are advised to keep a lateral separation to airspace boundaries of at least 0,5 NM. The accuracy of the position shown does not only depend on the number of GPS satellites received. It also depends on the angle those satellites can be "seen" above the horizon. Since GPS satellites are not geostationary relative to the surface of the earth it may happen that the calculated position suddenly "jumps" unfavorably towards an airspace boundary. This may result in an unwanted airspace violation. Also keep in mind that **pocket\*StrePla** may display your position with a time delay.

Because of the facts just described you may not hold responsible the vendor and/or developer of **pocket\*StrePla** for any damages which may be related to you using **pocket\*StrePla**.

#### 2.1.2 Maintain a good lookout!

**pocket\*StrePla** is supposed to disburden and not burden you during your soaring flight. A good example for a significant support regarding your in-flight decisions is the Best Glides dialog which will tell you the arrival altitudes (depending on the current wind) of surrounding airports sorted by the arrival altitude. It is a special feature of **pocket\*StrePla** that you can instruct **pocket\*StrePla** to automatically optimize the MacCready setting according to the head or tailwind that you are likely to encounter when flying towards the goal.

In order to always be in a position to use **pocket\*StrePla** as an efficient tool you should acquaint yourself with the operation of **pocket\*StrePla** on the ground. Use the PDA version and **not** the PC simulator because it takes a bit more practice to use a touch screen instead of a PC mouse.

In the case things do not work as you would expect them to work during flight, we recommend you to disregard the function that troubles you. Do **not** try to "get it to work." because this will distract you from flying your aircraft which might result in a dangerous or even fatal situation.

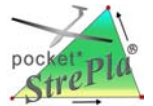
Please solve the problem when you are back on the ground.

#### 2.1.3 Abbreviations

Quite frequently you will find the abbreviation "PDA" in this manual which stands for "Personal Digital Assistant". A PDA is an organizer, an electronic "brain" for your appointments, addresses and many other things. A well known PDA is the "iPAQ" manufactured by Hewlett-Packard (previously: Compaq).

#### 2.1.4 The pocket\*StrePla PC-Simulator

Currently the PC simulator requires one of the following Windows operating systems: WinXP, Win2000, Win2003 or WinNT.



## 2.2 Trouble shooting

**pocket\*StrePla** is delivered with a very convenient and powerful installation routine which in most cases ensures **pocket\*StrePla** to run instantly and flawlessly in connection with your flight recorder or GPS source. Should that not be the case then please continue to read the following information.

As a matter of principle we recommend resetting the PDA before you take off using the stylus in order to terminate unneeded programs running in the background and free the serial port. This kind of reset corresponds to the famous "Ctrl+Alt+Del", which you are likely to know when you work with a Windows PC.

### 2.2.1 pocket\**StrePla* runs very slowly

First of all make sure that the infrared interface of your PDA is disabled! Otherwise your PDA will try to "talk to the sun" which won't work and which consumes a big amount of processing power. Switch the infrared interface off by the following procedure: "Start > Settings > Connections > Beam > **no** checkmark". In addition, place tape over the IR window to the right of the SD Card.

In the past we have seen memory expansion cards (SD cards) reducing system performance noticeably. If you suspect your SD card to be responsible for a slow **pocket\*StrePla** then you should test **pocket\*StrePla** without the SD card. In that case all data on the SD card (like US Sectional Maps) will not be available for the test run.

As described below you can record the GPS source data stream (NMEA sentences). This process slows down **pocket\*StrePla**. Therefore you should only record the data if necessary.

Your PDA operating system "PocketPC 2002" will allow you to run more than one program at the same time. That is quite convenient on the one side when you want quick access to an application. On the other hand each application running will allocate memory and processor resources. That means that **pocket\*StrePla** will perform best when there are no other applications running in conjunction with **pocket\*StrePla**. You can find out about all applications running in parallel by executing the following procedure: "Start > Settings > System > Memory > Running Programs". In this dialog you can terminate and activate applications.

A more radical approach to end all applications rather quickly is a "stylus reset" or warm start. If you use an iPAQ then push the stylus through the small hole at the right bottom of your iPAQ. Other PDAs can be reset by a similar procedure. Please consult the manual of your PDA. After such a stylus reset and a restart of **pocket\*StrePla** you can be sure that **pocket\*StrePla** is the only application actively running on your PDA. This also ensures that **pocket\*StrePla** will run as quickly as possible and that no other application has taken control of the serial interface that **pocket\*StrePla** needs to initialize in order to communicate with your flight recorder or GPS receiver.

Another reason for a slow **pocket\*StrePla** may be the main memory is filled with too many installed applications or huge address files. Even if **pocket\*StrePla** is the only program currently running it may be slowed by low main memory. In that case we recommend you to uninstall programs or shift them – if possible – to the memory expansion card.

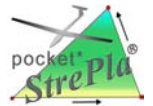
### 2.2.2 pocket\**StrePla* reads airports and airspace rather slowly

This problem might occur if you are using rather large airport and airspace files or if other programs occupy a big part of your PDA's main memory. Then the operating system is quite busy "cleaning up" data structures while the files are processed. The best solution is to give **pocket\*StrePla** more "room" by removing other applications and to relocate large map files to a memory extension card (if available).

Basically we recommend you to keep airspace.txt and airport.txt as small a possible. This can be done fairly easily by using the data synchronization features of the desktop program StrePla.

### 2.2.3 pocket\**StrePla* seems to be terminated and the PDA behaves slowly

If you switch off your PDA while **pocket\*StrePla** is still running and you switch the PDA on again after a long period of time then the following might happen: **pocket\*StrePla** seems to be gone but the PDA is very slow



responding to your input. In this case **pocket\*StrePla** very likely still runs in the background! Just launch **pocket\*StrePla** again via the start menu. Alternatively you can do this: "Start > Settings > System > Memory > Running Programs > select 'pocketStrePla' > Activate".

Why would **pocket\*StrePla** slow down your PDA so significantly if it runs in the background? **pocket\*StrePla** is a very sophisticated and comprehensive application that requires a lot of processing power. Internally it splits into different parts (threads) that run at a very high priority. That is important for a good performance of **pocket\*StrePla**. Other applications – like PocketWord – run at a normal priority – **pocket\*StrePla** will out act them.

## 2.2.4 iPAQ 38xx: Maps are drawn very slowly

If **pocket\*StrePla** requires a lot of time to display maps then you should check the following points:

- (1) ROM-Version of your iPAQ 3850/3870: Shortly after performing a stylus reset (warm start) the ROM version of your iPAQ will be displayed in the lower right corner of the screen. The ROM version of your iPAQ should not be older than V1.20 (iPAQ 3850) or V2.20 (iPAQ 3870).
- (2) Configuration of the infrared interface: Due to a bug in the operating system the performance of your iPAQ will drop dramatically if the infrared interface (located to the right of the SD slot if viewed from above) receives strong direct sun light. Your iPAQ will spend most of its performance in order to "talk to the sun" - but the sun won't answer.

These issues can be resolved by the conducting the following:

### 2.2.4.1 ROM upgrade

This procedure is rather complicated and can only be recommended if you are an experienced PDA user. You can download ROM version 1.20/2.20 from HP's internet service pages. Since internet addresses change frequently we will only give a general note concerning the download: Open HP's homepage [www.hp.com](http://www.hp.com) and click on "Drivers". Now choose "iPAQ 3850" or "iPAQ 3870". **Exactly** follow the instructions issued by the upgrade program. IMPORTANT: The upgrade will erase all data stored on the iPAQ. Therefore you need to backup all your data before invoking the upgrade program. Do not suspend the upgrade process. Otherwise your iPAQ may be unusable and may have to be repaired.

### 2.2.4.2 Deactivate the infrared interface

The trivial solution is a piece of tape which covers the infrared sensor. This works nicely but it doesn't look very smart. Therefore we recommend switching off the automatic infrared communication. Invoke the start menu and execute the following procedure: "Start > Settings > Connections > Beam > **no** checkmark in front of 'Receive all incoming beams ad select discoverable mode'".

## 2.2.5 iPAQ 38xx: Storage card warning

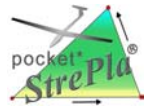
Continue to read if the following warning message appears after inserting an SD memory card:

**Storage card warning**

Would you like to format the Storage Card folder so the system can use it?

WARNING: If you select OK, all files in the Storage Card folder will be erased!

This warning message will be displayed if the ROM version of your iPAQ is **smaller** than version 1.20 (iPAQ 3850) or smaller than version 2.20 (iPAQ 3870). You can do the following:



- (1) Format the storage card. Disadvantage 1: You need to backup all data on the card before you format the card. After the card is erased you will need to restore your data. Disadvantage 2: Storage card access will be significantly slower if you run ROM version 1.15 (or earlier) - refer to Section 2.2.3.
- (2) Upgrade your iPAQ to ROM version 1.20 - refer to Section 2.2.4 for details.

## 2.2.6 Airspace and airports are mirrored or displayed with an offset

Please upgrade **StrePla4** to build 2043 or above. Check the **StrePla4**-build by selecting menu item "? > Info about StrePla". After completing the **StrePla4** upgrade to build 2043 or higher you will have to re-generate and export all maps for **pocket\*StrePla**.

## 2.2.7 The small circlet will not turn green

There is a small circlet that will be shown at the right border of the screen informing you about the communication status with your GPS device. If it's red – despite a correct setting of COM port and communication rate (bps) – you will need to terminate **pocket\*StrePla** and perform a stylus reset because another program (e.g. car navigation system) has taken control of the serial port. Yellow indicates that **pocket\*StrePla** does not receive position data from your GPS device. If it blinks yellow/green **pocket\*StrePla** receives data from your GPS device but the data does not yet contain valid position information. In this case we kindly ask you to just wait. It is quite likely that your GPS receiver does not yet "know" where it is and is still searching for satellites. This can take up to 30 minutes.

Some GPS receivers mark position data as invalid although the data is okay. In that case you can try to ignore the warning flag – see page 2 of the Interface Dialog described below.

If the circlet does not turn green after some waiting time you should first of all check whether the correct flight recorder has been selected in the Interface Dialog (main menu #3). If the configuration is correct you should see the original data received from the GPS source in the lower half of the dialog.

If that doesn't help please check the wiring between GPS receiver and PDA jacket. Has the PDA been firmly inserted in the jacket?

If the color of the circlet changes during flight from green to yellow then many thumbnails will display "XXX". The most likely explanation for this behavior is that your PDA is not firmly placed in the jacket.

## 2.2.8 Pocket \*StrePla freezes or locks up

Sometimes this happens due to the PDA left in the hot cockpit before a flight or due to "glider gremlins" in flight that happen for no reason. Perform a stylus reset as described in 2.2.1 and recheck the IR setting for "No Beam"

This is **NOT** a problem for **pocket\*StrePla** as it writes your flight into a temporary file that is not deleted until you invoke the "QUIT" function described on page 40. (menu #3:r3/c3)

All tasks and goals (but not the settings) that were active will be restored as they were before the lock-up and stylus reset. The OLC, DMST, FAI Speed/distance and thermal statistics will be restored and updated when **pocket\*StrePla** is restored.

**\*\* THIS IS A UNIQUE FEATURE OF pocket\*StrePla \*\***

### 3 Installation

There are two options to install **pocket\*StrePla** on your PDA:

- Installation using **StrePla4's** built-in setup functions.
- Installation using *setupPocketStrePla.exe* delivered separately. Follow this procedure if you have not licensed **StrePla4**.

Regardless which installation option you choose: Just click through the dialogs and follow the instructions! Some dialogs will display the little ActiveSync icon (round circle with two arrows). That icon should be green. If it's not green your PDA is not connected to your PC and it will not be possible to exchange data between both devices. In such a case please consult the manual of your PDA. Sometimes you can resolve the communication problem by temporarily removing the PDA from its cradle. After you reinserted the PDA wait for about 10 seconds and check whether the ActiveSync icon turn green. If you are still having problems, a stylus reset or full re-boot may be necessary (A+D+hold stylus reset)

#### 3.1 Installation using StrePla4's built-in setup functions

Prerequisite is the installation of **StrePla4** on your PC and a working connection between your PDA and PC via ActiveSync. Please refer to the PDA manual for further details.

Launch **StrePla4** and choose the menu item "Tools > pocketStrePla > Transfer program to PDA" and work through the dialogs that are being displayed.



#### 3.2 Installation using setupPocketStrePla.exe delivered separately

Download the installation program from our server using the internet link <http://www.strepla.com>. *setupPocketStrePla.exe* will install **pocket\*StrePla** without the need to have **StrePla4** installed on your PC.

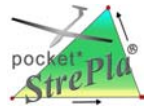
First of all the installation program will install **pocket\*StrePla** on your PC and then on your PocketPC (PDA). However the PC version of **pocket\*StrePla** requires one of the following operating systems: Windows XP, 2000, 2003 or NT.

#### 3.3 License key

Your individual license key for **pocket\*StrePla** is based upon your name. The procedure to obtain a license key for **pocket\*StrePla** works as follows:

- Forward your name to the StrePla team. This can be via email, by letter or by phone.
- After receipt of the license fee the StrePla team will return an activation (license). Example:

Jens-Christian Henke  
ZPCR78JYCB3VAH6U



User name: **pocket\*StrePla** does not differentiate lower and upper case letters. However spaces must be entered exactly as given.

License key: Some characters will be treated the same by **pocket\*StrePla**:

- "1", "l" and "J"
- "0", "O" and "Q"

Hence it does not matter whether you enter "0" (zero) or "O" (Oscar).

- The activation consists of a user name and a 16 character license key which will also be delivered in a file named "license.key.txt". Note: On your PDA (iPAQ) you will see "license.key" as the file name – the extension ".txt" will **not** be displayed.
- The next section explains how you enter the activation into **pocket\*StrePla**.

NOTE: If you have **not** activated **pocket\*StrePla** then all position data issued by the flight recorder or GPS source will be read by **pocket\*StrePla**, but will **not** be processed for a functioning moving map display. The result: The glider symbol will be stuck at the very first 2D position received from the GPS source. However: The barogram updates as if you had entered a valid activation. **This ensures that you can fully test the compatibility of your GPS source with pocket\*StrePla prior to purchasing a license.**

### 3.4 Transferring the license file to the PDA

#### 3.4.1 Without *StrePla4* – without license.key.txt

The following procedure can be executed "out on the field" without internet connection and without a PC or notebook. Invoke the Licenses Dialog which you find on Main Menu #3:

- (1) Click the upper right screen corner – Main Menu #1 will appear.
- (2) Click ">>>" for Main Menu #2. Click ">>>" again for Main Menu #3.
- (3) Click on "Licenses".
- (4) Enter the user name via "...". Enter upper case letters by clicking the corresponding letter key twice.
- (5) Enter the license key via "...". Characters that can be confused easily – like "0" (null) and "O" (Oscar) – can be entered exchangeable. So it doesn't matter which character you enter.

#### 3.4.2 Without *StrePla4* – with license.key.txt

Insert your PDA in its cradle and make sure that there is a working ActiveSync connection between your PDA and PC. Now use the PC File Explorer to copy your license key file "license.key.txt" to the PDA's "\pS\_Prog" directory. The "pS\_Prog" directory will appear in the PC File Explorer "below" the "Pocket PC" directory which in turn is located below "My device". This might be a bit confusing since the order of the directories is different when you use the PDA File Explorer.

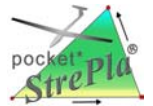
#### 3.4.3 With *StrePla4*

It is significantly easier to install the license file on your PDA if you are using **StrePla4** and if you have already installed the license file (for **StrePla4** and **pocket\*StrePla**) via menu item "Tools> Change license file".

Just select menu item Tools > pocketStrePla > Copy license to PDA".

A dialog will appear and all you need to do now is to push the button "Copy license".

In case the small ActiveSync symbol is **not** green then there is no working connection between your PC and PDA. Please refer to the documentation of your PDA. Also, see Section 3 "Installation".



### 3.5 *Transferring maps, waypoints, etc.*

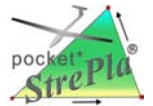
Please refer to the **StrePla4** manual for further details concerning the synchronization of maps, turn points, airport, terrain elevation data and tasks between **StrePla4** and **pocket\*StrePla**. This may be accomplished directly to the PDA via Active Sync. It can take up to 25 minutes for US Sectionals and elevation data to be transferred. There is a lot of data for **pocket\*StrePla** to use!

Note: You may install the **pocket\*StrePla** program and all data (maps, waypoints, airspaces) onto a memory card directly from your PC (SD card for IPAC 38xx and 39xx users). Then insert the memory card into the PDA and follow the instructions in Section 4.1.2. This is much faster than direct connection to the PDA.

### 3.6 *De-installation of the PDA program*

If you want to completely de-install **pocket\*StrePla** on your PDA, you just need to do the following:

- (1) Start the File Explorer on your PDA.
- (2) Delete the following two directories:
  - \My Pocket PC\pS\_Data
  - \My Pocket PC\pS\_Prog
- (3) Delete the following entry
  - \My Pocket PC\Windows\Start menu\pocketStrePla



## 4 Using pocket\**StrePla*

You interact with the PC simulator of **pocket\**StrePla*** via the mouse or touchpad. Unlike a PC the PDA receives user input via a touch-sensitive screen. The stylus of a PDA replaces the mouse of a PC. During flight - especially in turbulence - the use of a stylus cannot be expected from the user. Consequently **pocket\**StrePla*** has been designed in such a way that all function that are of interest during flight can be invoked by using your finger instead of the stylus. This has been made possible by large buttons and big fonts.

You can even work with "ground functions" - like planning a flight - without using a stylus if you touch the PDA screen with the nail of your index finger instead of your fingertip. After a moderate amount of practice this will work very well!

If you want to open a popup menu of a PC program you normally use the right button of your mouse. The same thing is achieved on a PDA by pressing and holding the stylus or fingertip for about 2 seconds without moving the stylus/fingertip on the touch-sensitive screen. From now on we will use the word "click" for briefly touching the touch screen of the PDA.

The only difference between the PDA and PC version of **pocket\**StrePla*** is that you use a stylus instead of a mouse. Everything else will be identical. As a result you will be in a position to use the PC version of **pocket\**StrePla*** for training purposes if you present the PC screen contents via a beamer to the audience. Doing so all interaction with **pocket\**StrePla*** can easily be understood by the class. The only exception: The communication module is only available on the PDA.

Please note that a PDA does not always immediately react on your input. If the PDA does not execute the desired function at once just wait a couple of seconds before your repeat the input.

### 4.1 Launching pocket\**StrePla*

#### 4.1.1 Launching from the Start Menu

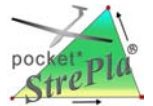
In case you installed **pocket\**StrePla*** using the "stand-alone" installation program or if you installed it from **desktop\**StrePla*** you can now launch it by clicking the "pocketStrePla" entry in the start menu. The start menu appears if you click on the Microsoft logo in the upper left corner of the PDA screen. Alternatively you can directly click on "pStrePla" in the "\pS\_Prog" directory. (If the StrePla logo is dimmed, it means that you must install from the memory card. See Section 4.1.2)

#### 4.1.2 Installation from memory card

It is possible to store a complete **pocket\**StrePla*** environment which includes maps, airspaces and airports on a single memory card with at least 256 MB storage capacity. In case of an iPAQ 3850 this will be a so-called SD (Secure Digital) memory card. If you click on "pStrePla" in the "\pS\_Prog" directory of the memory card (for example "\SD card\pS\_Prog\pStrePla") **pocket\**StrePla*** will install itself in main memory of your PDA. You will be informed about the completion of the memory card installation procedure. Afterwards you can launch as described in 4.1.1. Also, see Section 3.5.

#### 4.1.3 General information

It takes a short while until **pocket\**StrePla*** becomes visible. First of all license key files will be checked. Then **pocket\**StrePla*** reads airport, turnpoint, task and airspace data into main memory.



After the very first start of **pocket\*StrePla** Map View #1 will be displayed. There are four different Views in **pocket\*StrePla** (that are being described in the following paragraphs), which you can invoke by pressing the navigation key left or right.

View	View Indicator
Map View #1	■ □ □ □
Map View #2	□ ■ □ □
Barogram View	□ □ ■ □
Climb Maximizer View	□ □ □ ■

The View Indicator consists of four squares. One of the squares is black – see the table above. The View Indicator allows you to easily distinguish Map View #1 from Map View #2.

Should you – intentionally or unintentionally – terminate **pocket\*StrePla** during flight (stylus reset or termination without writing an IGC file) you can restore the flight path made so far. In that case **pocket\*StrePla** will read all previously recorded fixes (from \pS\_Prog\Rec.txt) and re-optimize the flight according to OLC- and DMSt-rules.

## 4.2 Loading the base configuration

This feature has been implemented with a club operation in mind. If a club uses p\*S in a club glider then it is quite likely that the settings will be altered more or less dramatically by the many pilots over time. Such alternations may be uncritical (arrangement of thumbnail Windows) or critical (wrong polar curve). In order to solve this dilemma the club's PocketPC expert can freely define a base configuration and during start-up p\*S will ask you whether you wish to load the base configuration. If you confirm all settings that were saved last time you quit p\*S will be overwritten by the base configuration.

Here are some examples of settings that can be saved in a base configuration:

- Thumbnail Window arrangement
- Units
- Polar curve
- Tasks
- Goals in Goals Dialog (e.g. your home airport assigned to the upper left button)
- Configuration of main menu items, screen corners and hardware keys
- GPS communication settings (data transfer rate, COM interface)

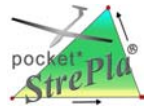
It is possible to load the base configuration during flight by invoking the "Base config" function. However it is not possible to reset tasks and buttons of the Goals Dialog during flight.

### How to setup a base configuration

This can *not* be done with **pocket\*StrePla**! The following manual procedure shall avoid an accidental setup of a base configuration. Only fairly basic PocketPC knowledge is required to create a base configuration:

- Launch the File Explorer on your PocketPC.
- Change to the \pS\_Prog directory (or \SD-Card\pS\_Prog)
- Copy file "pStrePla.ini.txt" to "pStrePlaRESET.ini.txt"
- Change to the \pS\_Data directory (or \SD-Card\pS\_Data)
- Copy file "turnpoint.txt" to "turnpointRESET.txt"

Note: If you have prepared a memory card containing a complete **pocket\*StrePla** installation then the above steps apply to the corresponding memory card directories. In order to complete the base configuration launch pStrePla(.exe) in the memory card directory \SD-Card\pS\_Prog.



### 4.3 Map Views #1 and #2

After launching **pocket\*StrePla** it will initially switch into Map View #1 (Moving Map Display).

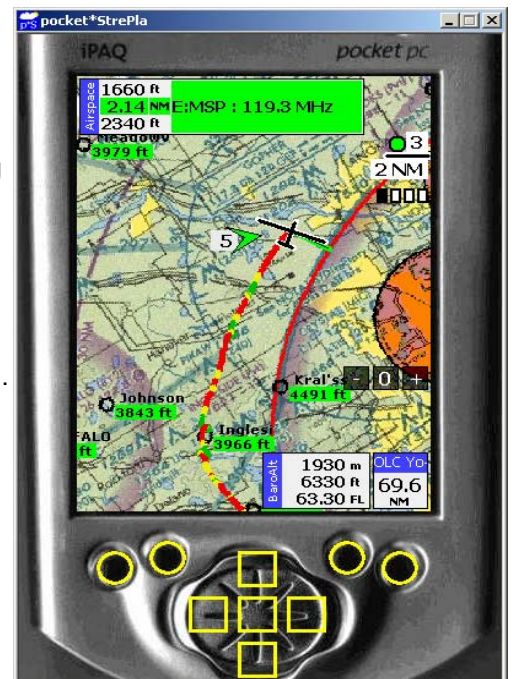
The interaction with the moving map using the touch-sensitive PDA screen is very easy and intuitive: Just pan the map into the desired direction using your fingertip – just like a printed map lying in front of you. You can also rotate the map – how that works is being explained later.

You can zoom the map view by using the 4-way-navigation-key. Pressing up will zoom out and pressing down will zoom in. If the glider symbol is visible or close to the screen border then all zooming will take place relative to the position of the glider symbol. Otherwise **pocket\*StrePla** will zoom relative to the middle of the screen.

The small cirlet above the map scale bar will display the communication status of the flight recorder or GPS source. Red means that **pocket\*StrePla** was unable to initialize the serial port of your PDA. Note: In that case a stylus reset (warm start) is likely to help. Yellow means that the serial port was initialized successfully but no GPS fix has been received so far. Yellow also informs you that the serial communication with your GPS device has been interrupted. If the cirlet blinks yellow/green **pocket\*StrePla** receives data from the GPS device. However this data does not yet contain valid position information. Make sure the GPS antenna has an unobstructed view to the sky! If the GPS receiver does not yet "know" where it is located it may take a fairly bit amount of time until the cirlet color changes to green. The meaning of green is as you would expect: Everything is okay and GPS fixes are being received without errors. As soon as a valid fix has been received the glider symbol will be positioned at the correct location on the map.

Green/red flashing of the cirlet indicates that **pocket\*StrePla** did not find a valid license file.

Small white thumbnail windows with a blue bar – called Thumbs – will display various information. They can be configured very conveniently. How this can be done will be described later.



#### 4.3.1 Map View #2

Press the right side of the 4-way-navigation-key to switch to the second Map View. Here you can apply settings via the Zoom or Map Dialog that will be completely independent from the first Map View. This is especially true for the zoom level.

The Settings Dialog allows you to configure **pocket\*StrePla** to switch into Map View #2 automatically as soon as **pocket\*StrePla** detects that you are circling in a thermal (Menu #3 > Settings). **pocket\*StrePla** will automatically switch back to the previous Map View if you leave the thermal and fly straight ahead again.

#### 4.3.2 Arrival altitudes

One of the outstanding features of **pocket\*StrePla** is its ability to display the arrival altitudes of up to 30 airports at the same time. The following meaning is assigned to the arrival altitude colors:

- Red      The airport can *not* be reached in a final glide. Only airports with an arrival altitude of greater than -500 m (about -1500 ft) are shown. One can think of these as being "one thermal away."
- Yellow    The airport will be reached between 0 ft AGL and the so-called "Yellow Altitude" that you can define in the Altitudes Dialog.
- Green     The airport will be reached above Yellow Altitude.



Gray Arrival Altitude of a mountain pass. **pocket\*StrePla** will select up to three mountain passes depending on their distance from the current position. The distance must be less than 80 km (41 NM).

Important: The Safety Altitude does *not* influence the color of an arrival altitude. It's the Yellow Altitude that determines the color.

Arrival Altitudes are being reduced by the Safety Altitude. The reason for inventing the Yellow Altitude is the following: Competition pilots prefer a Safety Altitude of 0 ft. But they like to see at one glance which airports can be reached safely (green) and which are within marginal reach (yellow). Since the coloring scheme is now independent of the Safety Altitude the latter can also be 0 ft. Question: Can a yellow arrival altitude be negative? (The answer is "Yes"!)

In the MC Dialog (MacCready Dialog) you can determine whether arrival altitudes are being calculated with the MC value set manually or with an optimized MC value. Since the optimal MC value is 0 kts only in the case of no wind at all, it is a nice feature of **pocket\*StrePla** to let the program figure out the optimal MC setting which can be close to 2 kts in the case of a strong head wind.

Important: The display of an Arrival Altitude does *not* depend on the horizontal distance. It is possible that there is an airport nearby but upwind. Let's also suppose that the head wind is strong and that the height of that airport is above all other airports in the vicinity. In such a case it is quite possible that no arrival altitude at all will be displayed because the arrival altitudes of other airport - even further away - are "better". Configure a wind of 100 kts and you will see what we mean...

Note: If you fly towards a goal **pocket\*StrePla** will prefer the display of Arrival Altitudes of airports that lie between you and the goal. If no goal is selected, the nearest 30 airports will be shown if the arrival altitude is greater than -500 m (about -1500 ft).

### 4.3.3 Colored flight track

**pocket\*StrePla** will show the **complete** flight track by drawing an unbroken colored line on the map. Position data (fixes) will be recorded every 2 seconds – that's much better than the interval of most flight recorders. Shortly before the flight track buffer is full **pocket\*StrePla** will compress the flight track completed so far. You might notice that a compressed flight track looks a bit more angular. However the beginning of your flight will **always** be visible and not be forgotten.

Flight track colors have the following meaning:

- Gray Flight track outside the range that is being optimized. It therefore lies either **before** "Soaring begin" or **after** "Soaring End".
- Red The average sink is worse than about  $-2.5$  kts ( $-1.2$  m/s).
- Yellow The average sink lies between about  $-2.5$  kts ( $-1.2$  m/s) and  $0.0$  kts.
- Green The average climb is better than  $0.0$  kts.

## 4.4 Barogram View

Press the right side of the navigation key to see the barogram of your flight. One reason behind the barogram view is to put you in a position to set and check time stamps for Soaring Start, Soaring End and OLC League. Soaring Start and Soaring End are very important for correct optimization results.

We strongly recommend using the Soaring Start Function which you will find on Main Menu #1 by default – which is the fastest and safest way. If you have missed the moment to set the time stamp you can make up for it by proceeding as follows: Zoom the area



where you released the tow rope or where you stopped the engine of a self launcher. (Maintain a good lookout while you do so!) Now hold the back of your fingernail (or stylus) for about 2 seconds exactly at the location where you want to position the time stamp for "Soaring begins". You will notice that the barogram to the left of "Soaring begins" will be colored in red. All red fixes will **not** be considered for optimizing the flight according to OLC- rules.

The same is true when you set the Soaring End time stamp via the popup menu. If you select "Reset" you will delete both time stamps – the barogram will completely be colored in green.

Whenever you set or reset time stamps your flight will be re-optimized. This will take a while and it can be watched quite well when you switch to the map view.

The Barogram View will display the medium wind in the 5 different wind bands every 15 minutes. All wind bands have the same thickness. The thickness will be increased by **pocket\*StrePla** automatically if you come close to the upper ceiling of the highest wind band. All winds detected so far will be redistributed to the "new" wind bands.

Get back to the map view by pressing the left side of the rocker switch.

## 4.5 Climb Maximizer View

Some few Moving Map Applications for glider pilots offer a climb maximizer. A special characteristic of **pocket\*StrePla** is the fact that it does **not** necessarily depend on highly accurate variometer data from a flight computer. The Climb Maximizer of p\*S will still work in connection with a data source that delivers barometric altitude data like for example a Volkslogger or Flarm (anti collision device popular in Europe).

We do however recommend you to connect p\*S to a Flight Computer (Cambridge 302, Borgelt, ILEC SN 10) because altitude data is more accurate.

Although it is possible we discourage you to use the Climb Maximizer if p\*S is attached to a "GPS Mouse". In that case p\*S is forced to use GPS altitude values (instead of barometric altitude values) which leads to a less reliable indications.

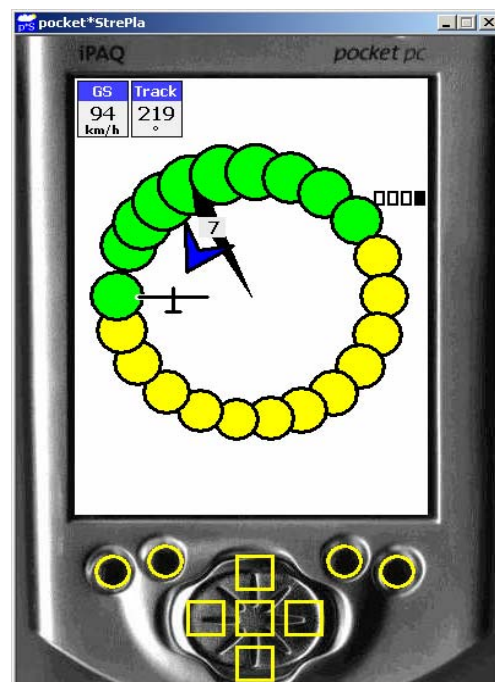
First of all the Climb Maximizer View distinguishes straight ahead flying from circling. If you fly straight ahead a climb maximizer does not make too much sense. Nevertheless **pocket\*StrePla** will show valuable information: The size and color of dots will tell you how well the air mass supports your glide.

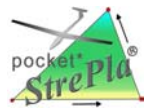
### 4.5.1 Flying straight ahead

The example depicts the approach of a thermal: The small red dots indicate strong sink. Then sink decreased and a yellow dot color indicates a sink rate around 0 kts. Finally the dots turn green and signal climb that you were looking for. The diameters of the dots are proportional to the rate of climb or sink. The example shows that you turned to the right.

### 4.5.2 Circling – dot mode

If **pocket\*StrePla** detects that you are circling it will place the glider symbol at the right screen border (if you are circling to the





left) or at the left screen border (if you are circling to the right). Again size and color of the dots is proportional to the rate of climb or sink. In the example circling is to the right.

Current climb is being displayed next to the glider symbol. "Above" the glider symbol you find dots representing climb rates almost one full circle "old". In the example the size of the dots is increasing so you can expect that the climb rate improves.

An arrow points to the maximum climb rate throughout the "last 360°". In the example you can expect a top climb rate within a few seconds. About 90° prior "in front of" the black arrow (if the arrow is in the 12 o'clock position) you should level the wings in order to shift your circling towards the area of stronger climb.

The above mention 90° value are not a fixed parameter – the angle depends on the type of glider you fly and your GPS receiver or flight computer. You can set the angle in the Climb Maximizer Dialog.



### 4.5.3 Circling – line mode

Press the navigation key up or down to switch from dot mode to line mode and vice versa. The black arrow still points to the maximum climb rate encountered throughout the last "360°". Small black dots connected by a black line indicate the climb rates. Climb rates are proportional to the distance of the small black dots from the center of the circle. Three different climb or sink rates are shown: The "start" of the red ring, the middle of the yellow ring and the "end" of the green ring. Normally the middle of the yellow ring corresponds with a 0 kts climb rate. Via the Climb Maximizer Dialog you can assign the average climb to the middle of the yellow ring.

## 4.6 Functions and dialogs

You control **pocket\*StrePla** by calling functions and dialogs. An example for a **Function** is to increase the zoom of the Map View. An example for a Dialog is the Altitudes Dialog where – for example - you can set the QNH.

Imagine a "box" filled well with different Functions and Dialogs for you to use. Almost all of those Functions and Dialogs can be invoked via **Hardware Keys**, **Screen Corners** and **Main Menu Items**. If you use **pocket\*StrePla** for the first time, you will find a certain default for **assigning** Functions/Dialogs to Hardware Keys/Screen Corners/Main Menu Items.

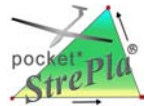


Example: There is a Dialog called Main Menu #1 which is assigned to Hardware Key D by default which you will find to the very right side below the screen.

You can freely change all assignments! You don't *have* to do it but there is the possibility to do it. Users of PDA's with just two (instead of four) Hardware Keys will quite happily use that freedom.

There are a couple of functions that you can not call by pressing a





Hardware Key, click a Screen Corner or Main Menu Item. An example is interactively panning the map with your finger. Such exceptions from the rule will be explained later in this manual.

#### 4.6.1 Hardware Keys

If you desire *quick* access to a Function or Dialog it makes sense to assign it to a Hardware Key. Usually you will find four different Hardware Keys (A, B, C and D) below the PDA screen. A special feature of **pocket\*StrePla** is the fact, that virtually each of the four keys exists threefold, because it makes a difference whether you press a key one, twice or three time in a row. If you press a key more than once you need to do so rather quickly with *very* brief pauses between the keystrokes.

The middle of the navigation key can also be pressed more than once. However: You can only press the navigation key up, down, left or right *once*.

#### 4.6.2 Screen Corners

By clicking one of the four corners of the PDA screen you can also trigger functions to invoke dialogs. There is no "multi-clicking" of Screen Corners.

#### 4.6.3 Main Menu Items

There are four Main Menus each with nine rather large software buttons available. You can freely assign Functions and Dialogs to the buttons using the menu item **Menu and Keys** Menu #3: r3/c2

However: We *strongly* recommend that you do not change the assignments during your learning phase. It is very difficult to support you when you have questions if you have changed them.

### 4.7 Description of all Functions and Dialogs

We will now describe the contents of the "box" filled with Functions and Dialogs for you. If you are new to **pocket\*StrePla** there is no need to read every detail of every Function or Dialog. You should however get an overview and dig in deeper if it makes sense for you.

In the following instructional window pages, you will find in the second column, the default assignment of a Hardware Key, Screen Corner or Main Menu Item to the Function or Dialog described. This makes it easier for you to quickly try out the Function (or Dialog). Each Function and each Dialog has a short name which is important if you want to change an assignment using the Menus And Keys Dialog.

It is no problem at all to assign a certain Function or Dialog to two different Hardware Keys or a Hardware Key and a Screen Corner or a Hardware Key and a Main Menu Item.

The following abbreviations are used in the below table:

- M** = Main Menu Item. "**M** 1:r2/c3" means that the Function or Dialog has been assigned to the *first* Main Menu and to the button found in the *second* row and *third* column.
- K** = Hardware Key. The letters A, B, C and D correspond to the above graphic. Most Hardware Keys can be pressed once (1\*), twice (2\*) or three times (3\*).
- C** = Screen Corner.
- D** = Dialog.
- F** = Function.

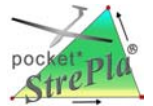
There are Functions and Dialogs without a default assignment ("/")– but you can change that! Refer to Menus and Keys, Menu #3: r3/c2

The sequence of Functions and Dialogs explained below observes dependencies between them. That approach has been preferred to an alphabetic sequence.



Everything that is quite obvious will not be described. Therefore, concerning the Units Dialog you will *not* find an explanation how you change a unit from [km/h] to [kts].

The OK button will save all changes you made in a Dialog. Select Esc to undo changes and go back to the settings that were valid before you invoked the Dialog.



## D Licenses

**M** 3:r2/c2

If you are using **StrePla4** then you can transfer your activation (license) quite easily to your PDA:

Menu Tools > pocketStrePla > Transfer license to PDA

But you can also enter your activation manually via the Licenses Dialog:

### How you enter the user name

Invoke the Keyboard Dialog by clicking "Edit". You can enter upper case letters by clicking the corresponding button twice. If you need to enter "Annabelle" then you need to pause after the first "n" and the first "l" because otherwise you end up with "ANabeLe" instead of "Annabelle". It is important that you enter the user name *exactly* as it appears in the email. You will find the space character in the lower left corner of the Keyboard Dialog.

### How you enter the license key

Again you invoke the Keyboard Dialog by clicking "Edit". Now you can only enter capital letters. The length of the license key is exactly 16 characters.

### Smiley colors

(grey) The user name is empty or the length of the license key is unequal to 16 characters.

(red) Incorrect combination of user name and license key.

(green) Everything is okay – have a nice flight!

### Expert advice

Usually you will only enter *one* activation. However you can create a bunch of license keys by entering up to 16 different activations.

All activations will be stored in the INI file "\pS\_Prog\pStrePla.ini ". This allows you to enter multiple activations for multiple PDAs. You can now distribute the same pStrePla.ini to all PDAs (of your club) which activates all PDAs without the need to enter the activation on each PDA. When you launch **pocket\*StrePla** it will try all activations it finds.

You can also store one or more KEY files in "\pS\_Prog". Such files must end with ".key.txt" and must contain the user name in the first line and the license key in the second line. While **pocket\*StrePla** launches it will read all KEY files and add the activations to the bunch of keys.

When you quit **pocket\*StrePla** it will write all activations to separate KEY files in addition to the entries in pStrePla.ini.txt.

Click "Edit" to enter text. To enter an UPPER case letter just click the corresponding key TWICE.

User name  Edit

License key  Edit

 <<< 7 / 16 >>>

Esc OK

## F View before

**K** right

Switch to Map View if the Barogram View is on display.

Switch to Barogram View if the Map View is on display.

## F View after

**K** left

Switch to Barogram View if the Map View is on display.



Switch to Map View if the Barogram View is on display.

**F** Thumb group next **C** top left

Switch to the next thumb group. There are three different Thumb groups available and you can assign one of them to each View (Map View #1 and #2, Barogram View, Climb Maximizer View). It is possible to have no thumbs for one of the "groups" for better map clarity.

**F** Thumb group before **/**

Switch to the previous thumb group.

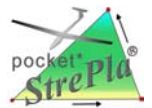
**D** Main Menu #1 **K** D:1\*

**C** top right

Use the ">>>" button to switch to main menu #2 and "<<<" to go to main menu #4.

There are four different main menus.

Wind	FAI area	GoTo
Units	Zooms	Altitudes
MC	Soaring start	Thumbs
<<<	Menu #1	
>>>	Esc	



**D Main Menu #2**

**K D:2\***

Use the ">>>" button to switch to main menu #3 and "<<<" to go to main menu #1.

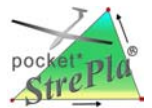
Polar curves	p*S logger	Statistics
IGC Start	Tasks	Task current
Check-list	Info	Map
<<<	Menu #2	
>>>	Esc	

**D Main Menu #3**

**K D:3\***

Use the ">>>" button to switch to main menu #4 and "<<<" to go to main menu #2.

Airspace distances	Airspace warnings	Waypoint view
Settings	Interfaces	Licenses
p*S-connect	Menus and keys	QUIT
<<<	Menu #3	
>>>	Esc	



**D Main Menu #4**

**K** D:3\*

Use the ">>>" button to switch to main menu #1 and "<<<" to go to main menu #3.

Date and Time	Flarm	Pirker final glide
OLC Liga start	Optimizations	Climb Maximizer
Base Konfig	OLC Liga start	Soaring end
<<<	Menu #4	
>>>	Esc	

**D Wind**

**M** 1:r1/c1

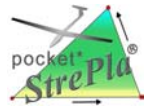
**pocket\*StrePla** distinguishes 5 different winds in 5 altitude bands ("3D wind"). You can either select the wind that has been calculated automatically or you can set a wind for each wind band manually. In the left column of wind arrows you see the winds that have been calculated automatically by analyzing the wind drift while you circle in a thermal. Wind data can be imported from certain flight computers. The right column shows manually entered winds. The wind column that is used for final glide calculations will be displayed in blue. All wind arrows of the other column will be grayed out. An "X" means that the wind speed is zero.

Click ">Copy>" to transfer selected automatic winds of the left column into the right column. If no wind arrow was selected in the left column all winds will be copied to the manual column. How do you select one or more wind arrows? Just tap and drag over the wind arrows that you want to select. You can change the manual wind for more than just one wind arrow by selecting the wind arrows that you want to alter. The corrections that now follow will be based on the *first* selected wind arrow. The plus/minus buttons refer to the highlighted edit field. Just click the edit field (direction/speed) that you want to change.

5000 ft	4		X	Wind from	<input type="text"/>
4000 ft	4		X	with	<input type="text"/>
3000 ft	4		X	> Copy >	
2000 ft	4		X	-	+
1000 ft	4		X	--	++
0 ft	4		X		
Esc			OK		

Wind speeds and directions entered in this dialog will be used to calculate the 30 "best" arrival altitudes. Refer to Section 4.3.2 for more details.

**Note #1:** If *solely* GPS data is available then **pocket\*StrePla** will calculate the wind direction and strength while you circle. In that case it is *not* possible mathematically to determine the wind while you fly straight ahead. If your cockpit computer displays wind while you fly straight ahead it will at least use the TAS for the wind calculation. Mathematically you can only exactly calculate wind while you fly straight ahead if the true heading is available – which means that your cockpit computer is equipped with a well compensated magnetic compass.



**Note #2:** The thickness of the wind bands will be adjusted automatically if you come close to the ceiling of the highest wind band. So if for example the upper ceiling of the highest wind band is 10.000 ft and you get close to that ceiling **pocket\*StrePla** will increase the thickness of the five wind bands.

## D FAI area

**M** 1:r1/c2

In the year 2003 a new category for world gliding records was established called the "free FAI triangle". Now you can decide during flight the location of your FAI triangle turn points. Due to the complexity of the FAI norm it is practically impossible to marginally fulfill the norm by doing calculations in your head. Therefore it is very helpful to see the areas where you can place a turn point that fulfills the FAI triangle rules. For the German DMSt contest this feature is also very important since a bonus of 15% is given to each free FAI triangle flight.

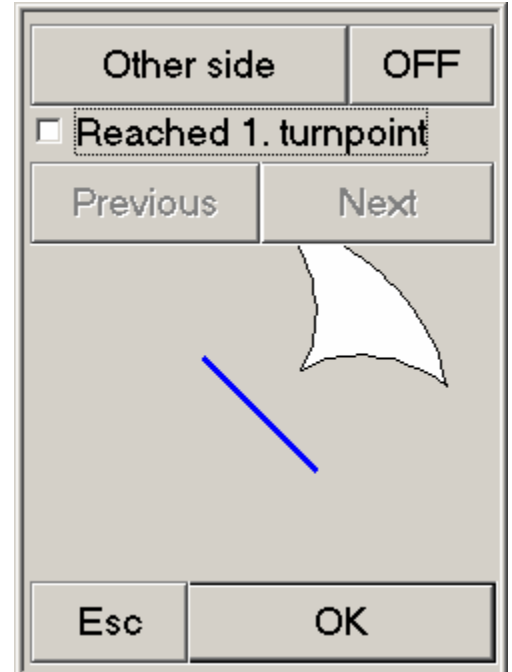
In the example the first free turn point in the southwest has been reached which you tell **pocket\*StrePla** by setting a checkmark in front of "reached 1. turn point ". By the way: You can set a checkmark by clicking the text instead of the small white square. Remove the checkmark by clicking once again. If the first turn point has been reached, the largest triangle will be displayed under the assumption that you get back home. If the second turn point lies within the FAI area then the optimized triangle will be an FAI triangle.

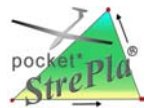
By clicking the "other side" button you can determine whether the FAI area will be shown on the left or right side of the flight track. Usually you will make the choice "left or right" while you fly the first leg of the triangle.

By clicking the "previous" or "next" button you can switch the FAI area to the previous or next leg. You are likely to use this function if you are on your way back home and you are interested in enlarging the triangle by extending the flight "behind" your home airport. By displaying the FAI area opposite to the second leg you can check whether you still fulfill the FAI rule while you extend the triangle flight.

You can switch off the FAI area in the map view by clicking "OFF". The button label will then change to "ON" to allow you to re-display the FAI area.

Use the Zooms Dialog to set the appearance of FAI areas ("chevrons") for each zoom level individually.





**D Units**

**Page 1 of 2**  
This dialog is self-explanatory.

**Page 2 of 2**  
Independently from page 1 you can set units for the VOR and ETA Thumb.

Important: You need to set the deviation in order to get a correct QDR indication.

<b>VOR Thumb (QDR)</b>		<b>Altitudes</b> <span style="float: right;">ft ▾</span>	
Variation	9 °	Arrival height	ft ▾
W= — E= +	- +	Distance	NM ▾
Distance in	NM ▾	Vert. speed	kts ▾
Altitude in	ft ▾	Horiz. speed	kts ▾
<b>ETA Thumb</b>		Mass	lbs ▾
Speed in	kts ▾	<span>Esc</span> <span>2/2 &gt;&gt;&gt;</span> <span>OK</span>	
<span>Esc</span> <span>2/2 &gt;&gt;&gt;</span> <span>OK</span>		<span>Esc</span> <span>1/2 &gt;&gt;&gt;</span> <span>OK</span>	

**D Zooms** **M** 1:r2/c2

In this dialog you define the elements to be displayed in map view for each zoom level.

By default your changes apply to all zoom levels. But you can also select a specific zoom level from the drop down list in the upper right corner of the dialog. You can jump between different zoom levels. If you click "OK" all changes will be saved.

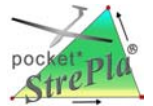
In addition to the zoom levels from 0 to 7 you will find "all zooms", "current" and "RESET" in the drop down list.

If "all zooms" has been selected and a setting is the same for **all** zoom levels then a checkmark will either be set or unset. In all other cases ("mixed settings") the corresponding checkmark will be grayed.

Select "RESET" to restore the defaults or "current" for the zoom level that was active before you invoked the dialog.

There is another drop down list that allows you to select the type of optimization to be displayed graphically in map view.

<input type="checkbox"/> Map	all zooms ▾
<input checked="" type="checkbox"/> Track	
<input type="checkbox"/> Cross hairs	<input checked="" type="checkbox"/> FAI area
<span style="border: 1px solid gray; padding: 2px;">None ▾</span>	Disp. Opt.
<input checked="" type="checkbox"/> Task	<input checked="" type="checkbox"/> fill areas
<input checked="" type="checkbox"/> Airspaces	<input checked="" type="checkbox"/> fill areas
<input checked="" type="checkbox"/> WPs	Arr.height <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Airports	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Emergency fields	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Waypoints	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mountain passes	<input checked="" type="checkbox"/>
<span>Esc</span> <span>OK</span>	



## D Altitudes

**M** 1:r2/c3

**K** C:3\*

### Page 1 of 2

Actually you do **not** enter altitudes in this dialog! The purpose of this dialog is to enter a QNH. If your flight recorder delivers barometric altitudes the barometric altitude input works just like your mechanical altimeter in the cockpit.

It's your choice: Either you change the value in the edit field for barometric altitude (and the QNH value is adjusted accordingly) or you tab on the QNH edit field and alter the value using the plus/minus buttons until the elevation or your airport is being displayed.

It is crucial for correct indications of vertical airspace distance that the respective and current QNH is being set for the airspace. The QNH usually changes during flight!

If you connect **pocket\*StrePla** to a "GPS-mouse" then barometric altitudes are not available because a GPS mouse only delivers GPS altitude values. Then vertical airspace distances indicated by **pocket\*StrePla** are to be understood as inaccurate and approximate. Therefore you need to use your mechanical altimeter to check vertical airspace distances which obviously has to be set to a valid QNH.

If an airspace floor or ceiling defined in "FL" (flight level) you will have to set your mechanical altimeter to 1013.2 hPa or 29.92 in. For **pocket\*StrePla** this will happen *automatically* if you use barometric altitudes and you approach an "FL" airspace.

**Note:** Even if you use barometric altitudes delivered by your flight recorder you should not exhaust the vertical airspace distance indication (airspace warning) by **pocket\*StrePla** because you cannot be sure that your flight recorder has been exactly calibrated to ISA (International Standard Atmosphere). An airspace violation in a central contest can be very costly...

Tap "Update" to display the most current altitude values delivered by your GPS device or flight recorder.

An exact GPS altitude is far better suited for final glide calculations than a barometric altitude because it's a so-called "true altitude" which allows you to determine the exact vertical distance relative to your target airport. That true altitude is crucial for your final glide. If the actual temperatures of the current "real" atmosphere deviates significantly from ISA then using a barometrical altitude for the final glide is not the best choice.

The coloring of arrival altitudes in Map View is determined by the so-called Yellow Altitude – *not* by the Safety Altitude:

- Red      The airport cannot be reached in a final glide.
- Yellow    The airport will be reached between 0 ft AGL and the so-called Yellow Altitude that you can define in the Altitudes Dialog.
- Green    The airport will be reached above Yellow Altitude.
- Gray     Altitude a mountain pass will be reached.

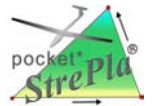
With the Yellow Altitude you can fly with a Safety Altitude of 0 ft and still enjoy the traffic light color logic. Bear in mind that a Safety Altitudes unequal to 0 ft *always* worsens *all* arrival altitudes.

### Page 2 of 2

#### IMPORTANT

**Always use barometric altitudes for airspace warnings!**

**GPS-altitudes are not suited for calculating vertical airspace distances and should therefore *never* be used!**



On the second page of the Altitudes Dialog you can instruct **pocket\*StrePla** to issue a gear down warning if you sink below a specified height **above ground**. This unique function is possible because you can load high precision terrain elevation data into **pocket\*StrePla**. The width of the grid is very narrow – about 300 ft by 300 ft.

If terrain elevation data is available where you land then the gear down warning will also work in the case of an off-field landing!!!

In addition to the warning you can launch a pre-defined checklist.

Geoid correction is relevant only for GPS receivers like GPS mice. FAI flight recorders have already been Geoid corrected which means in real life that **pocket\*StrePla** (that is attached to a FAI flight recorder) will approximately show airport elevation if you are still on the ground. The Geoid correction value depends on the location where you fly. In Germany you need to enter -155 ft. If you click the "0 ft GND" button **pocket\*StrePla** will calculate the difference between terrain elevation and GPS altitude and **pocket\*StrePla** will insert that difference in the edit field.

## D MC

M 1:r3/c1

Enter the MacCready value which you want to use to fly cross country or for a final glide. The value can be selected between - 0.5 and 5.0 m/s. If you have selected a unit for vertical speed that is not equal to "m/s" (meters per second) then the just mentioned boundaries will be translated to the unit chosen. **pocket\*StrePla** offers different methods to enter the MacCready value:

- Use the plus/minus buttons to change the value displayed in steps of 0.1.
- Click the vertical bar at the right side of the dialog. The length of the blue bar is proportional to the MacCready value. You can alter the length of the bar by dragging it with your finger or stylus.

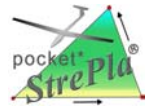
Depending on the polar currently selected **pocket\*StrePla** will display the following data for a general orientation:

- Speed-to-fly.
- Cruising speed.
- Ground L/D in calm air.

Check "Optim. for map" if you want **pocket\*StrePla** to optimize all arrival altitudes displayed in Map View. Otherwise the MC value set manually will be used for the calculations.

If you check "Optim. for goal" **pocket\*StrePla** will use an optimized MC value for final glide calculations. You might want to consider this setting if your final glide is rather narrow and you have to penetrate a strong head wind. In this case the optimized MC value will deviate from 0.0 kts quite significantly.

**Note:** If you select a goal in the Best Glides ("Emergency") Dialog and leave the dialog via "GoTo" then **pocket\*StrePla** will automatically switch to MC optimization for goals. You will need to manually **unselect** this check mark if you did not have it selected before the emergency in order to restore the settings after you successfully mastered the "emergency".



## F Thumbs

**M** 1:r1/c1

Use this function to arrange thumb nail windows called Thumbs which display certain information like the current altitude above ground or your ground speed. All Thumbs will be explained in detail in Section 4.7.1. There is a very user friendly procedure to arrange Thumbs: First of all after invoking the function you will see that all Thumbs that were hidden so far appear in the middle of the screen. You can now use your finger or stylus to drag thumbs between the three areas (top, middle, bottom) separated by a thick yellow line. If you terminate the function by calling the QUIT Function (usually assigned to the upper right screen corner) all Thumbs in the middle will be invisible again. If the Thumb you are looking for is not visible just click the arrows (up/down) located at the right screen border until the Thumb appears.

**Note:** Inactive Thumbs (in the middle of the screen) are always sorted in the same sequence. "New" Thumbs will appear at the end of the list. This makes it easier to find the Thumb you are looking for. All active Thumbs (at the top or bottom of the screen) will appear just as you arranged them.

You can move Thumbs while airborne although this is not recommended. The Thumbs Function is available while you replay an IGC file and the content of a Thumb will be updated while you re-arrange it.

We suggest you to configure Thumbs Groups as follows:

- Group 1: Thumbs important for the final glide.
- Group 2: Thumbs useful for the non-final-glide portion of the flight.
- Group 3: No Thumbs at all – see as much of the map as possible.

**Note #1:** All thumbs are active at all times. Even though you do not select a thumb to be visible on the map pages, you can access Thumbs (M 1: r3/c3) at any time and view the hidden data. You can "scroll down or up" to view additional thumbs. When you exit this page, the thumbs showing will reappear when you re-access this function.

**Note #2:** It is recommended that you do not place the Pirker or MC thumbs in the corners. Tapping the MC will bring up the MC dialog **unless** it is in a corner and then the tap activates the function assigned to that corner.



## F Task current

**M** 2:r2/c3

**K** A: 2\*

Use this function if you want to invoke the Task Edit Mode quickly if a Map View is currently on display. (The alternative would be to display the Task Dialog, select the current task and then press the Edit Button.)

If you are on final glide and need to dodge the corner of an airspace you are not allowed to use you can use this function to quickly insert a detour in your final glide. This additional checkpoint will mean a longer final glide which will be fully recognized while calculating your arrival time and arrival altitude at the target airport.



## D Polars

M 2:r1/c1

Select the glider type by pressing the "..." button. Each polar curve is associated with a reference takeoff mass. Using the plus/minus buttons you can adjust the takeoff mass. Click the Reset button to switch back to the reference takeoff mass.

A bug correction factor of 30 will increase the sink for any given speed by 30%. Click Reset to set the bug factor to 0%.

A graphical representation of the polar curve can be displayed by pressing the Polar button. **pocket\*StrePla** draws the original polar curve (0% bugs, reference takeoff mass) in grey. Black dots indicate measured data (speed/sink pairs). In the example below the takeoff mass was increased which results in a polar curve in blue color which is shifted to the right.

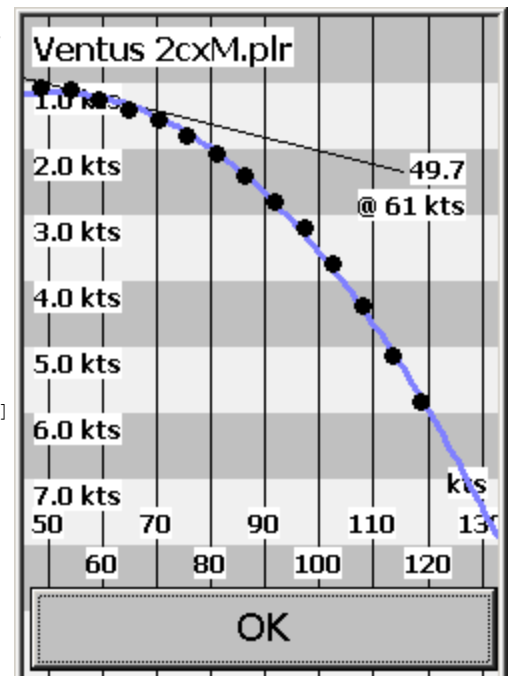
Note: If you increase the takeoff mass the polar curve moves to the right. Best L/D will be reached at a higher speed-to-fly. The best L/D will **not** change.

If you increase the bug factor the polar curves moves down and best L/D decreases. The speed-to-fly to achieve best L/D will **not** change.

Polar approximation using external polar files: Many polar curves are already build into **pocket\*StrePla**. You can now supplement the internal polar curves with external polar curve files (\*.plr.txt) in a special **pocket\*StrePla** format. The special thing about the **pocket\*StrePla** format is the fact that you are **not** limited to exactly three speed/sink pairs. If for example a printed measured polar curve is available to you it's not easy to identify such three speed/sink pairs that describe the printed polar curve "best" (minimizing errors). **pocket\*StrePla** allows you to specify up to 30 speed/sink pairs in the polar file. A rather elaborate mathematical algorithm has been implemented in **pocket\*StrePla** that will determine the "best" coefficients to minimize the square of errors between the printed polar curve and the second degree polynomial. In case you need to transfer the coefficients to your flight computer you can display them by pressing the "abc" button. The dialog will also display the corresponding three speed/sink pairs.

This is an example for an external polar file:

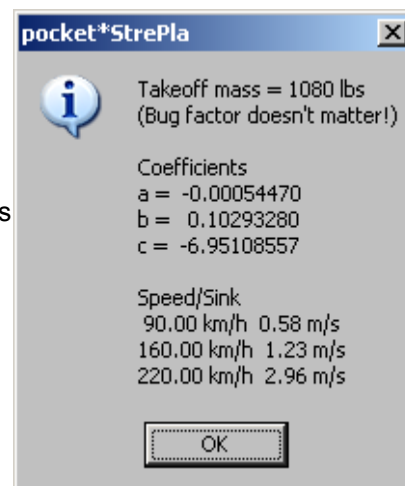
```
* Ventus-2c(x)M
* pocket*StrePla polar file
* takeoff mass without water [kg], max. water ballast [liters]
* speed_1[km/h], sink_1[m/s],
* speed_2[km/h], sink_2[m/s],
* (...)
* speed_i[km/h], sink_i[m/s]
* NOTE: A maximum of 30 speed/sink pairs is allowed!
* Note for mathematicians:
* pocket*StrePla will calculate the coefficients for a second
degree polynomial.
* The sum of the square of errors will be minimized.
490 75
90 0.55
100 0.56
110 0.64
120 0.71
130 0.80
140 0.92
150 1.06
```





160	1.23
170	1.43
180	1.64
190	1.91
200	2.24
210	2.63
220	3.00

If you defined exactly three speed/sink pairs the **pocket\**StrePla*** polar file is basically the same as a WinPilot polar file.



## D p\*S-Logger

**M** 2:r1/c2

There is no need anymore to purchase an expensive FAI flight recorder if you want to participate in the OLC. For the OLC 2006 contest you can use **pocket\**StrePla***! Any GPS device will be okay. Just like an FAI flight recorder, **pocket\**StrePla*** will generate IGC files with an electronic signature.

Please note that you will have to use an FAI flight recorder for Baron Hilton Cup entries.

Use the **pocket\**StrePla*** Logger Dialog for your flight declaration by entering your name, glider model and glider call sign in the dialog. As soon as you click one of the "..." buttons a keyboard will be displayed which you can use to enter your data.

**Important:** As soon as you leave the **pocket\**StrePla*** Logger Dialog via OK a warning message will appear. If you confirm the message a *new* IGC file will be started. Therefore it is very important to enter your data in the **pocket\**StrePla*** Logger Dialog prior to your flight – while you are still on the ground.

**Declaration p\*S-logger**

Pilot  
Jens-Christian Henke ...

Glider type (eg. ASW 20)  
Rhoensperber ...

Call sign (eg. N-12345)  
D-9025 ...

Esc OK

## D IGC Start / Stop

**M** 2:r2/c1

After a nice day in the air you might want to review your flight while you enjoy a cool coke or a beer: Select the IGC Start Dialog from Menu #2 and a list with your flights recorded by **pocket\**StrePla*** will appear. Select an entry from the list and press OK.

Whether you actually fly or replay an IGC file it does not matter regarding the behavior and functionality of **pocket\**StrePla***. So you can replay an IGC file if you want to practice using **pocket\**StrePla***. The only difference are 3 control elements "-", "5" and "+" close to the right screen border. Slow down or speed up the movement of the glider by pressing "+" or "-". The number will tell you about the replay speed. Select "0" to stop reading position data from the IGC file.



## D Tasks

M 2:r2/c2

Use this dialog if you want to work with tasks. If you have planned your tasks with **StrePla4** and exported them to **pocket\*StrePla** you can now select an active task from this dialog.

Before the task will be drawn into the map you will be asked to assign one of six buttons in the Goals Dialog.

You can also use this dialog if you want to delete, create or rename tasks. If you click a list entry twice all turnpoints will be shown plus the distance between turnpoints.

Click a header to change the sorting. Drag a header divider to change column width.

All details pertaining to the planning of a task will be explained in Section 4.8, "Task planning".



## D Map

M 2:r3/c3

Map orientation will be controlled through this dialog. You have the choice of orienting the map **fixed** to the

- North
- East
- South or
- West

or **variable**

- Track-up or
- Goal-up.

Check "Rotate map via lower screen border" if – in addition to the above – you wish to control map orientation manually.

**Note:** Moving the map with your finger is like manipulating a piece of paper in front of you. You can shift the map up, down, to the left or right and even rotate the electronic "piece of paper" by moving your finger close to the lower screen border.

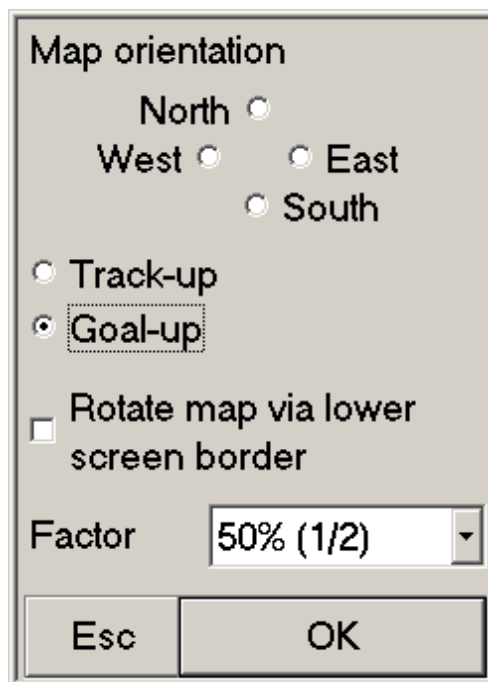
THIS MAP PANNING FEATURE IS UNIQUE TO pocket*StrePla*.

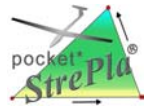
If you pan beyond the glider, you may recenter the map and the glider by pressing the middle of the multifunction key

The "Factor" drop down list always applies to the **current** zoom level.

Each zoom level is associated with a map and a map zoom factor. The defaults are:

Zoom level	Zoom factor	Map file in pS_Data
0	100%	pStrePla0.map
1	100%	pStrePla1.map
2	100%	pStrePla2.map
3	100%	pStrePla3.map





4	200%	pStrePla3.map
5	400%	pStrePla3.map
6	800%	pStrePla3.map
7	1600%	pStrePla3.map

Example: By default map file pStrePla3.map will be enlarged 8fold for zoom level 6. Now you can change the map zoom factor. This makes sense when you fly with a sectional map because they still look good if you shrink them to 50%. In that case we suggest the following zoom factors:

Zoom level	Zoom factor
3	50%
4	100%
5	200%
6	400%
7	800%

## D Copyright

M 2:r3/c1

The unavoidable Copyright Dialog will display a nice picture taken during an unusual thermal wave flight above Germany a couple of years ago.

There is a software "Easter egg" hidden in the dialog which can be made visible by following the instructions published on <http://www.eeggs.com>! :-)

Just search for "White Rabbit"...

## D Info

M 2:r3/c2

The position refers to the current geographical position of the glider. It will be presented in two different formats.

The date is being retrieved from your PDA – be sure it has been set correctly. So it's **not** the date which might be delivered by the GPS device.

All UTC times for sunrise and sunset and the position refer to centre of the PDA screen. Example: If you want to know the when the sun sets at your home airport then you just pan the map until your home airport appears in the middle of the screen. You might want to make the cross hairs visible (Zoom Dialog). Knowing the exact time the sun will set is quite valuable information not only for world record flights that must end **before** sunset.

**Position**  
 50 06.098' N/007 53.825' E  
 50 06 05 N /007 53 49 E

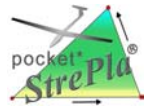
**Date**  
 01-31-2007

**Centre of screen**  
 50 06.835' N/007 55.668' E

**UTC times**  
 07:04:21 Sunrise  
 16:19:59 Sunset

**CPU-ID**  
 A\_PC\_has\_no\_CPU-ID!

OK



### D Airspace Distances

**M** 3:r1/c1

Use this dialog to define airspace warning distances, the default alarm interval and whether you want to be reminded of close airspace by sound and/or by a dialog.

Imagine that each airspace is surrounded by a red, yellow and green "onion layer". Per color there are three different thickness values (above, below and lateral). Labels "below" and "above" refer to **your** position below or above an airspace. Highlight a value by tabbing it and then use the plus-/minus buttons to change the value.

Let **pocket\*StrePla** warn you with a sound when you penetrate into an onion layer by placing a checkmark in front of "Alarm sound". The time interval is a default for repeating an alarm sound.

One of four sound files will now be played. The below sound files have already been installed:

- green.wav
- yellow.wav
- red.wav
- violation.wav

Feel free to replace the defaults sound files with a short sound file you created. Sound files must be in WAV format. You can also delete or rename a sound file to prevent **pocket\*StrePla** from playing it.

If you penetrate into the red onion layer or if you violate an airspace the Last Airspace Warning Dialog will appear which is being described below.

### D Last Airspace Warning

**K** A:1\*

The dialog shows the airspace for which **pocket\*StrePla** issued the latest warning.

The top of the dialog shows the name of the airspace which red onion layer you "entered" or which has been violated. Find the airspace class in round brackets.

The edit field "next alarm in" will be highlighted automatically. You can change the value using the plus-/minus buttons. You can even change the floor or ceiling of the airspace. Such changes will be reset to the values in airspace.txt when you press Reset or restart **pocket\*StrePla**.

Place a checkmark in front of "FL" if the floor/ceiling is a flight level.

You can switch off airspace warnings for the rest of the day if you check "Ignore airspace". If you want to re-activate the airspace again just click on the airspace in Map View and select the airspace in the dialog that now appears.

Alternatively to ignoring an airspace completely is the selection of a fairly long Warning interval of – for example – 30 minutes. This will allow you to leave the airspace without another warning. If you re-approach the airspace in the evening returning from your flight you will be warned again – just as you would expect.



## D Airspace Warnings

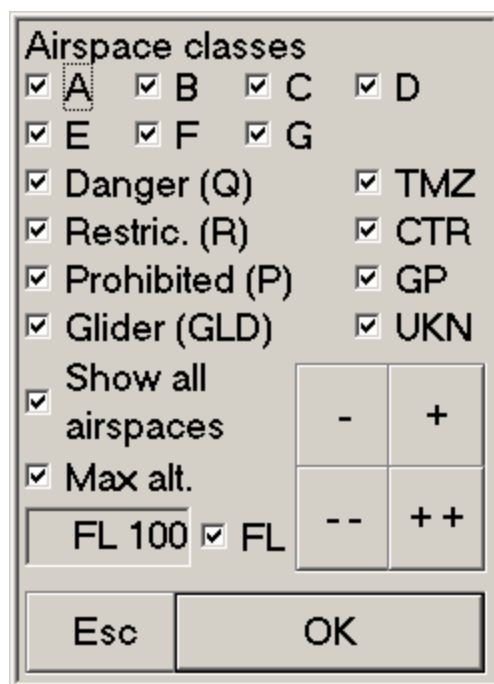
M 3:r1/c2

In this dialog you select the airspace classes **pocket\*StrePla** issues warning for. So you could – for example – let **pocket\*StrePla** only issue airspace warnings for CTRs (which might not make much sense).

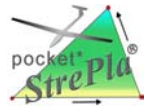
You can also define a "Max. alt.". This is a special airspace with no lateral boundaries. This feature is important for competitions where the competition director might establish a maximum altitude for the day.

Normally p\*S will only display such airspaces in Map View that might trigger a warning. You can however check "All airspaces" to let **pocket\*StrePla** display **all** airspaces found in the airspace file.

Airspaces defined with an unknown identifier will be assigned to the "UKN" category. The following identifiers are implemented in **pocket\*StrePla** :



Airspace type	Identifier	Description
A, B, ..., G	A, B, ..., G	ICAO airspace types A through G
CTR	CTR	Control zone.
TMZ	TMZ	Transponder Mandatory Zone. Airspace can only be entered with a working transponder.
Danger	Q	Entering this type of airspace poses certain dangers.
Restricted	R	Use of this type of airspace is restricted.
Prohibited	P	Never enter this airspace.
GliderProhibited	GP	Gliders are not allowed in this airspace.
GliderSector	GLD, GLIDER, W	Special airspace for gliders, e.g. wave windows.
Unknown	UKN	Unknown airspace.



## D Waypoint View

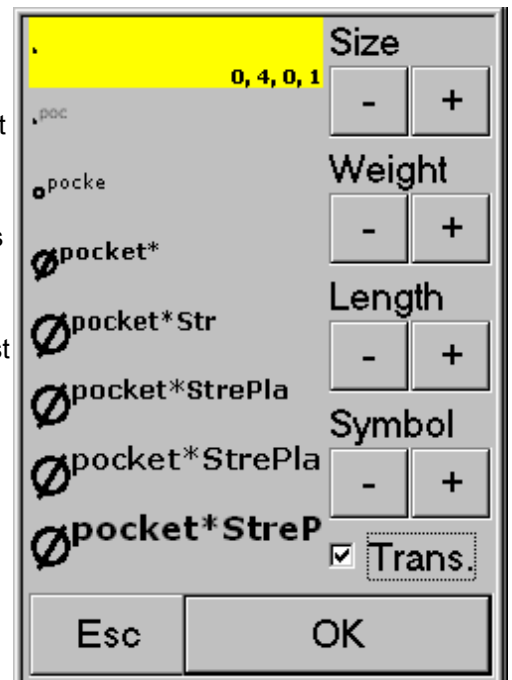
M 3:r1/c3

Configure waypoint labels through this dialog. What you can do is fairly self-explanatory since the integrated preview shows you what will later be seen in Map View 1 and 2. Try out what the dialog offers.

**Important:** All settings apply to the current Map View. Therefore it's possible to define different settings for Map View 1 and Map View 2.

Each line represents a different Zoom level. In other words, the first line (highlighted) represents Zoom level 0. The last line represents Zoom level 7. This is how a symbol and name will be shown. You can change the size of the symbol, the boldness, the length of the name etc. for each zoom level.

Explain what Trans. Means and does



## D p\*S-Connect

M 3:r3/c1

p\*S-Connect isn't really a dialog but rather a separate, stand-alone program which will be explained separately. You can download the p\*S-Connect Manual as a WinWord or PDF file from our homepage [www.strepla.com](http://www.strepla.com).

## D Settings

M 3:r2/c1

Page 1 of 2 or Page 1 of 3

### Current wind from

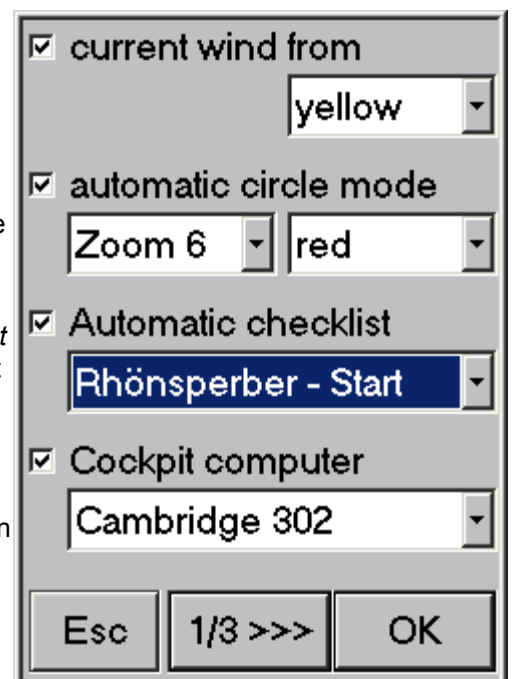
Normally **pocket\*StrePla** will display the average wind in the current wind band (blue arrow). You can also choose to display the current wind by checking this option. The color of the wind arrow has the following meaning:

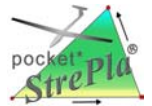
- Red The "red" wind will be shown after one full circle – it will *not* influence the calculation of the average wind of the current wind band.
- Yellow You need to complete at least two full circles to see the "yellow" wind. It will have an effect on the average wind.
- Green Having flown at least four full circles the "green" wind will be presented to you. It will also change the average wind in the current wind band.

### Automatic circling mode

If you start circling **pocket\*StrePla** will switch automatically to the second Map View. You can set a zoom level which will be invoked automatically for the second Map View as soon as **pocket\*StrePla** recognizes a current wind of the selected "wind quality" (red, yellow or green).

If you leave the thermal and fly straight ahead **pocket\*StrePla** will switch back to the previous Map View





### Automatic checklist

Select this option if you want to display a checklist after **pocket\*StrePla** has been launched.

#### Page 2 of 3

### Flight computer interface

Flight computers measure specific data much more exact than a GPS device. Example: The data of the Variometer Thumb will be calculated by **pocket\*StrePla** from barometric altitude values received from an FAI flight recorder. A flight computer will supply that data with a much higher accuracy. Such values can be used in **pocket\*StrePla**. Currently the following flight computers are supported:

- Borgelt B50
- Cambridge 302
- ILEC SN10

If you check "Flight computer" an additional dialog page will be inserted where you can control settings specific to the selected flight computer.

#### Page 2 of 2 or Page 3 of 3

### Replay IGC file in a loop

You should **not** check "Play IGC file in a loop" if you need the optimization results to be displayed in the corresponding thumbs. Otherwise the results will disappear rather quickly because the optimization process will be reset when the IGC file is "rewound" to the beginning for playing it again.

### Write IGC file only after a flight

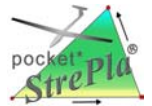
If you test **pocket\*StrePla** on the ground it is generally not desirable to generate IGC files. Sometimes however you might want to record a car trip and in such case you should remove the checkmark in order to generate the IGC file.

### Virtual navigation key

The 4-way-navigation-key (or "rocker switch") below the screen of some PDAs (e.g. iPAQ 5450, iPAQ 4700) is a bit difficult to handle. If you check "Virtual navigation key" touching each of the four screen borders corresponds to the four directions (up, down, left and right) of the navigation key.

### Autom. checklist after logger connection

**pocket\*StrePla** will set the QNH automatically if it receives a valid fix from the GPS device. It might however take a moment until valid GPS data is available. If you check this option display the "automatic checklist" will be delayed up to the moment the tenth valid fix was received. You will notice that in such case the checklist item for the altimeter setting will yield the correct QNH.



## D Interfaces

M 3:r2/c2

### Page 1 of 2

Select the GPS device or flight recorder that "feeds" **pocket\*StrePla**.

The lower half of the dialog hosts the so-called "NMEA monitor" that displays the current data stream received from the GPS device as soon as the settings (COM port and transfer rate) are correct and the GPS device is attached to the PDA.

Some PDAs with a built-in GPS receiver require you to check "SiRF" (if they are equipped with a SiRF chip set). For example an Asus MyPal A636 will **not** transfer NMEA data via the serial interface anymore if the serial interface is opened a second time – unless you check "SiRF".

#### Expert advice:

Press the Stop button if you unhurriedly want to study the content of the NMEA stream.

### Page 2 of 2

#### Save all

The NMEA data stream can be stored in a log file (LogNMEA.txt) on a memory card if you check "Save all". The option will be grayed out if a memory card does not exist or there is not enough memory available on the memory card.

This however should only be done in the case of communication problems since that log file can get rather large. **pocket\*StrePla** will run slower if you log the NMEA data stream.

The "LogNMEA.txt" file will be stored in the "pS\_Data" directory of the memory cards that offers most available free memory when **pocket\*StrePla** was launched. Examine "pS\_Prog\Log.txt" to find out about the exact location of "LogNMEA.txt" by searching for "'Best' memory card path". The following directories might host "LogNMEA.txt" on an iPAQ:

- "\SD Card\pS\_Data\LogNMEA.txt"
- "iPAQ File Store\pS\_Data\LogNMEA.txt"

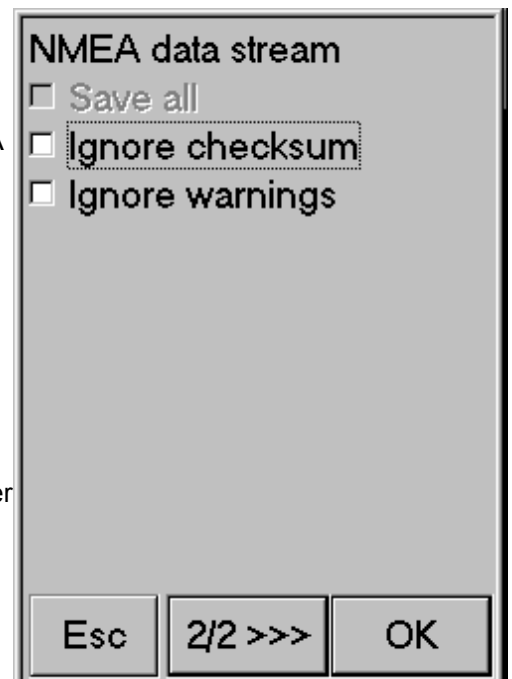
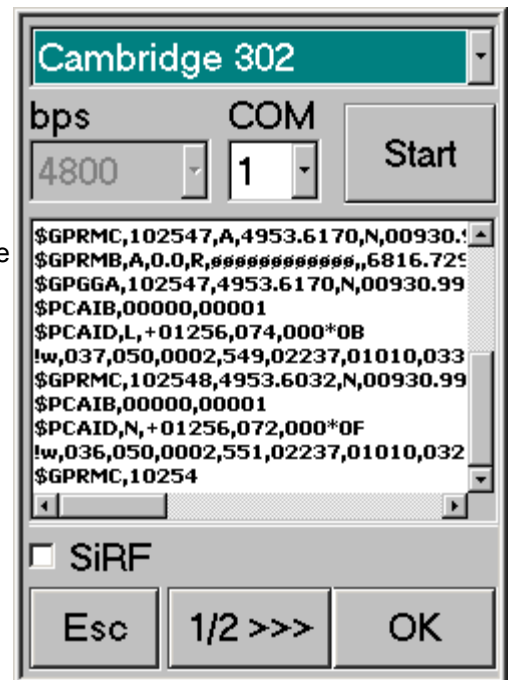
Note for iPAQ users: The so-called "iPAQ File Store" (available since the iPAQ 3760) will be treated as a memory card by the PDA operating system. An iPAQ 3760 offers 6.5 MB of additional memory that– by the way – is permanent (not erased) even in the case the battery is depleted completely!

#### Ignore checksum

Check "Ignore checksum" if you do **not** want **pocket\*StrePla** to validate NMEA sentences received from the GPS device. You should **not** check this option without a good reason.

#### Ignore warnings

The same is true for "Ignore warnings": Some GPS mice will deliver proper position data while at the same time voiding the corresponding NMEA sentences. Since **pocket\*StrePla** closely follows the NMEA communication protocol it will ignore such position data by default unless you check the option.



## D Menus and Keys

M 3:r3/c2

With the help of this menu you can easily assign functions and dialogs to keys, screen corners and menu items as you wish.

Select a main menu by clicking the "#1", "#2", "#3" or "#4" button. Choose the A-K buttons via "1x", "2x" or "3x" or screen corners by tapping "Corner".

### Assigning keys

Click either the key or label in the graphic. The key plus its label will now be highlighted in yellow. Finally you just select a function or dialog from the drop down list and the assignment will be executed.

### Assigning menu items

There are nine menu items: Select one of them. Now you select a function or dialog from the drop down list and the assignment will be executed.

Assigning a dialog to a menu item gives you the additional option of returning to the main menu after you have left the dialog invoked through the menu item. Check "Main menu" if want to return to the main menu instead returning to the Map or Barogram View.

### Assigning screen corners

This works just like assigning a function or dialog to a key.

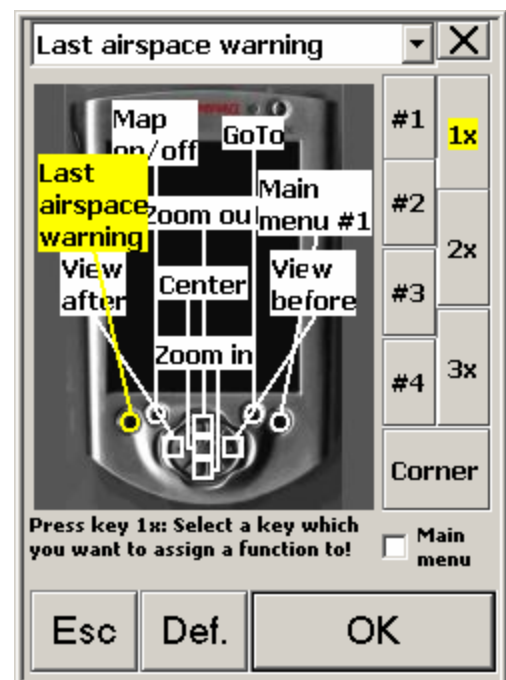
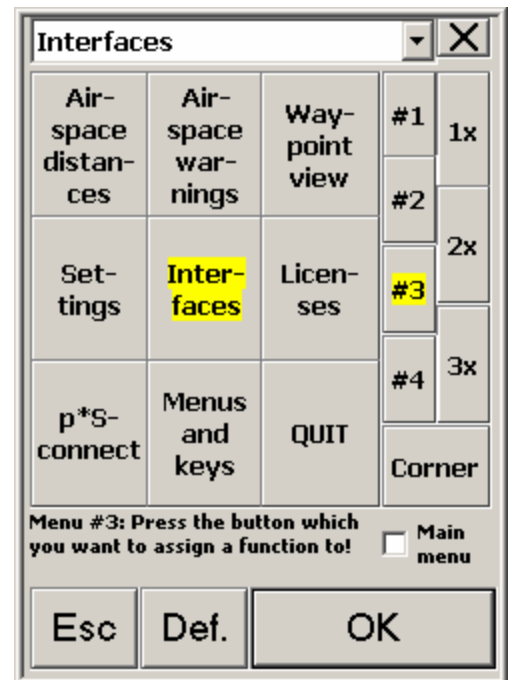
Once an element (menu item, key or screen corner) is highlighted in yellow you can execute the function or display the dialog associated with the element if you click that element once again.

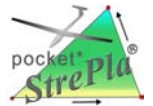
Cancel an assignment by clicking "X" right next to the drop down list. There are some assignments (like the QUIT function) that you cannot delete.

### Restoring defaults

Click "Def." to invoke the dialog that allows you to restore defaults. The following elements can be reset:

- Main Menu Items
- Hardware Keys
- Screen Corners
- Thumbs
- Zoom factors for maps





The option "only if the corresponding element is available – that is if it is not already occupied" has been created to solve a dilemma that arises if you have just installed a new version of **pocket\*StrePla** that offers new Dialogs and Function. If you check the option your settings will **not** be overwritten by the default settings of a new Function or Dialog.

Read the description of the Map Dialog if you want to see a table with map zoom factor defaults.

Note: The Defaults Dialog will appear automatically if you have launched **pocket\*StrePla** for the first time after a version update.

Select the elements which you want to reset to the defaults.

main menu items

Keys     for hx4700

Screen corners

only if the correspondig element is available - that is if it is not already occupied

thumb nail windows

Zoom factor for maps

## **F** QUIT

**M** 3:r3/c3

Use this function to terminate **pocket\*StrePla**.

Important: Always truthfully answer the question "Airborne?" because otherwise **pocket\*StrePla** might delete the IGC file it has written!

## **F** Task AAT

**K** B:2\*

If you have selected an AAT task on the Goals page, you may invoke the edit mode for AAT turnpoints. Now you can move an AAT turnpoint within the AAT area. You cannot place the turnpoint outside the area! Note that arrival altitude and arrival time will be updated in the Goal Thumb.



## D Best Glides

**C** bottom left

A list will be displayed that contains up to 30 landing locations (waypoints of type "airport" or "landable"). All goals that would be reached **significantly** below ground level will **not** be included in the list.

### Note for experts:

You can change the cut-off by editing pStrePla.ini.txt. The default entry looks like this line: "lBestGlideAlt=-500". The unit is always meters. So in this case all landing locations will be filtered out if the arrival altitude is less than -500m (500m below airport elevation).

By clicking "Sort" you can either sort all entries by arrival altitude or by deviation in degrees [°] from the currently selected goal. ">" means that you have to turn to the right in order to directly get to the goal. Analogically turn left if "<" is indicated. Your goal is dead ahead if you see "|". Select the desired goal and click "OK". The selected goal will be assigned to button #6 in the Goals Dialog. This way you can quickly retrieve detailed information about the goal by clicking the lower right screen corner. If desired you can change the column width by dragging the column separator (vertical line) to the left or right. Scroll to the right to see more information like the frequencies or elevations.

Type/Corr./WP-n.	A [m]
∅ 038 > Stanton	576
∅ 166 > Jennric...	387
∅ 166 < Lucht F...	375
∅ 178 < Nielsen's	318
∅ 153 < Sowieja	298
∅ 164 > Le Nore's	251
∅ 053 < Stewart...	241
∅ 158 < Stegma...	212
∅ 170 > AIRLAKE	97
∅ 105 > G...	01

Buttons: Esc, Sort, Goto

**Important note:** All arrival altitudes presented in the Best Glides Dialog are based on an optimized MacCready value. This means for example that in the case of a strong headwind **pocket\*StrePla** will automatically select an MC setting significantly above 0 kts. If you leave the Best Glides Dialog by clicking the GoTo Button all goal calculations (arrival altitude and time) are now based on optimized MC values. You can undo this by removing the corresponding checkmark in the MacCready Dialog.

## F Map on/off

**K B:1\***

This functions switches the map on or off. It will **not** change the visibility of airspaces and waypoints.

## F Map Pan Mode

**K C:2\***

There are two different Map Pan Modes for Map View and for Barogram View. This function will switch to the other Map Pan Mode:

### Map View

(Mode 1) Fixate the glider symbol at the current screen position - pan the map.

(Mode 2) Pan the map if and only if the glider gets close to the border of the screen.

### Barogram View

(Mode 1) Fixate the top of the last barogram candle stick - pan the barogram.

(Mode 2) Pan the barogram if and only if the top of the last barogram candle stick reaches the border of the screen.

## F Centre

**K** Middle:1\*

If you call this function the first time the glider symbol will (re-)appear in the middle of the screen. If you call this function a second time and if you previously rotated the map manually then **pocket\*StrePla** will reset the map orientation according to the settings in the Map Dialog – for example to "North-Up".

## D GoTo

**M** 1:r1/c3

**K** C:1\*

***This and the following Goals Dialog are a very important part of pocket\*StrePla. Study it well!!!***

The GoTo dialog allows you to set a course line towards a goal. The course line will be shown as a thick yellow line that ends in a small blue square symbolizing the goal.

Important to know: If you select a GoTo target you actually create a very simple task which consists of just one single "turnpoint" which is the GoTo target. The big advantage lies in the possibility to change the task by – for example – inserting an offset. This may be necessary because an airspace is in your way. The Goal Thumb will immediately tell you whether you are still above glide path despite of the detour. You can switch quickly to the Task Planning Mode by invoking the Task Current Function described below: In the Task Planning Mode you can now insert the additional turnpoint just as if you would create a triangular task. Read Section 4.8 "Task planning" for further details.

The term "waypoint" used in the text below refers to the following four types of waypoints:

- Airports
- Out landing fields
- Turnpoints
- Mountain passes

All waypoints are defined in the "airport.txt" and "turnpoint.txt" files. Basically all four waypoint types can be stored in either of the two files. **pocket\*StrePla** will automatically remove duplicate entries! You might think that the names of the two files have not been chosen well. However we recommend that you use "turnpoint.txt" exclusively for waypoints of type "Turnpoint". The file "airport.txt" should exclusively store waypoints of type "Airport" (plus if required Out landing fields and Mountain passes). This recommendation is especially true if you want to fly a competition because you can always make sure that waypoints that appear with the waypoint icon always originate from "turnpoint.txt". And this file should only contain waypoints for the competition. Following this recommendation you can easily avoid selecting a wrong turnpoint and ruining a competition day by circumnavigating a wrong turnpoint.

The following **goal types** can be selected in the GoTo dialog:

- **List**: A waypoint which you select from a waypoint database (which has been put together by reading "airport.txt" and "turnpoint.txt").
- **X**: Turn off the current goal or task.
- **Partner**: This goal type will be defined by entering a so-called partner code.
- **Optimal**: Define an "optimal" goal by minimizing the remaining distance that needs to be flown to close a free FAI triangle. Only relevant for German "DMSt" flights.
- **Previous**: Select the previous turnpoint in the current task.
- **Next**: Select the next turnpoint in the current task.

A checkmark in front of "fixed" will fix the start of the course line to the current position of the glider the moment you leave the dialog. Otherwise the course line will always start at the current glider position.

An advantage of "Fixed" is that you can see how much you have deviated off course. If it is not fixed, the line moves with the glider and you always know the most direct course to the goal. An example of the use of non-

GoTo goal

List	Optimal
Partner	X

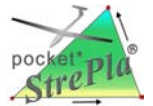
Full-text search

Turnpoint

Previous	Next
----------	------

Track line  Fixed  Visible

Esc	OK
-----	----



fixed is if the goal is on the other side of a mountain. You could assume a heading toward a pass . When the line went through the pass, you could turn on course to the goal.

A checkmark in front of "visible" will draw the yellow line. If you remove the checkmark the goal will be marked by the small blue square alone. The advantage of suppressing the course line lies in improved clarity when you have chosen a low zoom level for the map view.

As soon as you have defined a goal (e.g. after you have clicked the map view) the Goals page will be displayed and you will be asked to select one of 6 buttons to be assigned to the new goal. (The Goals Dialog is described below.)

Note: We suggest that you avoid assigning a goal or task to the lower right box. If you select an emergency field (Best Glides Dialog) then Button 6 (bottom right) will automatically be assigned and this will override your previous entry which may need to be re-selected in case of a task.

### List

If you click this button a keyboard will appear that covers the PDA screen almost completely. Enter the name of the waypoint and click "OK":

First of all **pocket\*StrePla** will search the waypoint database for entries **begin** with the search string. If you have set a checkmark in front of "Full-text search" **pocket\*StrePla** will – in a second step – search for all waypoint names that **contain** the search string somewhere. Both hit lists will be separated by a dashed line. Please consider that a full-text search requires more time.

When the search has finished a list will appear where you can select the desired waypoint. In front of the waypoint name you will find an icon that symbolizes the waypoint type (airport, landing site, turnpoint or mountain pass).

The big keyboard offers 4 buttons that allow you to narrow the search: By removing checkmarks you can exclude certain waypoint types from the search.

Note for editing the search string: Press "X" to delete the last character if no characters are highlighted in the edit field. Otherwise "X" will delete the complete selection.

### Optimal

Skip this section if you do not participate in the DMSt. According to DMSt rules you have to "close" a free FAI triangle flight. A free DMSt FAI triangle is considered to be "closed" if - on your way back to the home airport - a fix can be found within a 1 km radius around the starting point.

Choose "optimal" to let **pocket\*StrePla** guide you back to the beginning of the free FAI triangle.

Important: The time stamp for the beginning of soaring must have been set correctly.

### Partner

This function is very useful for team flying: If you and your team partner have chosen the same reference waypoint then you can radio your team partner a 5-character-code (partner code) that contains your exact location relative to the reference waypoint. That for example is very useful if you are currently climbing in an excellent thermal and if you want your team partner (flying behind you) to also enjoy that good climb. Your team partner simply clicks on "Partner" and a big keyboard will appear that your team partner will use to enter a 5-character-code which you will find in the Goals dialog described below and that you will tell him via radio.

Note for competition pilots: You and your team partner should define a "secret" reference waypoint in the "airport.txt" file which should not agree with a known airport or turnpoint. This way you make sure that transmitting the partner code via radio will not give your competitors a hint about your current whereabouts.

### X

Press the X Button if you want to delete the assignment of a goal to a button in the Goal Dialog. If you press X the Goal Dialog will appear. Now you just need to press one of the six Goal Buttons.



## D Goals

**C** bottom right

If you have already defined goals and assigned buttons for them via the GoTo dialog then you can now quickly and conveniently toggle between different goals. If all the detailed information does not fit the white area of the dialog you can pan the text by using your finger or stylus. The following detailed information will be presented if it is defined in the airport database (airport.txt) or turnpoint database (turnpoint.txt):

- Full name of the goal.
- Arrival altitude which is reduced by the safety altitude. Furthermore the corresponding MacCready value (optimized, or set manually) and the speed-to-fly will be displayed. Data will be updated every 10 seconds.

If there is no terrain elevation data available for the goal then glide path calculations will relate to an arrival above main sea level. In that case the glide path value will be supplemented with "(MSL!)". So you must reduce the MSL height by the elevation of the goal.

Arrival altitudes will be displayed with a background traffic light color similar to the Map View.

Note: The altitude value will be identical to Map View if the checkmarks in the MacCready Dialog have either **both** been set or **both** been removed.

- Airport frequency.
- Runway direction. Directions that cannot be used will be presented in brackets.
- Runway length and type of runway surface (e.g. concrete, grass).
- Elevation of the airport (or out landing field / mountain pass) above MSL.
- Miscellaneous information about the airport (e.g. warnings).  
Note: The text can occupy more than one line if you insert "<br>" in the information string. "<br>" will create a line break.
- The ICAO code of the airport.
- Partner code (updated every 10 seconds).
- Current distance (updated every 10 seconds).
- Current bearing (updated every 10 seconds).
- Geographical Longitude and Latitude.

There is a graphical representation of the goal:

- Runway direction.
- Current position relative to the goal: The head of the "pin" is your current position.
- Wind arrow of the altitude band in which the goal lies.

With the help of the graphical representation you will grasp the likely approach pattern at a glance.

Inform your team partner about your current position by telling him the 5-character code displayed at the bottom of the dialog. An asterisk in front of a goal name indicates the goal that has been clicked last to view a partner code. Logically there can only be *one* goal marked with the asterisk. Free or optimal goals cannot be used as a partner code reference, because your partner cannot select such a goal to be identical with your goal.

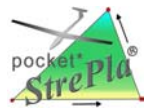
If you want to refresh the information displayed just re-click the corresponding button.

The previous goal selected in the Best Glides Dialog will be assigned to buttons #6 automatically.

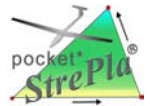
The last goal you selected in the Goals Dialog will determine the values for the Goal Thumb.

FOREST LAKE	JennrichFild
*Sowieja	Partner
Task_01	- - -

Goal : Sowieja  
 Gl.path : **639 ft**  
           @ 2.3 kts  
           @ 77 kts  
 Height : 918 ft  
 Info : N/S 26T  
 Code : **QUBDB**  
 Dist. : 9.24 NM  
 Bear. : 343 °  
 Coord. : 093 04.350' W  
           44 38.067' N



<p><b>F</b> Zoom in <span style="float: right;"><b>K</b> down</span></p> <p>"Fly lower" = zoom in = "make bigger".</p>																																																																	
<p><b>F</b> Zoom out <span style="float: right;"><b>K</b> up</span></p> <p>"Fly higher" = zoom in = "make smaller".</p>																																																																	
<p><b>D</b> Statistics <span style="float: right;"><b>M</b> 2:r1/c3</span></p> <p>This dialog tells you all the details about your progress. There are three pages: Use the "&gt;&gt;&gt;" and "&lt;&lt;&lt;" buttons to flip the pages.</p> <p><b>Page 1 of 3</b></p> <p>pocket*<i>StrePla</i> shows current optimization details for the OLC (6 legs) and DMSt Yo-yo (4 legs).</p> <p><b>Page 2 of 3</b></p> <p>For a declared competition flight you will first of all see the time of your <i>last</i> crossing of the start gate plus the altitude of the start gate crossing. So you can check whether you had a good start.</p> <p>The following information will be optimized if the declared task is an AAT. For the remaining part of an AAT flight pocket*<i>StrePla</i> will show you the minimum and maximum distances.</p> <p><b>Page 3 of 3</b></p> <p>This page displays the strength of the previous thermals which will make it easier for you to select the right MacCready setting. Select a time interval for the thermal statistics.</p> <p>The color scheme is relative to the average climb rate that is shown on the right side of the dialog. Red means that the thermal strength was below average, green above average.</p> <p>pocket*<i>StrePla</i> shows circling ratio overall and left/right.</p> <p>Up to eight "last thermals" will be displayed graphically for the selected interval. The left most thermal column is the "oldest". The "age" will be shown above this left most column (e.g. "1:41 h ago"). Average climb and circling statistics pertain to the selected time period, not the number of thermal columns.</p>	<div style="border: 1px solid black; padding: 5px;"> <p><b>Statistic OLC</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>#1</td><td>2.0 km</td><td>00:01:41</td><td>72.4 km/h</td></tr> <tr><td>#2</td><td>3.8 km</td><td>00:02:30</td><td>92.0 km/h</td></tr> <tr><td>#3</td><td>1.9 km</td><td>00:01:15</td><td>90.2 km/h</td></tr> <tr><td>#4</td><td>59.5 km</td><td>00:39:05</td><td>91.3 km/h</td></tr> <tr><td>#5</td><td>3.2 km</td><td>00:02:20</td><td>81.2 km/h</td></tr> <tr><td>#6</td><td>0.7 km</td><td>00:01:20</td><td>30.6 km/h</td></tr> <tr><td>S.</td><td>71.0 km</td><td>00:48:11</td><td>88.5 km/h</td></tr> </table> <p><b>Statistic Jojo</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>#1</td><td>2.0 km</td><td>00:01:41</td><td>72.4 km/h</td></tr> <tr><td>#2</td><td>3.9 km</td><td>00:02:40</td><td>87.5 km/h</td></tr> <tr><td>#3</td><td>6.8 km</td><td>00:04:20</td><td>94.3 km/h</td></tr> <tr><td>#4</td><td>56.4 km</td><td>00:39:30</td><td>85.6 km/h</td></tr> <tr><td>S.</td><td>69.1 km</td><td>00:48:11</td><td>86.1 km/h</td></tr> </table> <div style="text-align: center; margin-top: 10px;"> <span style="border: 1px solid gray; padding: 2px 10px; margin: 0 5px;">&lt;&lt;&lt;</span> <span style="border: 1px solid gray; padding: 2px 10px; margin: 0 5px;">&gt;&gt;&gt;</span> <span style="border: 1px solid gray; padding: 2px 10px; margin: 0 5px;">OK</span> </div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Thermals</b> <span style="float: right; border: 1px solid gray; padding: 2px;">last 2 h</span></p> <p>↶ 1:15 h ago</p> <table style="width: 100%; margin-top: 5px;"> <tr><td style="width: 60%;"></td><td style="text-align: right;">1271 m</td></tr> <tr><td style="text-align: right;">1.8</td><td style="text-align: right;">1.8</td></tr> <tr><td></td><td style="text-align: right;">m/s</td></tr> <tr><td></td><td style="text-align: right;">712 m</td></tr> </table> <p><b>Circling</b> <span style="float: right;">15 %</span></p> <table style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 33%;"><b>Direction</b></td> <td style="width: 33%; text-align: center;">35 %</td> <td style="width: 33%; text-align: center;">18 %</td> <td style="width: 33%; text-align: center;">46 %</td> </tr> <tr> <td></td> <td style="text-align: center;">left</td> <td style="text-align: center;">le./ri.</td> <td style="text-align: center;">right</td> </tr> </table> <div style="text-align: center; margin-top: 10px;"> <span style="border: 1px solid gray; padding: 2px 10px; margin: 0 5px;">&lt;&lt;&lt;</span> <span style="border: 1px solid gray; padding: 2px 10px; margin: 0 5px;">&gt;&gt;&gt;</span> <span style="border: 1px solid gray; padding: 2px 10px; margin: 0 5px;">OK</span> </div> </div>	#1	2.0 km	00:01:41	72.4 km/h	#2	3.8 km	00:02:30	92.0 km/h	#3	1.9 km	00:01:15	90.2 km/h	#4	59.5 km	00:39:05	91.3 km/h	#5	3.2 km	00:02:20	81.2 km/h	#6	0.7 km	00:01:20	30.6 km/h	S.	71.0 km	00:48:11	88.5 km/h	#1	2.0 km	00:01:41	72.4 km/h	#2	3.9 km	00:02:40	87.5 km/h	#3	6.8 km	00:04:20	94.3 km/h	#4	56.4 km	00:39:30	85.6 km/h	S.	69.1 km	00:48:11	86.1 km/h		1271 m	1.8	1.8		m/s		712 m	<b>Direction</b>	35 %	18 %	46 %		left	le./ri.	right
#1	2.0 km	00:01:41	72.4 km/h																																																														
#2	3.8 km	00:02:30	92.0 km/h																																																														
#3	1.9 km	00:01:15	90.2 km/h																																																														
#4	59.5 km	00:39:05	91.3 km/h																																																														
#5	3.2 km	00:02:20	81.2 km/h																																																														
#6	0.7 km	00:01:20	30.6 km/h																																																														
S.	71.0 km	00:48:11	88.5 km/h																																																														
#1	2.0 km	00:01:41	72.4 km/h																																																														
#2	3.9 km	00:02:40	87.5 km/h																																																														
#3	6.8 km	00:04:20	94.3 km/h																																																														
#4	56.4 km	00:39:30	85.6 km/h																																																														
S.	69.1 km	00:48:11	86.1 km/h																																																														
	1271 m																																																																
1.8	1.8																																																																
	m/s																																																																
	712 m																																																																
<b>Direction</b>	35 %	18 %	46 %																																																														
	left	le./ri.	right																																																														

**F Soaring Start****M** 1:r3/c2

After you have released from aero tow or shut down the self-launcher engine you should invoke this function to set the Soaring Start time stamp. **pocket\*StrePla** will now (re-)optimize your flight according to the OLC and DMSt rule book.

Alternatively you can set the Soaring Start time stamp in Barogram View.

**F Soaring End**

/

After you have restarted the self-launcher engine you should invoke this function to set the Soaring End time stamp. **pocket\*StrePla** will now quit optimizing your flight and the distances indications in the corresponding Thumbs will not change anymore.

Alternatively you can set the Soaring End time stamp in Barogram View.

**F WP next**

/

Instead of using the GoTo Dialog you can also use this function to switch to the next turnpoint of the current task.

**F WP previous**

/

Instead of using the GoTo Dialog you can also use this function to switch to the previous turnpoint of the current task.

**F Pause**

/

Sometimes you might want to execute another program on your PDA without terminating **pocket\*StrePla**. If you execute the Pause Function **pocket\*StrePla** will become invisible and the Today Screen will (usually) appear. Now you can execute some other application.

In order to return to **pocket\*StrePla** just select "pocketStrePla" in the start menu. **pocket\*StrePla** will continue its execution right there where you paused it.

Note that applications will execute significantly slower because **pocket\*StrePla** is still running in the background!



## D Date and Time

M 4:z1/sp2

Set the current date and time through this dialog. Each IGC file name contains a code for the date of the flight. **pocket\*StrePla** utilizes the PDA date for generating the IGC file name. So if the date is not correctly set for the PDA the name of the IGC file will be wrong.

Westerboer flight computers will position data but no associated time stamps. Therefore for correctly writing IGC files it is very important to set the PDA time equal to UTC time.

## D Flarm

M 4:z1/sp2

Settings of this dialog control the Flarm Thumb, voice output and the appearance of both Map Views.

You need a communication rate of at least 19.200 bps (Flarm software default since October 2005) in order to display other Flarm targets in Map View.

If you select "always" for "Flarm warnings" then **pocket\*StrePla** will issue a graphical and/or acoustic alert as soon as a Flarm comes into range.

### Graphical alert

In Map View a red dot will represent the most critical Flarm target. This can either be an airborne target or a target on the ground (e.g. aerial passenger tramway). Additionally in a grey box the current vertical and horizontal distance to the target will be shown: The first line of the box contains the horizontal distance and the second line the vertical distance. A negative value means that the target is below your flight altitude.

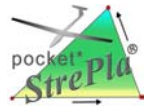
### Sound alert

Voice output consists of three parts:

Part 1: The loudspeaker of your PDA outputs the word "Traffic" to prepare you mentally for an alert message.

Part 2: **pocket\*StrePla** informs you about the relative horizontal position of the Flarm target. Example "5 o'clock".

Part 3: **pocket\*StrePla** informs you about the relative vertical position of the Flarm target. One of the following three announcements will be output: "Above" means that the target is at least 30 m (100 ft) above you. "Below" means that the target is more than 30 m (100 ft) below you and if you hear "same level" you know that the target is between -30 m and 30 m relative to your current flight



altitude.

Set the interval between announcements (if the alert persists) using the list box "break between".

#### Show targets on map

Activate this option to see a "radar trace" in Map View for each Flarm target within range. Each "worm" shows you where target was positioned during the past 10 seconds. The "age" of a position determines the size of the circlet: The older the smaller.

Ground targets will appear as a small square (instead of a circlet) in Map View. Since a ground target can't move there is no "radar trace".

The color of a circlet or square has the following meaning:

White	no alert level
Green	alert level 'low'
Yellow	alert level 'important'
Red	alert level 'urgent'

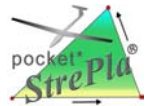
## D Pirker Final Glide

M 4:z1/sp3

Dr. Pirker's Final Glide Method is very well known in Austria – in contrast to most other countries. Here is a list of advantages of the Pirker Final Glide:

- Glide path deviations will not only be expressed anymore through an altitude reading ("500 ft above glide path at 0 ft safety") but in addition through a reference MacCready (MC) setting. The significance of the reference MC setting is independent from the remaining distance to the goal. Example: If the Pirker Final Glide tells me that my reference MC setting is 3 kts then I know that I am conveniently above glide path – even if my goal is 30 NM ahead. If in contrast my flight computer tells me that I am 300 ft above glide path then this is fine if the remaining distance to my home airport is just 1 NM, but the 300 ft reading is much less meaningful if I still have 30 NM to go. If my reference MC setting increases as I come closer to home I can confidently increase my approach speed.
- The Pirker Final Glide Method clearly answers the question when I should leave the last thermal that I am currently using to get back home. This is the case if my reference MC setting is equal to my current rate of climb.
- In **pocket\*StrePla** you enter a head or tail wind component for the Pirker Final Glide that is completely independent from the standard **pocket\*StrePla** final glide calculation which is based on the winds of the five wind bands. You can estimate, transfer or "measure" the wind component that is to be used for the Pirker Final Glide. Ground speed displayed in the Pirker Dialog will be constantly updated. If you fly with a constant speed you can enter the speed shown by your airspeed indicator and **pocket\*StrePla** will then immediately calculate the wind component for you. In the case there is more than one remaining leg until you reach the goal you will have to estimate a wind component that suits all remaining legs.
- The Pirker Final Glide is based on mathematical formulas that consider true airspeed which – as you know – increases with altitude. This unique feature of the Pirker Final Glide will be barely noticed by pilots flying in the plains, but if you fly the Sierra Nevada Mountains this is a different story...
- The Pirker Dialog allows you to input an estimated "bug L/D" instead of a bug factor because it is very difficult to correctly estimate the bug factor. It is much easier to guess a realistic bug L/D. Once you

Relativ ground	127 km/h
- IAS	111 km/h
= Wind	16 km/h
Bug-LD	45   40
<b>Ballast</b>	<b>10 kg</b>
Best LD with wind	46
@ 108 km/h	-   +
True speeds	113 km/h
0.70 m/s	--   ++
Esc	OK



enter it in the Pirker Dialog **pocket\*StrePla** will automatically convert the L/D to the factor for further internal calculations.

Since all readings of the Pirker Final Glide are independent from the standard final glide calculations you can assess your final glide situation much better because now you can compare the two different methods. This is an important safety feature if a decision has to be made to either land out or continue the final glide.

Be sure to read the Pirker Thumb explanations. At this point we concentrate on describing the Pirker Dialog which – by the way – you can invoke by clicking on the Pirker Thumb outside the screen corners and borders.

#### IAS (Indicated Airspeed)

Enter your current indicated airspeed in this edit field. Keep airspeed fluctuations as low as possible. **pocket\*StrePla** calculates the head (negative value) or tail (positive value) wind component by subtracting IAS from "Relative ground" speed. Very important: "Relative ground" speed is **not** equal to the ground speed measured by your GPS device and displayed in the GS Thumb because it is adjusted against your current flight altitude. You could say that ground speed will be converted into an "indicated ground speed". That's why the speed is called "Relative ground" instead "Ground speed" in the Pirker Dialog. Some help for a topic that is not easy to understand: Let's suppose there is no wind at all. As you know true airspeed will increase as you gain altitude. So if your airspeed indicator shows 80 kts you might really travel 90 kts. In the Pirker Dialog you would enter "80 kts" in order to calculate the wind component. 90 kts ground speed – remember that there is no wind – would now be converted by **pocket\*StrePla** to an "indicated ground speed" or "Relative ground speed" of 80 kts. The difference of 0 kts is correct because we said that there would be no wind!

#### Wind

If you know your wind component or if you estimated it pessimistically then you can enter the head or tail wind component directly into the edit field. In that case **pocket\*StrePla** will calculate flight speed and display it in the "IAS" field.

**Note that a head wind has a negative (-) value and a tail wind a positive (+) value.**

#### Bug-LD

If the wings of your glider are wet or if there are insects smashed on the leading edge you can estimate a so-called "Bug-LD". Internally **pocket\*StrePla** will convert the bug LD to a bug factor (e.g. 10%). Press the small button next to "Bug LD" to reset bug LD to the best LD (bug factor 0%).

#### Ballast

The ballast you enter will increase the reference mass which you can display by invoking the Polar Dialog.

#### White information area

The best LD relative to the ground and the associated flight speed (IAS) will be displayed. Further down you will be informed about the true airspeed and the sink rate. It comes without saying that the current wind component, bug LD, ballast and polar curve will be considered while calculating the values.

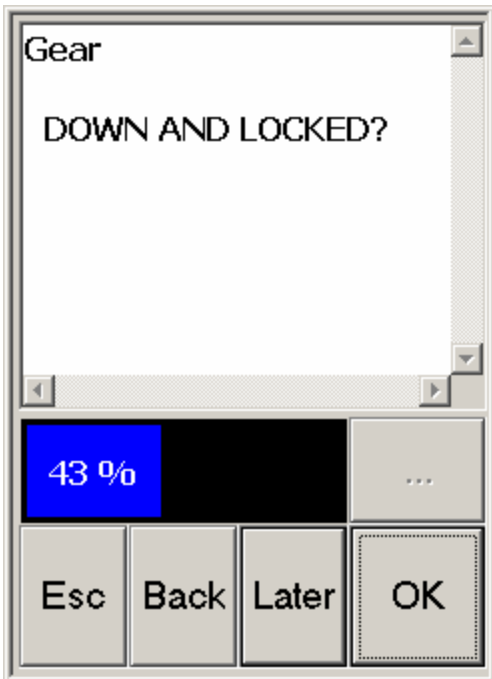


## D Checklists

M 2:z3/sp1

The **pocket\*StrePla** installation routine will install three default checklists on your PDA. One of them applies to **pocket\*StrePla** itself and the other two can be used for takeoff and landing. But you can also define your own checklists! How that works will be explained in detail in Section 6.2.

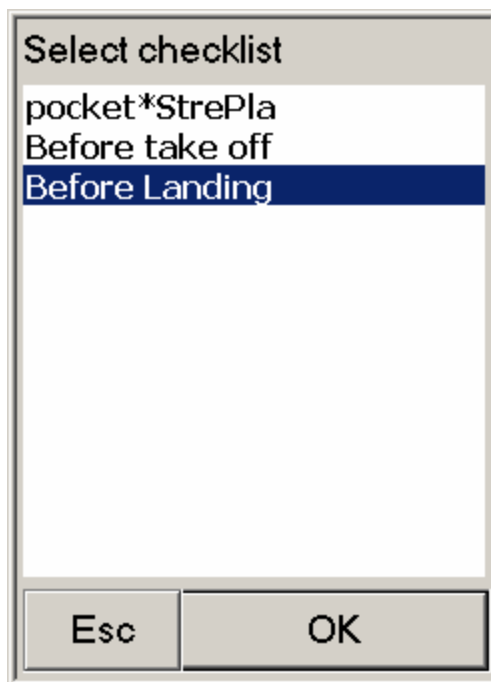
Use the Checklist Dialog to select and run a specific checklist. Another dialog will appear that displays the first checklist item. Click "OK" to confirm that the checklist item has been worked through. The progress bar informs you how far you got through the checklist.



You can shift the current checklist item to the very end of the checklist by pressing "Later". If for example it is very hot outside and you therefore want to close and lock the canopy as late as possible you can postpone this action by clicking the "Later" button.

Press "Back" to cancel the last action ("OK" or "Later").

**Important:** For some checklists items the "..." button is active. Click the button in order to open the associated **pocket\*StrePla** dialog which will allow you to change certain settings. If in the example the elevation needs to be adjusted then you just press "..." and the Altitude Dialog will appear which allows you to set the correct QNH.



## D Climb Maximizer

M 4:z2/sp3

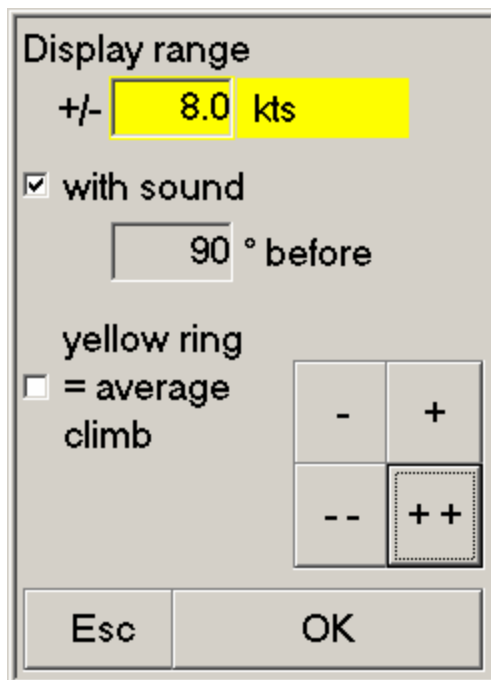
Here you can enter parameters for the Climb Maximizer View.

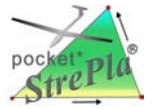
The range applies both to dot mode and line mode.

If you want to hear an acoustic signal for shifting the circles towards an area of stronger climb you simply check "with sound".

The gong will sound at a certain angle before you reach the point of the previous maximum climb (black arrow). Change the angle using the plus/minus buttons.

By default a yellow dot or ring color means a climb rate around 0 kts. Alternatively you can assign the average climb rate of the "last 360°" to the yellow color.



**D Optimizations****M** 4:z2/sp2

Use this dialog to switch certain optimizations on or off.

It is possible to calculate **all** optimizations in parallel but you should bear in mind that - depending on the speed of your PocketPC hardware – the overall performance of p\*S might degrade. We advice you to only switch on the optimizations that you really need.

Even in flight you can switch off or switch on an optimization. In the later case **pocket\*StrePla** will immediately start optimization calculations. They will require a couple of minutes because all fixes between Soaring Start and the current position have to be processed.

**active optimizations**

- OLC Yo-yo ("Classic")
- OLC Liga (2.5h window)
- Triangle (OLC & DMSt)
- DMSt Yo-yo ("Vieleck")

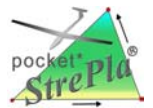
**IMPORTANT: Reduce the number of optimizations to make pocket\*StrePla run faster!**

Esc

OK



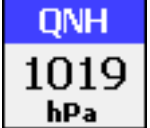




**F OLC League Begin****M** 4:z2/sp1

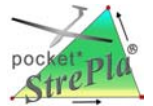
Execute this function to start the 2.5 h time window of a OLC League Optimization. Please also read the description of the OLC League Thumb.



### 4.7.1 Thumbs

The sequence of Thumbs is the same as the Thumb sequence in Thumb Arrangement Mode which you can invoke via "Main Menu #1 > Thumbs". All Thumbs are available in all Thumb Groups and in all Map *and* Barogram Views.

<p><b>Ground Speed Thumb</b></p> <p>Only in rare cases will the ground speed be the same as the speed shown by the mechanical airspeed indicator. Ground speed and Indicated Airspeed (IAS) will be the same if the mechanical airspeed indicator works without errors, there is no wind and you fly in an ICAO standard atmosphere at 0 ft.</p> <p>The value indicated in the Ground Speed Thumb will however give you a good idea about the current head or tail wind component.</p>	
<p><b>TAS Thumb</b></p> <p>Data for this thumb will only be supplied if a Cambridge 302 is the data source for <b>pocket*StrePla</b>.</p>	
<p><b>QNH-Minifenster</b></p> <p>Data for this thumb will only be supplied if a Cambridge 302 is the data source for <b>pocket*StrePla</b>.</p>	
<p><b>Track Thumb</b></p> <p>The current ground track [°] is displayed in this thumbnail window.</p>	
<p><b>Bearing Thumb</b></p> <p>The bearing (true course) [°] displayed in this thumbnail window relates to the <i>next</i> waypoint.</p>	
<p><b>DMSt Triangle Thumb</b></p> <p>Under the assumption that you will return to the beginning of the flight the thumbnail window displays the optimized triangular distance achieved so far according to the DMSt rule book. It is important that you have set the Soaring Start time stamp correctly either by invoking the Soaring Start function (when releasing the tow rope) or by graphically setting that time stamp in Barogram View.</p>	
<p><b>OLC Yo-yo Thumb</b></p> <p>Optimized distance (6 legs) achieved so far according to the OLC rule book. It is important that you have set the Soaring Start time stamp correctly either by invoking the Soaring Start function (when releasing the tow rope) or by graphically setting that time stamp in Barogram View.</p>	

**L/D Thumb**

L/D relative to the ground integrated over a period of 60 seconds. If the L/D becomes unrealistic because you climb the thumb will display "\*\*\*\*".

Note for power users

Change the integration interval by editing the following line in pStrePla.ini.txt:  
igIntegrationIntervall=60

**Final Glide Altitude Thumb**

Depending on the settings you chose in the Altitude Dialog the Altitude Thumb will display the altitude used for final glide calculations. So it will either display the current GPS altitude or barometric altitude.

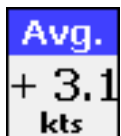
The header of each thumb will tell you which type of altitude has been selected for calculating final glides.

**Averager Thumb**

Vertical speed (climb/sink) averaged over a period of 60 seconds. It is calculated using the barometric altitude values. If barometric altitudes are *not* available it will use GPS altitude values instead.

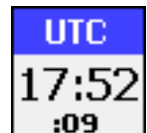
Note for experts

Change the integration interval by editing the following line in pStrePla.ini.txt:  
igIntegrationIntervall=60

**UTC Thumb**

Current time at the zero meridian (UTC).

Note: The time displayed in the thumbnail window is **very** exact because it is received from the GPS device, not from the PDA clock.

**Graphical Wind Thumb**

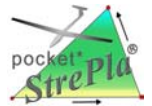
Graphical representation of the wind (in the current wind band) *relative* to the ground track. If manual wind has been selected in the Wind Dialog this will be indicated by "M" in the upper right corner of the thumbnail window. Otherwise "A" appears for "automatic wind".

Note: Final glide calculations are *very* exact in **pocket\*StrePla** since they are based not just on one single wind but on *all* the winds found in the wind bands that you sink through while you glide to the goal.

**Numerical Wind Thumb**

Line #1 Speed of the wind in the current wind band.  
Line #2 Direction of the wind in the current wind band.  
Line #3 A short text label indicating whether manual or automatic wind was selected in the Wind Dialog.





### Goal Thumb 1

- Value #1: Arrival height which is worsened by the Safety Altitude set in the Altitudes Dialog. The other important parameter which determines the arrival Height is the MacCready value set in the MC Dialog.
- Value #2: Remaining travel time (RTT).

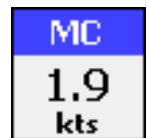


Arrival calculations in **pocket\*StrePla** are rather complex: A backward simulation is being performed which starts at the goal. The Safety Altitude is added to the airport elevation and then a final glide will be simulated up to cloud base. Now we continue to fly backwards under the assumption that we stay in the upper wind band until we get to a position that is close to the current 2D position but takes into consideration an imaginary thermal that gets us to cloud base from the current 3D position (thus taking into consideration the wind drift). Finally **pocket\*StrePla** adds the time we need to circle in that imaginary thermal to cloud base. All calculations are based on the winds in the corresponding wind bands. It is important that you set a realistic MacCready value which is used for the final glide, the cruising phase and the climb rate in that imaginary thermal to get you up to cloud base. We would like to emphasize that the final glide is fully considered in calculating the RTT which is fairly realistic. With the aid of the Goal Thumb you can plan the remainder of your flight well in advance to match the forecasted end of thermal activity. It is also very important for completing AATs just in time before the time window expires.

### MC Thumb

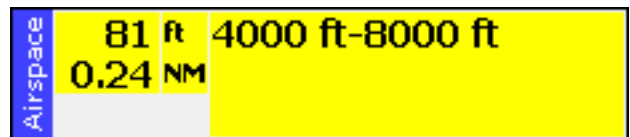
Shows the MacCready value currently used for calculating Goal Thumb values.

Note: Click the MC Thumb to *immediately* invoke the MC Dialog!



### Nearest Airspace Thumb

Because of the unique **pocket\*StrePla** Traffic Light Logic (color scheme) this thumbnail window tells you *very quickly* how close you are to the nearest



airspace. Additionally in the Airspace Distances Dialog you can also switch on audio warnings or instruct **pocket\*StrePla** to show the Last Airspace Warning Dialog should you get too close to an airspace.

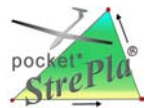
- Line #1 **Vertical** distance to the "lowest" horizontal airspace boundary **above** the glider (closest vertical airspace floor above you). In the case of an airspace violation: Distance to the ceiling of the violated airspace.
- Line #2 **Horizontal** distance to the next vertical airspace boundary or – in the case of an airspace violation – the penetration depth into the airspace.
- Line #3 **Vertical** distance to "highest" horizontal airspace boundary **below** the glider (closest vertical airspace ceiling above you). In the case of an airspace violation: Distance to the floor of the violated airspace.

The airspace name (e.g. "C:Frankfurt") and the airspace floor/ceiling (e.g. "1500 ft-FL100") will be displayed rotatory.

Distance values will be colored according to the user-defined distances in the Airspace Distances Dialog. All airspace names will be colored with the most "unfavorable" color. This way you can see immediately how critical the airspace approach is. If you want to know which of the three approaches is the most critical then the background colors of the **distance** values will give you the information. The color of the line connecting the glider symbol with the airspace boundary is always identical to the background color of airspace names.

Airspace names will only be shown in lines 1 and 3 if there actually is an airspace above or below you. If lines 1 and 3 are empty then both vertical distance values relate to the airspace in line 2. Example: If you are "next" to a CTR and if lines 1 and 3 are empty (except the distance values) then all three distance values will relate to the CTR.

You *must* use barometric altitudes to be sure that the vertical distances displayed are realistic. If barometric altitudes are not available and if you have *not* chosen to use GPS altitudes instead (which is



recommended!) then the Nearest Airspace Thumb will have a grey background and no data will be displayed in lines 1 and 3.

**Radar Altitude Thumb**

This thumb shows you how high you fly above the terrain below you if terrain elevation data is available. The value displayed in the thumb is calculated by subtracting the terrain elevation from the Final Glide Altitude. In the Altitudes Dialog you can select either barometric altitude or GPS altitude to be equal to Final Glide Altitude.



You should use GPS Altitude for the Final Glide Altitude.

The Radar Altitude Thumb is available if file "pStrePlaRA.map" is available in the "pS\_Data"-directory and if it covers the area you currently fly in.

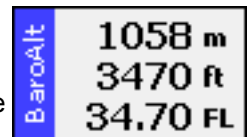
**DMSt Yo-yo Thumb**

Optimized yo-yo distance (4 legs) achieved so far according to the DMSt rule book. It is important that you have set the Soaring Start time stamp correctly either by invoking the Soaring Start function (when releasing the tow rope) or by graphically setting that time stamp in Barogram View.



**Barometric Altitude Thumb**

The following values are *all* based on barometric altitude. Most flight recorders will communicate barometric altitudes. So-called "GPS mice" will however not communicate barometric altitudes. In the later case the lines in this thumb will be empty.



- Line #1: Barometric altitude above MSL in meters [m].  
Note: This line and your mechanical altimeter (set to QNH) should display more or less the same altitude. If that is *not* the case you should check if the QNH has been set correctly in the Altitudes Dialog.
- Line #2: Barometric altitude above MSL in feet [ft].
- Line #3: Flight level [FL] based on 1013.2 hPa. Fractions of a flight level will be displayed.

**Next Waypoint Thumb**

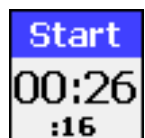
All values displayed in this thumbnail window refer to the *next* waypoint – *not* the final goal!



- Value #1: Correction [°] (left/right) necessary to get to the next waypoint.
- Value #2: Distance to the next waypoint.
- Value #3: Bearing to the next waypoint. If you cannot use the partner code then you can use distance and bearing to communicate your current position to your team partner.

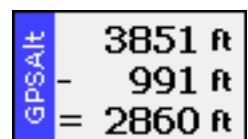
**Start Gate Thumb**

If you have selected or activated a task then this thumbnail windows tells you the time that has expired after the *latest* crossing of the start gate. Re-crossing the start gate will re-set the time displayed in the Start Gate Thumb. **pocket\*StrePla** also recognizes sector turnpoints as "start gates": If you leave the sector the timer will start counting.



**GPS Altitude Thumb**

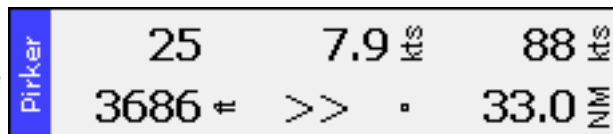
The following values are *all* based on GPS altitude. Most GPS devices communicate GPS altitude. There are some flight recorders that only communicate barometric altitude. In this case only the terrain elevation will be displayed in the thumb.





Line #1: GPS-altitude above MSL.  
 Line #2: Terrain elevation above MSL (if available).  
 Line #3: Altitude above GND – "Radar Altitude" (if terrain elevation is available).

**Pirker Thumb**



The Pirker Thumb shows all relevant parameters of the Dr. Pirker Final Glide Method. Please also refer to the section describing the Pirker Dialog! All calculations are based on the assumption that the air mass between you and the target waypoint is calm or that the sum of air mass rise and sink is zero.

Note: If you click the Pirker Thumb the Pirker Dialog will be displayed.

Line #1

Value #1 The **reference L/D** will consider the safety altitude. If the arrival altitude lies below the safety altitude then "\*\*\*\*" will be displayed since there are no negative reference L/Ds. The reference L/D is useful for rough estimates whether the goal can be reached.

Value #2 If you final glide with **reference MC** (reference MacCready setting) you will – mathematically – reach the goal at safety altitude. If at some point in your final glide the reference MC increases slowly from 0.0 kts this is good news! If we assume that all input parameters for the Pirker Method (wind component, polar curve, mass, bug L/D) are correct we can then assume that the air mass is good (rises in total) and the probability increases that the final glide will be successful.

Reference MC is a very important indicator for your decision when to leave the last thermal and start the final glide: If reference MC is below the current rate of climb you should continue your climb. If you want to reach the goal as quickly as possible then you should leave the thermal at the moment your current climb rate is equal to the reference MC.

Value #3 The **speed-to-fly** corresponds to the current reference MC.

Line #2

Value #4 **Glide path deviation** refers to the altitude that is necessary – based on your current position – to reach the goal at safety altitude if you fly with the speed that yields best L/D relative to the ground. This speed is shown in the white information area of the Pirker Dialog. If you are below glide path a negative value will be presented with red background color.

Value #5 The **track correction angle** shows you whether you need to fly to the left or right in order to reach the goal directly. If the difference is smaller than 0.8° pocket\**StrePla* displays "000". If the difference is less than 30° the thumb shows "<" or ">" plus the difference in degrees. Example: "<24". In all other cases for each 30° of difference one character "<" or ">" is displayed until a maximum of three characters is reached. So if you need to correct your track to the left by 125° the thumbs displays "<<<".

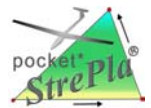
Value #6 The **Distance to the goal** is the remaining task distance to the goal.

Note that the Pirker Final Glide Method does work "around the corner". However you need to "guess" a wind component (only one single component can be entered) that suits **all** remaining legs.

**Goal Thumb 2**

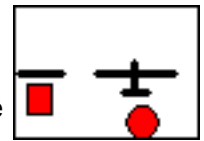
Total distance *from* the current position *around all* remaining turnpoints *to* the finish line.





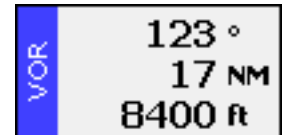
**Flarm Thumb**

The layout is similar to the external Flarm display that you can buy separately: On the left side of the thumb you see whether the Flarm target is above or below you. On the right side you can read off the position of the Flarm target relative to the longitudinal axis of your glider. In the example the target is *below* and *behind* you (slightly to the right side).



**VOR**

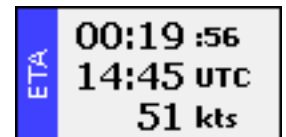
This new thumb has been created for power pilots and for glider pilots who need to communicate an exact position to air traffic control. All waypoints available in **pocket\*StrePla** can serve as a "VOR"! Units for distance and altitude can be defined exclusively for the VOR Thumb. See the description of the Units Dialog (page 2) for details.



- Line #1 QDR – or VOR-radial. Important: You must set the deviation in the Units Dialog (page 2) for a correct VOR radial indication!
- Line #2 Distance
- Line #3 MSL altitude rounded to 100ft or 100m.

**ETA Thumb**

This new thumb has been created for power pilots. It will display ETA (Estimated Time of Arrival) and ETE (Estimated Time Enroute). Ground speed will be averaged over the last 60 seconds. You can alter the speed unit exclusively for the ETA Thumb. See the description of the Units Dialog (page 2) for details.

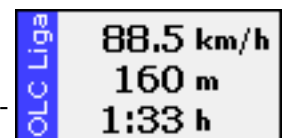


The ETA Thumb displays an average ground speed. Specialty: It isn't really the average ground speed that is being displayed but rather the average speed component towards the goal. If you fly away from the goal the speed will be negative.

- Line #1 ETE
- Line #2 ETA (UTC time)
- Line #3 Average ground speed component towards the goal

**OLC League Thumb**

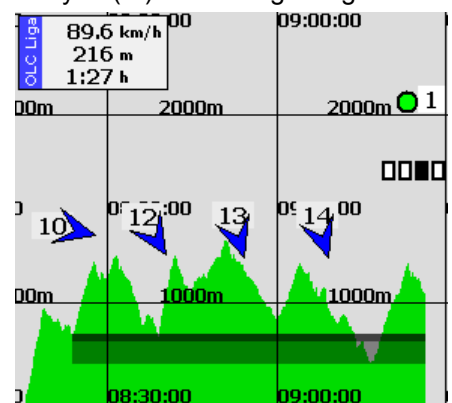
This Thumb will assist on a OLC League Flight. Reminder: Your goal is to maximize your cruise speed within a time window of 2.5 h. The scoring distance is equal to a 4-leg distance optimization. It is crucial that your altitude towards the end of the 2.5 h time window is at least as high as when you started. Compared to a desktop PC the performance of a PocketPC is quite meager. Therefore it is not possible to automatically inspect *all* valid 2.5 h time windows with regard to a maximum distance. The solution is to manually start the 2.5 h time window. An excellent moment to start the time window is far below the cloud base when you have just entered a very strong thermal. In this case you just invoke the "OLC League Begin" function. Later you can freely set OLC League Begin in Barogram View via the context menu of the Barogram View. Once you (re)set the beginning of the time window p\*S will immediately start a new optimization which constantly updates the OLC League Thumb.



In Barogram View a gray bar shows you the beginning and end of the OLC League Optimization. If the time window of 2.5 h expires then according to the OLC rules the barogram must lie above the gray bar.

If the time window has not yet expired the thumb will display the following values:

- Line #1 Cruise speed achieved so far.
- Line #2 Altitude above start altitude. If the value is negative it will be displayed with a red background.
- Line #3 Remaining time until the 2.5 h time window expires.





Feature: If you are substantially above the start altitude the remaining time will toggle with a speed-to-fly indication shortly before the time window expires. If you continue your flight in the direction of the last optimized leg you can substantially improve your cruise speed because you can end the time window very close to the start altitude.

## 4.8 Task planning

The following methods will switch **pocket\*StrePla** into the Task Planning Mode:

- Invoke the Plan Task Function (default: Press Key A twice) if you want to edit the task currently displayed in Map View.
- In the Tasks Dialog select a task and then press the Edit button.

Leave the Task Planning Mode by invoking the QUIT function (bent arrow) usually assigned to the upper right screen corner.

### 4.8.1.1 Planning tasks for de-central competitions (DMSt) and record flights

Freely define a turnpoint by holding the stylus (or the fingernail of your index finger) for about 2 seconds on the PDA display without movement. A popup menu will appear. Select "Insert WP". If you place a turnpoint close to an airport then **pocket\*StrePla** will ask you if you want to shift the turnpoint exactly on top of the airport. If that's what you want you answer "Yes". The same is true for out landing fields, mountain passes and turnpoints.

After you have defined the third or fourth waypoint you will be asked whether you want to close the flight. Answer with "Yes" if you are planning a triangle.

You can also select a turnpoint from the database by choosing "WP from list" in the popup menu. The proceedings are the same as the selection of a goal as described earlier.

Important: The current waypoint will be colored in blue and will be referenced by some of the popup menu items. So for example if you want to delete a waypoint then the blue waypoint will be deleted from the planned task. Select "Insert WP" and the new waypoint or checkpoint will be inserted after the blue waypoint.

Another example: If your planned triangle consists of 2 waypoints and you want to change it to a 3 waypoint polygon - you would begin your flight "on the leg" (between the last and first waypoint) then you would click on the second waypoint (which terminates at the end of the second leg) turning it blue before you select "Insert WP" from the popup menu.

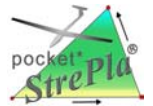
You will see strange looking grey areas if you hold the stylus on a waypoint for a moment. The areas you see are called "FAI areas". They will assist you in planning FAI triangles. If a waypoint lies within the grey FAI area then the planned triangle fulfils the FAI triangle rules. Consecutively click on the same turn point without moving the stylus to switch the FAI area to the next leg of the triangle.

Advice: To be really sure that the norm is fulfilled check for a *green* total triangle distance in the Plan Task Thumb that automatically appears if you switch to the Task Planning Mode. It is also a good idea to add a couple of miles to the task if you are planning a big flight. The FAI has introduced a new formula for calculating distances that – for performance reasons – is not implemented in **pocket\*StrePla**.

You can drag a waypoint and its associated sector to a different location. While you do so the total distance displayed in the Plan Task Thumb will be recalculated and the shape of the FAI area will change according to the FAI triangle rules.

Inserting a checkpoint in the task will only alter the total length of the task, not the *scorable* distance.

You can plan and change a task *anytime* – even while you replay an IGC file or during flight. The later however should only be done by the pilot not flying in a double seater.



If you select "Optimization > DMSt triangle" then the current triangle optimization will be converted into a task. This allows you to plan a final turn point that you want to reach before flying home. With the additional waypoint defined you can easily check compliance to the FAI norm.

Leave the planning mode by invoking the QUIT function which by default is assigned to Key D (press once) and the upper right screen corner (bent arrow). You will be asked whether you want to save the changes permanently. If you answer "Yes" changes applied to the task will be saved to the turnpoint.txt file *immediately*. If you answer no, the changes will be discarded and it will revert to the original task.

#### 4.8.1.2 Planning tasks for central competitions (AATs)

Important note: pocket\**StrePla* V2.01c or higher processes a turnpoint.txt file in the Cambridge format! Just rename the file made available by the competition director to turnpoint.txt. There is **no** need anymore to use *StrePla4* for the conversion. pocket\**StrePla* recognizes the Cambridge format while in reads turnpoint.txt and it will convert all turnpoint data **automatically**. When you exit pocket\**StrePla* the turnpoint.txt file will be written in the pocket\**StrePla* format.

"WP config" is the most interesting menu item for competition pilots because it allows you to define most complex turnpoint areas which may be part of a competition task. Select "WP config" to display a dialog for defining a turnpoint area.

First of all you select a waypoint type using the drop down list. Your choices are:

- Sym. sector
- Cylinder
- AAT
- Sym. line
- Free line
- Check point

Depending on your selection certain edit fields will be grayed out. For example the turnpoint sector for a record flight will be symmetrical relative to the two legs leading to and from the turnpoint. Therefore the "From" and "To" edit fields are not available.

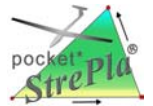
There is a preview area at the lower left shows the result of the current input. Change all parameters using the plus/minus buttons. Before you can use those keys you need to highlight the edit field by clicking on it.

The following parameters are available for defining a turnpoint area:

outer	Enter the outer radius of the turnpoint area.
inner	Enter the inner radius of the turnpoint area. <u>Important:</u> You can define a negative value in which case the sector will be complemented with a "beer can".
An.	The sector angle or – in the case of start/finish lines – the orientation of the line.
from	The start angle of a AAT sector.
to	The end angle of a AAT sector.
open	Place a checkmark if the outer radius shall be ignored.

Leave the planning mode by invoking the QUIT function (press Key D once or click the upper right screen corner). Now the turnpoint areas will be "painted" in the map which allows you to easily check whether you have successfully flown into a turnpoint area.

If you have defined at least one AAT area you can switch to the AAT Task Planning Mode by invoke the Task AAT function (press Key B twice). It will allow you to move a turnpoint within an AAT area. The "old" legs will be painted in grey, the "new" legs in magenta. Invoke the QUIT function to leave the AAT Task Planning Mode.



## 5 Exporting data from *StrePla4*

**pocket\*StrePla** and *StrePla4* are dovetailed members of a product family. Very conveniently you can export the following data from *StrePla4* to **pocket\*StrePla** via ActiveSync:

- airports
- turnpoints
- airspace
- vector and scanned maps (e.g. US sectionals)
- tasks
- terrain elevation data

So if you are holding a *StrePla4* license for scanned maps (*not* required in the case of US sectionals!) you can use the whole or just part of the map as a moving map in **pocket\*StrePla**.

Please refer to the *StrePla4* manual for further details.

### 5.1 File format of "airport.txt"

#### Record type 1

Example:           1 ; 00432 ; **Example** ; 3305334N ; 11209777W ; 232 ; A ; 122.925 ; 08/26 ; EDXY ; 900 ; 1 ; 3 ; **Comment**

"1"	record type – always "1".
"00432"	index. Numbering starts at "00001" - gaps are <i>not</i> allowed.
"3305334N "	Geographical latitude of the waypoint.
"11209777W "	Geographical longitude of the waypoint.
"232"	Waypoint elevation above MSL in meters [m]. If not available set the elevation to "" (empty string) or to "9999".
"A"	Waypoint type: "A"=Airport, "L"=Landable, "P"=Mountain pass, "T"=Turnpoint. There are the following airport subtypes: "G"=Glider, "B"=Balloon, "P"=Parachute, "I"=International, "H"=Helicopter, "M"=Military, "U"=Microlight (UL), "S"=Municipal, "C"=Closed
"122.925"	in MHz – if available – "" (empty string).otherwise.
"08/26"	Runway direction – if available – "" (empty string).otherwise.
"EDXY"	ICAO-ID of the airport – if available – "" (empty string).otherwise.
"900"	Runway length – if available – "" (empty string).otherwise.
"1"	Runway surface type – if available - "" (empty string).otherwise: 0=concrete, 1=asphalt, 2=gravel, 3=grass.
"3"	Runway availability – if available - "" (empty string).otherwise: 0=closed. 1=runway can only be used in the first direction. 2=runway can only be used in the second direction. 3=runway can only be used in both directions.
"Comment"	Optional free comment.

### 5.2 File format of "turnpoint.txt"

#### Record type 1

Example:           1 ; 00432 ; **Example** ; 3305334N ; 11209777W ; 232 ; A ; 122.925 ; 08/26 ; EDXY ; 900 ; 1 ; 3 ; **Comment**

See the above description.

Record type 2

Example: 2;00007;Route\_1;581.3;00003;00003;00012;00030;00013;00003;00003

"2" record type – always "2".

"00007" Task index (no gaps!) starts at "00001". Index "00000" is reserved for **pocket\*StrePla** – it contains the last edited task.

"Route\_1" Task name.

"581.3" Task length in [km] measured from the start point around all turnpoints to the end point.

"00003" Reference to waypoint index="00003". The following will be defined: 1 takeoff point, 1 start point, *n* turnpoints, 1 end point, 1 landing point. Important: **pocket\*StrePla** ignores the takeoff and landing point!

Record type 3

Example: 3;00007;1;0.0000;50.0000;1;320;190;F;F

"3" record type – always "3".

"00007" Task index.

"1" Waypoint index: 0 for the start point, 1 for the first turnpoint, etc.

"0.0000" Inner radius of the turnpoint area.

"50.0000" Outer radius of the turnpoint area.

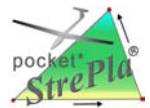
"1" Waypoint type: 0=symmetrical sector, 1=cylinder, 2=AAT, 3=symmetrical start/finish line, 4=free start/finish line, 5=checkpoint.

"320" The AAT area start at 320°.

"190" The AAT area ends at 190°.

"F" Open sector – no outer radius (True/False)

"F" Curved start/finish line (True/False)



## 6 Appendix

### 6.1 Manual Installation

#### 6.1.1 Directories

Basically there are only two directories beneath "My Pocket PC" relevant for **pocket\*StrePla**:

- \pS\_Data
- \pS\_Prog

Both directories will host all files that are required for **pocket\*StrePla** to run smoothly. But: The "\pS\_Data" directory has "siblings" that expand the memory of the "\pS\_Data" directory. You will find such sibling directories on memory expansion cards. Unfortunately there is no common scheme for the card names which depend on the make and model of your PDA as well as on the language of the PocketPC operation system. The "iPAQ File Store" that is available with iPAQ 3760 or higher will be treated as a memory expansion card by the operating system and will be utilized by **pocket\*StrePla**. Examples for sibling directories of "pS\_Data" are:

- \Storage Card\pS\_Data
- \iPAQ File Store\pS\_Data
- \SD Card\pS\_Data

When you launch **pocket\*StrePla** the application will look for the "best pS\_Data" directory which is the "pS\_Data" directory offering most free memory. For example **pocket\*StrePla** will write its own IGC files to this "best" directory. If you activate the NMEA logging "LogNMEA.txt" will also be written to this "best" directory.

First of all **pocket\*StrePla** will read airport and airspace data. It will display a map that corresponds to the current zoom level. The same "sibling directory logic" applies: **pocket\*StrePla** will look in a "pS\_Data" directory on a memory expansion card and then (afterwards) in "\pS\_Data" located in main memory. It's no problem at all to store airport data in "\pS\_Data" and airspace data in "\Storage Card\pS\_Data".

#### 6.1.2 Files

**pocket\*StrePla** has been designed to **not** require entries in the Windows registry. Therefore it is possible to install **pocket\*StrePla** purely manually without using an installation program. However you will need to know which files to store where. The following table gives you an overview where **pocket\*StrePla** expects files in order to run smoothly. Note: The File Explorer of your PDA will **not** show file extensions (3 letters to the right of the period). The File Explorer of your PC will only do so if it has been configured accordingly.

An "X" in the "!" column means that this file **must** exist if you want to use the whole functionality of **pocket\*StrePla**.



File name	!	Description
\pS_Prog\pStrePla.exe	X	The most important file of all - the <b>pocket*StrePla</b> executable.
\pS_Prog\pSconn.exe	X	A separate communication module of <b>pocket*StrePla</b> for reading flight recorders and Upload tasks that were planned with <b>StrePla4</b> or <b>pocket*StrePla</b> including the declaration form.
\pS_Prog\pStrePla.ini.txt		This file remembers all settings that you have changed like the arrangement of thumbnails and the selection of units (m, km/h, kts, etc.). Default settings will be activated if this file does not exist. So it's not a problem to delete this file if you want to start <b>pocket*StrePla</b> with all default settings.
\pS_Prog\pSconn.ini.txt		This file remembers all settings for the <b>pocket*StrePla</b> communication module.
\pS_Prog\green.wav		This sound file will be played if you penetrate the green "onion layer" of an airspace.
\pS_Prog\yellow.wav		This sound file will be played if you penetrate the yellow "onion layer" of an airspace.
\pS_Prog\red.wav	X	This sound file will be played if you penetrate the red "onion layer" of an airspace.
\pS_Prog\violation.wav	X	This sound file will be played if you violate an airspace.
\pS_Prog\fl_traffic.wav	X	This sound file contains the word "traffic". It will be played if <b>pocket*StrePla</b> issues a Flarm traffic alert.
\pS_Prog\fl_clock01-12.wav	X	These sound files describe the horizontal direction to the Flarm target. Example: "5 o'clock".
\pS_Prog\fl_above.wav \pS_Prog\fl_same_level.wav \pS_Prog\fl_below.wav	X	These sound files describe vertical direction to the Flarm target. Example "Above".
\pS_Prog\Log.txt		This file will record errors and other information of interest. If you experience problems with <b>pocket*StrePla</b> we will probably ask you to send us "Log.txt" via mail.
\pS_Prog\Rec.txt		While you fly <b>pocket*StrePla</b> will write a recovery file. Should you terminate <b>pocket*StrePla</b> on purpose or unintentionally or in the case <b>pocket*StrePla</b> crashes, you will be asked during re-launch whether you want to recovery your flight. If you answer "Yes" <b>pocket*StrePla</b> will recover the flight completed so far by reading "Rec.txt".
\pS_Prog\Mem.txt		For special purposes: This file lists all memory expansion card directories found on your PDA and how much memory is available.
\pS_Data\airport.txt	X	This file contains names, coordinates, elevations and frequencies of airports. It can be generated by <b>StrePla4</b> .
\pS_Data\turnpoint.txt		This file contains turn point data. It can also be generated by <b>StrePla4</b> .
\pS_Data\airspace.txt	X	This file contains airspace data in the so-called "OpenAir" format. It can be generated by <b>StrePla4</b> .
\pS_Prog\checklists.txt		All checklists are stored in this file. You can change the content of each checklist and define additional checklists.
\pS_Data\pStrePla0.map	X	Map file for zoom level 0. If you use <b>StrePla4</b> to generate this file then we recommend you to select a map scale of 1:4.000.000.



\\pS_Data\\pStrePla1.map	X	Map file for zoom level 1. Recommended map scale is 1:2.000.000.
\\pS_Data\\pStrePla2.map	X	Map file for zoom level 2. Recommended map scale is 1:1.000.000.
\\pS_Data\\pStrePla3.map		Map file for zoom levels 3-5. Recommended map scale for ICAO maps is 1:220.000. In any case you are advised to select a map scale that is marked with an asterisk: These are high quality map scales. Note: The map file will be read unaltered for zoom level 4. <b>pocket*StrePla</b> will shrink the file by 50% for zoom level 3 and it will double the size for zoom level 5.
\\pS_Data\\pStrePlaRA.map		This file contains high resolution terrain elevation data. The resolution is about 300ft by 300ft.
\\pS_Data\\Demo.igc		This file is optional. It's a demo file for testing the replay functionality of <b>pocket*StrePla</b> .
\\pS_Data\\<GliderType>.plr.txt	X	Internal polars of <b>pocket*StrePla</b> can be complemented with WinPilot compatible polar files.

### 6.1.3 Start menu entry

This is advice for advanced PDA users: The installation program will automatically add an entry "pocketStrePla" to the start menu. You can manually create this entry by using the PDA File Explorer. Just copy "\\pS\_Prog\\pStrePla.exe" and insert it as a link in "\\Windows\\Start Menu" by selecting the corresponding menu item in the popup menu.

### 6.1.4 Installation of pocket\*StrePla on a memory expansion card (SD, MMC, CF, iPAQ File Store, etc.)

All PDAs currently available have a rather intense appetite for electricity. The result is a rather unwanted feature: They will "forget" after about one week if their internal battery has not been recharged.

Then everything is gone that you stored on your PDA: Appointments, addresses and – unfortunately – **pocket\*StrePla**. Since many glider pilots will use their PDA for soaring only and because there is a rather high probability that the PocketPC will loose its data before long because it was not charged in time we created a nice feature for you to completely install **pocket\*StrePla** on a memory expansion card which will never forget the stored data.

A memory card installation is nothing different than copying the contents of the \\pS\_Prog directory to the memory card. If you then launch **pocket\*StrePla** stored on memory card via the PDA File Explorer **pocket\*StrePla** will call a small internal installation routine that restores the contents of (e.g.) \\Storage Card\\pS\_Prog to main memory. It will also restore the "pocketStrePla" menu item of the start menu.

## 6.2 Creating your own checklists

All checklists are stored in the file \\pS\_Prog\\checklists.txt.

It is quite easy to change the checklist file if you are acquainted with PocketWord which is the standard word processor of a Pocket PC. Alternatively you can transfer the file to your PC and edit it using Notepad, WordPad or WinWord. Be sure to store the checklist file as "pure text".

The following explanations are based on this example:

```

1:pocket*StrePla
2: Datum = %/% %DATE%//%Time = %/% %TIME%//% OK?
3: DlgDateAndTime
2: PDA:%/%Power%//% CHECK!
2: PDA:%/%Connectors%//% CHECK?
2: PDA:%/%Backlight%//% ON?
2: PDA:%/%Automatic%/%Power off%//% Disabled?

```



```

2: PDA:%%Memory card%% CHECK! %% Is the card%% installed properly?
2: Logger%% PILOT NAME%% TYPE OF FLIGHT%% REGISTRATION?%% Entered
correct?
2: Height above ASL = %% %ALT%%//%QNH = %% %QNH%%//% OK?
3: DlgAltitudes
2: Polare =%% %POLAR%%/%Glider weight =%% %MASS%%/%Bugs =%% %BUGS%%//%
OK?
3: DlgPolar
1:Before take off
2: Logger%% Switched on?
2: Tail dolly%% REMOVE!
2: Ballast%% CHECK!
2: Parachute%% CHECK!
2: Seat%% Harness%% CHECKED?
2: Seat%% All controls and%% instruments within reach??
2: Spoilers%% in and %% LOCKED?
2: Altimeter %% ADJUSTED?
2: Radio%% SWITCHED ON?
2: Radio%% Frequency?%% Volume OK?
2: Trim%% Set for TAKE OFF?
2: Controls%% FREE and CORRECT?
2: Hat%% ON!
2: Weak link %% CORRECT for GLIDER?
2: Traffic%% CLEAR%% ABOVE, AROUND%% and BEHIND?
2: Wind%% CHECK!
2: Canopy%% CLOSED%% and %% locked?
1:Before Landing
2: Harness%% CHECK!
2: Gear%% DOWN AND LOCKED?
2: Flaps%% SET for LANDING!
2: Wind%% CHECK!
2: Runway%% NO OBSTACLES?
2: Traffic%% CHECK?
2: Radio%% Announce Intentions!

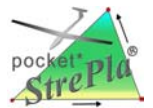
```

There are three different line types:

Type 1 Name of the checklist which will be defined in the following lines of type 2 and type 3.

Type 2 Here you store the text of the checklist item. You will want to create a line break: Insert "%%/" for a single line break and "%%/" for a double line break. The following variables can be used anywhere in the text of the checklist item. **pocket\*StrePla** will substitute the variable with the corresponding value:

%ALT%	Barometric height above MSL. In the case of a GPS mouse (which does <b>not</b> output barometric altitudes) the variable will be substituted with "N/A".
%QNH%	The current QNH set via the Altitude Dialog.
%POLAR%	Name of the current polar – usually this equal to the glider type.
%MASS%	Current mass of the glider as it has been set via the Polar Dialog.
%BUGS%	Current bug factor in percent.
%DATE%	PDA date.
%TIME%	PDA time.



Type 3 This line type is optional. You can use it if you want to allow the user to invoke one of the below dialogs when he/she presses the "...". The following dialogs are available for the "...". button assignment:

- DlgAltitudes      Altitude Dialog.
- DlgPolar          Polar Dialog.
- DlgDateAndTime    Date and Time Dialog.