



Version 4.0

April 2005

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1 Installation

Upon buying **VL Manager**, you will receive a CD with the label **VL Manager**. This contains all program files. Depending on your order, you will receive further CD's with a full version of **StrePla** and/or map files (e.g. ICAO-map).

- Insert the CD into the drive.

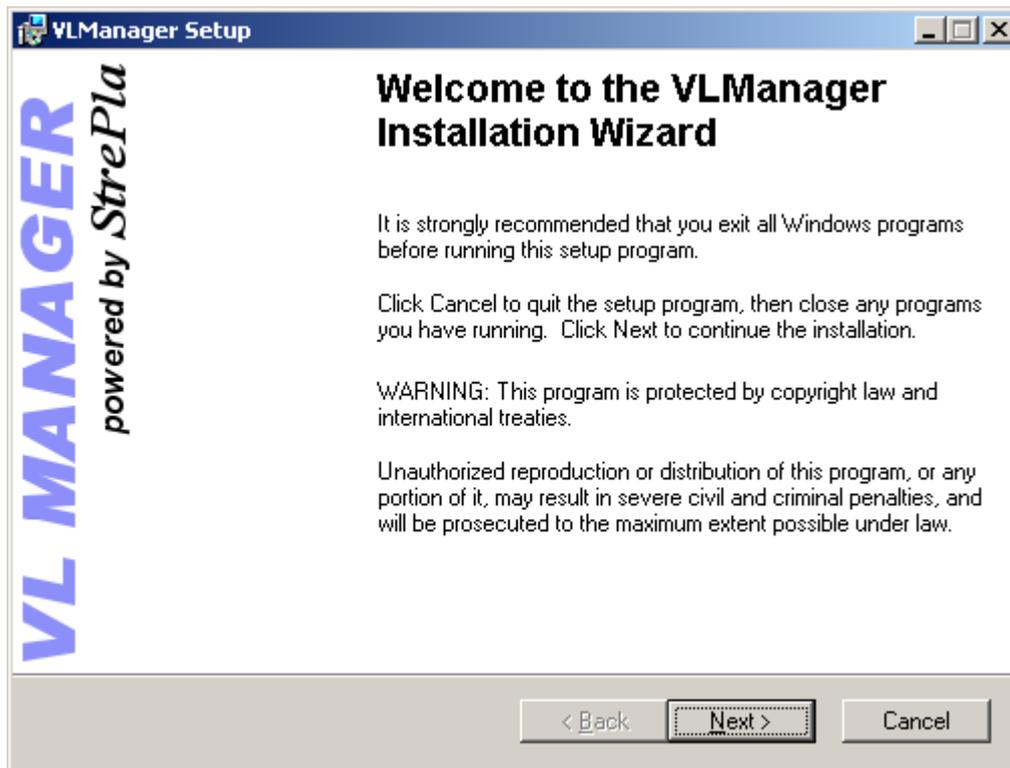
Normally the CD will start automatically. Should the autorun feature be switched off on your computer, click the *Start* button on the task bar, and select *Run....* Type in *D:\install.exe* (only if your CD-Rom drive is D).

The welcome-screen will appears.



- Click on International version, **Install program**

The preparations for the installation will begin.



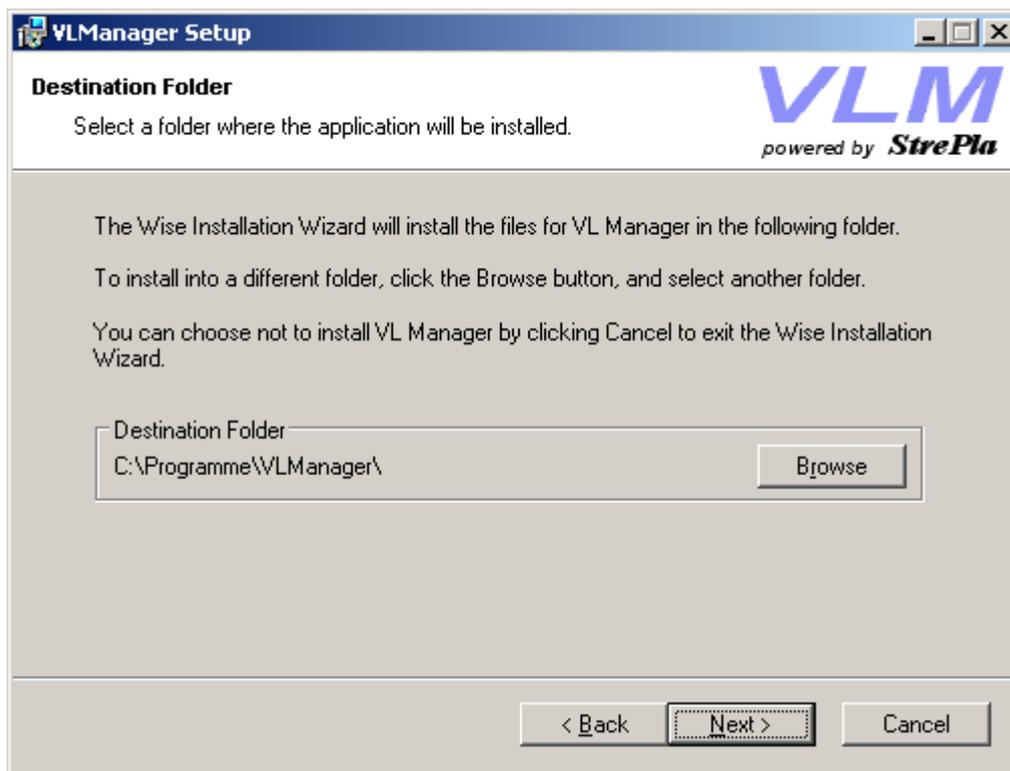
- Click on *Next*
- Read and accept the licence contract.



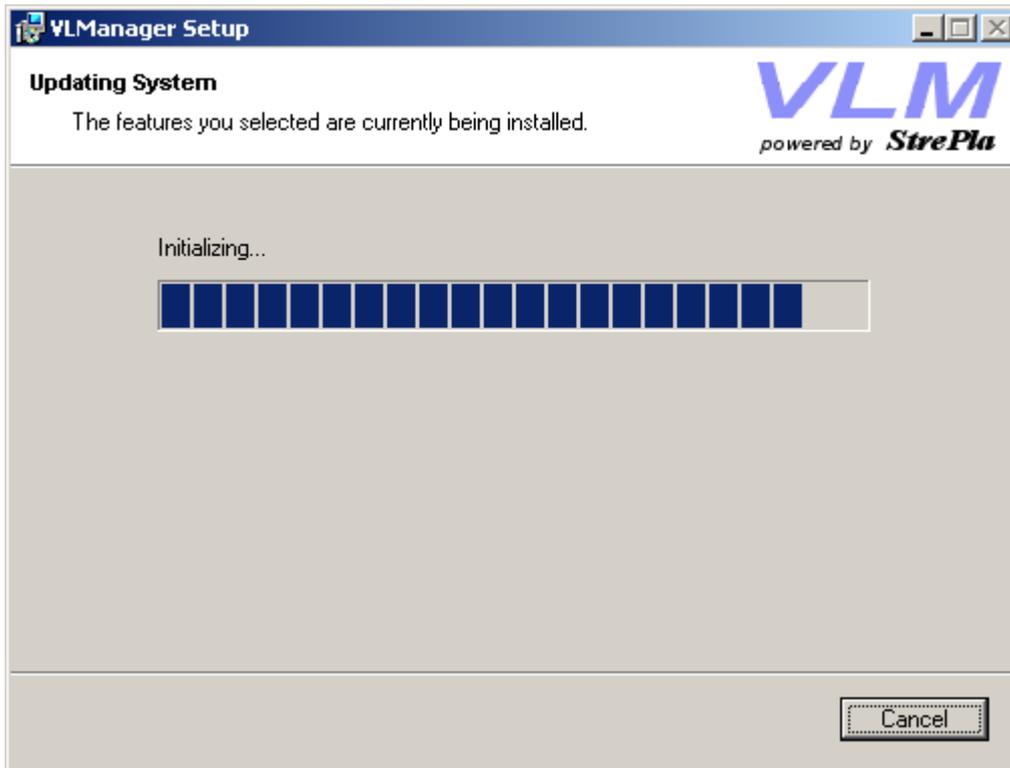
If you are installing under NT or Windows2000, ensure that you have Administrator rights, otherwise **VL Manager** will only run under your Administrator Account.

- Click on *Next*.

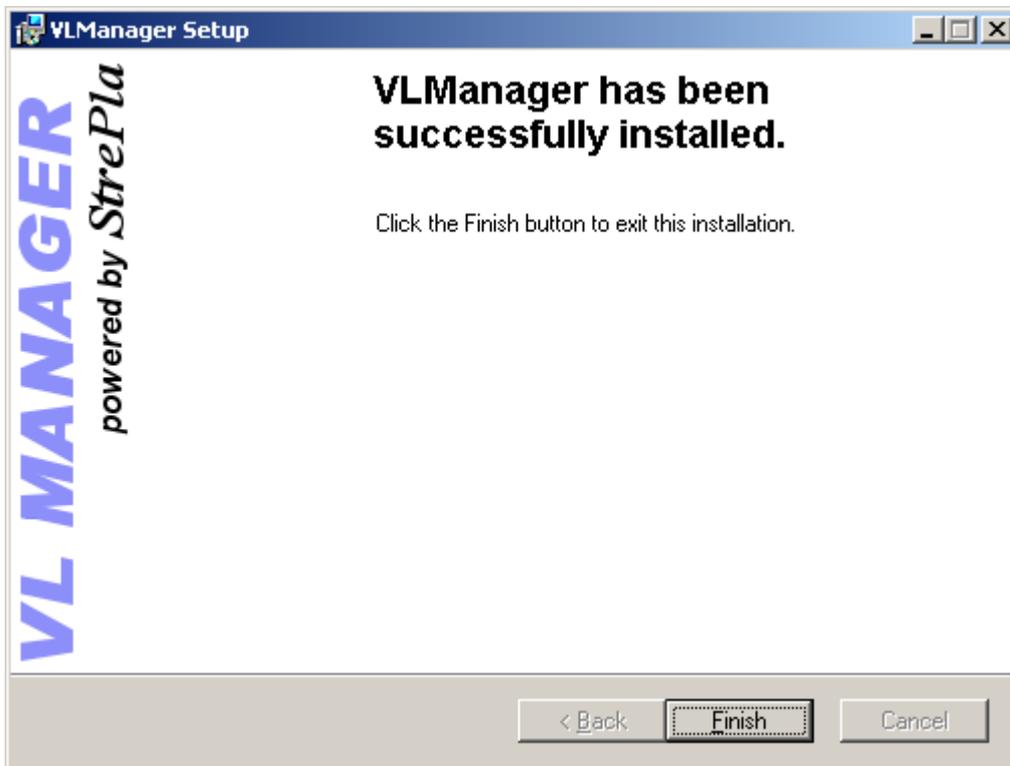
The destination directory is displayed and should only be altered by you if you know exactly what you are doing. **VL Manager** Support experience shows that, after the installation, many customers do not remember what they changed.



- Click on *Next* to start the installation.



- Confirm and click on *Finish*.



The installation is complete.

If you are now requested to restart your computer, do so. **VL Manager** can then be used.

1.1 Uninstalling *VL Manager*

Always uninstall *VL Manager* via the control panel first, and then delete all your personal files by hand.

During the uninstall, *VL Manager* will only delete the files that were created during the installation. Later produced or changed files, e.g. your turning point – and route catalog will **not** be deleted automatically.

Click on the *Start* button on your Windows Task Bar, point to *Settings > Control Panel*, and click. Double-click on Add/Remove Software, highlight *VL Manager* and click on Remove.

After uninstalling *VL Manager*, the remaining files should be deleted with the Windows Explorer. If you did not enter anything during the installation, the files will be found in the directory <Program Files>\VL Manager and <My Documents>\VL Manager.

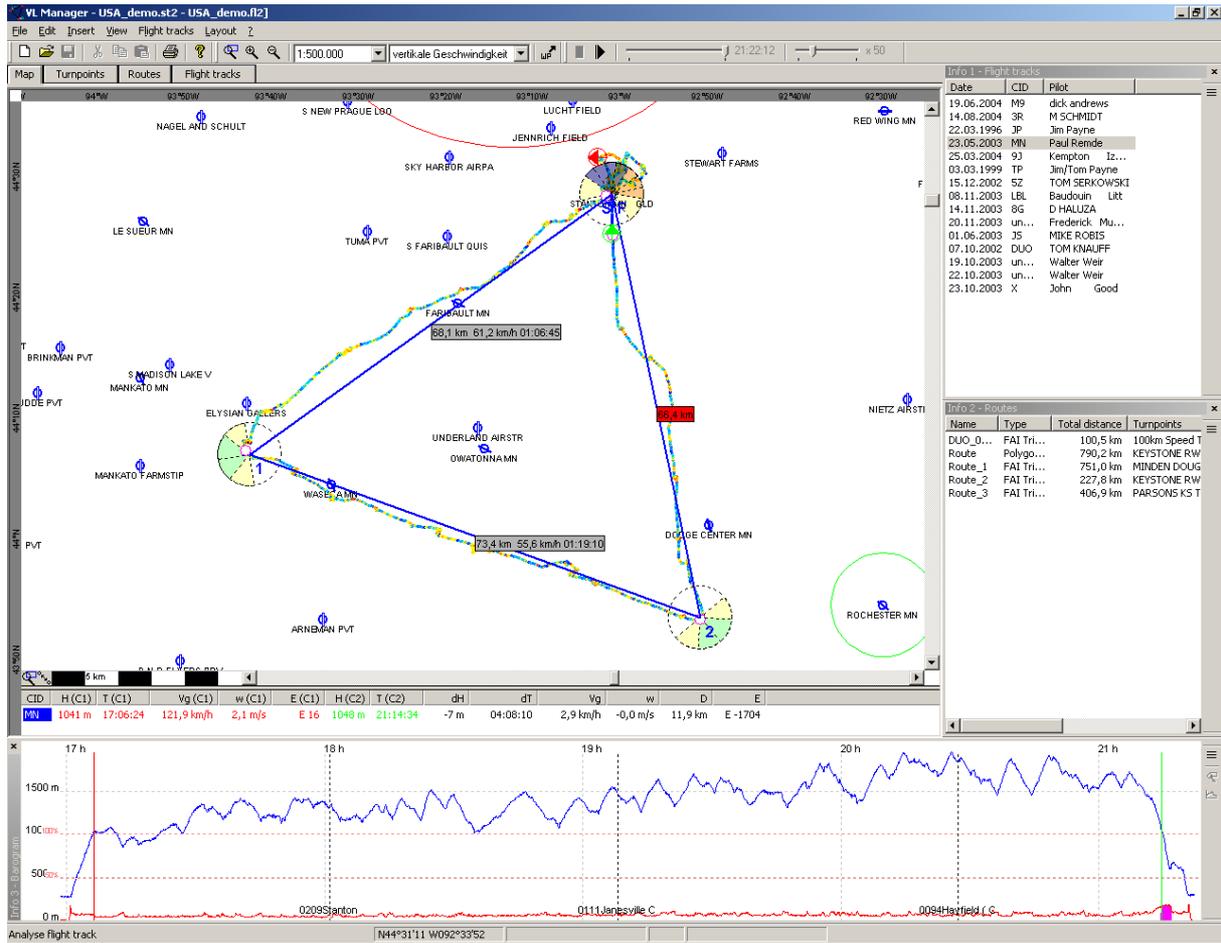
Attention:

In your <My Documents> Folder are your own Turnpoint and Routedata files. Make sure to save your data before deleting that folder

2 How to work with *VL Manager*

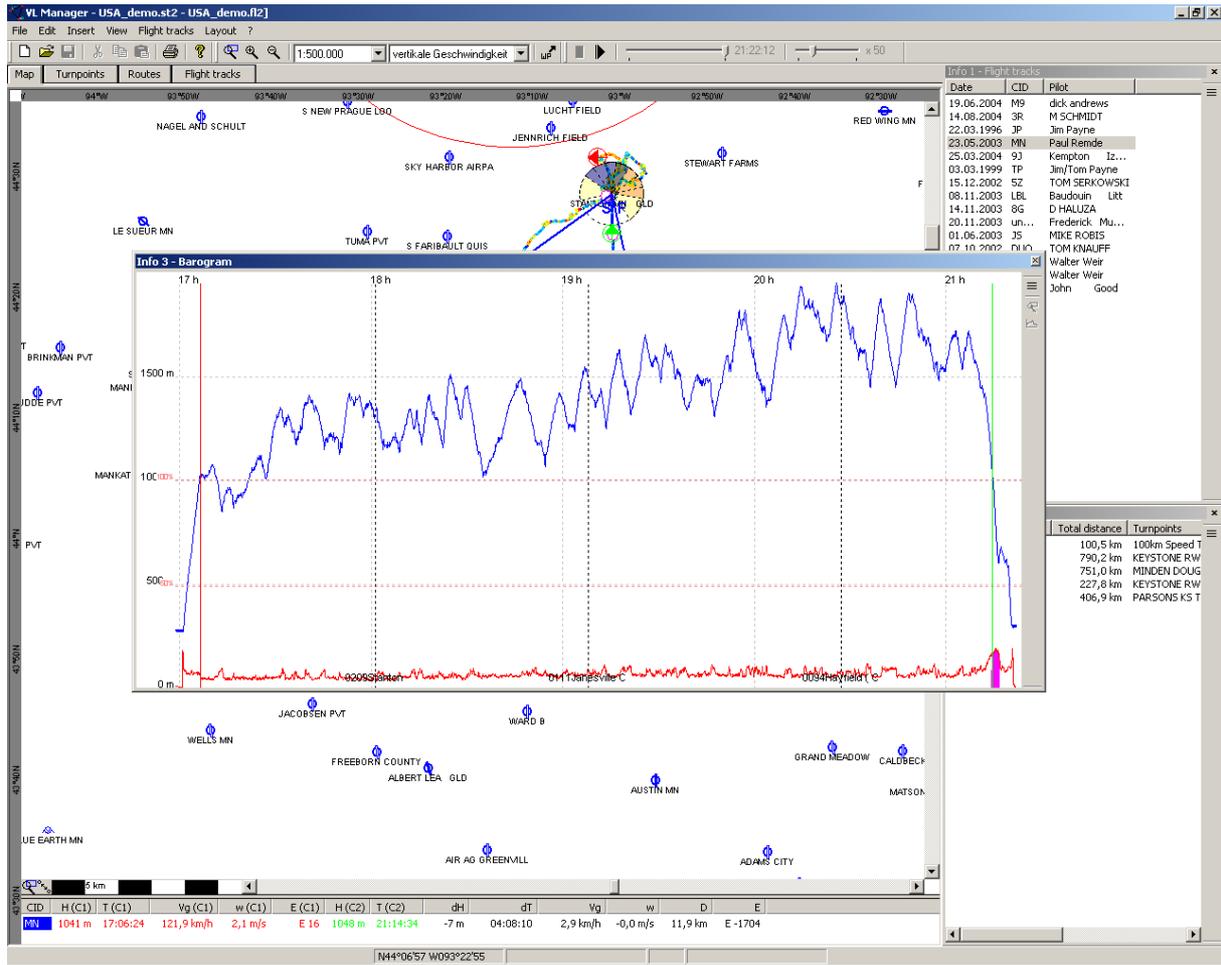
VL Manager can be used like any other Windows application, for the most part the valid Windows standards for the operation were maintained. The necessary steps were designed to be self-explanatory, so that it is hardly necessary to use the Online Help (manual). It is an important goal of *VL Manager* to support the user with typical cross-country task preparation and analysis in an easy way.

In *VL Manager* there is the main window, with the tabs for the *Map*, *Turnpoints*, *Routes* and *Flight Tracks*. Normally, there are further three information windows to the right of the main window. All windows can be expanded and reduced using the normal Windows methods.



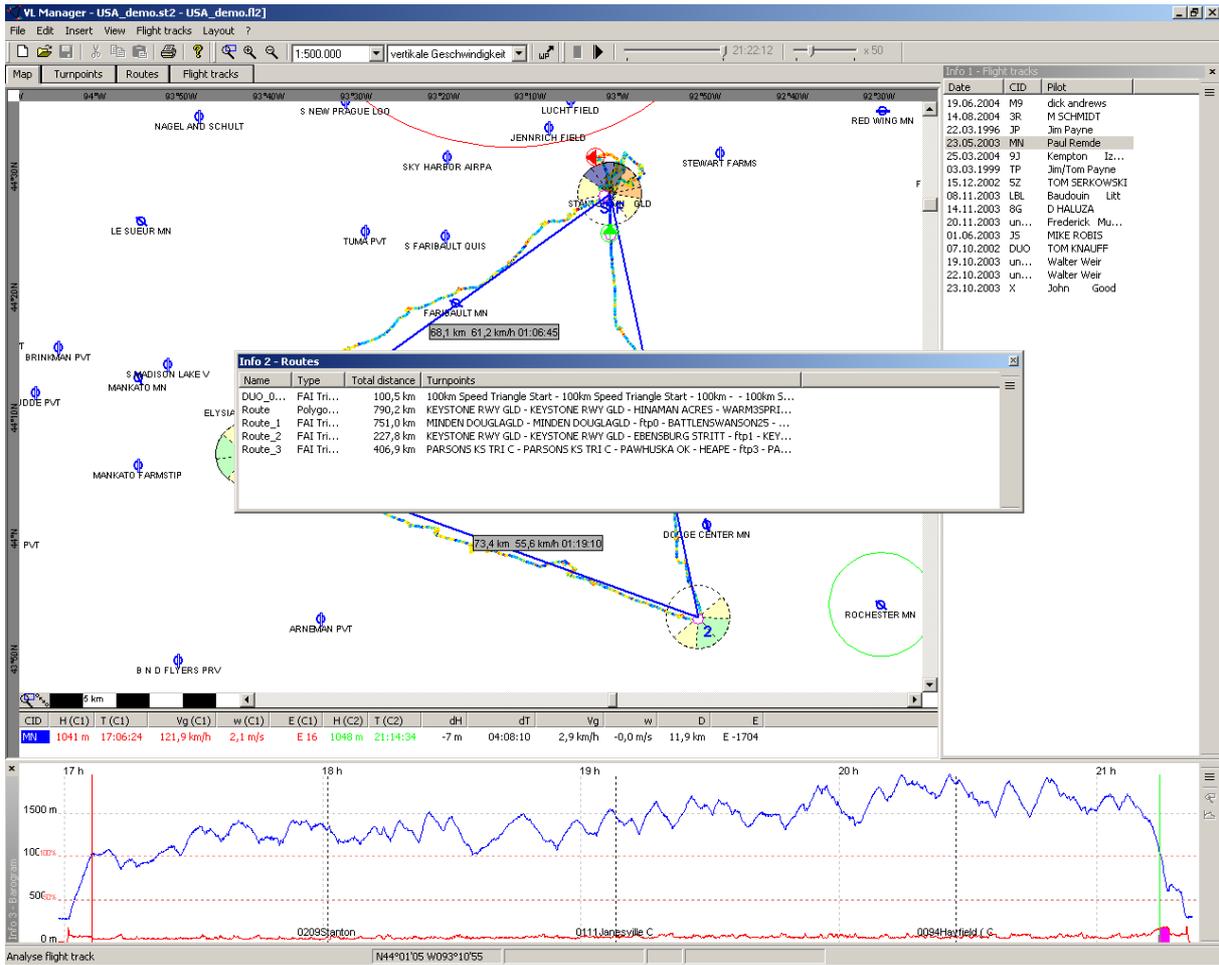
Main Window of VL Manager

These information windows are “free-flying” and can be visible or invisible. Click an arbitrary window to activate it. This will be visible by the info window’s blue title bar. Click on the blue bar and pull the info window to the screen centre. Now the window is “free-flying”.



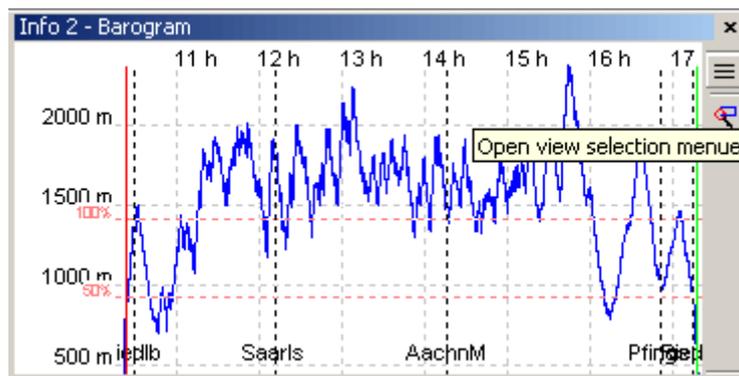
Free flying window I

Pull the info window (Barogram) to the bottom edge. The size will suddenly change. Let go of the window. It is now stationed on the bottom edge of the screen. Push the STRG key while moving the window to prevent the automatic "catch-effect". You can place all info windows around the main window.



Free flying window II

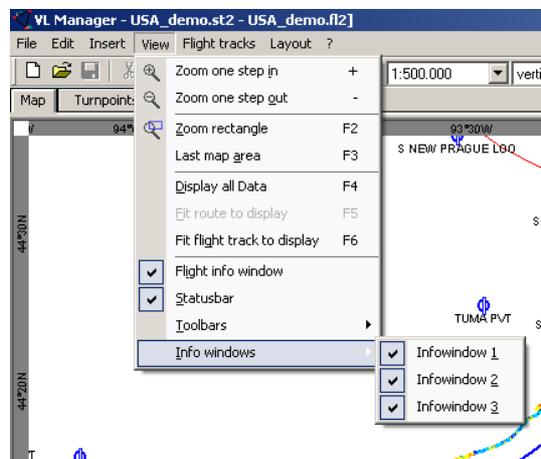
Every info window has a task bar with a button on the right.



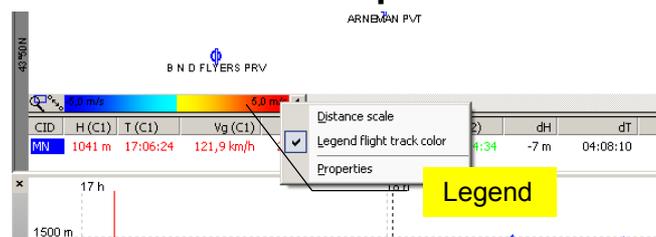
Click the  button. Choose the window content you want.



To activate and deactivate the info window, go to *View > Infowindow* and click.



2.1 Additional information in the map window



Beside the horizontal scrollbar of the map window are some additional elements:

- Some important **buttons** for key functions of the map:
 -  Zoom rectangular area in the map
 -  Start distance measurement in the map
 -  **F** Open the map filter menu. Select the item groups of interest for the map display.
- The map **legend**. Display alternative a legend for the
 - map scale

- flight track coloring

Select the legend of interest with a right mouse click inside the legend window. If the legend for the flight track color is selected, the color depends on the selection in the **Flight track color selection box**, which is located in the map tool bar.

2.2 Where, how and what does VL Manager save

VL Manager is very intuitive to handle. Still, you need to know where certain files are to be saved.

Under the condition that you did not enter anything else upon installation, *VL Manager* has installed everything else it needs to run in the directory

<Program Files>\VL Manager.

Normally you do not need to edit this directory or any subdirectories. For experts that really want to know, there is further information in the appendix: *Technical Information*.

During the installation, a further directory was created.

<My Documents>\VL Manager.

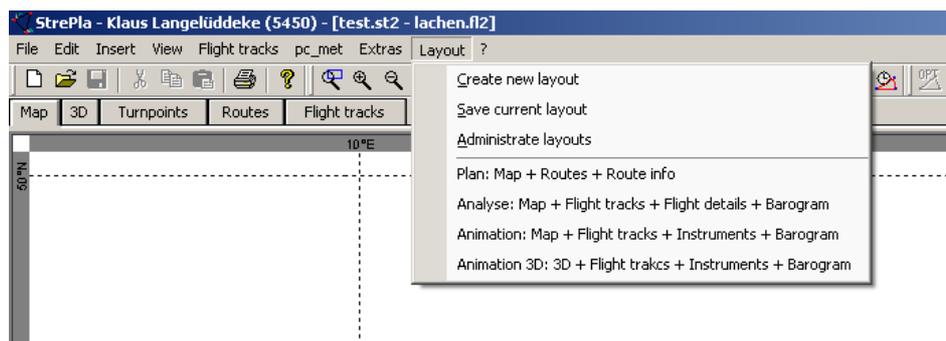
Your files, such as the turning point catalog, route catalog, etc. are to be placed in this directory. *VL Manager* is adjusted so that, if you do not enter anything else, all your personal files will end up here.

3 Layouts

Layouts simplify the usage of VL Manager, because they allow a fast change between use cases (for instance: flight planning, flight analysis, flight animation, etc).

Every layout stores number and position of all windows and toolbars.

To activate a layout, open menu Layout, <Layout name>. VL Manager supports four default layouts:



Planning:

Prepare your flights; Opens the map window and the info windows Routes and Route info.

Flight analysis:

Analyse your flights; Opens the map window and the info windows flight tracks, flight analysis and barogram.

Animation:

Review your flight in an animation (2d). Opens the map window and the info windows flight tracks, flight panel and barogram.

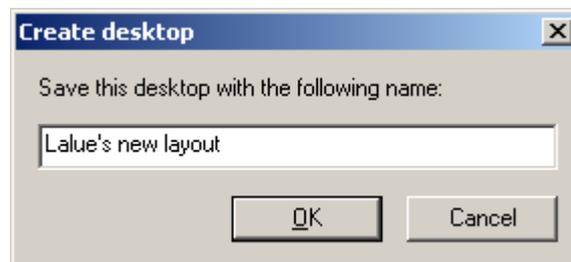
Animation 3D:

Review your flight in an animation (3d); Opens the map window and the info windows Flight tracks, flight panel and barogram.

3.1 Create Layouts

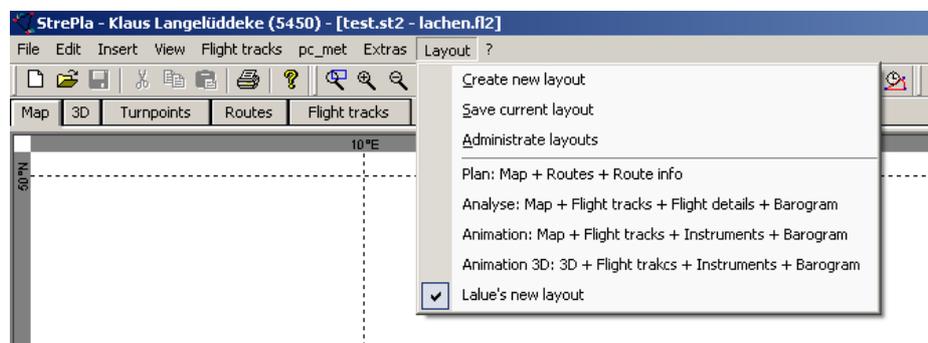
You can create additional layouts, which will fit your special personal needs. To create new layouts please proceed as described:

- Open all Info windows and adapt their position and size to your needs.
- Execute Layouts, Create new layout and fill in the name of your layout



- Click on Ok

The new layout is now saved and active. The layout is available in the menu Layouts:



3.2 Modify Layouts

To modify an existing layout:

- activate the desired layout in Layouts, <Layoutname>
- modify the number and position of the windows
- execute Layouts, Save current Layout

This saves the current layout with the changed positions values and can be reused later.

3.3 Administrate Layouts

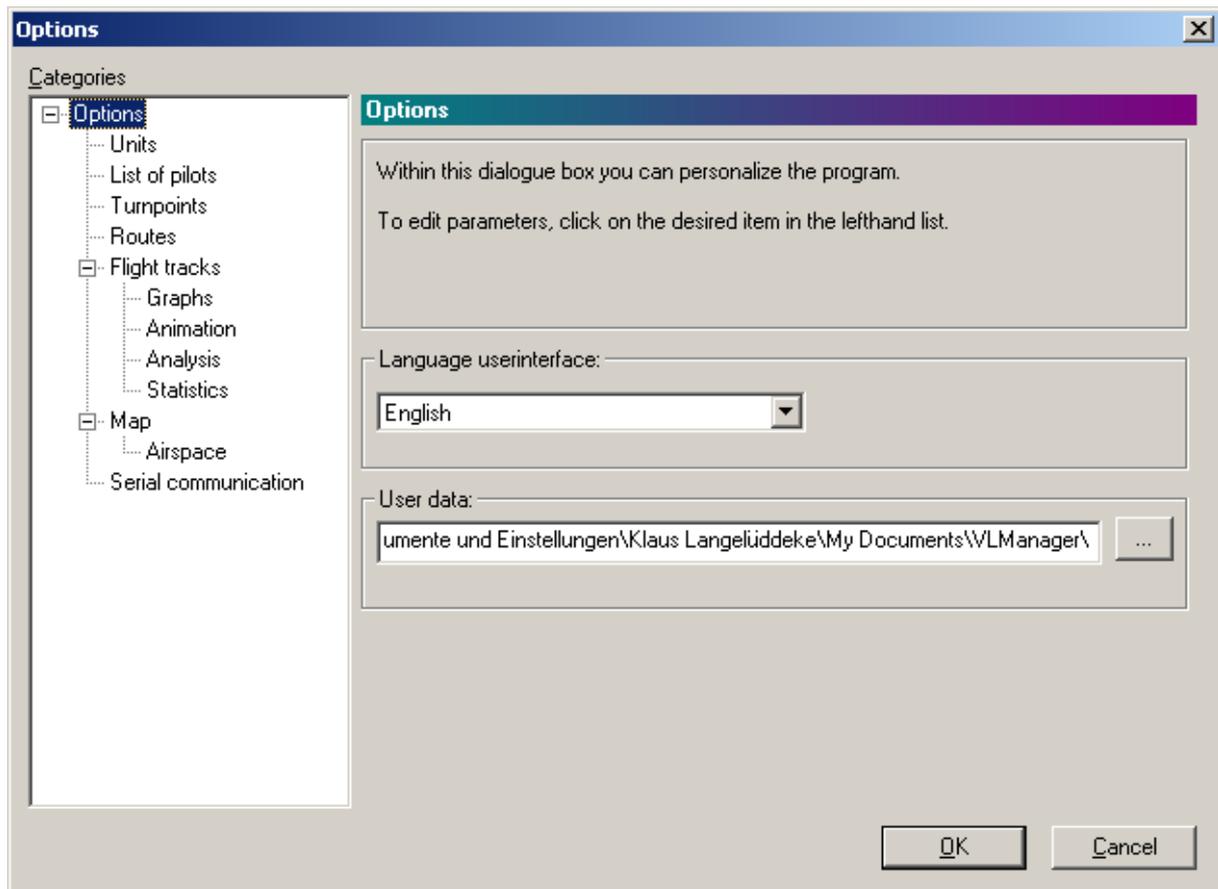
If a layout is not needed any more, it can be deleted in Layouts, Administrate Layouts:



Mark the layout to delete and click on delete.

4 Options

In the “Options dialog”, you will find all the options to adjust **VL Manager** to your personal needs. Point to *Options* in the menu *Edit* and click.

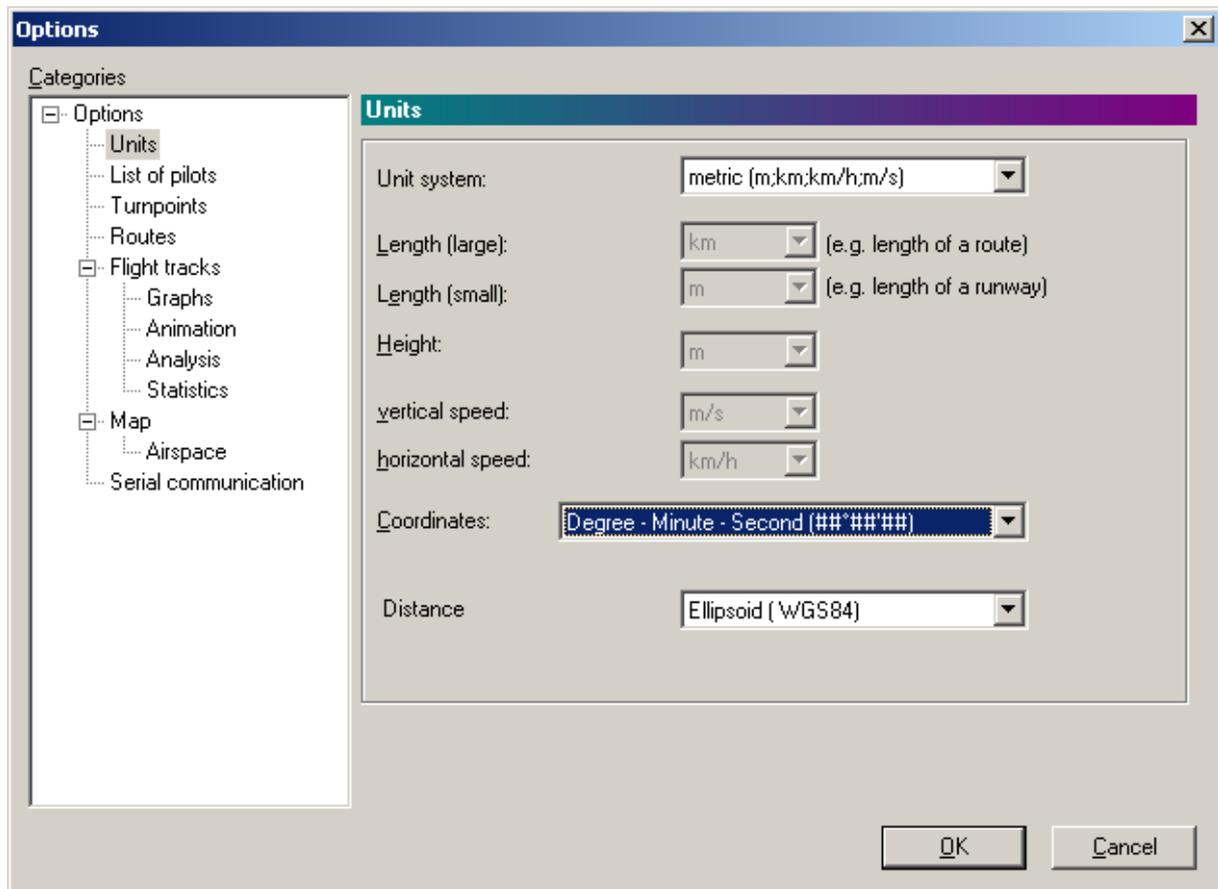


On the main page you can

- Select the user interface language
- set the folder in which VL Manager places all files. The default value is
<Personal Folder>\VLManager

4.1 Units

Here you can determine the units in which **VL Manager** should undertake all calculations. You can switch between the different units at any given time.



- Choose metric in the selection field **Unit system**. With the exception of the coordinate field, all fields are set up in the metric system of units.

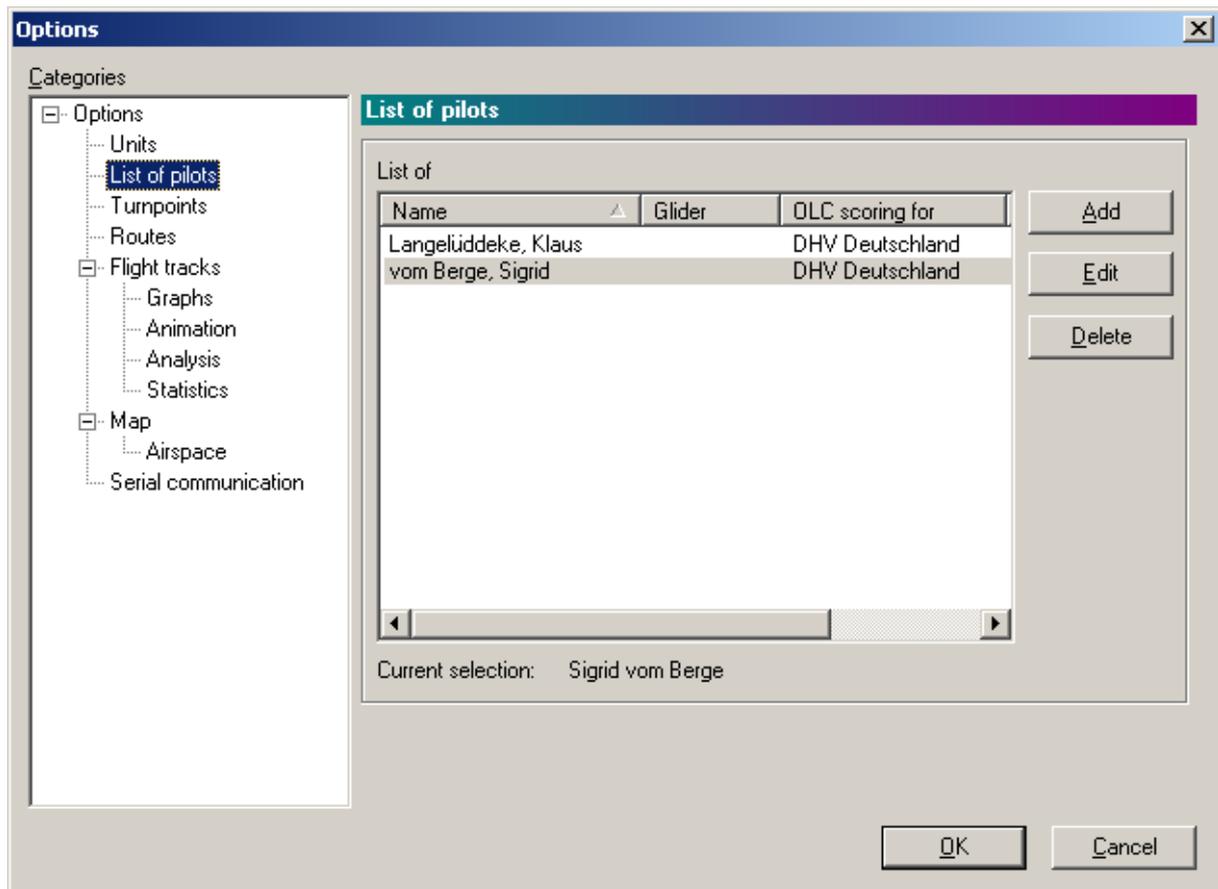
Choose imperial in the selection field **Unit system**. With the exception of the coordinates field, all fields are set up in the American / English system of units.

Choose **User defined** in the selection field **Unit system**. You can adopt all unit fields to your choice.

- Select the **coordinate** format of your choice.
- Select the **distance calculation** method. The FAI (IGC) recently changed the rules for distance calculation. For records and badges it is a must to use the new **Ellipsoid (WGS84)** method. Be aware that there are some applications which didn't change the rules (OLC, para/hang glider).

4.2 Pilot

The **list of pilots** tab shows a list of the personal data of all pilots using this copy of VL Manager.



Click in **Add**, to add pilots, **Edit** to change the data of a selected pilot and **Delete** to remove on pilot from the list.

Click the **add** or **edit** button and enter all personal data.

Basics of pilot:

Basics

First: Klaus

Last name: Langelüddeke

Date of birth: 21.01.1965

Club: SFC Riedelbach

Takeoff: TEST

OLC

Deutschland Region:

Glider:

Glider: ASW 28 Index: 100

Compet: Standard pure glider

Callsign: D-5763 CID: 63

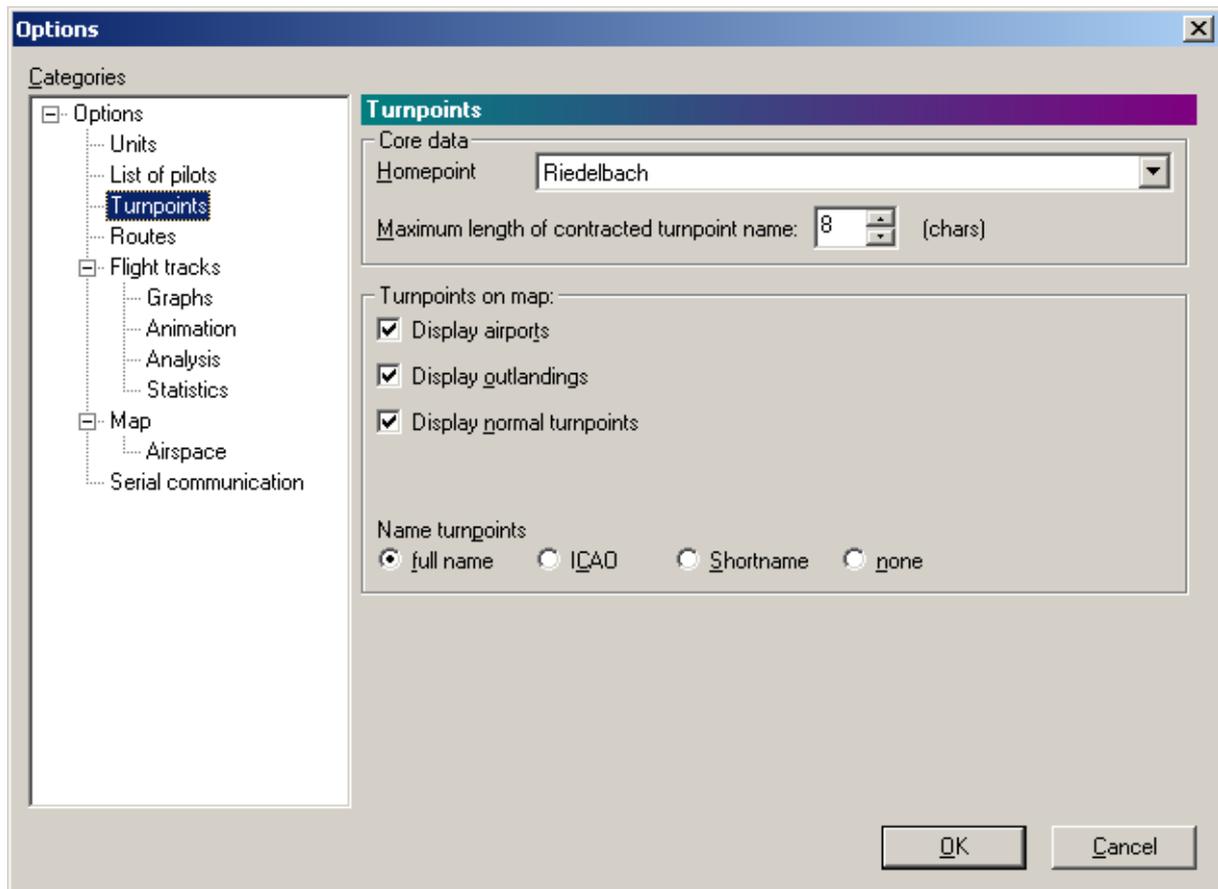
OK Cancel

Make sure to enter your name exactly as you have entered it on the participant claim for the OLC.

In case of a gliding context the list of planes is based on the DAeC index list.

In case of a hang glider contest the Glider entry is not validated.

4.3 Turnpoints



4.3.1 Basics

Enter your home point here. In the turn point list, the distance and heading will be calculated based on this turn point (airfield).

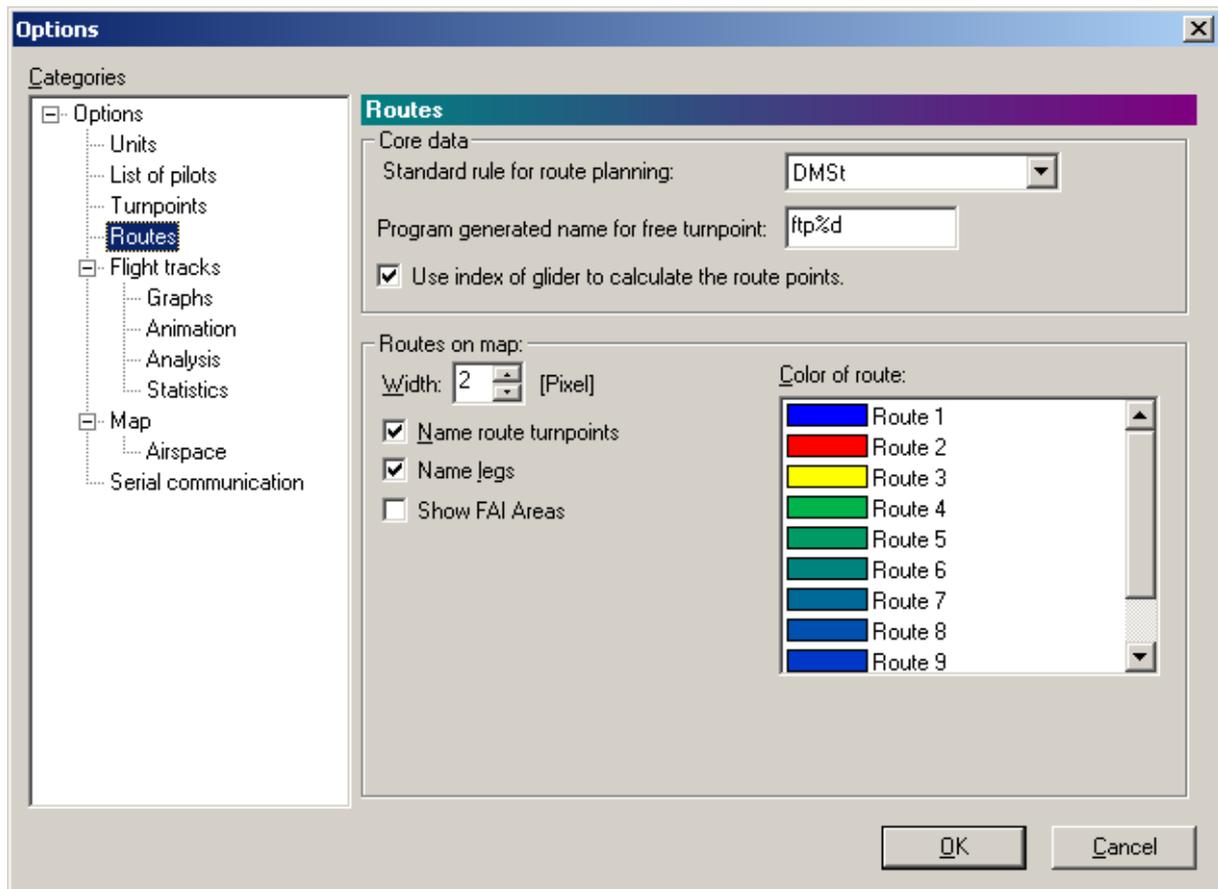
Enter the maximum length for shortened turnpoint names.

4.3.2 Turnpoints on the map

Choose according to you wishes. Raster maps are scanned maps, e.g. ICAO map.

4.4 Routes

Here you can adjust the options for your routes (tasks).



4.4.1 Basics

Choose the rules with which you want to plan your new and imported routes. To change the rule set of existing routes, open the dialog *Edit route*.

The names of the free turnpoints are created with help of the program entered here. It is made up of a fixed constituent (in the example ftp) and a number (%d), The program will replace "%d" by the next available number in the current file.

To use the current glider index to calculate the route points, check the option *Use index of glider to calculate the route points*.

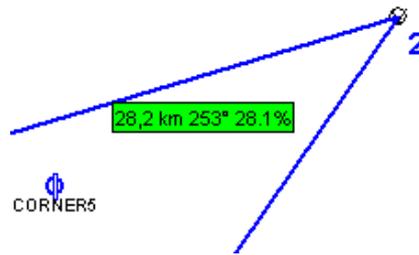


4.4.2 Routes on map

Width and Color: Enter the thickness and choose a colour for the route (course line).



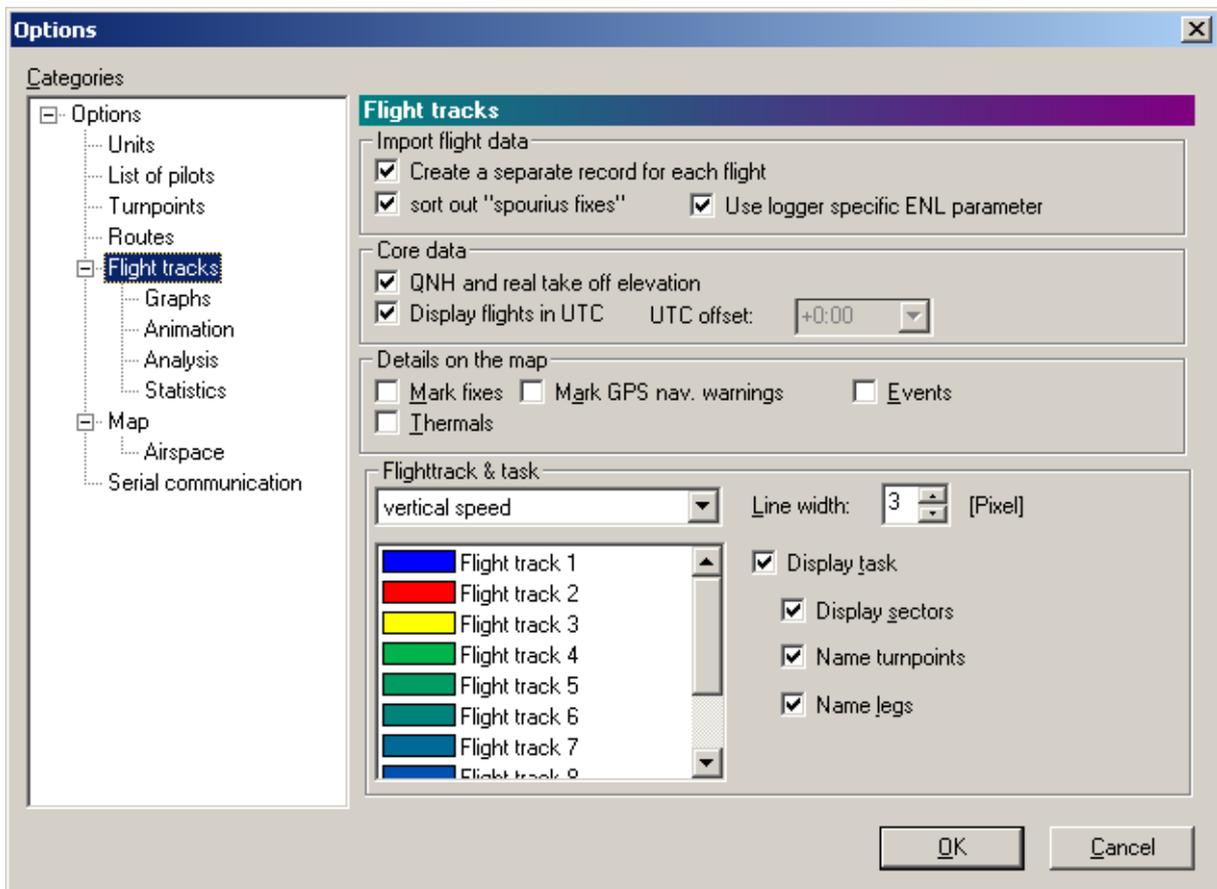
Name route turnpoints: Choose whether you want to see the labels on the route points.



Name legs: Choose whether you want to see the labels on the route legs.

4.5 Flight tracks

Adjust the options for your flight tracks (completed flights) here.



4.5.1 Import flight data

Create a record for each flight: Some loggers store all flights of one day in a igc file. Deactivate this option, if you want to load VL Manager all data of one igc file in one flight track.

Spurious fixes: If deactivated VL Manager does not filter fixes, which may not belong to the flighttrack. Those fixes are almost always due to bad GPS coverage. Deactivate this option only in case of problems.

If the option **Use logger specific ENL parameter** is activated, VL Manager checks the logger database for the given logger-callsign combination while importing the flight track. If no data are found, a calibration dialog is opened. For details see *Flight tracks.ENL calibration*.

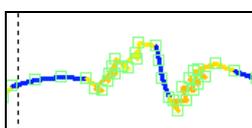
4.5.2 Basics

QNH and real take of elevation: Convert the pressure altitude due to the takeoff elevation and given QNH.

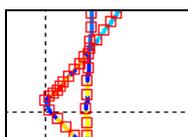
Display flights in UTC: Your logger will record the flights in UTC. Enter the corresponding offset to show the flight path in local time.

4.5.3 Details on the map

Mark fixes: In the flight path representation, every point (fix) that was recorded by the logger will be marked.

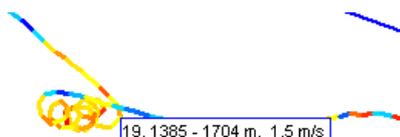


Mark GPS nav. warnings: Your GPS can, under circumstances, enter so-called navigation warnings into the IGC file. Contact your logger producer if the amount of invalid fixes gets too large.



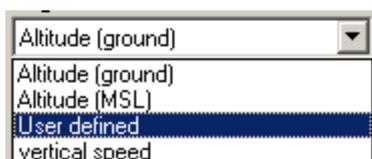
Events: Display E-Records within the IGC file. Those records are usually created by the pilot during flight with a logger depended device (button).

Thermals: Display a short info of the thermal along the flight track. **Remark:** The info is shown only at scales below the „label scale“. See the **map** options tab.



4.5.4 Flight track

Select the color scheme for the flight track



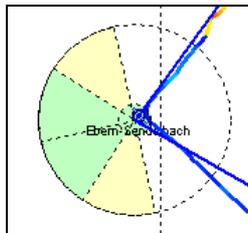
Line width: Indicate how wide your flight track should be.

Color: Select color of flight track.

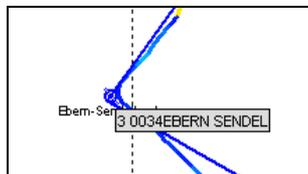
4.5.5 Task

Display task: Choose whether the task that belongs to the flight track should be shown on the map.

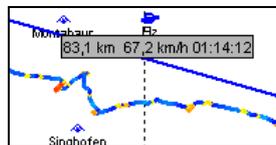
Display sectors: Choose yes or no.



Name turnpoints: Choose yes or no.

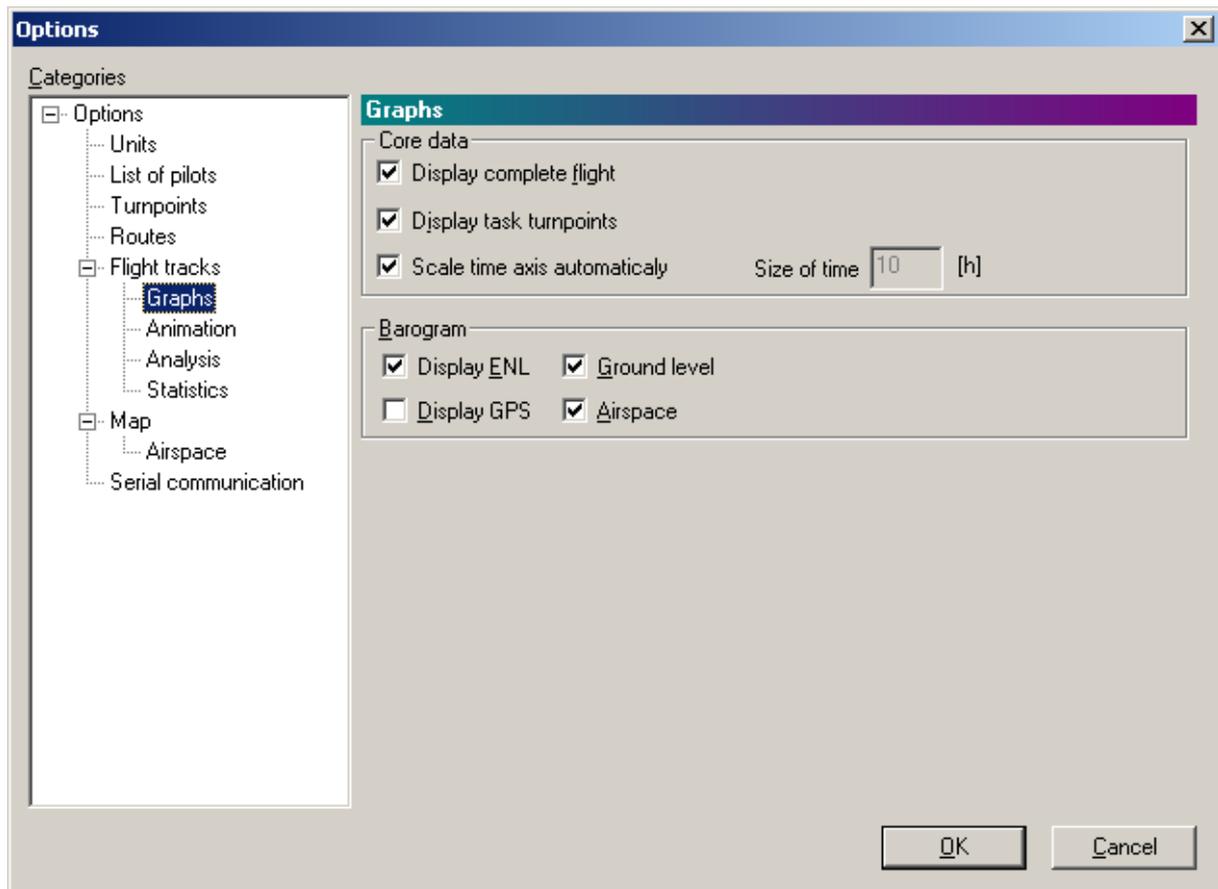


Name legs: Choose yes or no.



4.5.5.1 Flight tracks graphs

Adjust the options for the graphs (Barogram, Variogram...) here.



4.5.5.1.1 Basics

Display complete flight: Choose whether the whole flight or only the part that is visible on the map should be shown. If this option is not active, the animation will become more "exciting" since you cannot see when the pilots will find another thermal.

Display task turnpoints: The turnpoints are shown as vertical lines in the diagrams.

Scale time axis automatically: If checked, the time axis is computed due to the flight time of the selected flights, otherwise the time axis is set with the time (in hours) given in the field **Size of time**.

4.5.5.1.2 Barogram

Display ENL: The Engine Noise Level is shown as a red line in the bottom part of the Barogram. If your logger recorded the ENL during the flight, VL Manager will determine the engine run from this data.

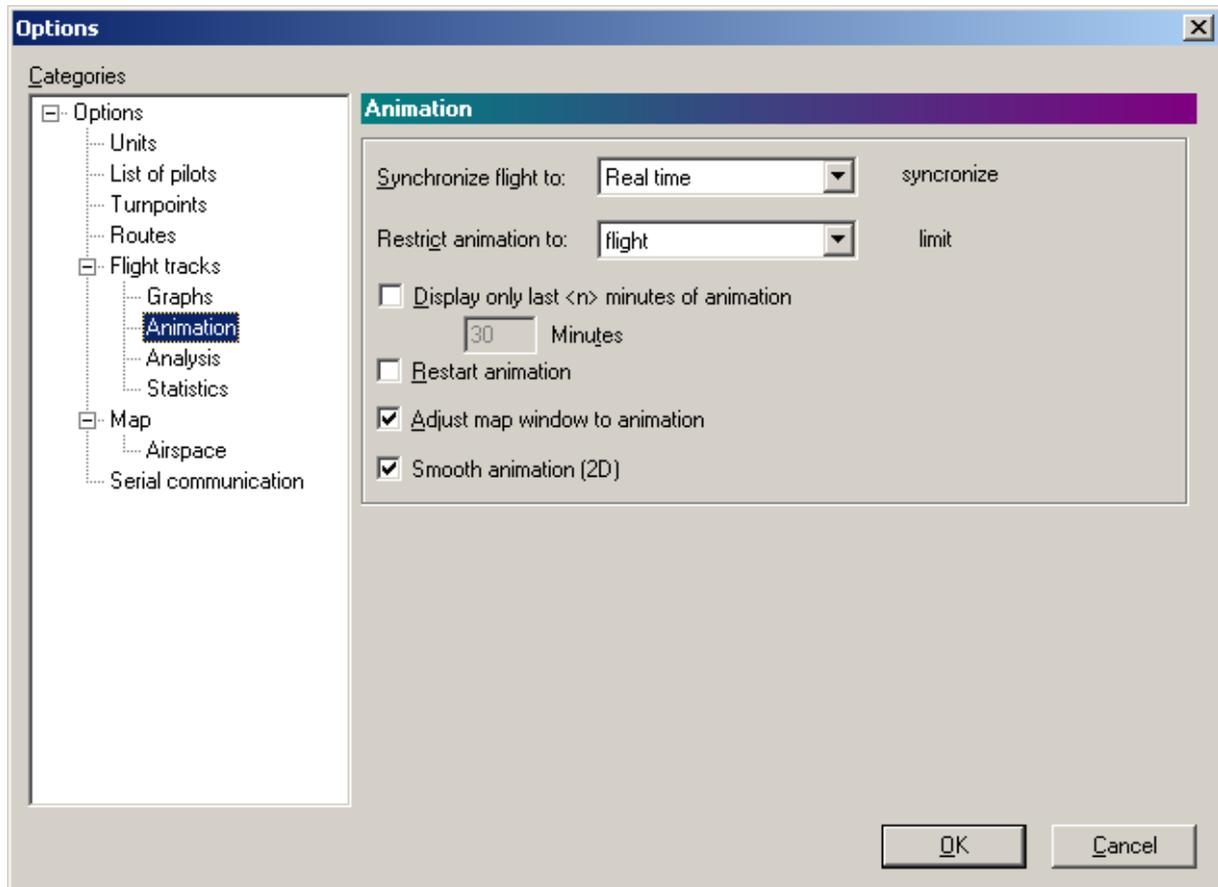
Display GPS height: In addition to the static sounding rod height, the GPS height will be shown.

Ground level: If available, the ground level of the terrain below the flight path is displayed.

Airspace: All airspace penetrated, flown over or flown underneath is displayed.

4.5.5.2 Flight track animation

Determine the behavior of your animation.



Flight track animation

When choosing several flights, you can **synchronise** the animation.

Real time: The flight tracks will be shown the way they really happened.

Scoring time (task): The flight tracks will be moved in time so that it seems as if everyone departed at the same time.

Take-off time: The flight tracks will be moved in time so that it seems as if everyone took off at the same time.

Restrict animation:

To task: The animation will begin with the first departure.

To flight: The animation will begin with the first take-off.

To complete log: The entire log will be animated. Adjust the other options to your wishes.

Display only last<n> minutes: If activated only the last <n> minutes of the flight track are visible. This is useful, if a large part of the flight track is within a small area.

Restart animation: Automatic restart the animation after the last glider has finished its task.

Adjust map window: Adjust the visible part of the map window, so that all animated gliders are visible.

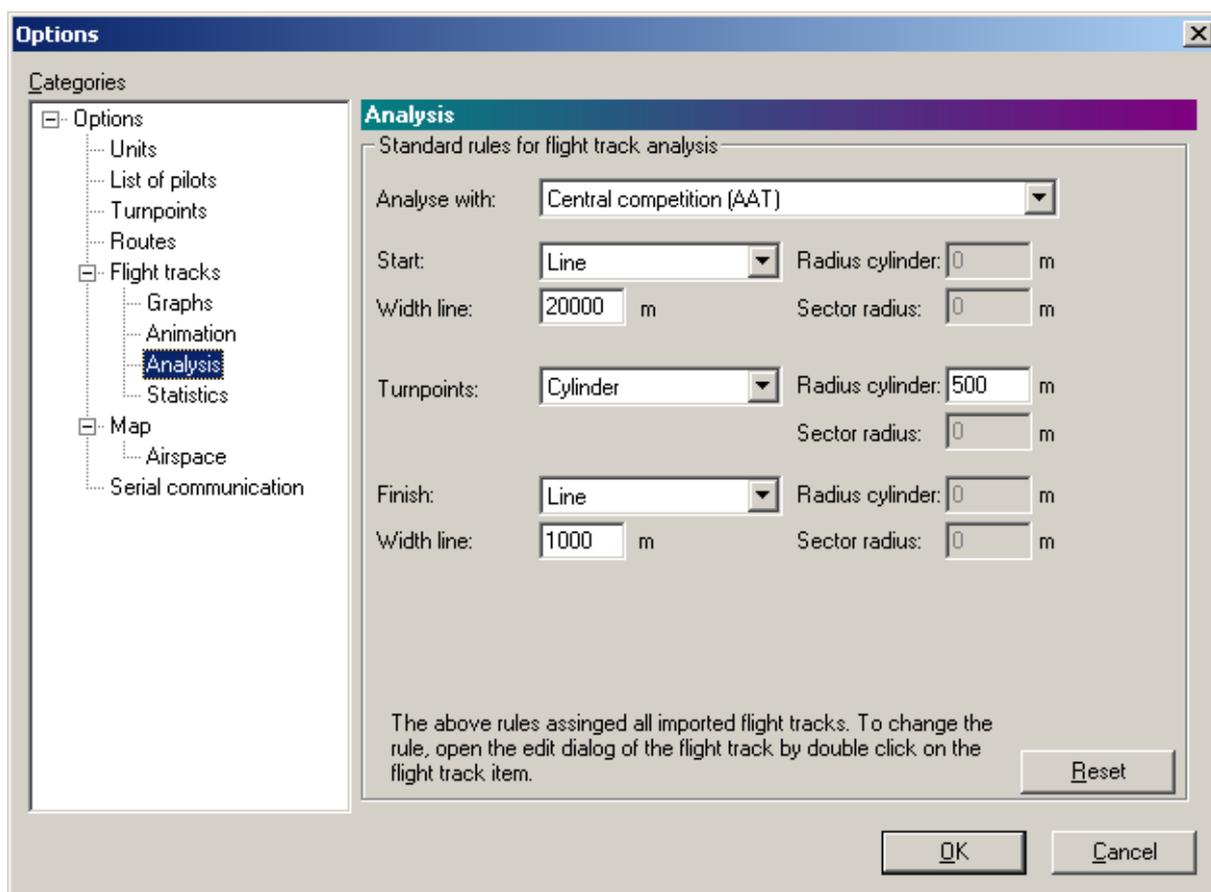
Smooth animation: The flight track tops are centered in the middle if the map window.

4.5.5.3 Flight tracks – analysis

Adjust with which rule set **imported** flight tracks should be analyzed.

To change the analyzing rule set for **existing flight tracks** open the dialog "Edit flight track parameters" and select the proper rule.

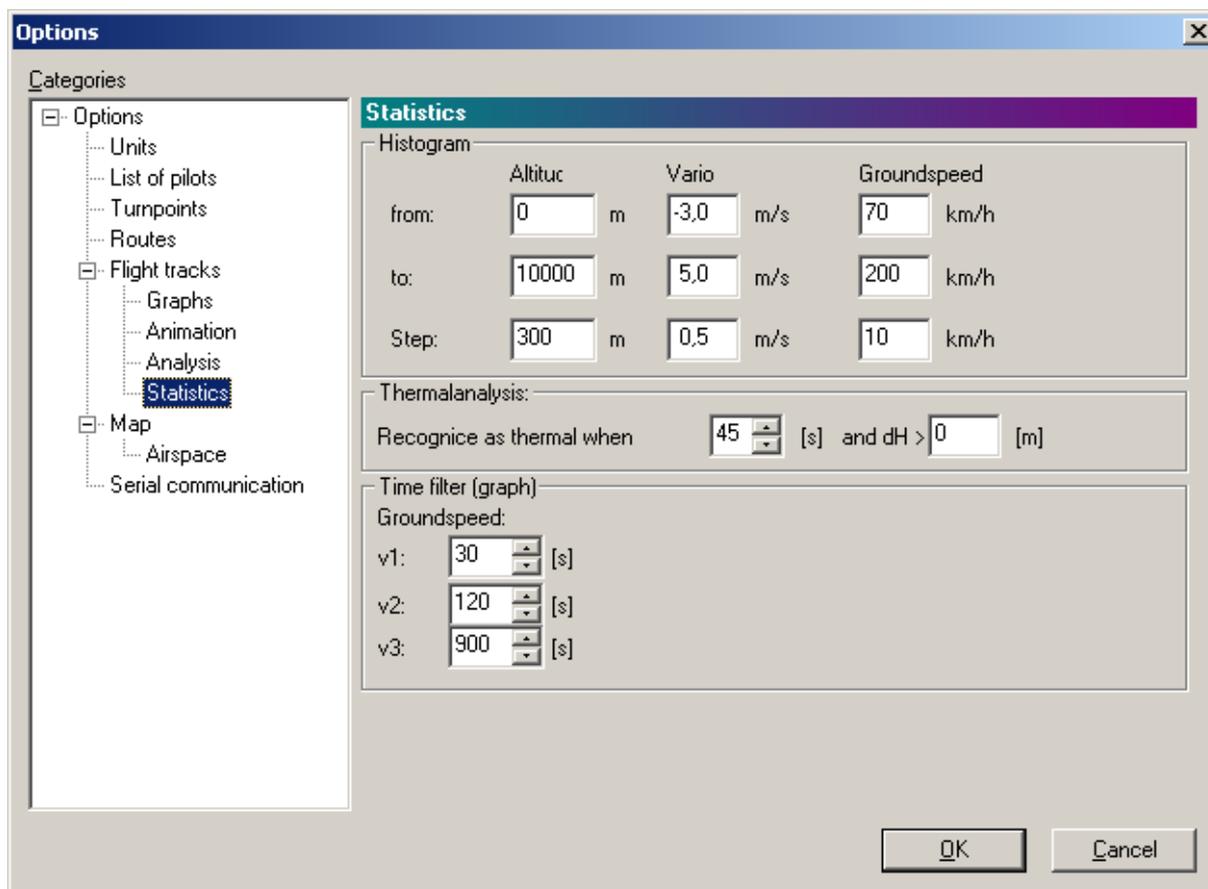
Don't confuse the analysis with the flight track optimization. During the analysis, **VL Manager** will check whether you validly flew over the departure line, over the turnpoints, etc.



In the selection field *Analyze for*: you can choose the rule with which the analysis is to be done. With FAI, DMST, etc. rules, the values are determined by the rules. Remark: Due to the fact, that the analysing rules are not equal all over the world, some values may be changed vby the user.

4.5.5.4 Flight tracks – Statistics

All parameter needed for statistical analysis of a flight track.



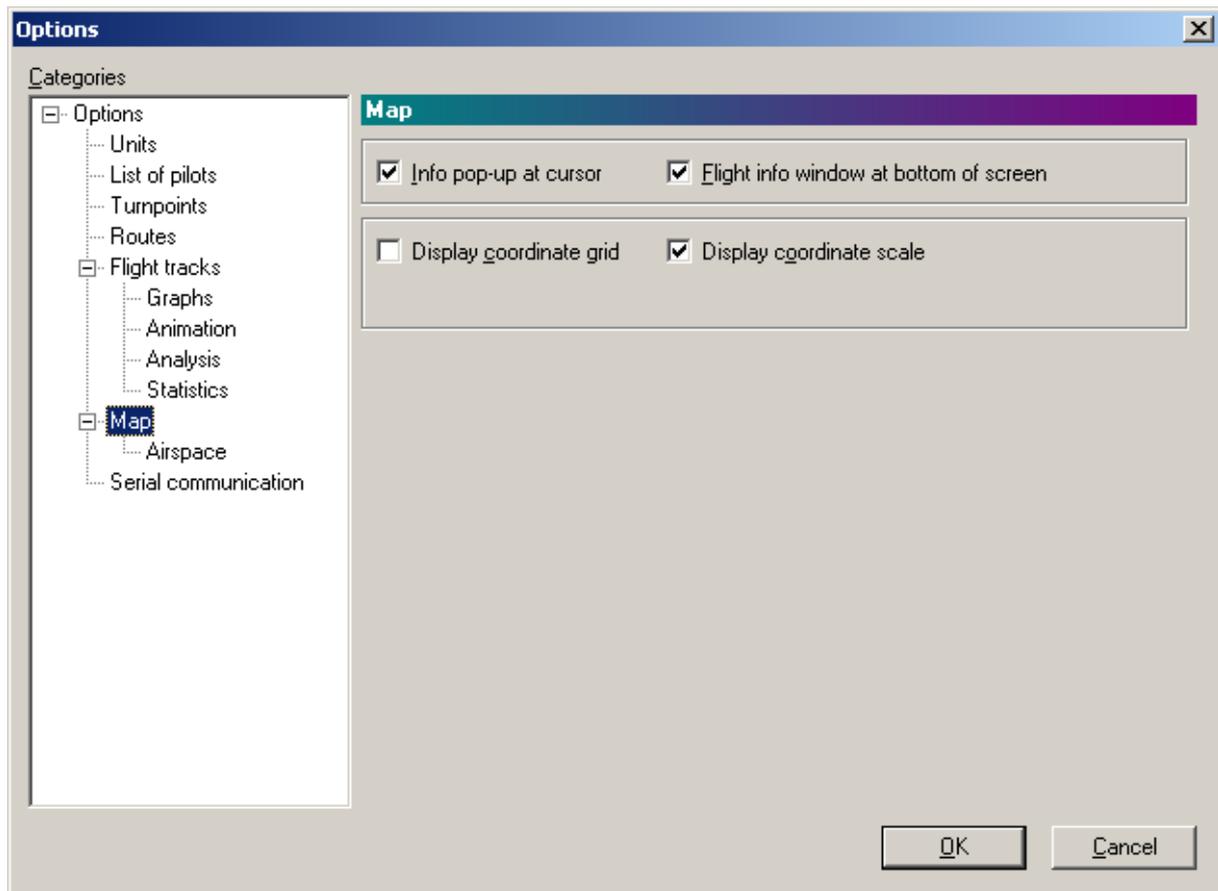
In the histogram area set the start and end value as well as the step size for the histograms used in the flight track statistics.

In the thermal analysis area set minimum circling time and the minimum height for an thermal. More details in the chapter *Info window Thermals and straights*.

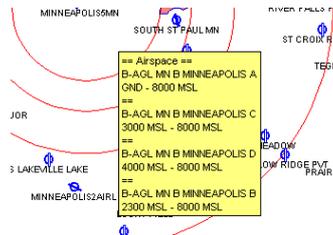
In the area Time filter set the values for mean value calculation, see also chapter *Info window groundspeed*.

4.6 Map

Determine the options for the map here.



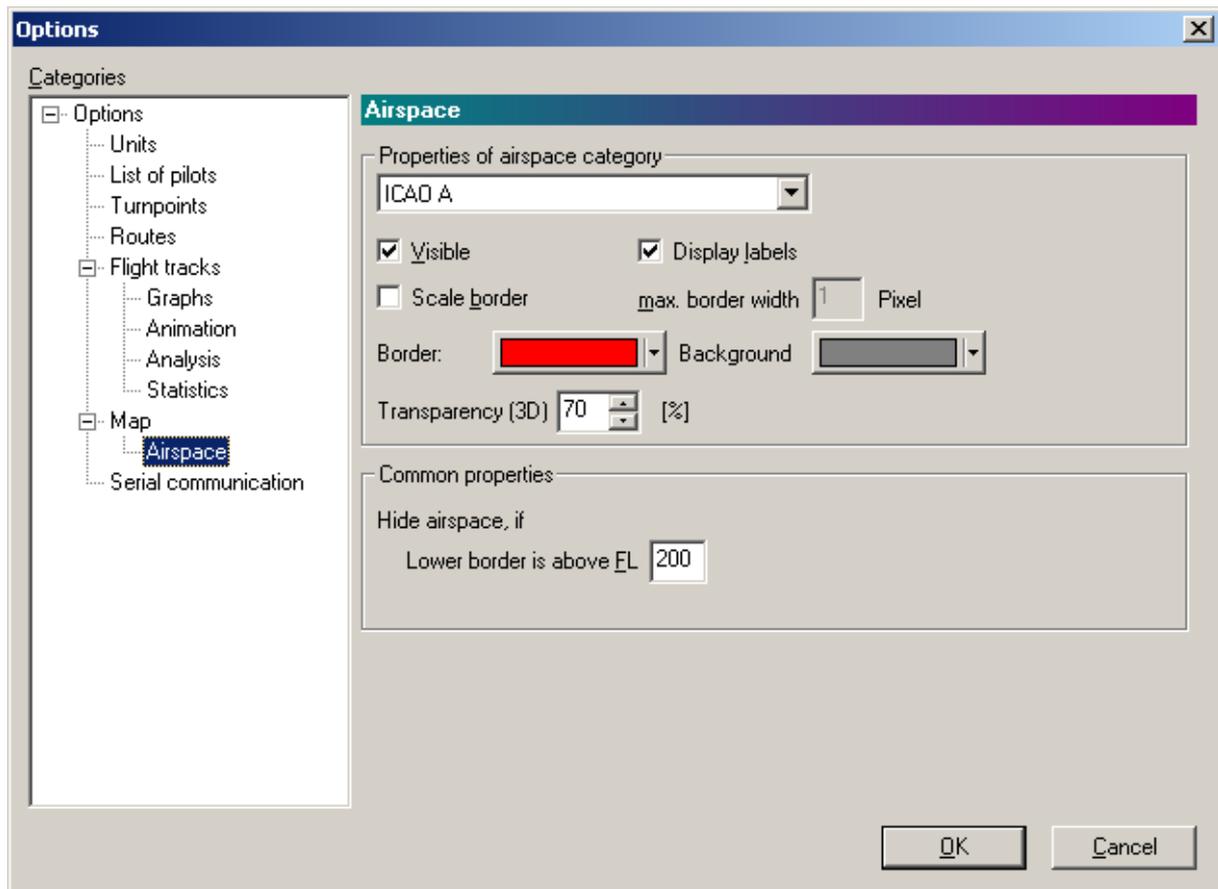
Info pop-up at cursor: Choose yes or no.



Adjust the other display options **coordinate grid**, **coordinate scale** and **grid and scale with raster maps** according to your wishes.

4.6.1.1 Map – air space

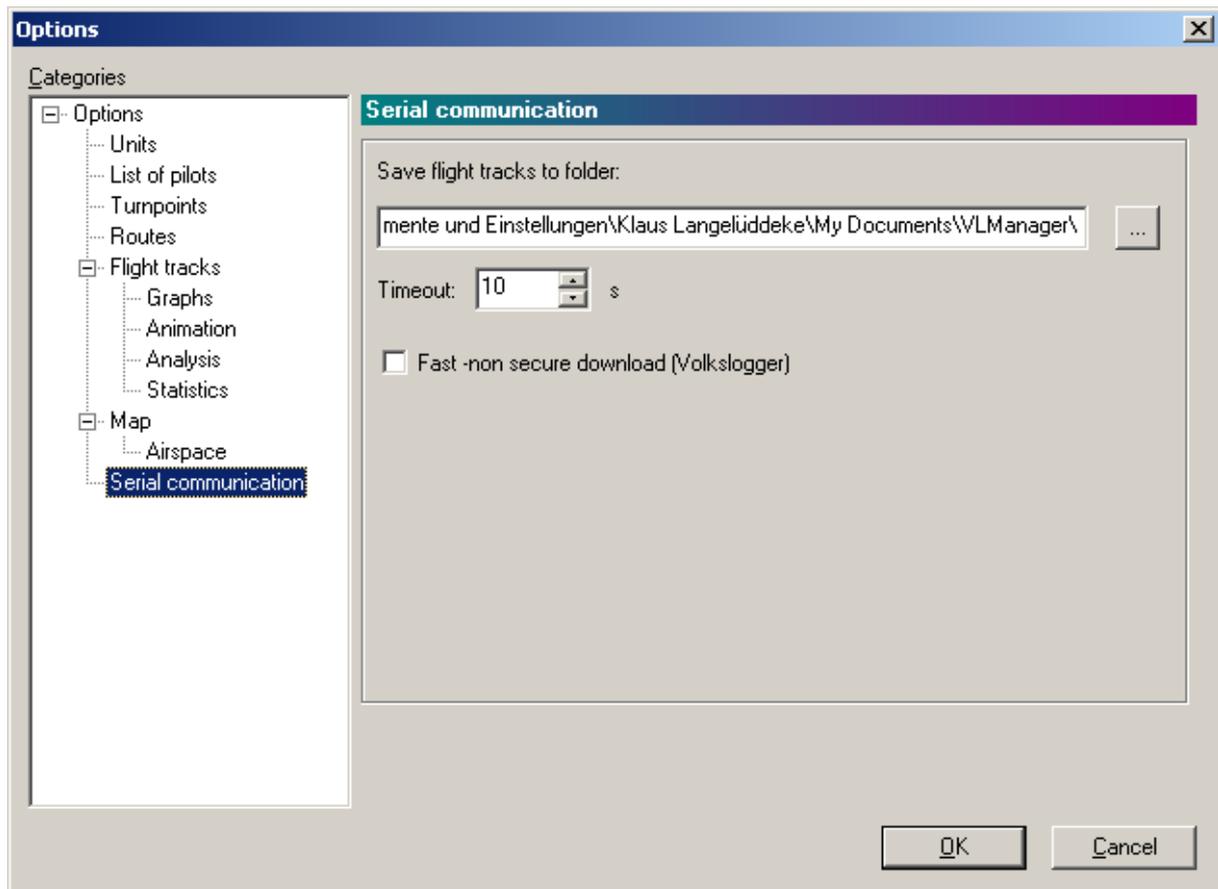
With this option you can adjust according to your needs.



You can adjust the colors, border thickness, etc. for every air space category.

4.7 Serial Communication

The options for the direct communication are adjusted here.



Choose a folder where you want to save the original IGC files that you download from your logger via the direct communication.

Adjust the time that **VL Manager** has to wait to establish a connection with the logger. Should a connection not be established within this time, **VL Manager** will show an error alert.

Select 'Fast – none secure – download', if you transfer Volkslogger IGC files and do not need secure them (central competition).

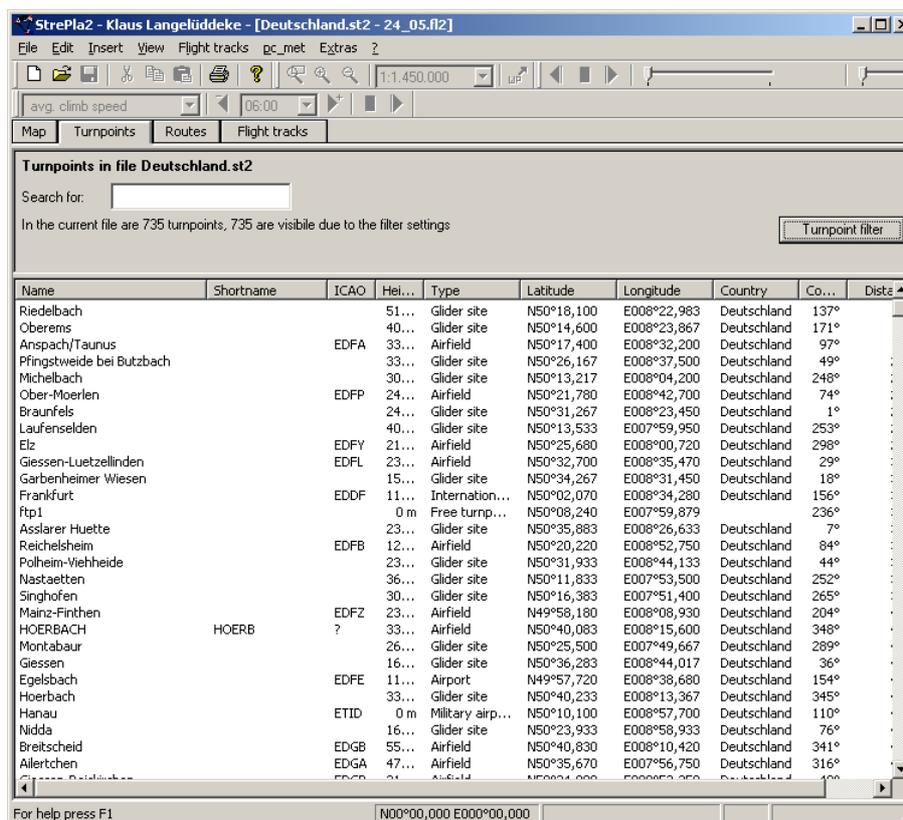
5 Turn point catalog

5.1 General information for working with turn pointcatalog catalogs

Turn point catalogs are collections of turn points. Notice that airports are also turn points. You can create as many turn point catalogs as you like; e.g. create a catalog for your home airport, a further one for your vacation place, one for competitions, etc.

Along with the routes, the turn points are saved in a file ending in .st2.

Click on the tab *Turnpoints* in the main window.



5.2 Searching for turn points

Enter a turn point name in the entry field *Search for:*. While entering the search term, you will be supported by an efficient search engine.

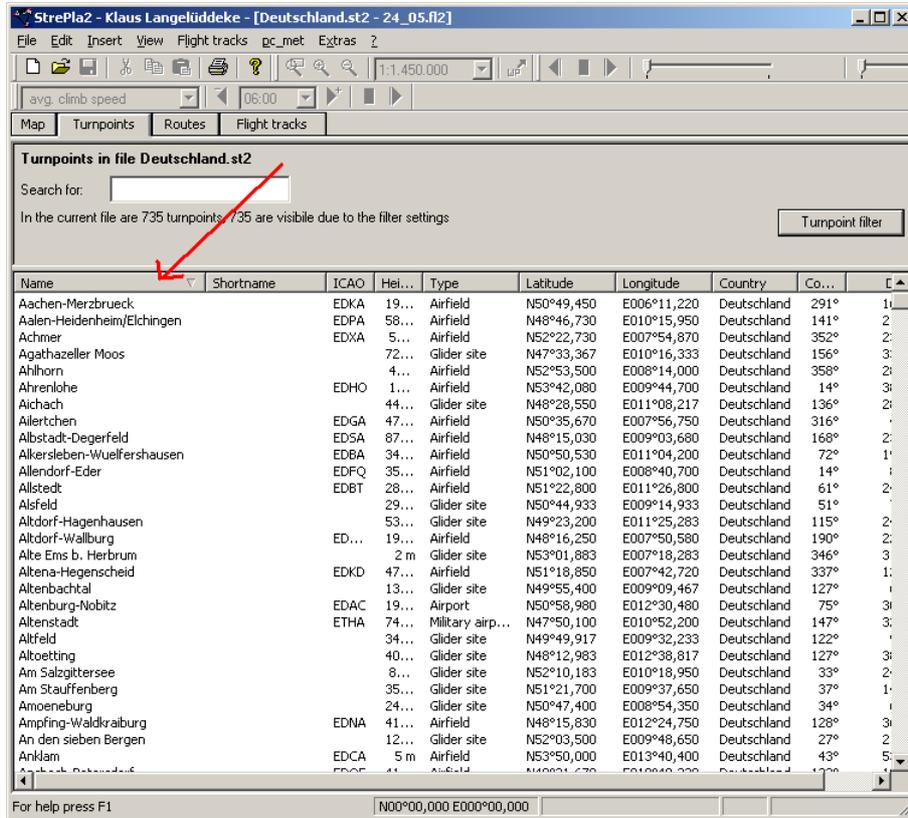
The entry will be marked in grey in the list underneath.

Mark the grey entry. It will change color to blue. Click the tab *Map* in the main window. The marked turn point will be in the middle of the window.

With a double-click on the entry you can edit the turn point.

5.2.1 Sorting turn points in the list

All entries in the list can be sorted by field names. Click on the field name *Name*.



The entries are sorted in ascending order of the field *Name*. Repeated clicking on the field name will result in a reverse the direction of the list. All entries will be sorted in descending order.

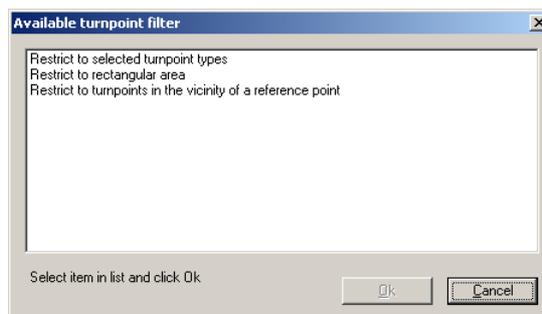
You can proceed like this with all fields in the list.

5.2.2 Turn point filter

Many express a desire to filter the turn point catalog. For example, you can sort out all the airports or to shrink the catalog to a number of turn points that will fit into the logger.

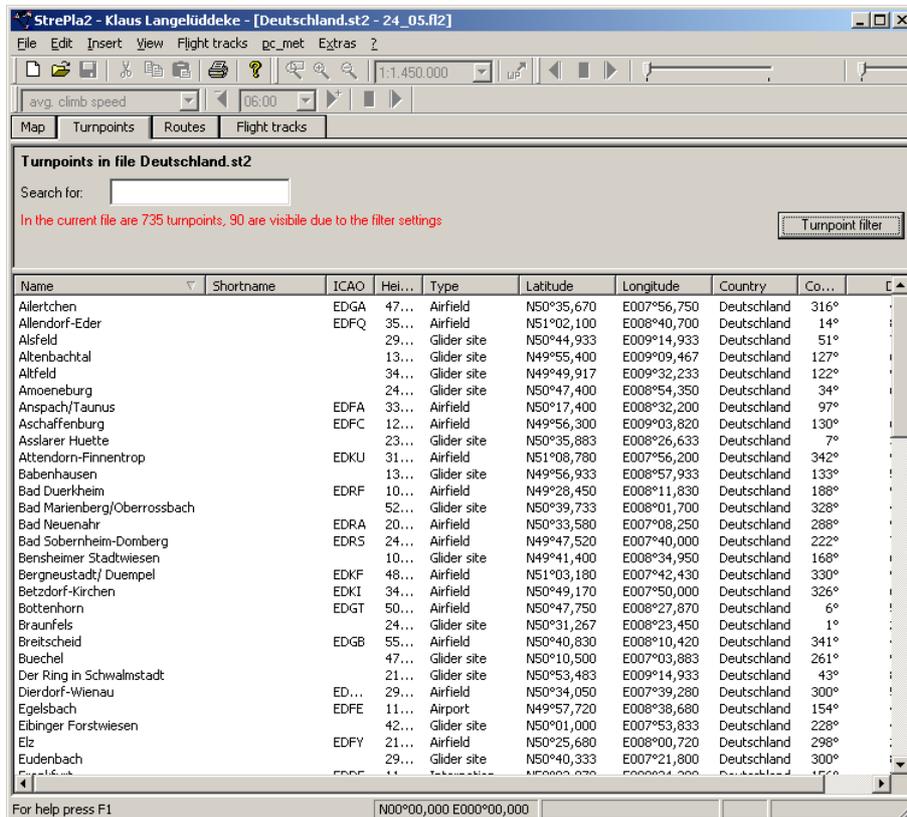
Click on *Turnpoint filter*. The window *Active turnpoint filter* will appear.

If this window is empty, click *New* and choose a filter. The filters are described in the chapter *Turnpoint filter*.



Choose the filter *Restrict to turnpoints in the vicinity of a reference point*. Fill in the following window and confirm with OK.

In the turn point catalog's heading you will see a notice in red lettering saying that the turn points are filtered.



Example:

Your logger can only process a limited number of turn points, but on the other hand it has an airport database.

Create a filter that only allows a certain type of turn points within a 200km radius of the domestic airport.

Generally, you do not have to work with the filtered turn point list. You also have the possibility of switching the filter on during the export. See the paragraph: *Exporting turnpoints*.

Filtered turn points will not be deleted. When you deactivate the filter again, the filtered turn points will re-appear.

5.3 Deleting turn points

To delete one or more turn points from the turn point catalog, click on the tab *Turnpoints* in the main window.

Mark the turn point(s) that you want to delete. Select *Delete* in the *Edit* menu and click. The following safety question is to be answered with Yes.

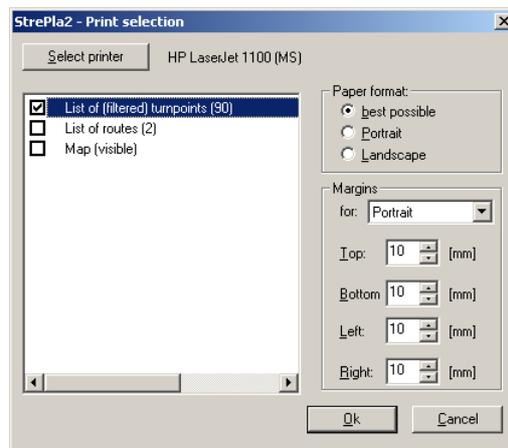
Attention:

Your turn points have now been removed from your catalog. If you save the catalog, the turn points have been irrevocably deleted.

5.4 Printing the turn point catalog

You can print the entire turn point catalog or only the filtered catalog. Point to *Print* in the menu *File* and click.

In the following window *Print selection* choose *List of turnpoints*. The turn point catalog will always be printed in portrait format.



Click OK.

5.5 Creating a turn point catalog

5.5.1 New turn point catalog

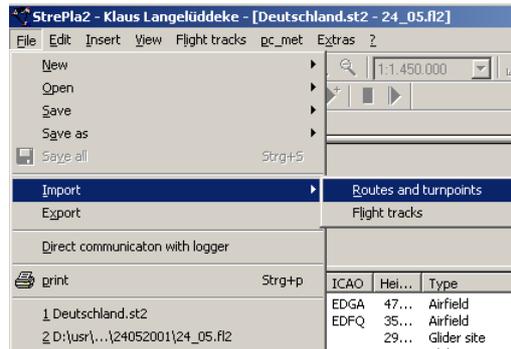
To make a new, empty turn point catalog, point to *New* in the menu *File*.

5.5.2 Importing turn points

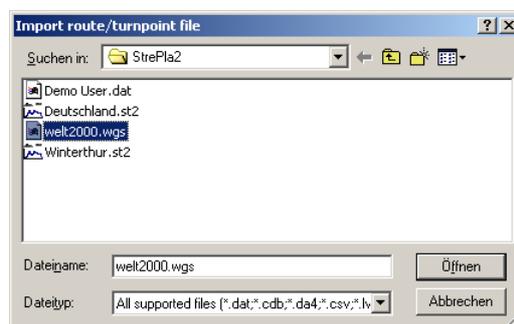
The turn point import is a frequently used method to create a turn point catalog, since usually catalogs already exist in another format and should be used.

One of these catalogs is the turn point catalog WELT2000 by Michael Lorenz Meier, which is delivered with **VL Manager**. The import will be described using this catalog.

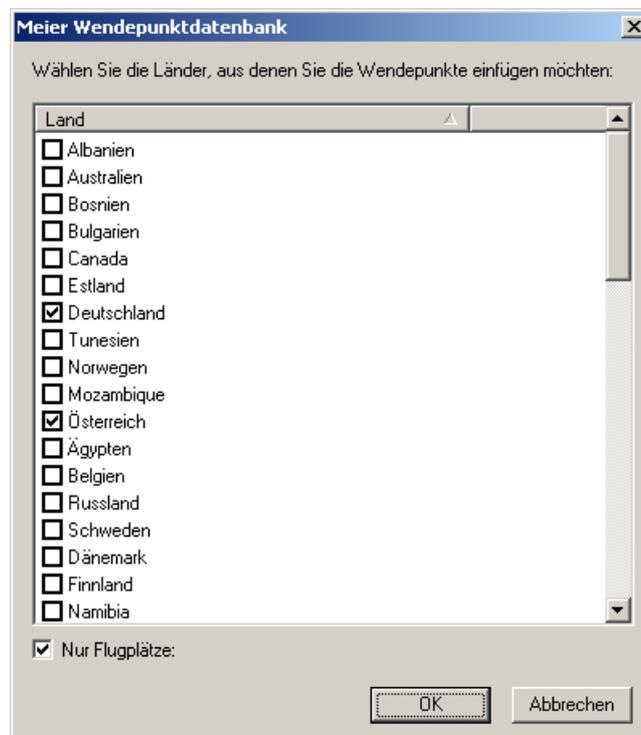
Point to *Import* in the menu *File* and click on *Routes and turnpoints*.



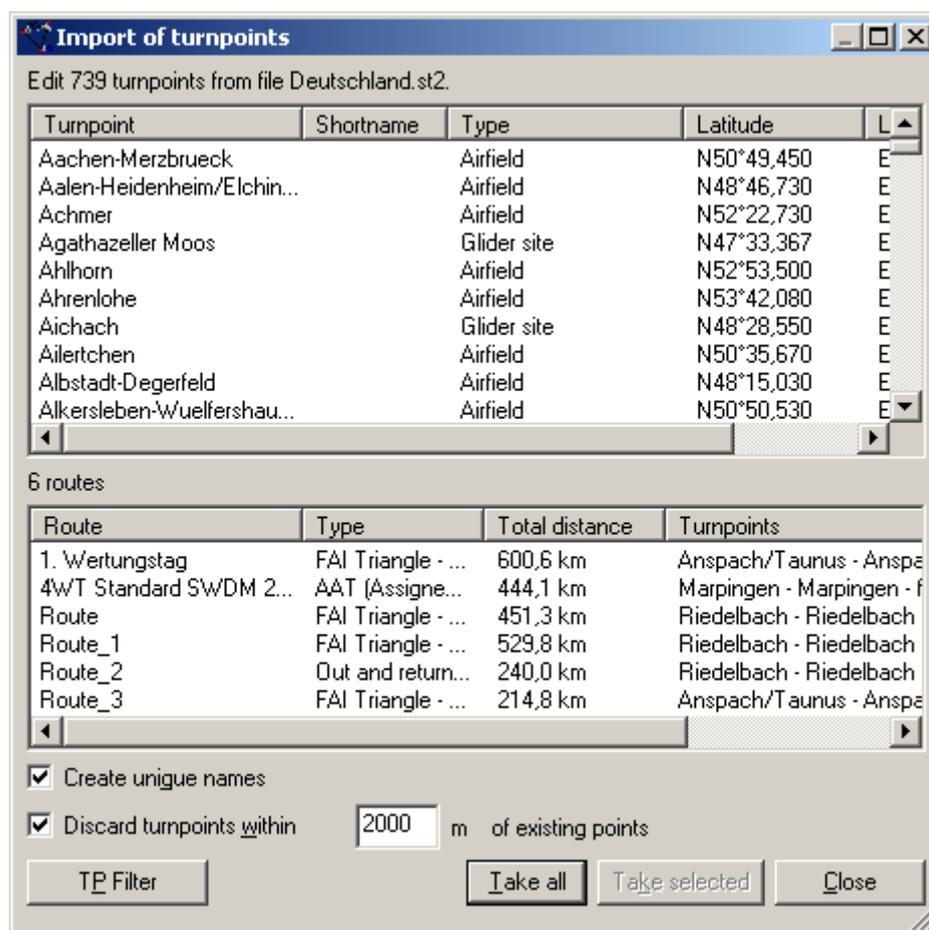
The window Import route/turnpoint file will appear.



Mark the entry WELT2000 in the directory ...My Documents\VL Manager and click on *Open*.



Choose the countries from which you want to insert turnpoints.



Mark the individual items and click on *Take selected* or click on *Take All*. Save your turnpoint catalog.

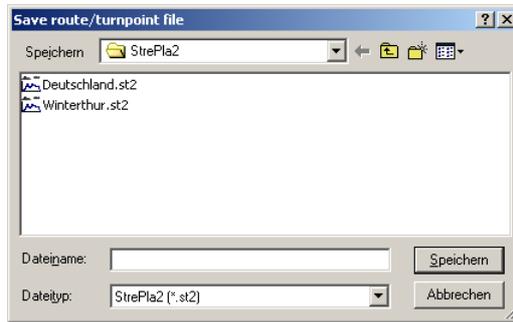
5.6 Saving turnpoint catalogs

5.6.1 Saving and keeping the name

Click on the disk symbol in the tools list. All files will be saved under your name in your original directory.

5.6.2 Saving and entering a new name

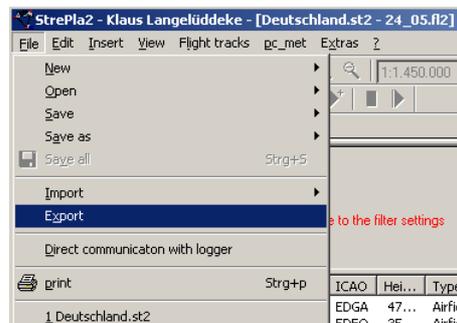
Point to *Save as* and *Routes and turnpoints* in the menu *File* and click. In the following window *Save route/ turnpoint file* enter a new name and directory for the file.



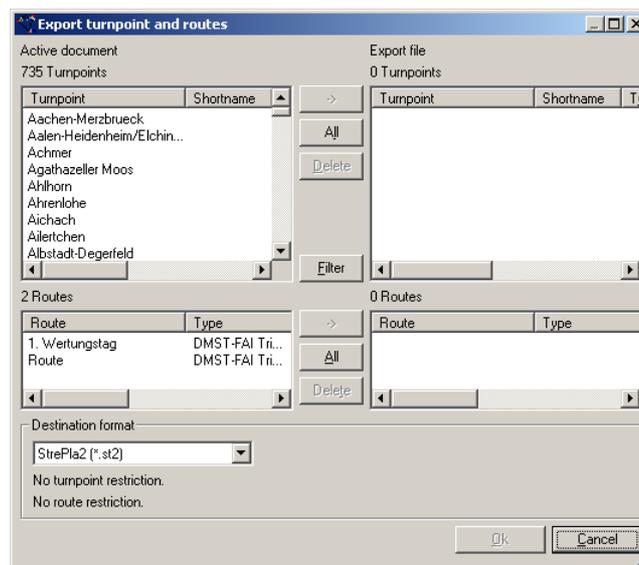
5.6.3 Exporting turnpoints

If you want to export a turnpoint catalog into your logger or your flight computer, and there is no *Direct Communication* for your device, then use the menu point *File – Export*. At this point in time, the *Direct Communication* is only available for the Volkslogger. Volkslogger users should proceed according to the chapter *Direct Communication*.

Point to *Export* in the menu *File* and click.



The window *Export turnpoint and routes* will appear.

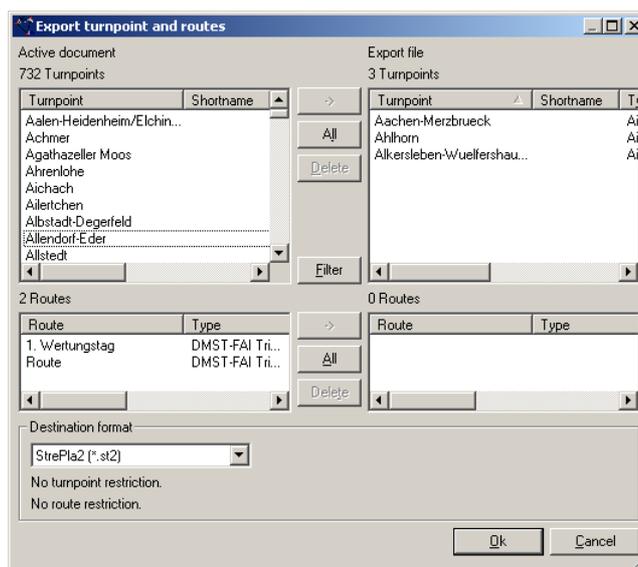


The window is usually split in three.

In the left top part you will see the content of the active turnpoint catalog. In the top list field all turnpoints, in the middle list field all routes. In the right top part you will see the content of the destination file. Empty at the moment.

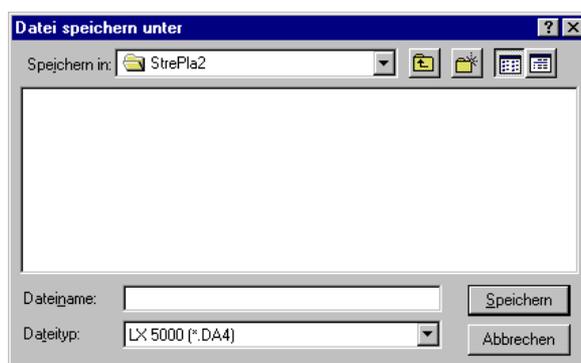
Choose your destination system in the bottom part, LX5000 in the example. In dependency of your choice you will see the restriction, given by the device, that the new file has to follow.

Mark the turnpoint that you want to export and click on the button with the arrow pointing to the right.



For choosing the turnpoints, you can also use the filter function. See paragraph *Turnpointfilter* in this chapter.

End your choosing process with OK. The window *Save File as* will appear.



Give your new file an arbitrary name. Although **VL Manager** also allows long file names, it is advisable to enter a name in DOS format at this point, i.e. max. 8 letters, no symbols. The en-route computer's communication programs, with which you will now load the newly created files into your computer or logger, are often DOS programs. For example LXFAI.

Note:

VL Manager support member's experiences show that customers often forget where they saved their files. If you are not very adept in using WINDOWS, we recommend you do not change the entry field *Save in:*. It is usually set up to ...\\My Documents\\VL Manager. In this directory you can find all of your personal files.

6 Turnpoints

6.1 Creating turnpoints

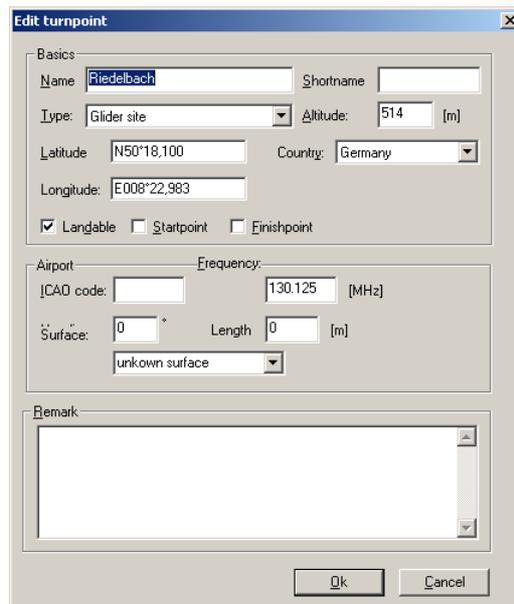
Point to *Turnpoint* in the menu *Insert* and click.



The window *Edit Turnpoint* will appear.

6.2 Editing turnpoints

Mark a turnpoint and double-click on it. You will see the window *Edit Turnpoint*.



6.2.1 Description of the entry fields

Note that not all information can be processed in your flight computer.

Name:	Text field for entering an arbitrary text for descriptions.
Short name:	Text field for the name that is to be seen in the flight computer. The length is dependant on the settings in <i>Extras – Options – Turnpoints</i>
Type	Pull-down menu for the selection of the turnpoint type. The graphic representation on the map is dependant on this entry.
Altitude	Numerical field for entering the airfield elevation (turnpoint elevation) over

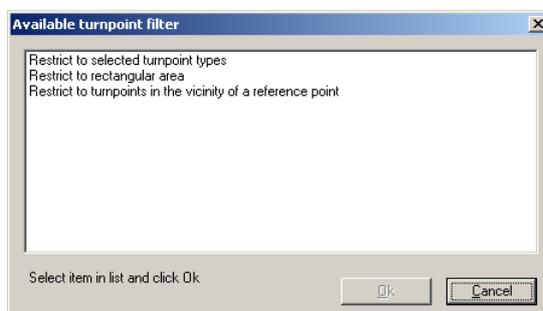
	MSL. The dimension is dependent on the settings in <i>Extras – Options – Units</i>
Latitude/Longitude	Coordinate field for entering the coordinates. The dimension (degrees, decimal or degrees, seconds) is dependent on the settings in <i>Extras – Options – Units</i> .
Country	Selection field for selecting the country
Airport	The airfield data can only be entered, if an airfield type (Airfield, gliding site) was entered in Type
ICAO Code	Text field for entering the ICAO code
Frequency	Numerical field for entering the airfield frequency
Landable	Check box if airfield is landable
Heading	Numerical field for the alignment of the runway. Values are in full degrees
Length	Numerical field for entering the runway length. The dimension is dependent on the settings in <i>Extra – Options – Units</i>
Surface	Selection field for entering the condition of the runway
Opposite direction useable	Checkbox whether the landing direction is useable in the opposite direction
Remark	Text field for entering an arbitrary comment

7 Turnpoint filter

The turnpoint filter is a robust filtering capability for selecting turnpoints from your turnpoint catalog. No turnpoints will be deleted with these filters. They will only be suppressed in the display, for printing or during the export.

Point to *Turnpoints, Turnpoint filter* in the menu *Edit*, and click.

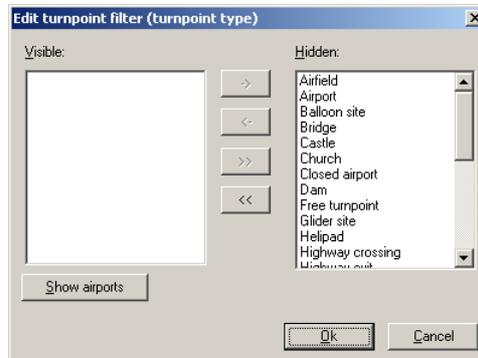
The window *Active Turnpoint filter* will open. Click on *New* to activate Turnpoint filter. The window *Available Turnpoint filter* will appear.



Choose a filter and click OK.

7.1 Selecting separate Turnpoint types

With this filter you can select the turnpoints according to their type (Airfield, Church, Railway station, etc.)

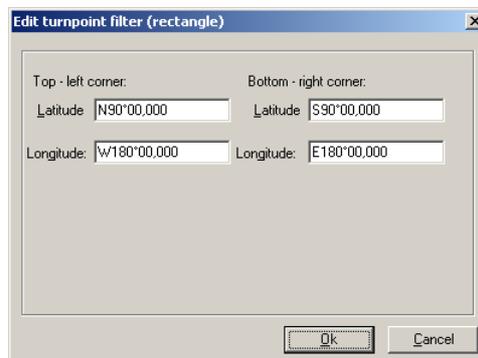


The types of turnpoints that will be visible are listed in the left part of the window, the invisible ones are listed on the right side. Mark the entry that you want to move and click on the button with the arrow to the right, or to the left. Click on double arrow left or right button will move all entries.

Click on the Show airport button to display all airports.

7.2 Selecting turnpoints in a rectangular area

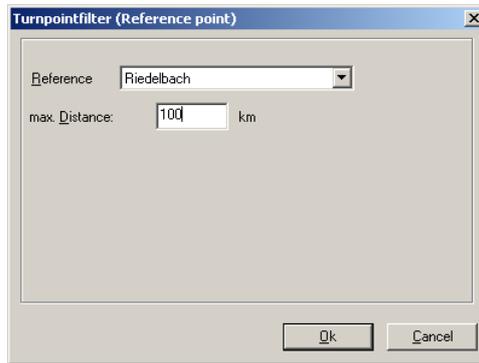
With this filter you can select turnpoints that are in a defined rectangular area.



Enter the coordinates for the left top and bottom right corners of the rectangle. All turnpoints in this rectangle will become visible.

7.3 Selecting turnpoints in the vicinity of a reference point

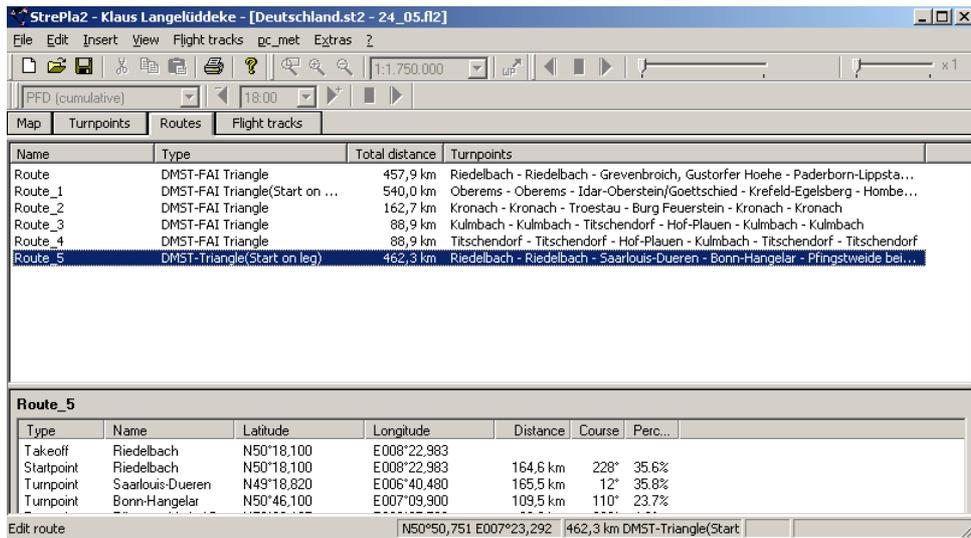
With this filter you can select turnpoints in the vicinity, on the basis of a reference point (turnpoints, e.g. home airfield) and a radius.



Choose the turnpoint that will be in the center of your choice in the field *Reference Point*. All turnpoints in the chosen circle will be shown.

8 Route catalog

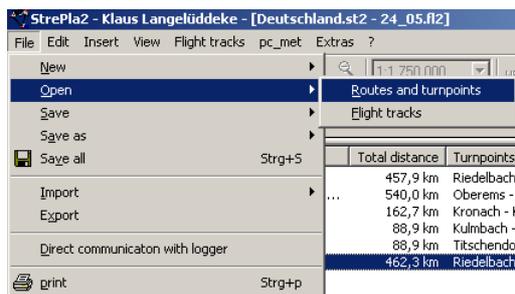
Route catalogs are collections of routes that will be saved in a file with the ending *.st2*. Both the routes and the turnpoints will be saved in this file. By using this route catalog, you can adjust **VL Manager** exactly to your needs. For example, create a route catalog for your home airfield, another one for your vacation places, one for competitions, etc.



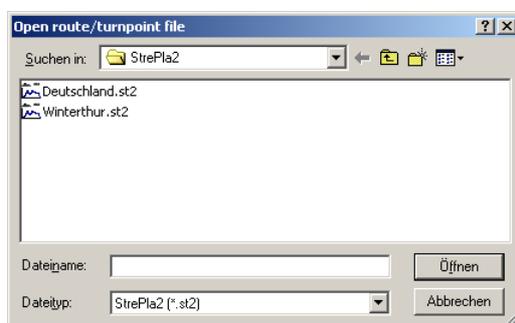
The name of the loaded route catalog is shown in the blue title bar next to the name of the licensee (Deutschland.st2). In the list field you will find a list of the routes (tasks).

8.1 Loading the route catalogs

Point to *Open* and *Routes and turnpoints* in the menu *File*. Click.

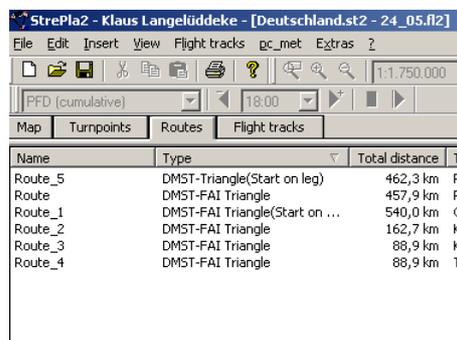


In the following window *Open route/turnpoint file* choose a route catalog. If the catalog you are searching for is not visible, make sure that the right type is entered in the field *File type*. **VL Manager** supports all route catalogs from **VL Manager1.7** and from **VL Manager**. If you want to load another catalog, choose *File – Import*. If your catalog is still not visible, make sure that you are in the right directory.



8.2 Sorting routes in the list field

All entries in the list field can be sorted by field name. Click on the field name *Type*.



The entries are sorted in an ascending order by the field *Name*. Repeated clicking on the field name will reverse the sorting direction. All entries will be sorted in a descending order.

You can proceed like this with all fields in the list field.

8.3 Choosing routes for editing

To edit routes, double-click the entry. You will be in the mode: *Creating the route with the form* (see corresponding paragraph of this manual) or choose one or more entries and click on the tab *Map* in the main window to edit the route graphically. Proceed as described in *Creating the route on the map*.

8.4 Deleting routes from the catalog

Mark the corresponding route or several routes in the list field of the route catalogue and point to *Delete* in the menu *Edit* and click. Answer the following safety query with Yes.

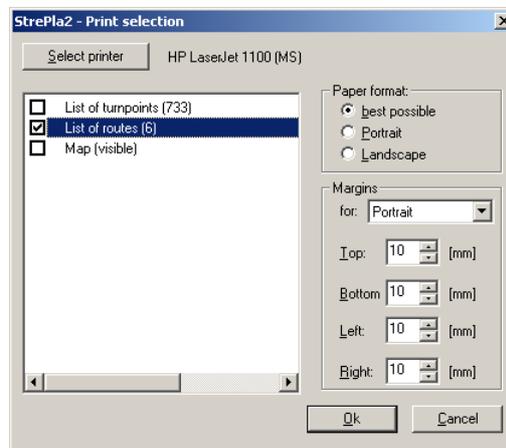
Attention:

Your route has now been removed from your catalog. If you save the catalog, the route will be irrevocably deleted.

8.5 Printing list of routes

Mark the route that you want to print as a list. Point to *Print* in the menu *File* and click.

Choose *List of Routes* in the following window *Print selection*. You will see how many routes you have chosen. If you did not mark any routes, it is assumed that you want to print all routes. Lists of routes can be printed in landscape or portrait format.



Click on OK.

8.6 Inserting routes into the catalog

8.6.1 Inserting new routes

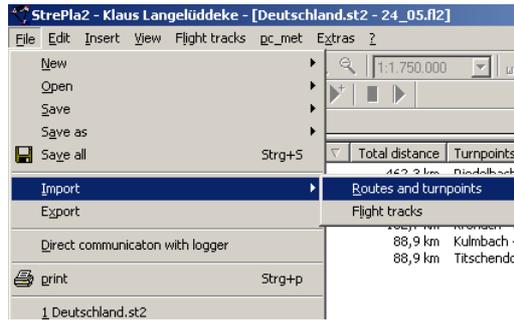
Depending on whether you have chosen the tab *Map* or *Route* in the map window, you will get the point *New route (map)* or *New route (dialog box)* in the submenu of *Insert*.

According to your choice, you will come to the mode *Creating a route*. Subsequently proceed, as described in the paragraph *Creating a route*, to create a new route.

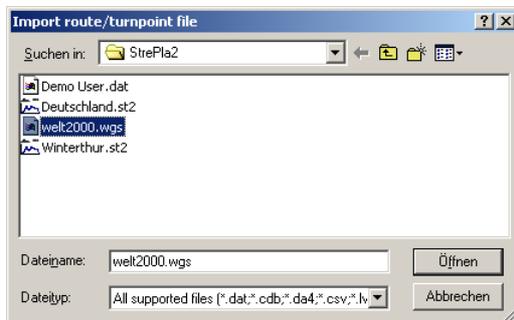
Your new route will automatically be added to the active route catalog.

8.6.2 Importing routes

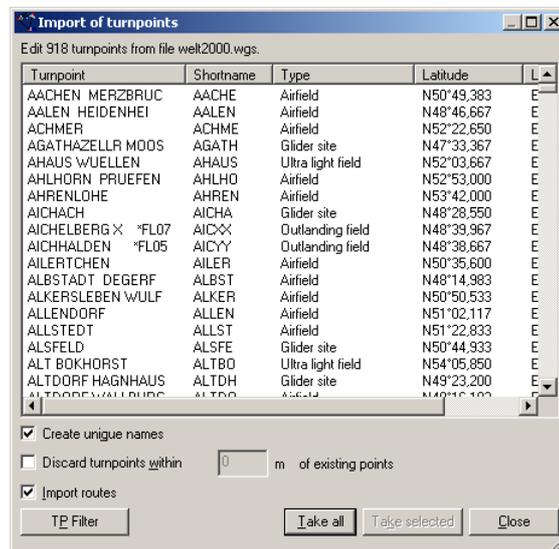
Point to *Import* and *Routes and Turnpoints* in the menu *File* and click.



In the following window *Import Route/ turnpoint file*, you can choose a route catalog. If the catalog you are searching for is not visible, make sure that the right type is entered in the field *File type*. Choose *All files* to see the files from which **VL Manager** can import routes. If your catalog is still not visible, make sure that you are in the right directory.



When you have made a choice, the window *Import of turnpoints* will appear, since a turnpoint catalog goes with every route catalog.



Make sure that there is a tick in the box *Import routes* in this window. Click on *Take all*. The import is completed.

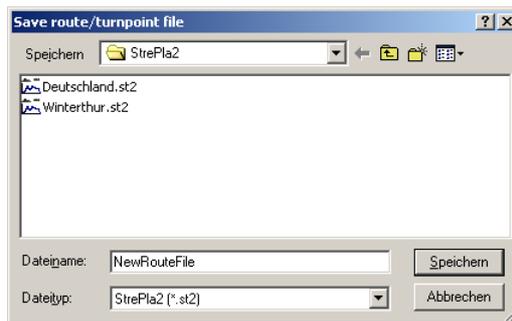
8.7 Saving route catalogs

8.7.1 Saving and keeping the name

Click on the disk symbol in the tool bar. All files will be saved under your name and in your original directory.

8.7.2 Saving and entering a new name

Point to *Save as* and *Routes and Turnpoints* in the menu *File* and click. In the following window *Save route/turnpoint file* enter a new name and a new directory for the file.



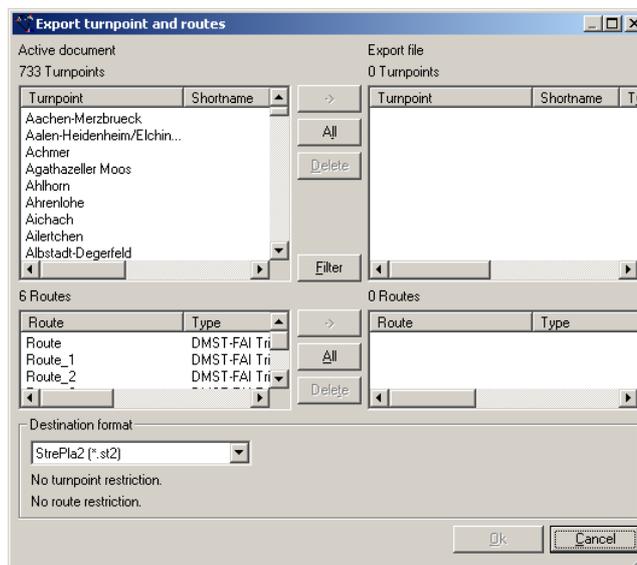
Note:

VL Manager support member's experiences show that customers often forget where they saved their files. If you are not very fit in using WINDOWS, we recommend you do not change the entry field *Save in:*. It is usually set up to ...My Documents\VL Manager. In this directory you can find all of your personal files

8.8 Exporting routes

If you want to export a route into your logger or your cross-country flight computer, and there is no *Direct Communication* for your device, then use the menu point *File – Export*. At this point in time, the *Direct Communication* is only available for the Volkslogger. Volkslogger users should proceed according to the chapter *Direct Communication*.

Point to *Export* in the menu *File* and click.



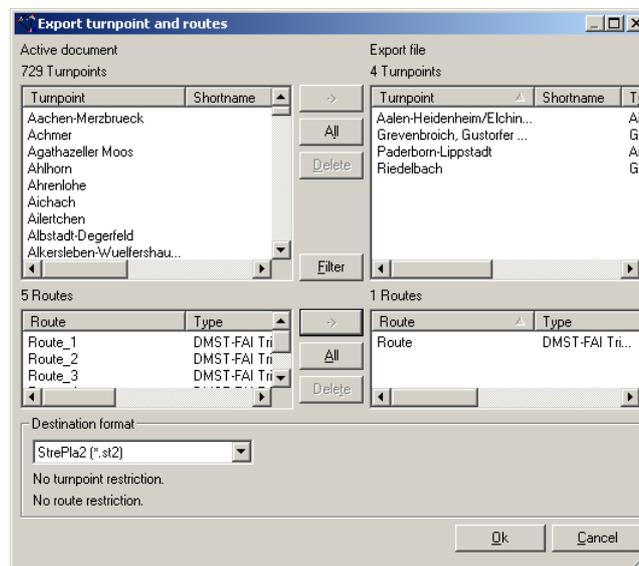
The window is usually split in three parts

In the left top part you will see the content of the active route catalog. In the top list field all turnpoints, in the middle list field all routes. In the right top part you will see the content of the destination file which is currently shown empty.

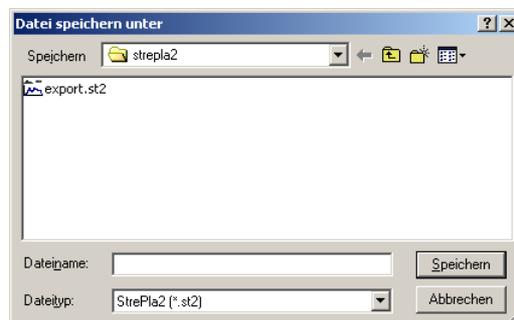
Choose your destination system in the bottom part, LX5000 in the example. Depending upon your choice, you will see the restriction given by the device that the new file has to follow.

Mark the route that you want to export, e.g. 2.FAI/STD and click on the button with the arrow pointing to the right.

VL Manager has now moved this route and its pertinent turnpoints to the right side of the window. Repeat this procedure with all routes that you want to export and finish the selection procedure with OK. The window *Save file as* will appear.



Give your new file an arbitrary name. Although **VL Manager** also allows long file names, it is advisable to enter a name in DOS format at this point, i.e. max. 8 letters, no symbols. The flight computer's communication programs with which you will now load the newly created files into your computer or logger, are often DOS programs. For example VL Manager Format.



Note:

VL Manager support member's experiences show that customers often forget where they saved their files. If you are not very fit in using WINDOWS, we recommend you do not change

the entry field *Save in:*. It is usually set up to ...\\My Documents\\VL Manager. In this directory you can find all of your personal files.

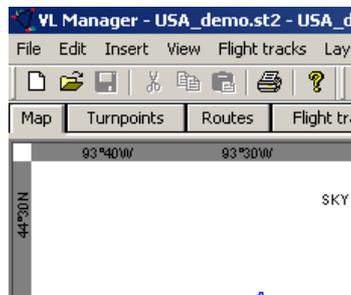
9 Routes

Routes are plans for cross-country flights. The course lines of the separate sectors form a route.

The creation of the route can take place graphically on the map or dialog based. The creation will be shown as an example for an FAI triangle. You can enter all other flight forms accordingly.

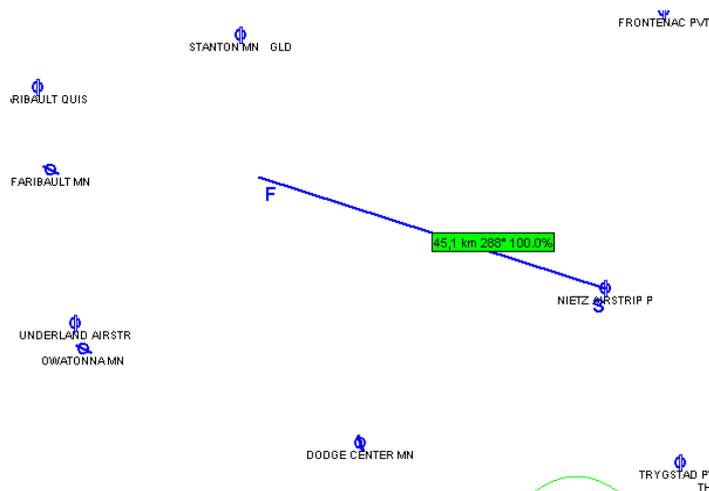
9.1 Creating the route on the map

Show the map by clicking on the tab *Map* in the main window.



Point to *New route (map)* in the menu *Insert* and click. Move the cursor over the starting point. The cursor will change to a cross and get the label TP. You will also see the yellow label with the information about the airfield.

Click on the starting point with the left mouse button. Move the mouse a little bit. You will now see that you have an “elastic band” on the cursor.



9.1.1 Creating a turn point

Move the mouse to the first turn. If there is a turnpoint from the chosen turnpoint catalog at this point, the little TP will appear on the cursor and the turnpoint’s yellow label will appear. The turnpoint will

also be marked with a circle. Click on the left mouse button. If no turnpoint was defined at this point, then VL Manager has now defined a free turnpoint for you at this point.

Shift the mouse in the direction of the second turnpoint.

9.1.2 Scrolling the map window

If the next turnpoint is outside the visible window, then you can scroll the map. Move the cursor over the edge of the map window. As long as you are outside the window, the map will be scrolled in that direction. It doesn't matter whether you are moving the mouse or holding it still.

9.1.3 Zooming while creating a route

To change the scale, use the following capabilities:

- With the plus and minus buttons

With the Plus (+) button the objects, e.g. cities, will become bigger.

With the Minus (-) button the objects, e.g. cities, will become smaller.

- With the *Zoom rectangle* function

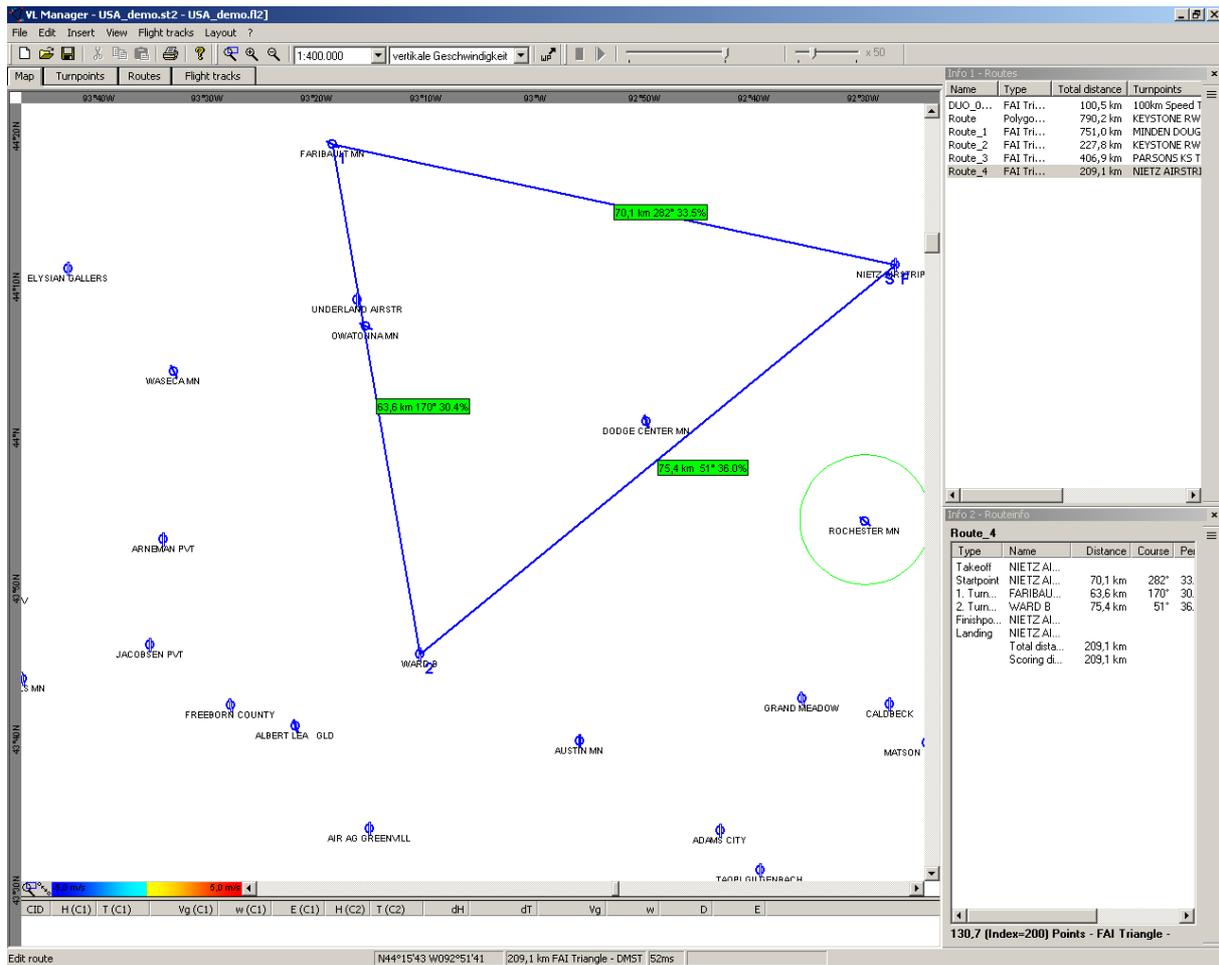
This function is only available while editing the route, through the context menu (right click).

The cursor will have the shape of a magnifying glass. Zoom a part of the map by making a square with the left mouse button. The map will be shown in the new scale. The program will have returned to the mode *Create new routes*. Your cursor will have the "elastic band" again.

To recreate the previous map sector point to *Last map area* in the menu *View*, or just press the key F3.

9.1.4 Creating further turns

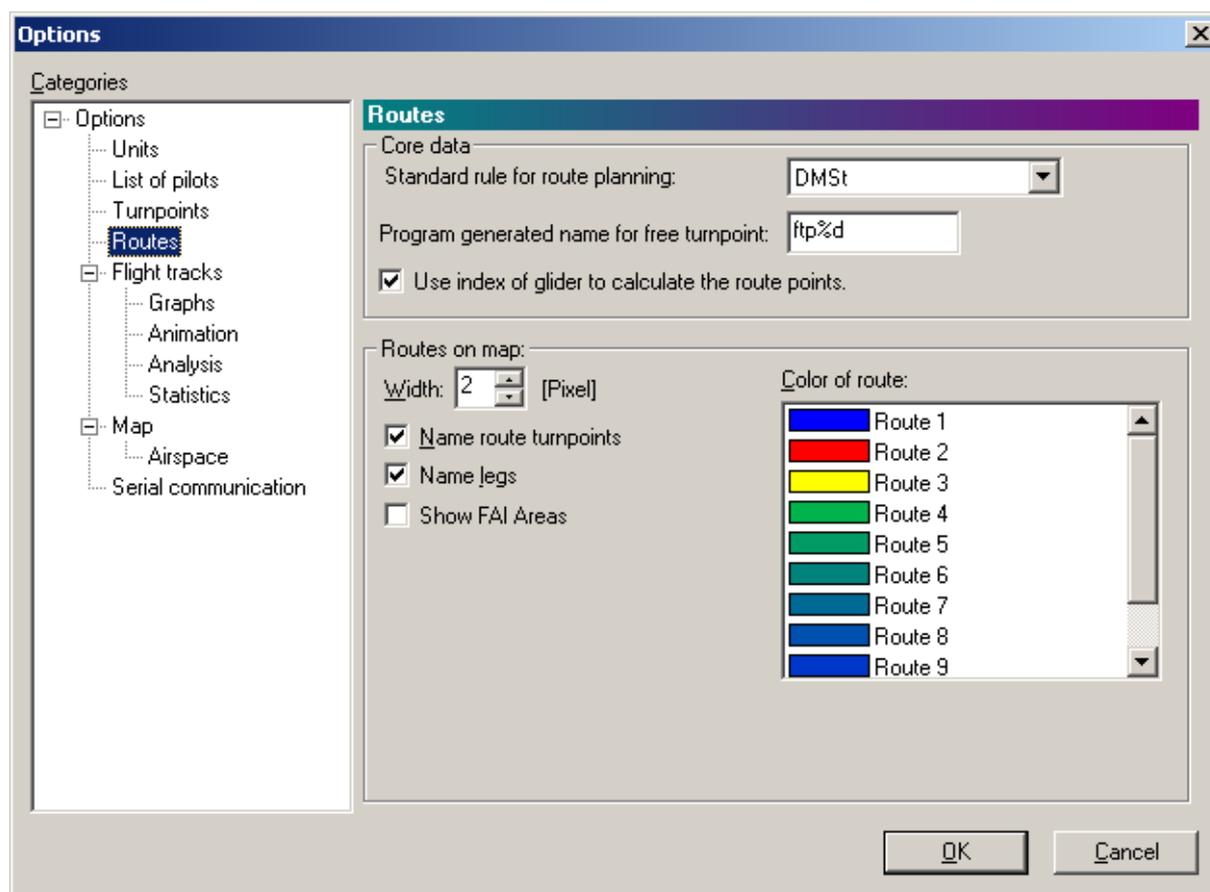
Choose your second turn the same way as the first one. Proceed likewise with the third one if your starting point is on the leg. Move the cursor back to the starting point and click. The whole route will now be shown.



The above triangle does not correspond to the FAI rules. The labels of the leg that contradict the rules are shown in red and in the bottom you can read DMST-triangle 462,3km.

9.1.5 Labelling fields for the routes

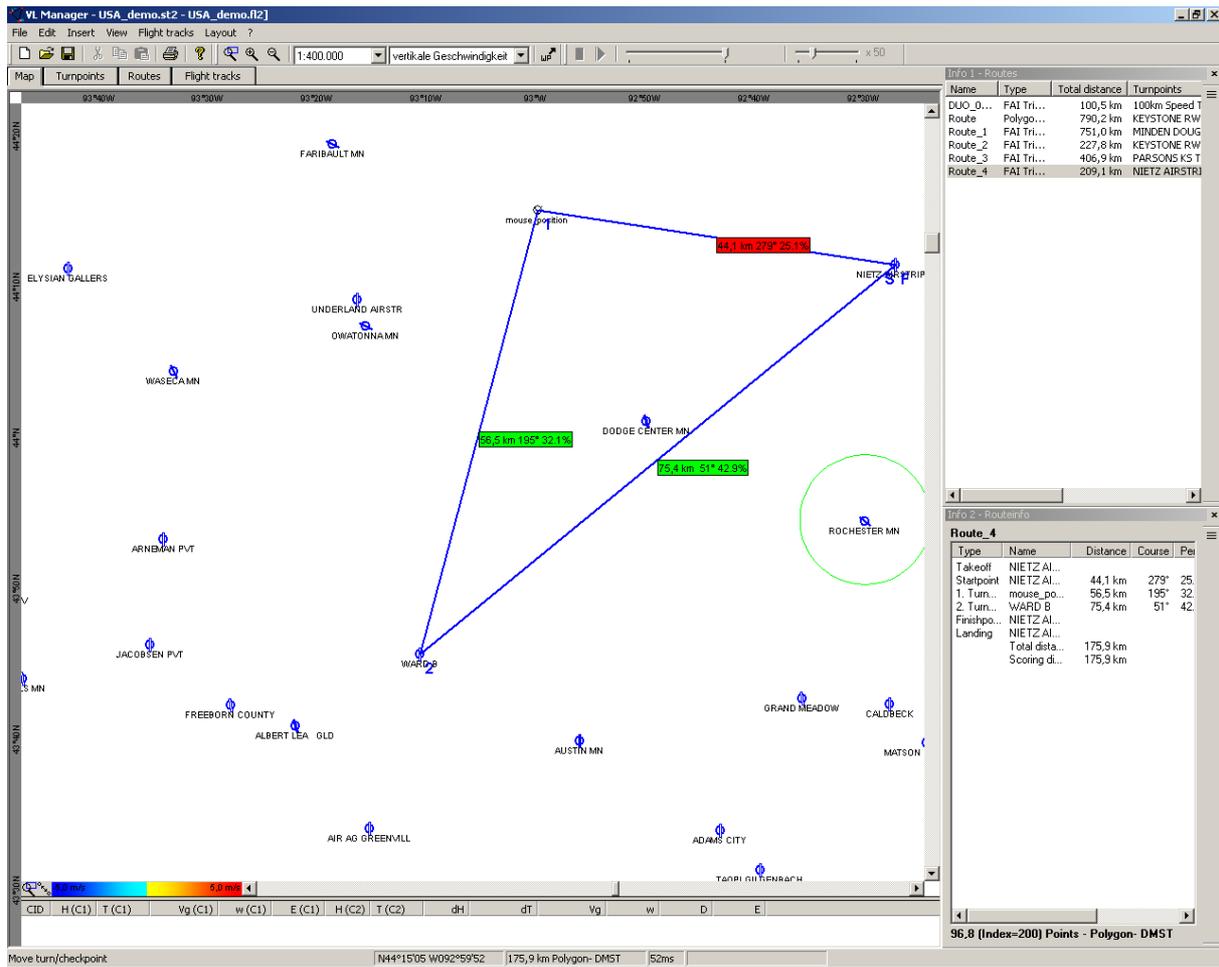
The labels for the sectors and the turns can be activated and deactivated. Menu *Extras – Options – Routes*.



If you want to make an FAI triangle out of the above, proceed as follows:

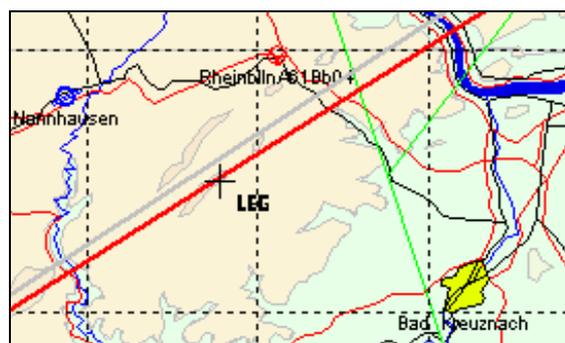
9.1.6 Shifting turnpoints

Move the cursor over a turn. The cursor will now become a cross, labelled with TP, and the turnpoint's yellow label will be visible. Click on the turnpoint. Move the mouse. The second turn is now hanging on to your cursor. Consider that, while you are moving the mouse, all legs of the triangle are calculated anew (label fields, status bar and route info in the info windows). As soon as the FAI rules are kept, all labels are green and it will say DMST-FAI triangle in the status bar at the bottom. Repeated clicking will fix the turn.



9.1.7 Inserting turnpoints into a route

Move the cursor over the route. On the right bottom, right next to the cursor you will see the label LEG.



Click. The course line is now hanging onto your cursor. Place the cursor onto the place on the map where you want to insert a new turnpoint, no matter whether there is a turnpoint from the turnpoint list here or not, and click.

Since you have now inserted a turnpoint, the type of flight will therefore have changed as well, from *triangle* to *unknown*.

If you want to fly a triangle and only want to use this turnpoint as a checkpoint, to bypass a control zone for example, then convert this turnpoint into a checkpoint (see corresponding paragraph).

9.1.8 Deleting turnpoints from routes

Move the cursor over the turnpoint that is to be deleted. The cursor will become a cross, labelled with TP and the turnpoint's yellow label will be visible. Click on the **right** mouse button. The following context menu will be visible.



Click on *Delete Turnpoint from route*.

9.1.9 Converting turnpoints to checkpoints

Often you cannot fly your flight on the legs of the triangle, but instead you have to fly a detour because of air space restrictions or other reasons. However, the actual triangle is to apply for the evaluation. The headings and sectors of the detour are to be entered in the en-route computer though.

Insert the turnpoints in your route, over which you want to fly your detour (see paragraph: inserting turnpoints into a route).

Move the cursor over the turnpoint that is to be changed. The cursor will become a cross, labelled with TP, and the turnpoint's yellow label will be visible. Click on the right mouse button. The same context menu as in the previous chapter will appear.

Click on *Change turnpoint to checkpoint*.

You will now see the sectors of your flight on the map, and additionally a grey line. The grey line is the line used for calculating the triangle.

The screenshot displays the VL Manager interface with a map of flight routes in the USA. The map shows several waypoints including FARIBAU MN, NIETZ AIRSTRIP, and various other locations. A blue line represents the flight path, with segments labeled with distance and course information: 70.1 km 282° 30.5%, 84.0 km 147° 40.9%, and 35.6 km 15° 28.5%. A yellow callout box indicates an airspace restriction: "D-AGL MN D ROCHESTER GND - 3800 MSL". The right-hand panel shows route details for "Route 4", including a table of waypoints and their characteristics.

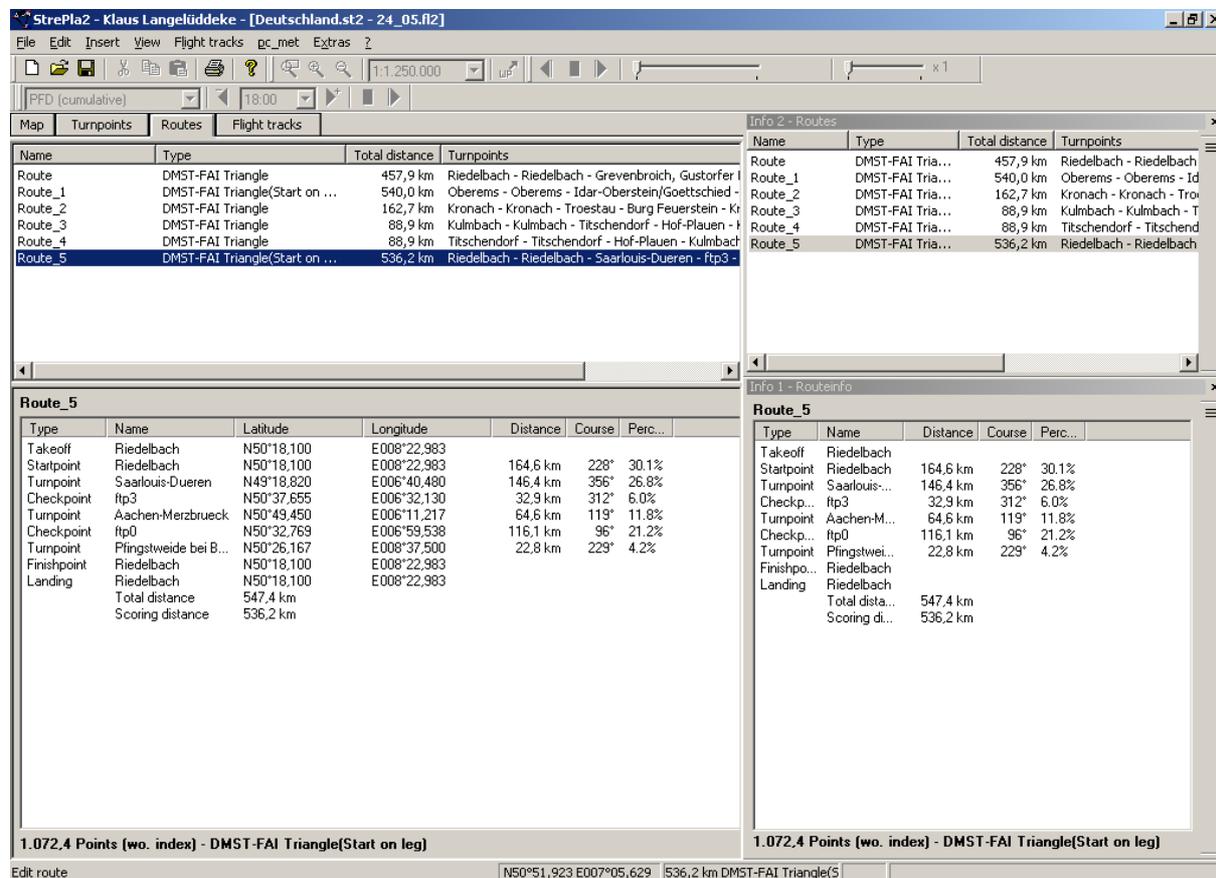
Name	Type	Total distance	Turnpoints
DUO_0...	FAI Tri...	100,5 km	100km Speed T
Route	Polygo...	790,2 km	KEYSTONE RW
Route_1	FAI Tri...	751,0 km	MINDEN DOUG
Route_2	FAI Tri...	227,6 km	KEYSTONE RW
Route_3	FAI Tri...	406,9 km	PARSONS KS T
Route_4	FAI Tri...	229,7 km	NIETZ AIRSTRIP

Type	Name	Distance	Course	Pei
Takeoff	NIETZ Ai...			
Startpoint	NIETZ Ai...	42,2 km	277°	18.
1. Chec...	ftp2	23,4 km	290°	12.
2. Turn...	FARIBAU...	34,0 km	147°	40.
3. Turn...	ftp4	35,1 km	8°	15.
4. Chec...	ftp5	31,1 km	23°	13.
Finishpo...	NIETZ Ai...			
Landing	NIETZ Ai...			
Total dista...		230,7 km		
Scoring di...		229,7 km		

143.6 (Index=200) Points - FAI Triangle -

9.1.10 Route details

You can see the route's details if you click on the tab *Routes* in the main window.



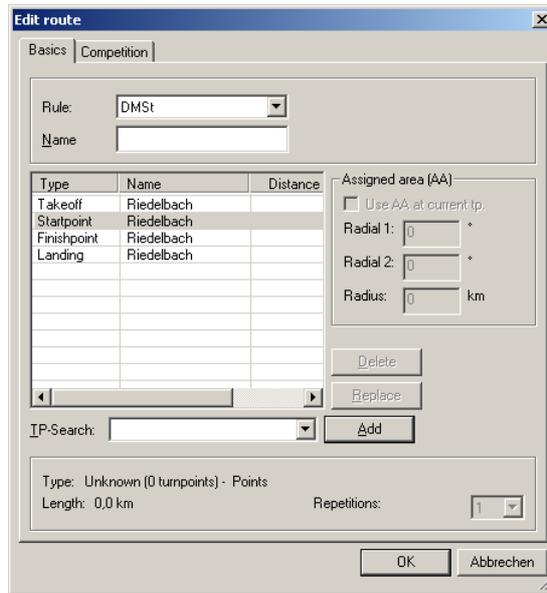
9.2 Creating the route on a dialog box

Creating the route with the dialog box is only reasonable if you want to work with a turnpoint catalogue. This is often the case during competitions.

Get your map window to the *Edit Route* mode by clicking on the *Routes* tab in the main window.



Point to *New route (dialog box)* in the menu *Insert* and click.



The home airfield that you can enter in the menu *Extras – Options – Turnpoints* is indicated in terms of Take off, Start point, Finish point, and Landing in the form.

In the field *Name* you can enter an arbitrary description of the route (e.g. first evaluation day).

In the field *rule* you can select the rule set for the given route. The default entry is set on *Extras, . Route*.

In the *TP-search* field you can enter your turnpoints. An integrated search function will support you with your entry.

9.2.1 Deleting turnpoints from a route

Mark the entry that you want to delete and click on *delete*. The turnpoint has now been deleted from your route. It is still available in your turnpoint list.

9.2.2 Inserting a turnpoint into a route

Mark the turnpoint that is in front of the new turnpoint. The names of the turnpoints are numbered for easy use. Enter the new turnpoint in the *TP-search* field. Click on *Add*.

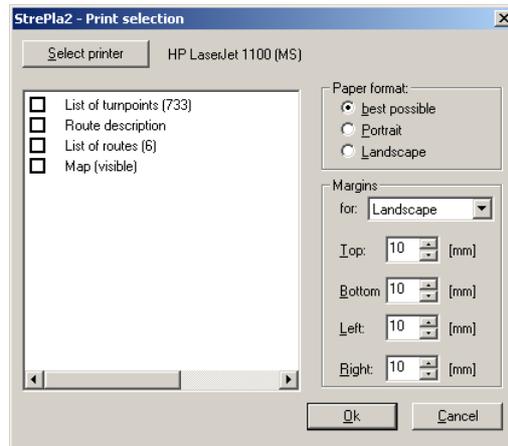
9.2.3 Replacing turnpoints in a route

Mark the entry that you want to replace. Enter the new turnpoint in the *TP-search* field and click on *Replace*.

9.3 Printing the route description

Mark the route or several routes that you want to print. Point to *Print* in the menu *File* and click.

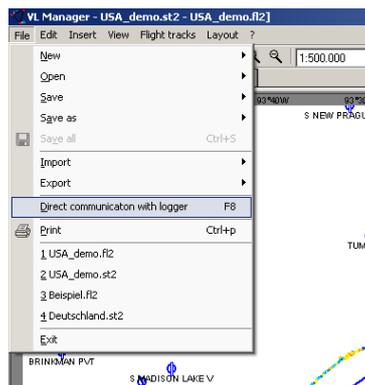
Choose *Route description* in the following window *Print selection*. Route descriptions will always be printed in portrait form.



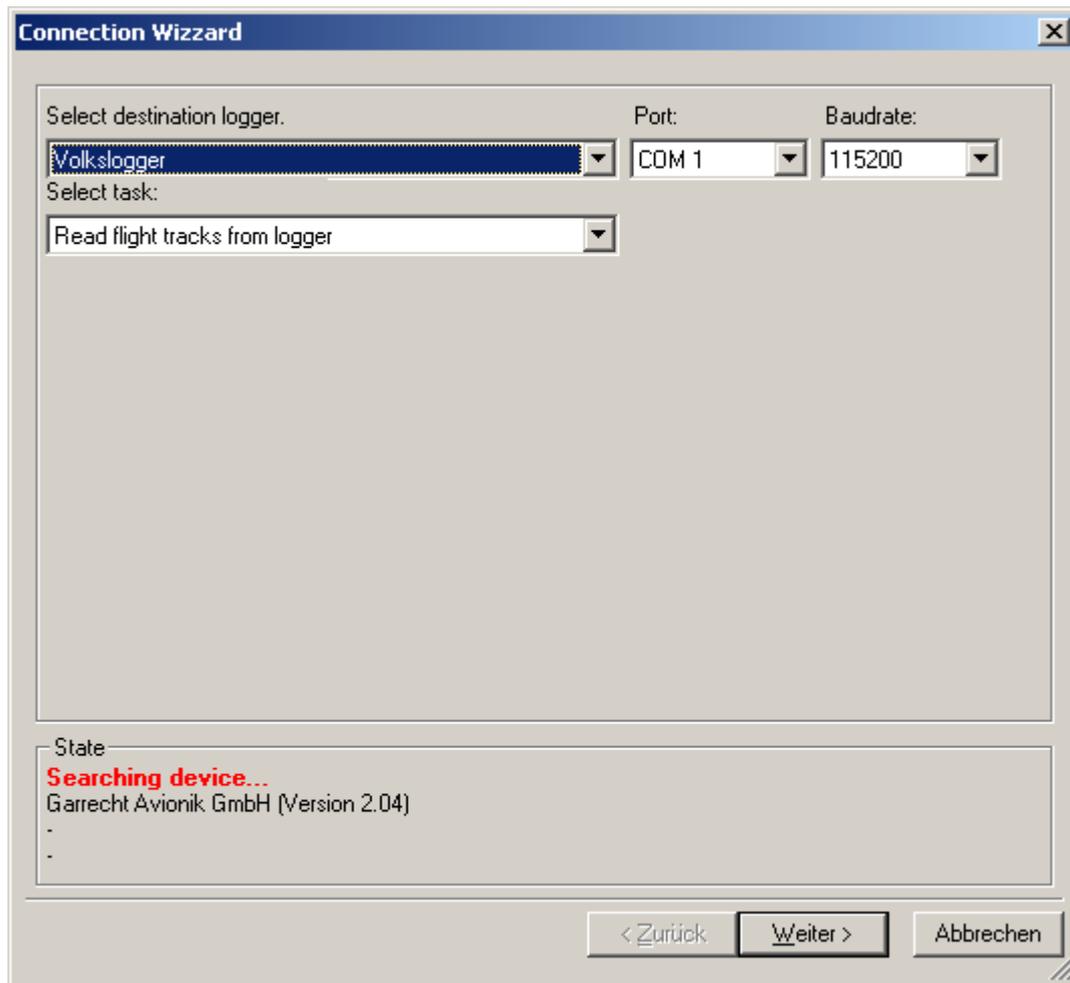
Click on OK.

10 Direct communication with logger

Point to *Direct communication with logger* in the menu *File* and click.



The window *Direct Communication* will appear.



The logger-type, the requested activity, and the basic adjustments are determined here.

Select your logger type and activity and connect the logger with the PC. Please make sure that the com port and baud rate are selected properly.

In case of success VL Manager connects to the logger and the state items changes it's colour to green. Please read your logger manual to make sure that you have configured your logger correct for the communication with the PC.

Click on *Next*.

Note that you have to load all requested turnpoints and routes in VL Manager before the call, if you want to transfer a flight declaration or turnpoints and routes.

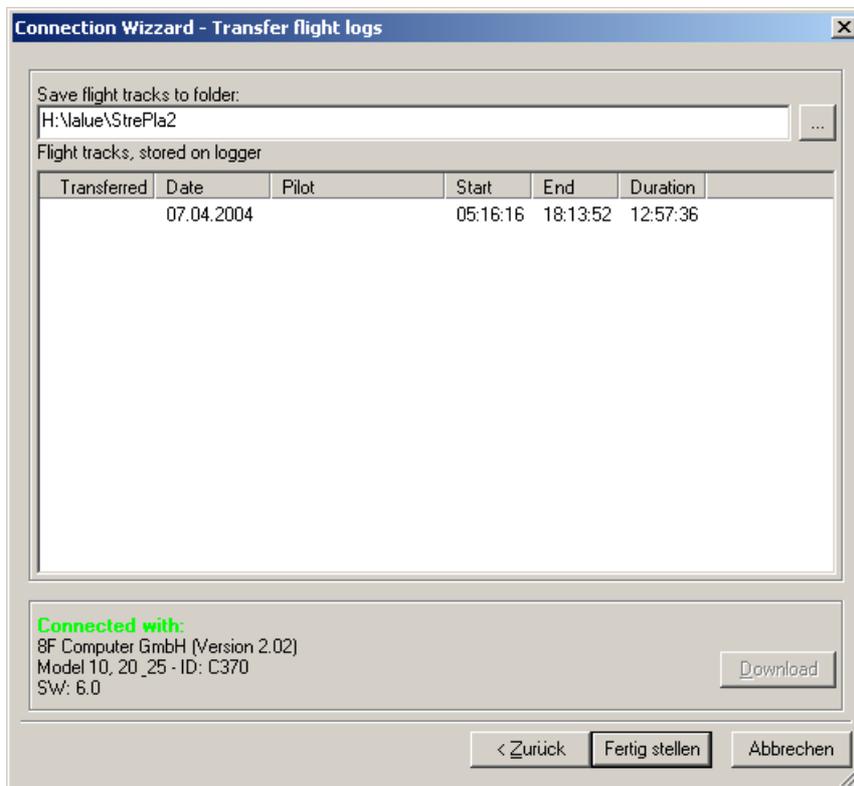
If you have problems with the file transfer, check that the cables between your logger and PC are connected. Then read manufacturer's instructions for communication and error eliminations. If in doubt, please re-boot your computer to make sure that the serial port is in a perfect condition.

Make sure that other programs that use the serial port, such as HotSync for the Palm Pilot, are not running.

The separate activities will be described in the following paragraph.

10.1 Reading flight tracks with logger

From this dialog box, you can transfer all flight tracks saved on your logger to your PC (in IGC files), and import them onto the current flight track file of **VL Manager**.



When changing to this page, the logger's contents will be read.

Now mark all flights that you want to transfer to your PC and click on *Download*. The flights will now be read from the logger and saved on the PC. This procedure can, depending on the length of the flight, take some time.

Clicking on *Close* will finish the procedure. The IGC files that belong to the flight tracks will be placed in the directory given in the field 'Save flight tracks to folder'.

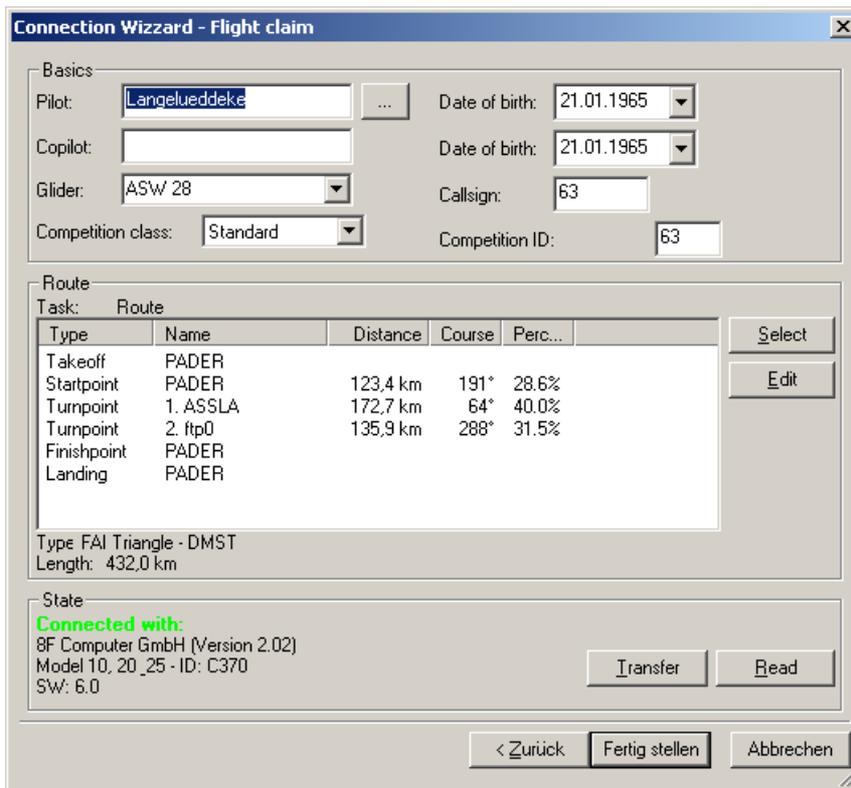
This is by default ...My Documents\VL Manager.

If you do not need the IGC files for the DMST (FAI), you can speed up the download process by activating the *Fast download* checkbox in the dialog 'Options.Extras.Serial communication'. Although these IGC files are forgery safe, they will not be accepted by the FAI or DMST nor by the OLC.

After downloading the IGC files they are validated automatically.

10.2 Transferring a flight declaration to the logger

From this dialog box, you can edit and transfer the flight declaration for the planned flight to your logger.



Connection Wizard - Flight claim

Basics

Pilot: ... Date of birth: 21.01.1965

Copilot: Date of birth: 21.01.1965

Glider: ASW 28 Callsign: 63

Competition class: Standard Competition ID: 63

Route

Task: Route

Type	Name	Distance	Course	Perc...
Takeoff	PADER			
Startpoint	PADER	123,4 km	191°	28.6%
Turnpoint	1. ASSLA	172,7 km	64°	40.0%
Turnpoint	2. Itp0	135,9 km	288°	31.5%
Finishpoint	PADER			
Landing	PADER			

Type FAI Triangle - DMST
Length: 432,0 km

State

Connected with:
8F Computer GmbH (Version 2.02)
Model 10, 20_25 - ID: C370
SW: 6.0

Transfer Read

< Zurück Fertig stellen Abbrechen

Click on the [...] button to select the pilot specific data stored by **VL Manager**.

Choose the planned route by clicking on *Select*. Choose the appropriate route from the list by double-clicking on it. Note that all routes contained in the current route file (st2) are displayed.

Click on the *Edit* button to modify the declaration.

By clicking on *OK* you will finish the editing process of the flight declaration.

By clicking on *Transfer*, the flight declaration will be uploaded to the logger and activated.

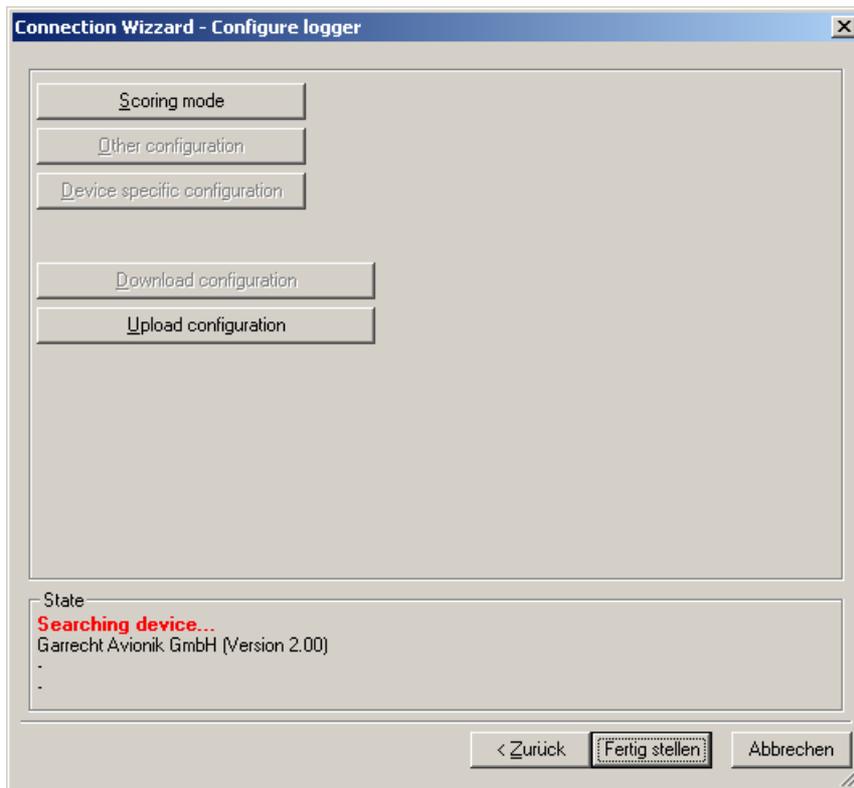
Additional information:

Also note the adjustable scoring modes for start, turnpoint and finish in *Edit logger configuration*.

Note that many loggers are restricted in the pilot name's length, and the end could possibly be cut off.

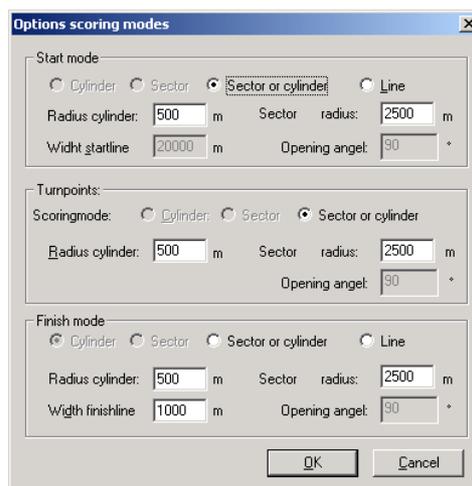
10.3 Editing logger configuration

In this dialog box you can edit the logger's parameters.



The parameters are split up into different groups. The dialog box is opened by clicking on the corresponding button. If this button is deactivated, then this parameter for the chosen logger cannot be edited on the PC.

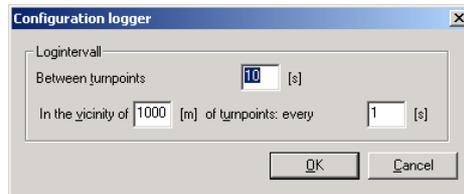
By clicking on *Scoring mode*, the parameters for the scoring mode for start, turnpoint and finish can be adjusted.



Enter the requested scoring mode here. Take extreme care when proceeding here, because if you adjust the wrong scoring mode, the recordings for the whole flight will be invalid.

The procedures that the logger does not support can be edited. The upper and lower limits are manufacturer-specific and will be checked during the entry.

The general parameters for the logger can be adjusted by clicking on *Other parameters*.



Here you can adjust the logger intervals with which the logger is to record the position data. Pay attention to your logger's manual, since the duration of the recordings is strongly influenced by these parameters, and there might not be enough memory left for the planned flight.

The manufacturer-specific parameters for your logger will be adjusted by clicking on *Logger Configuration*.

By clicking on *Upload*, all data will be transferred to the logger and be used there for further flight declarations.

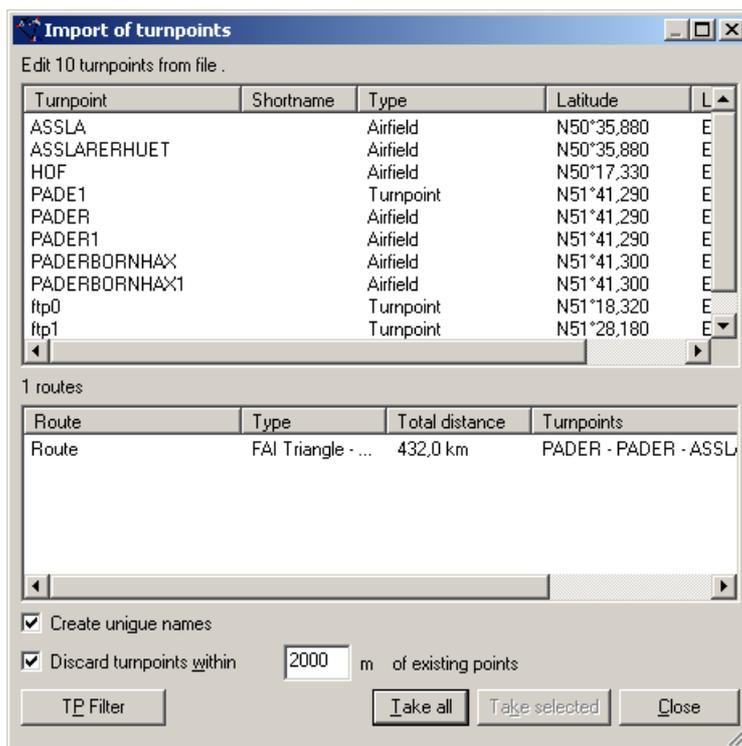
The logger parameters cannot be read by the logger. That's why you should edit the parameters carefully, so that you do not overwrite the settings.

The other parameters that are adjusted in the Other Parameters mask cannot be changed over the PC. You can, however, do this directly on your logger (see Voklogger manual).

The logger parameters can only be saved on the logger if the flight declaration is active. For this, transfer at least one flight declaration onto the logger before adjusting the scoring mode from your PC.

10.4 Reading Turnpoints and Routes from the Logger

With this you can transfer the turnpoints and route saved on the logger to the currently open **VL Manager** en-route file. When selecting this page the turn points and routes stored on the logger are transferred to the PC.



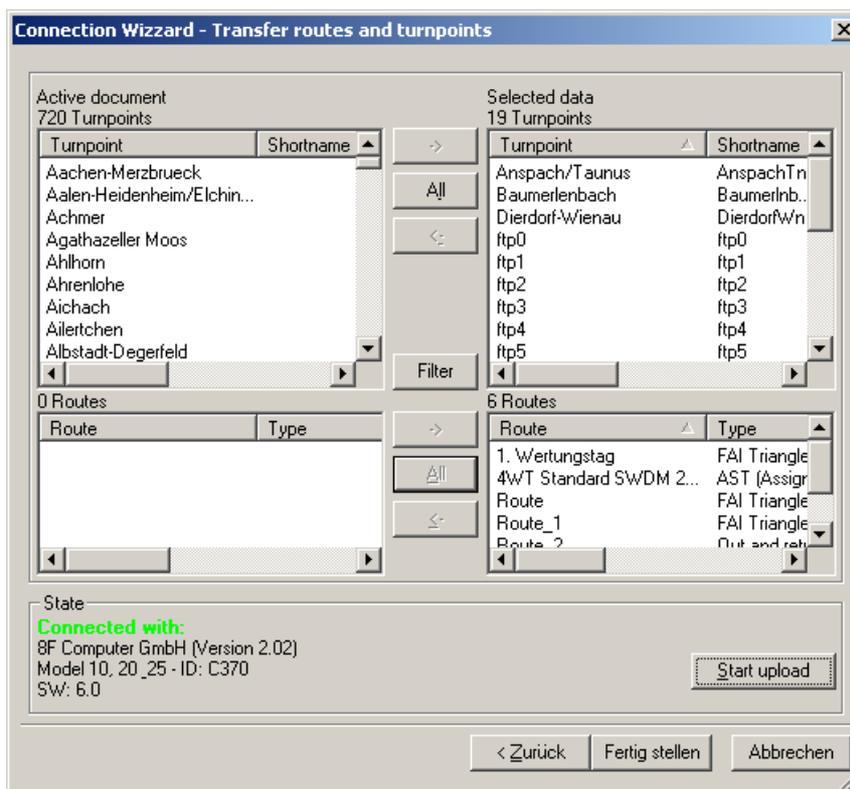
Choose the filter function to reduce the turn points or mark the items of interest and click 'Take selected' or click on *Take all*

The items will be taken over in **VL Manager's** current en-route file.

Additional information: The turnpoints that are saved on the loggers usually have quite short names (Volkslogger = 6 characters). These will – since there is no information about the full name – be transferred into the turnpoint's name- and short name- field. You can, however, edit the name field manually, without changing the short name used by the logger.

10.5 Transferring turn points and routes onto the logger

Transfer the data that are contained in the open turn point and route file onto the logger.



By clicking on *Start Download*, all selected items will be transferred. After the transfer, you will reach the main program again by clicking on *Close*.

Additional information: If there are no or only double short names in the turnpoint list, these will automatically be produced or corrected. These automatically generated names can be manually edited after the transfer, and the improved names can be made useable by repeated file transfer.

TIP: For the first short name generation, transfer the turnpoints onto the logger and thus generate the missing short name.

Note that the file may not contain more turnpoints than the logger can save, since the surplus turnpoints will otherwise not be transferred to the logger. If in doubt, reduce the number of turnpoints in **VL Manager** by manually deleting individual turnpoints or by using the filter function.

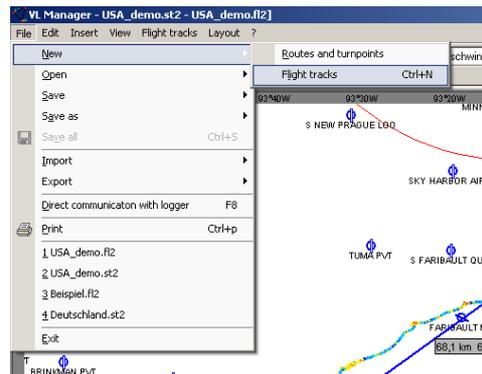
11 Flight tracks

Flight tracks are recordings of completed flights. This data usually comes from loggers, but it can also come from other recording devices (e.g. LX5000). The individual flight tracks are summarized in a flight track file. These files end with .fl2.

You can create different files. For example, all flight from one evaluation day, all vacation flights from this year, all flights from the home airfield, etc.

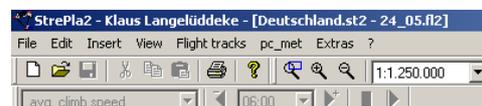
11.1 Creating a new flight track

To create a new, empty flight track file, point to *New* in the *File* menu and click *Flight tracks*.



11.2 Opening a flight track file

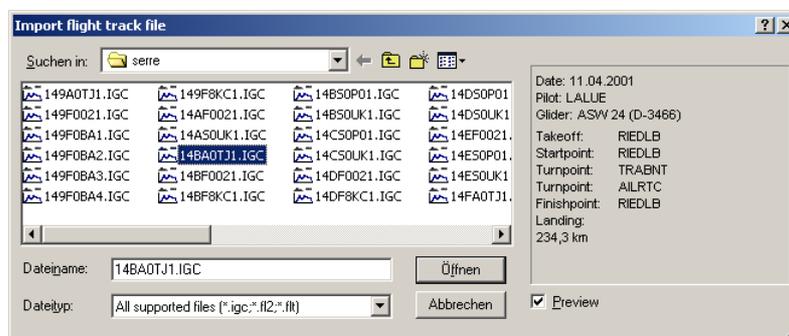
Existing flight tracks can be opened by clicking on *Open*, *Flight tracks* in the *File* menu. Choose the corresponding file in the following dialogue. In the **VL Manager** title bar you will see which flight track file is currently active.



11.3 Importing flight tracks

With this you can add one or several flights to the existing or new flight track file.

Point to *Import* and *Flight tracks* in the menu *File* and click. The window *Import Flight track file* will appear.



In the right part of the window you will see a preview of the selected file. The preview is switched off for multiple selection.

If you can not find your files, check that you are in the right directory and if you have chosen the right file type.

Mark the requested flight and finish this dialogue by clicking on *Open*. The flights will now be in the active flight track file.

Remark: While importing flight tracks VL Manager analyses the flight data and create a separate record (flight entry) for each flight (separated by "landings"). If you do not want to use this feature you can switch it off by deactivating the checkbox "*Create a sepatate flight record for each flight*" on the dialog *Extras, Options, Flight tracks*.

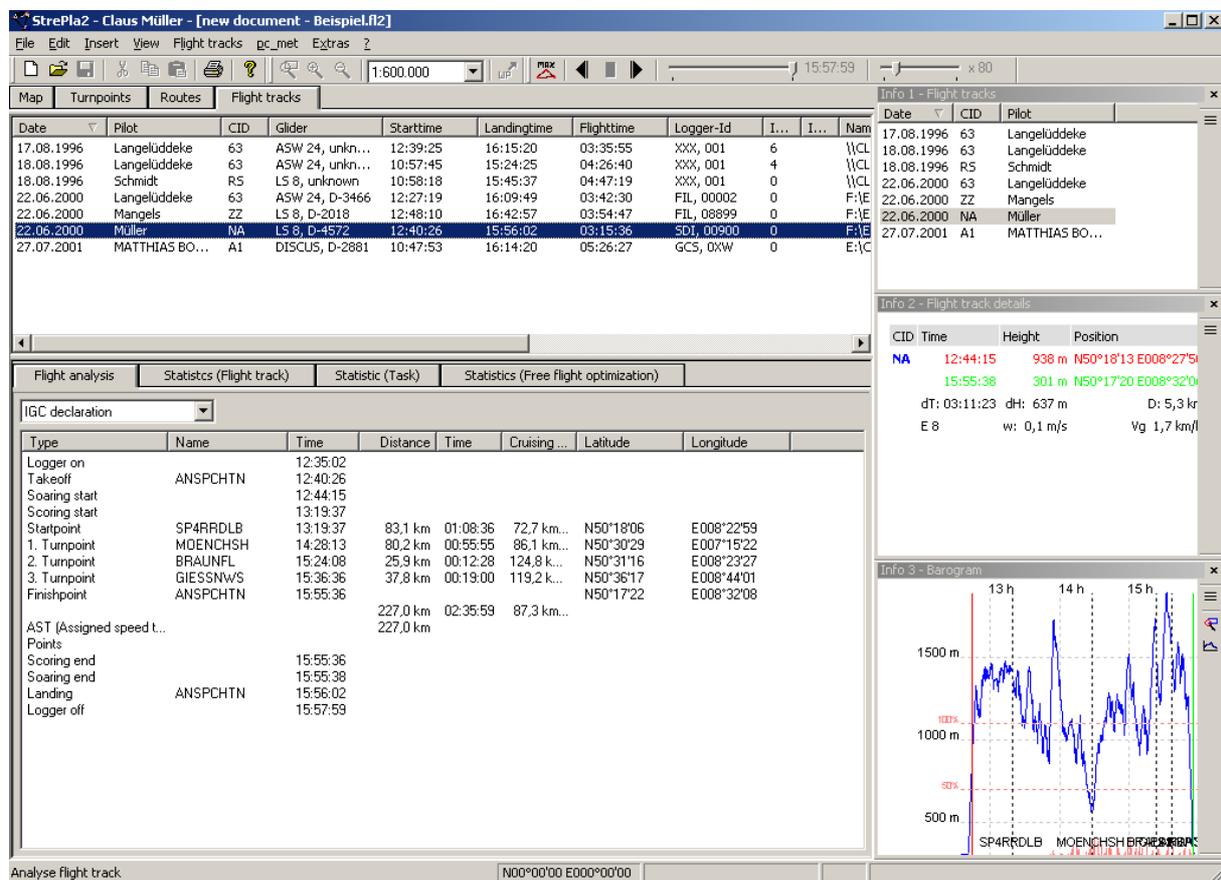
11.4 Representing flight tracks

Several flights can be shown simultaneously in the map, the barogram, the variogram and in the info window flight track details. The number of flights is not restricted.

Click on the *Flight tracks* tab in the main window.

Date	Pilot	CID	Glider	Starttime
24.05.2001	Langelüddeke	63	ASW24, D-3466	10:23:24
09.04.2001	LUTZ V BENNER	JOY	ASH 26 e, D-K...	14:00:09
09.04.2001	LUTZ V BENNER	JOY	ASH 26 e, D-K...	11:46:34

Mark one or several flights in the above flight track window's list field.



The screenshot shows the StrePla2 software interface with the following components:

- Flight tracks window:** A table listing flight details. The selected flight is:

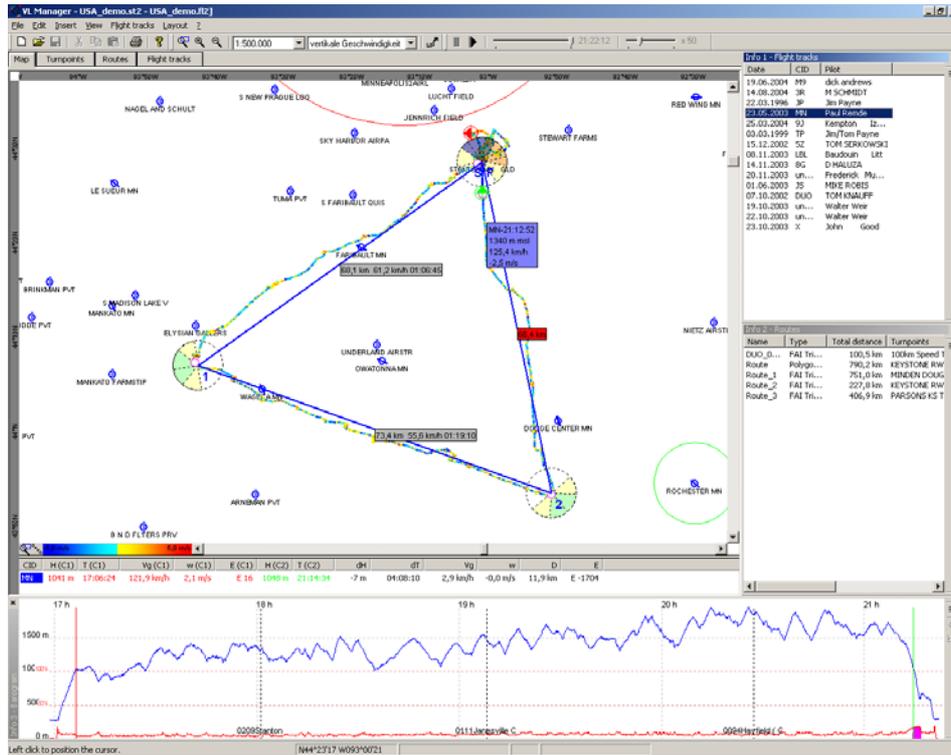
Date	Pilot	CID	Glider	Starttime	Landingtime	Flighttime	Logger-Id	I...	I...	NaN
22.06.2000	Müller	NA	LS 8, D-4572	12:40:26	15:56:02	03:15:36	SDI_00900	0	F:1E	
- Statistics (Flight track) window:** A table showing flight analysis data:

Type	Name	Time	Distance	Time	Cruising ...	Latitude	Longitude
Logger on		12:35:02					
Takeoff	ANSPCHTN	12:40:26					
Soaring start		12:44:15					
Scoring start		13:19:37					
Startpoint	SP4RRDLB	13:19:37	83,1 km	01:08:36	72,7 km...	N50°18'06	E008°22'59
1. Turnpoint	MOENCHSH	14:28:13	80,2 km	00:55:55	86,1 km...	N50°30'29	E007°15'22
2. Turnpoint	BRAUNFL	15:24:08	25,9 km	00:12:28	124,8 k...	N50°31'16	E008°23'27
3. Turnpoint	GIESSNW5	15:36:36	37,8 km	00:19:00	119,2 k...	N50°36'17	E008°44'01
Finishpoint	ANSPCHTN	15:55:36					
AST (Assigned speed t...			227,0 km	02:35:59	87,3 km...		
Points			227,0 km				
Scoring end		15:55:36					
Soaring end		15:55:38					
Landing	ANSPCHTN	15:56:02					
Logger off		15:57:59					
- Info 2 - Flight track details window:** Shows detailed statistics for the selected flight:

CID	Time	Height	Position
NA	12:44:15	938 m	N50°18'13 E008°27'59
	15:55:38	301 m	N50°17'20 E008°32'00

Additional data: dT: 03:11:23, dH: 637 m, D: 5,3 km, E 8, w: 0,1 m/s, Vg 1,7 km/l
- Info 3 - Barogram window:** A line graph showing altitude (m) over time (h). The y-axis ranges from 500m to 1500m. The x-axis shows time from 13h to 15h. The graph shows a fluctuating altitude profile with peaks around 13:19 and 14:28, and a dip around 14:00. Key points are labeled: SP4RRDLB, MOENCHSH, BRAUNFL, GIESSNW5.

Click on the *Map* tab in the main window. Your marked flights will appear in the map.



11.5 Edit flight track data

In many cases the data provided by the igc file are incomplete or incorrect. In those cases you can complete/edit the data associated with that flight track. If stored in a fl2 file all changes are permanent.

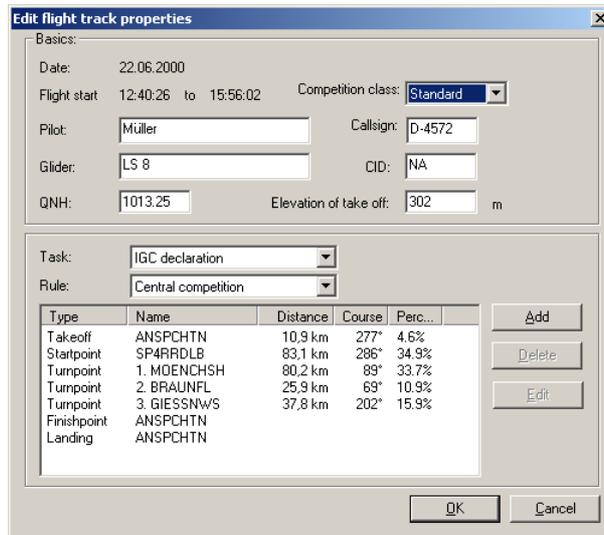
- Mark the flight track in the *flight tracks* tab

The screenshot shows the StrePla2 interface with the 'Flight tracks' tab selected. The data table below is as follows:

Date	Pilot	CID	Glider	Starttime	Land
17.08.1996	Langelüddeke	63	ASW 24, unkn...	12:39:25	16:1'
18.08.1996	Langelüddeke	63	ASW 24, unkn...	10:57:45	15:2'
18.08.1996	Schmidt	R5	L5 8, unknown	10:58:18	15:4'
22.06.2000	Langelüddeke	63	ASW 24, D-3466	12:27:19	16:0'
22.06.2000	Mangels	ZZ	L5 8, D-2018	12:48:10	16:4'
22.06.2000	Müller	NA	L5 8, D-4572	12:40:26	15:5'
27.07.2001	MATTHIAS BO...	A1	DISCUS, D-2881	10:47:53	16:1'

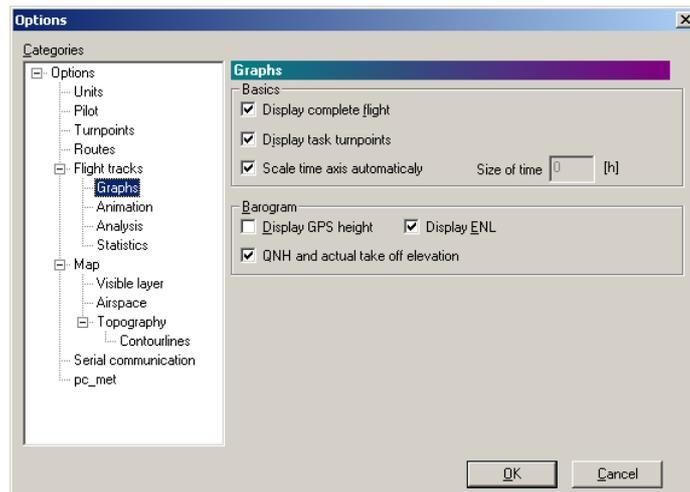
Below the table are tabs for 'Flight analysis', 'Statistics (Flight track)', 'Statistic (Task)', and 'Statistics'. There is also an 'IGC declaration' dropdown menu and a table with columns: Type, Name, Time, Distance, Time, Cruising ...

- Open the menu Flight tracks, Edit core data and edit/change/complete the data.



Remark: Besides the core data you can set some other flight track related data in this dialog:

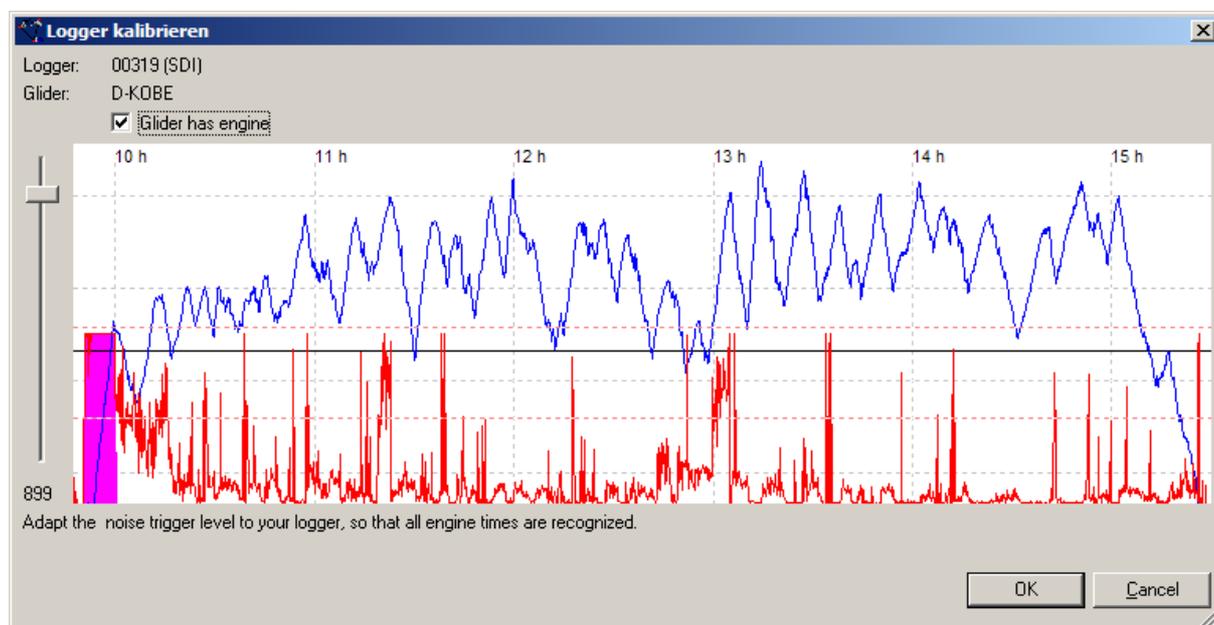
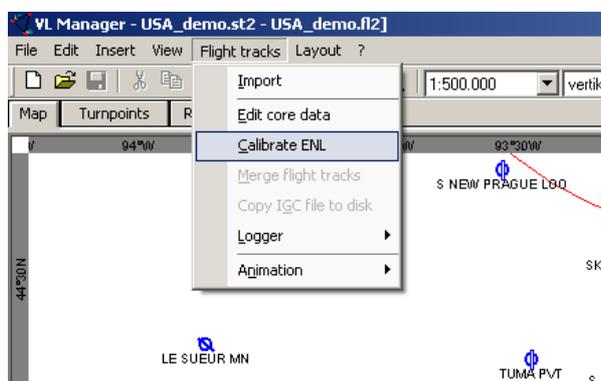
- You can add a user defined task to the flight track used for analysis. Click on the Add button to select a new task and, on the Edit button, to change a prior assigned task and Delete, if you want to remove the task from the flight track.
- You can change/select the rule set used for analysing the flight track. For more information see chapter "Analysing flight tracks".
- You can set the real values for the QNH and the takeoff elevation. Those values are used to compute the elevation displayed in the barogram. This is especially useful if you compare flight tracks of different loggers with. If you want to see the uncorrected elevation in the barogram, uncheck the option "Use WNH and real take off elevation".



11.6 ENL calibration

VL Manager create a database which holds for each logger - call sign combination an ENL trigger value. This value determines at which noise level the program assumes that the engine is running. Due to the IGC specification this value should be around 700, but in reality this value depends strongly on the logger type and the installation in the glider

In case of problems detecting the engine times open the dialog **Flight track.Calibrate ENL**:



Move the black line so that the computed engine time equals the real engine time. For the computed engine time the area below the ENL line filled purple.

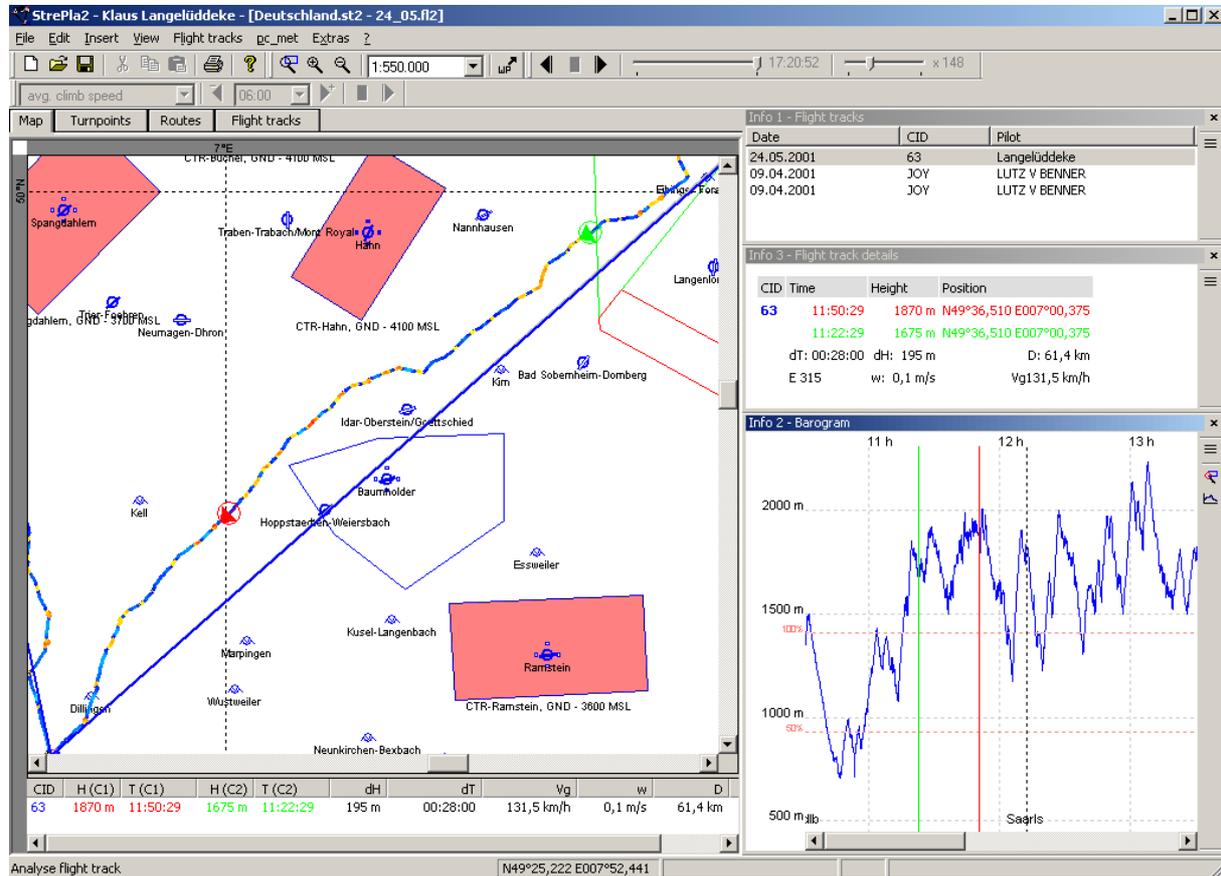
After clicking Ok, the value is stored in the database and used for subsequent flight analysis.

12 Analysing flight tracks

You can examine all sections of the flight in detail with the analysis function. The analysis function is also available if you have chosen several flights simultaneously.

12.1 The active and passive cursor

VL Manager knows two cursors for measuring and for analysing. The active (red) and the passive (green) cursor. All measuring results are based on the distance between the two cursors.



The cursors are shown dynamically in all windows. In the info window *Flight track details* you will see the time, altitude and position of the active (red) as well as the passive (green) cursor. The time, the altitude, the distance, the glide ratio, the vertical speed and the horizontal speed are shown in black.

12.2 Placing and shifting the active cursor

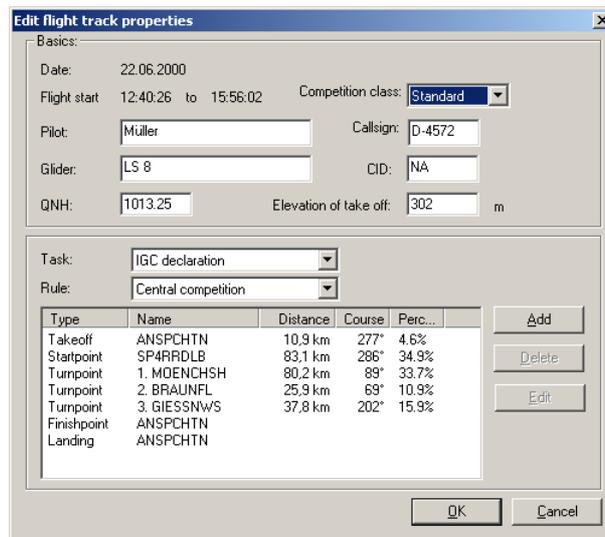
Move your cursor over the flight track. The cursor will change the shape to a cross. Click. Immediately, the active cursor is placed at this place. Now move the mouse over the active cursor. The cursor will now change shape to a hand. Pull the active cursor to a position on a flight track of your choice. To shift the active cursor, you can also use the buttons *Arrow to the right* and *Arrow to the left* in your keypad.

12.3 Changing the active cursor to passive cursor

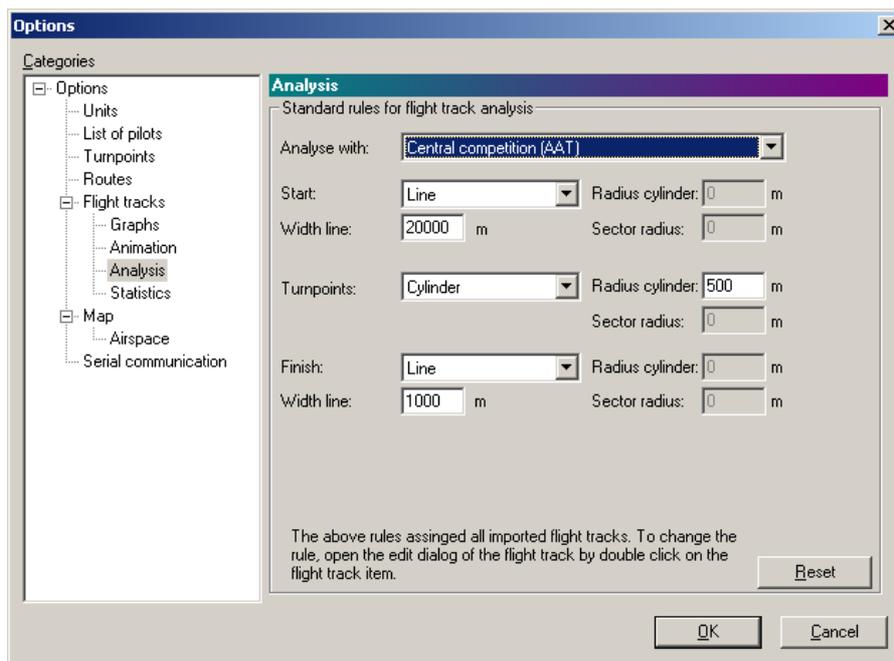
To change an active cursor to a passive cursor, press the space bar on your keypad.

12.4 Analysing flight tracks

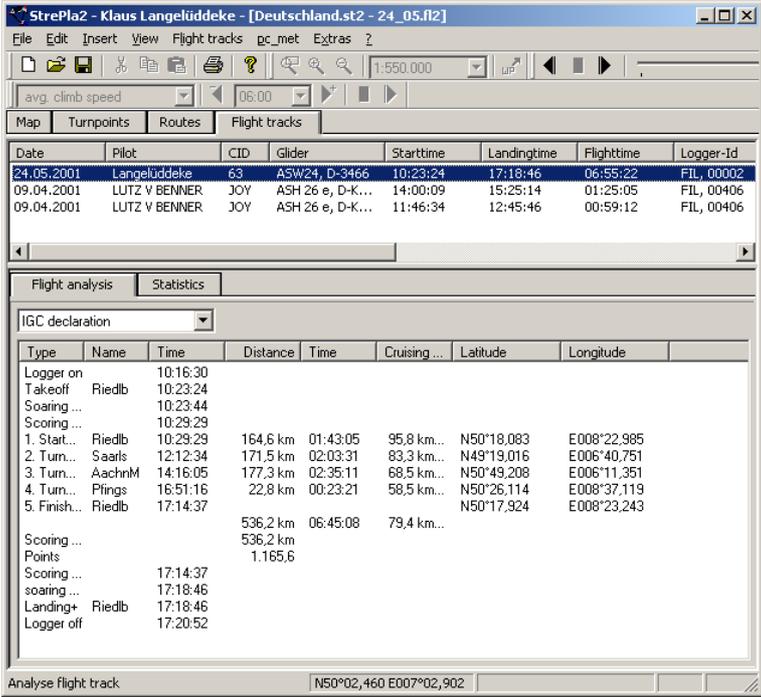
The flight track analysis will be done according to the rules stored with the flighttrack. To change them, open the dialog *Flight tracks*, *Edit core data* and select a rule set given in the Rule drop down list.



Remark: The default rule is set under *Extras, Options, Analysis*. If you select user defined, you can edit the parameters for the start, turnpoint and finish points.



According to the settings, **VL Manager** will check whether a valid departure took place, the turnpoints were rounded validly and the finish line was crossed properly. The result will appear in the info window *Flight analysis* and in the bottom part of the main window *Flight tracks*.



The screenshot shows the 'Statistics' tab in the 'Flight analysis' window. It displays a table of flight events and a summary table for the IGC declaration.

Date	Pilot	CID	Glider	Starttime	Landingtime	Flighttime	Logger-Id
24.05.2001	Langeluddeke	63	ASW24, D-3466	10:23:24	17:18:46	06:55:22	FIL_00002
09.04.2001	LUTZ V BENNER	JOY	ASH 26 e, D-K...	14:00:09	15:25:14	01:25:05	FIL_00406
09.04.2001	LUTZ V BENNER	JOY	ASH 26 e, D-K...	11:46:34	12:45:46	00:59:12	FIL_00406

Type	Name	Time	Distance	Time	Cruising...	Latitude	Longitude
Logger on		10:16:30					
Takeoff	Riedlb	10:23:24					
Soaring ...		10:23:44					
Scoring ...		10:29:29					
1. Start...	Riedlb	10:29:29	164,6 km	01:43:05	95,8 km...	N50°18,083	E008°22,985
2. Turn...	Saarts	12:12:34	171,5 km	02:03:31	83,3 km...	N49°19,016	E006°40,751
3. Turn...	AachmM	14:16:05	177,3 km	02:35:11	68,5 km...	N50°49,208	E006°11,351
4. Turn...	Pfings	16:51:16	22,8 km	00:23:21	58,5 km...	N50°26,114	E008°37,119
5. Finish...	Riedlb	17:14:37				N50°17,924	E008°23,243
Scoring ...			536,2 km	06:45:08	79,4 km...		
Points			536,2 km				
Scoring ...			1.165,6				
soaring ...		17:14:37					
soaring ...		17:18:46					
Landing+	Riedlb	17:18:46					
Logger off		17:20:52					

12.5 Flight tracks - Statistics

VL Manager computes automatically a set of detailed statistic reports for each flight track.

For each flight track are available a

- list of thermals and straight, see chapter Info window *Thermals and straights*
- Overall statistic for the complete flight track, displayed in the tab Flight tracks, Statistics (Flight track).
- Summary for the flown task (IGC and user defined) in the tab Flight tracks, Statistic task
- Summary for the optimized tasks (OLC / DMSt) in the tab Flight tracks, Statistic (Optimization)

12.5.1 Statistic - flight track

Beside basis flight track data the following analysis are conducted:

12.5.1.1.1 Thermals analysis

The thermal analysis displays the consolidated data of the thermals (see Info window Thermals and straights). The data are first summarized for all thermals and then splitted due to the circling direction (right, left and both). Finally the so called tries are displayed, this are those circels, which do not belong to a thermal due to the duration of circling and height gain. The limiting values are set in Extras, flight tracks, Statistic.

The following values are computed:

Time Overall time in thermals (circling).

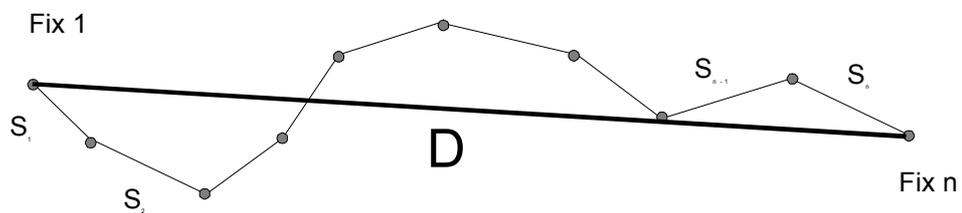
Percentage	Percentage of the circling time measured against flight time.
Count	Total number of thermals.
Circles	Total number of circels.
Vario	mean climb rate in the thermals.
Alt. gain	Total height gained during circling.
Alt. loss	Total height loss during circling.
Alt / thermal	Mean height gain in one thermal.
Time / thermal	Mean time in ine thermal.

12.5.1.1.2 Straights

The analysis of straights shows consolidated values of the flight legs between the thermals. The analysis is conducted first for all straights and then for straights with altitude gain respective loss. The straights can contain single circles, that are those circels which do not belong to a thermal (thats a try).

The following values are computed:

Time	Total time which was flown straight
Percentage	Percentage of the time measured against total flying time.
Count	Total number of straights.
Vario	Mean vertical speed during the straight.
Alt/leg	Mean difference of height between start and finish of leg.
Dist / Leg	Mean distance between start and end of leg.
Time / Leg	Mean time of one straight.
D	Total distance of all straights (the sum of the colum Dist / Leg)
D Flight track	Total distance flown sumed all distances between the single flight path fixes.



$$D / D \text{ Flight track} = D / \text{Sum} (S_1, S_2, \dots, S_{n-1}, S_n)$$

Vg	Mean ground speed during the straight.
D / D Flight track	Mean relationship between D and D flight track.

D / H	Mean glide slope of the straights.
Alt. gain	Total gain of height during the straights.
Alt. loss	Total loss of height during the straights.

Histogram

The histograms show mean values for the given parameter (height, vertical speed and ground speed). The start and end values as well as the step size are set in *Extras, Options, Flight track, Statistic*.

12.5.1.1.3 Histogram –Height

The following values are computed:

Flighttime	Total time in the given height band.
Vario	Mean climb rate in that height band.
Vg	Mean ground speed in that height band.

Histogram – Vertical speed

The following values are computed:

Flight time	Total time flown with the given vertical speed.
erstiegene Höhe	Total height gained/loss.

Histogram – Ground speed

The following values are computed:

Flight time	Total time flown with the given ground speed.
gained height	Height gained / loss with the given ground speed.
flown Distance	Total distance flown with this ground speed.

12.5.2 Statistic – Task

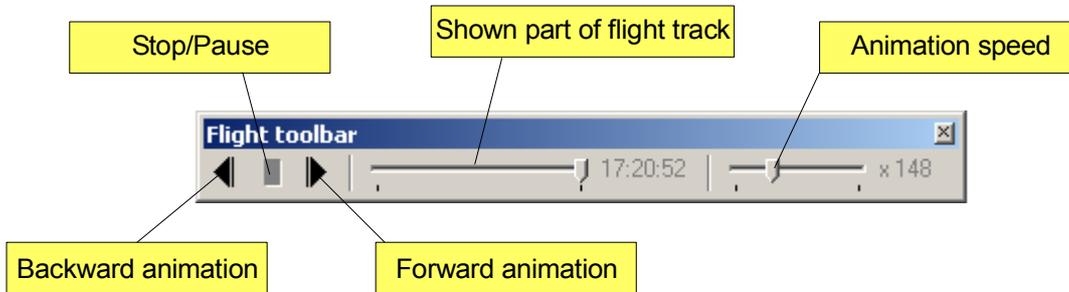
Beside basis flight track data the IGC and user defined task are analyzed.

For each leg the flight time, distance of leg and mean ground speed are displayed.

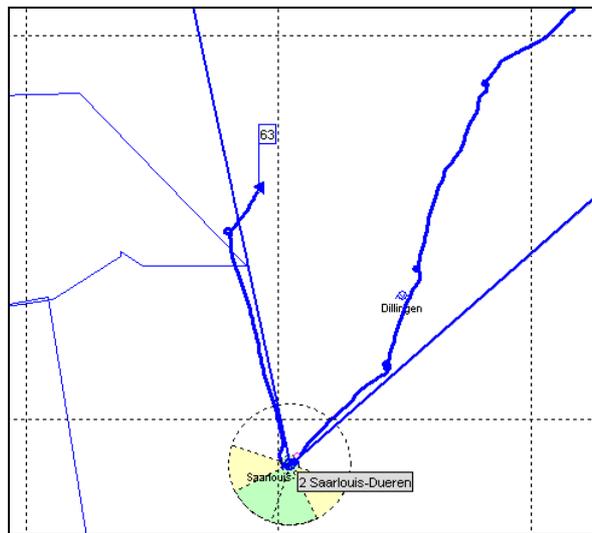
Further on the time at the turnpoint and the for the analysis relevant coordinates are displayed for each turnpoint.

13 Animating flight tracks

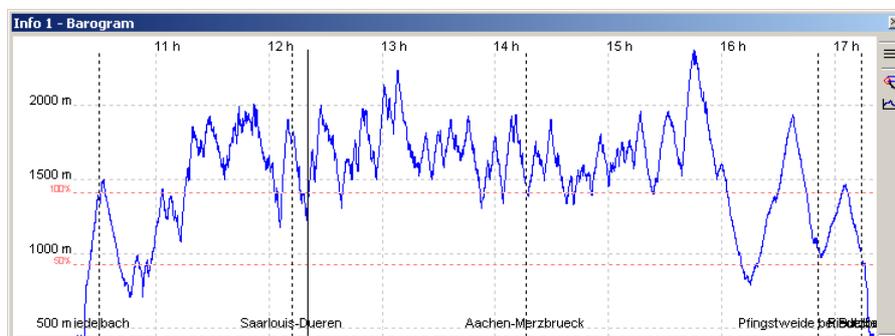
The flight track animation is controlled over the symbols bar *Flight tracks*. In the menu point *Extras, Options, Flight tracks*, you can make many adjustments regarding the animation (see chapter *Options* of this manual).



Mark the flight or several flights that you want to animate. Click in the tab *Map* in the main window. Start the animation by clicking on the arrow to the right. At the point of the course you will see a flag with the aircraft's competition identification. The height of the flag will change according to the altitude.



The time, corresponding to the animation, will be shown as a vertical black line (cursor) in the barogram.



13.1 Shifting the time-point in the barogram

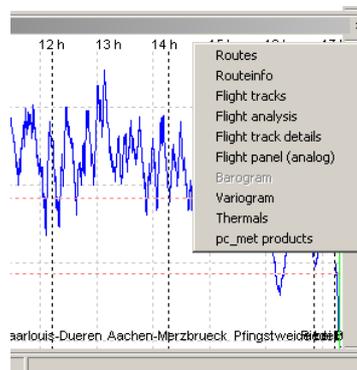
Move your mouse over the cursor in barogram during the animation. The cursor will change to a double-arrow. Pull the cursor backwards or forwards to the point where the animation is to be continued.

14 Info windows

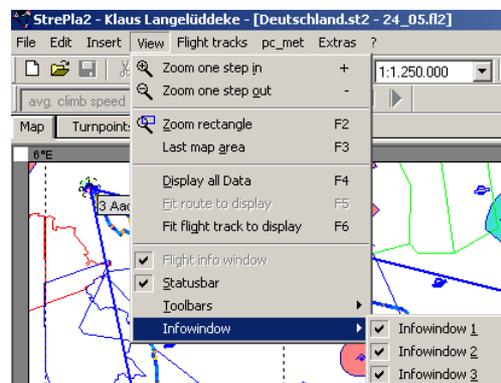
Additional information about the flights and routes on the map is given in the info windows.

You can decide which data you want to show in each window.

For doing this, click on the button with the three horizontal lines. Choose the content.



To switch the info window on and off, point to *Infowindow* in the menu *View* and click.



14.1 Routes

All routes of the active route catalog are listed in the infowindow *Routes*. It corresponds to the upper part of the main window *Routes*.

Name	Type	Total distance	Turnpoints
1. Wertungstag	DMST-FAI Tri...	600,6 km	Anspach/Taunus - Anspach/Taunus - ftp1 - ftp0 - ftp2 - Baumerlenbach
Route	DMST-FAI Tri...	536,2 km	Riedelbach - Riedelbach - Saarlouis-Dueren - Aachen-Merzbrueck - Pfling...

After double-clicking on an entry, the window *Edit routes* (see chapter *Creating route with a dialog box*) will appear.

Mark one or several entries. These routes will be shown in the map window.

14.2 Route info

You can see all the details of the marked route in the window route info. It corresponds to the bottom part of the main window *Routes*.

Type	Name	Distance	Course	Perc...
Takeoff	Riedelbach			
Startpoint	Riedelbach	164,6 km	228°	30.7%
Turnpoint	Saarlouis-...	171,5 km	348°	32.0%
Turnpoint	Aachen-M...	177,3 km	104°	33.1%
Turnpoint	Pflingwei...	22,8 km	229°	4.2%
Finishpo...	Riedelbach			
Landing	Riedelbach			
	Total dista...	536,2 km		
	Scoring di...	536,2 km		

1.072,4 Points (wo. index) - DMST-FAI Triangle(Start on leg)

Double-clicking on a turnpoint will open the window *Edit turnpoint* (see chapter *Edit turnpoint*).

14.3 Flight tracks

All flight tracks of the active flight track catalog are listed in the infowindow Flight tracks. It corresponds to the upper part of the main window *Flight tracks*.

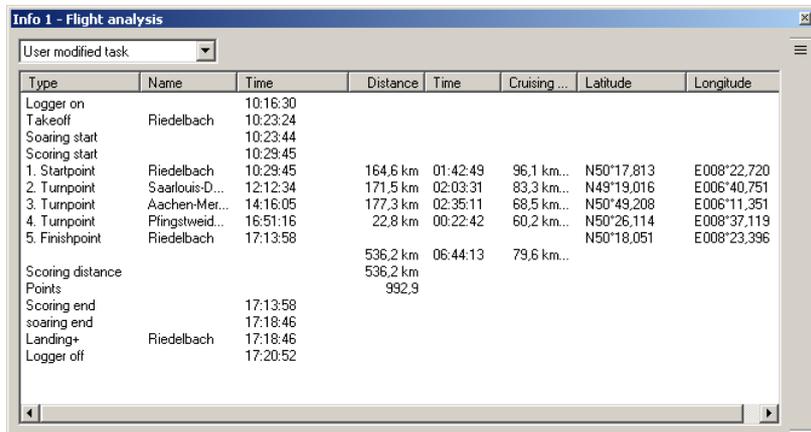
Date	CID	Pilot
24.05.2001	63	Langelüddeke
09.04.2001	JOY	LUTZ V BENNER
09.04.2001	JOY	LUTZ V BENNER

Double-clicking on an entry will open the window *Edit flight track properties* (see chapter *Edit flight track properties*).

Mark one or several entries. These flight tracks will be shown in the map window.

14.4 Flight analysis

You can see the details of the marked flight track in the window Flight analysis. It corresponds to the bottom part of the main window *Flight tracks*.



Type	Name	Time	Distance	Time	Cruising...	Latitude	Longitude
Logger on		10:16:30					
Takeoff	Riedelbach	10:23:24					
Soaring start		10:23:44					
Scoring start		10:29:45					
1. Startpoint	Riedelbach	10:29:45	164,6 km	01:42:49	96,1 km...	N50°17,813	E008°22,720
2. Turnpoint	Saarlouis-D...	12:12:34	171,5 km	02:03:31	83,3 km...	N49°19,016	E006°40,751
3. Turnpoint	Aachen-Mer...	14:16:05	177,3 km	02:35:11	68,5 km...	N50°49,208	E006°11,351
4. Turnpoint	Pfingstweid...	16:51:16	22,8 km	00:22:42	60,2 km...	N50°26,114	E008°37,119
5. Finishpoint	Riedelbach	17:13:58				N50°18,051	E008°23,396
Scoring distance			536,2 km	06:44:13	79,6 km...		
Points			536,2 km				
			932,9				
Scoring end		17:13:58					
soaring end		17:18:46					
Landing+	Riedelbach	17:18:46					
Logger off		17:20:52					

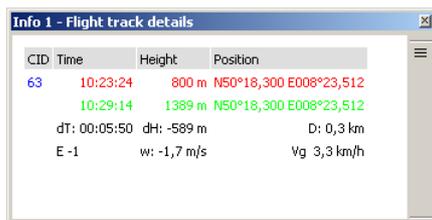
If you choose a different task for this flight track in the selection field, this will be shown in the map window.

14.5 Flight track details

This window has two modes:

14.5.1.1 Infowindow flight track details during the flight analysis

The information about the cursor position and the calculated values are shown in the window Flight track details. The information for all the marked flights will be shown with multiple choices. It corresponds to the flight info window in the map window.



CID	Time	Height	Position
63	10:23:24	800 m	N50°18,300 E008°23,512
	10:29:14	1389 m	N50°18,300 E008°23,512
dT:	00:05:50	dH: -589 m	D: 0,3 km
E -1		w: -1,7 m/s	Vg 3,3 km/h

CID: competition identification

Red: Time, height and position of the red (active) cursor

Green: Time, height and position of the green (passive) cursor

dT: Difference in time between the active and the passive cursor.

dH: Difference in height between the active and the passive cursor.

D: Distance between the active and the passive cursor.

E: Glide ratio between the active and the passive cursor.

w: Vertical speed (climb/descend) between the active and the passive cursor.

Vg: Ground speed between the active and the passive cursor.

14.5.2 Infowindow Flight track details during flight track animation

Dynamic data is shown in the infowindow Flight track details during flight track's animation. When doing a multiple choice, the entries will be shown in order of average speed. The display will thus correspond to a "race". This infowindow corresponds to the flight info window in the map window.



CID	Time	Vavg - Task	D Task	Height	Vg	Vario	D/H
63	11:42:13	87,0 km/h	431,4 km	1824 m	155,7 km/h	-1,1 m/s	E -7

All shown data is based on the animation's momentary instant. Description of the fields:

CID: competition identification

Time: Time

Vm Task: Average speed since the last valid departure (height is not considered).

D Task: Distance still to be flown.

Height: Momentary height

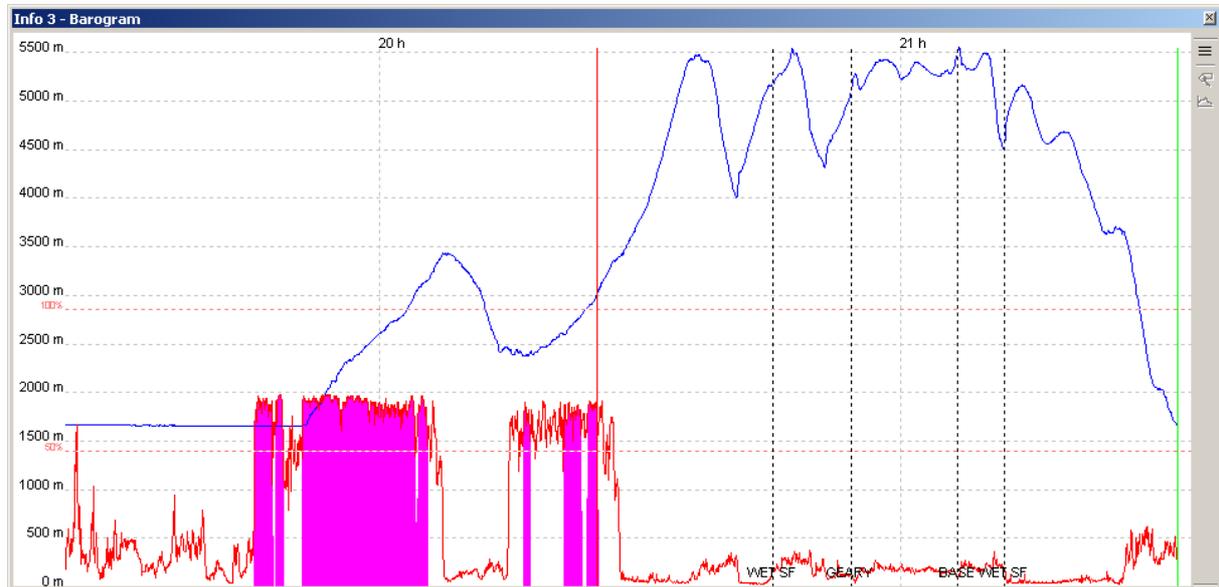
Vg: Momentary speed over ground

Vario: Momentary variometre display

D/H: Momentary glide ratio.

14.6 Barogram

The barograms of the marked flight tracks will be shown in this infowindow.



Barogram

The red lines 50% and 100% are the displays for the **ENL** (Engine Noise Level) that are recorded by the logger. The display is dependent on the adjustments under Extras, Options, Flight tracks, Diagrams. When doing a multiple choice of flight tracks, the ENL will be suppressed.

On the right side of the window there are two additional buttons. If you click on the top button, **Zoom rectangular area**. The cursor will change to a magnifying glass. In the barogram, pull a rectangle over the time period that you want to magnify. The height scale will not be influenced by the zoom function.

Click on the bottom button **Display complete flight track**. This button will reverse the zoom process.

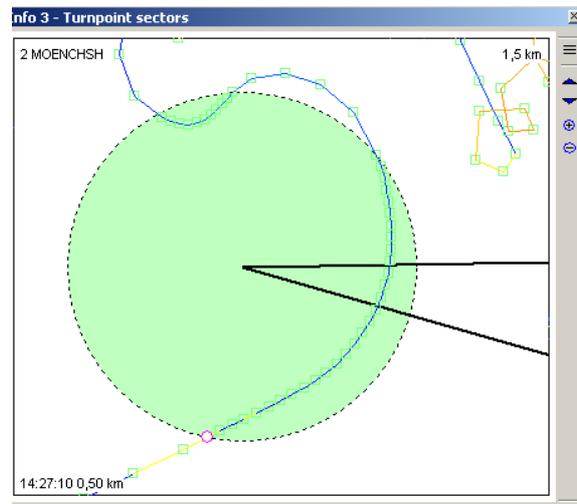
You can shift the **active** and the **passive** cursor in this window. Move the mouse over the cursor. The cursor will change shape to an *arrow to the right and to the left*. Pull the active or passive cursor to your requested position. You can also use the *arrow to the right and to the left* keys on your keyboard to move the cursor.

Soaring start and end are indicated by two yellow markers and may be adjusted with the mouse.

Additional the barogram contains the cross section of the **airspace**.

14.7 Turnpoint sectors

This window gives a detailed view of the area in the vicinity of the start, turn and end points of a task.



The window displays the vicinity of the point and the following additional informations:

- Upper left corner Name and number of the point.
- Upper right corner Length of the displayed cantle.
- Lower left corner Time and distance to the reference point of the fix, which is used for scoring (purple circle).

On the right edge are buttons for navigation from turnpoint to turnpoint and for stepwise zooming.