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Introduction

Welcome to NavBox ProPlan

Notes:
Low cost database updates are issued every month, according to the latest AIP publications. You may want to consider a database update subscription via e-mail or download. For details, visit our web site www.navbox.nl.

We are sorry, but NavBox ProPlan does not come with a printed paper manual. We would have to print and ship six books in six different languages. this would increase the price significantly. Instead, you can print out the Help file yourself in the language of your choice, put it in a binder and then number the pages manually. Of course, every ProPlan window has its Help button, which will bring up the relevant Help section in your language with only one mouse click.

In 1990, we entered the market with NavBox for DOS, a program which over the years became Europe's leading flight planner. In response to user feedback, new features were added, making it a highly sophisticated piece of software that did almost everything you could think of.

There was also a reverse side to this success: some customers complained that the program was getting more complicated with every new feature added. There was some truth in this. New users had to study the manual and help to get the maximum out of NavBox for DOS.

With these users in mind, we have replaced it with NavBox ProPlan for Windows. Our main goal was to keep it simple: an electronic map of Europe with built-in airfield directory, on which you can draw and calculate your route. We promise you won't have to do any studying before you can use it.

Please register. This way you will not only be the first to know about new versions of ProPlan, but you will also be able to take advantage of a significant discount on their purchase price and have access to our Help Desk. You can register online via our web site www.navbox.nl.

Presentation

Analogue of Best Practice

ProPlan has been written to simulate, as closely as possible, the manual flight planning you were taught during training.

Your screen is your map and the mouse is both your pencil and ruler. With it you can draw any route you want, using existing airfields and beacons, or waypoints of your own. By simply clicking on the legs, your screen map will then show tracks, headings, ground speeds, times, fuel, cost and totals.

Your map also contains within it a complete European airfield directory. To see details such as frequencies, runways, ILS, ATIS, telephone numbers, customs, fuel, daylight period, just click on the airfield you are interested in and the details are all displayed.

All of the above may be accomplished without you having to use the keyboard to type in anything!

Unlike other software developers that come with scanned paper maps, NavBox uses its own vector driven maps. This method has some great advantages:
- You decide where your map starts and ends.
- You decide which map details, waypoints and airspace you want to have displayed.
- You decide which idents or labels you want to see.
- You select the map colours.
- If you subscribe to our database update service, map details like waypoints, airways and airspace will be updated every month.

All reports are first printed to screen, before they are sent to the printer. Using a lap-top computer without a printer, you can see all the results of your computations on-screen.

Minimum requirements

ProPlan will run under Windows 95, Windows 98, Windows 2000 and Windows NT. We recommend a fast Pentium, 64 Mb of RAM and high colour (16 bits) display.

ProPlan will occupy up to 15 Mb on your hard disk.

See also:
- Speed considerations

Speed considerations

Note:
You may notice that certain features, especially airway identifiers, will demand a lot of time. If you do not have a very fast Pentium, we advise you not to use them on maps of 1200x1200 nm.

Production of the graphical map makes considerable demands on your computer.

You may speed up the drawing process using one or both of the following methods:
- Use a smaller map (300x300 nm).
- Select Map | Configure Map Scale from the menu and uncheck those waypoint types, map details, airways, airspace and idents that you do not need.

See also:
- Minimum requirements

Database

At this moment, our database covers most of Europe, including FIRs, country borders, coast lines, rivers, lakes, city outlines, motorways, railroads, low altitude airways, VFR routes and airspace up to 5000 ft. ProPlan will also automatically take the proper magnetic variation into account when you use or create waypoints within this area.

The database that comes with this program is up-to-date for the month and year mentioned under Help | About NavBox ProPlan.

Low cost database updates are issued every month, according to the latest AIP publications. You may want to consider a database update subscription via internet download. For details, visit our web site www.navbox.nl.

See also:
- Airfield directory
- Editing waypoints
- Creating a new waypoint

Registration

Note:
Do not forget...

On the back cover of the package, you will find your personal registration number. Don't loose this number. Without it, you cannot install ProPlan or update your database.

Once you have mailed us your registration card or registered online via our web site www.navbox.nl, we will be able to keep you abreast of the latest versions of our NavBox products. You will also get a substantial discount when you want to upgrade to one of these products. Last but not least, registered users have access to our Help Desk (have your registration number ready) via:

Tel. +31-320-284359
Fax +31-320-284162
e-mail: support@navbox.nl

Help language

During installation, you will be asked which Help language you wish to use. Of course, you may change the language later at any time using Help | Select Help language from the menu.

Languages can also be selected by file, to accomodate for future translations that will be published on our web site www.navbox.nl.

There is a Help button in almost every ProPlan window. It will bring up the relevant Help page in your language. If you don't see a Help button, pressing F1 will do the job.

Note:
If the Help file is not available in your language and you feel like contributing your translation, please contact us.

Warnings

For new users, ProPlan issues many warnings that for an experienced user might become irritating.

Many of these warnings can be turned off by checking the 'Don't ask me any more' box. If you do so, a Restore item will appear in the menu, which will allow you to turn them on again.

Airfield directory

ProPlan maps also contain a complete European airfield directory. To access details such as frequencies, runways, ILS, ATIS, telephone numbers, customs, fuel, daylight period; just click on the airfield you are interested in and its details will be displayed.

Details of waypoints may be accessed in the same way.

Low cost database updates are issued every month, according to the latest AIP publications. You may want to consider a database update subscription via e-mail or download. For details, visit our web site www.navbox.nl.

Tip:
If you are having trouble finding an airfield in the map, use the Find location on map button especially designed for this situation.

See also:
- Database
- Abbreviations

Abbreviations

Abbreviations used within the airfield directory

COM - COMMUNICATIONS

AFIS Aerodrome Flight Information Service
AIR Air/Air
APP Approach
APR Apron
ARR Arrivals
ATIS Automatic Terminal Information Service
CTL Control
DEL Delivery
DEP Departures
DIR Director
FIS Flight Information Service
GCA Ground Controlled Approach
GND Ground
INF Aerodrome Flight Information Service
LARS Lower Airspace Radar Service
PAR Precision Approach Radar
RAS Radar Advisory Service
RDO Radio
RDR Radar
TWR Tower
ULM Ultra Light
ZNE Zone

RWY - RUNWAYS

C Center
L Left
R Right
*L Runway Lighting

GEN - GENERAL

AAF American Airforce Base
AB Air Base
AIS Airport Information Service
CUST Customs
H24 24 hours service
MET Meteorological Service
MIL A/D Military Aerodrome
MOGAS Super (auto) Petrol
O/R On Request
OPR Operator
PNR Prior Notice Required
PPR Prior Permission Required (this has also been used to indicate erratic airfield operating hours)
XTN Telephone Extension
80/100 Fuel Octane Value

Sunrise and sunset

When you click on an airfield in the map, ProPlan will calculate the times of sunrise and sunset at that location and then display them.

ProPlan calculates these times based on the system date of your computer, shown in the tool bar of the main window. If you want to plan a flight a long time ahead, but with the correct sunrise and sunset times, then you can change this date. The system date of your computer will not be affected.

See also:

- Expanded navigation log

Creating a new map

How to create a new map

Notes:
ProPlan is an analogue of the "pencil and ruler" flight planning methodology and its electronic maps are designed to behave like real paper maps. Just like a new paper map, a new ProPlan map will contain no route or GPS track plots.

Creating a new map will automatically save any active route displayed on the previous map back into memory for later use. To erase a route, you will have to delete it explicitly. GPS tracks remain stored on your hard disk until you overwrite them deliberately with a new track download from your GPS unit.

A new map will inherit the map scale configuration of the last selected map scale. You may change this configuration while you create the new map or later.

ProPlan will correct you when asked for latitudes that would produce maps covering areas above 80°. ProPlan does not support flight over pole areas.

Unlike other software developers that come with scanned paper maps, NavBox uses its own vector driven maps. This method has some great advantages:
- You decide where your map starts and ends.
- You decide which map details, waypoints and airspace you want to have displayed.
- You decide which idents or labels you want to see.
- You select the map colours.
- If you subscribe to our database update service, map details like waypoints, airways and airspace will be updated every month.

Click on the Create/configure new map button or select Map | New Map... from the menu and the 'Create new map' window will open.

Use the radio buttons to select the size of your map (300x300, 600x600 or 1200x1200 nm). If you select 1200x1200 nm and your ProPlan computer's processor is a slow Pentium or you have less than 64 Mb of RAM, ProPlan may appear slow to run.

However, selecting a smaller map with less details will then produce higher video performance.

A second set of radio buttons enables you to select and configure the scale of your map.

The North/South/East/West fields allow you to select the center of your map. This can also be done by dragging the map over the desired part of Europe. The map of Europe will show exactly which area you will be covering.

Finally, if you don't like our map colours or want to save printer ink, you have the possibility to change them.

Click Create new map when ready. ProPlan will a create a new empty map and remember the new settings.

See also:
- Map scale configuration
- Map scale
- Speed considerations

Full screen map

Selecting a full screen map

Select Map | Full screen map from the menu.

Your map will cover the entire screen, hiding all buttons and bars. You may continue to work on this map as usual, but to access the buttons and menu, you will have to return to normal screen mode. To do this, simply press the Escape key.

Map scale configuration

Configuring the current map scale

Notes:
- Map scale configurations apply to the currently selected scale only. ProPlan will remember the configuration for each of the five available map scales.
- While composing a route, you can not uncheck waypoint types that are used in the active route.

Unlike other software developers that come with scanned paper maps, NavBox uses its own vector driven maps. This method has some great advantages:
- You decide where your map starts and ends.
- You decide which map details, waypoints and airspace you want to have displayed.
- You decide which idents or labels you want to see.
- You select the map colours.

- If you subscribe to our database update service, map details like waypoints, airways and airspace will be updated every month.

Select Map | Configure this Map Scale from the menu. The 'Map Scale Configuration' window will open.

Check or uncheck the waypoint types, airways and airspace you want to make clickable or visible under the current map scale. You may also want to show corresponding idents or labels by checking them.

In the same way you tell ProPlan which ground details you want to see.

Click OK when ready. ProPlan will remember the new settings.

See also:
- Creating a new map
- Speed considerations

Map scale

Setting a map scale

Notes:
Selecting a map scale will also select the corresponding scale configuration. If your current route contains a waypoint type that was not part of this configuration, it will be temporarily added to the scale configuration.

You may use the map scale buttons on the tool bar to zoom in or out. If you can't make changes to very short legs, zooming in may help.

Choose Map | Scale from the menu or press one of the Map scale buttons on the tool bar. You may choose the following scales:
- 1:250,000 - zooming in or planning short trips
- 1:500,000
- 1:1,000,000 - standard planning scale
- 1:2,500,000
- 1:5,000,000 - zooming out or planning long trips

Your screen will produce approximately the selected scale. The exact scale depends on the size of your monitor and resolution used.

See also:
- Creating a new map
- Map scale configuration

Finding a location on the map

How to find a waypoint on the map

Note:
Proplan searches the current map. So, if you want to find an NDB in France, your current map must cover France and you must have activated NDBs.

ProPlan is a graphical flight planner. Unlike other software, it does not give latitude and longitude when a waypoint has been found. Instead, it will scroll your map to the desired position and a big arrow will point to your waypoint. You may then click on it to view or edit its details or use it in your route.

Select Database | Waypoints | Find waypoint or press the Find a location on the map button. You may then enter (part of) the name or identifier to highlight the waypoint you are looking for. Press the Show position button or Append to add it to your route.

See also:

- Creating a new map
- Map scale configuration

Editing waypoints

How to change or delete a waypoint

Notes:
If you find incorrect information in our database, please let us know. We will gratefully correct our next database update. Changes made to our database will be overwritten by a subsequent NavBox database update. User waypoints will not be affected.

Temporary route waypoints are a special case. They are stored with the current route and are not part of the waypoints database. If you edit them, they will be stored as a User Waypoint in the waypoints database.

Waypoints may be changed or deleted at all times, except when a waypoint is part of your currently active route. Click on the waypoint in the map and then press the Edit data button.

In addition to latitude and longitude, the waypoint position may also be defined by a radial and distance or two radials from existing waypoints on the map. To do so, click the Create RNAV position button and follow the instructions on your screen.

See also:

- Finding a location on the map
- Creating a new waypoint
- Positioning using direction and distance
- Positioning using two radials

Creating a new waypoint

How to create a new waypoint

Note:

- Changes made to our standard database will be overwritten by future NavBox database updates. User waypoints will not be affected.

Select Database | Waypoints | Create New Waypoint or press the Create new waypoint button. We strongly advise you choose 'User waypoint' as type. Other types will be overwritten by future database updates.

A second (perhaps simpler: you won't have to worry about lats and longs) way to create a new User Waypoint is as follows:
- Create a temporary route waypoint by clicking on the desired position.
- Click on this temporary route waypoint and press the Edit data button. This will allow you to save it as a User Waypoint.

In addition to latitude and longitude, the waypoint position may also be defined by a radial and distance or two radials from existing waypoints on the map. To do so, click the Create RNAV position button and follow the instructions on your screen.

See also:

- Editing waypoints
- Positioning using direction and distance
- Positioning using two radials

Positioning using direction and distance

How to calculate coordinates using direction and distance from an existing waypoint

Note:

- Proplan searches the current map. So, if you want to use a VOR/DME in Switzerland, your current map must cover Switzerland and you must have activated VOR/DMEs.

In the waypoint editor, click the Create RNAV position button and select 'From 1 existing waypoint'.

Enter (part of) the name or identifier to highlight the waypoint you want to use as a starting point. Thereafter, enter a direction (true or magnetic) and distance (nm, sm or km) from this waypoint. Click on the Calculate position button when done.

See also:

- Positioning using two radials

Positioning using two radials

How to calculate coordinates using radials from two existing beacons

Note:
ProPlan searches the current map. So, if you want to use two VORs in Germany, your current map must cover Germany and you must have activated VORs.

In the waypoint editor, click the Create RNAV position button and select 'From 2 existing beacons'.

Enter (part of) the name or identifier to highlight the first beacon. Thereafter, enter a radial (magnetic direction) from this beacon. Repeat this for the second beacon. Click on the Calculate position button when done.

See also:

- Positioning using direction and distance

Creating a new route

How to create a new route

If there is an existing route on your map:

Before you can create a new route, you will have to remove the current route from the map. To do so: use the Make place for new route and store active route button, which wil save the current route for later use and draw a new clean map, or Delete active route from memory button to delete the current route from memory.

Next check your map, (scroll left/right/top/bottom or use the Find location on map button) to see if it will hold your route. If the map does not cover your route area, create a new map.

If you are planning a long distance trip:

Select a large map (1200x1200 nm) and a small scale, where you can click your place of departure and destination on one screen. Thereafter select bigger map scales to follow the initial track and change it by inserting waypoints.

If you are planning a short trip:

Choose a small map and adapt its scale to show your route including departure and destination airfields. Select your start and append waypoints until you reach and select your destination.

Of course, you may experiment and use a combination of these two approaches to your flight planning. At any time, you can remove, append or insert a waypoint, airfield, or temporary waypoint from or to your route without having to start all over again.

Tip:
If you are having trouble finding a waypoint in the map, use the Find location on map button especially designed for this situation.

See also:

- Finding a location on the map
- Creating a new map
- Map scale
- Map scale configuration
- Selecting a waypoint
- Selecting an airfield
- Creating a temporary route waypoint

Saving a route into memory

How to save the current route into memory

Routes are saved by default whenever you create a new route, a new map, or when you exit ProPlan. So, actually, you won't have to do anything to save your route.

The saving occurs in chronological order. To prevent your routes from occupying too much space on your hard disk, you can give a maximum number of routes in the 'Route database' window (1-999).

See also:

- Creating a new map
- Creating a new route
- Selecting a previously made route

Selecting a previously made route

How to pick a route from memory

Select File | Pick an existing route... or press the Pick an existing route button. The 'Route database' window will then enable you to pick a route.

Highlight a route and press the Select button or double-click the route you want to use.

The Clone button will open a new copy of the highlighted route. You may then change this copy while the highlighted route will remain intact.

Routes are stored chronologically. In other words, the last route you made is presented first.

If you prefer an alphabetical presentation, press the Sort button.

See also:

- Saving a route into memory

Selecting a previously made route

How to pick a route from memory

Select File | Pick an existing route... or press the Pick an existing route button. The 'Route database' window will then enable you to pick a route.

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The Clone button will open a new copy of the highlighted route. You may then change this copy while the highlighted route will remain intact.

Routes are stored chronologically. In other words, the last route you made is presented first.

If you prefer an alphabetical presentation, press the Sort button.

See also:

- Saving a route into memory

Deleting a route from memory

How to remove a route from memory

To delete the active route:

Select File | Delete route or press the Delete active route from memory button.

To delete a previously made route:

Select File | Pick an existing route.. or press the Pick an existing route button. Thereafter, highlight the route you want to delete and press the Delete button. To enable you to quickly delete a large number of routes, ProPlan will only issue a warning at the first route you delete.

Finding a location on the map

How to find a waypoint on the map

Note:
Proplan searches the current map. So, if you want to find an NDB in France, your current map must cover France and you must have activated NDBs.

ProPlan is a graphical flight planner. Unlike other software, it does not give latitude and longitude when a waypoint has been found. Instead, it will scroll your map to the desired position and a big arrow will point to your waypoint. You may then click on it to view or edit its details or use it in your route.

Select Database | Waypoints | Find waypoint or press the Find a location on the map button. You may then enter (part of) the name or identifier to highlight the waypoint you are looking for. Press the Show position button or Append to add it to your route.

See also:
- Creating a new map
- Map scale configuration

Selecting an airfield

How to select an airfield for your route

Note:
If ProPlan detects more than one airfield or waypoint in the clicked position, a More... button will appear, allowing you to bring up the desired airfield or waypoint.

To select an airfield as the start point of a new route:
- Click on the airfield in the map and press the Start button.

To select an airfield as the destination of either a leg of a route or the final destination:
- Click on the airfield in the map and press the Append button.

To insert an airfield between two waypoints in an existing route:
- Click on the track where you want to insert the airfield. While holding down the left mouse button, move the cursor over the desired airfield and release the mouse button. Then click on the Insert button.

To remove an airfield from a route:
- Click on the airfield in the map and press the Remove button.

See also:
- Abbreviations
- Selecting an alternate
- Selecting a waypoint
- Finding a location on the map

Selecting a waypoint

How to select a waypoint for your route

Note:
If ProPlan detects more than one waypoint in the clicked position, a More... button will appear, allowing you to bring up the desired waypoint.

To use a waypoint as the start of a new route:
- Click on the waypoint in the map and press the Start button.

To append a waypoint to the end of an existing route:
- Click on the waypoint in the map and press the Append button.

To insert a waypoint between two waypoints in an existing route:
- Click on the track where you want to insert the waypoint. While holding down the left mouse button, move the cursor over the desired waypoint and release the mouse button. Then click on the Insert button.

To remove a waypoint from a route:
- Click on the waypoint in the map and press the Remove button.

See also:
- Selecting an airfield
- Finding a location on the map

Selecting an alternate

How to select an alternate for your final destination

Note:
There is a maximum of two alternates for each route.

To select an airfield as an alternate for your destination:
- Click on the airfield in the map and press the Alternate button.

To remove an alternate from a route:
- Click on the airfield in the map and press the Remove button.

When you have selected an airfield as an alternate for your route, ProPlan will draw a track from your final destination to this alternate. You may then examine heading, time and fuel to the alternate by clicking on this track.

See also:
- Finding a location on the map

Creating a temporary route waypoint

How to create or insert a temporary route waypoint

Note:
Temporary route waypoints remain in memory and are saved to disk as long as the corresponding route has not been deleted from memory.

Left-click on the map. If ProPlan does not find an existing waypoint at the clicked position, the 'Create temporary route waypoint' window will be opened.

Or: left-click on the track or drag it. If ProPlan does not find an existing waypoint at the position where you release the left mouse button, the 'Insert temporary waypoint in route' window will be opened.

You may then enter the name of your temporary waypoint.

Click on the Append or Insert button to enter the position of this temporary waypoint into memory for calculations.

See also:

- Selecting a waypoint
- Creating a new waypoint

Calculating legs and route

How to calculate legs and route

Note:
If ProPlan detects more than one leg in the clicked position, a More... button will appear, allowing you to bring up the desired leg.

To calculate a leg of your route:

- Right-click the desired leg. A window will appear showing all necessary calculations for this leg. You may change the default values for TAS (True Air Speed), wind, fuel or cost. The new results will be calculated while you type. You may select other measurement units and see the default values and results change accordingly.

To calculate the totals of your route:

- Right-click the last leg of your route. At the bottom of the window you will see a second box marked 'Totals from start to destination'. Again, you may change the values or units for TAS, wind, fuel or cost and see the results change.

Reversing a route

How to reverse a route

Note:
Reversing a route will not affect the selected alternate(s). You will have to do this manually.

If you wish to calculate the values for your return journey, click on the Reverse active route button or select File | Reverse route from the menu.

Clicking again will restore your original route.

Aircraft database

How to select an aircraft from the database

Note:
Before you can use the expanded navigation log or weight and balance, you must have selected an aircraft from the database.

Choose Database | Aircraft... from the menu or press the Aircraft database button. The 'Aircraft database' window will show a list of aircraft, sorted by registration or type. Highlight the one you wish to use and press the Select button. The top of the main window will now show the registration of the selected aircraft.

The database contains a few aircraft as examples. Unfortunately it is very seldom that two aircraft of the same type are identical. It is, therefore, the intention that you will enter your own aircraft for yourself.

Each aircraft is stored in a separate file in your ProPlan directory. The name of which begins with the registration followed by '.NBA' (NavBox Aircraft). In this way, it becomes easy to share the file with friends: just copy the file to the ProPlan directory and it will be recognised upon startup.

See also:
- Aircraft editor

Aircraft editor

How to enter a new aircraft or change aircraft data

Choose Database | Aircraft... from the menu or press the Aircraft database button. The 'Aircraft database' window will show a list of aircraft, sorted by registration or type. Highlight the one you wish to edit and press the Edit button. Or, if you wish to enter a new aircraft, press the New button.

For the information required, use the Pilots Operating Handbook and weight report. Take into account that you will be busy for up to an hour for each aircraft you enter, but the job will be rewarded. Fortunately, you only have to enter the details once.

If your aircraft happens to be of the same type as one of the examples in the database, you may change the registration of the sample aircraft. Thereafter, fine tune the existing data using your handbook and weight report.

Each aircraft uses four tab sheets:
General:
- The paragraph 'ICAO flight plan information' will be used for filling in the respective parts of the flight plan form. The paragraph 'Critical speeds' can be printed under the navigation log as a reminder for the pilot.

Performance:

- All fields of this sheet must be filled in. If less than six altitudes are published, enter the same information twice or more. Choose evenly spread altitudes. ProPlan will interpolate between them, in order to calculate the correct IAS, TAS and fuel flow.

- Many aircraft manufacturers are somewhat optimistic as regards the fuel consumption of their aircraft. We advise you therefore, to increase the consumption given in the handbook with at least 5% as a safety margin.

Weight & Balance:

- ProPlan uses a weight/arm envelope and not a weight/moment envelope! If the manufacturer does not publish a weight/arm envelope, you will have to calculate the arm values for the corner points by dividing the moment value of the point by its associated weight. If you can't get a sensible result, fax or post us the details of the envelope and we will try and solve the problem for you.
- Tip: The values for the corner points of the weight/arm envelope are usually found in section 2: 'Limitations'.
- Fuel stations are special. In the 'description', you have to insert, in either upper or lower case, one of the following words: 'avgas', 'brandstof', 'carburant', 'carburante', 'combustibile', 'combustible', 'fuel', 'jet a1', 'jeta1', 'kraftstoff', 'mogas' or 'treibstoff'. ProPlan will then recognise the station as 'fuel' and treat it that way in the Weight & balance report.

Units:

- Here, you select the measurement units that will be used in the expanded navigation log. If your motor glider uses km/h, meters and m/sec, the navigation log will produce IAS and TAS in km/h, altitudes in meters and vertical speeds in m/sec.
- You can change these units at any time. Everything will be converted automatically.

See also:

- Aircraft database

Tip:

After you have completed your aircraft, copy the corresponding '.NBA' file to floppy disk as a backup...

Printing the map

How to print the map

Notes:
Maps printed by ProPlan are not not a substitute for official aeronautical maps! They may not be used for operational purposes.

We recommend a colour printer for the best results.

Select Map | Map A4 print preview... from the menu.

The map is printed in A4 landscape format and will cover approximately the same area as does your screen.

Or: select Map | Map A3 print preview... from the menu.

The map is printed in A3 landscape and will cover a wider area then does your screen. If your printer does not support A3 format, you may remove this option from the menu.

Tip:
If you want to save ink, you may change the map colours in the 'Create new map' window.

Quick navigation log

How to print the quick navigation log

Note:
The fuel required at the bottom of the quick navigation log DOES NOT INCLUDE ANY RESERVE FUEL. It is the responsibility of the user to add fuel for start up, taxi, holding etc. manually after printing.

The quick nav log uses the TAS, wind, fuel per hour and cost per hour that ProPlan currently has in memory. These values will be shown just before printing, allowing a last-minute change. If you want to use values from the aircraft database, you will have to select the expanded navigation log.

If you want a 'no wind' Nav Log, simply set the wind speed to zero and your Nav Log will display 'No wind'.

The quick navigation log has been designed for the A4 paper format. Form feeds will be performed accordingly. If your printer supports colour, The values for heading and time will appear in red, green or black.

Select Print reports | Quick Nav Log... from the menu.

The columns 'Altitude/Flight Level', 'Reserve' and 'Endurance/Fuel On Board' are meant to be filled in manually before flight. Use the 'ETO/ATO' column to note your estimated/actual times overhead during flight.

If you check 'Calculate tracks and distances only', all other fields will be left blank. This will allow you to print a nav log with empty fields. You can then fill them in manually, after wind information has become available.

Tip:
If you are planning a long trip, during which the wind is expected to change, split up your route. This will enable you to change the wind (or any other values retained in memory) for the next part of your route.

See also:

- Expanded navigation log

Expanded navigation log

How to print the expanded navigation log

The expanded nav log uses the units, performance and cost per hour of the aircraft selected from the aircraft database. If you want to use other values, you will have to select the quick navigation log.

The expanded navigation log has been designed for the A4 paper format. Form feeds will be performed accordingly. If your printer supports colour, The values for heading and time will appear in red, green or black.

Select Print reports | Expanded Nav Log... from the menu.

Route tab

With the << Previous and Next >> buttons, you can walk through the different legs of your route. To speed up the editing process, empty fields in a next leg will be filled with the values from the previous leg. Of course, you can always change them manually.

In the 'Airway' block, you may enter a SID, STAR or airway identifier and a Minimum En route Altitude.

In the 'Altitude' block you must enter an altitude or Flight Level. (If the altitude in one of the legs is omitted, ProPlan will do no climb or descent planning.) You may also enter a Minimum Safe Altitude. It is the responsibility of the pilot to stay above this safe altitude.

In the 'Power setting' block, you may select one of the three power settings entered for the aircraft in use. If you do not select a power setting, Power setting 1: 'favorite cruise' is assumed.

Configure tab

In the 'Pilot/company' field you may enter a name or flight number.

The 'Date of flight' field is used for sunrise and sunset calculations.

The Aircraft... button allows you to select an aircraft for the flight or change measurement units. (Values will be converted automatically.)

If you want to include automatic climb and descent planning, set 'Vertical navigation' to 'yes'. The Details... button will then allow you to further specify how you want the vertical planning be done.

If you check 'tracks and distances only', all other fields will be left blank and no vertical navigation will be done. This will allow you to print a nav log with empty fields. You can then fill them in manually, after wind information has become available.

Checking 'daylight periods', 'transponder codes' or 'critical speeds' will cause these items to be printed at the bottom of the navigation log.

See also:

- Quick navigation log
- Vertical navigation
- Aircraft database

Vertical navigation

Automatic climb and descent planning in steps

Note:
It is the responsibility of the pilot to stay above the Minimum Safe Altitude.

In the expanded navigation log, you can tell ProPlan if you wish it to do climb and descent planning for you. If you choose 'yes', it will insert extra 'climb' or 'descend' lines in the appropriate legs, taking into account the climb/descent specifications of the selected aircraft, the elevations of the place of departure and destination and the planned altitudes.

If the planned altitude in one of the legs is higher than the service ceiling of your aircraft, this altitude will temporarily be changed to this service ceiling. This feature will allow you to use the same navigation log for your Cessna 150 and Lear Jet, without having to re-edit the nav log.

Pressing the Details... button will bring up the 'Vertical navigation' window, where you can specify how the planning will be done.

What if ProPlan seems to refuse to do any vertical planning? There are several possibilities:

- An altitude field in one of the legs has not been filled in.

- 'Tracks and distances only' has been checked.

- You have told ProPlan not to display climbs or descents taking less than 5 minutes and all climbs or descents took less than 5 minutes.

- You asked the impossible. (Here I am in my Cherokee at sea level. I want to land on the top of Mount Everest in five minutes.)

In all of the above cases, ProPlan will assume cruising at the planned altitude.

See also:
- Expanded navigation log

Route and proximity waypoints

Printing route and proximity waypoint details

Like most other ProPlan reports, the route and proximity waypoints can be printed in A4 portrait or landscape for your knee board.

Select Print reports | Route waypoints... from the menu. On the tab sheets 'Airfields', 'Beacons' and 'Others' you check the waypoint types you want to list. You may also enter a proximity distance. This distance defines an area left and right from track that ProPlan will search. If you set this distance to zero, ProPlan will only find those waypoints that are part of your route. On the 'Printing order' tab sheet you choose the order in which the waypoints will be listed. Click the List waypoints button when done.

Highlight the individual waypoints you wish to have printed or use the Select all button.

The report will show the same information as you get on-screen, when you click on a waypoint in the map.

Tip:
If you want to print a list of, say, all visual reporting points in a certain area, follow the steps below:
- *Make a simple route in the center of the area.*
- *Check 'Visual reporting points'. Uncheck all other waypoint types.*
- *Enter a proximity distance to define the size of the area.*
- *Click the Select all button and print the report.*

Route and proximity frequencies

Printing route and proximity frequencies

Like most other ProPlan reports, the route and proximity frequencies can be printed in A4 portrait or landscape for your knee board.

Select Print reports | Route frequencies... from the menu. On the tab sheets 'Communication' and 'Navigation', enter a proximity distance for each frequency type. This distance defines an area left and right from track that ProPlan will search. If you set this distance to zero, ProPlan will only find those frequencies that are part of your route. On the 'Printing order' tab sheet you choose the order in which the frequencies will be listed. Click the List frequencies button when done.

Highlight the individual frequencies you wish to have printed or use the Select all button.
Frequencies:

- 'Approach related:' APP, ARR, CTL, DEP, DIR, GCA, PAR, RDR, TALK, EXEC.
- 'Tower related:' AFIS, AIR, CTAF, INF, RDO, TRF, TWR, ULM, UNI.
- 'Ground related:' APR, DEL, GND.
- 'ATIS related:' ASOS, ATIS, AWOS, STAP.
- 'Flight information:' FIS, FSS, LARS, RAS, ZNE.
- 'DME:' DME, TACAN.
- 'ILS:' ILS, ILS/DME, LLZ, LLZ/DME.
- 'VOR:' VOR, VOR/DME, VORTAC.

See also:

- Abbreviations

Tip:
If you want to print a list of, say, all VOR frequencies in a certain area, follow the steps below:

- *Make a simple route from one VOR to another in the center of the area.*
- *Enter a VOR proximity distance to define the size of the area.*
- *Set all other proximity distances to zero.*
- *Click the Select all button and print the report.*

Route and proximity RNAV

Printing route and proximity RNAV details

Like most other ProPlan reports, the route and proximity RNAV report can be printed in A4 portrait or landscape for your knee board.

Select Print reports | Route RNAV... from the menu. On the tab sheets 'Airfields', 'Beacons' and 'Others' you check the waypoint types for which you want to list the RNAV details. You may also enter a proximity distance. This distance defines an area left and right from track that ProPlan will search. If you set this distance to zero, ProPlan will only find the RNAV details for those waypoints that are part of your route. On the 'Printing order' tab sheet you choose the order in which the RNAV details will be listed. On the 'Equipment on board' tab sheet, you tell ProPlan which equipment you have on board. ProPlan will optimize the RNAV analysis according to this information. Click the List waypoints button when done.

Highlight the individual RNAV details you wish to have printed or use the Select all button.

Tip:
If you want to print a list of, say, all RNAV details for visual reporting points in a certain area, follow the steps below:

- *Make a simple route in the center of the area.*
- *Check 'Visual reporting points'. Uncheck all other waypoint types.*
- *Enter a proximity distance to define the size of the area.*
- *Click the Select all button and print the report.*

Route RNAV to next waypoint

Printing en-route RNAV details to next waypoint

Like most other ProPlan reports, the RNAV to next waypoint report can be printed in A4 portrait or landscape for your knee board.

When at the beginning of a long leg, you may not be able to receive beacons nearest to your next waypoint. RNAV information from beacons along your track will then help you find your destination.

Select Print reports | RNAV to next waypoint... from the menu.

Tell ProPlan which equipment you have on board. ProPlan will optimize the RNAV analysis according to this information. You may also enter a proximity distance. This distance defines an area left and right from track that ProPlan will search. Click the List waypoints button when done.

Highlight the individual RNAV details you wish to have printed or use the Select all button. The report will be printed in en-route order.

Weight and balance

How to calculate and print the weight & balance report

Select Print reports | Weight & balance... or press the Weight & balance button.

ProPlan will use the information for the currently selected aircraft. You may use the Select / edit aircraft... button to change this.

At the top of the window, you will see the measurement units for 'Weight', 'Fuel' and 'Arm'. These units can be changed at any time, without messing up your calculations. Conversions will occur automatically.

While you type in the weights of the different stations, you will see the blue position lines of the center of gravity in the envelope change. Green position lines will show the zero fuel situation.

By default, ProPlan will assume full fuel tanks. If this situation would cause to exceed the maximum take/off weight, the amount of fuel will be decreased accordingly. Of course, you can always fill in the fuel manually.

The bottom of the window will tell you if your aircraft loading is within limits.

See also:

- Aircraft editor

ICAO flight plan

How to create the ICAO flight plan

Select Print reports | ICAO Flight Plan... from the menu and the 'Flight plan database' window will come up. Select a previously saved flight plan if you wish to edit it, or click the New button. Use the Clone button to open a new copy of the highlighted flight plan. You may then edit this copy while the highlighted flight plan will remain intact.

The 'Flight plan' window will come up.

This window acts as a word processor which you can use to fill in a flight plan form. However, the word processor tries to be smart and uses information from the aircraft database, the current route and expanded nav log to do the completion of a new flight plan for you. In many cases this will be sufficient but, of course, you can change manually what you don't like.

For every new field, you will find some examples of how to fill it in at the bottom of the window. For complete instructions, we refer you to the publications of your local ATS authority. They are usually found on the cover of a flight plan bloc.

Flight plans are saved by default after a print preview. The saving occurs in chronological order. To prevent your flight plans from occupying too much space on your hard disk, you can give a maximum number of flight plans in the 'Flight plan database' window (1-999).

See also:

- Faxing reports

Faxing reports

How to fax your report, instead of sending it to your printer

The technical part (you may skip this):

Whenever you press a Print preview button, ProPlan tells Windows to store the active report in a temporary '.WMF' (Windows Meta File) on your hard disk and then send it to your screen. If you click the Cancel button or hit Escape, Windows will remove the '.WMF' file from your hard disk. However, if you click on the Print button, then ProPlan orders Windows to send the '.WMF' file to your printer and thereafter remove it from your hard disk.

When you press Print, Windows will send the '.WMF' file to your printer and the driver installed for your printer will take over. This is why we (the ProPlan authors) can't do much for you if the printing fails. You must find the solution in your Windows or printer configuration (driver).

The practical part:

Most of the modern fax software available is able to act as a printer and process '.WMF' files. Please install this software before you try to fax a report. (No, we don't sell it.)

If you wish to fax a report, first select File | Print Setup from the main menu and choose your fax software as a printer. Then print your report as usual. The fax driver will take over and ask for a telephone number...

Supported GPS models

At this moment, ProPlan supports the following models:

Garmin

- eMap
- eTrex
- GPS 12
- GPS 12 CX
- GPS 12 map
- GPS 12 XL
- GPS 55 AVD
- GPS 89
- GPS 90
- GPS 92
- GPS 95 AVD
- GPS 95 XL
- GPS 100 AVD
- GPS II
- GPS II plus
- GPS III
- GPS III pilot
- GPS III plus
- GPScom 190
- GPSmap 195
- GPSmap 295 (2.03 or higher)

Skyforce - Bendix/King

- KMD 150
- Skymap II (4.00 or higher)
- Skymap III C
- Tracker II (4.00 or higher)

Whenever we will have added a new model, the new GPS interface will be placed in the free download section on our web site www.navbox.nl.

Notes:

- The GPS 55 AVD and the GPS 100 AVD do not have the track log feature.
- Although we have not tested them, the track download will most likely work with other Garmin models.

Connecting the GPS unit to your computer

Hardware

Your GPS dealer can supply a cable to connect your GPS unit via the serial port with your computer, using a 9 pin connector.

If this port is already occupied by your mouse, you can place the mouse on the second serial port using a 9>25 adaptor. In this case, you will have to restart your computer in order to have Windows reconfigure the mouse.

If both serial ports are already occupied (mouse + external modem), you may consider purchasing a data switch, allowing you to switch between modem and GPS.

During testing, we have observed that some computers refused to establish contact with the GPS via the 25 pin serial port, but worked fine with the 9 pin port. Don't ask us why, but this information may be useful...

Software

Now that the GPS and computer are physically connected, proceed with the next steps:

First, we are going to find out which comport we will have to use in ProPlan. As ProPlan will remember the com port, you will have to do this only once. Do not yet switch your GPS on. Click on one of the GPS buttons in the tool bar and click on the Configure transfer button. Select Com 1, go to the 'Garmin' or 'Skyforce' tab and click on the Upload or Download button. Follow the progress on your screen. If you get an error message during opening or initializing the com port, try a different port. If you get 'OK' during opening and initializing, you have found the right com port.

We now have set the right port. Switch on your GPS unit and set its interface to communicate with a PC (see your owners manual). Click on the Upload or Download button and follow the progress on your screen. In most cases, the upload or download should work fine now. However, if you get an error message, chances are your computer is going too fast, while your GPS is busy doing other things (searching the sky). To solve this, click the 'Configure transfer' button and select a slower transfer speed.

See also:

- Supported GPS models
- Uploading routes to the GPS unit
- Downloading and plotting tracks from the GPS unit

Uploading routes to the GPS unit

Make sure you have an active route on your ProPlan map and that your GPS unit is properly connected and set. Select GPS | Upload active route to GPS from the menu or click on the Upload active route to GPS button.

Select a route identifier (most GPS units will accept 00-19) and click on the Upload route button.

After the upload, your GPS will beep and issue a 'Transfer completed' message or similar.

Notes:

- Some GPS receivers only look at the idents and disregard country names and waypoint types. In such cases, they will refuse to load waypoints, the idents of which already exist in their database and use their own waypoint instead (which could be a VOR in South America!). To work around this problem, ProPlan will precede the idents with '1', '2' etc. for these models.
- The route identifier will be incorporated in the idents of temporary route waypoints. TMP01 in route 01 will become T0101, TMP01 in route 02 will become T0201 and so on. This is to prevent TMP01 in route 01 from being overwritten by TMP01 in route 02.

See also:

- Supported GPS models
- Connecting the GPS unit to your computer

Downloading and plotting tracks from the GPS unit

Make sure your GPS unit is properly connected and set. Select GPS | Download/plot track from GPS... from the menu or click on the Download/plot track from GPS button.

ProPlan maintains 20 track files on your hard disk named TRACK01.GPS through TRACK20.GPS. Select a track ID to determine which of the 20 files you want to fill or overwrite. You may also enter a description of the track in order to remember which track is in which file.

Download

Click on the Download track button and follow the progress on your screen. If you decide that the download will take too long (a track log may contain several thousand records), just click on the Abort button. The download will then stop without affecting the existing track in the selected file.

After the download, your GPS will beep and issue a 'Transfer completed' message.

Plot
Once a track file has been filled, you can plot it as often as you like by clicking on the Plot track button, without having to download it all over again.

You may plot up to 20 different tracks on the same map and print them out if you wish. Choose different track colours to distinguish them. It is your responsibility to select an appropriate map area. If your track is plotted outside the current map, it will do no harm, but it will be invisible, of course.

Note: A dot will mark the position at which the GPS unit has been switched on, or at which it has regained reception after a period of poor GPS coverage.

Remove plot
To remove the plots from the current map, select GPS | Remove plots from current map from the menu. As you may have already guessed, creating a new map will also remove the plots.

See also:
- Supported GPS models
- Connecting the GPS unit to your computer

GPS note pad editor

Text editor for Skyforce users

This simple text editor enables you to prepare and store a library of ASCII .TXT files and load the relevant one into your Skyforce unit. The note pad text can contain any information you want. Typical uses include checklists, en-route weather, special instructions for unfamiliar destinations etc.

Text files will be limited to 4000 characters and special characters will be converted to '?' to meet the Skyforce restrictions. An Orientation option landscape/portrait will show exactly how your text will appear on your GPS display.

Make sure your GPS unit is properly connected and set. Select GPS | Edit GPS note pad text... from the menu.

Buttons are self-explanatory.

See also:
- Connecting the GPS unit to your computer

Moving map

Real time moving map

Supported GPS models
The ProPlan moving map will not only work with the supported Garmin and Skyforce models, but also with any GPS or other system that meets the NMEA 0183 standard.

Presentation
The map has been designed to cover the largest possible area available on your screen. Therefore, the number of buttons and bars has been reduced to a minimum. It is always North-up and you will see the aircraft symbol turn when the track changes.The aircraft will leave a crumb trail behind and show an extended track line in front, telling you exactly where you will end up after a predetermined amount of time.

The extended track line and track to the nearest airfield are calculated by ProPlan. All other displayed information is a presentation of the signals received from the GPS.

Possible settings
- Zoom: 1:250,000 - 1:5,000,000.
- Auto scroll: on by default. Switches off automatically whenever you scroll the map manually.
- Communication ports: Com 1 - Com 8.
- Tracks: true, magnetic.
- Distances and speeds: nautical, statute, kilometers.
- Altitude: feet, meters.
- Extended track: 0, 5, 10, 20, 30, 60 minutes.
- Maximum TDI deflection: 0.25, 0.5, 1.0, 2.5, 5.0, 10.0 nautical miles.

Warnings
Warnings are printed in red and accompanied by beeps. Beeping will stop after five seconds.

Make sure your GPS unit is properly connected and set to NMEA 0183 4800 baud. Select Moving map | Start moving map from the menu or click on the Moving map button.

Upon exiting ProPlan, you will be reminded to save your flown track to disk. The file name must have extension .NBT (NavBox Track file).

See also:
- Connecting the GPS unit to your computer
- Nearest waypoints
- Replaying a moving map track file

Nearest waypoints

How to draw a track line to a waypoint of your choice

In the moving map window, click on the Near wpts button.

The 'Show track to nearest waypoint' window will display a list of the nearest airfields, beacons or other waypoints sorted by distance.

The number of waypoints is only limited by your map and the waypoint types you check or uncheck.

Click on the Show track button and the moving map will display a track line from the aircraft symbol to the selected waypoint. This track line moves along with your aircraft and will constantly change. To view the actual track and distance to the selected waypoint, simply click the Near wpts button again.

Tip:

- *If you use this track line during a local flight, you will always find your way back to the airfield. You can also let it point to your alternate during your trips.*

Replaying a moving map track file

To replay a previously flown moving map track, select Moving map | Replay moving map track file from the menu. You will be asked to select a file from disk.

Presentation
The map has been designed to cover the largest possible area available on your screen. Therefore, the number of buttons and bars has been reduced to a minimum. It is always North-up and you will see the aircraft symbol turn when the track changes.The aircraft will show an extended track line in front, telling you exactly where it will end up after a selected amount of time.

VCR-like buttons will allow you to move forward, back or freeze the flight.

Possible settings

- Zoom: 1:250,000 - 1:5,000,000.
- Auto scroll: on by default. Switches off automatically whenever you scroll the map manually.
- Track: true, magnetic.
- Speed: nautical, statute, kilometers.
- Altitude: feet, meters.
- Extended track: 0, 5, 10, 20, 30, 60 minutes.

Tip:

- *A sample file EHRD-EHTX.NBT in your ProPlan directory will illustrate the possibilities. (This file has been made using a Skyforce in demo mode, which explains why the altitude is not showing.)*

See also:

- Nearest waypoints
- Moving map

Hours calculator

In the 'Hours calculator' windows, you can add or subtract hours and minutes.

These simple windows do not save or print anything. But they may come in very handy, when you want to count hours for your personal log book or see how many hours are left before the next inspection of your aircraft.

In addition to normal Windows behaviour (Tab or Shift-Tab to walk through the different entry fields), we have added the Enter and Arrow-up/down keys. Using these keys in the last entry field, a new empty field will be created while the other fields will scroll up. Thus allowing you an unlimited number of entries.