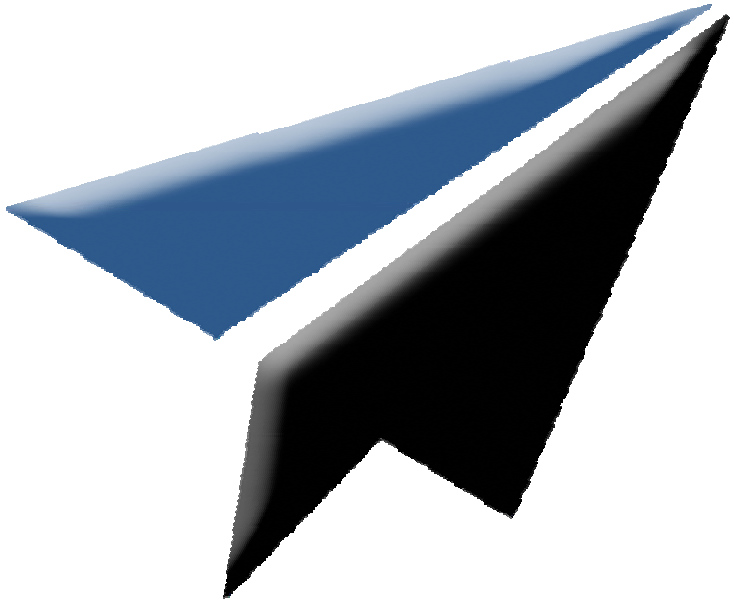
Voyager User's Guide



Voyager FLIGHT SOFTWARE SYSTEM	SEATTLE AVIONICS SOFTWARE
Based on Voyager version 4.0.0.30408	Last updated: May 20, 2008

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Product and Installation

Copyright and Credits

Special thanks to all of our beta testers for their valuable assistance.

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System Requirements

Voyager requires a modern computer running Windows XP or Vista (32 or 64 bit) with a good video card that supports Microsoft DirectX 9.0. 1 GB of RAM is required (2 GB if running Vista). As much as 20 GB of hard disk may eventually be used if you download all scanned charts and all approach plates. No particular CPU speed is required as we've seen *Voyager* run well on the Samsung Q1 Ultra with an 800 MHz low-power processor. That said, *Voyager* will run smoother on dual core systems with lots of RAM and good video card. Unlike previous versions of *Voyager*, the video card is central to the system's performance for *Voyager 4.0*.

Minimum Computer Requirements

- IBM or compatible PC. CPU speed is not critical so long as the CPU was made in 2005 or later. *Voyager* takes full advantage of multi-core processors such as a Core 2 Duo. Also, for single processors machines, a Centrino or Pentium IV is the effective minimum. We do not recommend installing *Voyager* on machines made before in 2004 or before.
- Microsoft Windows Vista (32 or 64 bit) or XP.
- 1 GB RAM minimum required, 2 GB strongly suggested if running Vista.
- A video card and driver capable of running Microsoft DirectX 9.0c. We suggest checking with your video card manufacturer for updated video drivers. In particular, computers using an Intel 915 video card, such as the Motion LE 1600 and LS 800, must update their video drivers. The URL is: **http://downloadcenter.intel.com/filter_results.aspx?strTypes=all&ProductID=1862&OSFullName=Windows*+XP+Professional&lang=eng&strOSs=44&submit=Go%21**

  Install the latest Mobile Intel® 915GM/GMS, 910GML Express Chipset Family Driver.

  Users of other video cards should check for updated drivers by visiting **http://www.seattleavionics.com/support/VideoCards.aspx**
- *Voyager* can download any number of approach plates and scanned FAA charts. A full US set of each could take up to 15 GB of disk space.
- *Voyager* runs well on Intel-based Apple Macintosh computers under Boot Camp. However, as of this writing, *Voyager* will not run correctly under a virtual machine such as Parallels or VMWare.
- GPS: Bluetooth, serial or USB GPS unit required for *GlassView* (moving map)
- XM Receiver: An XM WX satellite receiver, either Bluetooth or USB, is required for XM weather. A subscription to XM is also required.

See **Troubleshooting** if you're having a problem running *Voyager*.

Installation and Activation

FROM A CD-ROM

Insert the disk into a CD-ROM or DVD drive. Within 30 seconds, the Setup program should start automatically. If it doesn't, browse to the disk and double-click on *SETUP.EXE*. The Setup application installs *Voyager* and all available data. This may include the Microsoft .NET runtime and certain Microsoft database components if not already installed. Follow all on-screen instructions.

You will be asked for your name and email address the first time *Voyager* runs after Setup. This is necessary to activate the product, even a demo version. The activation process also sends us very basic information about your computer (CPU type and speed, RAM and Operating System) that helps us optimize the product for all customers and may be used to target our marketing efforts. Seattle Avionics has a strict privacy policy, meaning, among other things, that your contact information will not be sold, rented or otherwise made available to any third part without your explicit consent. See **http://www.seattleavionics.com/privacy.htm** for more information.

If Setup should fail for any reason, refer to **Troubleshooting** for more information.

FROM A DOWNLOAD

Installing from a download is essentially the same as from a CD-ROM except that you must double-click on the downloaded application (like *VoyagerSetup.exe* or *VoyagerFreeFlightSetup.exe*) first. This application unpacks the installation files to temporary space on your hard and begins the main Setup as described above. Depending on the data downloaded, these temporary files may consume up to 400MB of disk space. When Setup finishes (successfully or not), the temporary files are deleted.

Getting Started

What is Voyager?

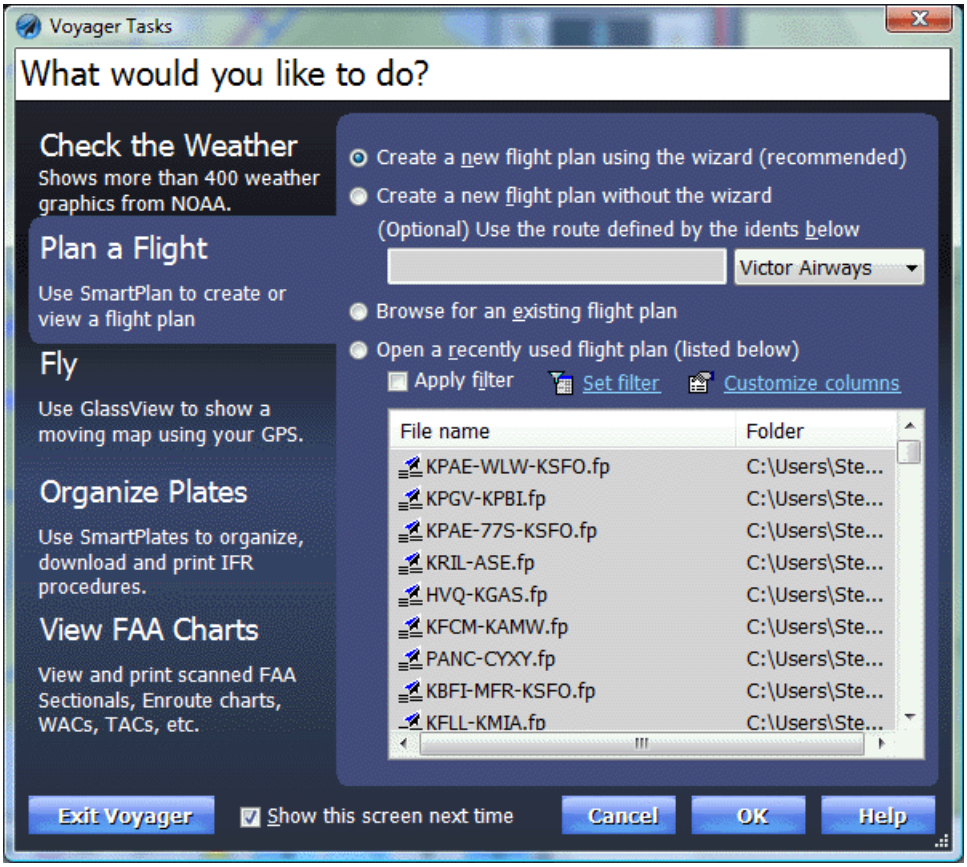
Voyager is the world's first *Flight Software System*. It's a framework for integrating a fully comprehensive set of modules that cover all aspects of using software to help you fly safer, more quickly and more enjoyably. You can purchase all the modules at once or separately as your needs change.

As of this writing, Seattle Avionics makes modules that cover sophisticated pre-flight planning (*SmartPlan*), an innovative in-flight moving map/information system (*GlassView*), an easy-to-use IFR procedure management system (*SmartPlates*) and a near real-time, in-cockpit weather system (*XM WX Link*).

Although they're separate modules, as they reside within the *Voyager* framework, they seamlessly share information and look (and work) very similarly. In fact, in many places you won't know (or care) where one module leaves off and another one begins. For example, while flying, you'll be using the *GlassView* module to provide moving map and general information but, on the same screen, *SmartPlan* displays your current flight plan, *SmartPlates* shows an approach procedure and *XM WX Link* displays real-time NexRad radar. Want to switch to a different view (called a **Layout**) with different information? It's just one click away.

GETTING STARTED

The first time *Voyager* runs (you're probably already past this point), it asked some basic questions about which modules you'd like to try, about you and about the plane you fly the most. After that, it starts with a **Tasks** pad (*What do you want to do?*) that show you the basic tasks that *Voyager* can help you with. Click a task type (below) and *Voyager* shows specific choices associated with each. You can show the **Tasks** pad in the future by selecting **Tasks** from the **View** menu.



Check the Weather: Opens a **Chart window** showing weather for the continental US or zoomed to any point you like. Or see any of more than **400 weather graphics** for the US and Canada.

Plan: **Create a flight plan** or review an existing one. If you have *SmartPlan*, you can use a very sophisticated autorouting system (we call it the *SmartRouter*) to create a wind-optimized flight avoiding TFRs and other selected airspace, using SIDs/STARs if you like. Once done, **print the plan**, get a full **DUAT/DUATS briefing** or even **file it online** or **send the plan to your GPS** or PDA.

Fly: Using the *GlassView* module, *Voyager* uses a GPS card attached to your laptop or tablet to show you a moving map (or two) and other in-flight information such as **airport information**, wind data, nearest airports and more.

Organize Plates: For IFR pilots, the *SmartPlates* module makes it a snap to keep track of which plates have changed, download the new ones, **send them to your PDA**, **print them** side-by-side, etc.

View FAA Charts: Makes it quick work to view or print the official FAA scanned Sectionals, IFR Low, IFR High, WAC or TAC charts.

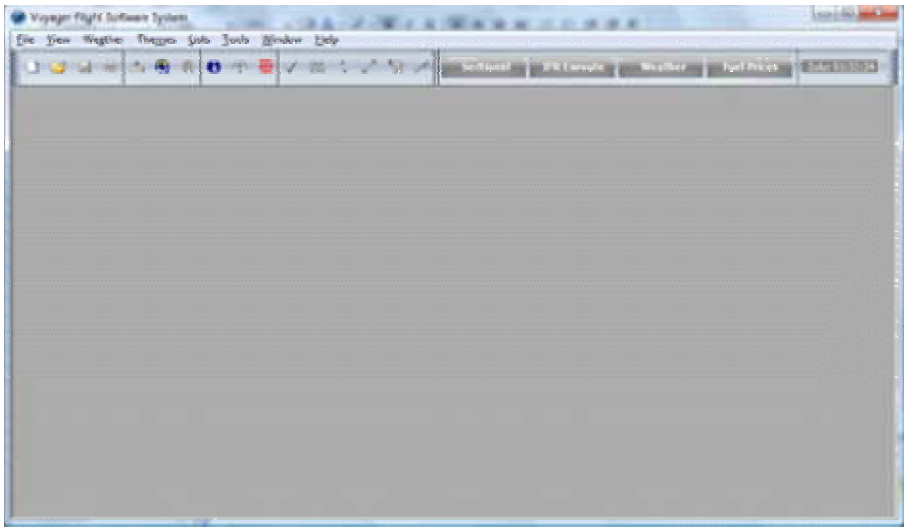
See a list of Common Tasks.

Launching Voyager

On your Windows desktop, double-click the *Voyager* icon. Alternately, click the **Start** button and select **Voyager** from the **Seattle Avionics** program group. The application is also implicitly launched if you double-click a flight plan file (*.fp*), a **Plate Pack** (*.PlatePack*) or a weight and balance file (*.wbs*).

Additionally, if you have the GlassView module, you can quickly start *Voyager* in GlassView mode, bypassing all standard dialog boxes, by starting *Voyager* with the */QuickFly* command-line switch. The Setup program automatically creates a *Voyager QuickFly* icon on the desktop.

Main Window



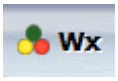
The main window appears after you launch *Voyager* (technically, before this window appears, you'll see a message about TFRs, a note from our lawyers and, possibly, a message about your data being out date).

Note: The first time you run *Voyager*, the program will begin with the First Time Setup Wizard, asking you to select a default aircraft, enter pilot information and provide some other preferences.

MENUS

The menus below alter somewhat depending on which **layout** is active. For example, the Plan menu is only shown when there is an active flight plan while the Procedures menu is only available when a **Plate Pack** is open.

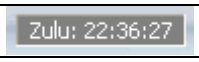
MENU	DESCRIPTION
File	Functions for creating, **opening**, **exporting** and **printing** flight plans, Plate Packs, etc.
View	Controls what information is displayed within a window and which **layout** is used.
Chart	Controls what is shown on a **Chart**.
Plan	Functions for modifying flight plans and completing an **FAA Flight Plan Form**.
Procedures	Functions for modifying Plate Packs.
Weather	Controls the download and display of weather information. The same functions are also available from the

	 button on the bottom toolbar.
Themes	*Not in Voyager FreeFlight* Provides quick access to user-defined color/symbol **themes**.
Lists	Provides access to lists of available aircraft, pilots, passengers, etc.
Tools	Miscellaneous tools not directly related to flight planning or organizing plates and the general **Options** dialog.
Window	*Not in Voyager FreeFlight* When window is open, the Window menu lists each open window.
Help	Has various ways to query the on-line Help system and, if the application is a demo version, has **purchase** information. Pressing **F1**, at any time, displays context-sensitive Help.

THE MAIN TOOLBAR

ICON	DESCRIPTION
	Creates a new flight plan or **Plate Pack**.
	**Opens** an existing flight plan or Plate Pack.
	**Saves** the current flight plan and/or Plate Pack.
	SmartPlan or SmartPlates Required **Prints** the current flight plan, Plate Pack or Chart window.
	Briefer Version Required Displays the **Briefer Task Pad**.
	SmartPlates Required When a Plate Pack is active, verifies that all the plated are downloaded and valid. If not, the new and revised plates are downloaded.
	Synchronizes your default settings, preferences, lists (passengers, pilots, etc.) and flight plans with the Seattle Avionics Web server. This makes it easy to keep information consistent between multiple computers.
	SmartPlan or SmartPlates Required Sends (exports) the current flight plan to

	a portable **GPS**, PDA or specialized application such as **Microsoft Flight Simulator**, Google Earth or **ControlVision Anywhere Map**. Also sends the current Plate Pack to *SmartPlates for the Pocket PC*.
	Prompts for a location name then displays information about this location. The location can be an airport, navaid, city, etc.
	GlassView Required Switches to a *GlassView* (moving map) layout and connects to your GPS. The specific layout chosen varies depending on what the current layout is. For example, if a VFR flight plan is open in design mode (*SmartPlan*), clicking this will open a VFR/IFR layout but if a simple Chart is the current layout, the new layout is just a large moving map. **F5** is the keyboard shortcut.
	Analyzes the current flight plan, looking for unsafe conditions.
	Displays an on-screen version of the standard **FAA Flight Plan Form**, as completed with information from the current flight plan. Also allows direct electronic flight plan filing.
	SatelliteWX Required Connects and disconnects from your XM WX satellite receiver. When connected, this provides near real-time weather to the cockpit.
	SmartPlan Required Reverses the current flight plan.
	SmartPlan Premier Required Runs the SmartRouter™ Routing Wizard over the current flight plan.
	SmartPlan Premier Required Adds fuel stops to the current flight plan.
	SmartPlan Premier Required Optimizes each leg of the flight plan for the expected winds aloft.
Sectional	Not in Voyager FreeFlight Applies a Chart theme that is very similar to a standard VFR Sectional. You can modify which theme is associated

	with this or any other button. **F7** is the keyboard shortcut.
IFR Enroute	*Not in Voyager FreeFlight* Applies a Chart theme that is very similar to a standard IFR Enroute chart. Identical to selecting **Switch to the IFR Enroute Theme** from the **Wx** button on the bottom of the screen. **F8** is the keyboard shortcut.
Weather	Switches the current theme to the Weather theme. Identical to selecting **Switch to the Weather Theme** from the **Wx** button on the bottom of the screen.
Fuel Prices	*Not in Voyager FreeFlight* Sets a theme that only displays airports that have fuel applicable to the current aircraft (or default aircraft if no flight plan is on the screen). That is, you'll see AvGs prices unless you fly a jet or turbo-prop, in which case you'll see JetA prices. Fuel prices require a **ChartData subscription**. Identical to selecting **Switch to the Fuel Prices Theme** from the **Wx** button on the bottom of the screen. Fuel prices provided by **100LL.com**. **Tip**: *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**.
	The current Zulu (Greenwich mean) time.

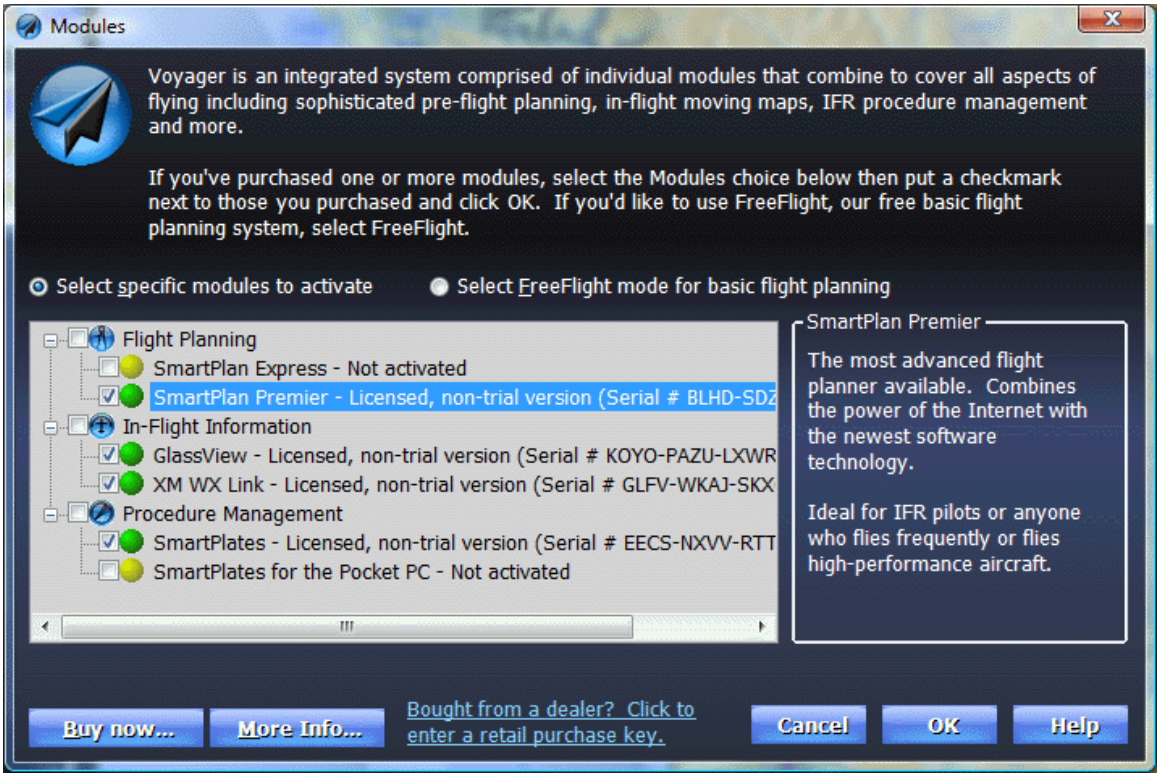
Using Help

Voyager has a rich built-in Help system. At any point in the program, press the **F1** key on your keyboard or click a **Help** button to see Help information specific to your current task.

In addition, select **Contents** from the **Help** menu to see a table of contents that mirrors the printed documentation. You can also access a complete index via the **Index** choice on the **Help** menu or use a full-text search via the **Search** menu.

Modules

To access this feature: Select **Modules** from the **Tools** menu.



Voyager is an integrated flight software system consisting of various modules for different functions such as pre-flight planning (*SmartPlan*), in-flight moving map (*GlassView*), IFR procedures (*SmartPlates*), etc. This dialog box shows the status of each module (trial, purchased, etc.) and lets you choose which modules to enable.

If you purchase a *Voyager* module, be sure that **Select specific module to activate** is checked then check the purchased modules and click OK. To use FreeFlight mode, choose **Select FreeFlight mode for basic flight planning**. In FreeFlight mode, you get basic flight planning but no advanced planning features, IFR procedures, scanned Charts, fuel prices or moving map.

If you purchased *Voyager* from a reseller and were given a purchase key, select the purchased modules and click the link that mentions purchase keys. **Important: Each purchase key can only be used once and purchase codes are not necessary or provided when *Voyager* is purchased directly from Seattle Avionics (see below).**

Note: *Voyager* is licensed for up to three computers. Seattle Avionics uses email address as customer IDs. Thus, when installing *Voyager* on a second or third machine, be certain to use the same email address as used for your first purchase. This allows us to correctly activate all your modules. If you use a different email

address for this subsequent installations, we have no way of knowing that you are 'you' and the modules will not activate correctly and you'll have to contact technical support. Additionally, even if you originally used a purchase key to install *Voyager*, purchase keys are not necessary for subsequent installations.

Click here to see **what's included in each module**.

Click the **Buy Now** button to jump to the **e-commerce page** of the Seattle Avionics Web site.

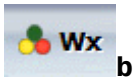
Note: Unchecking all modules (or allowing all modules to expire) puts *Voyager* into the free configuration, *Voyager FreeFlight*.

Downloading Weather

By default, *Voyager* automatically downloads weather in the background when a flight plan or **Plate Pack** is opened or changed; If you're connected to the Internet, there is no need to take any specific steps to get the latest weather. *Voyager* also downloads current and forecast weather for an airport when an **airport information dialog** opens. *Voyager* automatically updates the weather every **30 minutes**, refreshing Charts as required.

If you have an XM WX in-cockpit weather receiver, *Voyager* can download and display a wide variety of near real-time weather information. To use this feature, you'll need to enable the XM WX Weather Link module. **More info...**

You can access this information in a number of ways including:

- Click the 

button on the bottom toolbar to see add weather to the current chart or view hundreds of weather graphics.
- Select **Show DUAT/DUATS Standard Weather Briefing** from the **Weather** menu.
- Select **Show Weather Graphics** from the **Weather** menu.
- Select **Show Winds Aloft** from the **Weather** menu.
- Select **Animate Weather** from the **Weather** menu or the **Wx** button.
- Get information on any airport and select the **Weather** tab.

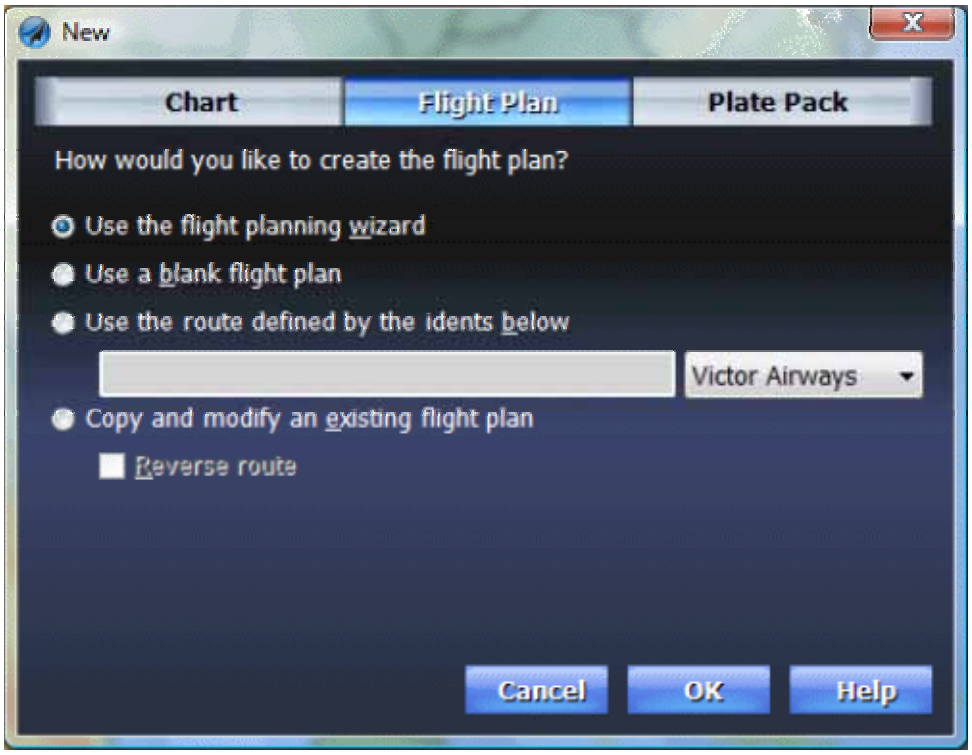
If you're not connected to the Internet, you can disable background weather downloads with the **Allow background weather downloads** option on the **Internet** tab of the **Options** dialog. Select **Download Weather** from the **Weather** menu to manually download current weather.

Note: To save time, *Voyager* downloads weather along a corridor defined by your route rather than the entire window. To see weather for the entire visible area (for wide-area trends, etc.), select **Download Weather** from the **Weather** menu.

Working with Flight Plans

CREATING A FLIGHT PLAN

Select **New** from the **File** menu or click  on the main toolbar. Select the **Flight Plan** tab. The following dialog appears:



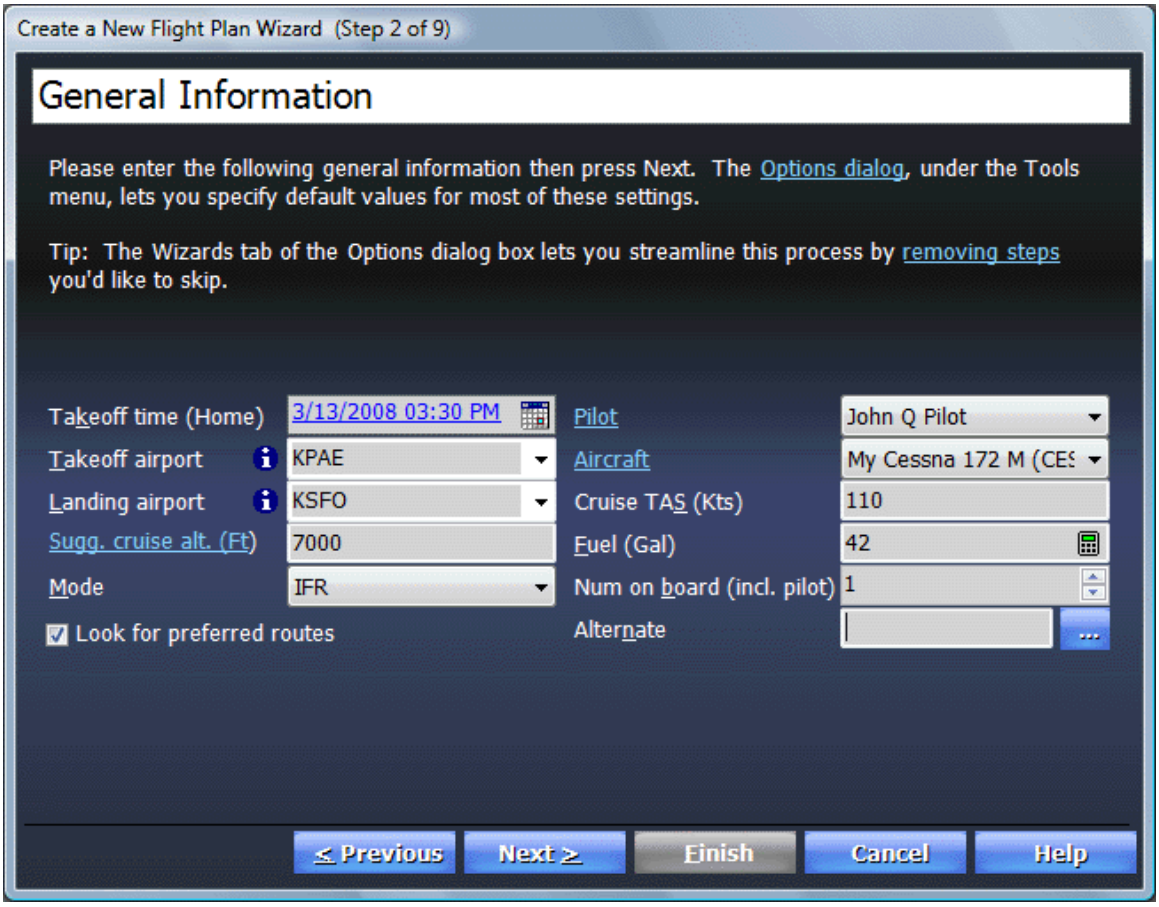
The **flight plan wizard** is the easiest way to create a new flight plan but the other options are useful for simple flight plans or when you're making a small modification to an existing flight plan. If you select either of these two bottom options, a Flight Plan window opens. If you use the wizard, *Voyager* takes you through a quick step-by-step process.

FLIGHT PLAN WIZARD

The Flight Plan Wizard is the easiest way to create a complete flight plan. Select **New** from the **File** menu then select the **Flight Plan** tab or click  on the main toolbar and choose the **Use the flight plan wizard** option.

Tip: If you'd like to skip this step in the future, you can remove it by using the **Wizards tab** of the main **Options** dialog box.

Click **Next** to begin.

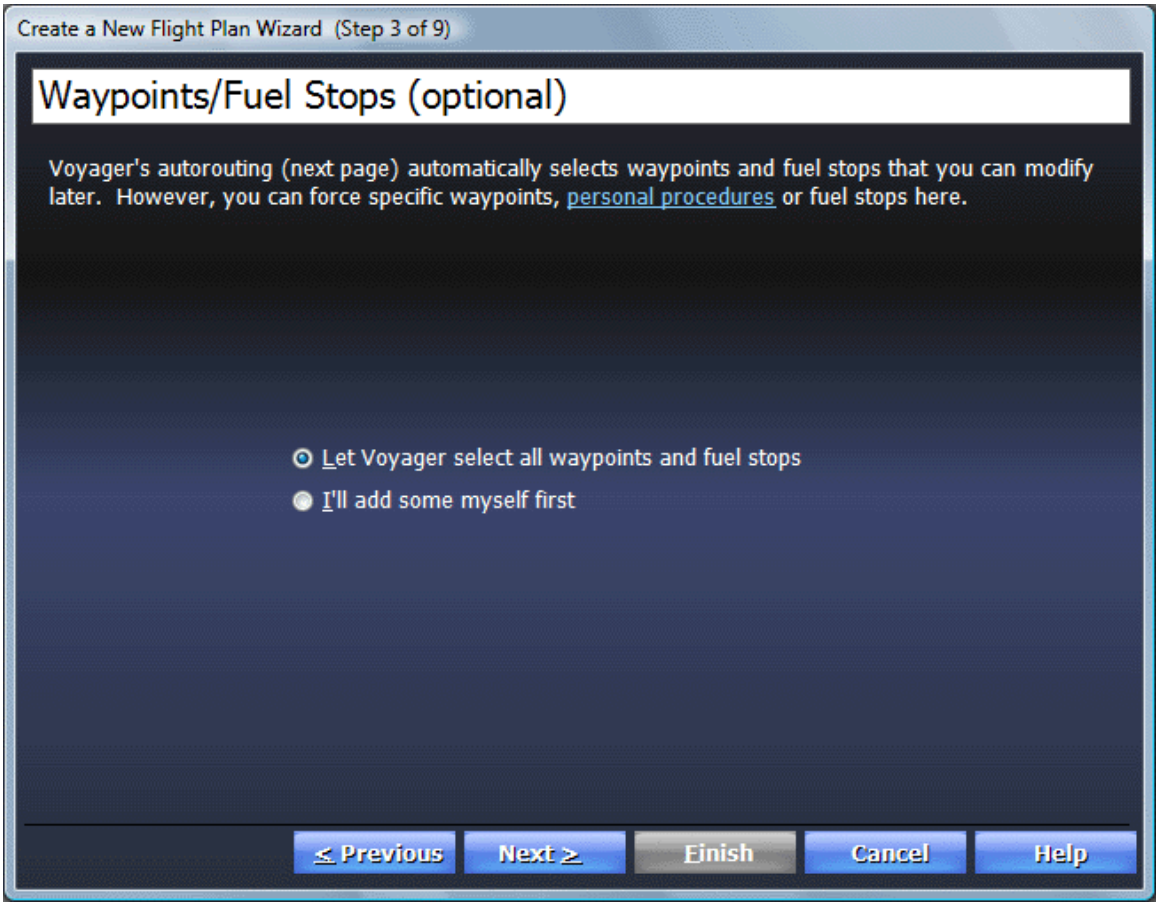


This page collects basic flight planning information such as the date/time of your flight, the takeoff and landing airport, etc. Many of these fields may be set to your personal defaults with the **Defaults** tab of the **Options** dialog box. More...

Note: Routing method, **Consider expected winds** and **Add fuel stops** are not shown if you're using *SmartPlan Premier* as these, and other options, will be presented later. If you're using *Voyager FreeFlight*, **Consider expected winds** and **Add fuel stops** are not shown because the product does not support these features.

Tip: The **Takeoff airport** and **Landing airport** fields typically show either an FAA or ICAO identifier; however, you can type anything in this fields and *Voyager* will attempt to determine which airport you mean. For example, Snohomish County Airport in Everett, WA (Seattle area) has the FAA identifier of *PAE*, the ICAO identifier of *KPAE* and the common name of *Paine*. Any of these (including the city name) may be entered and, when you click the **Next** button, *Voyager* pops-up a list of matches.

Click **Next** when all the fields are completed.

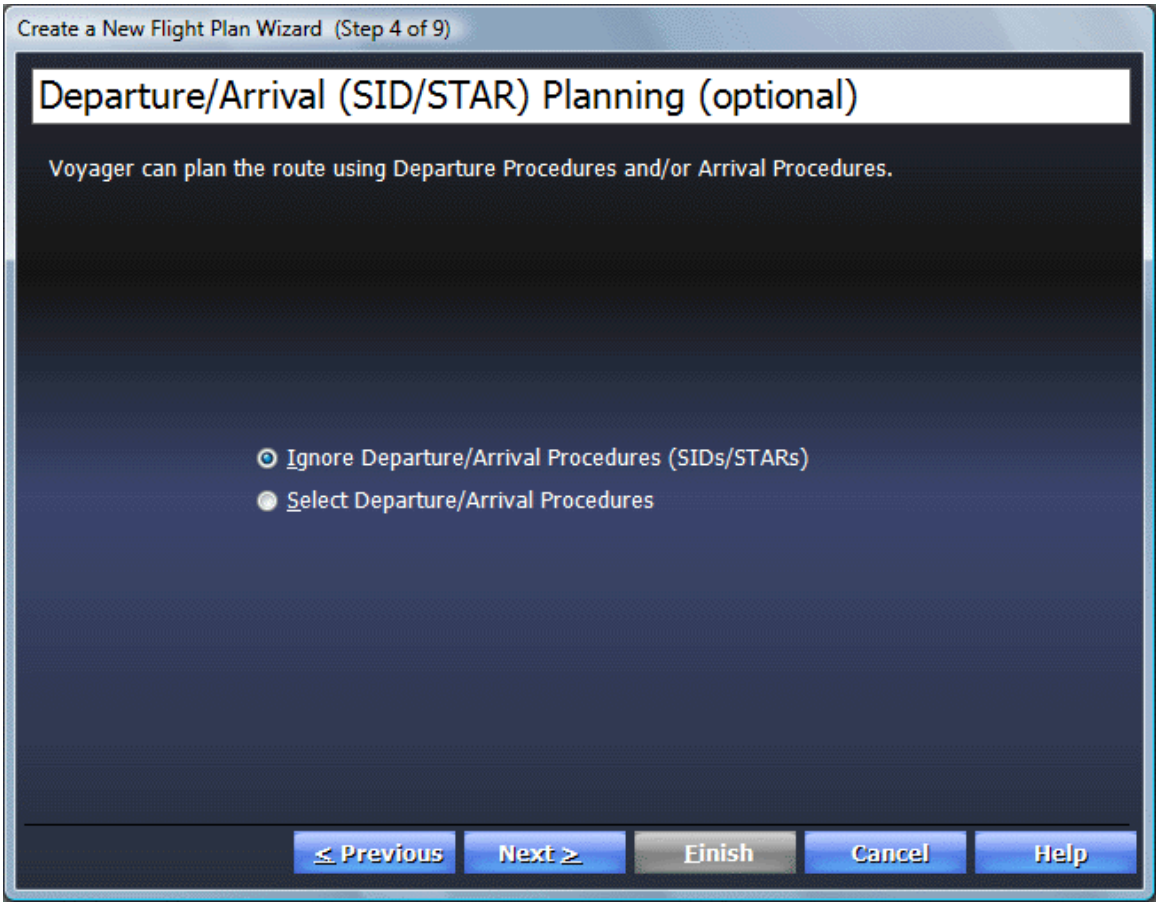


Voyager's Autorouting features can plan a flight from start to finish for you, including adding fuel stops and occasional waypoint. However, sometimes you may want to fly over specific points or make specific fuel stops. If so, click the second option and enter the points. More...

SmartPlan *Premier* Required

For now, let's let *Voyager* make all the preliminary decisions. When it's done planning, you can, of course, go back and make any changes you like.

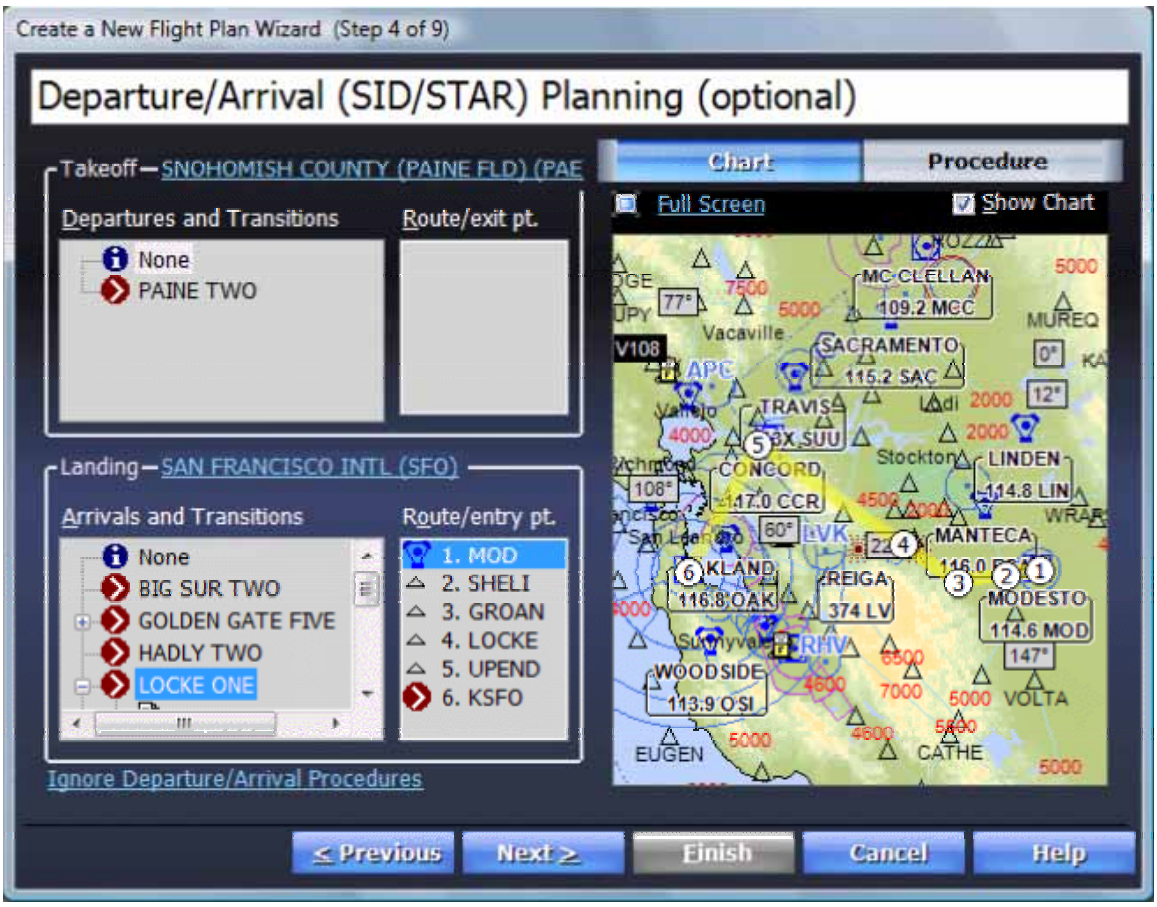
Click **Next** to continue.



Step 4, shown only for IFR plans, allows you select specific Arrival and/or Departure procedures for your flight. If you click the top option ("Select..."), *Voyager* will display the following screen.

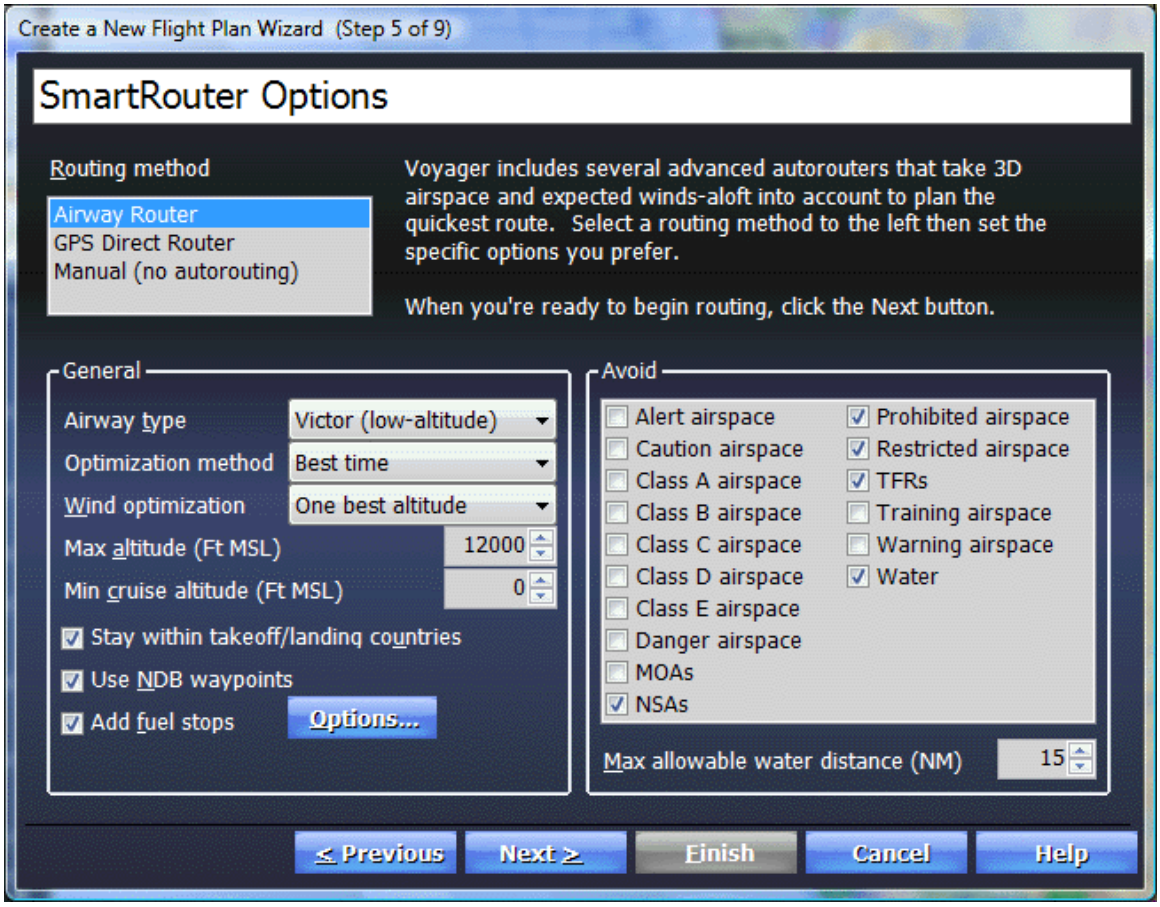
SmartPlan *Premier* Required

Tip: If you'd like to generally skip this step, you can remove it by using the **Wizards tab** of the main **Options** dialog box.



For IFR plans, *Voyager* displays the Departure and Arrival procedures available at your takeoff and landing airports. You can select specific transitions and even specific entry/exit points within those procedures. More...

For now, let's just select **None** from each and click **Next**.



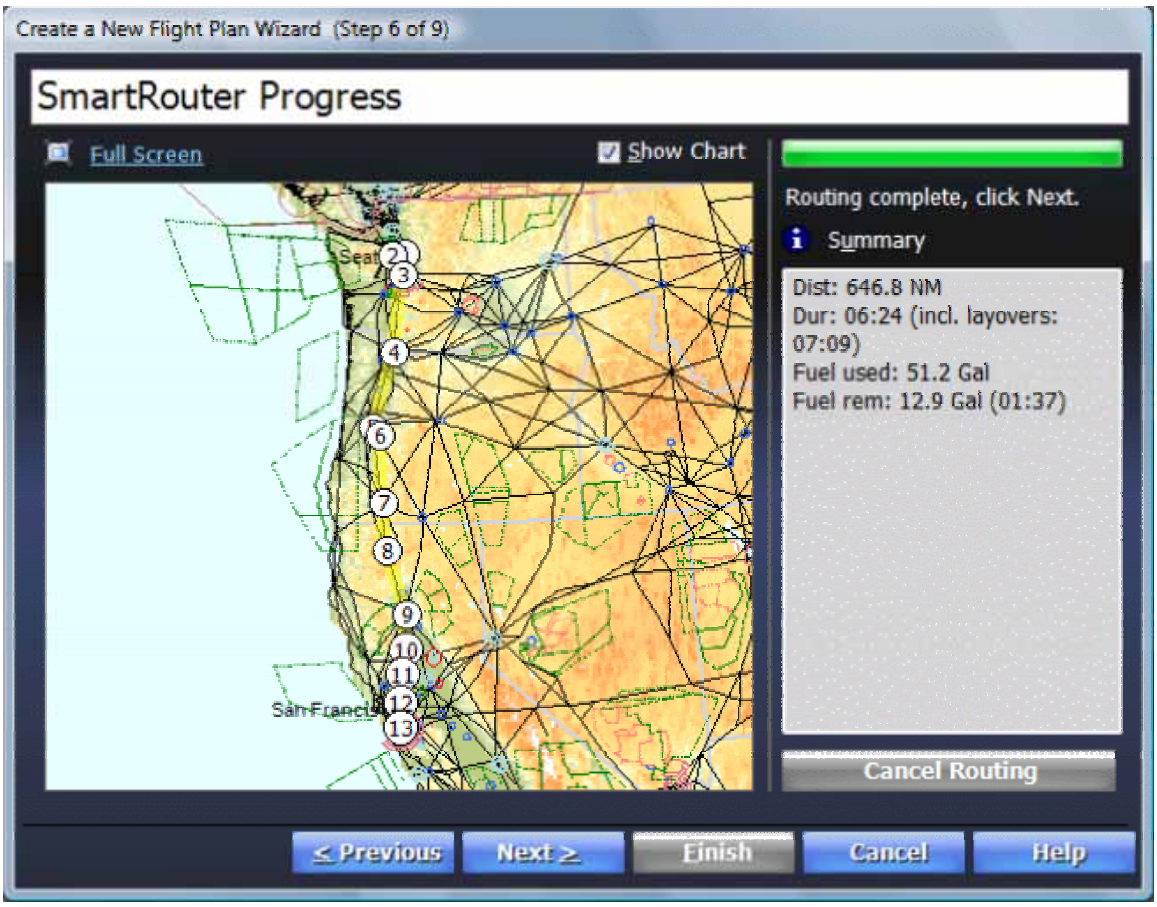
SmartPlan *Premier* Required

Voyager includes several sophisticated, 3D, wind-optimized autorouters. They include an Airway (either Victor or Jet routes) router and a GPS Direct router. Select the routing method you'd like and options specific to that router appear below.

Each router has several options specific to that router and some common to all routers. For example, only the airway router has an **Airway type** choice but all routers have detailed **Avoid** options (*Class B, Class C, Class D, MOA, TFR, Restricted, Prohibited, Water, etc.*).

When you're satisfied with your choices, click **Next** and *Voyager* computes an optimal course based on actual winds aloft expected at flight time.

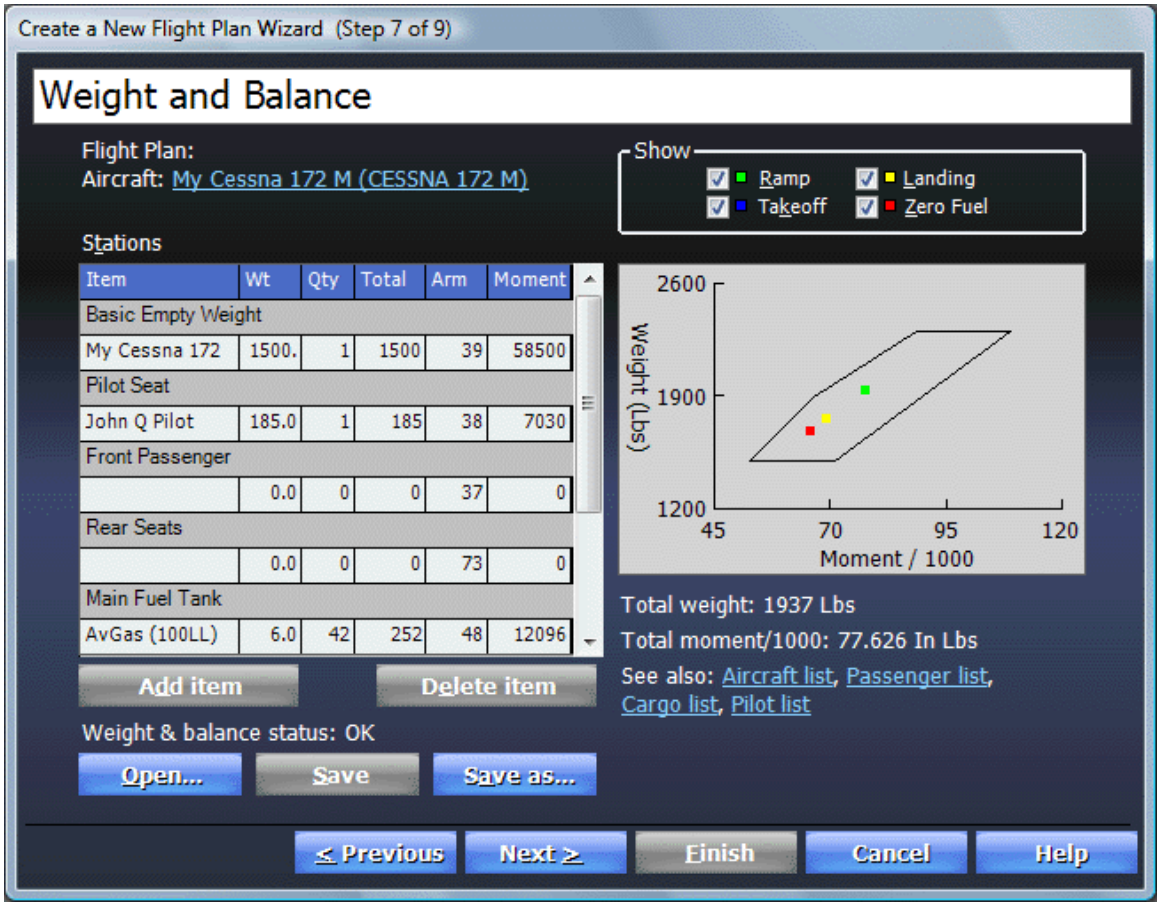
Tip: If you'd like to skip this step in the future, you can remove it by using the **Wizards tab** of the main **Options** dialog box.



Unlike most products, *Voyager's* autorouter takes altitude into account when planning so a flight over a TFR is allowed; no need to go around it. As *Voyager* "thinks", the in-progress route is displayed on the Chart thumbnail. If the router has any problems finding a reasonable solution given the criteria you provided, it will alert you to the issues. Click the **Full Screen** button to see a large, zoomable Chart.

You can experiment with different routing criteria and even different routers: Click **Previous**, change the criteria, then click **Next** again. For example, you might want to see the difference in flight times (again, which takes actual winds aloft into account) between Victor and GPS Direct routes.

When you're satisfied with the preliminary plan, click **Next** to continue.



SmartPlan *Premier* Required

This wizard page consists of two parts: Adding items to each aircraft station and showing the resulting weight and balance information. More...

Tip: If you'd like to skip this step in the future, you can remove it by using the **Wizards tab** of the main **Options** dialog box.

Stations

The Stations table shows each station and the items at those stations. You can enter items either by typing their names and weights or by selecting existing items using the drop-down list that appears as you click into the **Item** column. For example, if there is station named *Front Passenger*, you can click into the **Item** column, under the *Front Passenge*r heading, and select *Sample Passenger* from the drop-down list. His weight is automatically entered in the **Weight** column and the Moment column is recalculated. Alternately, if you have a new passenger, enter her name and weight in the **Item** and **Weight** columns and *Voyager* will not only recalculate the moment but also add this person to the Passengers list for quick use the next time she flies.

Weight and Balance Information

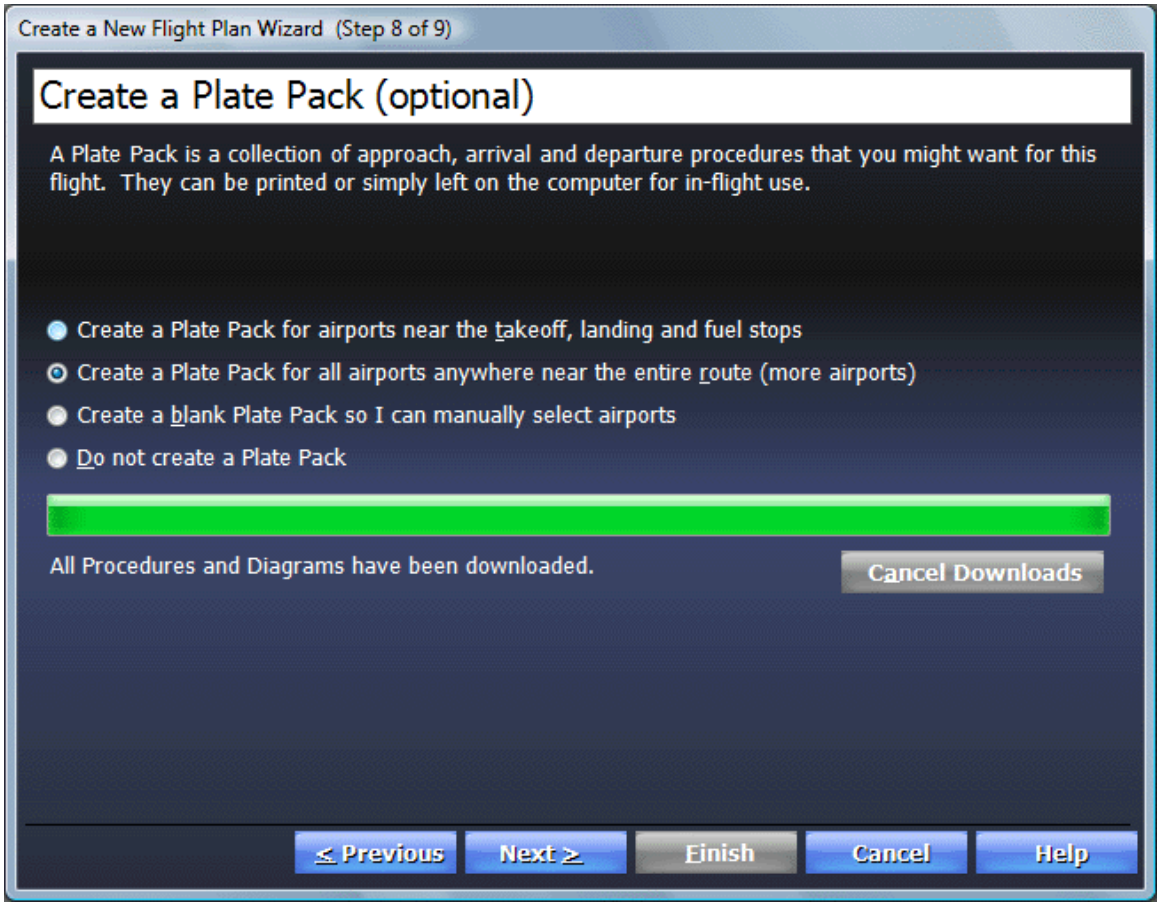
The right side of this page displays the weight and balance information implied by the Stations area. The acceptable weight and balance envelope for this aircraft is displayed as a shape consisting of various points (five in the above example, arranged more-or-less diagonally). The vertical or Y axis is the weight. The horizontal or X axis is the total moment divided by 1000. An aircraft loaded within the weight and balance envelope has all the colored points within the shape. If any point is outside the shape, *Voyager* will warn of the imbalance.

Click **Next** when ready.

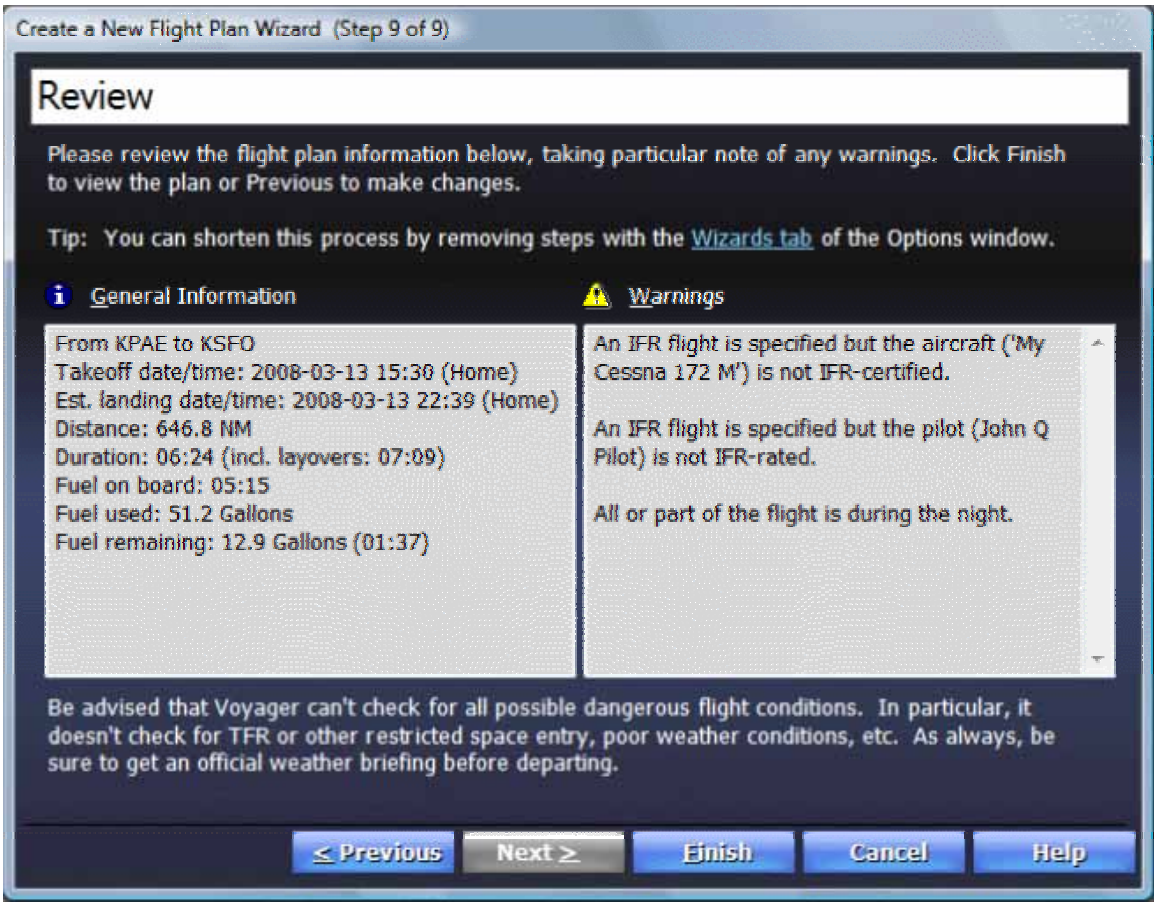
SmartPlates Required

If you're planning an IFR flight and you also have *SmartPlates*, *Voyager* can create a **Plate Pack** specific to this flight. This ensures that you have all the plates you might need for the flight. The plates can be printed or merely left on the computer for in-flight use. Each time a Plate Pack is accessed, *Voyager* uses the Internet to ensure that you have the latest plates.

The first option downloads plates for airports within about a 50 NM range of the takeoff, landing or refueling stops. The second option downloads much more data as it loads plates from airports within 50 NM corridor all along the route. The third option creates a plate pack to associate with this flight plan but does not automatically add any procedures.



Select you choice and click **Next** when ready.



This wizard page shows general flight information (time enroute, fuel used, etc.) as well as warns about some, but not all, potential problems. As the text on the page itself shows, *Voyager* does not warn about all potential problems. As always get an official briefing before you fly.

Click **Finish** to open the plan in a Flight Plan window or **Previous** to make any corrections.

SAVE

Save a flight plan and/or Plate Pack to disk by selecting **Save** from the **File** menu or clicking the  button on the main toolbar. If **Analyze flight plan before save/print** is on (which it is, by default), *Voyager* first analyzes the flight plan and warns of problems.

If a window with a changed Flight Plan or **Plate Pack** is closed, *Voyager* prompts to save the changed files.

Use **Save As**, also on the **File** menu, to save the current file under a new name.

PRINTING

Print flight plans, Charts and **Plate Packs** by selecting **Print** from the **File** menu or clicking the  button on the main toolbar. If **Analyze flight plan before save/print** is on (which it is, by default), *Voyager* first analyzes the flight plan or Plate Pack and warns of problems.

An on-screen preview is available via the **Print Preview** menu item. We suggest using it before printing a complete flight plan. With *SmartPlan Premier*, you can also create a PDF file by selecting **Print to PDF** from the **File** menu.

For flight plans, *Voyager* prints a complete flight dossier including a **navigation log**, **weather**, **weight and balance**, an **FAA Flight Plan Form**, **airport information**, and **charts**. Select **Print Setup** from the **File** menu to control whether or not print each of these is printed and, if it is, which options are selected.

In addition, you can quickly print the current Chart or NavLog by clicking the  button on the toolbar immediately above these items.

FILE A FLIGHT PLAN

When you're satisfied that a flight plan is ready, filing it via DUAT or DUATS is very easy: Click the 

button on the main toolbar or select **File FAA / ICAO Flight Plan** from the **Plan** menu. A completed flight plan form is displayed similar to the one below:

Verify that all the information is correct and edit fields or change the flight plan as required. Click **File via Internet** to send the plan to the FAA via DUAT or DUATS. The specific weather provider is determined by the **pilot's setting in the DUAT / DUATS tab** of his profile.

Note: To file a flight plan, the **Pilot** must have entered valid DUATS information.

FAA FLIGHT PLAN

To access this feature: Select **File FAA/ICAO Flight Plan** from the **Plan** menu or click the 

button on the main toolbar.

The FAA/ICAO Flight Plan dialog is an on-screen version of the standard **FAA** and **ICAO** flight plan forms. Most of the fields are completed based on your flight plan but, as noted below, you may override many of the them here. You can work with a summary form that covers the entire flight or with forms for each individual leg (takeoff/landing pair). With *SmartPlan Premier*, use the **Leg** drop-down list to select specific legs (takeoff/landing pairs).

Click **Print** to send the form to a printer or **Print Preview** to see how it will look when printed. Click **File via Internet** to electronically file this plan with the FAA via DUAT or DUATS using the DUAT/DUATS account of the **Pilot** specified in the flight plan. This pilot must have a valid DUAT/DUATS Access code and Password.

Note: If you prefer to work with individual legs separately, you can use the **Split Flight Plan** command, on the **Plan** menu, to create multiple flight plans from a single master.

FAA

FIELD	DESCRIPTION
Type	The flight plan mode: VFR, IFR or DVFR. For summary forms, this field cannot be changed here but it may be for individual legs. For summary forms, close this dialog and make the appropriate change to the flight plan itself.
Aircraft ID	The tail (or "N") number of the aircraft. This field cannot be changed here. To change, close this dialog, open the **Aircraft** list dialog, select this aircraft and edit the **Tail number** field.
Type/equipment	The aircraft type is an ICAO identifier unique to the model and make of the aircraft. The equipment portion is derived from the items selected in the **Equipment** tab of the **Aircraft** dialog. Neither of these items can be changed here. To modify the type, open the **General** tab of the **Aircraft** dialog and select a different **Manufacturer** or **Model**.
TAS	The TAS of the first cruise leg of the flight, always expressed in knots. This

	field may be modified here.
Depart pt.	The departing airport ident. This field cannot be changed here. Rather, make the appropriate change to the flight plan itself.
Depart time	The takeoff date/time, expressed in Zulu time. For summary forms, this field cannot be changed here. If necessary, make an appropriate change to the flight plan itself. This field may be modified for individual legs.
Cruise alt.	The altitude of the first cruise leg of the flight, always expressed in feet. This field may be modified here. **Note:** Although this value is in feet, it is submitted to DUAT/DUATS in hundreds of feet (e.g. *7000* feet is submitted as *70*).
Route of flight	A sequential list of each airport, navaid and waypoint (including GPS waypoints). *Voyager* condenses flights along airways to show airway identifiers rather than all the specific navaids and waypoints. This field may be modified manually.
Destination	For a summary form, this is the final landing airport. This is derived from the flight plan itself so cannot be changed here.
ETE	For summary forms, this is the estimated time enroute, in hours and minutes, *to the first landing* (FAA regulation). For individual legs, it is the actual estimated time enroute. This field may be edited.
Remarks	Free-form text, only editable from this dialog. This field is often used in IFR flights to clarify your intentions. For example, if you plan to go VFR on top, state it here.
Fuel on board	The estimated total endurance of the aircraft fuel, assuming cruise fuel consumption during then entire flight, in hours and minutes. This field may be edited to allow slight variation from the *Voyager* estimate.
Alt. airports	The alternate airport. Required for some IFR flights, optional for VFR/DVFR flights. Only editable via this dialog.

# on board	The total number of passengers and crew. Edit as required. *Voyager* analyzes flight plans for consistency between this number and the number on board implied by the **Weight and Balance form**.
Color of aircraft	The primary and secondary colors of the aircraft. This field cannot be changed here. To change, open the **Aircraft** dialog and alter the **Color** field of the **General** tab.
Pilot name, phone number and aircraft home base	A combination of the pilot's name, phone number and aircraft home base information. This field cannot be changed here. To change, select and modify the appropriate **Pilot** from the **Pilots** list or the appropriate **Aircraft** from the **Aircraft** list.

ICAO

SmartPlan Premier Required

Voyager allows you view, print and file ICAO flight plans. As with the FAA plans, they may be electronically filed via DUAT/DUATS. Most of the fields may not be edited but are derived from the flight plan itself, the selected pilot or the aircraft. Those that can be manually edited are white. ICAO flight plans are more complicated than FAA plans so please refer to **http://www.faa.gov/ATpubs/FSS/Appendix%20B.htm#Note%201** for more information.

OPEN A FLIGHT PLAN

Existing flight plans, including the samples included with *Voyager*, are opened from disk in the usual way: Select **Open** from the **File** menu or click the  button on the main toolbar. After a moment, a Flight Plan window will appear and *Voyager* will begin downloading weather.

Note: Within the context of *Voyager*, "Opening" a flight plan means loading it from disk, not calling a FSS to begin the clock on a flight plan previously filed with the FAA.

CLOSE A FLIGHT PLAN

Flight plans are closed in the usual way: Select **Close** from the **File** menu or click the  button in the upper right corner of the Flight Plan window. *Voyager* will prompt to save the file if the flight plan hasn't been saved or has been changed since the last save.

Note: Within the context of *Voyager*, "Opening" a flight plan means loading it from disk, not calling a FSS to begin the clock on a flight plan previously filed with the FAA. Similarly, "Close" simply means "hide the window", not terminate an in-progress flight plan.

EMBEDDING PLATE PACKS WITHIN FLIGHT PLANS

SmartPlates Required

Within *Voyager*, flight plans (*.fp* files) and **Plate Packs** (*.PlatePack* files) are distinct entities. However, it's often convenient to view or print them together so we made a way to associate Plate Packs with flight plans.

To Add an Existing Plate Pack to a Flight Plan

- **Open** or **create** the flight plan in the usual way.
- Select **Add Plate Pack** from the **Plan** menu and use the standard Windows file open dialog to select the Plate Pack.
- Once the combined entity opens, use the **NavLog** and **Plate Pack** tabs to switch between the two.
- **Save** the flight plan to save the reference to the Plate Pack.

To Add a New Plate Pack to a Flight Plan

- Open or create the flight plan in the usual way.
- Select **New** from the **File** menu and select the **Plate Pack** tab. Choose either of the top options to create a default Plate Pack or the **Blank** option to create a blank Plate Pack.
- Save the flight plan to save the reference to the Plate Pack.

To Remove a Plate Pack from a flight plan

- With the combined flight plan / Plate Pack open, select **Remove Plate Pack** from the **Plan** menu.
- Save the flight plan.

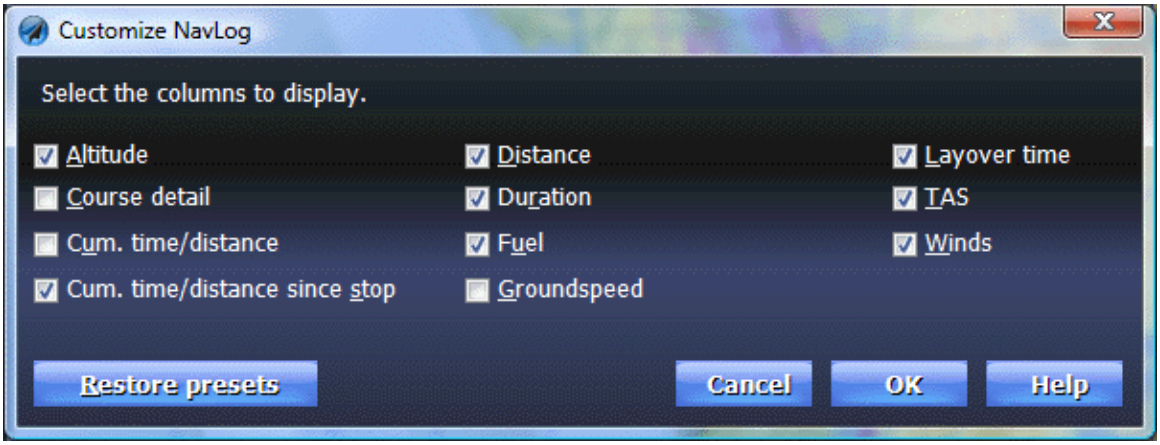
To Print a Flight Plan and the Associate Plates from the Plate Pack

- With the combined flight plan / Plate Pack open, simply select **Print**, **Print Preview** or **Print Settings** in the usual way.

CUSTOMIZE NAVLOG

SmartPlan *Premier* Required

To access this feature: Select **Customize NavLog** from the **Plan** menu or click  on the **NavLog** toolbar.



This dialog selects which NavLog columns are displayed on the screen. Use the **Standard Navigation Log** plug-in within the **Page Setup** dialog to select which columns are printed. These are not automatically synchronized because the screen is wider than most kneeboard prints, allowing more on-screen detail than is typically possible on prints.

Note: As pre-flight and in-flight needs are very different, *Voyager* defaults to showing different columns depending on how it is being used. Additionally, the columns selected when each of the checkboxes below are checked varies somewhat between pre-and in-flight use. See each Description below for details.

In addition to selecting the NavLog columns, you can also select which types of legs are shown in the on-screen NavLog. Specifically, *Voyager* defaults to keeping the display simple by only showing the cruise legs. Internally, it creates the necessary climb and descend legs (using appropriate climb/cruise TAS and fuel settings), too, but hides them. You can see these legs by selecting **Show All Legs** from the **View** menu. However, since many of these legs are "synthetic" (generated based on wind data, etc.), you cannot edit the Plan in this view. In either mode, the climb and descent legs are shown on the **Profile** view but they're only numbered when **Show All Legs** is checked. The printed NavLog has the opposite default setting so, by default, printed NavLogs show the climb and descend legs. An option in the **Standard Navigation Log** print plug-in controls this setting.

Tip: When you print a flight plan, *Voyager* defaults to printing much more than just the NavLog, typically including **Charts**, **Airport Information**, **Weather Information** and more. You can suppress any of these by unchecking the option after choosing **Print Setup** from the **File** menu.

OPTION	DESCRIPTION
Altitude	If checked, the table includes the final altitude for each leg.
Course detail	If checked, the table includes MCrs, TCrs and THdg (MHdg is always included pre-flight and MCrs is always included in-flight). Not editable.
Cum. time / distance	When checked, two columns are added showing the cumulative time (duration) and distance up to and including this leg. Layover time is not included. Not editable.
Cum. time / distance since last stop	Similar to the above except that the values are reset at each *Stop and Go* leg so it's easy to tell how long you've flown since the last fuel stop. Not editable.
Distance	Displays the distance of each leg. Not editable.
Duration	Displays the duration (flight time) of each leg in hours, minutes and seconds. Layover time is not included. Not editable.
Fuel	If selected, three columns are added to the table: Fuel used (*-Fuel*), fuel added (*+Fuel*) and fuel remaining (*FuelRem*) after each leg. The *+Fuel* column is editable.
Groundspeed	When checked, *Voyager* adds a column (*GS*)showing estimated groundspeed, taking wind into account. Not editable.
Layover	If selected, *Voyager* shows the layover (on the ground) time in HH:MM:SS format of *Stop and Go* legs. *Voyager* defaults to one hour layovers but can be changed within the **Defaults** tab of the **Options** dialog.
TAS	Shows the True Airspeed (TAS).
Winds	Toggles display of wind direction (degrees) and speed. Wind direction is the direction from which the wind is coming. *Voyager* automatically completes these fields if weather has been downloaded but you may enter overriding data.

Note: Pre-flight, **Name**, **Type** and *MHdg* are always shown even if all other options are turned off. In-flight, **Name** and **TCrs** are always shown.

ALTERNATES

SmartPlan Premier Required
To access this feature: Choose **Select Alternates** from the **Plan** menu, click the **Alternates** area in the **NavLog's** Plan area or use the **Alternate** button from the New Flight Plan Wizard.

Ident	Name	Dist (NM)	Duration	Fuel used (Gal)	Max rwy	Procs	METAR	TAF
EUG	MAHLON SWEE	15	00:11	1.4	8009	IGLV		
CVO	CORVALLIS MU	36	00:29	3.6	5900	IGVN		
S12	ALBANY MUNI	42	00:31	4.1	3004	GV		
RBG	ROSEBURG RGN	44	00:35	4.7	4602	GV		
SLE	MCNARY FLD	59	00:37	5.0	5811	IGL		
ONP	NEWPORT MUN	60	00:49	6.5	5398	IGV		
OTH	SOUTHWEST O	62	00:53	7.0	5321	IGLVN		
S21	SUNRIVER	67	00:33	4.4	5455	GV		
MMV	MC MINNVILLE	76	00:47	6.3	5420	IGLVN		
BDN	BEND MUNI	79	00:37	5.0	5200	GV		
UAO	AURORA STATE	80	00:47	6.2	5004	GLV		
RDM	ROBERTS FIELD	82	00:38	5.1	7038	IGLVN		

The Alternates dialog box makes it easy to select appropriate airports as IFR alternates. To select an alternate, simply click the appropriate row in the table and click **OK**. To set no alternate, select the **No alternate** radio button. To show additional information about an airport (actual procedures, alternate minimums or weather details, for example), select an airport then click **Show info**. You can sort the table by clicking the header (top) of a column.

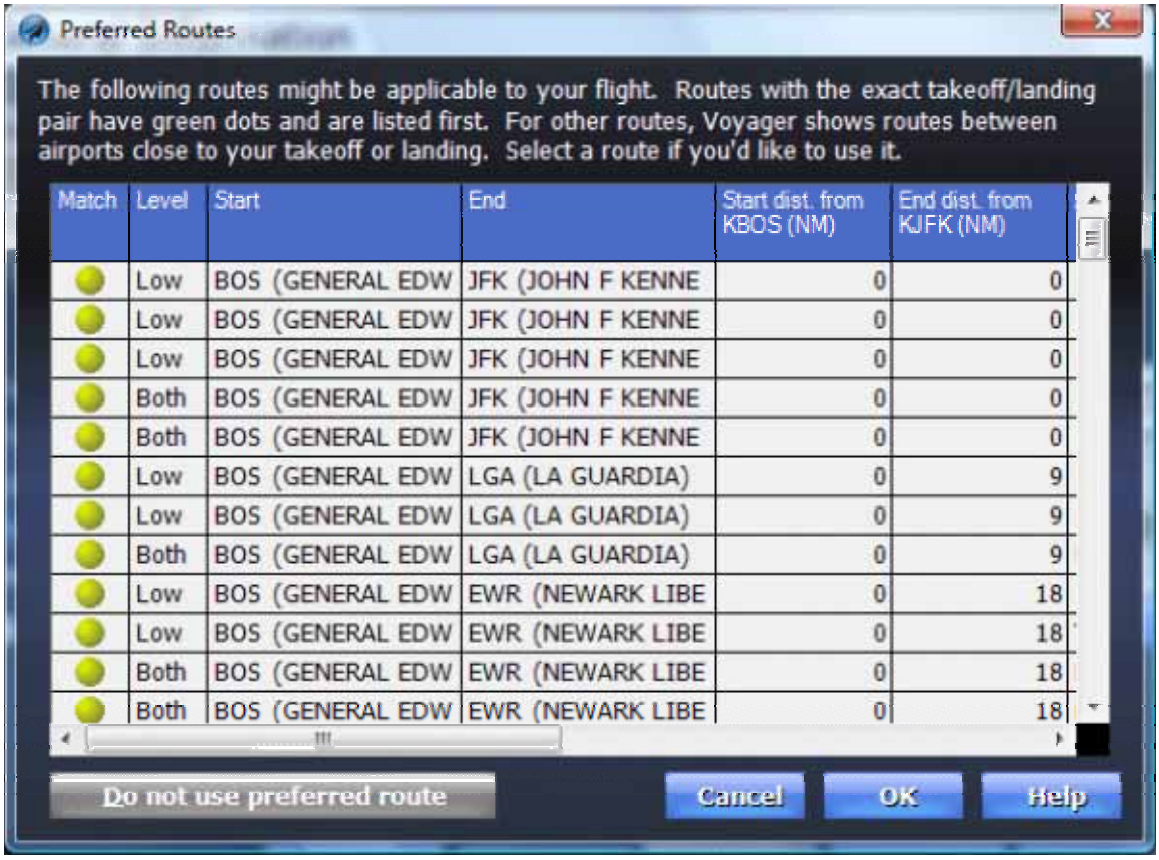
For flights with a fuel stop, use the **Leg** drop-down list to select alternates for each landing airport.

OPTION	DESCRIPTION
Ident	Shows the FAA identifier of the airport.
Name	The name of the airport.
Dist	The distance of this airport from the

	primary landing airport.
Duration	The approximate time required to fly from the primary airport to this airport. **Note**: This assumes the unlikely scenario of actually landing at the primary airport then immediately taking off again. Thus, the time and fuel estimates here are probably worse than what you'll actually see.
Fuel used	The amount of fuel used to fly from the primary landing airport to this airport. As above, this assumes the pessimistic case of actually landing at the primary airport.
Max rwy	The maximum runway length available at this airport.
Procs	The types of approach procedures available where I = ILS , G = GPS, L = Localizer, V = VOR, N = NDB and O = Other (such as LDA, etc.)
METAR	This colored dot represents the weather conditions listed for the most recent METAR available for this airport. Assuming your flight is somewhat in the future, this does not necessarily indicate what weather to expect at landing. Normally, green means VFR conditions, Yellow means Marginal VFR and Red is IFR. However, if you have set *Voyager* to **Use standard weather symbols**, Blue is VFR, Green is MVFR, Yellow is IFR and Red is LIFR.
TAF	This colored dot represents the weather anticipated at this airport at the time of your expected landing at the primary airport.

PREFERRED ROUTES

SmartPlan *Premier* Required
To access this feature: Create a new flight plan with the New Flight Plan Wizard and check **Look for preferred routes**.



The Preferred Routes dialog box shows FAA-designated preferred routes between airport pairs or areas. It shows airport pairs that exactly match your flight and airport pairs that are close to your flight. Select a row to use that preferred route rather than allowing the autorouter to plan the route. If any exact matches exist, *Voyager* selects the first one by default. To some extent, *Voyager* takes your aircraft's performance into account when selected routes (i.e. piston aircraft with low service ceilings are not shown High routes). However, each route may have specific applicability so refer to the **Lower Alt**, **Aircraft**, **Speed**, etc. columns for more information.

Click **Do not use preferred route** to deselect any selected preferred route.

Note: Some columns are not shown by default for space reasons. Use the horizontal scroll bar to show these columns.

Note: This dialog box does not appear if *Voyager* cannot find any applicable routes.

OPTION	DESCRIPTION
Match	A green dot indicates if the route is specifically for the airports listed for your flight. A yellow dot denotes a route to or from a nearby airport.
Level	Routes are designated as *High* (at or above FL180), *Low* or *Both*. *Voyager* uses this designation to show only routes that are applicable to the aircraft specified in the flight plan.
Start	The name and ident of the route's designated departure airport. For routes from a general area, rather than a specific airport, no ident is shown.
End	The name and ident of the route's designated landing airport. For routes to a general area, rather than a specific airport, no ident is shown.
Start distance	The distance between your desired takeoff airport and the start of the route. This is useful when deciding whether to use a route from a nearby airports. It is zero, by definition, for routes that exactly match your flight plan.
End distance	The distance between your desired landing airport and the end of the route. This is useful when deciding whether to use a route to a nearby airports. It is zero, by definition, for routes that exactly match your flight plan.
Aircraft	Some routes are designated for a specific aircraft typs. If so, the type is listed here.
Required speed	Some routes have minimum or maximum speed requirements. If so, such a requirement is shown here.
Lower alt	Some routes can only be flown at or above certain altitudes. If so, this is noted here.
Upper alt	If there is an upper limit to the route, it is stated here.
Route	This field shows the entire route, including SIDs and/or STARs. For routes longer than the width of the column, you may need to click into the field to see the whole route.
Effective time(s)	A route may have one or more designated active time periods. If so, it is shown here in Zulu time.

Moving Map (GlassView) and XM Weather

WHAT IS GLASSVIEW?

GlassView Required

GlassView is *Voyager's* GPS/Moving Map **module**. But it's really much more than that. While it certainly can display a moving map with your aircraft's position derived from a GPS, it's more like an integrated flight information system that you might expect on a next-generation airliner or military jet.

The top of the GlassView screen has a Gaugebar that shows common flight data. You can customize what information is shown by clicking any gauge. You can turn

the Gaugebar off to save screen space by unchecking **Show Gaugebar** from the **View** menu. A Personal Layout can also specify whether the Gaugebar is on or off.

Below that is the Chartbar that has large, easy to click buttons that turn chart layers on or off. Like the Gaugebar, it can be turned off with the **View** menu and set on or off with a Personal Layout.

The bottom of the screen has is the **GlassView toolbar** that makes it easy to **change screen configurations**, change what's on the chart, show weather, switch from 2D to 3D mode, go **Direct To**, show **TAWS**, etc.

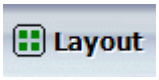
GlassView divides the rest of the screen into different sections where each section can show a different type of information -- **Chart**, **Nearest Airports**, **Winds Aloft**, **Approach Procedure**, etc. Each of these different sections is called a widget. When several widgets are combined together to form a specific screen arrangement, it's called a **Layout**. *Voyager* includes many *GlassView* layouts, each designed for different situations. Some are best for VFR flights, some for IFR, some best for cruise, some for landing or taxiing, etc.

- **How do I begin *GlassView* mode?**
- **What are the different layouts and how do I switch between them?**
- **How do I customize which gauges (*Track*, *Altitude*, *Groundspeed*, etc.) are on the screen?**
- **How do I use my XM WX satellite weather receiver for in-cockpit weather updates?**

Tip: You can quickly start *Voyager* in GlassView mode, bypassing all standard dialog boxes, by starting *Voyager* with the */QuickFly* command-line switch. The Setup program automatically creates a *Voyager 4 QuickFly* icon on the desktop.

START FLYING

GlassView Required

Once a flight plan is open, it's easy to switch to *GlassView* (moving map) mode and, with your connected GPS, have the computer track your flight. Simply click  or press **F5** and the screen switches to a *GlassView* layout that depends on whether it's an IFR or VFR flight. Alternately, you can jump to a specific layout by clicking the 

button at the bottom of the screen. Look for layouts that have the *GlassView*  icon.

You can also directly open the flight plan in *GlassView* mode by selecting a recently used flight plan from the **File** menu, using the  button on the main toolbar, using the  button on the toolbar and selecting the **Chart** tab or by selecting the **Fly** options from the Tasks pad.

You can quickly start *Voyager* in GlassView mode, bypassing all standard dialog boxes, by starting *Voyager* with the */QuickFly* command-line switch. For new *Voyager* installations, the Setup program automatically creates a *Voyager QuickFly* icon on the desktop. For updates to existing *Voyager* installations, you may need to refer to your Windows documentation on how to create a shortcut with a command-line parameter.

Voyager should automatically detect any GPS connected via Bluetooth or a COM port. If your GPS connects via USB, you may have to install a device-specific driver from the manufacturer. If you're having trouble connecting to your GPS, you can review and alter the settings from the **GPS** area of the **Options** dialog box. *Voyager* also includes a built-in GPS simulator that can be accessed via either the **Options** dialog box or by selecting **Show GPS Simulator** from the **Tools** menu.

Tip: Motion Computing tablets come with built-in Bluetooth but, for security reasons, you have to manually enable it via the Motion Dashboard. Also, their default Bluetooth drivers have trouble with the XM receiver. If you plan to use a Motion tablet with an XM receiver, please see the **XM Help topic** for more information.

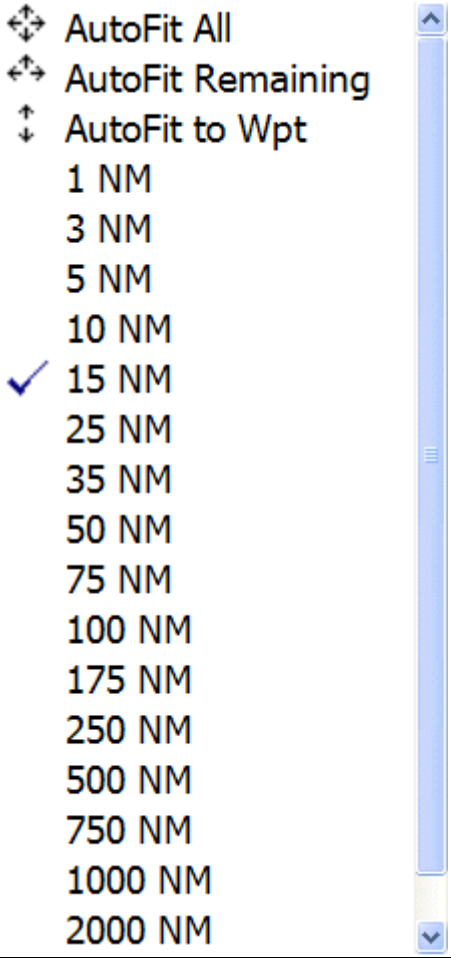
Once the GPS is engaged, the Chart moves automatically to keep the aircraft centered.

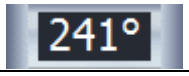
GLASSVIEW CHART LAYOUT

GlassView Required

To access this feature: Use the Layout button to switch to any *GlassView* layout (any layout with a icon next to it).

All *GlassView* layouts have at least one **Chart**. While in *GlassView* mode, the Chart not only displays a map but also navigational information. It also has various 'hotspots' that make it easy to change the zoom (Range), scroll, etc. See below for more information.

FEATURE/TASK	DESCRIPTION
HSI Arc 	By default, *Voyager* displays a standard HSI arc (or complete circle) to indicate the range from the center of the screen to the circle. *Voyager* uses a semi-circle when you're in **Track Up** mode (the default) and a complete circle when you're in **North Up** mode. Toggle the HSI on or off by clicking  on the *GlassView* toolbar atthe bottom of the screen.
Range  	Indicates the current Chart zoom range. The number, *15* in this case, indicates a 15 NM radius from the center of the Chart to the shortest side (i.e. a radius). Click the **Zoom In** or **Zoom Out** icons on the side to zoom the chart or click the number in the center for the menu of options. The numeric choices set the range to specific settings. **AutoFit All** scales the Chart zoom such that the entire plan is visible. **AutoFit Remaining** scales such as to allow the aircraft's current location and any remaining waypoints in the flight plan to be shown. As you fly, this range does not dynamically adjust. **AutoFit to Wpt** scales the Chart to show the aircraft's current location and the next waypoint. As you fly, this range does not dynamically adjust.
Ground Track	Shows the current magnetic ground track.



GPS Centering

When you begin *GlassView*, *Voyager* assumes you're connected to a GPS and looks for one. If it finds one, it locks on and centers the aircraft around your position.

When locked, you'll see an indicator to that effect in the upper left corner of the Chart. If the GPS is receiving WAAS information, that will be indicated as well. The lack of a WAAS flag means that WAAS is not being used and the location information is less accurate. This indicator will be green if the GPS has a solid, 3D lock from the satellites and yellow if it can only get a 2D lock due to the number of satellites it is receiving. A 2D connection is noted as *marginal* while a 3D connection is noted as *locked*. Altitude information is substantially less accurate when the GPS can only achieve a 2D lock (the third dimension being altitude).

If *Voyager* doesn't find a GPS or finds a GPS but gets no satellite data, you'll see a message at the top of the screen (as above): 

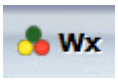
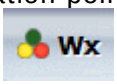
As it's underlined, click on it to go the **GPS settings** in **Tools/Options** so you can manually configure the GPS or check its status.

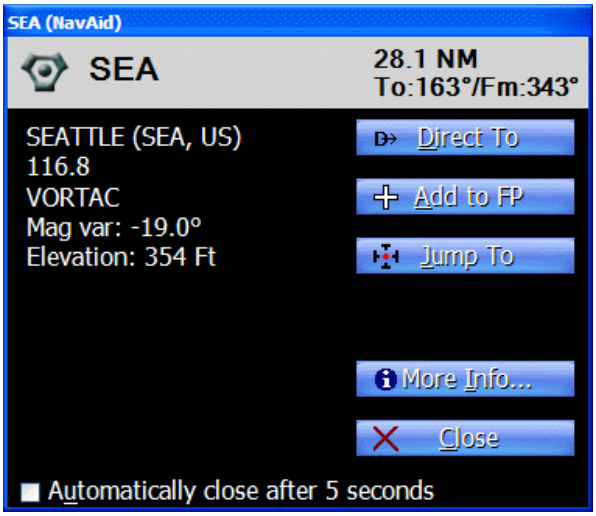
You'll also see 

if the GPS momentarily loses its lock on the satellites. Should the GPS re-acquire the satellites, the message will go away.

You can also manually disengage from the GPS centering so you can scroll the Chart (see below). Click  off to disengage. When the button is blue, it means the Chart will be continually re-centered around the aircraft's location

	(as indicated by the GPS). When it's grey, it means that centering is disengaged and you can freely scroll the Chart to any location. When centering is disengaged, you'll see a message at the top of the Chart that warns you about centering being off. Click the text to re-enable. If you're using a laptop or a tablet with a keyboard, you can also press **F4** to toggle the GPS centering on and off. *Voyager* includes many other **keyboard shortcuts** optimized for in-flight use.
Scrolling (Panning) 	While GPS centering is engaged, you can change the zoom but not scroll as the system keeps the aircraft's location centered at all times. You can either disable the GPS centering as explained above then scroll or simply try to scroll and *Voyager* will ask if you want to disengage first. Scroll (or pan, as it's sometimes called) simply by dragging the chart. This is done by clicking (or tapping) and holding while you move the stylus or mouse.
Track Up / North Up 	*Voyager* defaults to **Track Up** mode, which means that the screen constantly rotates such that what's in front of you is always "up" on the Chart. You may prefer **North Up** mode, which is more like using a printed chart. Click  to toggle from **Track Up** between **North Up**. The keyboard shortcut is **F9**.
TAWS 	Strictly speaking, *Voyager* does not have a **TAWS** display since it isn't certified. Still, you can display very useful terrain avoidance information by clicking  . When this mode is on, *Voyager* augments the usual terrain

	coloring system with yellow and red. Yellow indicates that your GPS altitude (which is not especially accurate) shows you to be above but within 1000 ft of the terrain. Red indicates that you're below the terrain or within 500 feet. The top GPS indicator notes when TAWS is enabled. **Tip:** You may also want to engage obstacle warnings. Obstacle warning are automatically on whenever the **Obstacles layer** is turned on. TAWS and Obstacle warnings are independent of one another.
Weather 	By default, weather is not shown on the Chart so you can clearly see aviation points. However, you can use the  button to add some or all weather layers. For in-flight use, the **Overlay Radar and Winds on this Chart** option is especially useful because it puts vital NexRad and winds aloft info on the screen but does not clutter it up with TAF and METAR circles. If weather is a concern, consider switching to the **Splitscreen 2 layout** where you can display weather on one Chart and a normal aviation Chart on the other. You can even set the two Charts to different zooms (perhaps the weather Chart with a wider zoom) and different display modes (e.g. **North Up** for weather, **Track Up** for the aviation Chart).
QuickInfo / Clicking on the Chart	Clicking anywhere on the Chart brings up information about that location in a format that's easy to use while flying. If the location is an airport and an **Airport Information** widget is on the screen, the information will appear on the current layout. If it's any other type of object or there is no **Airport Information** widget, a QuickInfo



dialog will appear.

A QuickInfo dialog shows key information about the object and makes it easy to go Direct To that point, add that point to your flight plan or jump the chart to that point. You can also see additional information.

QuickInfo also shows the distance and bearing to that location, from your current position. This information is updated every five seconds.

Click the large text area (in this example, *SEATTLE (SEA, US)*, etc.) to see that same text in a full-screen window with very large text. This is especially handy when displaying airspace information and some of the airspace (such as a TFR), has substantial text associated with it.

These windows stay open until you click **Close** or click some other button. However, checking **Automatically close after 5 seconds** makes then automatically go away without taking any action.

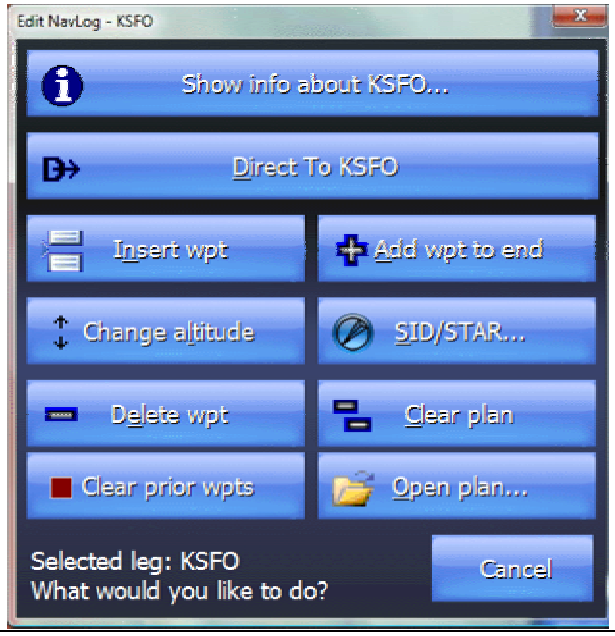
Tip: You can open multiple QuickInfo windows at the same time. This is helpful when you want to intercept radials from two different VORs, for example.

If Command Mode is *off* (that is, there is no **Layers toolbar** or **timeline**), you cannot move a flight plan waypoint. See below.

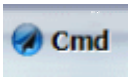
Changing a Flight Plan

While flying, the easiest way to modify a flight plan is to switch to the **NavLog widget** and click any waypoint. That shows the window to the left that makes it easy to modify that waypoint or add new waypoints.

Using **Direct To** is also another common way to modify the flight plan. The Direct To dialog has a new **+FP button** (like the QuickInfo box and the



Airport Info widget) that accepts the new point but then lets you sequence it within your existing flight plan rather than immediately going direct to it.

In a desktop layout, you can "rubber-band" the flight plan by moving the cursor over the flight path or over an existing waypoint. To prevent accidental movements while in rough air in-flight, this is disabled while Command Mode is *off*. If you want to move a flight plan point in-flight, click 

then move the points with your mouse or stylus. Click 

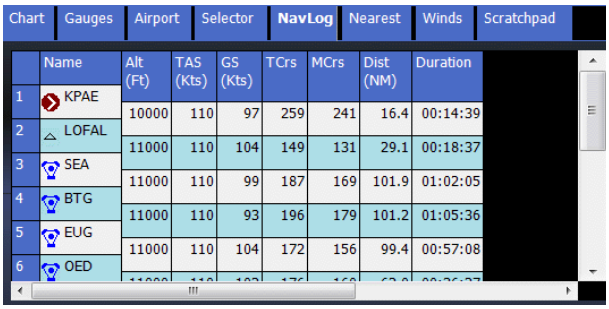
again to restore normal layout.

Altering which gauges are shown (Altitude, Track, Groundspeed, etc.)

Click on any gauge or on the blank space to the right of the gauges to bring up a dialog that lets you **configure which gauges are shown**.

Voyager has both a Gaugebar at the top of the screen and, in many layouts, a Gauges widget that can display even more gauges.

See the NavLog



Most GlassView layouts have a tab with the NavLog widget on it. Simply select the appropriate tab (as shown to the left).

Click a waypoint to modify the flight plan in any way, as described in **Changing the Flight Plan** above.

GLASSVIEW TOOLBAR

GlassView Required

All *Voyager* windows have a lower toolbar that displays common buttons like Cmd, **Layout**, Chart, Wx, etc. In GlassView mode, *Voyager* adds a few additional buttons helpful when flying. This is called the GlassView toolbar.

OPTION	DESCRIPTION
	Shows the **Direct To** dialog box.
	When clicked, the current Chart uses red and yellow to alert you of terrain clearance problems. This is frequently called a TAWS display. Yellow means that the aircraft, according to the GPS-provided altitude, is within 1000 feet of the terrain. Red indicates that the aircraft is below the terrain or within 300 feet of it. **Important! GPS altitude information is only accurate to several hundred feet. Also, *Voyager's* display takes only terrain, not man-made obstacles, into account.** **Tip:** When the **Obstacles layer** is turned on, *Voyager* also displays obstacle warnings when obstacles are +/- 15 degrees of your heading, within 500 feet of your altitude and within two minutes at your current speed. This feature works independently of TAWS. Toggle with **F10**.
	When on, *Voyager* rotates the Chart as the aircraft moves such that the top of the Chart is always approximately the direction that the aircraft is heading. This is called **Track Up** mode. When off, the system is in **North Up** mode and the Chart is oriented such that North is always up and the aircraft icon rotates to denote heading. Toggle with **F9**.
	Toggles the HSI (heading) display on and off the current Chart. If the Chart is in **North Up** mode (see below), *Voyager* shows a complete 360 degree circle around the aircraft. If the Chart is in **Track Up** mode, a half-circle is shown.
	When enabled, a black line extends 50 NM from the tip of the aircraft to show where the aircraft, if it stays on the current heading, will be in the future. This is helpful for avoiding airspace and such.
	When selected (highlighted in blue), *Voyager* uses GPS position information to continually center the Chart around the aircraft's location. When off, the Chart may be manually panned to any other

location. To re-establish centering, simply turn this button back on or click the text message, at the top of the Chart that warns that GPS centering is off.

Note: In previous versions of *Voyager*, using this feature also stopped the aircraft's location from being updated on the Chart and stopped the **gauges** from updating. This is no longer the case.

Toggle with **F4**.

You can alter the **gauges shown** at the top of the GlassView screen by clicking any gauge or in any otherwise empty area on the bottom of the window.

Note: Previous version of *Voyager* had a fuel button on this toolbar. That functionality has been replaced and extended by **Fuel Prices theme**. In-flight, this theme can be quickly activated by clicking the **Wx** button then **Switch to Fuel Prices Theme**.

Tip: You can show **two charts** on the screen at the same time, using completely different zooms, rotations, themes and other settings. See the **Layouts** and Personal Layouts topics.

XM WX WEATHER

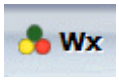
SatelliteWX Required

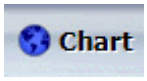
OVERVIEW

Voyager, when used in conjunction with the *XM Link* module, can display near real-time weather while in the cockpit. This requires an XM WX satellite receiver connected to the laptop or tablet via either a USB or Bluetooth connection.

The XM receiver, whether connected via Bluetooth or a USB connection, uses what's called a COM port to communicate with the computer. The COM port number varies by machine so you must determine which COM port your configuration is using. See **Hardware Installation / Configuration** below for more info.

Tip: *Voyager* is optimized to automatically find a GPS receiver by scanning the available COM ports. This works well for GPS-only users but can create a problem when also using an XM receiver as XMLink may report that the COM port it needs is already in use. To resolve this conflict, go to the **GPS settings tab** of the **Options** dialog box and manually select the specific COM port used by your GPS receiver.

Once an XM receiver is properly connected (see below), select the  button after clicking the 

button and *Voyager* will begin collecting XM weather as it arrives. To see the weather, be sure to turn on the weather layers you want or select the *Weather* theme from the 

button.

HARDWARE INSTALLATION / CONFIGURATION

Pre-setup Steps

Make sure the antenna has a very clear view of the sky, preferably to the south. Also, other than your computer and XM WX receiver, make sure there aren't any other Bluetooth devices on within range. Reboot your machine and, while your computer is rebooting, unplug the receiver's power cable. After several seconds, plug it back in.

Bluetooth Configuration

Follow the instructions that come with the XM receiver that outline the steps necessary to configure your computer to use Bluetooth for communicating with the receiver. This will probably involve entering what is called a *Passcode* to 'pair' the XM receiver with the computer. The passcode varies by receiver manufacturer but common codes are *9679* and *1234*. See your receiver's documentation for more information.

Tip: You may want to write the passcode on a slip of paper and tape it to the bottom of the receiver for future use.

Determining the COM port assigned to the WxWorx receiver

If you are using Microsoft's Bluetooth driver, the XM COM port can be determined by double-clicking on the Bluetooth icon  in the system tray (the area immediately surrounding the Windows digital clock in the lower, right hand corner of your computer). Then click the **COM Ports** tab and find the COM port number stated for the WxWorx entry that says "outgoing" under the "direction" column. If you do not see an entry for your WxWorx receiver, it is because your computer has not been configured to use Bluetooth for communicating with the WxWorx receiver. To do this, follow the instructions that come with the WxWorx receiver.

VOYAGER CONFIGURATION

Before proceeding, please read *Bluetooth Notes* section above and then follow the instructions in *Pre-setup Steps* and *Determining the COM port assigned to the WxWorx receiver* sections. From within *Voyager*, click **Tools** then **Options**, select **Preferences** then **XM**. Click **Use the COM setting below**, then specify the proper port number and click the **Connect** button.

DIRECT TO

GlassView Required

To access this feature: Click  , select **Direct To** from the **View** menu or press **F3** while in a *GlassView* (moving map) screen.

The Direct To dialog box makes it easy to change (or create) a flight plan while enroute. It has oversized buttons for easy in-flight access.

If the point you'd like to go to is within about 50 NM, you can save typing by using the **Navaids**, **Waypoints**, **Airports, Airways** and **Flight Plan** selector to show a list of each nearby item. Navaids are sorted first by type (VORs first) then alphabetically. Waypoints are sorted alphabetically and Airports are sorted by airspace class then alphabetically. **Flight Plan** shows all the points in your flight plan (if any) in sequence.

Tip: Except for the Flight Plan and Airways tabs, you can click the top of each column to change the sort order. For example, to sort by Airport ident, click the top of the Ident column.

Tip: The **Airport Info** widget also has a **Direct To** button that bypasses this dialog box and sets the selected airport as the next waypoint. It also has a **+FP** button that adds the airport to the flight plan.

You can filter-out smaller airports, heliports and seaplane bases with the **GPS tab** of the **Options** dialog box.

Use the **By Ident** selector to use an embedded oversized alphanumeric keypad to manually enter any point (or points, separated by spaces) not listed by the other tabs. You can create an entire flight plan by entering a series of idents separated by spaces.

Once a point is selected, click **D->** to fly directly to that point or **+FP** to add the point to the flight plan then fly directly to it.

Use the **Alt** area to optionally enter the altitude you need to be at when crossing the new waypoint. If you leave it blank, *Voyager* assumes no altitude changes.

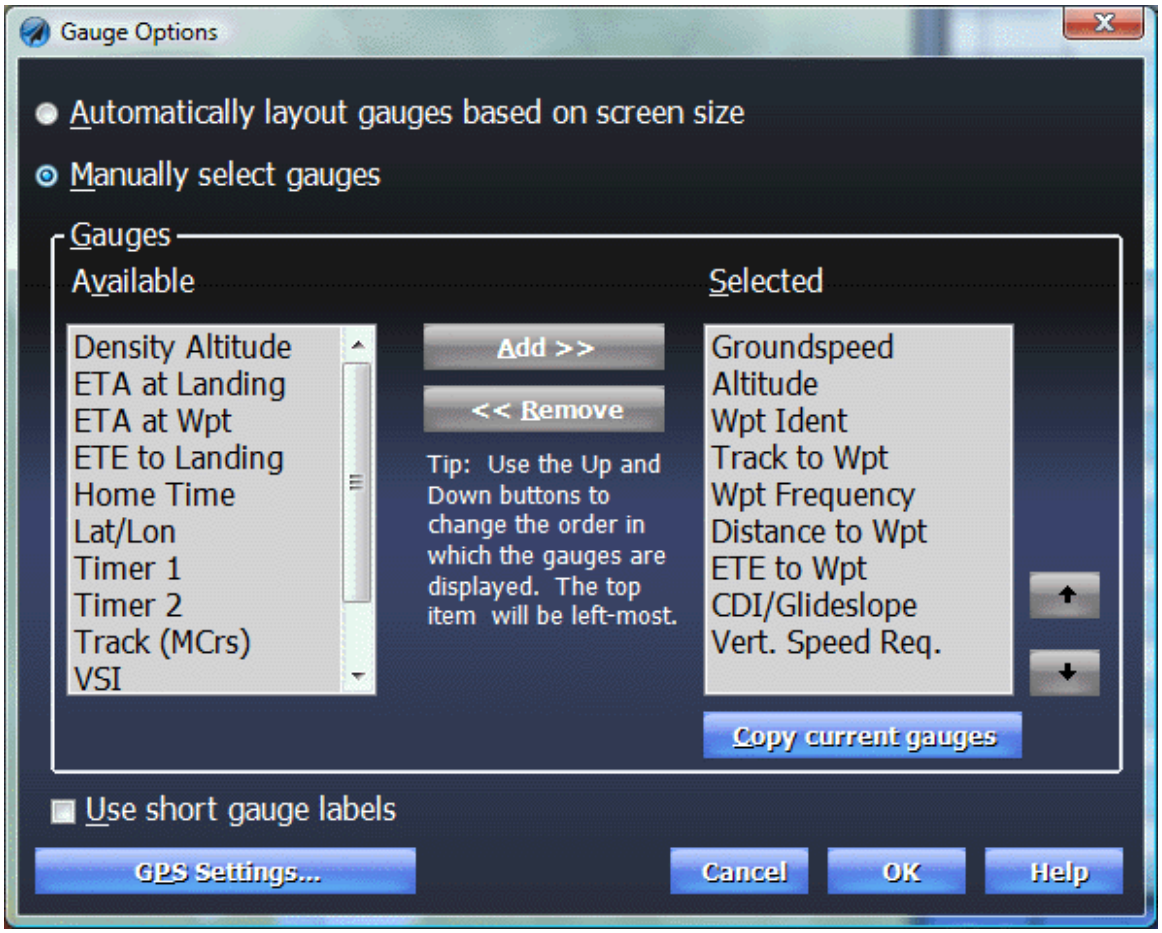
Alt is a drop-down box that lets you also optionally enter a *Radial* (if a Navaid is selected) and/or a *Bearing* if a Navaid or Airway is selected.

If the current tab is *Navaid*, you can select a navaid (e.g. the *PAE* VOR) and use *Radial* to select the *150* radial from *PAE* to intercept. If no *Bearing* is specified, *Voyager* selects the closest point along that radial for intercept (approximately). Keep in mind this could mean flying directly to the Navaid if the navaid itself is the closest point. If a *Bearing* is specified, *Voyager* finds the intersection of the bearing and the radial.

Similarly, for *Airways*, if no *Bearing* is specified, *Voyager* selects the closest intercept point (approximately) along the airway. If a *Bearing* is set, *Voyager* selects the point where the bearing will intercept the airway.

GAUGE OPTIONS

GlassView Required
To access this feature: While in a *GlassView* (moving map) window, click any of the gauges at the bottom of the screen. You can also get here from the **Select GPS Gauges button** in the **GPS** area of the **Options/Preferences** dialog.



Use this dialog to select which gauges are shown on the Gaugebar or Gauges widget. To select the gauges, choose the **Manually select gauges** option then click the items you'd like in the **Available** list. Click **Add** to add the **Selected** (shown) list. To remove a gauge, select it in **Selected** then click **Remove**.

OPTION	DESCRIPTION
Manually select gauges	Allows you to select exactly which gauges, and in which sequence, you'd like to see.
Available	Shows all the gauges available but not currently set to be shown (i.e. not in the **Selected** list)

Selected	The gauges that will be shown in the order they'll appear. The top item is shown to the left on the screen. Subsequent gauges appear to its right as the screen width allows.
Copy current gauges	Click to populate the **Selected** list with the gauges currently shown on the screen. This makes it easy to slightly modify the default set of gauges.
Add	Moves the item highlighted in **Available** to the **Selected** list so it will be shown.
Remove	Moves the item highlighted in **Selected** back to the **Available** list so it will not be shown.
Up/Down	Changes the order of the item highlighted in **Selected** up or down.
Use short gauge labels	By default, *Voyager* uses gauge labels (names) that are longer and more English-like than those used on most in-panel GPS units. Select this option if you'd like to use GPS-like three letter gauge labels instead.
GPS Settings	Jumps to the **GPS** area of the **Options** dialog box.

Note: *VSR* (*Vertical Speed Required)* is the altitude change rate, typically in Feet/Min, required to get from your current altitude to the desired waypoint altitude. It's only applicable if you entered a target altitude in the **Direct To** dialog or are flying on a flight plan.

Working with Procedures

PLATE PACK

SmartPlates Required

The *SmartPlates* module creates *Plate Packs*. Plate Packs are collection of Approach and Departure Procedures plus Airport Diagrams and, in some cases, Minimums. The Procedures and Diagrams are created by the FAA and legal for in-flight use.

A Plate Pack is a list of Procedures and Diagrams, not the Procedures and Diagrams themselves. That is, a Plate Pack file is small because it's just a list, no graphics. To print or view the Procedures and Diagrams referred to in the Plate Pack, you need a copy of *SmartPlates*.

SmartPlates runs on a desktop or laptop PC and can export files to a PDA running the Pocket PC 2002, 2003 or Windows Mobile operating system. To use *SmartPlates* on a Pocket PC, you'll need *SmartPlates for the Pocket PC*, available from Seattle Avionics at an additional charge. The Pocket PC version requires the desktop/laptop version.

As the name implies, Plate Packs are packages (collections) of plates, often created for a specific flight. They can be created by opening a flight plan from within *SmartPlates* or by manually adding specific procedures. If you begin with a flight plan, you can tell *SmartPlates* to add procedures from every airport along your route or just near takeoff, landing and refueling airports.

By default, every time you open, save or print a Plate Pack, *SmartPlates* verifies the plates to make sure they're all downloaded and current.

Create a Plate Pack by selecting **New** from the **File** menu or clicking the  button on the main toolbar.

PLATE PACK WIZARD

SmartPlates Required

The Plate Pack Wizard is the fastest, easiest way to create a **Plate Pack**. Select **New** from the **File** menu or click on the main toolbar, select **Plate Pack** and choose the **Use the Plate Pack wizard** option.

Click **Next** to begin.

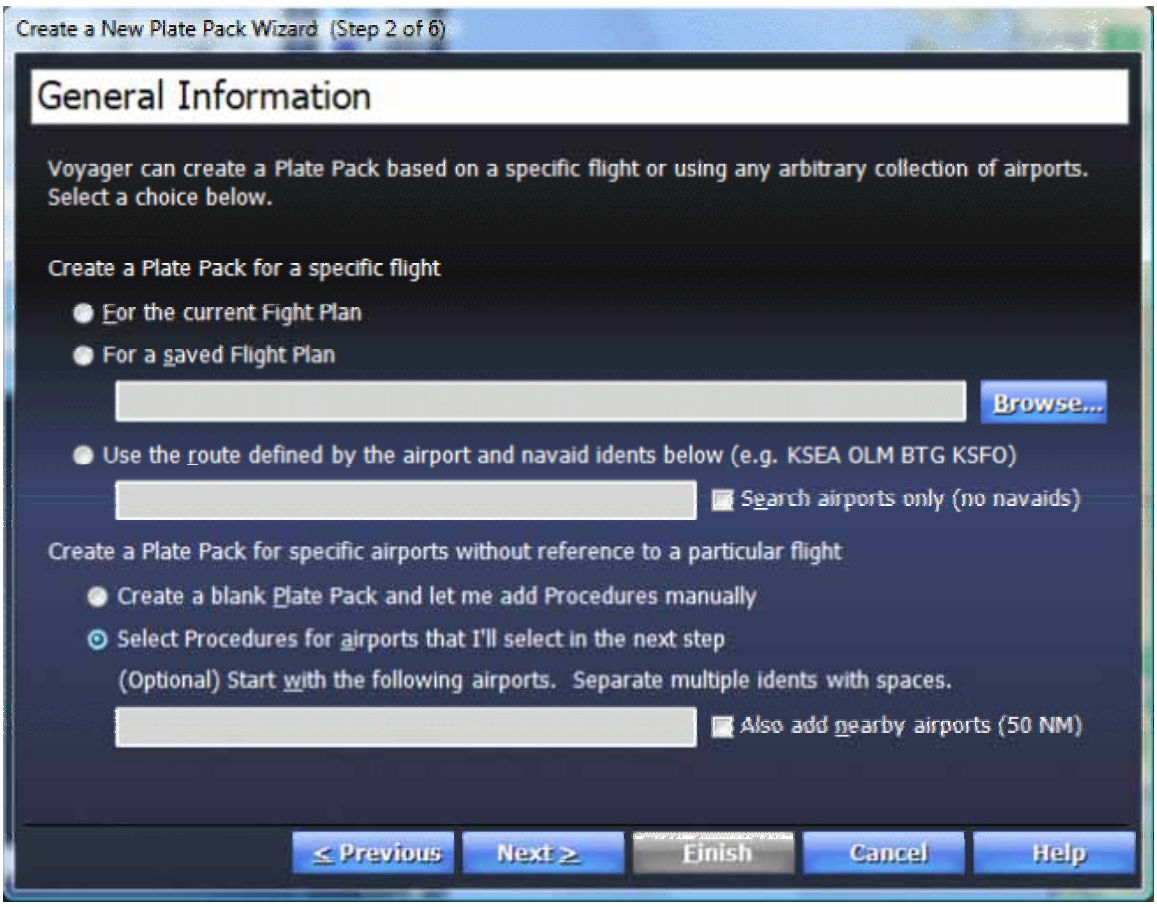


Plate Packs can be created for specific flights or for general-purpose use. The top two choices are for specific flights, the last two are for general-purpose use.

If you use **Voyager**, Seattle Avionics advanced flight planning system, you can open a *Voyager* flight plan and quickly collect all the procedures you'll need for the flight. Alternately, you can create a rough flight plan by entering the route idents in the second area. For example, enter *PAE PDX SFO LPC* to plan a flight from Paine Field, near Seattle, to the Portland VOR to the San Francisco VOR to the Lompoc airport in central California. Note that *SmartPlates* interprets 3 letter FAA idents as navaids, not airports, unless they happen to be the first or last ident, in which case *SmartPlates* will assume you mean the airport. Therefore, if you plan a landing at Portland, enter *KPDX* instead of *PDX*. **Tip**: Check the **Search airports only** box to search airport idents only, not navaids or waypoints.

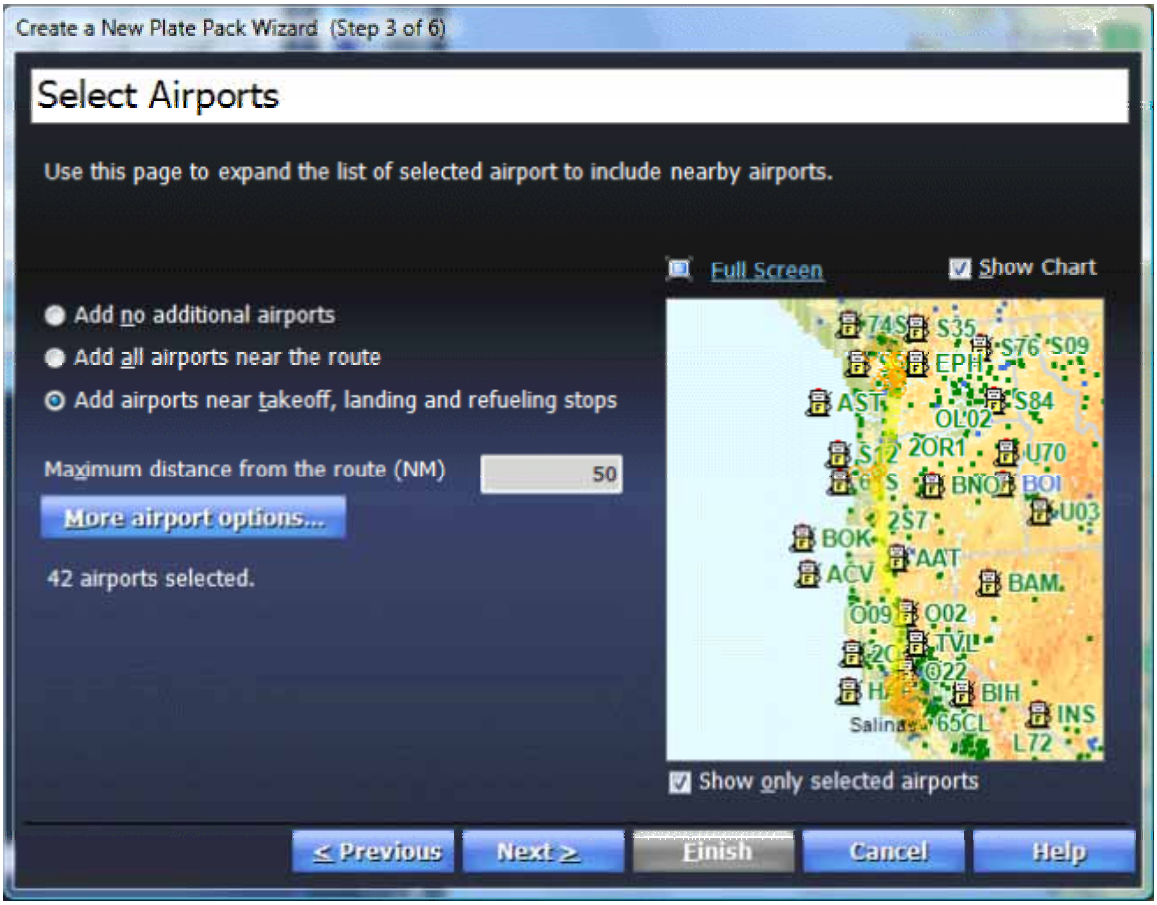
The third option effectively cancels the Wizard and opens a blank **Plate Pack window**. This is the same as selecting **New** from the **File** menu and choosing the blank Plate option.

The last option helps you create a general-purpose Plate Pack that can include any arbitrary collection of Procedures and Airport Diagrams. If you like, you can enter specific airport idents in the text field. Unlike the route choice above, all idents here are assumed to be airports. **Tip:** You can enlarge the selected airport list to account for IFR alternates by checking the **Also add nearby airports** box. Regardless of

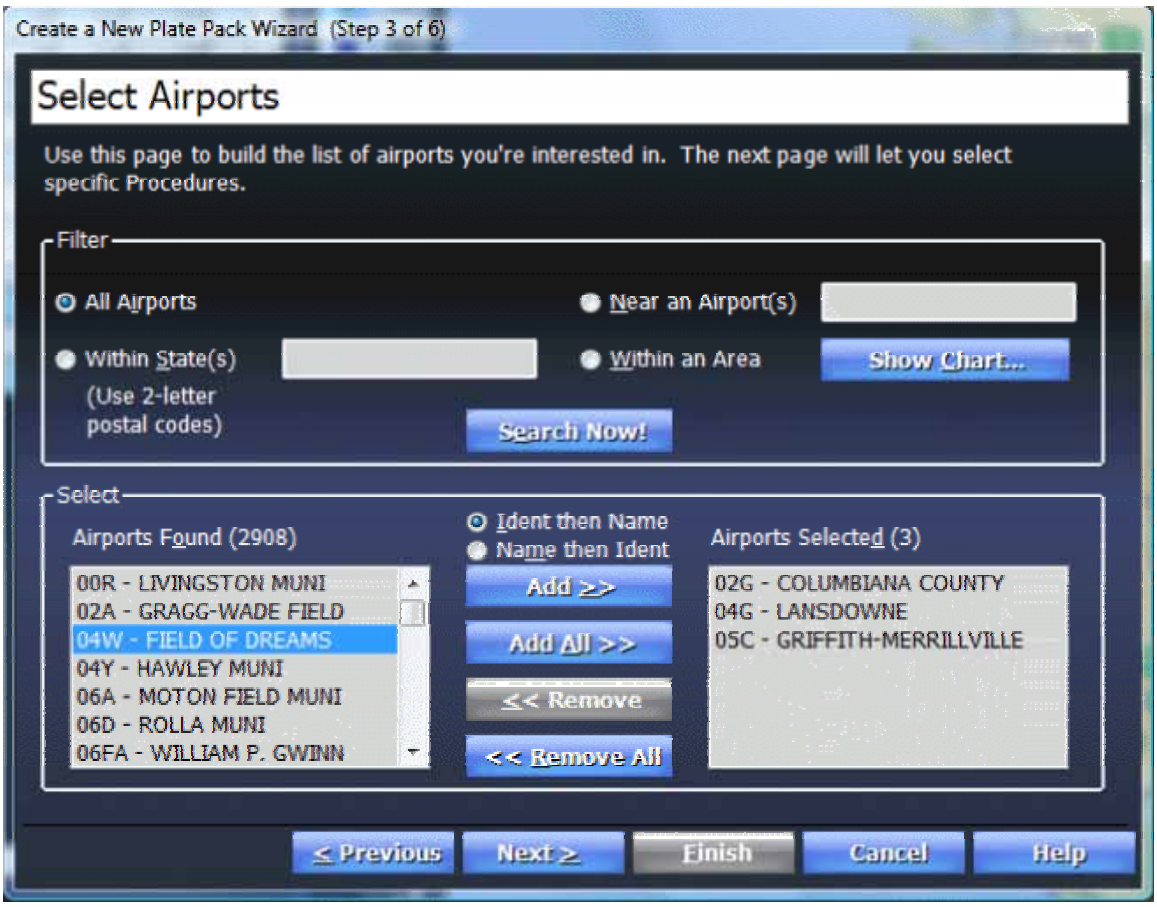
whether or not you enter idents here, the next page helps you select additional airports.

Click **Next** to continue.

The next page depends on what you selected in the previous step. If you selected one of the route-based selections (a *Voyager* flight plan, for example), you'll see the following screen. However, if you selected the general purpose option (the last choice), you'll see the second screen below.



Here, you can select alternate and backup airports either all the way along the route (the second choice), only near the existing takeoff/landing airports or no additional airports at all. The small Chart on the right graphically depicts your selection where green dots show all airports with a Procedure or Diagram and the red circles show those you've selected. You can vary the 'width' (radius) of the search corridor with the **Maximum distance from the route** field.



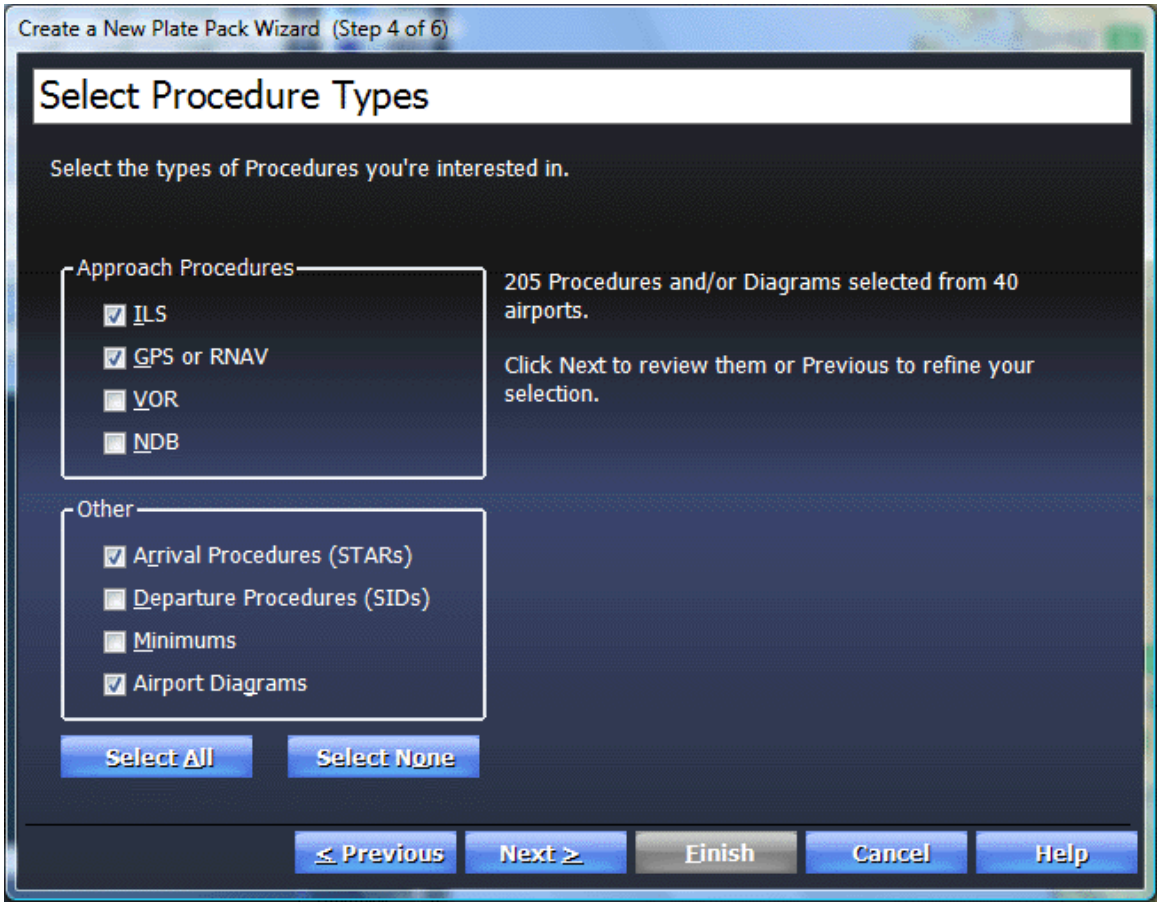
The screen above is only shown if you selected the general-purpose Plate Pack option in the previous step. It does not apply to route-based Plate Packs.

This page is divided into two sections. The top half helps you select airports that meet a specific criteria. It's similar to the **Filter** section of a **Plate Pack window**. The bottom half shows the airports found from the above section and let's you choose the specific airports to add to the **Plate Pack**.

This screen works in two steps. First, you use the top section (Filter) to make a rough-cut at the airports you're interested in. You can narrow the list, for example, by entering the US postal codes for the states you want or by entering a list of airports that you need. You can enter a list in both fields so, for example, to select Northwest airports, you can type *WA ID OR* in the **Within State(s)** area. Or, if you just fly around Seattle/Portland area, enter *SEA PDX* in the **Nearby an Airport(s)** field. When you click **Search Now**, *SmartPlates* populates the **Airports Found** area (bottom left of the screen) with matching airports. You can also use a Chart to select airports by clicking **Show Chart**.

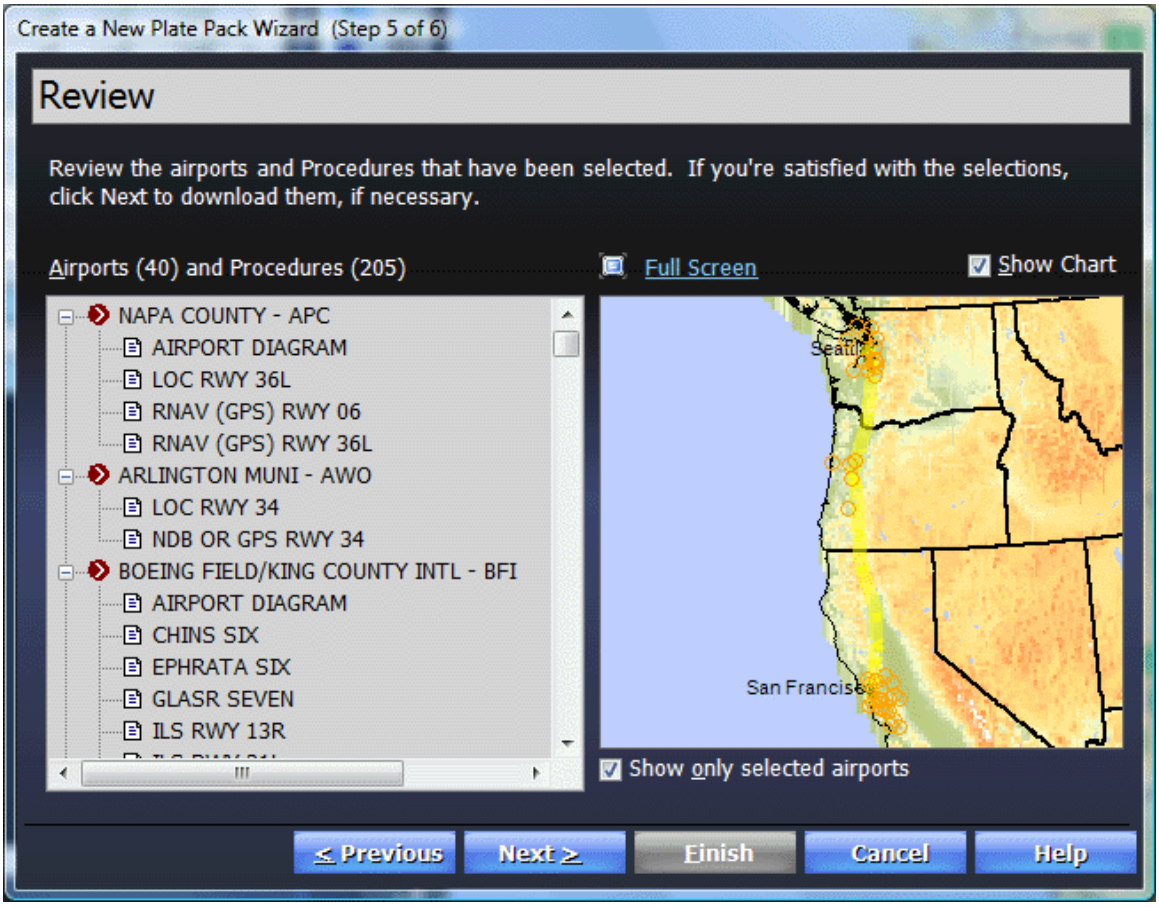
Once the **Airports Found** list is filled, you can choose the specific airports you want by selecting the airport and clicking the **Add** button. Or select all the airports in **Airports Found** by clicking **Add All**. **Important:** Only the airports listed in **Airports Selected** will become part of the Plate Pack. The **Airports Found** list is a searching convenience only.

After selecting some airports, click **Next** to continue.



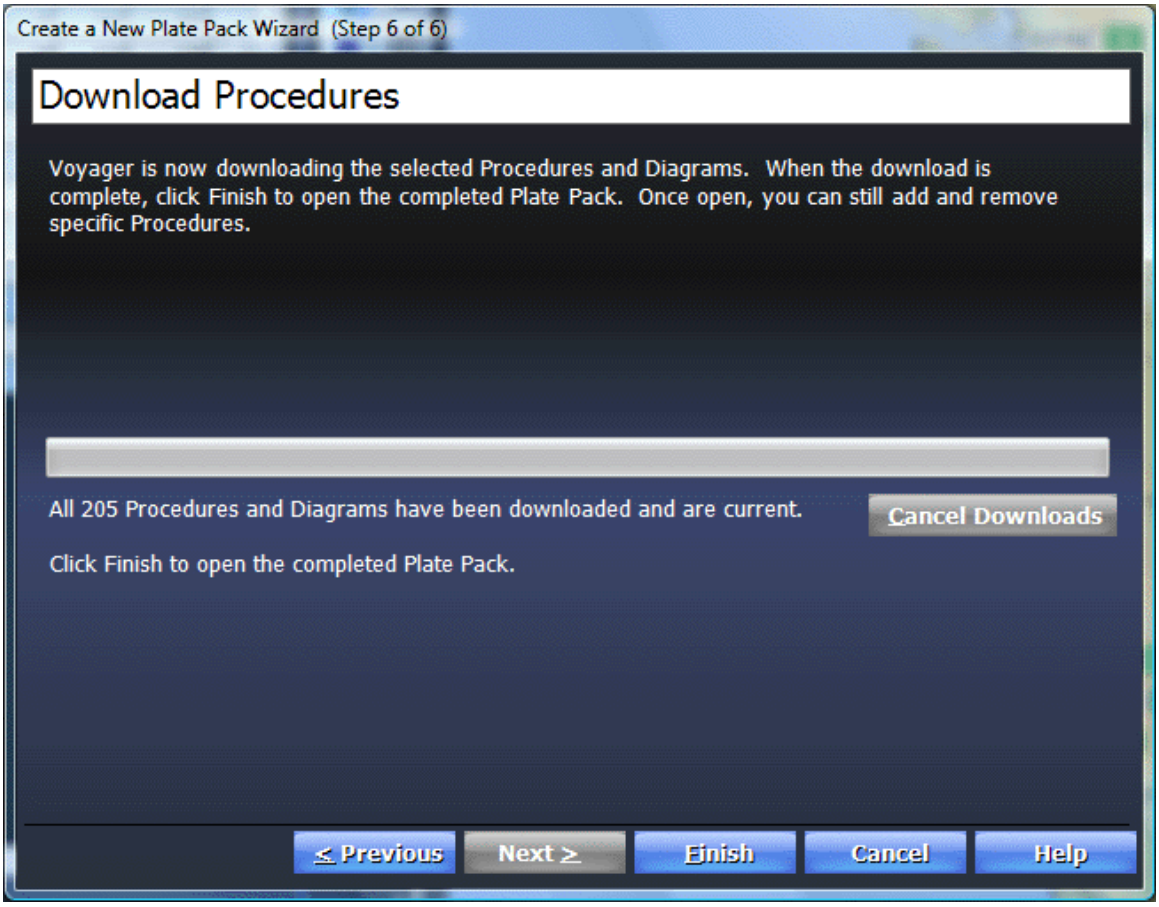
Now that you've selected the airports, choose the type of information you want. As you check and uncheck boxes, *SmartPlates* updates the number of selected Procedures and Diagrams.

Click **Next** when you're satisfied.



Now *SmartPlates* displays the Procedures and Diagrams selected, grouped by airport. The small Chart on the right graphically depicts your selection where green dots show all airports with a Procedure or Diagram and the red circles show those you've selected.

Click **Next** to begin downloading these Procedures and Diagrams (as necessary) or use **Previous** to change your selections.



Depending on the first option in the **Preferences** tab of the **Options** dialog, *SmartPlates* will either automatically download Procedures as necessary or determine which need to be downloaded and wait for you to click **Start Downloads**.

Procedure and Diagram may be downloaded from the Seattle Avionics Web site or directly from the FAA. The Seattle Avionics site provides the same legal plates as the FAA Web site but have been **optimized for much faster download** with a small decrease in quality. By default, *SmartPlates* downloads from the Seattle Avionics Web site.

When all downloads are complete, click **Finish** to close the Wizard and open the new **Plate Pack** in a **Plate Pack window**.

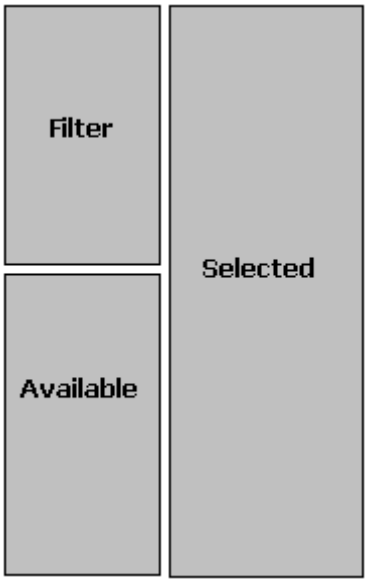
PLATE PACK WINDOW

SmartPlates Required

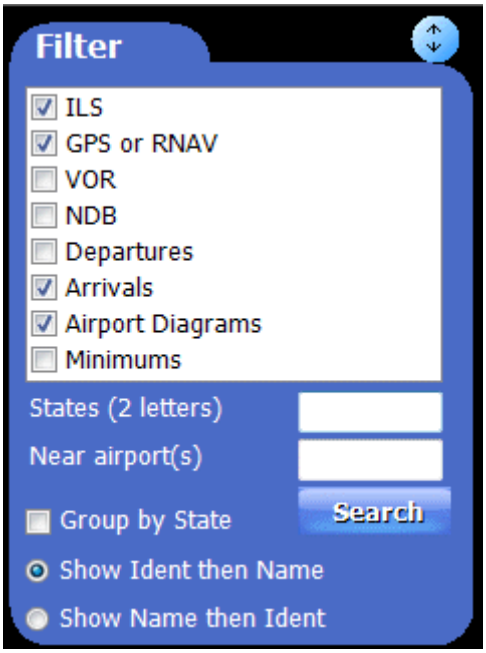
Plate Packs are the core of *SmartPlates*. They are created, viewed and organized from within a Plate Pack Selector widget. In addition to being part of the standard *SmartPlates* layout, if you have *SmartPlan*, there is a **layout** that combines a flight plan with a Plate Pack.

Tip: To quickly find a few procedures for a specific airport or two (or while in-flight), it is probably more efficient to use a layout that includes a combination of the **Airport Selector** widget and a **Procedure Viewer** widget such as *SmartPlates Viewer 1* (pre-flight) or *SmartPlates In-Flight 1 or 2*.

The widget is divided into several sections to help you find and select the right Procedures and Diagrams for your flights.



Filter

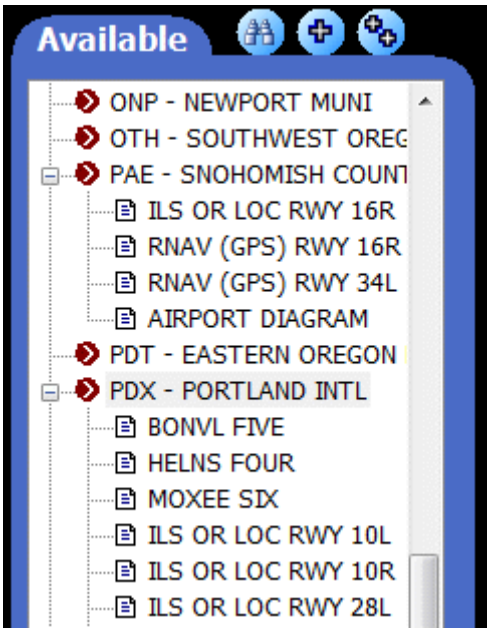


The **Filter** area lets you quickly select airports and procedures. After you enter the desired criteria, click **Search** and *Voyager* will fill the **Available list** with matching airports.

OPTION	DESCRIPTION
	Toggles the **Filter** area on and off. Same as selecting **Show Filter** from the **Procedures** menu.
Checkboxes	The top section of the filter area controls the type(s) of procedures that are selected. Check as many or as few as you like.
States	Enter the US postal code (two letter abbreviation) for as many or as few states as you're interested in. Separate multiple states with a space or comma. Example: *WA CA ID OR WY*
Nearby airport(s)	Enter the name or ident of one or more airports. *Voyager* will select not only these airports but also any airport within a 50 NM radius of each of these. Separate multiple entries with a space or comma. Example: *PAE PDX SFO* As airport names often contain spaces, it's sometimes difficult to enter multiple airport names. In that event, it's easiest to use idents rather than names.

Group by State	When checked, *Voyager* organizes the **Available list** by state then by airport. When unchecked, airports are listed alphabetically. Same as selecting **Group by State** from the **Procedures** menu.
Show Ident then Name	Airport idents (FAA 3 or 4 letter versions) are shown, followed by the airport's name. Same as selecting **Show Ident then Name** from the **Procedures** menu.
Show Name then Ident	Airport names are shown before the FAA ident. Same as selecting **Show Name then Ident** from the **Procedures** menu.
Search	Populates the **Available** list area with airports and Procedures that match all of the criteria in the **Filter** area.

Available



The **Available** list shows the airports and procedures that match the criteria specified in the **Filter** area. These procedures are not in the Plate Pack. Only the Procedures and Diagrams in the **Selected list** are saved as part of the Plate Pack. The **Available** list can be thought of as a 'rough draft' list that you manually narrow down before it gets to the Plate Pack.

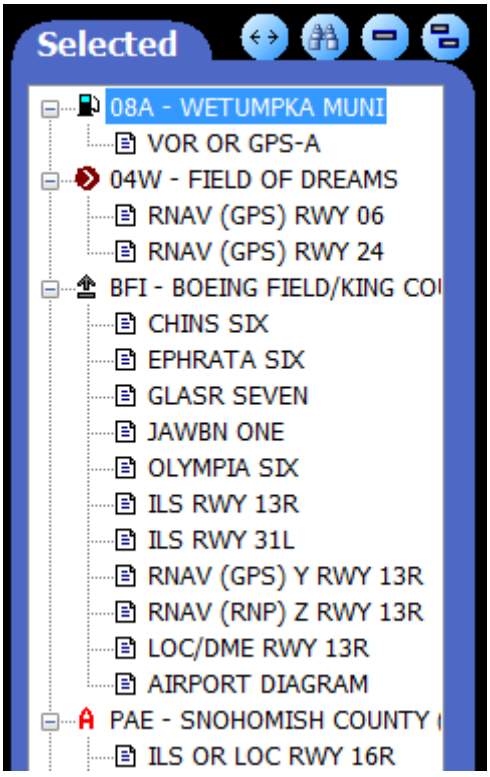
By default, the **Available** list contains every US airport with a Procedure or Airport Diagram.

Note: Click an airport name to list its Procedures and Diagrams. Click a Procedure to show it in a **Procedure** widget.

You can see **detailed information about any airport** by right-clicking on it and selecting **Show Info**. You can also show the airport centered on a **Chart** by right-clicking on it and choosing **Jump to**.

OPTION	DESCRIPTION
	Searches the **Available** list, by name or ident, for a specific airport.
	If a particular Procedure or Diagram is selected, it's added to the **Selected list**. If an airport is selected, all of its Procedures and Diagrams are added. Same as selecting **Add to Selected** from the **Procedures** menu or right clicking the mouse and choosing **Add to Selected**.
	Adds all the airports and Procedures in the **Available** list to the **Selected** list. Same as selecting **Add All to Selected** from the **Procedures** menu.

Selected



The **Selected** list shows all the Procedures and Diagrams that are in the Plate Pack. The icons to the left of the airport name show optional categories, useful for print organization (the top icon signifies a F*uel Stop*, the third is *Takeoff*, the fourth is an *Alternate*, and the second is *Other*). To categorize an airport: Select the procedure or airport in the **Selected** list and right-click the mouse then pick a category from

the pop-up menu or select the category from the **Procedures** menu on the main window.

Click a Procedure to show it in a Procedure widget. See detailed information about any airport by right-clicking on it and selecting **Show Info**. Center an airport on a Chart by right-clicking on it and choosing **Jump to**.

As you add airports, either from the **Available** list or by clicking on the Chart, the **Selected** list may get out of sort order. To resort, choose **Resort Selected List** from the **Procedures** menu.

OPTION	DESCRIPTION
	Hides or shows the **Selected** area.
	Searches the **Selected** list, by name or ident, for a specific airport.
	If a particular Procedure or Diagram is selected, it's removed from the **Selected** list. If an airport is selected, all of its Procedures and Diagrams are removed. Same as selecting **Remove from Selected** from the **Procedures** menu or right clicking the mouse and choosing **Remove from Selected**.
	Removes all the airports and Procedures in the **Selected** list. Same as selecting **Remove All from Selected** from the **Procedures** menu.

Note: On the **Chart** related to the Plate Pack Selector, *Voyager* uses light-blue circles to indicate all airports that have any type of Procedure or Airport Diagram (not just those in **Available**). Those in the Plate Pack (that is, in the **Selected** list), are also outlined in orange. You can hide the blue circles by selecting **Show Only Selected Airports** from the **Procedures** menu.

SAVE A PLATE PACK

SmartPlates Required

Save a Plate Pack to disk by selecting **Save** from the **File** menu or clicking the  button on the main toolbar. By default, *Voyager* first analyzes the Plate Pack and warns if some of the procedures need to be downloaded or are out of date.

When a **Plate Pack window** is closed, *Voyager* prompts to save it if the Plate Pack was changed since the last save. Use **Save As**, also on the **File** menu, to save the current Plate Pack under a new name.

Note: A **Plate Pack** is simply a list of airports and procedures, not the procedures themselves. That is, you email a Plate Pack to a friend, it will not be useful unless they also have *Voyager*.

PRINT A PLATE PACK

SmartPlates Required

Print **Plate Packs** by selecting **Print** from the **File** menu or clicking the  button on the main toolbar. Depending on a setting in the **Preferences** section of the **Options** dialog, *Voyager* first analyzes the Procedures and Diagrams to ensure that they're downloaded and up-to-date (this is on by default for maximum safety).

Not only does *Voyager* print the **Procedures and Diagrams** in the Plate Pack, it also prints a manifest of all the procedures printed, **Airport Information** for selected airports and **Charts** that give you better situational awareness. Each of these can be turned on or off and customized. See **Print Setup** for more information.

OPEN A PLATE PACK

SmartPlates Required

Existing **Plate Packs** are opened from disk in the usual way: Select **Open** from the **File** menu or click the  button on the main toolbar. After *Voyager* verifies that all the Procedures and Diagrams in the Plate Pack are still valid, a **Plate Pack window** will appear. If any of the plates need updating because they have changed, *Voyager* will warn you and begin downloading the changed plates.

CLOSE A PLATE PACK

SmartPlates Required

Plate Packs are closed in the usual way: Select **Close** from the **File** menu or click the  button in the upper right corner of the window. *Voyager* will prompt to save the file if the Plate Pack hasn't been saved or has been changed since the last save.

EMBEDDING PLATE PACKS WITHIN FLIGHT PLANS

SmartPlates Required

Within *Voyager*, flight plans (*.fp* files) and **Plate Packs** (*.PlatePack* files) are distinct entities. However, it's often convenient to view or print them together so we made a way to associate Plate Packs with flight plans.

To Add an Existing Plate Pack to a Flight Plan

-  **Open** or  **create** the flight plan in the usual way.
- Select **Add Plate Pack** from the **Plan** menu and use the standard Windows file open dialog to select the Plate Pack.
- Once the combined entity opens, use the **NavLog** and **Plate Pack** tabs to switch between the two.
-  **Save** the flight plan to save the reference to the Plate Pack.

To Add a New Plate Pack to a Flight Plan

-  Open or  create the flight plan in the usual way.
- Select  **New** from the **File** menu and select the **Plate Pack** tab. Choose either of the top options to create a default Plate Pack or the **Blank** option to create a blank Plate Pack.
-  Save the flight plan to save the reference to the Plate Pack.

To Remove a Plate Pack from a flight plan

- With the combined flight plan / Plate Pack open, select **Remove Plate Pack** from the **Plan** menu.
-  Save the flight plan.

To Print a Flight Plan and the Associate Plates from the Plate Pack

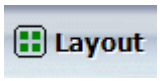
- With the combined flight plan / Plate Pack open, simply select  **Print**, **Print Preview** or **Print Settings** in the usual way.

Layouts

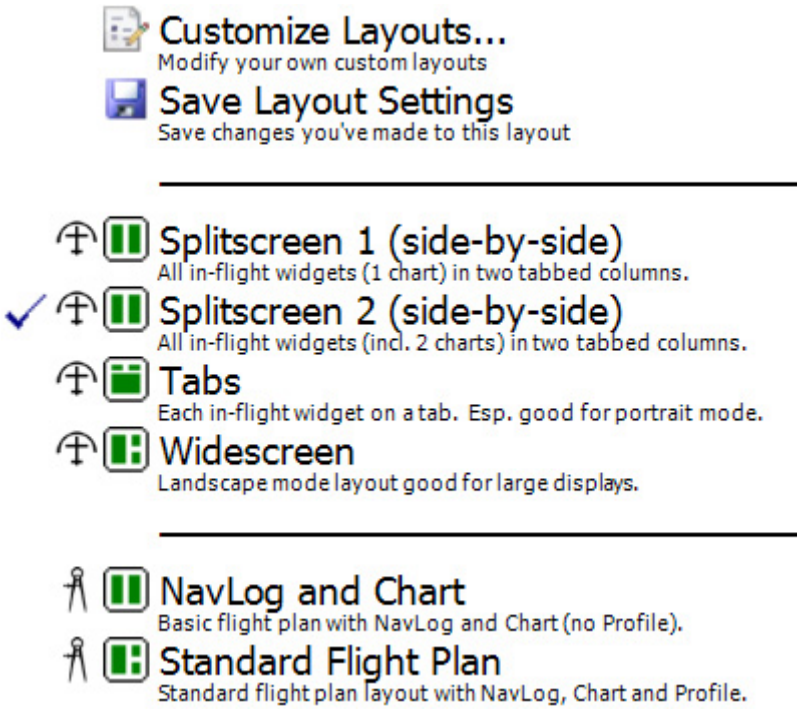
Layouts

The *Voyager Flight Software System* shows information relevant to each stage of flight from checking the weather, to pre-flight planning to enroute use, and more. It does this by displaying one or more *widgets*. A widget is a portion of the screen dedicated to showing a specific type of information. For example, there is a **Chart** widget that shows a map, a **NavLog** widget that shows a standard navigation log, a **Wind Optimizer** widget that shows in-flight winds aloft, and so on.

As there are many widgets and each can be displayed in a variety of different sizes and locations, *Voyager* contains many pre-defined combinations of widgets, each ideal for particular tasks or stages of flight. These are called *Layouts*. If you're familiar with GPS systems, you can think of these as *pages* or *screens*. You can use the Personal Layouts feature to create your own customized layouts.

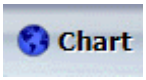
When you click the 

button, a menu appears:



The top item, **Customize Layouts**, is a way to create or modify a Personal Layout. A Personal Layout is a way to create a screen setup exactly how you like it -- a layout, the theme for each Chart, the zoom for each chart, etc. Once created, you can have *Voyager* instantly switch to all those settings at once simply by selecting the Personal Layout from the **Layouts** button (no Personal Layouts are shown in the

screenshot above; they would be listed just above the bar, below **Save Layout Settings**).

Save Layout Settings sets the current Personal Layout to match whatever is currently on the screen. This is a quick way to redefine a Personal Layout once set. If **Save Layout Settings** is selected without a current Personal Layout, *Voyager* creates one based on the way the screen is currently organized. Clicking **Save Layout Settings** also saves the current Chart theme (or themes if the layout has more than one chart), exactly as would clicking Save Chart Settings from the 

button.

Below the bar are the standard layouts built-into *Voyager*. By default, to reduce visual complexity, *Voyager* hides the less frequently used layouts and hides layout that are inappropriate for a given screen size and orientation (landscape vs. portrait). The ones shown on the menu screenshot above are the default common layouts. You can customize this selection by selecting Layouts from the **View** menu and clicking **Customize.**

The table below described all layouts.

The three columns of icons give you quick visual cues about each layout:

-  The current layout is indicated with a checkmark.
- An icon representing the primary function (flight planning, in-flight, plates, etc.).

   Flight planning (*SmartPlan*)

   In-flight information (*GlassView*)

   Organizing procedures (*SmartPlates*)

- An icon that indicates, approximately, what the resulting screen looks like.

   One widget, full screen.

   One set of tabs and one or more widgets on each tab.

   Two widgets, split vertically.

   or  Two widgets, split horizontally.

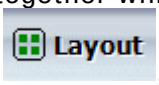
 Four widgets, split (approximately) into quadrants.

 Three widgets, one primary on the left and two smaller ones on the right.

 As above but mirror image.

 Three widgets with the primary on top and two smaller ones below.

 A complex layout with one primary on the top left, surrounded with four additional widgets.

Layouts are grouped by primary use -- in-flight or desktop. That is, layouts designed mainly for desktop pre-flight use are grouped together while the many in-flight layouts are grouped together. When you click 

, the other layouts designed for the same function (desktop vs. in-flight) are listed first. Below those, under a dividing line, are the other layouts listed alphabetically. This makes it easy to find related layouts, especially while in the air.

FLIGHT PLANNING LAYOUTS (*SMARTPLAN*)

LAYOUT	DESCRIPTION
Standard Flight Plan	Shows a **NavLog**, a **Chart** and a **Profile**. Ideal for desktop pre-flight planning. Essentially the same as the Flight Plan window in *Voyager 2.5* and earlier.
Chart and Profile	Shows a **Chart** and a **Profile**. Good for reviewing a flight plan once the route is set.
NavLog	Shows a full-screen **NavLog**. Excellent for a detailed review of a flight plan, either desktop or enroute.
NavLog and Chart	Shows a **NavLog** a **Chart**. Good for flight planning on smaller screens or when *SmartPlan Premier* has not been purchased.
Big Chart	Just as the name implies, a full-screen **Chart**.
Flight Plan and Plate Pack	SmartPlates Required A combined layout that, for IFR flights, shows both a detailed flight plan (same as the **Standard Flight Plan** layout) but also a **Plate Pack Selector** and **Procedure** widget. This lets you work with both a flight plan and a related **Plate Pack** at the same time.

ORGANIZING PROCEDURES (*SMARTPLATES*)

SmartPlates Required

LAYOUT	DESCRIPTION
SmartPlates	Like the layout used with *SmartPlates version 1.0*, this layout shows a **Plate Pack Selector**, a **Chart** and a **Procedure**.
Flight Plan and Plate Pack	A combined layout that, for IFR flights, shows both a detailed flight plan (same as the **Standard Flight Plan** layout) but also a **Plate Pack Selector** and **Procedure** widget. This lets you work with both a flight plan and a related **Plate Pack** at the same time.
SmartPlates Viewer 1	A landscape-mode layout that makes it easy to simply pick an airport and view the procedures for it. No Plate Pack is created.
SmartPlates Viewer 2	Same as above but for portrait-mode.
SmartPlates In-Flight 1	GlassView Required A landscape-mode layout designed for in-flight use that includes both a **Procedure** and **Chart** and an easy way to select Procedures and take in-flight notes. It's almost identical to *SmartPlates Viewer 1* except with the Chart and the Procedure reversed.
SmartPlates In-Flight 2	GlassView Required As above but for portrait-mode.

IN-FLIGHT INFORMATION (*GLASSVIEW*)

GlassView Required

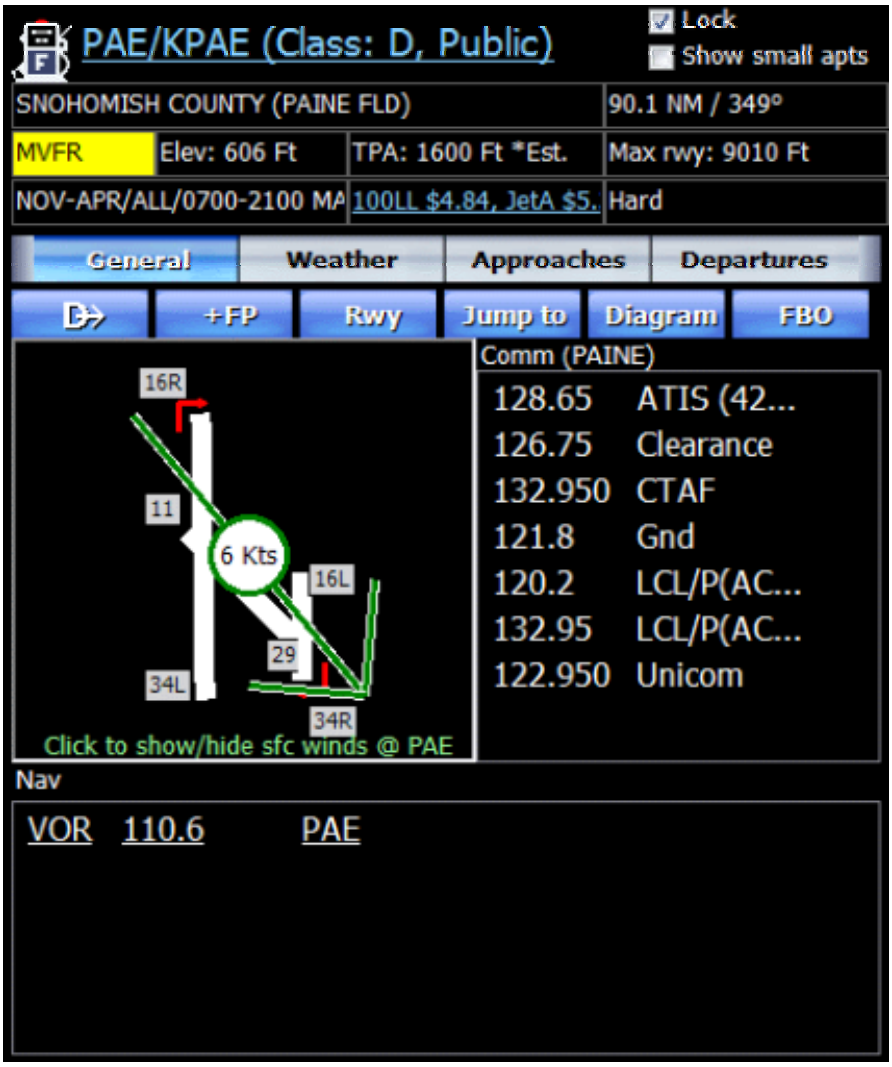
LAYOUT	DESCRIPTION
Widescreen	A multi-widget layout ideal for larger landscape-mode screens. It has one large tab area that toggles between a **Chart** and **Procedure** and two smaller tabbed areas that contain **Nearest**, Gauges, **NavLog**, **AirportView** and Scratchpad on one tab and **WindView** and **AirportSelector** on the other.
Tabs	An excellent layout for smaller portrait-mode Tablet PCs that uses one tab strip to switch between all the in-flight widgets (**Chart**, **Procedure**, Gauges, **Nearest**, **NavLog**, **AirportView**, Scratchpad, **WindView** and **AirportSelector**)
Splitscreen 1 (side by side)	An excellent layout for landscape mode tablets that shows a **Chart** on the left plus a tabbed column on the right that provides access to the other inflight widgets (**Procedure**, Gauges, **Nearest**, **NavLog**, **AirportView**, Scratchpad, **WindView** and **AirportSelector**).
Splitscreen 1 (stacked)	As above but for portrait mode tablets (longer than wide) so the two areas are stacked on top of each other rather than

	side by side.
Splitscreen 2 (side by side)	Two **Charts**, side by side plus tabs that show all the other widgets. Each Chart can be configured completely separately so it's possible to show two different zoom levels, an IFR Chart on one side and weather on the other, Track Up in one Chart and North Up in the other, etc. A Personal Layout can configure both Charts at the same time.
Splitscreen 2 (stacked)	As above but for portrait mode tablets (longer than wide) so the two areas are stacked on top of each other rather than side by side.
VFR / IFR Moving Map 1	A basic multi-widget moving map that works well for small or large screens. It shows a large **Chart** on top of smaller **Nearest** and **Wind Optimizer** widgets.
VFR / IFR Moving Map 2	This layout is ideal for small screens. It shows a **Chart** on the left side with a small **Nearest** below it. On the right, it has a small **Wind Optimizer** widget and **Airport Info** below.
VFR / IFR Moving Map 3	A good general purpose in-flight layout with a large **Chart** on the left and smaller **Nearest** and **Airport Info** widgets to the right.
VFR / IFR Moving Map 4	As above but with a **Wind Optimizer** below the **Chart**. It's the default VFR *GlassView* layout for larger screens.
IFR Moving Map 1	A good general-purpose IFR layout with a large **Chart** above a small **Nearest** plus a **Procedure** area above an **Airport Info** on the right.
IFR Moving Map 2	As above but with a **Wind Optimizer** sandwiched between the **Chart** and the **Nearest**. It's the default IFR *GlassView* layout for larger screens.
IFR Moving Map 3	An excellent layout for portrait-mode displays but also useful for landscape-mode. It has two areas stacked on top of each other. The top area shows your choice of **Chart**, **Procedure** or **AirportView** and the bottom switches between **Nearest**, **NavLog**, **WindView**, Scratchpad and **AirportSelector**.
SmartPlates In-Flight 1	SmartPlates Required A landscape-mode layout designed for in-flight use that includes both a **Procedure** and **Chart** and an easy way to select Procedures and take in-flight notes. It's almost identical to *SmartPlates Viewer 1* except with the Chart and the Procedure reversed.
SmartPlates In-Flight 2	SmartPlates Required As above but for portrait-mode.
Taxi	A good layout for pre-flight or post-flight taxi. It has a relatively small **Chart** with **Airport Info** below it (to show various Com frequencies and the runway diagram) and a large **Procedure** area next to it. If downloaded, the airport diagram or an approach procedure for the closest airport is automatically displayed.

Airport Information

GlassView Required

The Airport Information widget is conceptually similar to *Voyager's* standard **Airport Information** dialog box except optimized for in-flight use. It's used in most *GlassView* **layouts**.



By default, it shows airport information about the closest Class B, C or D airport (within a maximum range) of your current location. If you'd like to see smaller airports, check the **Show small apts** box. If you manually request information about a particular airport (by clicking on the **Chart** or in a **Nearest** widget), that airport's data will be shown here and the **Lock** checkbox will check. When checked,

Locked tells *Voyager* to leave that airport's information on the screen rather than update it with the closest airport.

A  icon indicates that the airport has fuel although it does not take hours of availability or type of fuel into account. Click the airport's ident (*PAE/KPAE* in this case) to bring up the complete **Airport Information** dialog or the fuel price for more fuel info.

Tip: You can see even more information about this airport or select other airports either by clicking the name of the current airport (it's blue and underlined) or using the **Airport Selector** widget.

There are four categories of information: *General*, *Weather*, *Approaches* and *Departures*. Click the appropriate button to see the information (*General* is selected in the example above).

The most important information is shown at the top of the widget (the **Key Information** below) or on the **General** tab.

KEY INFORMATION

OPTIONS (CLOCKWISE FROM THE TOP LEFT)	DESCRIPTION
Airport Name	The official name of the airport.
Distance and Bearing	The distance and bearing (magnetic) from your current position to this airport.
Weather conditions	VFR, IFR, MVFR or blank. Blank indicates no valid TAF or METAR for this time at this airport.
Elevation	The airport's reported elevation.
TPA	The stated or estimated traffic pattern altitude.
Max runway length	The length of the longest runway.
Hours of operation	If an operating schedule is available, the field contains information in the following format: Month(s)/Days of the week/Time (local) If the field has more than one schedule, generally depending on the month, additional schedules are separated by a comma. Examples: *ALL/ALL/ALL*

	The airport is open every month, every day and every hour. This is typical for major airports. *NOV-APR/ALL/0700-1800,MAY-OCT/ALL/0700-2100* Between November and April, the airport is attended every day of the week from 7AM to 6PM local time and between May and October from 7AM to 9PM. **Note:** In some cases, this field represents the hours during which the field is attended but the field may be open for uncontrolled traffic during additional hours. It is not uncommon, for example, for a Class D airport to be attended less than 24 hours a day but revert to a usable Class E airport during the other hours.
Fuel prices	Shows the lowest fuel price at this airport if you have a current **ChartData subscription** or the types of fuel available as reported in the FAA's AF/D. Click to see additional info and the prices at nearby airports. Fuel prices from **100LL.com**. **Tip**: *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**.
Runway surface(s)	Indicates which surfaces (*Hard*, *Soft*, etc.) are available.

GENERAL

OPTION	DESCRIPTION
D⇒	Sets this airport as the next waypoint.
+FP	Adds this airport to the flight plan in the sequence you select.
Rwy	Shows the Runway Selector dialog box that makes it easy to find the

	best runway and add an approach to the flight plan. As this button adds multiple points to the flight plan, an airport must be on the flight plan before **Rwy** can be used. If the airport is not on the flight plan, **Rwy** asks if you want to add it to the end. **Tip:** To add the airport somewhere other than the end, use the new **+FP** button first then click **Rwy**.
Jump to	Centers the current **Chart** on this airport.
Diagram	Shows the FAA taxi diagram, if available, in a **Procedure** widget. If no Procedure widget is on the screen, the diagram appears in a full-screen window.
FBO	If the FBO information has been previously downloaded, Voyager displays it in a full-screen window. **Tip**: Before you fly, you can download FBO information for all the airports along your route with the **Download Airport Information** dialog box.
Runway diagram	For land airports and sea-plane bases, an approximate diagram of the runways, excluding helipads. Runways are numbered and red arrows indicate right-hand patterns. Hard land runways and water runways are drawn in black and soft land runways in light gray. If available, surface winds are graphically depicted over the runway diagram. Click the diagram to toggle the wind information on and off.
Comm	The published communication frequencies for this airport, listed alphabetically. The name of the tower, if applicable, is shown on the **Comm** line (e.g. *Comm (PAINE)*).
Nav	The applicable navaids for this airport, including type, frequency, name (ident) and range (if known). Click an entry to see more detailed information.

WEATHER

This tab shows current and forecast weather conditions at this airport. If you're connected to the Internet and **Allow background weather downloads** is turned on, weather information is downloaded or refreshed as the dialog appears. Current weather is also show if you're connected via an XM WX weather receiver. If the weather is not completely downloaded when you click this tab, you may see the information refresh itself.

OPTION/FIELD	DESCRIPTION
Current conditions	The most current METAR available for this airport or the nearest airport with a METAR. Click the text to view the report in a full-screen window using large fonts.

Forecast	The most current TAF available for this airport or the nearest airport with a TAF. Click the text to view the report in a full-screen window using large fonts.
Winds aloft	The currently-valid Winds Aloft (FD) at the closest reporting station to this airport. Click the phrase **Winds Aloft** to see the entire Winds Aloft table. The reporting station's ident is also shown if it's not this airport. Click that ident to see information about the reporting station. The Winds Aloft table shows the wind direction (true, not magnetic) and speed at the various altitudes (MSL) shown at the top of the table. If available, the outside air temperature at each altitude is shown in parenthesis. **Note:** Winds Aloft is only displayed if the closest reporting station is within 200 NM of this airport. *Voyager* only downloads US and Canadian data.

APPROACHES / DEPARTURES

SmartPlates Required

These tabs show lists of published procedures. Click a procedure to see it in a **Procedure** widget. If no Procedure widget is on the screen, the procedure appears in a full-screen window.

Airport Selector

The Airport Selector widget is a quick way to select an while airport in-flight. It's in many **layouts** including *IFR Moving Map 3*, *Combo 1* and the *SmartPlates In-Flight* layouts.

It contains an easy-to-use, oversized keyboard designed for in-flight use. Entering an airport name or ident shows information about that airport in an **Airport Info** widget (if on the screen) or in a separate dialog box.

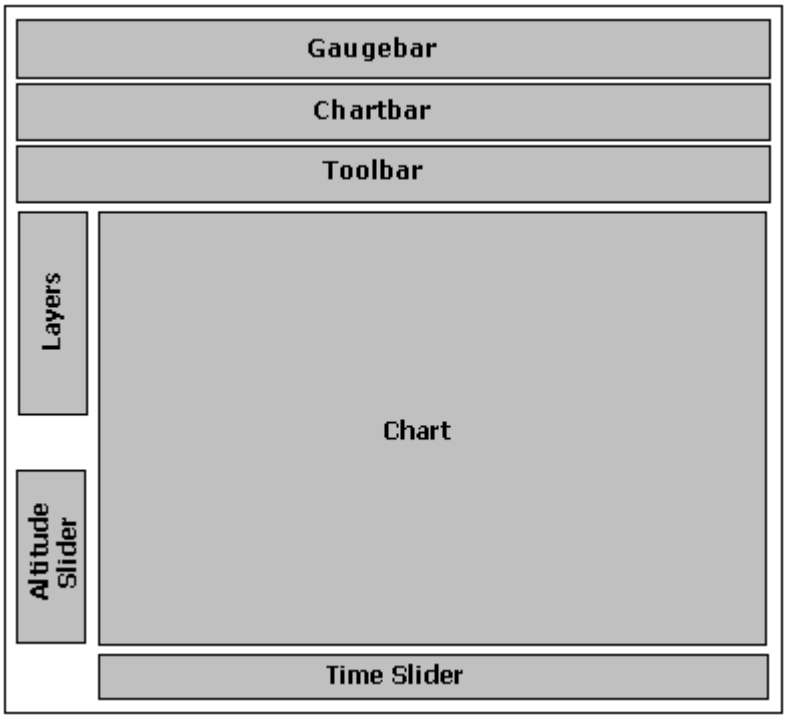
Enter the name or ident of the airport then click  . Click  to delete the last character.

Tip: Uncheck the **Airports only** checkbox to search for any type of item such as a Navaid.

Tip: If a flight plan is open, click  to immediately select any airport in the plan.

Chart

The Chart widget displays aviation and/or weather information on a map (Chart). It's used in most **layouts**; some layouts even include two Charts. Its look varies somewhat depending on the type of layout. For example, in a desktop planning environment (*SmartPlan* layouts), the Chart normally has toolbars, a timeline and an altitude slider. However, in an in-flight environment, these elements are removed so *Voyager* can show more information.



SECTION	DESCRIPTION
Gaugebar	When in GlassView mode, *Voyager* normally displays a series of gauges that provide valuable in-flight information such as course, speed, altitude and much more.
Chartbar	The Chartbar, optionally shown during GlassView, is essentially a large-button version of the **Layers toolbox** that's easy to use in-flight. The Chartbar is off by default but can be turned on by selecting **Show Chartbar** from the **View** menu while in GlassView mode. When shown, it's visible regardless of the Cmd mode.

	Note: Unlike the Layers toolbox, turning a layer on with the Chartbar also ensures that the layer's key range settings are such that the layer will actually appear (that is, it alters the **declutter settings** for that layer if necessary so if you turn the layer on, it always shows up).
Toolbar	Contains various tools for adding, deleting and moving waypoints and controlling the zoom-level (range).
Chart	The actual Chart (map) display.
Layers	Buttons that control which layers (*airspace*, *airport*, *rivers*, *terrain*, etc.) are shown.
Time slider	Determines the time used for the weather display.
Altitude slider	Determines the altitude level for the Winds aloft display.

TOOLBAR

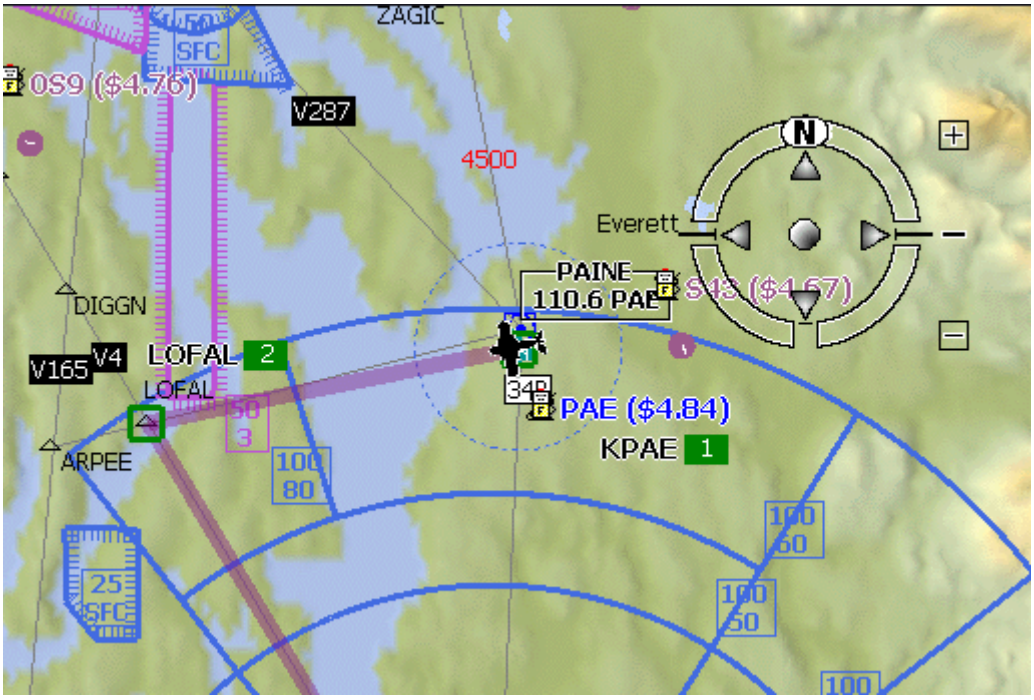
The toolbar is normally shown in desktop layouts (*SmartPlates*, *SmartPlan*, etc.) and hidden in enroute (*GlassView*) layouts.

ICON / FEATURE	DESCRIPTION
	The left (back) button restores the previous Chart settings and location and the right (next) button goes forward.
	Prints the current Chart but not any associated Flight Plan or Plate Pack. The output can be sent to a printer, to the screen (print preview) or to an Adobe PDF file (not available with *Voyager FreeFlight*). You may also select whether the print uses the full width of the paper or just half the width, making it more suitable for kneeboards. To print the entire flight plan (NavLog, Airport Info, Weight and Balance, etc.), use the **Print** command on the **File** menu or the Print icon on the **main toolbar**.
	Click to show a legend that describes the colors and symbols used to depict

	weather.
	The pointer automatically adapts to what is nearby. For example, if a **Flight Plan** window is open and the pointer is near the flight path, this tool moves (click and drag a selected point) and creates new legs (click and drag the flight path line). If you're over an airport click, *Voyager* shows information about the airport. If you click and drag over a general area (not starting near a flight path), *Voyager* zooms to the selected area. **Note:** In *GlassView* mode, the pointer can only select points, not create new ones or move legs. This keeps helps avoid inadvertent flight plan changes.
	The grab tool makes it easy to move the Chart. Select this tool then click and drag. The Chart will move with the mouse until you release it. *Voyager* guards against accidental movement of the Chart by only moving the Chart once you move the stylus a certain amount; move it less than that and *Voyager* acts like you just clicked on a point for information about the area.
	*Only shown in SmartPlates layouts.* Used to selects all the airports within a given region into *SmartPlate's* **Selected** list.
	*Hidden in SmartPlates layouts.* Changes the cursor to a push-pin tool that adds waypoints to the plan. Similar to the Pointer, if the cursor is near an existing waypoint, the cursor becomes a four-way arrow, denoting that the waypoint will be moved if you click-and-drag. If the cursor is on or near the line between two waypoints, the cursor also becomes a four-way arrow, now implying that you can "rubber-band" the line, creating a new waypoint between the two other points. Except for adding a new point to the end of a flight plan, the Pointer tool above does everything this tool does.

	Selects the distance and bearing measurement tool. Click-and-drag to draw a temporary line between any two points. A small window appears, showing distance, bearing, maximum/minimum elevation, etc.
	Click and hold to smoothly zoom in (decrease range) the Chart. You can also zoom using the mouse wheel or with Ctrl +.
	Click and hold to smoothly zoom out (increase range) the Chart. You can also zoom using the mouse wheel or with Ctrl -.
	Customizes the chart. The **customize dialog** allows simultaneous setting of all the layers as well as provides access to the more advanced customization features.
	Sets the center and range of the chart such as to show the entire flight plan.
Range or Alt	In 2D mode, the **Range** drop-down list shows the current range in NM. Select an item from the list to redraw the Chart at a different range, keeping the same center point. Range is defined as the smaller of the visible horizontal or vertical radius from the center. For example, in the diagram below, the horizontal range is 80 NM and the vertical is 50 NM so *Voyager* reports the range, conservatively, as 50 NM. In 3D HITS mode, *Voyager* displays the eye altitude. That is, the altitude required for the view displayed.
Jump to	A quick access tool that lets you enter a place name and move/center the chart to that location. Recent locations are listed in the drop-down for immediate selection.

CHART



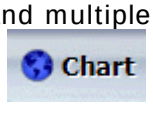
The Chart can work in either 2D (as shown above) or 3D mode. Use 

on the lower toolbar to toggle between modes.

The colors and symbols on a chart depend on the Mode (*IFR* vs. *VFR/DVFR*). The above example uses VFR colors/symbols and shows most available layers at a 50 NM range. This includes a detailed land outline, high-precision (1K blocks) terrain elevation, airspace (TFRs in red), navaids, low-level airways, cities, rivers and airports. As the range decreases (zoom-in), more details would be shown including runways (and runway numbers) at the correct size and orientation, airway radials, etc. Airports with fuel are depicted with a small Fuel icon and current fuel prices.

Move the chart by using the Hand tool and your mouse, as described above. You can also use the Navigator (the compass wheel in the top right corner) to move, rotate or zoom the chart. Using the Navigator, use the center button like a joystick to move in any direction or the 4 arrow buttons to move in standard directions. Click and rotate the ring to rotate the Chart and double-click anywhere on the ring to reset to North up. Use the + and - buttons and the slider on the right to zoom or use the  and  buttons on the Chart toolbar. In preflight layouts, the Navigator is on by default but can be toggled by pressing F12 or selecting Show Navigator from the View menu. In GlassView layouts, the Navigator is hidden by default but turns on when invoked as previously described or **Cmd** is engaged.

See more about zooming or panning the Chart.

Individual layers are toggled with the **Layers toolbar** and multiple layers set simultaneously by selecting **Customize Chart** from the 

button.

When in **GlassView** mode, the top of the Chart will have indicators about the GPS connection and whether or not **TAWS** is turned on. If there is a problem with the GPS connection, you can click on the indicator for **troubleshooting** help.

LAYERS

Note: GlassView also displays a large ChartBar at the top of the screen, rather than the Layers Toolbox, that functions very similarly to the Layers toolbox but with much larger buttons. The GlassView Chartbar does behave differently in one regard: When a layer is turned on via the Chartbar, *Voyager* automatically adjusts the layer's Range settings, if necessary, so that the selected layer is displayed. The Layers Toolbox, by contrast, may turn a layer on but if the layer's Range settings are set to only show items when zoomed more closely, nothing may appear on the Chart until it's zoomed.

The **Layers** toolbar selects which layers are shown on the Chart. Each of these has options, accessible by selecting Customize Chart from the Chart button.

ICON	DESCRIPTION
	Displays **airports**.
	Displays **airspace**.
	Displays **airways**, either low-level (Victor) or high-level (Jet).
	Displays **cities**.
	Displays **terrain** elevation colors.
	Not in Voyager FreeFlight Displays man-made **obstacles** near airports.
	Not in Voyager FreeFlight Displays **lakes and rivers**.
	Not in Voyager FreeFlight Displays major **roads**.
	Displays **navaids**.
	Not in Voyager FreeFlight Displays personal waypoints and off-airway **waypoints**.
	Shows colored circles (10 NM radius) over reporting points indicating if the conditions are VFR, IFR or Marginal VFR

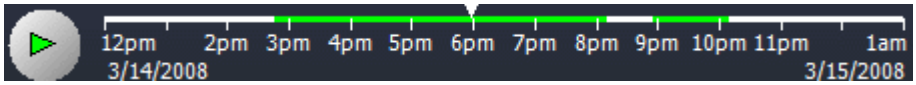
	. Click any colored area to see additional details in an **Airport Information** dialog. By default, the Chart shows the most recent information from each location, which does not necessarily mean they represent the readings taken at the same time. To see conditions at a specific time, uncheck the **Latest** checkbox in the **Time slider** area and move the time slider to a specific time. **Note**: If you're using **standard weather colors** (not *Voyager's* default setting), you'll see a different color set: Blue = VFR, Green = MVFR, Yellow = IFR and Red = LIFR. This information is derived from a combination of METARs and TAFs, depending on the time selected in the **Time Slider**.
	Shows colored areas representing the amount of radar energy reflected at the time indicated on the time slider, effectively meaning the cloud/rain density at a point in the past.  The greenish hues represent the lightest cloud cover required for rain (10-35 dBZ). The yellow and orange colors mean a medium rain (36-45 dBZ) and everything from red (46 dBZ) on means a heavy rain. Radar data is only available within the United States (all 50 states). As radar data is not predictive (that is, only available for the past), *Voyager* shows an "after-image" of the last radar image for a few hours after the

	last image was processed.
	The Cloud Tops layer uses shades of grey to represent the cloud altitude (cloud tops) observed by infrared satellite at the time indicated on the time slider.  The darker the color, the lower the cloud layer. The highest layer (white) indicates clouds present above 40,000 Ft. Moving the **altitude slider** changes the threshold at which cloud levels are suppressed.
	SatelliteWX Required This layer, called Echo Tops, shows the tops of each radar echo using shades of pink to represent radar returns (echoes) at different altitudes.  The darker the color, the lower the top of the radar echo. The highest layer (white) indicates radar echoes present above 40,000 Ft. In practice, Echo Tops indicates the highest altitude at which precipitation appears (hence the raindrop icon). Moving the altitude slider changes the threshold at which radar echoes are suppressed. For example, if you move the altitude slider to 12,000 Ft., all the pink you see indicates precipitation present at or above 12,000 Ft. If moving the slider to 20,000 Ft. hides all the pink, it means that there is no precipitation at or above 20,000 Ft.

	SatelliteWX Required Shows the location of lightning strikes within the past seven minutes.
	Displays arrows representing wind speed and direction at wind reporting stations during the time specified on the **Time slider** at the altitude indicated on the **Altitude slider**. The arrow points to the direction that the wind is heading (e.g. an arrow pointing straight up means the wind is heading towards 0/360 degrees or from 180 degrees). Green arrows denote wind speed at or less than 20 kts and yellow arrows indicate wind greater than 20 kts but less than 60 kts. Red arrows indicate winds equal to or greater than 60 kts. If there is sufficient room on the Chart, a circle within the arrow shows wind speed converted to the **Speed** units specified in the **Units** tab of the **Options** dialog. Light and variable winds are shown by a small dot within a circle. Winds aloft are available within the US and Canada only.

TIME SLIDER

The Time Slider is normally shown in desktop layouts (*SmartPlates*, *SmartPlan*, etc.) and hidden in enroute (*GlassView*) layouts.



Weather readings are generally available over a wide time period. The **Time slider** controls which weather readings are displayed on the Chart.

Move the slider by clicking just above the black bar or by dragging the triangle pointer. The horizontal axis shows the available times (in hours) with their associated dates below. The **Time** caption notes if the display is in Home or Zulu time.

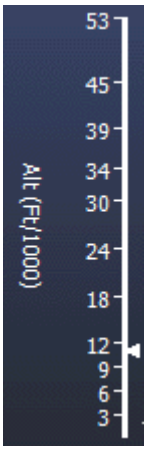
If weather data is available during the flight period, the applicable portion of the black slider line becomes green. In the above example, the flight takes place

between approximately 4:30 pm and 10:30 pm. If the flight has a fuel stop, the layover time is shown in black to indicate that you're not actually in flight.

Animate the display to see trends by clicking the **Play** button to the left of the slider.

ALTITUDE SLIDER

The Altitude Slider is normally shown in desktop layouts (*SmartPlates*, *SmartPlan*, etc.) and hidden in enroute (*GlassView*) layouts.



Winds Aloft data, Cloud Tops and Echo Tops are available for specific altitudes (MSL) at specific times. Move the **Altitude slider**, by clicking to the right of the black line or dragging the triangle, to display data from different altitudes. Move the **Time slider** to change the applicable date/time. Winds Aloft data is available in tabular format from the **Winds Aloft dialog**, shown by selecting **Show Winds Aloft Table** from the **Weather** menu.

NavLog

The NavLog widget is a table that shows the details of each flight leg. Its look and behavior varies somewhat if used pre-flight or in-flight.

By default, the pre-flight view is wide enough to display just three columns, **Name**, **Type** and **Alt (Altitude)** but more can be shown using the toolbar or moving the splitter to the left of the NavLog. It is in the same pane as the Plan area.

By default, the in-flight view shows a different set of columns, more applicable to in-flight use. Also, it is edited in-flight with the use of a single click that opens an oversized list of applicable tasks (*Add a leg*, *Direct To*, *Add SID/STAR*, *Clear the Plan*, etc.).

Note: The **File** menu has three commands related to printing the NavLog:

- **Print:** Prints the NavLog plus other information related to this flight plan such as weather, airport info, weight and balance, etc.
- **Print Preview:** Same as above but as an on-screen preview.
- **Print Setup:** Controls which items (NavLog, Airport Information, etc.) are printed as well as sets options specific to each item.

Note: Right-click the mouse in the *Name* column of a NavLog entry to get a list of actions to perform on that entry. These include **Show Info**, Remove Leg, Add SID/STAR, etc.

TOOLBAR

ICON	DESCRIPTION
	Adds a new row to the bottom of the NavLog table. Equivalent to selecting **Add Leg** from the **Plan** menu and similar to using the  tool on the Chart toolbar.
	Deletes the current row of the table. Equivalent to selecting **Delete Leg** from the **Plan** menu.
	Inserts a leg just above the current row. Equivalent to **Insert Leg** on the **Plan** menu and similar to using the  tool to "rubber band" insert a leg between two existing points on the Chart window.
	SmartPlan *Premier* Required Selects which columns are displayed using the **Customize NavLog** dialog. If the table is too narrow to display all the columns, use the horizontal scrollbar or click  to expand the table. **Note:** The

columns shown on a printed NavLog are controlled independently using the **Customize** button of the **Standard Navigation Log** printing plug-in.

Prints the NavLog without the other documents normally printed when a flight plan is printed. The output can go to a printer, to the screen (print preview) or to an Adobe PDF file (not available with *Voyager FreeFlight*). You can also select to print in normal kneeboard size or full-page size.

To print all flight documents (NavLog, Charts, Airport Info, Weather, Weight and Balance, etc.), use the **Print** command on the **File** menu or click the Print icon on the **main toolbar**.

Toggles between showing the user-defined legs (the default) and all legs, including the implied *Begin Cruise* and *Begin Descent* legs that *Voyager* calculates. If all legs are show, the flight route may not be changed via either the NavLog or the **Chart** since some points are calculated based on **aircraft performance** and **winds-aloft**.

Shows or hides the Plan area of the NavLog. Enabled only when *Voyager* is running on a screen with very limited vertical size such as the Samsung Q1 in landscape mode.

Expands or contracts the pane. When expanded, it shows more columns in a format very similar to a standard navigational log. Not available while in flight.

TABLE

Note: By default, some of these columns are not shown. Use the  button to select the displayed columns.

COLUMN	DESCRIPTION
Name	The name of the leg. Typically, this is the ident of the airport or navaid but it can be any text. The name is supplied automatically if the leg was created on the Chart with the  tool. If you manually enter text here, including overwriting existing text, *Voyager* scans airports, navaids and cities for matches, raising a Locations dialog if the text is ambiguous.
Type	The waypoint type: *Takeoff*, *Landing*, *Stop and Go*, *Touch and Go*, or *Waypoint* (general non-landing point). Fuel may only be added during *Takeoff* and *Stop and Go* legs (by default, the aircraft is filled to its useable fuel capacity on the first leg). A flight plan must have exactly one *Takeoff* and one *Landing* waypoint but as many *Touch and Go, Stop and Go* and *Waypoint*

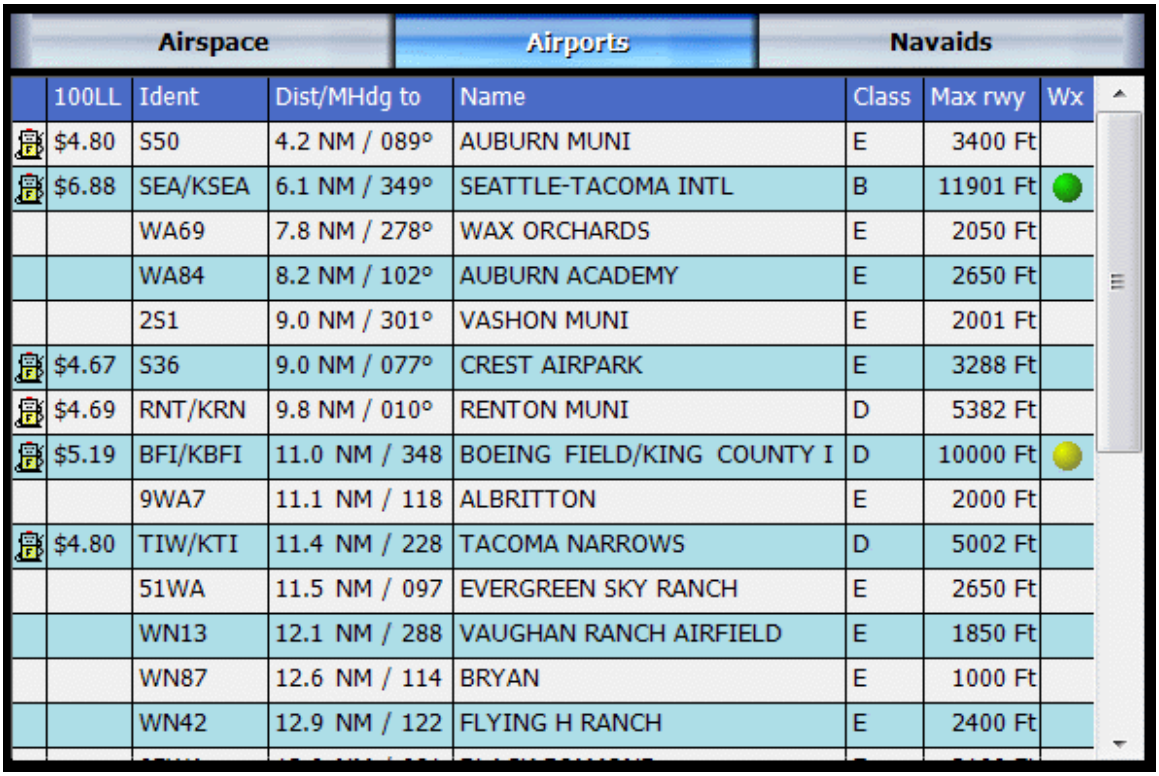
	waypoints as desired.
Alt (Altitude)	The altitude at the end of the leg. The initial value is the default value specified in the **Altitude** field of the **Defaults** tab in **Options**, as modified to a cardinal altitude for the heading and IFR/VFR mode.
WindDir (Wind direction)	The direction (true) from which the wind is coming, in degrees. The value may be hand-entered or, more commonly, applied by *Voyager* when it automatically downloads weather. In that case, the value is based on the altitude, location and date/time of the leg.
WindSp (Wind speed)	The wind speed. The value may be hand-entered or, more commonly, applied by *Voyager* when it automatically downloads weather. In that case, the value is based on the altitude, location and date/time of the leg.
TAS	The True Airspeed of the leg. By default, cruise legs (any leg manually entered) are set to the **Cruise TAS** of the selected aircraft but the value may be manually changed. The TAS of a *Voyager*-created leg (*Begin Cruise*, *Begin Descent*) is determined by the **Climb/Descend performance** of the aircraft and cannot be directly changed (you can modify the aircraft's performance or change aircraft, however, resulting in a change here).
GS (Groundspeed)	The implied groundspeed, after taking TAS and wind into account. Not editable and not shown, by default.
TCrs	The implied true course from this leg to the next. Neither magnetic variation nor wind are taken into account. Not editable and not shown, by default.
THdg	The implied heading required to adjust TCrs to compensate for the wind. Magnetic variation is not taken into account. Not editable and not shown, by default.
MHdg	The compass heading that should be flown to travel from the starting point of this leg to the starting point of the next leg. Both wind and magnetic variation are taken into account. Not editable.

Dist (Distance)	The ground distance covered during this leg. Not editable.
Duration	The time required to fly this leg in hours, minutes and seconds (HH:MM:SS). Not editable.
Layover	The layover time, if any, for a *Stop and Go* leg. Editable but only for *Stop and Go* legs. The default layover time may be set in the **Defaults** tab of the **Options** dialog box.
+Fuel	The fuel added at the start of this leg. Editable but only for *Takeoff* and *Stop and Go* legs.
-Fuel	The fuel used during this leg. Not editable.
FuelRem (Fuel remaining)	The fuel remaining after the end of this leg. Not editable.

Nearest

GlassView Required

The Nearest widget gives you immediate information about the nearest airports, navaids or airspace. The data is automatically updated with each GPS movement so, in case of an emergency, the information you need for a safe landing is already on the screen. It's used in most *GlassView* **layouts**.



	100LL	Ident	Dist/MHdg to	Name	Class	Max rwy	Wx
	$4.80	S50	4.2 NM / 089°	AUBURN MUNI	E	3400 Ft	
	$6.88	SEA/KSEA	6.1 NM / 349°	SEATTLE-TACOMA INTL	B	11901 Ft	
		WA69	7.8 NM / 278°	WAX ORCHARDS	E	2050 Ft	
		WA84	8.2 NM / 102°	AUBURN ACADEMY	E	2650 Ft	
		2S1	9.0 NM / 301°	VASHON MUNI	E	2001 Ft	
	$4.67	S36	9.0 NM / 077°	CREST AIRPARK	E	3288 Ft	
	$4.69	RNT/KRN	9.8 NM / 010°	RENTON MUNI	D	5382 Ft	
	$5.19	BFI/KBFI	11.0 NM / 348	BOEING FIELD/KING COUNTY I	D	10000 Ft	
		9WA7	11.1 NM / 118	ALBRITTON	E	2000 Ft	
	$4.80	TIW/KTI	11.4 NM / 228	TACOMA NARROWS	D	5002 Ft	
		51WA	11.5 NM / 097	EVERGREEN SKY RANCH	E	2650 Ft	
		WN13	12.1 NM / 288	VAUGHAN RANCH AIRFIELD	E	1850 Ft	
		WN87	12.6 NM / 114	BRYAN	E	1000 Ft	
		WN42	12.9 NM / 122	FLYING H RANCH	E	2400 Ft	

The selector at the top chooses between **Airspace**, **Airports** and **Navaids**.

Clicking any row in the table shows more detailed information about the item.

Tip: Click the top of each column (the header) to sort by that column.

AIRSPACE

The Airspace list shows each layer of the airspace that the aircraft is currently in. By default, it's sorted such that the lowest airspace layer (like *Surface*) is at the top of the list and the highest layer (usually *Unlimited*) is at the bottom. Click the top of any column to sort by that column.

Note: The airspace **Floor** and **Ceiling** are shown in MSL or as *Unknown* or *Unlimited.* If the airspace was originally expressed as AGL, the **Floor** and **Ceiling**

values (displayed as MSL) are computed by adding the elevation of the **Latitude/longitude** of this point to the given AGL. By contrast, if you click on an airspace for more information, **Floor** and **Ceiling** for AGL values are computed using the center of the airspace region. This can cause slightly different **Floor** and/or **Ceiling** values.

OPTION	DESCRIPTION
Class	The ICAO class of the airspace or *MOA*, *TFR*, etc.
Floor	The bottom of the airspace (MSL) in the **Altitude** units specified in the **Options** dialog or *Surface/Sfc* or *Unknown*. See the **Note** above.
Ceiling	The top of the airspace (MSL) in the selected units or *Unknown* or *Unlimited*. See the **Note** above.
Com freq1	The primary communications frequency, if any.
Com freq2	The secondary communications frequency, if any.
Com name	The name of the controlling organization.

AIRPORTS

By default, airports are sorted by distance from the current location. Click the top of any column to sort by that column.

OPTION	DESCRIPTION
Fuel	A fuel icon indicates that this airport has fuel according to the FAA's AF/D publication. The operating hours and types of fuel are *not* taken into account and it's possible for substantial differences between the verified fuel data (below) and what the AF/D claims.
100LL or **JetA**	Shows the lowest fuel price at this airport for the type of fuel required by the current aircraft. Requires a current **ChartData subscription**. Fuel prices from **100LL.com**. These prices are verified frequently and should be considered much more accurate than the FAA's AF/D data, as

	noted above. **Tip**: *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**.
Ident	The FAA ident, if applicable, and the ICAO ident, if applicable.
Dist/ MHdg to	The distance and magnetic heading from the current location to this airport.
Name	The official name of the airport.
Class	While airports are not technically assigned a class, the predominant airspace surrounding them implies a class. When possible, *Voyager* shows this implied class here.
Max rwy	The length of the longest runway at this airport.
Wx	If a current METAR or TAF is available for the airport, this field shows green for VFR, red for IFR or yellow MVFR. A blank field indicates no valid report, not necessarily VFR conditions. **Note**: If *Voyager* is set to **Use standard weather symbols and colors**, a blue dot means VFR, green is MVFR, yellow is IFR and Red is LIFR.

NAVAIDS

By default navaids are sorted by distance from the current location. Click the top of any column to sort by that column.

OPTION	DESCRIPTION
Type	An icon representing the type of navaid (VOR, NDB, etc.).
Ident	The ident of the navaid.
Frequency	The frequency of the navaid.
To / From	Using the published magnetic variance for the this navaid, this shows the standard TO and FROM radials relative to the current location (MHdg).
Dist	The distance from the current location to the navaid.
Name	The name of the navaid. This is especially relevant for NDBs as they are typically referred to by name rather than ident, unlike VORs.

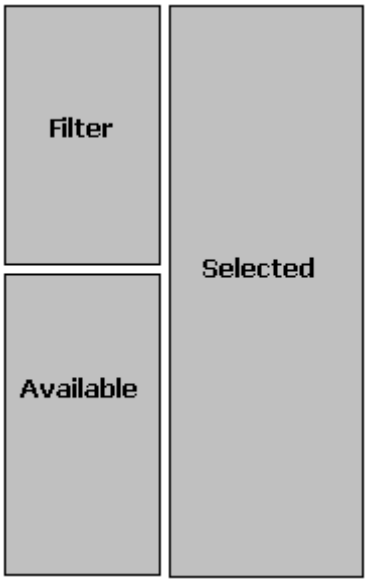
Plate Pack Window

SmartPlates Required

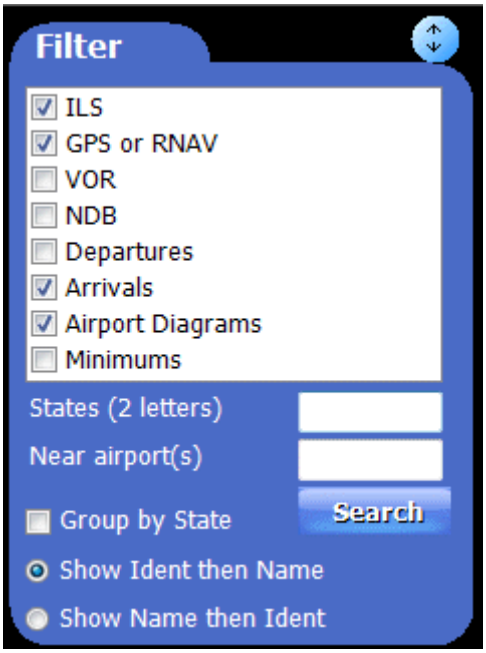
Plate Packs are the core of *SmartPlates*. They are created, viewed and organized from within a Plate Pack Selector widget. In addition to being part of the standard *SmartPlates* layout, if you have *SmartPlan*, there is a **layout** that combines a flight plan with a Plate Pack.

Tip: To quickly find a few procedures for a specific airport or two (or while in-flight), it is probably more efficient to use a layout that includes a combination of the **Airport Selector** widget and a **Procedure Viewer** widget such as *SmartPlates Viewer 1* (pre-flight) or *SmartPlates In-Flight 1 or 2*.

The widget is divided into several sections to help you find and select the right Procedures and Diagrams for your flights.



FILTER

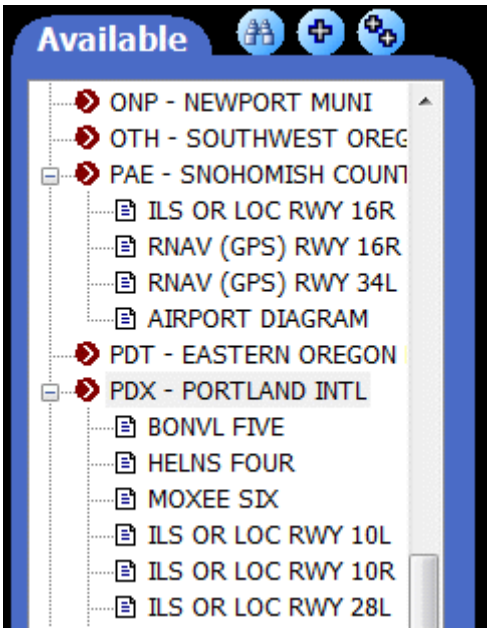


The **Filter** area lets you quickly select airports and procedures. After you enter the desired criteria, click **Search** and *Voyager* will fill the **Available list** with matching airports.

OPTION	DESCRIPTION
	Toggles the **Filter** area on and off. Same as selecting **Show Filter** from the **Procedures** menu.
Checkboxes	The top section of the filter area controls the type(s) of procedures that are selected. Check as many or as few as you like.
States	Enter the US postal code (two letter abbreviation) for as many or as few states as you're interested in. Separate multiple states with a space or comma. Example: *WA CA ID OR WY*
Nearby airport(s)	Enter the name or ident of one or more airports. *Voyager* will select not only these airports but also any airport within a 50 NM radius of each of these. Separate multiple entries with a space or comma. Example: *PAE PDX SFO* As airport names often contain spaces, it's sometimes difficult to enter multiple airport names. In that event, it's easiest to use idents rather than names.

Group by State	When checked, *Voyager* organizes the **Available list** by state then by airport. When unchecked, airports are listed alphabetically. Same as selecting **Group by State** from the **Procedures** menu.
Show Ident then Name	Airport idents (FAA 3 or 4 letter versions) are shown, followed by the airport's name. Same as selecting **Show Ident then Name** from the **Procedures** menu.
Show Name then Ident	Airport names are shown before the FAA ident. Same as selecting **Show Name then Ident** from the **Procedures** menu.
Search	Populates the **Available** list area with airports and Procedures that match all of the criteria in the **Filter** area.

AVAILABLE



The **Available** list shows the airports and procedures that match the criteria specified in the **Filter** area. These procedures are not in the Plate Pack. Only the Procedures and Diagrams in the **Selected list** are saved as part of the Plate Pack. The **Available** list can be thought of as a 'rough draft' list that you manually narrow down before it gets to the Plate Pack.

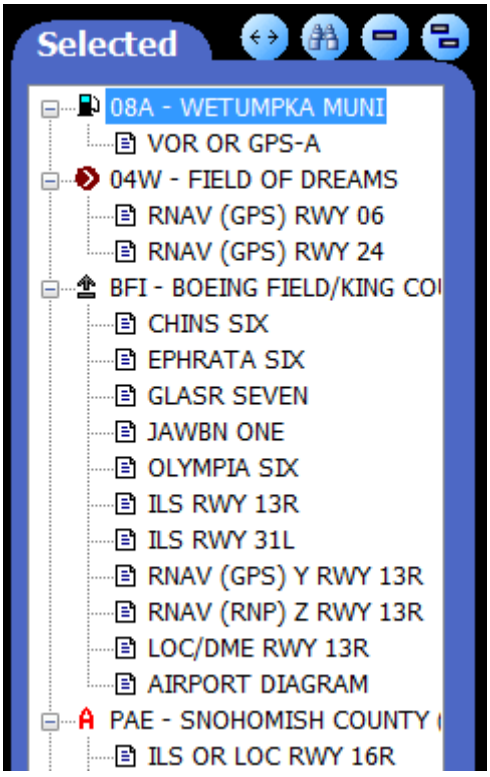
By default, the **Available** list contains every US airport with a Procedure or Airport Diagram.

Note: Click an airport name to list its Procedures and Diagrams. Click a Procedure to show it in a **Procedure** widget.

You can see **detailed information about any airport** by right-clicking on it and selecting **Show Info**. You can also show the airport centered on a **Chart** by right-clicking on it and choosing **Jump to**.

OPTION	DESCRIPTION
	Searches the **Available** list, by name or ident, for a specific airport.
	If a particular Procedure or Diagram is selected, it's added to the **Selected list**. If an airport is selected, all of its Procedures and Diagrams are added. Same as selecting **Add to Selected** from the **Procedures** menu or right clicking the mouse and choosing **Add to Selected**.
	Adds all the airports and Procedures in the **Available** list to the **Selected** list. Same as selecting **Add All to Selected** from the **Procedures** menu.

SELECTED



The **Selected** list shows all the Procedures and Diagrams that are in the Plate Pack. The icons to the left of the airport name show optional categories, useful for print organization (the top icon signifies a F*uel Stop*, the third is *Takeoff*, the fourth is an *Alternate*, and the second is *Other*). To categorize an airport: Select the procedure or airport in the **Selected** list and right-click the mouse then pick a category from

the pop-up menu or select the category from the **Procedures** menu on the main window.

Click a Procedure to show it in a Procedure widget. See detailed information about any airport by right-clicking on it and selecting **Show Info**. Center an airport on a Chart by right-clicking on it and choosing **Jump to**.

As you add airports, either from the **Available** list or by clicking on the Chart, the **Selected** list may get out of sort order. To resort, choose **Resort Selected List** from the **Procedures** menu.

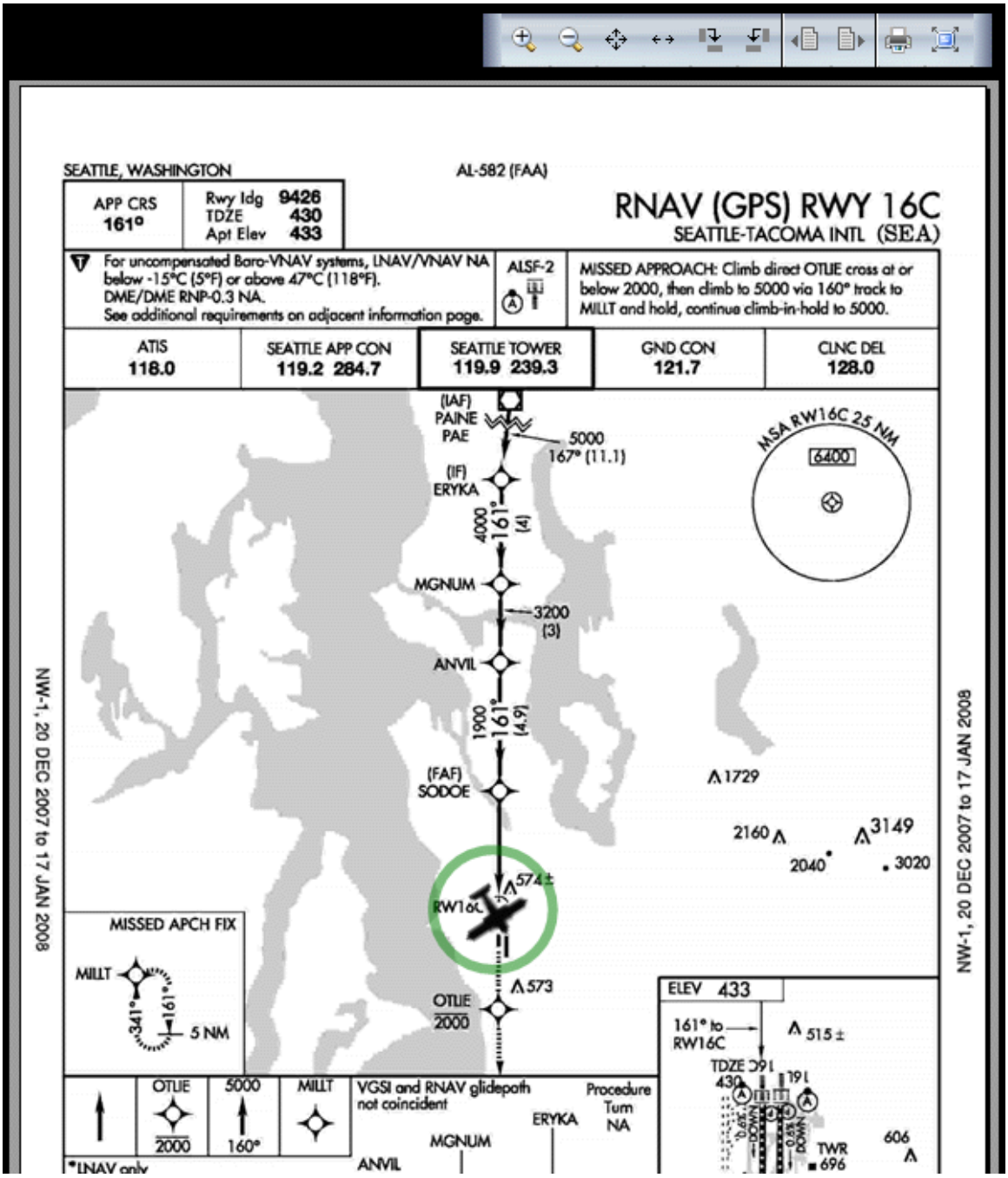
OPTION	DESCRIPTION
	Hides or shows the **Selected** area.
	Searches the **Selected** list, by name or ident, for a specific airport.
	If a particular Procedure or Diagram is selected, it's removed from the **Selected** list. If an airport is selected, all of its Procedures and Diagrams are removed. Same as selecting **Remove from Selected** from the **Procedures** menu or right clicking the mouse and choosing **Remove from Selected**.
	Removes all the airports and Procedures in the **Selected** list. Same as selecting **Remove All from Selected** from the **Procedures** menu.

Note: On the **Chart** related to the Plate Pack Selector, *Voyager* uses light-blue circles to indicate all airports that have any type of Procedure or Airport Diagram (not just those in **Available**). Those in the Plate Pack (that is, in the **Selected** list), are also outlined in orange. You can hide the blue circles by selecting **Show Only Selected Airports** from the **Procedures** menu.

Procedure View

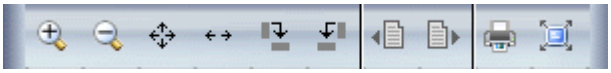
The Procedure widget shows airport diagrams and approach, arrival or departure procedures. It's used in most IFR *GlassView* **layouts** and in all *SmartPlates* layouts.

When Command Mode is *On*, there is a toolbar on the top. With **Command Mode** *Off*, the toolbar is hidden.



You can move (pan) the procedure by clicking and dragging the mouse. Double-click to show it in a full-screen window.

Note: In the above picture, the aircraft's current location is indicated by the aircraft within the green circle. As your aircraft moves, this position is continually updated because the procedure is geo-referenced. This requires a **ChartData subscription** at the EFB level. You can indicate the aircraft's position with an aircraft icon, a green circle or both with a choice within the **GPS area** of the **Options** dialog box.



OPTION	DESCRIPTION
	Zooms in (makes larger) by 50%.
	Zooms out by 50%.
	Automatically sizes the Procedure such that it fits the available space in terms of both height and width.
	Automatically sizes the Procedure so it fits full width.
	Rotates the Procedure 90 degrees clockwise.
	Rotates the Procedure 90 degrees counter-clockwise.
	For multi-page Procedures (Minimums, for example), moves to the previous page.
	For multi-page Procedures, moves to the next page.
	Prints the current Procedure.
	Shows the current Procedure in a full-screen window. Double-clicking the procedure has the same effect.

The FAA puts a date on the left side of each procedure. This is **NOT an expiration date**. Rather, it's just the date that the procedure was printed. Since the FAA reprints procedures every 28 days, this date changes every 28 days; it is in no way related to when the procedure may expire since there is no way the FAA can predict when they will materially change the procedure in the future. That is, unlike sectionals and IFR charts, procedures have no pre-determined expiration dates; they only become obsolete when the FAA decides to change them. The FAA provides us with a database of when each procedure was materially changed, requiring a new download. We use this information to put our own valid dates at the top of the procedure. Each 28 days, when *Voyager* checks for new data, it uses this FAA database to determine which plates have materially changed and, thus, need to be downloaded. *Voyager* does not download procedures that have not materially changed because doing so would require downloading about 700 MB each month. That said, you can force *Voyager* to download a full set of all 13,000+ procedures by selecting **Download All Procedures** from the **Tools** menu and selecting the second option. Again, this file is 700 MB so it will take a long time even with a very fast Internet connection.

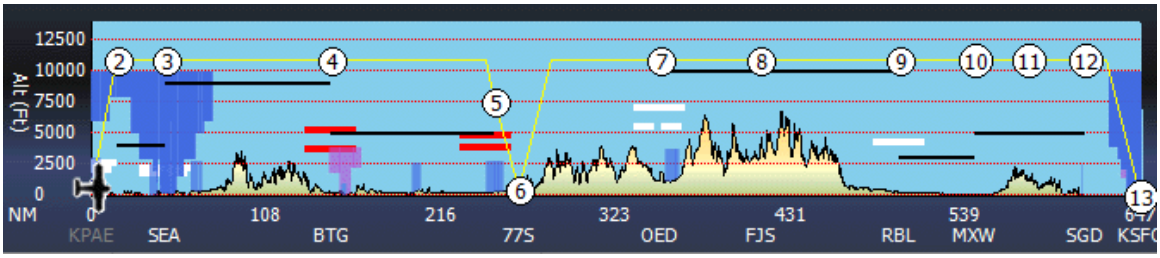
Tip: In most layouts, clicking on the Procedure itself opens the full-screen Procedure viewer. However, if there is no **Airport View** or **Plate Pack Selector** widget on the screen (in other words, no way to select a Procedure), clicking the Procedure causes *Voyager* to ask if you'd like to show a related Procedure or show the current one full screen.

Tip: Rather than create a specific Minimums and Alternate Minimums for each airport, the FAA combines airports by region into multi-page documents. To see each page, ensure that Command Mode is on (that is, click **Cmd**) and use  and  to flip the pages. These buttons are also available when the document is shown Full Screen.

Profile

The Profile widget shows the flight path, terrain, airspace, airway MEAs and clouds. It's used in several *SmartPlan* **layouts**.

By default, *Voyager* synchronizes the Profile area with the portion of the flight plan shown on the Chart. If you'd like the Profile area to always display the entire flight, right-mouse click on the Profile area and select **Show Entire Flight**. To switch back to synchronize mode, select **Synch View with Chart**.



Altitude (MSL) runs along the vertical axis. The top row of the horizontal axis shows the distance from the departure airport. The bottom row shows the ident of any airport or navaid on the **NavLog** (the flight above is from *KPAE* in Everett, WA to *KSFO* (San Francisco). The idents are color-coded to summarize the conditions at the time the flight passes the point. Yellow means Marginal VFR, Red means IFR and black means VFR or no information (such as the case above).

The yellow line shows altitude at each moment during the flight. Waypoints are numbered to match the rows in the NavLog unless **Show Waypoint Identifiers** is turned off, in which case, waypoints are shown as dots. Colors represent terrain elevation, using standard VFR sectional elevation colors.

Airspace display is enabled via right-clicking anywhere on the Profile and selecting **Show Airspace**. Airspace is color-coded to VFR Sectional or IFR Enroute colors, as appropriate for the current flight plan. When enabled, *Voyager* displays Class B, C and D airspace as well as TFRs, MOAs, Prohibited and Restricted airspace. In the above example, the dark blue areas above KPAE and KSFO indicate Class B airspace using VFR (Sectional) colors.

Black and green lines show airways. For example, there is a black line between points 3 and 4. If you move the mouse cursor over it, *Voyager* will tell you the airway name and MEA (V165, MEA 9000 in this case). Black lines are low-level (Victor) airways, green (not shown) are Jet routes.

Cloud layers are shown with white lines. Solid lines indicate *Overcast* or *Vertical Visibility*, dashed lines indicate *Broken* clouds and dotted lines indicate *Scattered* clouds. *Few* and *Clear* sky conditions are not shown to reduce visual 'noise'. *Thunderstorms* are shown in red (over *BTG* and 77S in the above example). Move the mouse over a cloud to see details. In the example above, *OED* has a layer of broken clouds at about 6000 feet (MSL) and overcast clouds at about 8000 feet

(MSL). **Important! The Profile does not display cloud tops so do not assume that empty space over a cloud indicates a break.**

As you move the mouse over the window, *Voyager* displays the elevation at that point.

To change the cruise altitude of any leg, simply click and drag the flight path line. By default, *Voyager* adjusts this altitude to an appropriate cardinal altitude.

Click and drag the aircraft icon along the flight path line to change the **Time slider's** location.

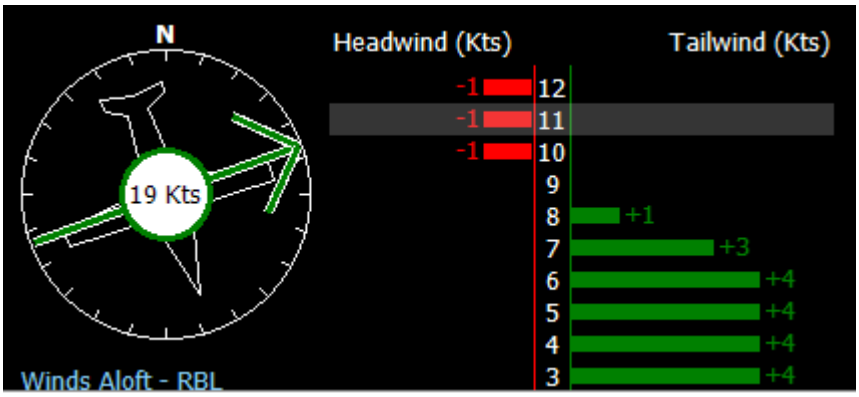
By default, weather in the Profile area is determined by the time you're expected to cross each point. Any two points, therefore, represent weather at different times and moving the time slider has no effect. If you'd prefer to synchronize the weather with the current time slider position (like the **Chart** area above the Profile), right-mouse click on the Profile area and select **Synch Weather with Timeline**. To restore the default system, right-mouse click and choose **Synch Weather with Entire Flight**. Synching with the timeline slows updates to the Profile area, which is why it's off by default.

Note: In a round-trip flight or a flight using a waypoint multiple times, an ident may be shown more than once and terrain may repeat.

Wind Optimizer

GlassView Required

The Wind Optimizer widget, patent pending, is a unique *Voyager* feature that makes it easy to select optimal cruise altitudes while in flight. It's used in many of the *GlassView* **layouts**. It's based on Winds Aloft data that NOAA updates four times a day unless you're using *Voyager* with an XM receiver, in which case, it's updated every few minutes.



On the left is a depiction of the aircraft's current course (true) and an overlaid arrow that shows the direction and speed (in the circle) of the winds at the aircraft's current altitude. In the case above, the pilot is encountering an almost direct cross-wind from his right. The wind arrows use the same color scheme as they do in the **Chart** widget -- green is a < 20 Kts wind, yellow is 20 to 60 kts and red indicates > 60 kts.

The right area gives instant information about the gain or penalty for changing altitude. Near the center of the widget is an altitude scale which automatically varies depending on your current altitude and the performance of your aircraft. The lines to the right and left indicate whether to expect a headwind (red lines to the left) or a tailwind (green lines to the right) at different altitudes on the same course, at the current time. The blue line indicates current altitude.

In the example above, we're flying at about 11000 ft but we clearly should be flying lower.

As elsewhere in *Voyager,* blue underlined text means something you can click for more information. In this case, you can click the *Winds Aloft - RBL* area to see the complete **Winds Aloft table**. The *RBL* portion means that the wind data displayed is based on the RBL reporting station.

Weather

Download Weather

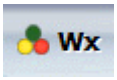
To access this feature: Select **Download Weather** from the **Weather** menu.

Downloads new or updated weather from the Internet based on what is shown in the current window.

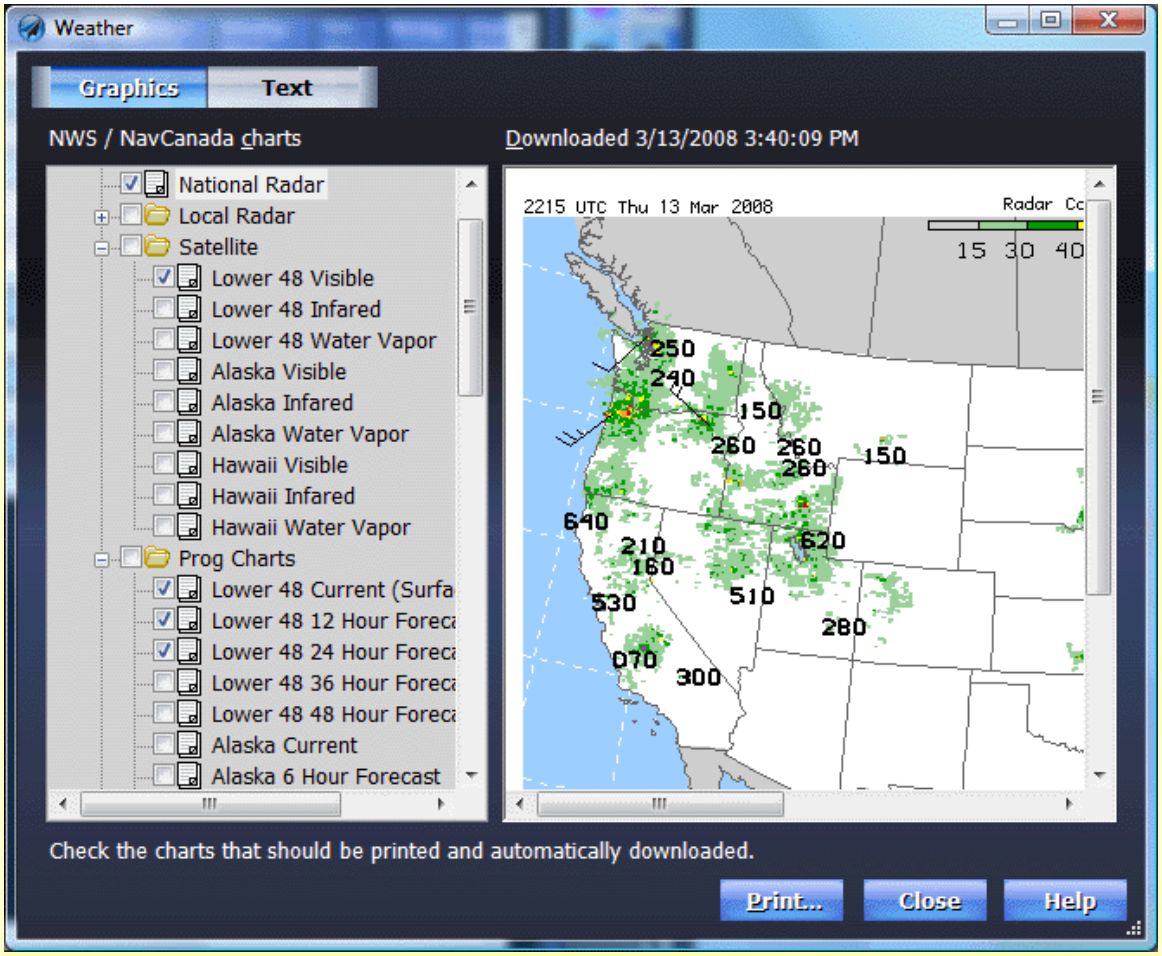
For example, if a Flight Plan or **Chart** window is open and set to 500 NM **Range** (large enough for about half of the US), *Voyager* downloads every weather report available within the entire region, potentially taking some time over a modem connection.

Note: To save time during an automatic background download, *Voyager* downloads weather along a corridor defined by your route rather than for the entire window. Therefore, when a Chart window is open, *Voyager* downloads weather for the entire visible area because there is no route.

Weather Graphics

To access this feature: Select **Show Weather Graphics** from the **Weather** menu or **Show All US and Canadian weather graphics** after clicking the 

button at the bottom of the screen.



Tip: To see a full and legal **DUAT/DUATS weather briefing**, click the **Text** tab.

Voyager downloads a wide variety of weather graphics from the **US National Weather Service** and **NavCanada**. The charts are organized by type and location or time period.

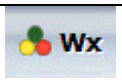
Click **Print** to send the checked charts to the printer.

Checked charts are automatically downloaded in the background when *Voyager* begins, saving you time. They are also updated automatically when *Voyager* refreshes the weather (by default, every 30 minutes).

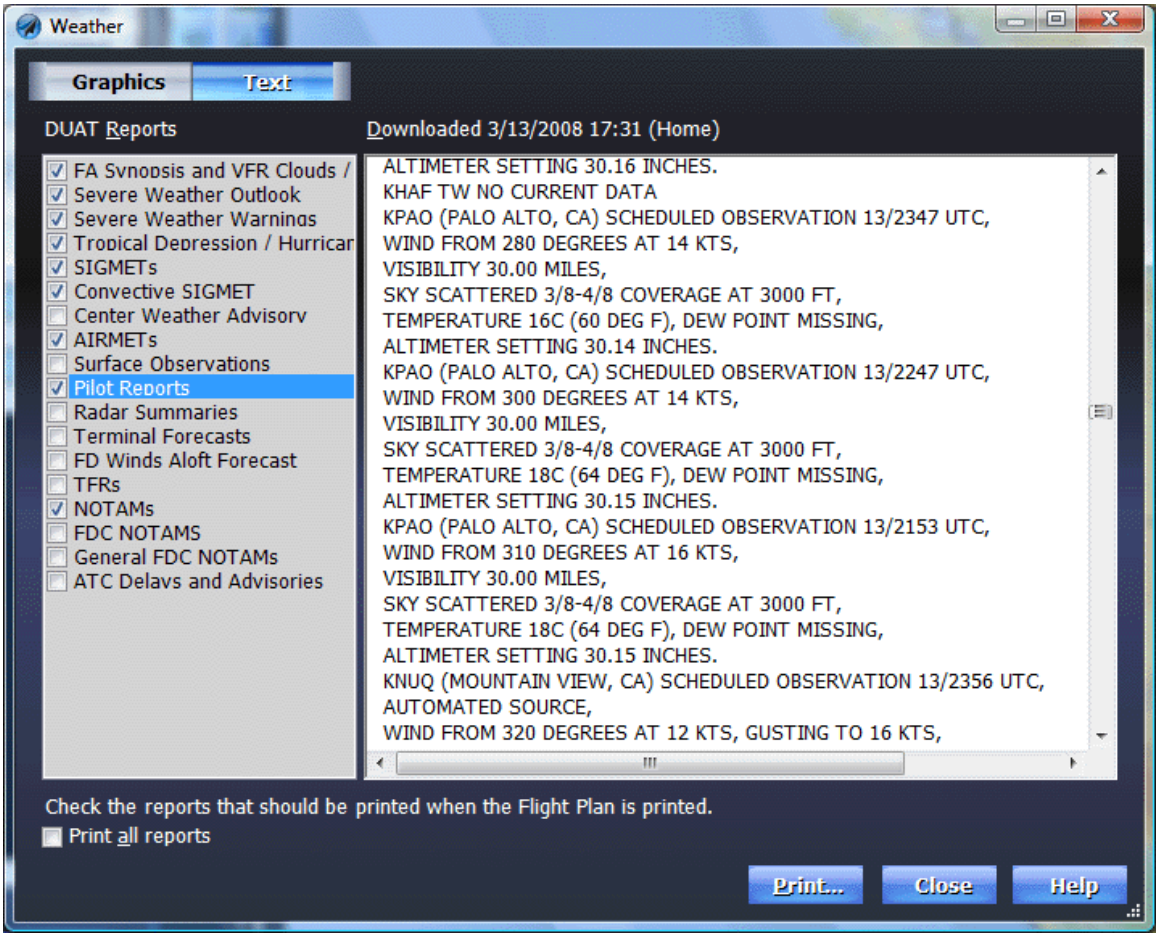
Tip: In the main chart area, select **Animate Weather** from the **Wx** button to show an animated display of weather changes in the last two hours.

Note: Interpreting weather information is a highly-specialized field and beyond the scope of this Help file. For more information, please refer to aviation and/or weather reference guides.

Standard Weather Briefing

To access this feature: Click 

on the bottom toolbar and select **Show DUAT/DUATS briefing** or select **Show DUAT Standard Weather Briefing** from the **Weather** menu.



Tip: To see a wide variety of **weather graphics**, click the **Graphics** tab.

This dialog displays a full and legal weather briefing as generated by DUAT or DUATS (depends on which provider you selected for the pilot). The briefing is downloaded automatically as a Flight Plan is displayed and refreshed as you change an existing plan. You may also force a manual download by selecting **Download Weather** from the **Weather** menu.

A briefing is only available for flight plans that include a **pilot**, **aircraft** and valid takeoff and landing airports. In addition, the pilot must have valid DUAT or DUATS credentials (if not, a free DUAT account is available by clicking **here**), the aircraft have a tail number and the takeoff time within the next 24 hours. You also must be connected to the Internet. However, *Voyager* stores reports as part of each flight

plan so they may be accessed, once downloaded, even when disconnected from the Internet.

By default, when you print a Flight Plan, *Voyager* prints the reports checked in the Reports list. You can enable/disable all DUAT/DUATS printing with the **Weather** plug-in found in Print Settings

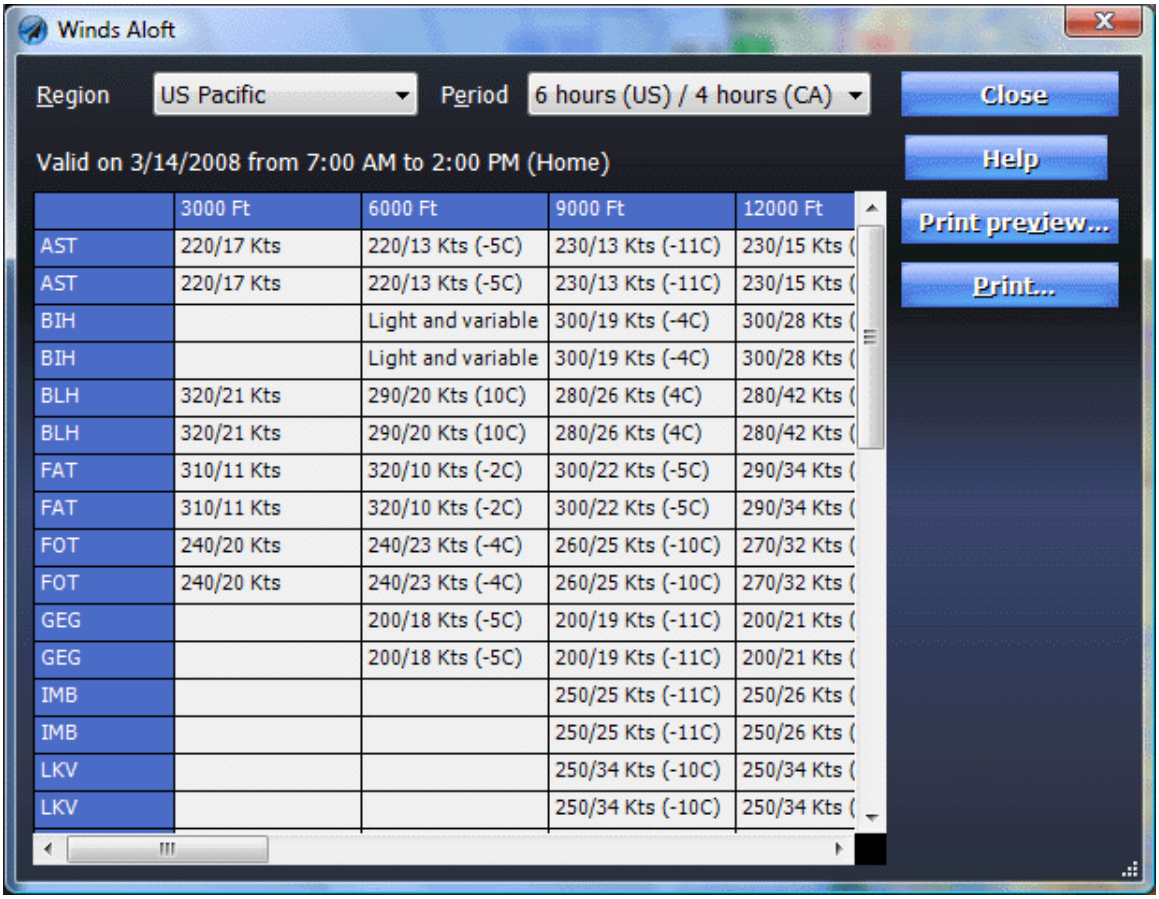
You can control if the weather briefing is downloaded as Plain English or Coded Text. *Voyager* requests the briefing format based on the selection of the **Translated** vs. **Raw coded text** selection in any **Airport Information** dialog. However, unlike how that switch behaves within the Airport Information dialog, the display format (English vs. coded) of DUATS briefings cannot be changed once downloaded because *Voyager* has to specifically tell the provider which format it prefers when the briefing is downloaded; For the TAFs and METARs on the Airport Information tab, *Voyager* always downloads in coded format then does the translation to English, if requested, so it can alter the display format on the fly.

Check **Print all text** to print the entire DUAT/DUATS report.

Click **Print** to send the selected reports to the printer

Winds Aloft

To access this feature: Select **Show Winds Aloft Table** from the **Weather** menu or click the **Winds Aloft (FD)** field within the **Weather** tab of an **Airport Information** dialog.



	3000 Ft	6000 Ft	9000 Ft	12000 Ft
AST	220/17 Kts	220/13 Kts (-5C)	230/13 Kts (-11C)	230/15 Kts (
AST	220/17 Kts	220/13 Kts (-5C)	230/13 Kts (-11C)	230/15 Kts (
BIH		Light and variable	300/19 Kts (-4C)	300/28 Kts (
BIH		Light and variable	300/19 Kts (-4C)	300/28 Kts (
BLH	320/21 Kts	290/20 Kts (10C)	280/26 Kts (4C)	280/42 Kts (
BLH	320/21 Kts	290/20 Kts (10C)	280/26 Kts (4C)	280/42 Kts (
FAT	310/11 Kts	320/10 Kts (-2C)	300/22 Kts (-5C)	290/34 Kts (
FAT	310/11 Kts	320/10 Kts (-2C)	300/22 Kts (-5C)	290/34 Kts (
FOT	240/20 Kts	240/23 Kts (-4C)	260/25 Kts (-10C)	270/32 Kts (
FOT	240/20 Kts	240/23 Kts (-4C)	260/25 Kts (-10C)	270/32 Kts (
GEG		200/18 Kts (-5C)	200/19 Kts (-11C)	200/21 Kts (
GEG		200/18 Kts (-5C)	200/19 Kts (-11C)	200/21 Kts (
IMB			250/25 Kts (-11C)	250/26 Kts (
IMB			250/25 Kts (-11C)	250/26 Kts (
LKV			250/34 Kts (-10C)	250/34 Kts (
LKV			250/34 Kts (-10C)	250/34 Kts (

The Winds Aloft dialog has two parts: A region/time selector and a winds table.

Winds Aloft information is available only within the US and Canada.

REGION/TIME SELECTOR

OPTION	DESCRIPTION
Region	The FAA or **NavCanada** Winds Aloft region.
Time period	Winds Aloft data is generally updated twice daily for three outlook periods: *6 hours*, *12 hours* and *24 hours*. The resulting time period is shown just above the winds table.

WINDS TABLE

The table lists various reporting stations (usually airports) within the selected **Region** and at several reporting altitudes (MSL). The speed and true (not magnetic) wind direction is shown for each station/altitude combination. Outside air temperature may also be shown in parenthesis. Wind direction is defined as the direction from which the wind comes.

An empty cell can either mean that no data was available or, more likely, that the reporting station's elevation is either below or within 1,000 feet of the specified altitude. In these cases, a TAF or METAR for the station provides wind information (remember, this is winds *aloft*).

XM WX Weather

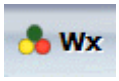
SatelliteWX Required

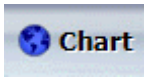
Overview

Voyager, when used in conjunction with the *XM Link* module, can display near real-time weather while in the cockpit. This requires an XM WX satellite receiver connected to the laptop or tablet via either a USB or Bluetooth connection.

The XM receiver, whether connected via Bluetooth or a USB connection, uses what's called a COM port to communicate with the computer. The COM port number varies by machine so you must determine which COM port your configuration is using. See **Hardware Installation / Configuration** below for more info.

Tip: *Voyager* is optimized to automatically find a GPS receiver by scanning the available COM ports. This works well for GPS-only users but can create a problem when also using an XM receiver as XMLink may report that the COM port it needs is already in use. To resolve this conflict, go to the **GPS settings tab** of the **Options** dialog box and manually select the specific COM port used by your GPS receiver.

Once an XM receiver is properly connected (see below), select the  button after clicking the 

button and *Voyager* will begin collecting XM weather as it arrives. To see the weather, be sure to turn on the weather layers you want or select the *Weather* theme from the 

button.

Hardware Installation / Configuration

PRE-SETUP STEPS

Make sure the antenna has a very clear view of the sky, preferably to the south. Also, other than your computer and XM WX receiver, make sure there aren't any other Bluetooth devices on within range. Reboot your machine and, while your computer is rebooting, unplug the receiver's power cable. After several seconds, plug it back in.

BLUETOOTH CONFIGURATION

Follow the instructions that come with the XM receiver that outline the steps necessary to configure your computer to use Bluetooth for communicating with the receiver. This will probably involve entering what is called a *Passcode* to 'pair' the XM receiver with the computer. The passcode varies by receiver manufacturer but common codes are *9679* and *1234*. See your receiver's documentation for more information.

Tip: You may want to write the passcode on a slip of paper and tape it to the bottom of the receiver for future use.

DETERMINING THE COM PORT ASSIGNED TO THE WXWORX RECEIVER

If you are using Microsoft's Bluetooth driver, the XM COM port can be determined by double-clicking on the Bluetooth icon  in the system tray (the area immediately surrounding the Windows digital clock in the lower, right hand corner of your computer). Then click the **COM Ports** tab and find the COM port number stated for the WxWorx entry that says "outgoing" under the "direction" column. If you do not see an entry for your WxWorx receiver, it is because your computer has not been configured to use Bluetooth for communicating with the WxWorx receiver. To do this, follow the instructions that come with the WxWorx receiver.

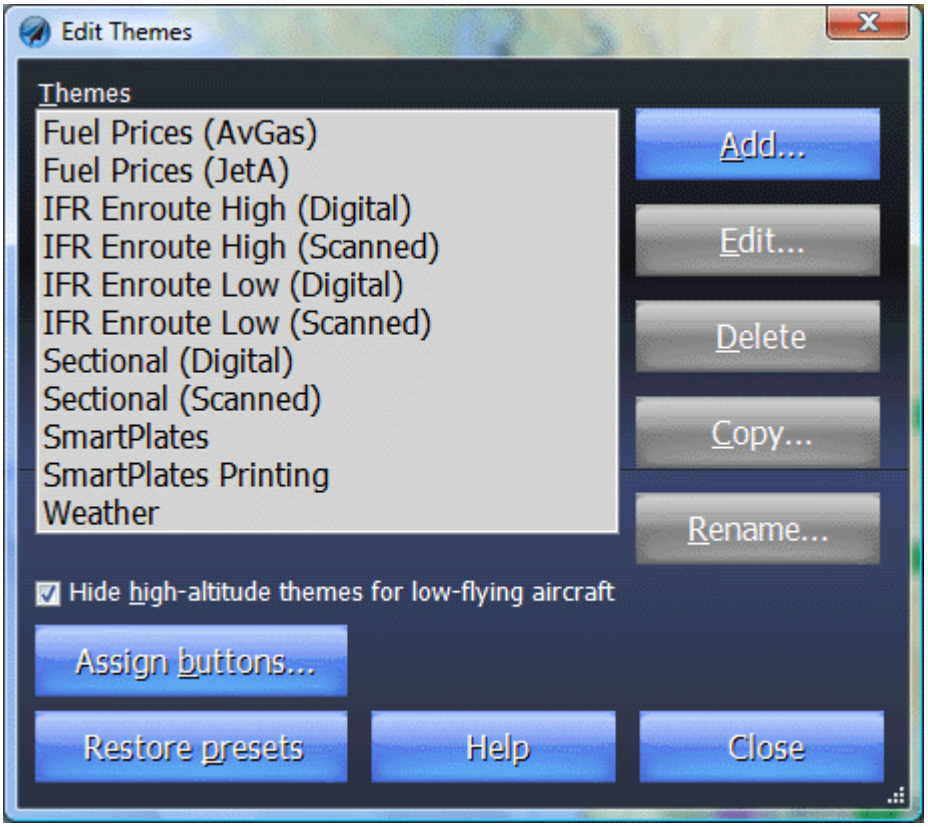
Voyager Configuration

Before proceeding, please read *Bluetooth Notes* section above and then follow the instructions in *Pre-setup Steps* and *Determining the COM port assigned to the WxWorx receiver* sections. From within *Voyager*, click **Tools** then **Options**, select **Preferences** then **XM**. Click **Use the COM setting below**, then specify the proper port number and click the **Connect** button.

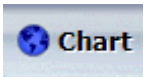
Customizing a Chart

Edit Themes

Not in Voyager FreeFlight
To access this feature: Select **Edit** from the **Themes** menu.



Themes are collections of Chart settings. For example, one theme may show all airports and airspaces while another theme might exclude small private airports, hide Class E airspace and even hide terrain. In this way, it's fast and easy to switch between customized views.

Themes may be applied to **Chart** or Flight Plan windows by selecting from the 

button on the lower toolbar or from the Themes menu. Printed Charts may also be set to a theme.

In addition, a Personal Layout may specify which theme to use for each Chart in the Layout. That is, you can use a Personal Layout to quickly switch to a screen configuration with two charts on the screen, each one with a different theme (such as *Sectional* on one and *Weather* on the other) and even a specific Range (e.g. have

one Chart zoomed-in tightly for a Sectional view while the second Chart shows weather from a much greater Range).

Add creates a new theme based on the current Chart or Flight Plan settings.

Edit lets you change the name or icon for an existing theme.

Tip: To change the way an existing theme is defined (that is, which layers are on), configure the screen the way you want using the **Chart Options** dialog box then click 

and select **Save Chart Settings**.

Delete removes the currently-selected theme. You may not delete the built-in themes.

Copy creates a new theme that is identical to the selected theme. You can them modify the new theme, making it easy to create slightly-modified themes.

Rename changes the name of the currently-selected theme. You may not rename the built-in themes.

Restore presets returns the built-in themes (*Sectional*, *IFR Enroute*, *Fast Draw*, etc.) to their default values. Any theme you may have created will not be affected.

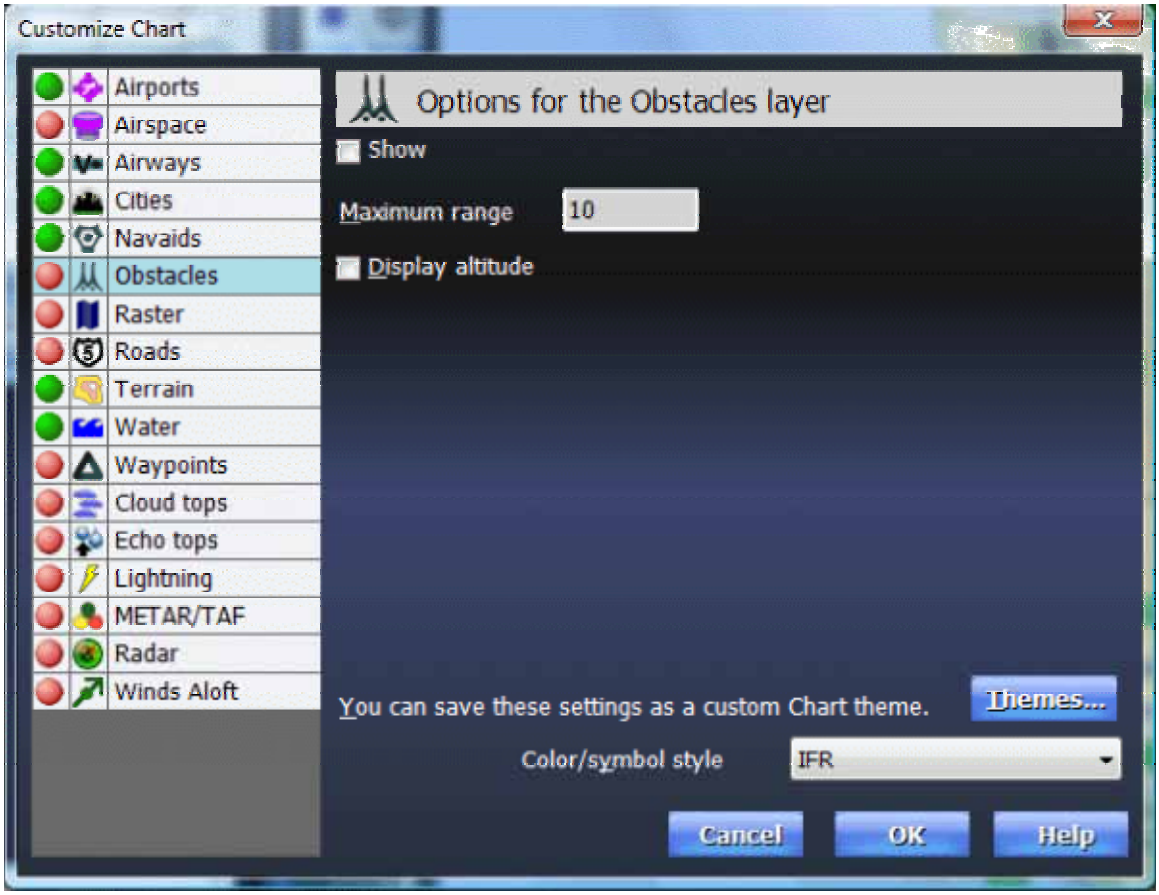
Assign buttons lets you modify which themes are associated with the four large buttons at the top of the **Main Window**.

Note: A few themes have built-in keyboard shortcuts. **F7** selects *Sectional (Digital)* and **F8** selects *IFR Enroute Low (Digital)*.

Options / Obstacles

Not in Voyager FreeFlight

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Obstacles** item.



This item controls if and when man-made obstacles are shown. Obstacle data is only available within the United States.

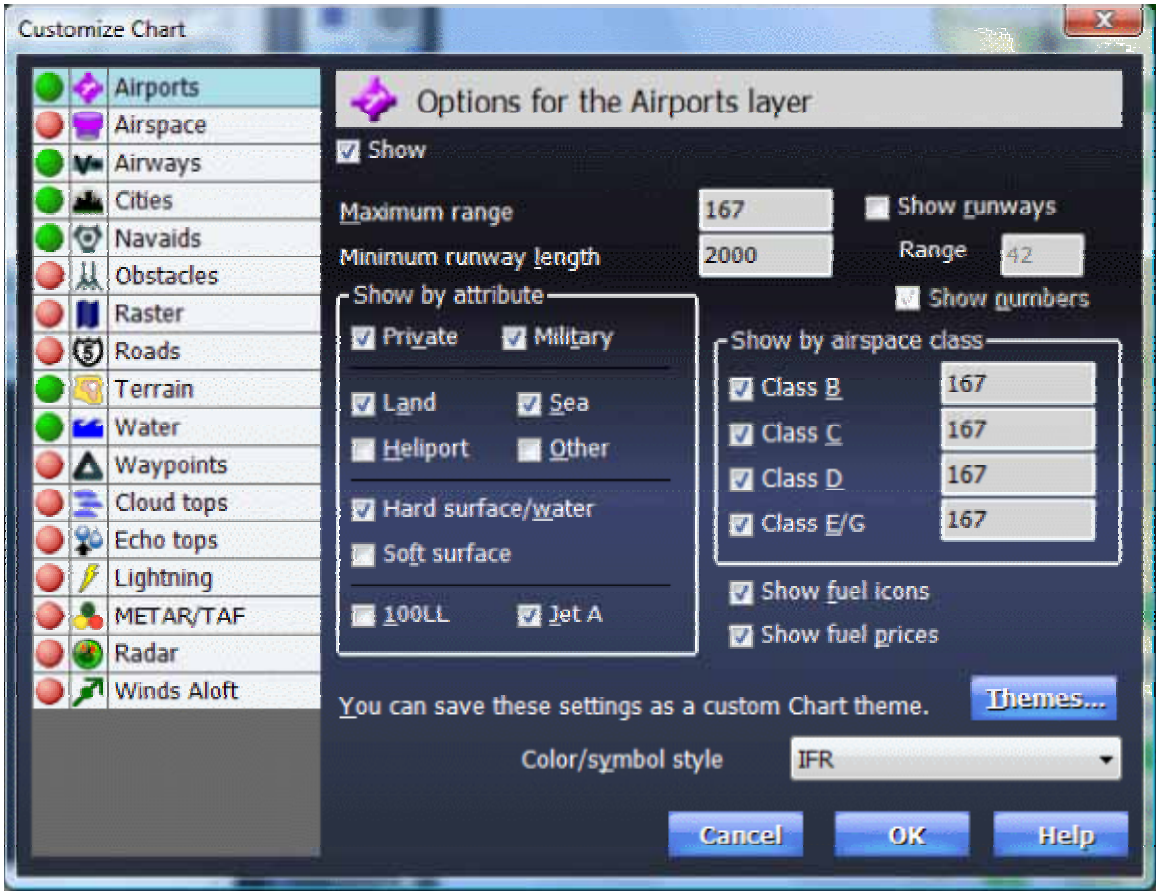
In GlassView mode, when the Obstacles layer is turned on, *Voyager* also displays obstacle warnings when obstacles are +/- 15 degrees of your heading, within 500 feet of your altitude and within two minutes at your current speed. This feature works independently of **TAWS**.

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom

	(range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart and the other settings here are ignored. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.
Display altitude	If selected, the altitude (MSL and AGL) of each obstacle is shown whenever possible. Even if this option is selected, the altitude may be hidden if it would cover other text.

Options / Airports

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Airports** item.



This item controls which airports are shown and which attributes of those airports are displayed. It is divided into three sections: General/Runways, Show by attribute and Show by airspace class.

GENERAL/RUNWAYS

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value,

	this item will not be shown on the chart and the other settings here are ignored. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.
Minimum runway length	In order for an airport to be displayed, its longest runway must be at least this value.
Show runways	Subject to the constraint below, if this option is checked, runways are displayed as lines in the correct relative length, width and orientation.
(Show runways) Range	The range must be at or below this value for a runway to be displayed, regardless of the option above. In this way, airports are generally displayed on the chart before runways are revealed.
Show numbers	If selected, runway numbers are displayed whenever runways are displayed.
Show fuel icons	When checked, *Voyager* puts a small  icon next to airports that have fuel.
Show fuel prices	 *Not in Voyager FreeFlight* *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**. *Voyager* displays current fuel prices if you have a current **ChartData subscription**. Fuel prices are provided by **100LL.com**. *Voyager* displays one fuel price per airport. The lowest price of JetA at each airport is displayed if the aircraft involved in the current flight plan requires JetA or, if no flight plan, if the default aircraft uses JetA. Otherwise, *Voyager* displays the lowest price of 100LL at each airport.

SHOW BY ATTRIBUTE

To simplify charts, *Voyager* normally hides airports that don't have various attributes.

OPTION	DESCRIPTION

Private	Determines if private airports are displayed. Only applicable to US airports. **Note:** Public airports are always shown, subject to the other criteria on this tab.
Military	If selected, military-only airports are displayed. Only applies to US airports.
Land	Shows land airports.
Sea	Shows sea-plane bases.
Heliport	Shows heliports.
Other	Shows other types of airports such as glider and dirigible bases.
Hard surface / water	In conjunction with the **Land** and **Sea** switches above, this determines if land airports with hard runways and sea-plane bases are shown.
Soft surface	If selected, land airports that lack any hard surface runways will be shown. **Note:** For the purpose of this and the previous switch, sea-plane base runways are considered *hard* surface.
100LL	When selected, only airports with 100LL fuel available will be shown. This does not take available times into account. Applies only to US airports.
Jet A	When selected, only airports with Jet A fuel available will be shown. This does not take available times into account. Applies only to US airports.

SHOW BY AIRSPACE CLASS

Although airports are technically not categorized as being of different classes, the predominant airspace surrounding them assigns de-facto classes to each airport. The checkboxes and **Range** fields associated with each class let you tailor the chart to displaying different types of airports at different times. Often, this is used to hide small Class E and G airports entirely (by unchecking the Class E/G box) and make Class C and B airports appear sooner (higher range) than Class D airports.

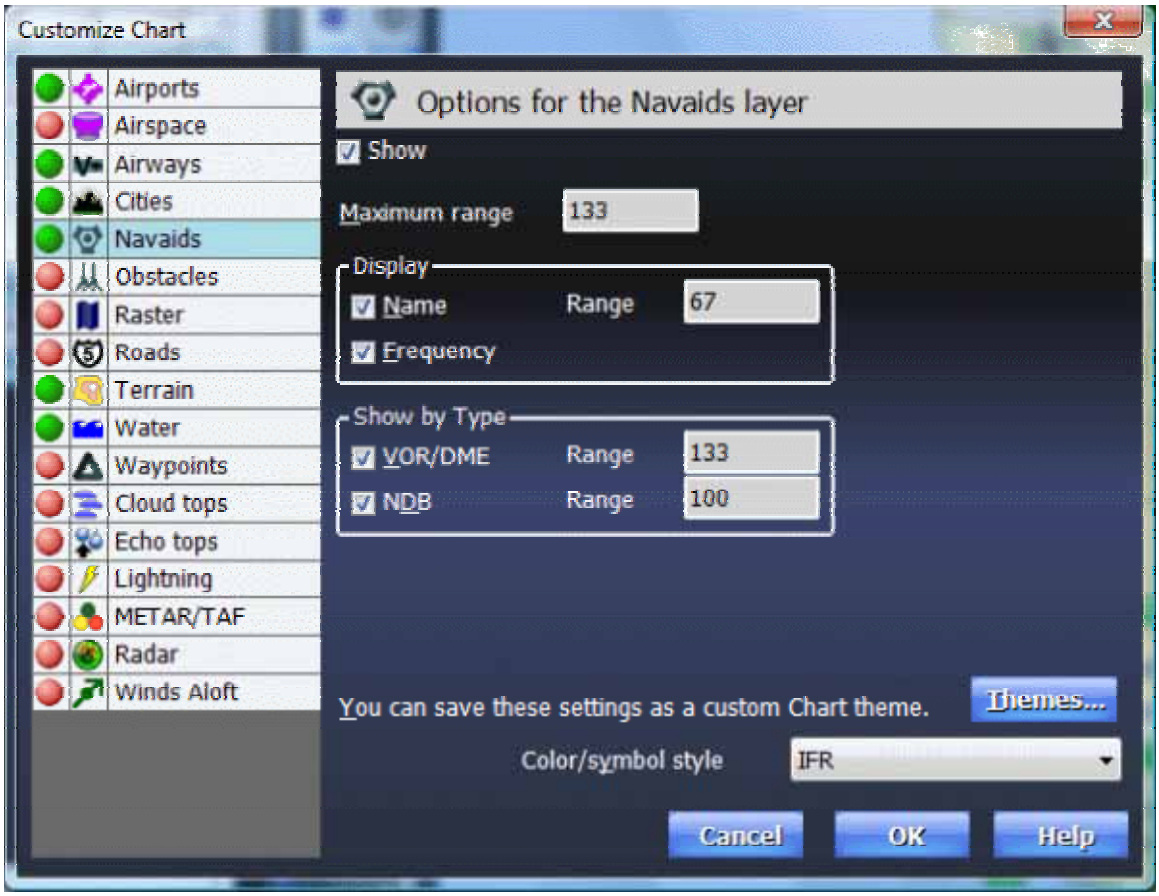
Options / Terrain

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Terrain** item.

There are no options for this layer.

Options / Navaids

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Navaids** item.



The Navaids page is divided into two primary areas (Display and Show by type) and a general Range setting.

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart and the other settings here are ignored. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.

DISPLAY

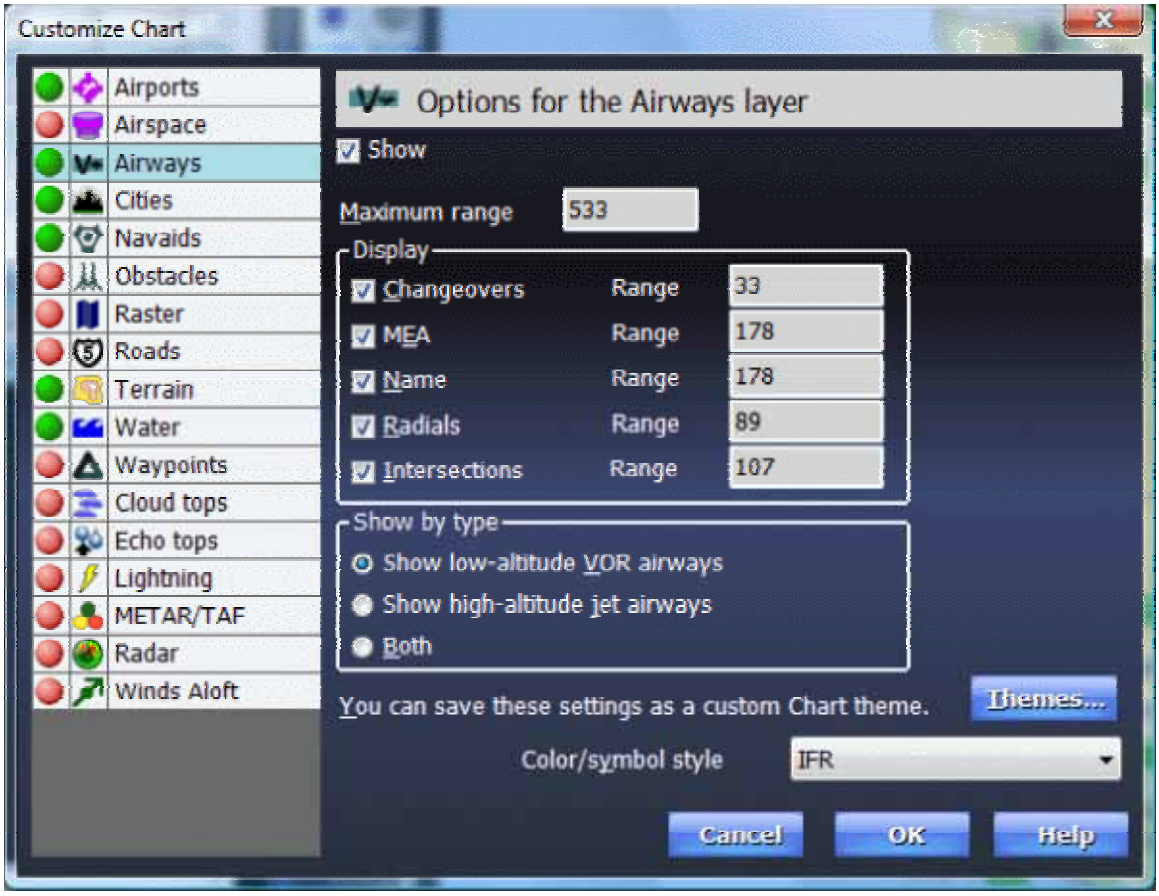
OPTION	DESCRIPTION
Name	If this option is checked and the Chart Range is at or below the associated **Range** value, the name (ident) of the navaid is displayed when its symbol is shown.
Frequency	If this option is checked and the Chart Range is at or below the associated **Range** value, the frequency of the navaid is displayed when its symbol is shown.

SHOW BY TYPE

OPTION	DESCRIPTION
VOR/DME	This option determines if and when VORs and similar navaids are displayed.
NDB	This option determines if and when NDBs are displayed.

Options / Airways

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Airways** item.



The Airways page is divided into two primary areas (Display and Show by type) and a general Range setting.

Note: *Voyager* differentiates between navaids and airways although navaids are essential to airways. Therefore, if you want to show airways along with their navaid intersections, be sure to also show navaids.

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the

Chart pane, is greater than this value, this item will not be shown on the chart and the other settings here are ignored. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.

DISPLAY

The following options control what information, if any, is displayed along with each airway line. Each consists of a checkbox that turns the display on or off and a Range value which specifies the maximum range for the item to be displayed.

OPTION	DESCRIPTION
Changeovers	The point at which a pilot navigating an airway should switch from one navaid to another. Regardless of this setting, like a printed IFR chart, changeovers are only shown when the changeover point is more than about one mile from the midpoint of the airway leg. Not supported in the current version of *Voyager*.
MEA	Minimum Enroute Altitude (MEA) is one of the most vital pieces of information for IFR flying as it specifies the lowest altitude (MSL) of the airway segment. **Tip:** Even if this option is off, you can see the MEA by selecting the Pointer cursor on a Chart and clicking anywhere along the airway.
Name	The name of the airway such as *V207* (*Victor 207*) or *J54*.
Radials	Determines if *Voyager* should compute and display the radials from each navaid to matching airway segments. Similar to the above option, you can always view radials by clicking on an airway with the Pointer cursor.
Intersections	If enabled, intersections (waypoints along an airway) are shown as triangles along each airway. If the **Name** option is also turned on, *Voyager* displays the intersection ident if space allows.

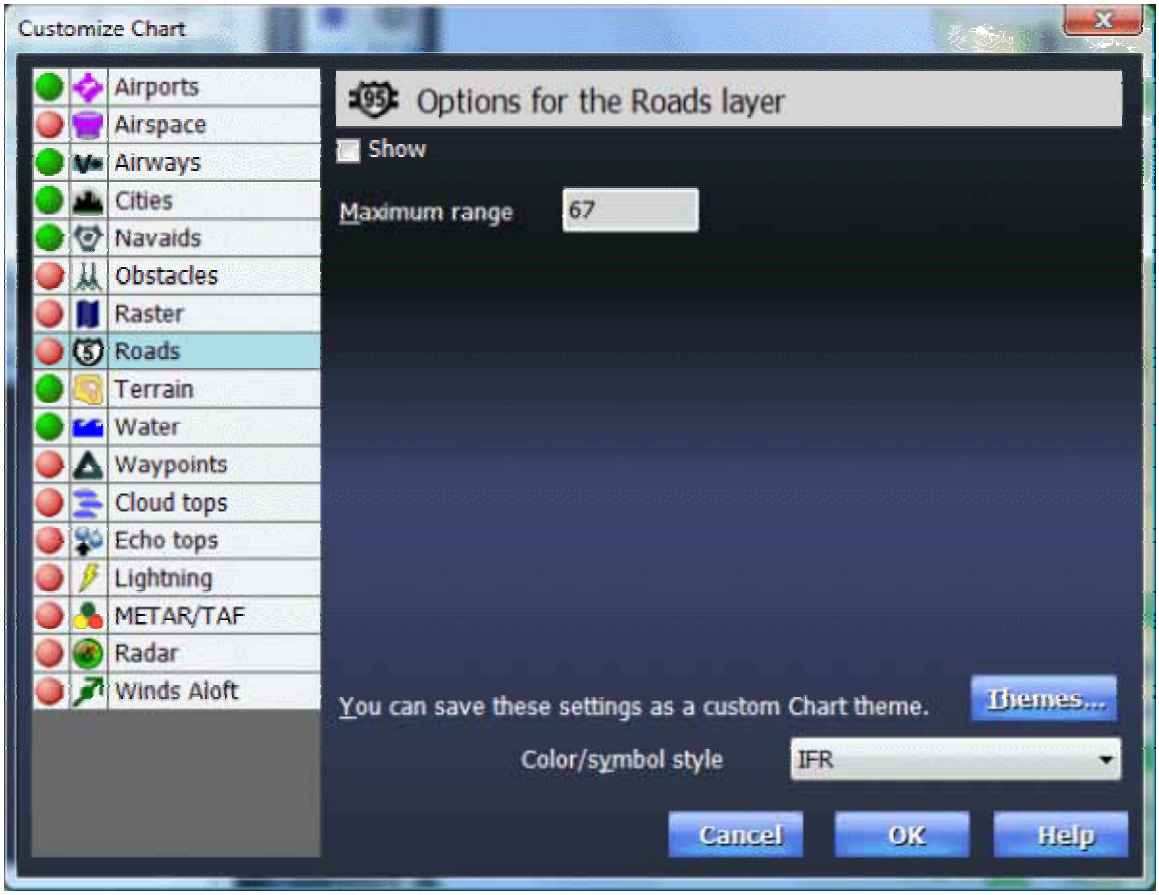
SHOW BY TYPE

Airways may be categorized as either low-level (below FL200) airways based on VOR navigation or high-level airways used primarily by jets in Class A airspace. *Voyager* can show either or both of these.

Options / Roads

Not in Voyager FreeFlight

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Roads** item.

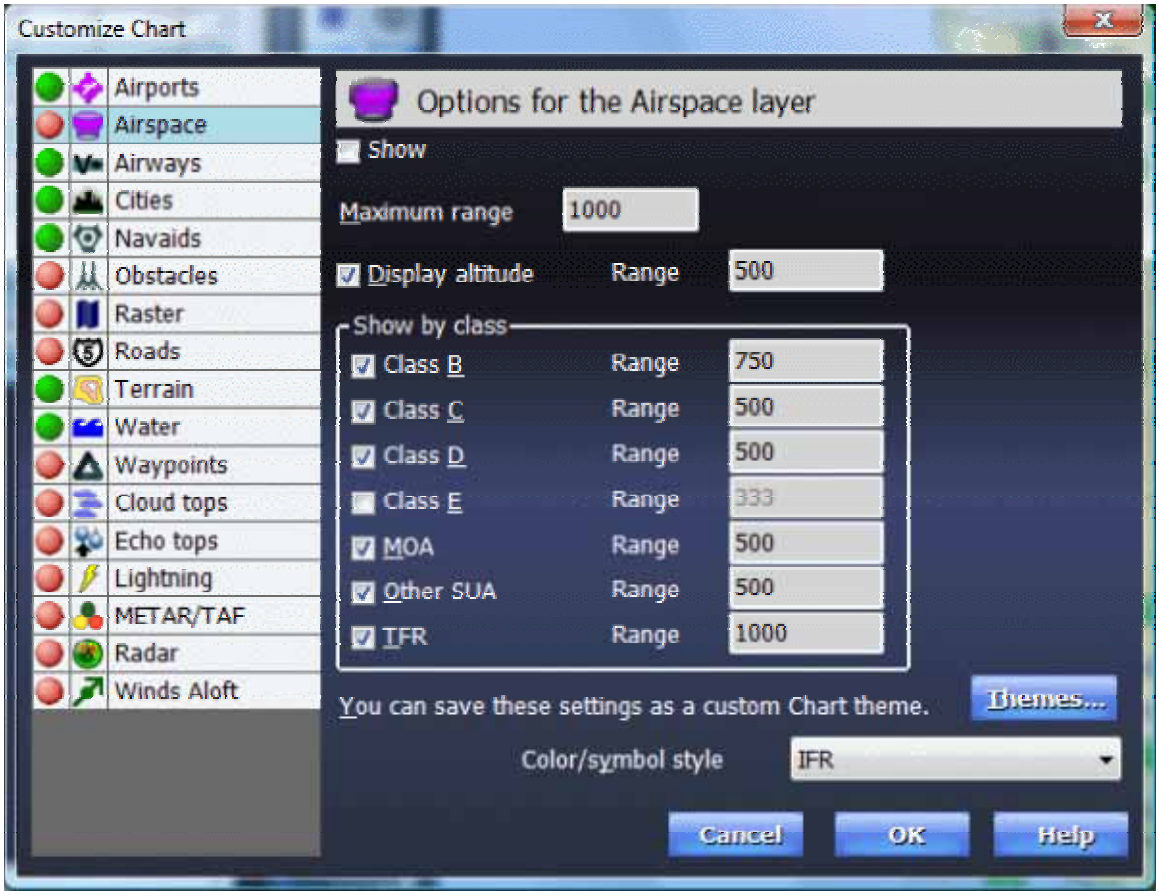


This item controls when roads are shown. Road data is only available within the United States.

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.

Options / Airspace

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Airspace** item.



This item controls if and when each type of airspace is shown. It is divided into two sections, General and Show by class.

GENERAL

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart

	and the other settings here are ignored. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.
Display altitude	If selected, the altitude (MSL) of each airspace segment is shown whenever possible. Even if this option is selected, the altitude may be hidden if it would cover other text. **Tip:** Select the Pointer cursor on a Chart pane and click within an airspace region to display the altitude of each airspace class at any given point.

SHOW BY CLASS

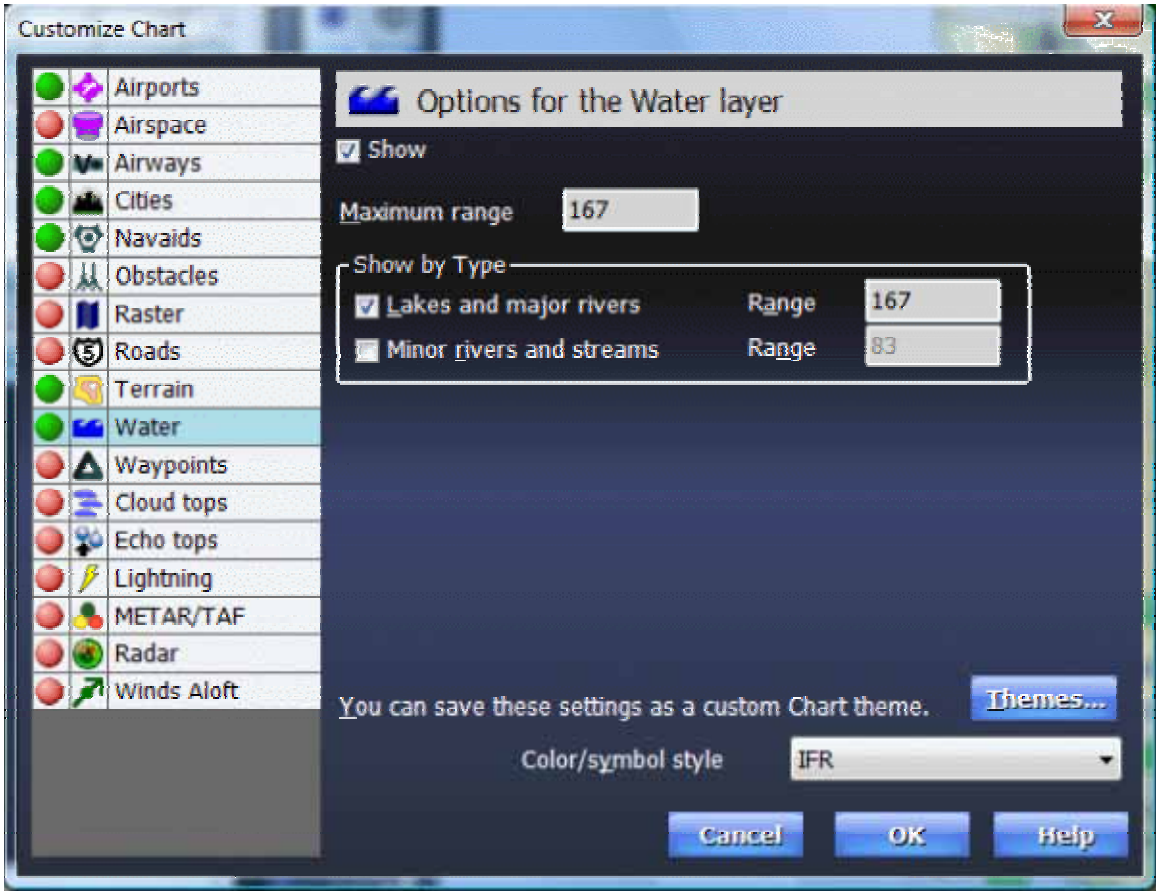
The checkboxes and **Range** fields associated with each class let you tailor the chart to displaying different types of airspace at different times. Often, this is used to completely hide Class E airspace and make Class B airspace appear sooner (higher range) than other airspace classes.

Note: MOA refers to Military Operation Areas and **Other SUA** refers to other Special Use Airspace.

Options / Water

Not in Voyager FreeFlight

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Water** item.



This page controls when rivers and lakes are shown. This data is only available within the United States.

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart. **Note:** For various reasons, this

	value is approximate so it may vary slightly if this dialog is displayed at different Ranges.
Lakes and major rivers	Displays lakes and major rivers. The term "major" refers to the width of the river so a well-known river (or that segment of one) that is very narrow may not appear with this just option.
Minor rivers and streams	Displays the tens of thousands of streams and narrow rivers in the database. As there are so many, you should keep this option off if performance is a concern.

Options/Cities

To access this feature: Right-click the  button. Alternately, select **Customize Chart** from the **Chart button** and select the **Cities** item.

The Cities item determines when and if different size cities (based on population) are displayed.

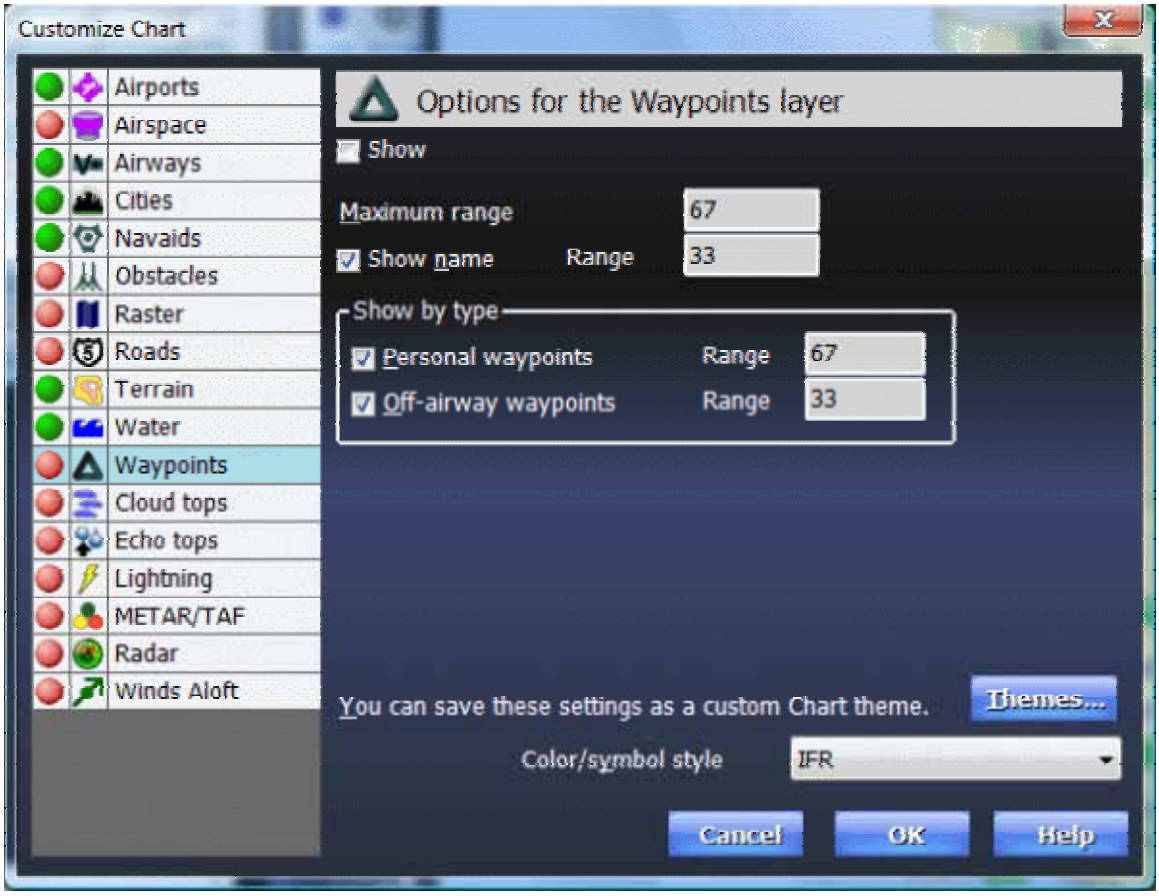
OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart and the other settings here are ignored. **Note:** For various reasons,

	this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.
Large (500,000+)	The checkbox determines if large cities (half a million or more people) are ever shown. The associated **Range** field determines the maximum range at which this size city is shown.
Medium (50,000 to 499,999)	The checkbox determines if medium-sized cities (from 50,000 to half a million people) are ever shown. The associated **Range** field determines the maximum range at which this size city is shown.
Small (0 to 49,999)	The checkbox determines if small cities (up to 50,000 people) are ever shown. The associated **Range** field determines the maximum range at which this size city is shown.
Urban areas	When selected, *Voyager* shades populated areas yellow, similar to a VFR sectional.

Options / Waypoints

Not in Voyager FreeFlight

To access this feature: Right-click the button. Alternately, select **Customize Chart** from the **Chart button** and select the **Waypoints** item.



The Waypoints page determines when and if **personal waypoints** and off-airway waypoints are show. Waypoints on airways (intersections) are controlled with the **Airways page**.

OPTION	DESCRIPTION
Maximum range	The range, in the **Distance** units specified in the **Options** dialog, must be at or below this value for the item to be displayed. This allows the chart to intelligently declutter itself as the zoom (range) changes. If the range, as shown on the **Range** drop-down on the Chart pane, is greater than this value, this item will not be shown on the chart

	and the other settings here are ignored. **Note:** For various reasons, this value is approximate so it may vary slightly if this dialog is displayed at different Ranges.
Show name	The checkbox determines if waypoint names are ever shown. The associated **Range** field determines the maximum range at which the name is shown.
Personal waypoints	The checkbox determines if personal waypoints are ever shown. The associated **Range** field determines the maximum range at which they are shown.
Off-airway waypoints	The checkbox determines if off-airway waypoints are ever shown. Such waypoints are often used when flying IFR approaches and arrivals. The associated **Range** field determines the maximum range at which they are shown.

Printing

Printing

Print flight plans, Charts and **Plate Packs** by selecting **Print** from the **File** menu or clicking the  button on the main toolbar. If **Analyze flight plan before save/print** is on (which it is, by default), *Voyager* first analyzes the flight plan or Plate Pack and warns of problems.

An on-screen preview is available via the **Print Preview** menu item. We suggest using it before printing a complete flight plan. With *SmartPlan Premier*, you can also create a PDF file by selecting **Print to PDF** from the **File** menu.

For flight plans, *Voyager* prints a complete flight dossier including a **navigation log**, **weather**, **weight and balance**, an **FAA Flight Plan Form**, **airport information**, and **charts**. Select **Print Setup** from the **File** menu to control whether or not print each of these is printed and, if it is, which options are selected.

In addition, you can quickly print the current Chart or NavLog by clicking the  button on the toolbar immediately above these items.

Print Setup

To access this feature: Select **Print Setup** from the **File** menu.

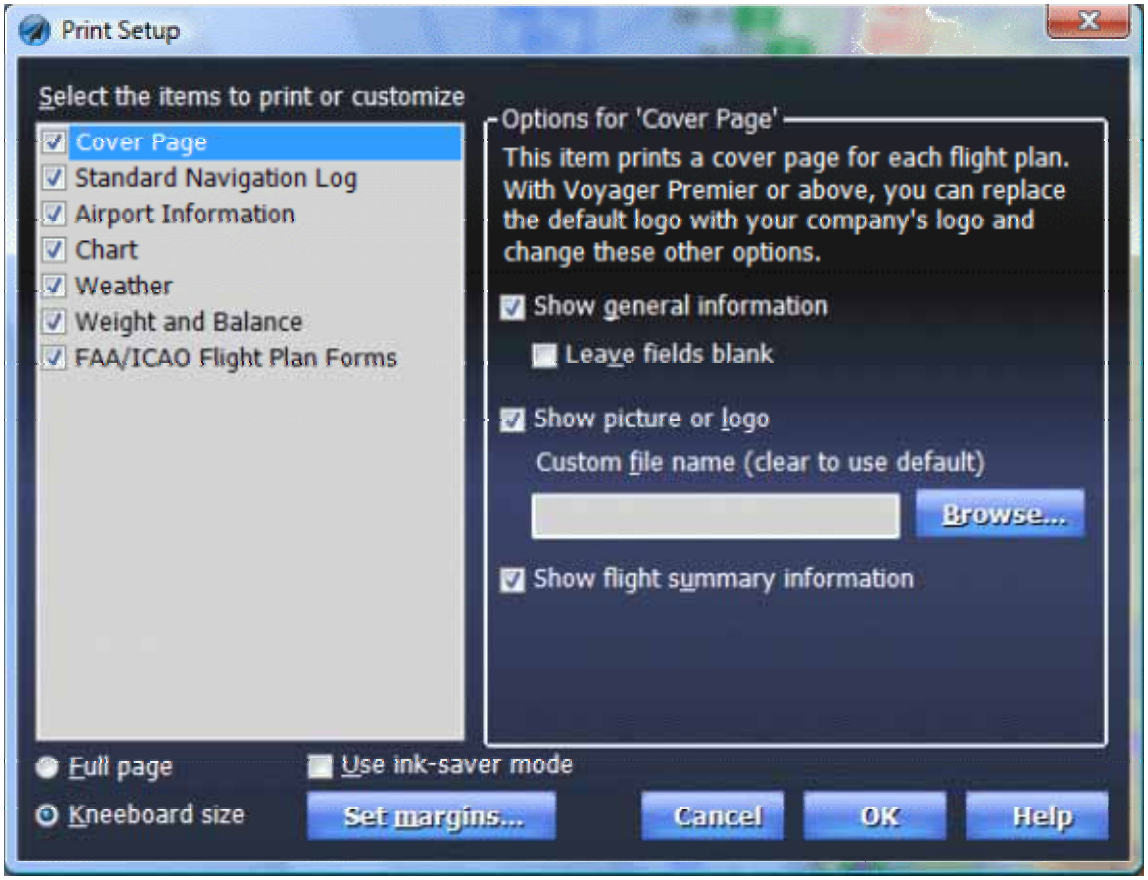
This dialog lets you specify which types of information to print when a flight plan or **Plate Pack** is printed. Most types of information allow additional customization.

Select **Full page** to print use the full width of a standard US piece of paper. Select **Kneeboard size** to use this same width to print two pages side-by-side, each page suitable for a standard kneeboard.

Check **Use ink-saver mode** to have *Voyager* save ink by printing topic titles without a solid black bar.

Cover Page Options

SmartPlan Required
To access this feature: Select **Print Setup** from the **File** menu and choose **Cover Page**.



If enabled, this item prints an attractive cover page that you can customize with *Voyager Premier*.

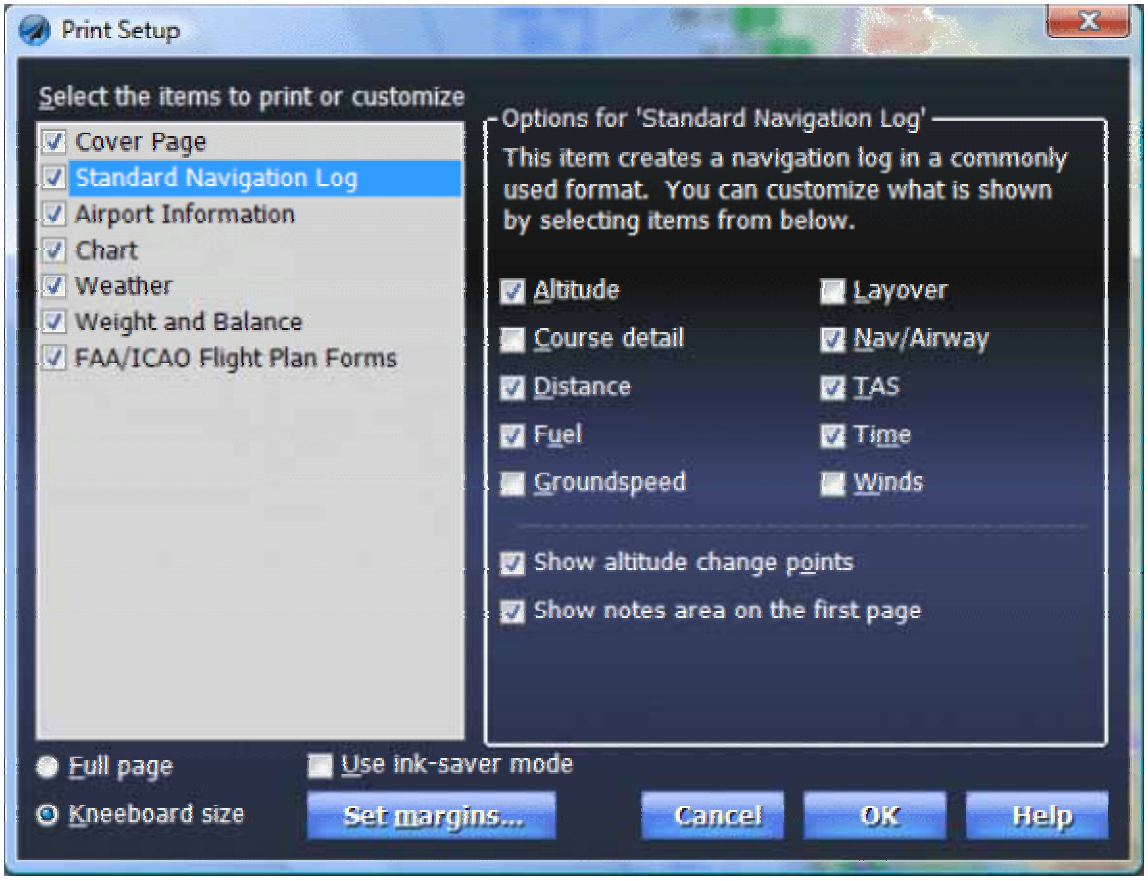
Note: *SmartPlan Express* does not support any customization.

OPTION	DESCRIPTION
Show general information	When checked, *Voyager* prints basic information about the flight including the aircraft tail number and type, pilot **name and organization** and takeoff time.
Leave fields blank	If checked, the space for the information above is reserved but the text is left blank so you can fill it in manually.

Show picture or logo	Checking this option tells *Voyager* to add a the picture of the aircraft (this can be added in the **General** tab of the **Aircraft** dialog box) or any other custom graphic you like (see below).
Custom file name	The full name and path of any GIF, BMP or JPEG you want to add to the print. If left blank, *Voyager* prints either the aircraft picture, if supplied, or the *Voyager* logo.
Show flight summary information	When checked, *Voyager* prints a concise summary of the flight including distance, duration and fuel information.

Standard Navigation Log Options

To access this feature: Select **Print Setup** from the **File** menu and choose **Standard Navigation Log**.



If enabled, this item prints a navigation log in a commonly used format. By default, each leg of the flight, including the synthesized legs that *Voyager* inserts for calculating cruise and descent points, is shown.

Note: Certain vital columns, such as *Location*, *Altitude* and *MHdg* are always shown even if all other options are turned off. If the **Kneeboard** option on the main portion of the dialog is checked, **Course detail** and **TAS** are disabled because they will not fit in the smaller format.

OPTION	DESCRIPTION
Altitude	If checked, the log includes the final altitude for each leg. Normally, this is the cruise altitude that your or *Voyager* specified. However, it will be the field elevation of any *Begin Descent* leg.
Course detail	If checked, the log includes wind

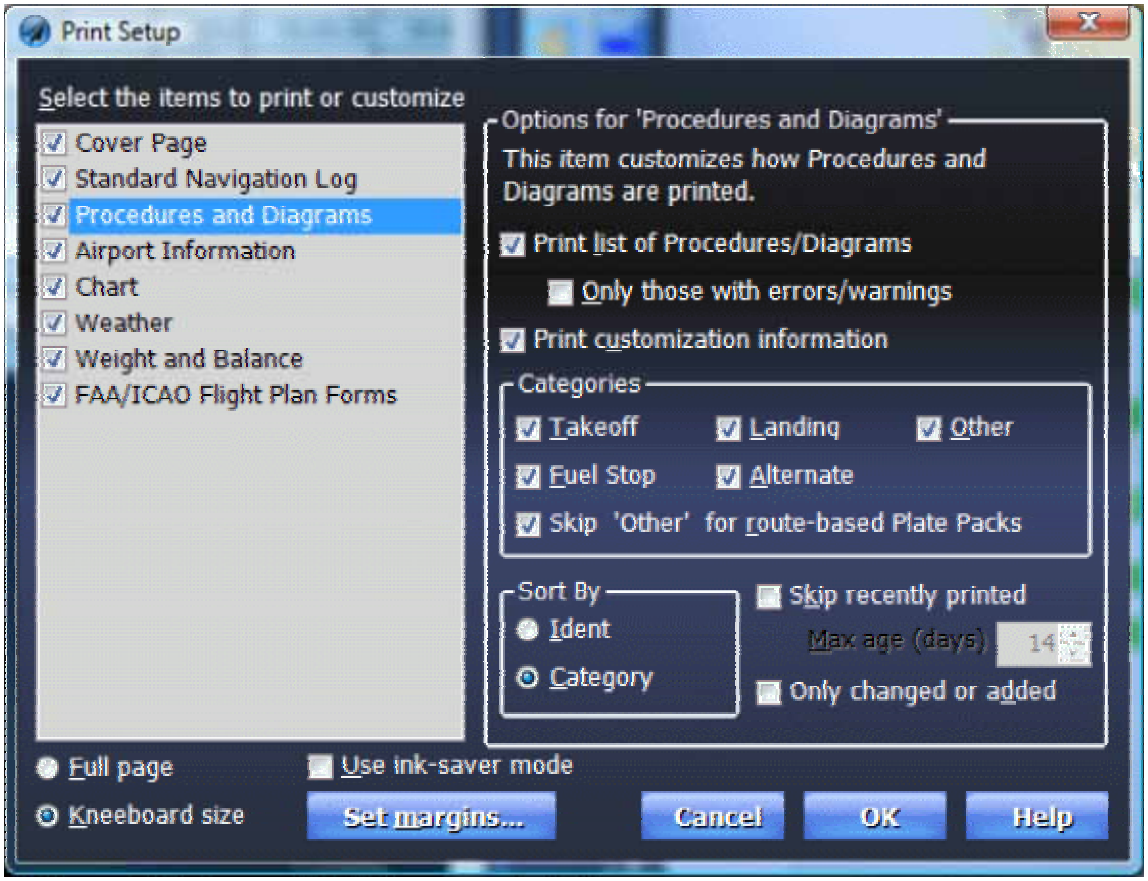
	speed/direction, TCrs and THdg (MHdg is always included).
Distance	Enables printing of the total distance, leg distance and distance remaining after each leg.
Fuel	If selected, two columns are added to the log. The first shows fuel added (+*Fuel*) and used (-*Fuel*) per leg, the second shows fuel remaining after each leg.
Groundspeed	When checked, *Voyager* adds a column showing estimated groundspeed, taking wind into account, and a space for you to record actual groundspeed.
Layover	When checked, *Voyager* prints the time specified as the **Layover** for a *Stop and Go* leg. The default layover time may be set in the **Defaults** tab of the **Options** dialog box.
Nav/Airway	Instructs *Voyager* to add a column showing relevant navaid, airway and radial/MCrs information. If the waypoint is an airport with an associated navaid, the navaid ident and frequency are shown. If the waypoint is on an airway, the airway ident and MEA are shown. If the waypoint is a navaid, the radial from this navaid to the next waypoint (not necessarily the next navaid) is shown. If the radial/MCrs from the next waypoint back to this navaid is different, that value (essentially a VOR FROM value from the next waypoint) will also be shown after a slash (e.g. *182/183*). If the waypoint is named Waypoint or a general lat/long location, the MCrs from this waypoint to the next is shown. Additionally, *Voyager* will search for a nearby VOR and, if found, print the ident and frequency of the navaid and distance and bearing from it (the VOR FROM radial). **Note:** The above differentiates between a radial and a Mcrs although

	they technically should be the same. The difference is that the official MagVar associated with a navaid is used when the waypoint is a navaid and a computed MagVar is used otherwise. That is, *Voyager* can compute the exact MagVar for any location on Earth with extreme precision based not only on the location but the exact date/time. The official MagVar for a navaid is changed just once during the year, in January. As MagVar changes over time, the *Voyager* computed value is more precise but may not exactly match a charted radial. Hence, where possible here, *Voyager* uses the official value and calls it a *Radial* rather than a *MCrs*. Thus, if the location is not a navaid, *Voyager* has no choice but to use the computed value and call the course a *MCrs*. When a waypoint is a navaid but the next waypoint is not, *Voyager* may print Radial: X/Y where the X is a radial as described above but the Y is actually a MCrs since the next waypoint has no official MagVar.
TAS	Shows the True Airspeed (TAS) under the MHdg.
Time	Adds three time-related columns. The first, ETE/ATE, shows the estimated time enroute and a space for you to record actual time enroute. The second, ETA/ATA is a space for you to note the estimated time of arrival (based on your actual time off) and, later, your actual time of arrival. The final column shows cumulative elapsed time and the time remaining after each leg.
Winds	Toggles display of wind direction (degrees) and speed in the **Speed** units specified in the **Options** dialog. Wind direction is the direction from which the wind is coming.
Show altitude change points	Determines whether only user-defined waypoints (the ones you created for your route) or user-define plus synthetically created waypoints for altitude changes (*Begin Cruise*, *Begin Descent*, etc.) are also shown. This is equivalent to the Show All Legs feature

	in a **Flight Plan** window.
Show notes area on the first page	When checked, *Voyager* prints areas for recording tach and Hobbs settings as well as hand-written notes, notes associated with the flight plan or an IFR clearance. Uncheck this box if you want to save space (that is, print more waypoints) on the first page of the NavLog. This can be useful for short flights.

Procedure and Diagram Options

SmartPlates Required
To access this feature: Select **Print Setup** from the **File** menu and choose **Procedures and Diagrams**.



If enabled, this item prints approach, arrival and departure procedures and airport diagrams. This only applies when the current window shows a Plate Pack.

GENERAL

OPTION	DESCRIPTION
Print list of Procedures/Diagrams	In addition to the procedures and diagrams themselves, this option prints a list of the items printed, grouped by airport, and with flags to indicate if the procedure is expired or has other problems.
Only those with errors/warnings	In a large **Plate Pack**, the list can be very long. To save paper, check this box and *Voyager* will create a list of just those items with a problem. All

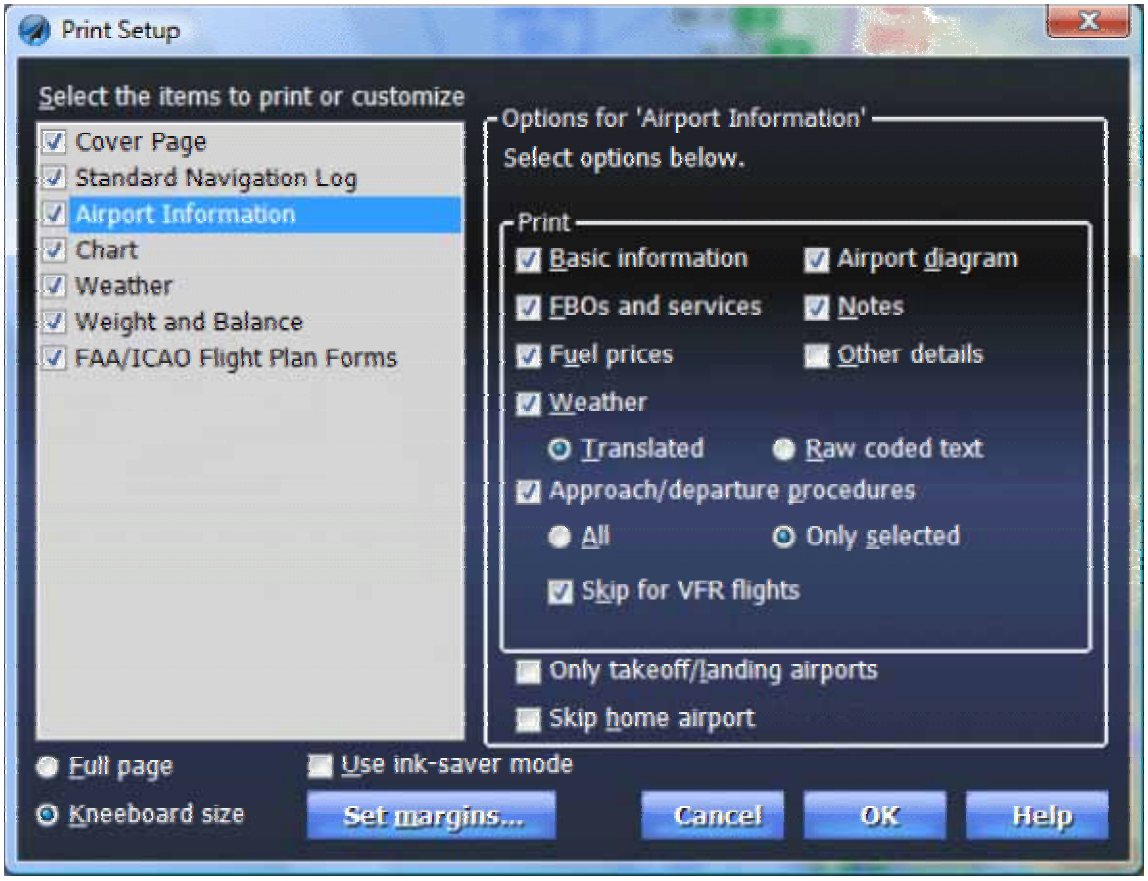
	procedures and diagrams are printed, regardless of this setting.
Print customization information	When checked, *Voyager* prints customization information that is useful as you learn the product but might be considered visual 'noise' later.
Skip recently printed	To save time and paper, check this option and *Voyager* skips printing those procedures and diagrams it has recently printed.
Max age	If the above option is checked, enter a value to specify how recently printed the item must be to be suppressed. If a procedure has changed since it was last printed, this value is ignored and the revised item is printed.
Only changed or added	When checked, *Voyager* only prints Procedures and Diagrams that have changed since you last updated the *Voyager* data file (which is not necessarily the same as saying it has changed in the last 28 day cycle).
Sort by	Items can be printed in either a strictly alphabetical order based on airport idents or by category (below) then ident.
Categories	For organizational convenience, you can associate an airport with a particular category. If **Sort by Category** is selected, all the procedures and diagrams associated with the airports in each category are printed together. Use **Skip 'Other' for route-based Plate Packs** to suppress the printing of 'Other' category airports if the Plate Pack contains at least one airport marked as *Takeoff*, *Landing*, *Fuel Stop* or *Alternate*. That usually means that it was created for a specific flight (route-based) rather than an arbitrary collection of procedures. This makes it easy to save paper by printing the procedures you really expect to need while keeping the rest, the 'Other' category procedures, part of the Plate Pack. As part of the Plate Pack, they're always current and ready for on-screen access or later printing. To categorize an airport: From a **Plate**

Pack window, select the procedure or airport in the **Selected list** and right-click the mouse then pick a category from the pop-up menu or select the category from the **Procedures** menu on the **main window**.

Voyager can download procedures and airport diagrams either from the Seattle Avionics Web site (the default) or directly from the FAA. The Seattle Avionics' procedures are compressed for much better download speed but at the expense of some slight visual quality. You can change your preference by selecting **Options** from the **Tools** menu, selecting **Preferences** and **Procedures**.

Airport Information Options

To access this feature: Select **Print Setup** from the **File** menu and choose **Airport Information**.



If enabled, this item prints information about airports. This may include a wide variety of information.

GENERAL

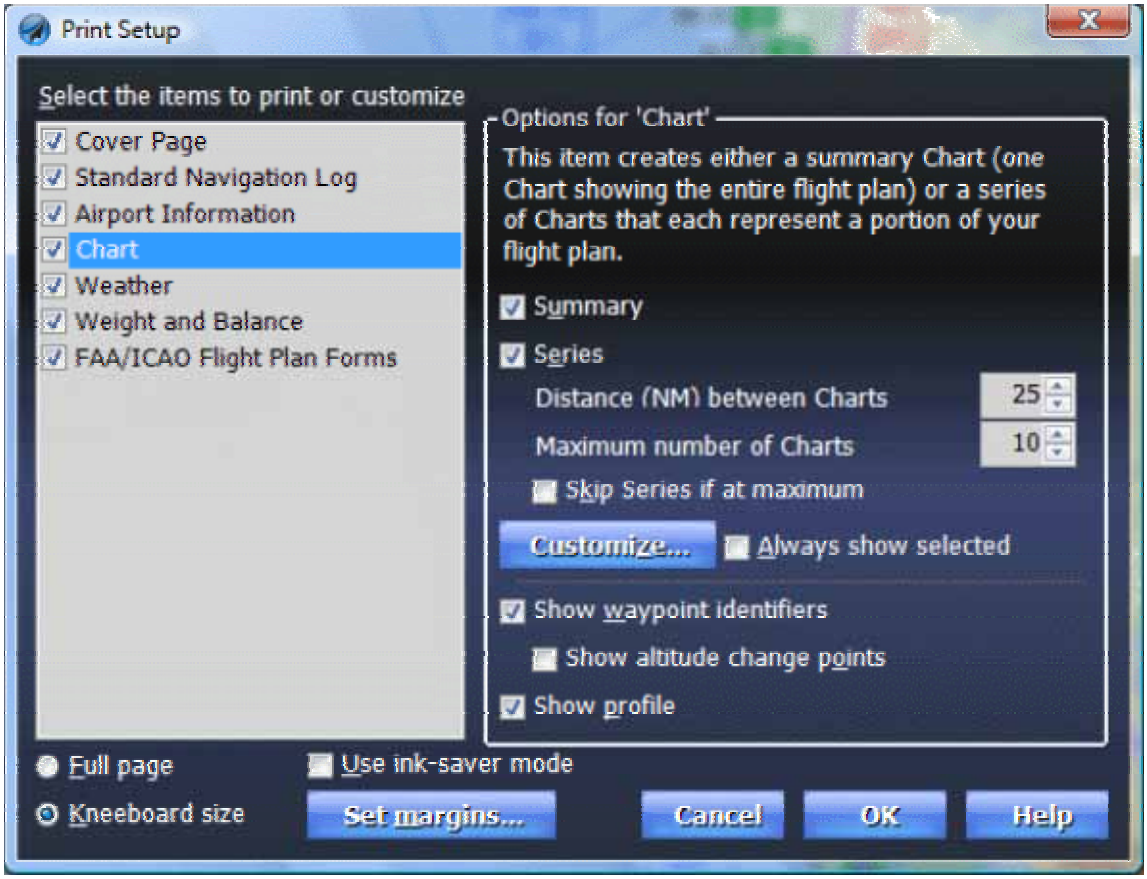
OPTION	DESCRIPTION
Basic information	Selects if general airport information, including runway information, com and nav frequencies (essentially the **Overview tab of the Airport information dialog**) is printed.
Airport diagram	Determines whether the airport diagram PDF file (downloaded from the FAA) is printed.
FBOs and services	*Not in Voyager FreeFlight* SmartPlan *Premier* Required

	Selects if the detailed **FBO and Services information**, downloaded from AOPA, is printed.
Notes	Prints any personal notes you may have added about this airport from within an **Airport Information** dialog box. To save paper, the page is only printed when notes are present.
Nearby fuel prices	*Not in Voyager FreeFlight* Prints a table of the fuel prices at nearby airports. Requires a current **ChartData subscription**. Fuel prices provided by **100LL.com**. **Tip**: *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**.
Other details	If selected, *Voyager* prints summary information plus fuel, service, remarks, etc.
Weather	When checked, *Voyager* prints **Current Conditions** (METAR), **Forecasts** (TAF) and Winds Aloft for each airport.
Translated	**Current conditions** (METAR) and **Forecast** (TAF) text are translated from the cryptic weather codes to English. Times are displayed as per the **Time format** option of the **Options** dialog.
Raw coded text	METAR and TAF text are displayed exactly as received.
Approach/departure procedures	SmartPlates Required Selects whether **IFR approach/departure information**, downloaded from the **FAA or Seattle Avionics** Web sites, are printed. *Voyager* can download procedures and airport diagrams either from the Seattle Avionics Web site (the default) or directly from the FAA. The Seattle Avionics' procedures are compressed for much better download speed but at the expense of some slight visual quality. You can change your preference by selecting **Options** from the **Tools** menu, selecting **Preferences** and **Procedures**.
All	SmartPlates Required If the above is also selected, all

	procedures for each airport are printed.
Only selected	SmartPlates Required As above but only those procedures that you've checked for printing (in the **Procedures tab of the Airport information dialog**) are printed. This allows you to save paper by only printing procedures that you expect to use.
Skip for VFR flights	SmartPlates Required Instructs *Voyager* to suppress printing procedures if the flight plan is VFR or DVFR since VFR flight do not typically involve IFR approaches.
Only takeoff/landing airports	If checked, *Voyager* only prints airport information if the airport is a takeoff or landing airport. If unchecked, *Voyager* prints information about each airport listed in the NavLog, even those only used as waypoints.
Skip home airport	Allows you to save paper by suppressing information about your home airport.

Chart Options

Not in Voyager FreeFlight
To access this feature: Select **Print Setup** from the **File** menu and choose **Chart**.



If enabled, this item prints a summary chart and/or a series of enroute charts.

Click the **Customize** button to customize the two charts. Settings apply to both summary and series charts.

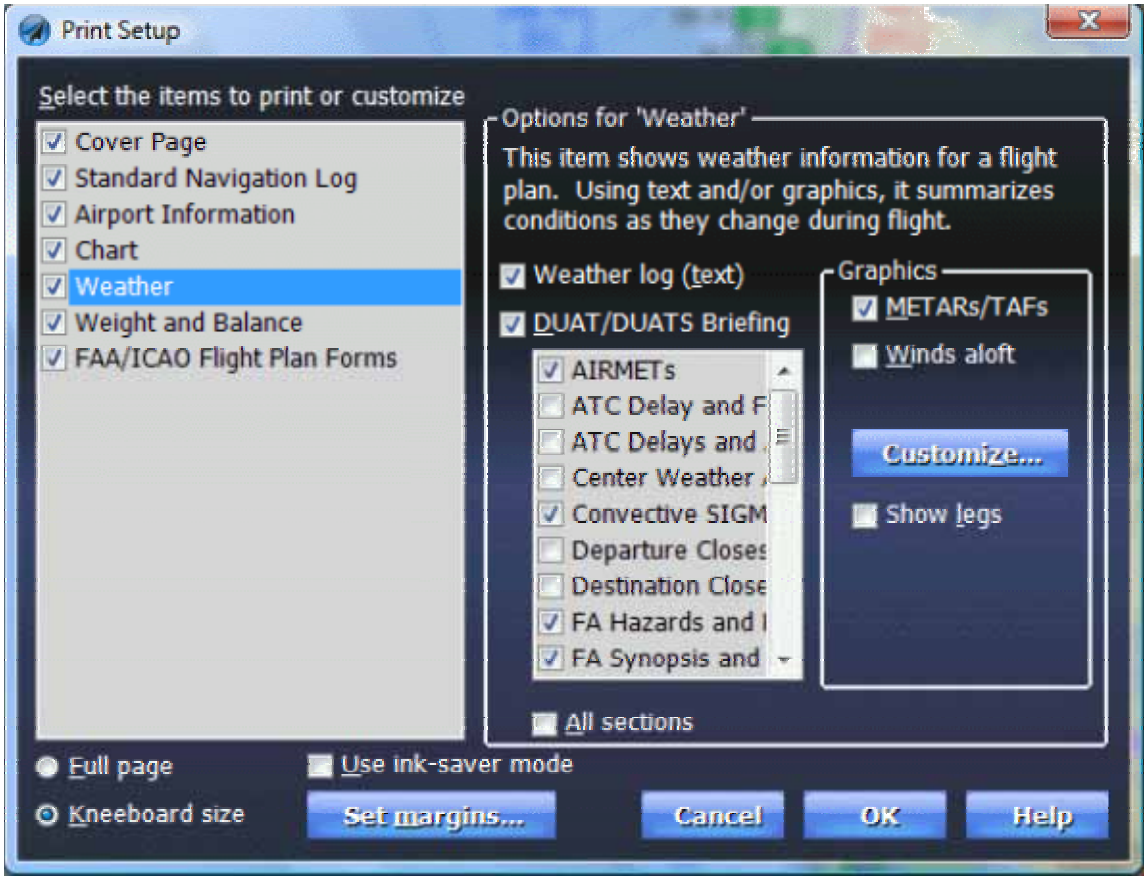
OPTION	DESCRIPTION
Summary	If checked, *Voyager* prints a chart showing the entire route (for a flight plan) or all the airports with selected Procedures (**Plate Pack**)
Series	If checked, *Voyager* prints a number of enroute charts, each representing a small portion of the total route or Plate Pack.
Distance (NM) between charts	SmartPlan *Premier* Required Controls the distance, always in NM,

	between each chart in the series. **Note**: If scanned charts are printed, this value is ignored and *Voyager* uses a built-in value (either *10* or *20 NM*, depending on the type of scanned chart) that ensures that the printed charts are easily read.
Maximum number of charts	SmartPlan *Premier* Required Overrides the above setting to ensure that prints for very long flights don't consume excessive pages. **Note**: If scanned charts are printed, this value is ignored and *Voyager* uses a built-in value that ensures that the printed charts are easily read. This may result in more printed pages than expected.
Skip Series if at maximum	SmartPlan *Premier* Required If checked, rather than adjust the radius to force the Series into a specific number of Charts (above), *Voyager* simply aborts printing the Series as each zoomed-in Chart would probably show too little detail to be useful.
Use current screen settings	When checked, *Voyager* uses the Chart settings from the currently displayed Chart as the basis for printing rather than what settings are shown when the **Customize** button is clicked. For example, if Scanned Charts are shown on the screen, they will be printed. This is checked, by default, to make printing more "what you see is what you get."
Show waypoint identifiers	Determines if **waypoint identifiers**, as well as a route line, are displayed on the charts.
Show profile	Flight Plans only. Adds a profile view to the bottom 1/4 of the page. The points are synchronized to what is on the Chart above.

Weather Options

Not in Voyager FreeFlight

To access this feature: Select **Print Setup** from the **File** menu and choose **Weather**.



If enabled, this items prints enroute weather information and legal **DUAT/DUATS Standard Weather Briefings**.

The graphical features summarizes forecast weather conditions and winds as they change during the flight.

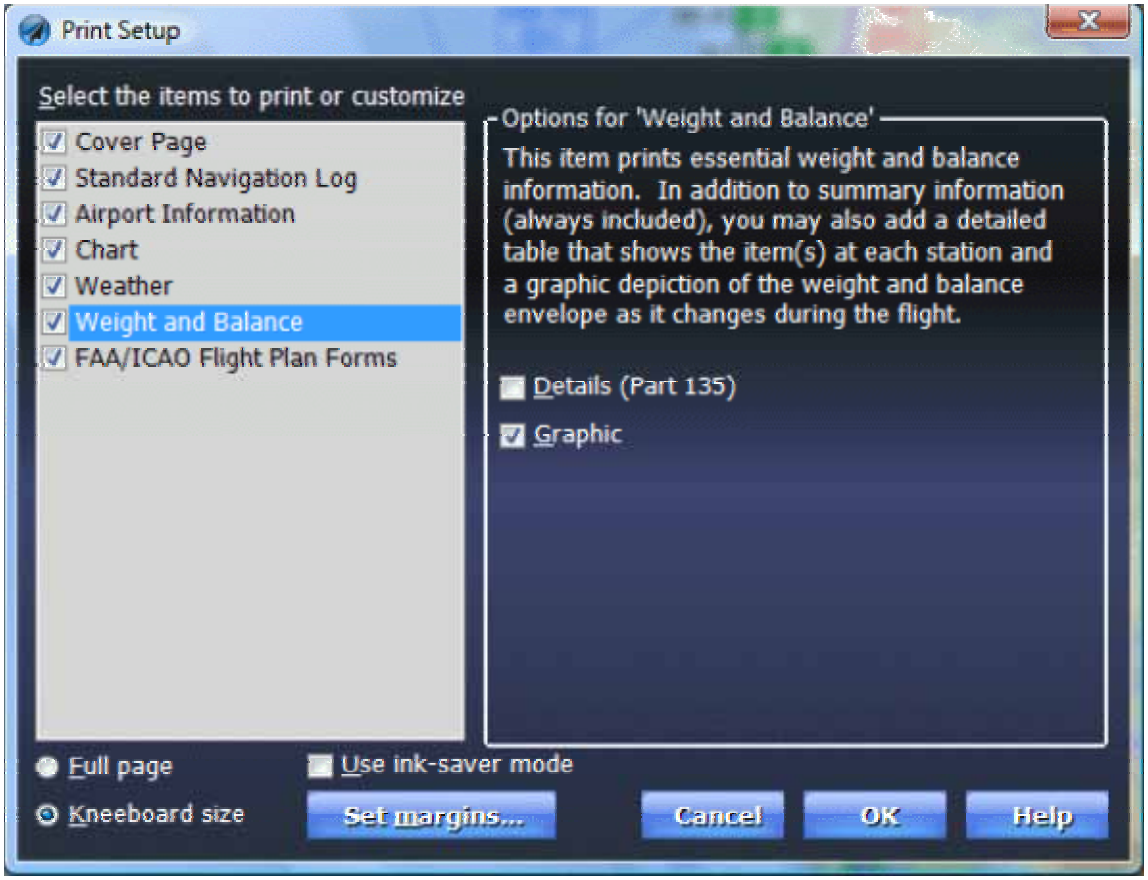
Click the **Customize** button to customize the weather chart (requires *SmartPlan Premier*).

OPTION	DESCRIPTION
METARs/TAFs	If checked, *Voyager* prints a summary chart showing expected enroute weather as you pass each reporting point. This is derived from a combination of both METAR and TAF

	information.
Winds aloft	If selected, *Voyager* prints a summary chart with overlaid winds aloft direction and speed arrows. The arrows take your expected altitude and time into account.
Show legs	Determines if leg numbers, as well as a route line, are displayed on the charts.
Customize	Lets you **select which layers** are shown on the printed Chart.
Weather Log	When checked, *Voyager* prints a table that shows the weather to expect every 30 minutes during the flight. This report includes nearby METARs/TAFs and Winds Aloft. The format of the report, original raw text or translated, is determined by the **Raw vs. Translated** switch in any Airport Information dialog box and can be changed at any time.
DUAT/DUATS Briefing	When enabled, the items checked in the Report List (below) are printed. The briefing must have been previously downloaded. The format of the briefing, original raw text or translated, is determined by the **Raw vs. Translated** switch in any Airport Information dialog box. However, unlike the METARs and TAFs, this format cannot be changed once downloaded so be sure to set the raw/translated switch as desired before getting a DUAT/DUATS briefing.
Report List	Lists each of parts of DUAT/DUATS Standard Weather Briefing. Check the items to print.
All sections	Prints the entire briefing, including all header text.

Weight and Balance Options

SmartPlan Required
To access this feature: Select **Print Setup** from the **File** menu and choose **Weight and Balance**.

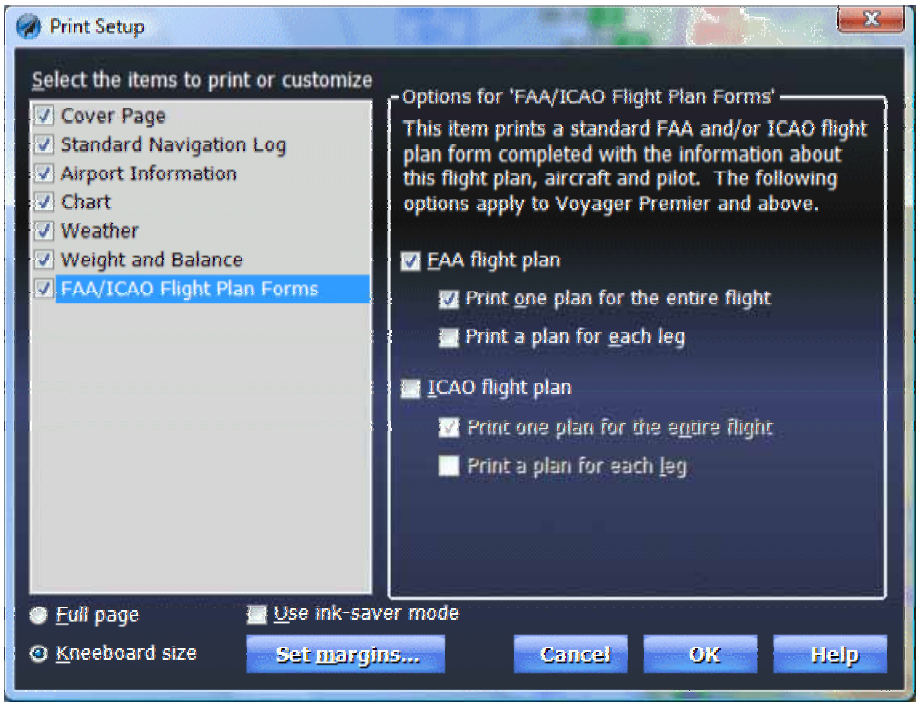


If enabled, this item prints weight and balance information. This always includes at least summary information.

OPTION	DESCRIPTION
Details (Part 135)	When checked, *Voyager* adds a detailed, FAA Part 135-style, table showing the item(s) at each station.
Graphic	When checked, a graphic depiction of the weight and balance envelope, as it changes during the flight, is printed.

FAA / ICAO Flight Plan Form Options

To access this feature: Select **Print Setup** from the **File** menu and choose **FAA / ICAO Flight Plan Form**.



If enabled, this item prints a standard FAA and/or ICAO flight plan form completed with the information about this flight plan, aircraft and pilot. Using the **FAA / ICAO Flight Plan window**, you can also file plans via the Internet or print specific legs.

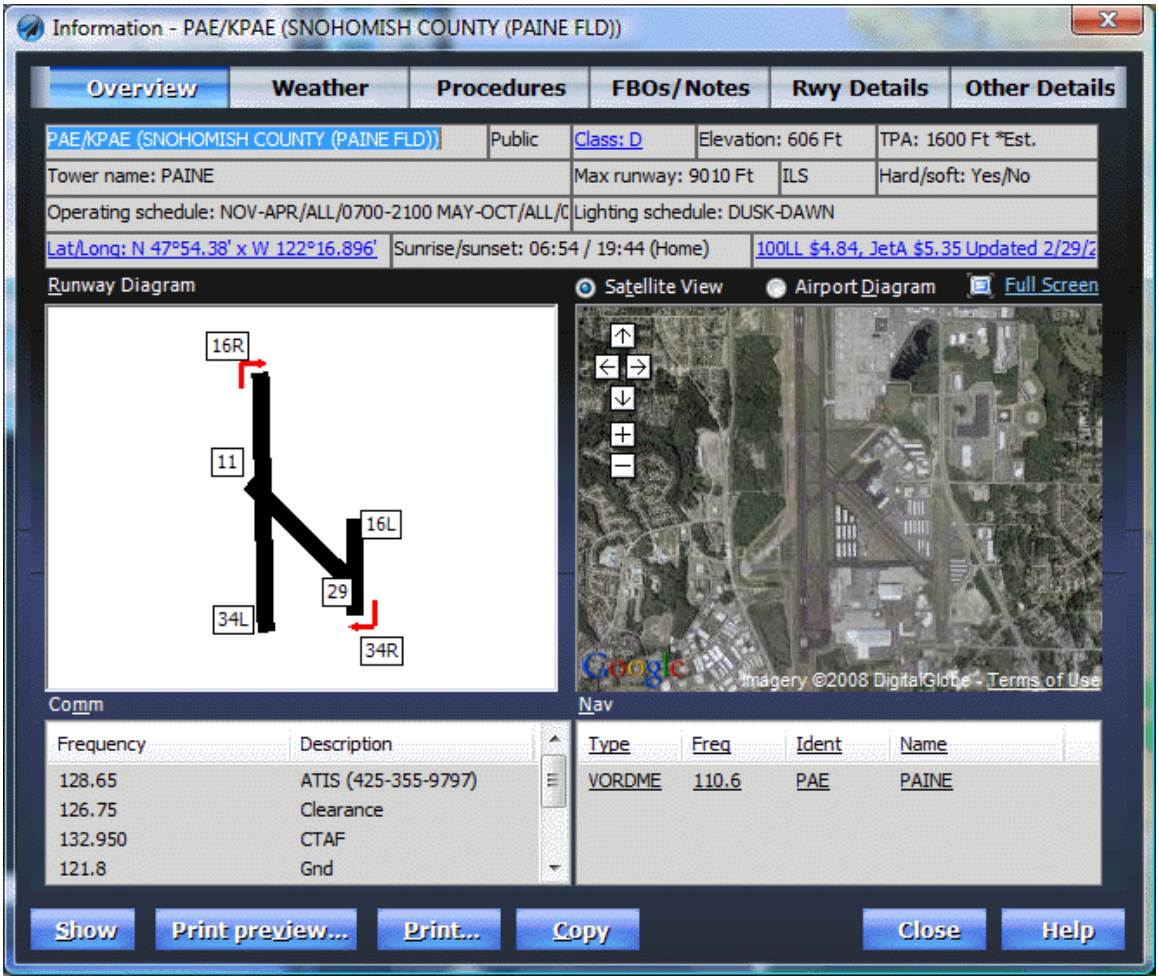
Note: *Voyager FreeFlight and SmartPlan Express* do not support individual leg or ICAO printing.

OPTION	DESCRIPTION
FAA flight plan	When checked, *Voyager* prints the FAA flight plan for either the whole flight or for individual legs, depending on what is checked below.
Print one plan for the entire flight	One flight plan is printed which covers the entire flight, including any fuel stops.
Print a plan for each leg	A separate flight plan is printed for each leg (takeoff/landing pair).
ICAO flight plan	When checked, *Voyager* prints an ICAO flight plan using the options described above.

Getting Information

Information / Airport Overview

To access this feature: Select in a Flight Plan or **Chart** window and click an airport. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter an airport name or ident.



The Overview tab contains the basic information normally needed when flying to or from an airport.

Tips: Click the **Print** button to print this summary information or the **Copy** button to copy this text (or the runway diagram) to the clipboard so it can be pasted into a word processor. Click the **Show** button to open a Chart window centered at this airport (if a Chart or Flight Plan window is already open, it is adjusted to put this airport in the center).

FIELD	DESCRIPTION
Name	The name field shows the FAA ident (if applicable) and the ICAO ident (if applicable) as well as the official name of the airport.
Public/private	For US airports, *Voyager* notes if the airport is public or private. The field is left blank for non-US airports.
Class	While airports are not technically assigned a class, the predominant airspace surrounding them implies a class. When possible, *Voyager* shows this implied class here.
Elevation	The official field elevation (MSL).
TPA	The Traffic Pattern Altitude (MSL). If no official value is available, *Voyager* displays an estimated value computed by adding 1000 feet to the **Elevation** and rounding up to the nearest 100 feet
Tower name	The name that pilots should use when communicating with the tower or ground control.
Fuel(s)	A list of which fuels, if any, are available, such as *100LL*, *JetA*, etc. US airports only. Additionally, if you have a current **ChartData subscription**, *Voyager* displays current fuel prices. Click to see additional info and the prices at nearby airports. Fuel prices are provided by **100LL.com**. **Tip**: *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**.
Max runway	The length of the longest runway at this airport.
ILS	If at least one runway has an Instrument Landing System available, *Voyager* puts an *ILS* in this field. It is blank otherwise.
Hard/soft	A combined field showing the presence of hard and/or soft runways. Water runways at sea-plane bases are considered hard in this context.
Operating schedule	If an operating schedule is available,

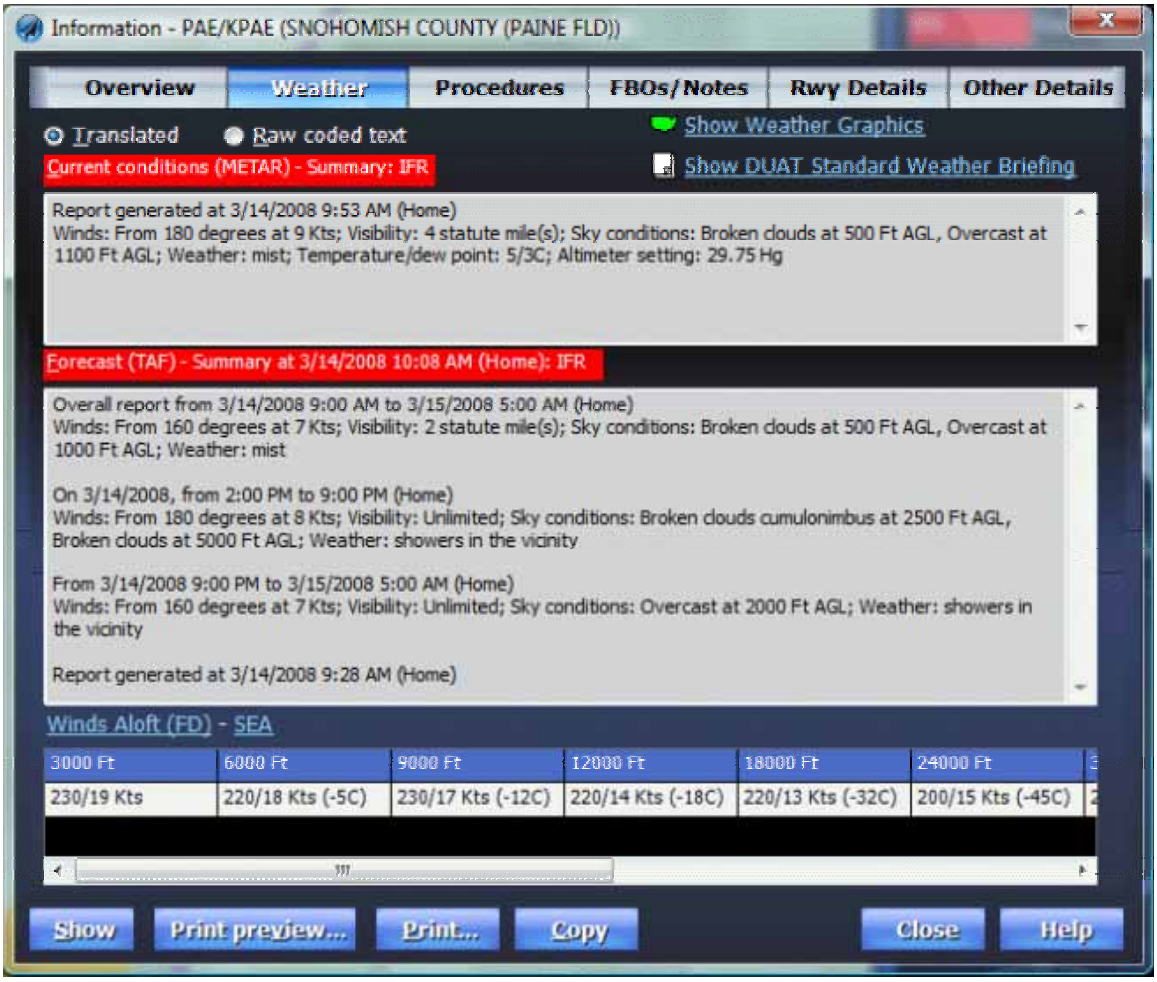
	the field contains information in the following format: Month(s)/Days of the week/Time (local) If the field has more than one schedule, generally depending on the month, additional schedules are separated by a comma. Examples: *ALL/ALL/ALL* The airport is open every month, every day and every hour. This is typical for major airports. *NOV-APR/ALL/0700-1800,MAY-OCT/ALL/0700-2100* Between November and April, the airport is attended every day of the week from 7AM to 6PM local time and between May and October from 7AM to 9PM. **Note:** In some cases, this field represents the hours during which the field is attended but the field may be open for uncontrolled traffic during additional hours. It is not uncommon, for example, for a Class D airport to be attended less than 24 hours a day but revert to a usable Class E airport during the other hours.
Lighting schedule	The hours during which lighting is available. The lighting might be continuous or pilot-controlled. The **Remarks** field of the **Other Details** tab may have additional lighting information (possibly in extremely cryptic language).
Latitude/longitude	The latitude and longitude of the official reference point of the airport.
Sunrise/sunset time	The time, in either Home or Zulu time (as noted), of civil sunrise and sunset. If this dialog is shown while a flight plan window is open, the times are based on the flight plan's takeoff date.

	Otherwise, the time is based on the current date.
Runway Diagram	For land airports and sea-plane bases, an approximate diagram of the runways, excluding helipads. Runways are numbered and red arrows indicate right-hand patterns. Hard land runways and water runways are drawn in black and soft land runways in light gray. **Note**: For small private airports where the FAA does not have the latitude/longitude of each runway, just of the airport itself, *Voyager* has to guess where the runways are. In cases of one runway, the estimate should be fairly accurate but, for small airports with multiple runways, *Voyager* may draw them overlapped even when they are really offset. In such cases, the **Satellite View** is very useful.
Satellite View	Displays a satellite image of the airport provided by **Google Maps**. Using the mouse, you can zoom in/out and reposition the image. Click **Full Screen** to see a large image. **Note:** This feature requires an active Internet connection as Google Maps images cannot be cached to disk or printed from within *Voyager* (you can print the **Full Screen** version since it simply uses your Web browser). Thus, this feature is not available in-flight or when an Internet connection is otherwise unavailable. **Note**: *Voyager* also has the ability to export a flight plan in the format used by Google Earth. Using Google Earth, which is a standalone free application that must be downloaded to your PC, you can preview the flight in 3D.
Airport Diagram	The FAA-provided diagram of the airport. This is generally available only for major US airports. This feature requires an Internet connection to download new images but once downloaded the image is available for in-flight use or anytime that the Internet is unavailable. Double-click to

	show it full-screen or click the **Full Screen** link.
Comm	The published communication frequencies for this airport, listed alphabetically.
Navaids	The applicable navaids for this airport, including type, frequency, name (ident) and range (if known). Click an entry to see more detailed information.

Information / Airport Weather

To access this feature: Select in a Flight Plan or **Chart** window and click an airport. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter an airport name or ident. Select the **Weather** tab.



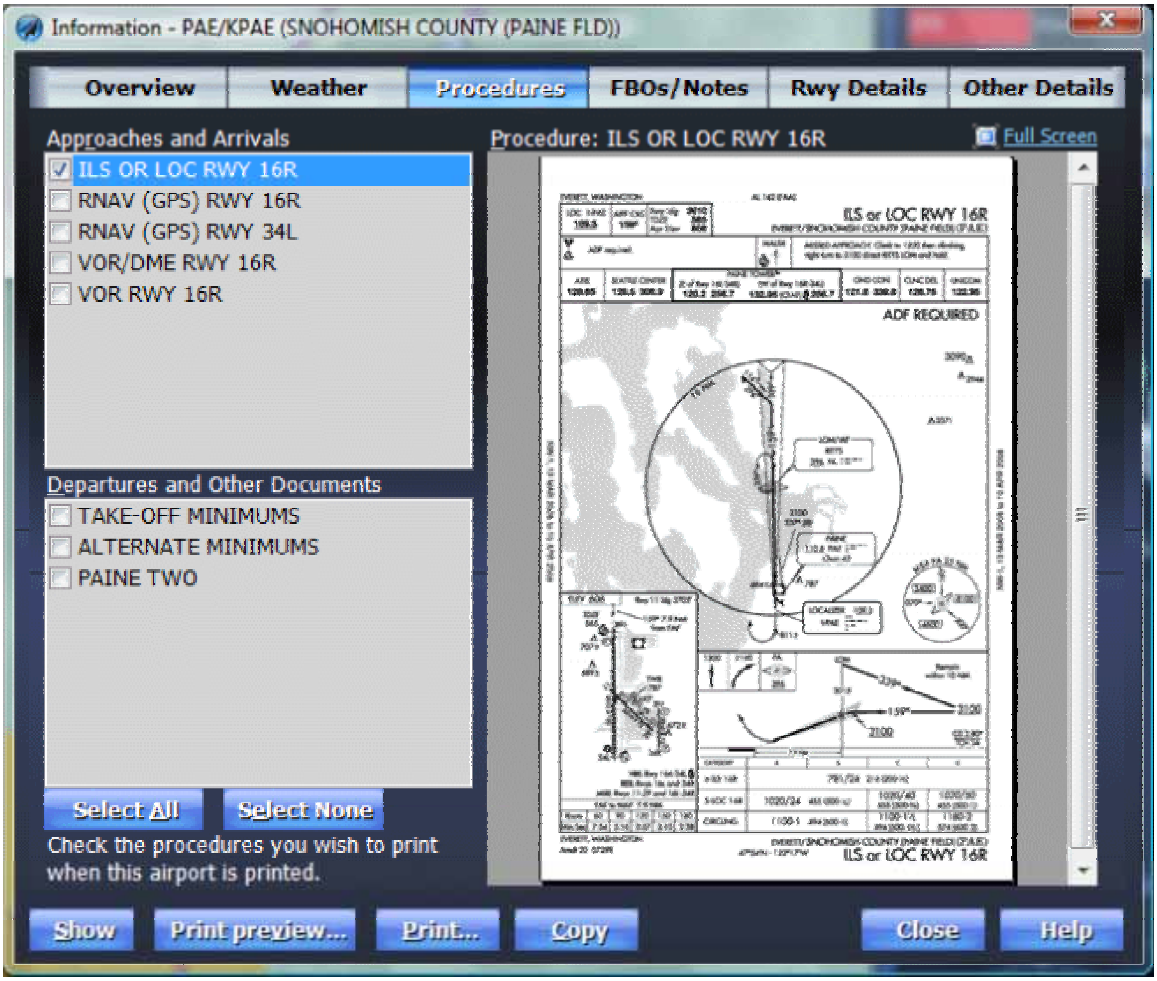
This tab shows current and forecast weather conditions at this airport. If you're connected to the Internet and **Allow background weather downloads** is turned on, weather information is downloaded or refreshed as the dialog appears. If the weather is not completely downloaded when you click this tab, you may see the information refresh itself.

OPTION/FIELD	DESCRIPTION
Translated	**Current conditions** (METAR) and **Forecast** (TAF) text are translated from the cryptic weather codes to English. Times are displayed as per the **Time format** option of the **Options** dialog. **Note:** This selection also controls how a **DUAT/DUATS Standard Weather Briefing** is downloaded and how the **Weather Log** is printed. If **Translated** is set here, any DUATS will be downloaded as Plain English. If **Raw coded text**, DUATS will be downloaded in coded form.
Raw coded text	METAR and TAF text are displayed exactly as received.
Show Weather Graphics	Jumps to the **Weather Graphics dialog** which shows more than 200 weather graphics including radar and satellite images.
Show DUATS Standard Weather Briefing	If a flight plan is active, jumps to the **Weather Text** dialog which shows a full and legal DUATS briefing.
Current conditions	The most current METAR available for this airport.
Forecast	The most current TAF available for this airport.
Winds aloft	The currently-valid Winds Aloft (FD) at the closest reporting station to this airport. Click the phrase **Winds Aloft** to see the entire Winds Aloft table. The reporting station's ident is also shown if it's not this airport. Click that ident to see information about the reporting station. The Winds Aloft table shows the wind direction (true, not magnetic) and speed at the various altitudes (MSL) shown at the top of the table. If available, the outside air temperature is shown in parenthesis. **Note:** Winds Aloft is only displayed if the closest reporting station is within 200 NM of this airport. *Voyager* only downloads US and Canadian data.

Information / Airport Procedures

SmartPlates Required

To access this feature: Select in a Flight Plan or **Chart** window and click an airport. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter an airport name or ident. Select the **Procedures** tab.



The Procedures tab lists the IFR approach, arrival and departure procedures available at each airport. This data is downloaded from either the **FAA or Seattle Avionics** Web site. This feature requires *SmartPlates*.

Each procedure has a checkbox next to its name. Check procedures that you want printed when information about this airport is printed. See **Standard Navigation Log Options** for more information.

Tip: Rather than create a specific Minimums and Alternate Minimums for each airport, the FAA combines airports by region into multi-page documents. To see each page, click **Full Page** and use  and  to flip the pages.

There are several ways to print a procedure.

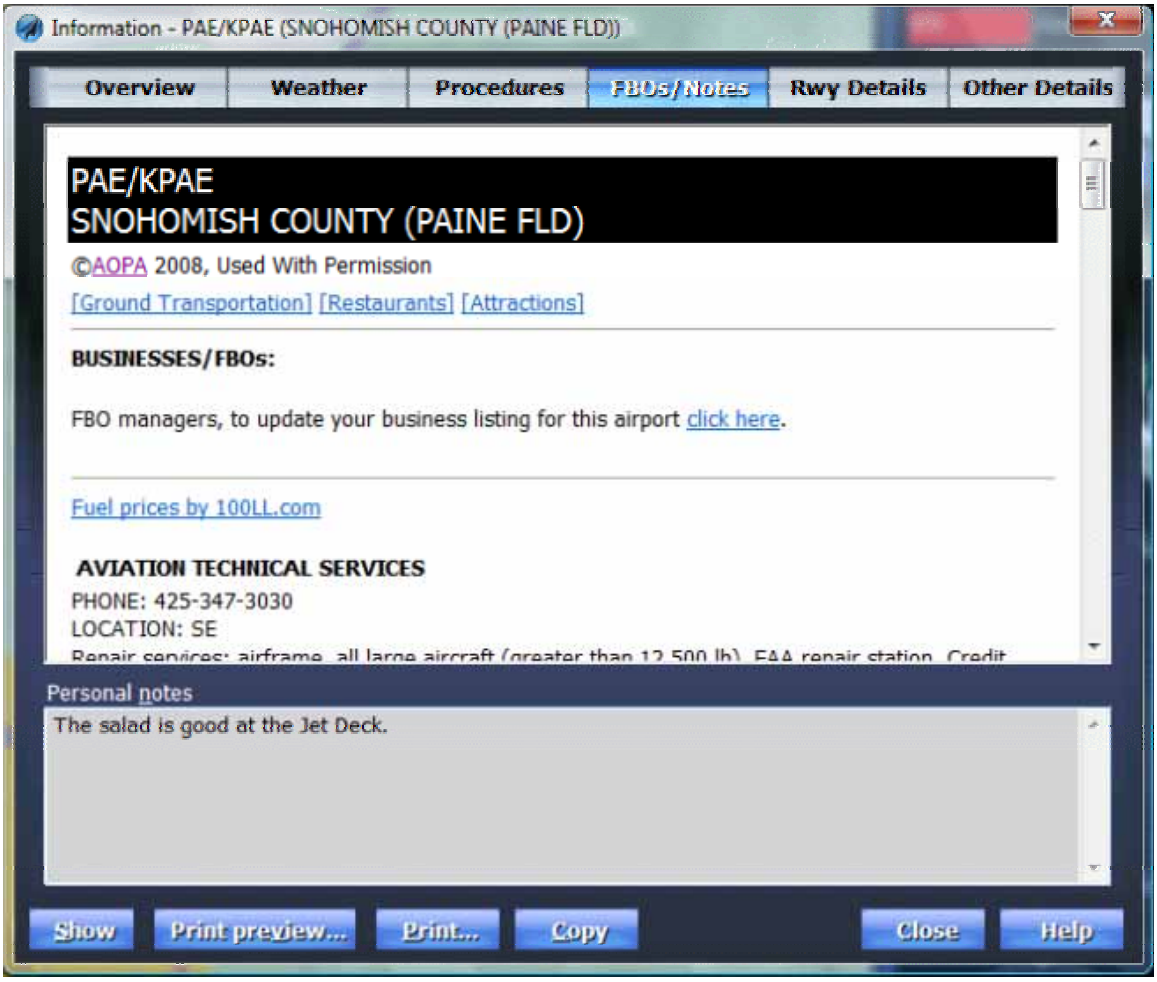
1. If you only want to print a procedure or two, click the **Full Screen** button above the procedure. Then click the **Print** button on the next screen.

2. To print several procedures at once, check the desired procedures then click the **Print** button. The Print Airport Information dialog will ask what you want to print. Uncheck everything but the **Approach/departure procedures** box and click **OK**.

3. To print the selected procedures whenever this airport is used in a Flight Plan, simply check the desired procedures. With the default **Page Settings**, *Voyager* will print the selected procedures for all IFR flight plans that include this airport when the Flight Plan is printed. Also by default, they will be suppressed for VFR flight plans.

Information / Airport FBO Information and Notes

To access this feature: Select in a Flight Plan or **Chart** window and click an airport. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter an airport name or ident. Select the **FBO / Notes** tab.



The FBO/Notes tab shows information about any FBOs, restaurant and transportation available at each airport and has space for personal notes about the airport. This FBO data is downloaded from the AOPA Web site so a valid AOPA membership is required.

AOPA credentials are entered separately for each pilot in the **Pilots** list. To review or add AOPA login information: Select **Pilots** from the **Lists** menu, choose a pilot, click the **Edit** button and the **AOPA** tab.

Information / Airport Runway Details

To access this feature: Select in a Flight Plan or **Chart** window and click an airport. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter an airport name or ident. Select the **Runway Details** tab.

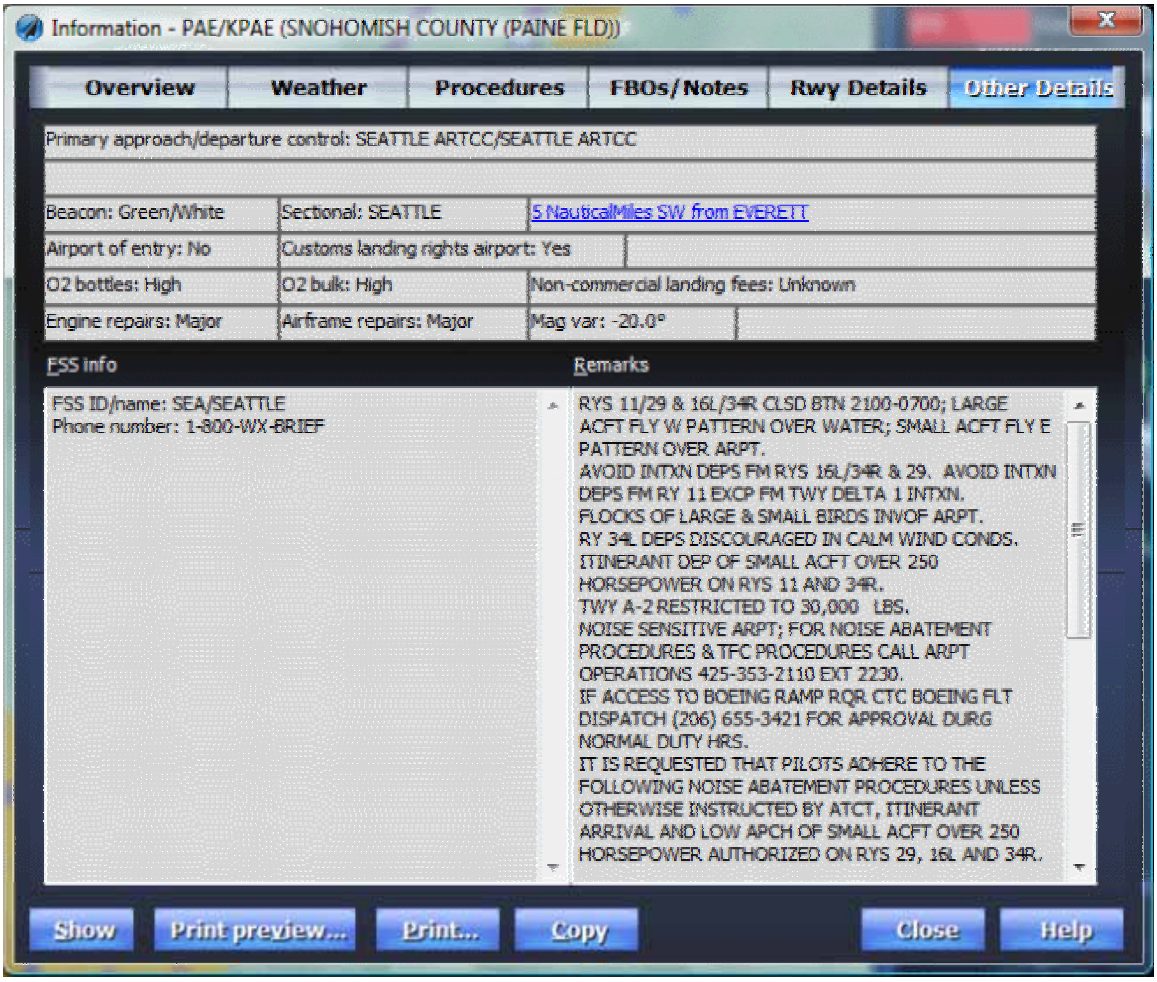
This tab displays a table of very detailed information about each runway at this airport.

COLUMN	DESCRIPTION
ID	The runway ident, such as *07*, *34* or *H2*.
Len	The runway length.
Width	The runway width.
Surface	The runway surface type: *Hard*, *Soft* or

	Water.
Pattern	The traffic pattern, either *Left* or *Right*.
Elev	The elevation of the threshold, in the **Altitude** units specified in the **Options** dialog box,
ILS type	The type of ILS, if any. US airports only.
Angle	The visual glidepath angle, in degrees. US airports only.
Ind.	The type of visual glideslope indicator, if any. For example, *V2L* means a two light VASI to the left of the runway. US airports only.
Lights	Runway lights such as MALSR. US airports only.
REIL	*Yes* if REIL is available. US airports only; non-US airports are always reported as *No* regardless of the actual status.
Grad.	The angle, in degrees, from the threshold to the end of the runway. Positive numbers indicate an upward slope, negative a downward. US airports only.
Markings	The type of markings, if any, on the runway. These include *BSC* (Basic, runway ident only), *NPI* (Non-precision instrument) and *PIR* (Precision Instrument).

Information / Airport Other Details

To access this feature: Select in a Flight Plan or **Chart** window and click an airport. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter an airport name or ident. Select the **Other Details** tab.



The Other Details tab shows other information about this airport.

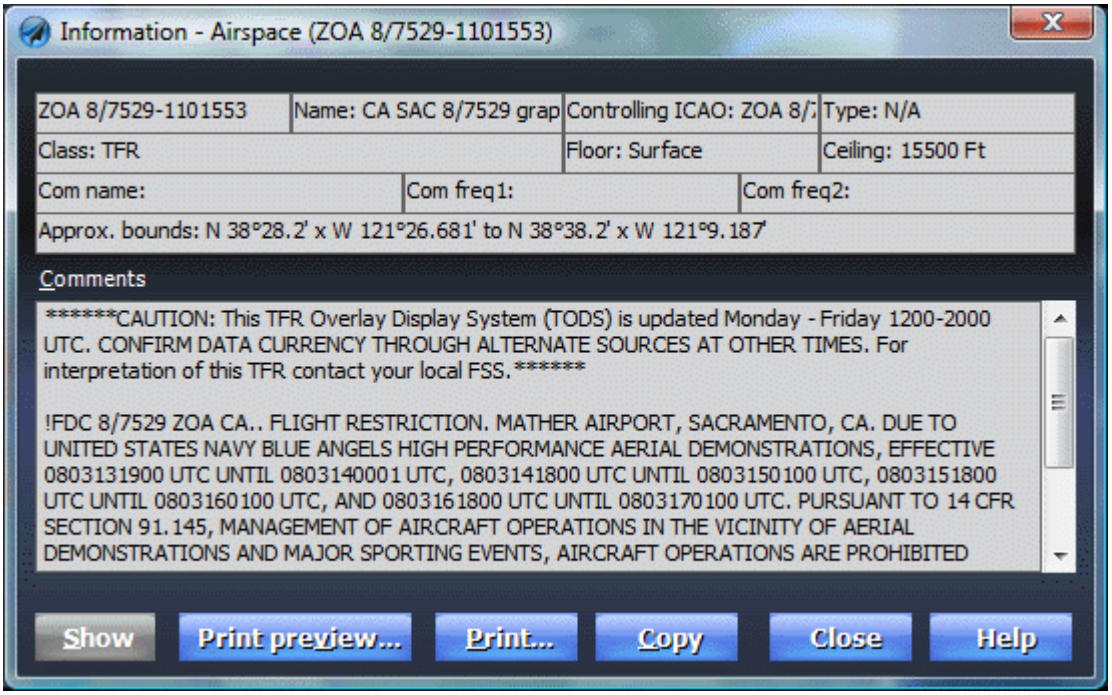
FIELD	DESCRIPTION
Primary approach / departure control	The name of the primary approach and departure control agencies.
Beacon	The color of the airport beacon or *Yes* or *No* or *None*. Civilian land airports have green and white beacons, military airports have two white lights and one

	green light, etc. Airports outside the US are reported simply as *Yes* or *No*.
Sectional	The name of the US Sectional chart that contains this airport. US airports only.
Distance/direction to the closest city	The name, direction and distance to the closest city. Click the link to search for more information about that city. US airports only.
Airport of entry	If *Yes*, this airport is approved for routine international arrivals.
Customs landing rights airport	If *Yes*, this airport is available for international arrivals but only when special permission has been previously obtained.
Master airport	Some smaller airports are linked to larger, so-called master, airports. If so, the master airport ident is shown here. Blank otherwise. US airports only.
O2 bottle	The type of oxygen bottles available, if any. These include *Low* (pressure), *High* (pressure), *High/Low*, *None* and *Unknown*. US airports only.
O2 bulk	The type of bulk oxygen available, if any. These include *Low* (pressure), *High* (pressure), *High/Low*, *None* and *Unknown*. US airports only.
Non-commercial landing fees	If *Yes*, a fee is charged for non-commercial use (fees are usually charged for commercial use). US airports only.
Engine repairs	The type of engine repairs available at this airport. These include *Major*, *Minor*, *None* and *Unknown*. US airports only.
Airframe repairs	The type of airframe repairs available at this airport. These include *Major*, *Minor*, *None* and *Unknown*. US airports only.
Mag var	The actual magnetic variation for this airport on the current date. This could be slightly different than a published variation since this value changes daily. Positive indicates westerly variation, negative easterly variation. For example, a value of -20 means that a true heading of 360 degrees appears as 340 magnetic.
Tower ID	If this airport is associated with a master airport, this field displays the

	ident of the master tower. Blank otherwise.
FSS info	The ID, name and phone numbers of the primary and secondary FSS contacts for this airport. US airports only.
Remarks	FAA-provided free-form comments. These should be read carefully because, although cryptic, they often contain valuable information. US airports only.

Information / Airspace

To access this feature: Select  in a Flight Plan or **Chart** window and click in any open space. Click an airspace in the **Airspace(s)** list.



Information about an airspace region.

FIELD	DESCRIPTION
Ident	The ICAO identifier of the airspace.
Name	The name of the airspace. Only applicable to TFRs.
Controlling ICAO	The ident of the controlling agency.
Type	The type of airspace, most commonly *TCA* (Terminal Control Airspace), *ARTCC* (Air Route Traffic Control Center) or *N/A* (for TFR).
Class	The ICAO class of the airspace or *MOA*, *TFR*, etc.
Floor	The bottom of the airspace (MSL) in the **Altitude** units specified in the **Options** dialog or *Surface/Sfc* or *Unknown*.
Ceiling	The top of the airspace (MSL) in the selected units or *Unknown* or *Unlimited*. Note: If the airspace was

	originally expressed as AGL, the **Ceiling** value (displayed here as MSL) is computed by adding the elevation of the center of the **Approx. bounds** to the given AGL. By contrast, if you click a random location on a Chart surface, the **Floor** and **Ceiling** values for AGL airspaces are computed using the exact **Latitude/longitude** of the selected point. This can cause slightly different **Floor** and/or **Ceiling** values.
Com name	The name to use when contacting the controlling agency.
Com freq1	The primary contact frequency.
Com freq2	The secondary contact frequency.
Approx. bounds	The approximate upper-left and lower-right boundaries of the region.
Comments	Additional information, generally for TFRs.

Information / Airway

To access this feature: Select in a Flight Plan or **Chart** window and click any segment of a low-level (Victor) or jet airway.

This dialog displays detailed information about an airway. It includes both general information and detailed information about each segment.

Click a Navaid/Fix for additional information.

Tip: By default, this dialog shows all segments, including both Navaids and Waypoints (fixes). To simplify the display, uncheck the **Show fixes** box.

GENERAL

FIELD	DESCRIPTION
Name	The name of the airway, such as *V27* or *J34*.
Countries	An abbreviation for the country or countries that this airway is in. If the airway goes through several countries, this field only represents the country of the first and last nodes.
Type	The type of the airway: *VOR* (continental US), *Hawaii* or *Alaska*.
Jet route	*Yes* if the airway is a high-altitude jet route, *No* if it is a low-altitude airway.
Effective date	The first date (Zulu) that this data is valid.

SEGMENTS

The table shows detailed information about each airway segment. Click any item to see additional information about the navaid/fix.

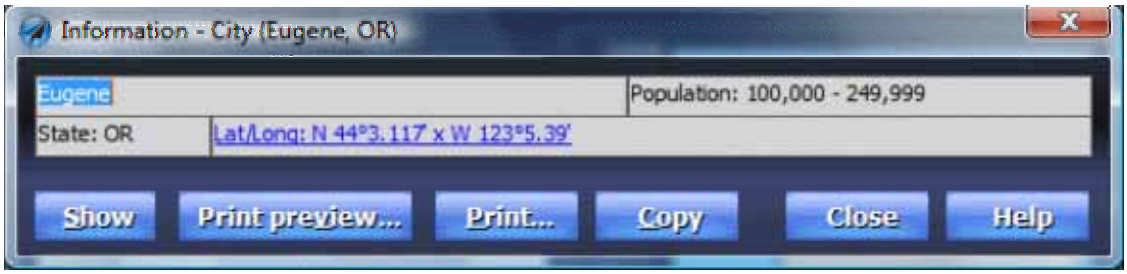
COLUMN	DESCRIPTION
Name	The name of the waypoint or navaid.
Ident	The ident of the navaid and its Morse-code equivalent.
Type	The type of the waypoint. If it's a navaid, the type of navaid (VORTAC, *VOR/DME*, etc.) is shown. If not, the type is a *REP-PT* (reporting point), *AWY-INTXN* (airway intersection) or *ARTCC-BDRY* (ARTCC boundary).
Freq	The navaid frequency.
Radial	The radial from this navaid to the next and previous navaids. The first number is the radial from this navaid to the next (lower in the list). The number after the slash is the radial from this navaid to the previous one (higher in the list).
Dist	The distance, in the **Distance** units specified in the **Options** dialog, from this waypoint to the next waypoint.
MEA	The MEA (Minimum Enroute Altitude), in the **Altitude** units specified in the **Options** dialog, from this waypoint to the next. If there is a slash, the number after the slash is the MEA of the leg from this waypoint to the previous one. If not, the MEA in both

	directions is the same.
Max alt	The maximum altitude, if any, of this segment, in the user-specified altitude unit.
Obs clear	The minimum obstacle clearance altitude, if any, in the user-specified altitude unit.
Min dir	The point-to-point minimum enroute direction. Not currently used.
Min X alt	The minimum crossing altitude. If there is a slash, the first number applies from this waypoint to the next and the second from this waypoint to the previous one. Not currently used.
Min X dir	The minimum crossing direction. If there is a slash, the first number applies from this waypoint to the next and the second from this waypoint to the previous one. Not currently used.
Mag var	The official magnetic variation of the navaid. Radials are computed using this value rather than a more precise number that changes daily.
ARTCC	The name of the ARTCC zone.
MRA	Minimum reception altitude of the navaid in the user-specified altitude unit. Aircraft flying lower than this altitude may not be able to receive the navaid signal. Not currently used.

Information / City

To access this feature: Select  in a Flight Plan or **Chart** window and click a city name or click 

on the main toolbar then enter city name.



Information about a city. US only.

FIELD	DESCRIPTION
Name	The official name of the city.
State	The state in which the city is located.
Latitude / longitude	The latitude and longitude of the center of the city. Click the field for more information about this point.
Population	A range indicating the approximate population.

Information / NavAid

To access this feature: Select in a Flight Plan or **Chart** window and click a navaid. Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the lower toolbar then enter a navaid ident.

Information about a navaid.

FIELD	DESCRIPTION
Name (ident)	The name and ident of the navaid.
Country	An abbreviation for the country that contains this navaid.
Type	The type of navaid such as VOR, VORDME, NDB, etc.
Frequency	The radio frequency.
Mag var	The official magnetic variation of the navaid. Radials are computed using this value rather than a more precise number that changes daily.
Associated airport	The ICAO ident of an associated airport, if any. Click to see more information about this airport.
Elevation	The elevation of this navaid, if available.
Range	The reception range of this navaid, if available.
Morse code	The Morse-code equivalent of the ident.

Latitude/longitude	The latitude and longitude of the navaid. Click the field for more information about this point.
Associated airway(s)	A list of each airway (either low-level or jet) of which this navaid is part. The Previous and Next Waypoint columns show the waypoints, if any, on either side of this navaid and the MEA between the points.

Information

To access this feature: Select in a Flight Plan or **Chart** window and click in any open space.

Information about a general location.

Tip: To simplify the **Airspace** display, check the **Hide Class E and Class A airspace** box.

FIELD	DESCRIPTION
Latitude / longitude	The latitude and longitude of this location.
Elevation	The elevation of this location.
Sunrise / sunset	The time, in either Home or Zulu time (as noted), of civil sunrise and sunset. If this dialog is shown while a flight plan window is open, the times are based on the flight plan's takeoff date. Otherwise, the time is based on the current date.
Mag var	The actual magnetic variation of this location on the current date. Positive indicates westerly variation, negative easterly variation. For example, a value of -20 means that a true heading

	of 360 degrees appears as 340 magnetic.
Airspace(s)	A list of the applicable airspaces at this location, sorted from the surface up. Click on any item for more information. Note: The airspace **Floor** and **Ceiling** are shown in MSL or as *Unknown* or *Unlimited.* If the airspace was originally expressed as AGL, the **Floor** and **Ceiling** values (displayed as MSL) are computed by adding the elevation of the **Latitude/longitude** of this point to the given AGL. By contrast, if you click on an airspace for more information, **Floor** and **Ceiling** for AGL values are computed using the center of the airspace region. This can cause slightly different **Floor** and/or **Ceiling** values.
Hide Class E and Class airspace	When checked, Class E and Class A airspace is hidden to declutter the display.
Hide TFRs	When checked, TFRs are ignored when computing airspace. Thus, check this box to see the underlying airspace when a TFR overlaps (and, therefore, overrides) another class of airspace.

Information / Waypoint

To access this feature: Select in a Flight Plan or **Chart** window and click a fix (waypoint). Alternately, select **Get Information About a Location** from the **Tools** menu or click Info on the main toolbar then enter a waypoint ident.

Information about a waypoint.

FIELD	DESCRIPTION
Name (ident)	The name and ident of the waypoint.
Country	An abbreviation for the country that contains this waypoint.
ICAO	The ICAO identifier of the owner of this waypoint.
Mag var	The magnetic variance as computed for this location on the current date. As magnetic variation changes over time, this value will change accordingly.
Type	The type of waypoint, such as *Named* (most waypoints), *Offroute*, *VFR Reporting Point*, etc.
Usage	The way in which this waypoint is used such as *Low-level*, *High-Level*, *Both*, *Terminal*, etc.
Latitude / longitude	The latitude and longitude of the waypoint. Click the field for more information about this point.
Navaid?	Yes if the waypoint is a navaid.
Associated navaid	The ident, if any, of a navaid

	associated with this non-navaid waypoint.
Associated airway(s)	A list of each airway (either low-level or jet) of which this waypoint is part. The Previous and Next Waypoint columns show the waypoints, if any, on either side of this waypoint and the MEA between the points.

Import/Export

Web Synch

To access this feature: Click on the main toolbar or select **Web Synch** from the **File** menu.

Voyager includes a unique and powerful feature called *Web Synch*. Web Synch makes it easy to use *Voyager* on multiple machines and keep the same flight plans, default settings and user information on each. Rather than copy files to disk or send them via email, Web Synch acts like a Web-based 'clipboard' and keeps the latest version of your information on a Web server. When you perform a synch, *Voyager* contacts the Web server and determines who has the latest copy of everything and copies information back between your machine and the Web server as required.

For example, if you create a flight plan on your work computer and you want it on your home machine, simply click the Synch button on the work machine then click Synch again at home. If you modify it at home and want it back on the work machine, just click Synch again on each machine.

To create an account, simply supply the User ID you'd like to use (your email address works well as it's easy to remember) and the password you'd like to use.

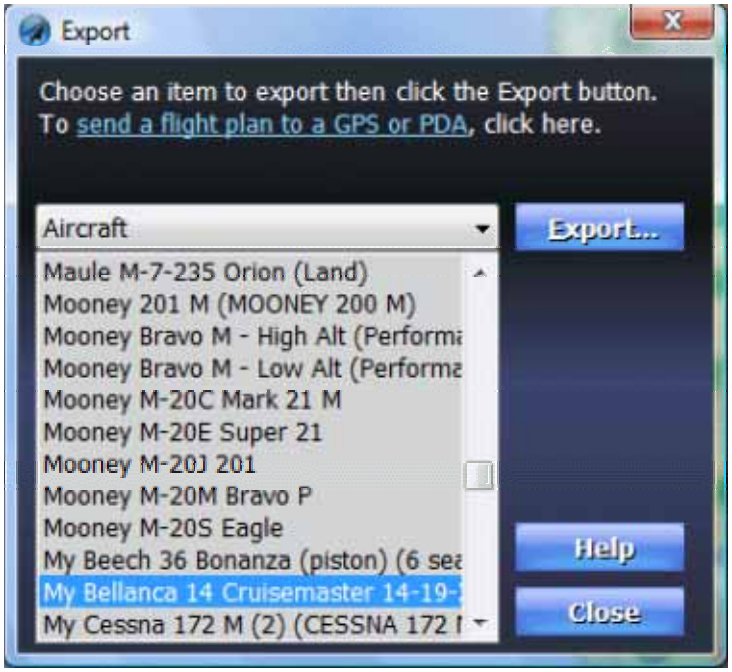
Tip: If you have multiple machines and one of them is not normally connected to the Internet, you can use a Memory Card Synch to accomplish much of the same synchronization.

OPTION	DESCRIPTION
User ID	The User Name associated with your information. When you first installed *Voyager*, it asked for an email name. Seattle Avionics automatically creates an account for each new email address registered. Thus, there is no need to create an account as one has already been created for you ... simply use your email name. **Tip**: If you want to change your **User Name** (for example, you change your email name), simply select **Change My Email Contact Info** from the **Help** menu.
Password	The Password associated with your account. **Note:** The first time you use Web Synch, your account won't have an assigned password. Simply enter the password you'd like to set.
Remember Password	When checked, *Voyager* will remember your **Password**. Use with care and never use on a public computer. **Note:** This is not available when used from a **Briefer version** of *Voyager*.
Confirm User ID/Password before Synch	When checked, *Voyager* shows this dialog box before a **Web Synch** for entering a User ID and Password. When unchecked, *Voyager* uses the last-used combination. **Note:** This is not available when used from a Briefer version of *Voyager*.
Discard existing data on this machine before Synch	Check this box if you're temporarily using a computer that is not yours. When checked, any existing data is cleared before the synch so that the existing data doesn't get merged with your data. As the existing data is cleared, be careful when using this feature. **Tip:** If you're using a friend's

	computer and he also uses *Voyager*, have him do a Synch with his User ID and Password before you Synch to get your data. That ensures that his data can be restored after you finish. To restore his data, he should do a Synch with his User ID/Password and this checkbox checked.
Change my User ID or Password	Jumps to a page on the Seattle Avionics Web site that lets you change your account User ID and/or Password. **Note:** This is not available when used from a Briefer version of *Voyager*.
Delete old items from WebSynch	Jumps to a page on the Seattle Avionics Web site lets you select items (flight plan, aircraft, pilots, etc.) from your WebSynch account that you no longer need and delete them. To ensure that they don't come back after the next WebSynch, be sure to also delete them from all your computers. **Note:** This is not available when used from a Briefer version of *Voyager*.
I forgot my Password	Jumps to a page on the Seattle Avionics Web site that can email you a lost Password. **Note:** This is not available when used from a Briefer version of *Voyager*.

Import and Export

SmartPlan Required
To access this feature: Select either **Import** or **Export** (as appropriate) from the **File** menu.



The export dialog allows you to export aircraft, pilots, passengers, cargo items, personal waypoints, personal procedures, personal workspaces and themes from the internal *Voyager* database to a file. These files may be emailed or otherwise copied between different *Voyager* installations. For example, if you create the definition for an aircraft not built-into *Voyager*, you can email the exported file to a friend with the same aircraft so he can load it into his *Voyager*.

Tip: Select **Upload/Download Aircraft** from the Tools menu to download new aircraft profiles from the Web or upload profiles you've created.

To export an item:

- Select the type of item from the drop-down list near the top of the dialog. The default is *Aircraft*.
- Select the item to export.
- Click the **Export** button and use the standard Save As dialog to save the file to disk.

To import an item:

- From the main window, select **Import** from the **File** menu.

- In the standard Open dialog, select the type of item to import with the **Files of type** drop-down.
- Select the file and click **Open**.

Files are saved with an extension representing the type of item saved: Aircraft are saved as *.Aircraft*, Pilots as *.Pilot*, Passengers as *.Passenger*, Cargo Items as *.Cargo*, **Personal Waypoints** as *.Waypoint*, **Personal Procedures** (requires *SmartPlan Premier*) as *.Procedure*, and **Themes** as *.Thm*. All files, except themes and workspaces, are saved in standard XML format.

Aircraft Exchange Wizard / Welcome

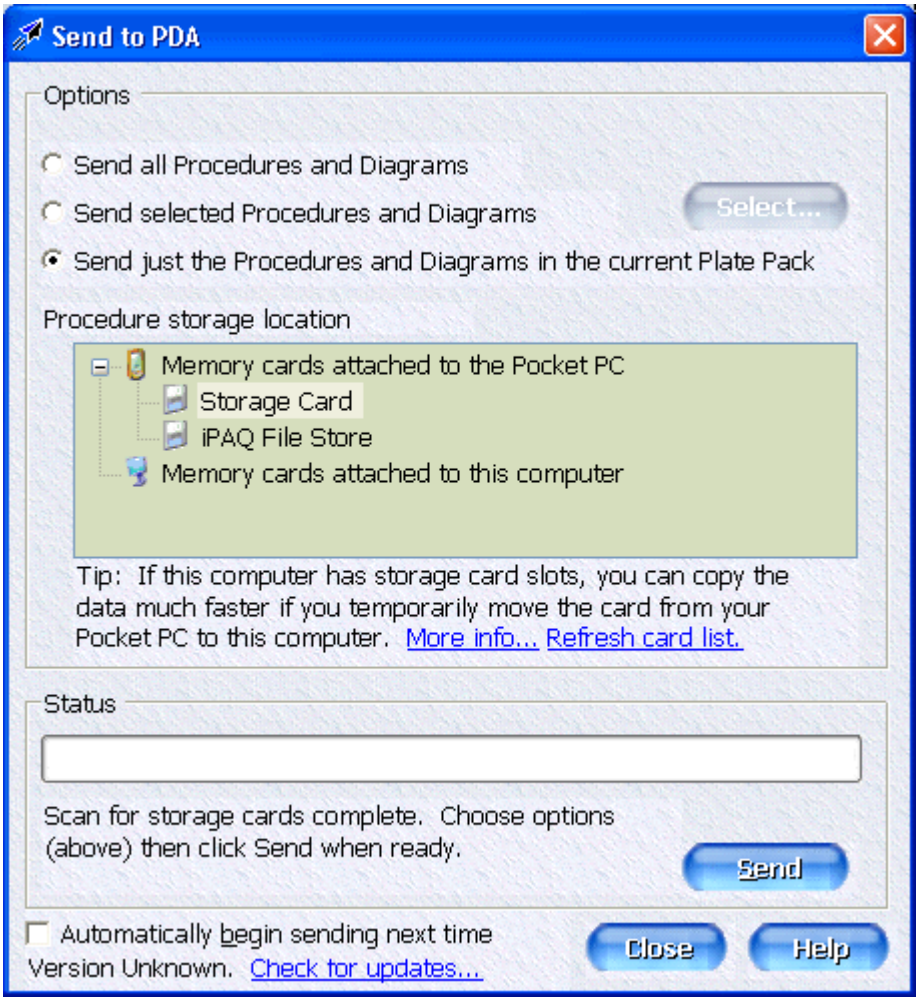
To access this feature: Select **Upload / Download Aircraft** from the **Tools** menu.

The Wizard makes it easy to exchange aircraft profiles with your fellow *Voyager* users. In particular, it makes it easy to find and download new aircraft profiles as well as contribute profiles you've created.

This Wizard requires an Internet connection.

Send to PDA (Plate Pack)

SmartPlates for the Pocket PC Required
To access this feature: While a **Plate Pack** is on the screen, select **Send to Device or Application** from the **File** menu or click the  on the main toolbar.



This feature sends **Plate Packs** and/or Procedures to *SmartPlates for the Pocket PC* (PDA). To use it, you must have a Pocket PC connected to the desktop/laptop/tablet on which *Voyager* is running and a memory card for the Pocket PC. All Procedures and Diagrams for the entire US consume between 500MB and 1GB so a 1GB memory card (currently less than $100) is required. The options below allow you to reduce the amount of storage space required on the memory card if you have less space available.

Once you select what to send (**Options**) and a **Procedure storage location**, click the **Send** button to begin copying files.

Tip: On many systems, copying files from a desktop/laptop/tablet to a Pocket PC can be slow. If your desktop PC has a memory card reader (compact flash, SD,

etc.), you may get better transfer speeds by removing the card from the Pocket PC and putting it directly into the desktop. Then, when the file copy is done, remove the card from the desktop and put it back in the Pocket PC. *SmartPlates for the Pocket PC* will recognize the new files regardless of how the files got there.

OPTION	DESCRIPTION
Send all Procedures and Diagrams	Sends all the Procedures and Diagrams on the desktop PC to the Pocket PC. *Voyager* compares the files on the Pocket PC to the files on the desktop and only copies files that have been added or changed.
Send selected Procedures and Diagrams	Same as above but allows you to select by procedure type.
Send just the Procedures and Diagrams in the current Plate Pack	Sends all the Procedures and Diagrams, in the current Plate Pack, to the Pocket PC. *Voyager* compares the files on the Pocket PC to the files on the desktop and only copies files that have been added or changed.
Procedure storage location	Selects the memory card that will contain the Procedures and Diagrams. The memory card may be connected to either the Pocket PC or the desktop machine. Of course, if you choose to copy to a memory card on the desktop PC, remember to remove the card from the desktop and put it into the Pocket PC before using *SmartPlates for the Pocket PC*.
Show all drives	*Voyager* queries each drive on your PC to determine which might be memory cards (as opposed to hard drives or network drives) and limit the visible list to these drives. In some circumstances, this logic fails and valid memory cards will be hidden. If so, check this box to show all drives attached to the PC.
Automatically begin sending next time	Tells *Voyager* to use the current settings to automatically begin sending files then next time this feature is used. In other words, once you tell *Voyager* which storage location to use and which options you prefer, you need not set the options again.

Send to Voyager FDX Universal Format

To access this feature: Select **Send to Device or Application (**or **Send to Google Earth or Application** if using *FreeFlight***)** from the **File** menu or click  on the main toolbar.

This feature exports the current flight plan to the *Voyager FDX (Flight Data eXchange) Universal* file format. These files have file extensions of *.fdx*.

This standard file format is based on XML and designed for easy portability between different applications and systems as well as good human readability.

Just like a printed *Voyager* flight plan, *Voyager* can export the plan either with all the altitude change points (*Begin Cruise*, *Begin Descent*, etc.) or just the waypoints you entered (airports, navaids, etc.). Check or uncheck the **Send altitude change points** box depending on your preference.

FILE FORMAT

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>

<FlightPlan>

   <Name> FPNAME </Name>

   <Waypoints>

      <Waypoint>

         <Name> NAME </NAME>

         <LocationType> LOCTYPE </LocationType>

         <WaypointType> WAYPOINTTYPE </WaypointType>

         <Ident> IDENT </Ident>

         <Country> COUNTRY </Country>

         <Longitude> LONG </Longitude>

         <Latitude> LAT </Latitude>

         <AltStart> ALTSTART </AltStart>

         <AltEnd> ALTEND </AltEnd>
```

```
    <Comment> COMMENT </Comment>
  </Waypoint>
  <Waypoint>
    ....
  </Waypoint>
  </Waypoints>
</FlightPlan>
```

FIELDS

FIELD	DESCRIPTION
FPNAME	The name of the flight plan.
NAME (Optional, generally)	Name is a text name or description that is only for humans to understand. It may or may not be displayed by the host application. The field is optional for all LOCTYPE except User where it is required. If not supplied, the host system should display the IDENT or, if it can unambiguously obtain the name using the IDENT and COUNTRY fields, it may display a more friendly name. For example, if no NAME is supplied but the IDENT is *KJSC*, the application may display either *KJSC* or *San Jose Intl*. The host application should do no validation of NAME and must accept duplicate NAME entries.
LOCTYPE (Required)	LOCTYPE is the type of object. Allowed values are (only): *NavAid* *Airport* *Fix* (both fixes and intersections) *User* (user-defined lat/long point)
WAYPOINTTYPE (Optional)	Describes the way the waypoint is used. Valid entries (only) are: *Takeoff*

Landing

Waypoint

Stop (a landing followed by another takeoff, often but not always a fuel stop)

If the field is not supplied, the host application should assume a Waypoint. A flight plan may not have more than one Takeoff or Landing. It is suggested that flight plans either complete this field for all waypoints or for none.

IDENT (Required, generally)

IDENT is either the official name or common ident of the point.

For airports, this should include the country identifier (e.g. *KSEA* rather than *SEA*) but programs should accept it either way. The COUNTRY field should also be used to match as airports with no ICAO idents, in different countries, will often have the same name or ident.

For navaids, the program should scan navdata for either official idents or names. For example, *PA* is an NDB north of Seattle that is typically referred to as *RITTS*. Matches should be found if either *PA* or *RITTS* is provided. The COUNTRY identifier should also be used to verify the match.

For a FIX, the IDENT may be either a name (e.g. *EYWOK*) or an FAA (or equivalent) computer-generated ID such as *23096*. Note: This is NOT the same as accepting the FAA, DAFIF or other internal ID code. Such codes are never accepted. This section refers to fixes that the FAA calls "computer fixes" that have no name, just an ID number. These waypoints are found in the FAA database but are not in the DAFIF database. The computer idents and names are not interchangeable (that is, a specific Waypoint will have one or the other) but the program should be able to deal with all-numeric

	waypoints. COUNTRY should be used to clarify matches. IDENT may be provided for user-defined waypoints but host applications may ignore them. Rather, the NAME field should be used to provide a human-readable name to the user.
COUNTRY (Required, generally)	This is the two-letter ICAO identifier for each waypoint. The field is mandatory for all LOCTYPE except User.
LONG / LAT (Required)	This field represents the latitude and longitude point for the waypoint. Data is in decimal where negative numbers denote West longitude and Southern latitude. Example: *KPAE* near Seattle is: Latitude: *47.90633*, Longitude: -*122.2816* There is no formal limit to the number of decimal places used but it is suggested that writing applications limit these fields to 6 decimals places. It is suggested, although not mandatory, that applications compare the latitude/longitude of each named waypoint (that is, navaids/airport/fix) with this value and reject the point if it does not match, with a high degree of precision. Applications that match in this manner must accept a small amount of difference due to potentially different data sources (Jepp vs FAA, for example).
ALTSTART/ALTEND (Optional)	These are the altitudes of the start and end of the leg, respectively. The unit is FT MSL. This field is not required and may be ignored, if present, by consuming applications.

NOTES:

Waypoints are sequenced from the start of the flight to the end.

The reading program should ignore other fields that may be in the data that it does not recognize.

There are no limits on the number of characters in any field.

All field names are case-sensitive as per XML specifications. Data is case-insensitive.

Send to ControlVision Anywhere Map

SmartPlan *Premier* Required
To access this feature: Select **Send to Device or Application** from the **File** menu or click  on the main toolbar.

This feature exports the current flight plan to a ControlVision Anywhere Map flight plan file (*.fp*).

By default, *Voyager* will automatically detect your Pocket PC PDA and put the flight plan in the usual directory used by Anywhere Map (*dat*.) Alternately, you can use the **Write the Anywhere Map plan to my PC and let me manually put it on my PDA** option to write the file to any location on your computer's hard disk. You can then copy or move the file to the PDA yourself.

Just like a printed *Voyager* flight plan, *Voyager* can export the plan either with all the altitude change points (*Begin Cruise*, *Begin Descent*, etc.) or just the waypoints you entered (airports, navaids, etc.). Check or uncheck the **Send altitude change points** box depending on your preference.

An Anywhere Map flight plan is not as detailed as a *Voyager* plan. For example, the exported flight plan does not contain altitude information, fuel stops or any information specific to the plane or pilot. Additionally, if the Anywhere Map airspace database is not updated, it's possible that the *Voyager* plan, using current airspace data, has airport, navaid or waypoint references that are not in the Anywhere Map database. And, even when updated properly, the Anywhere Map database is more limited than the *Voyager* database so references to smaller or soft-field airports may produce an invalid (truncated) Anywhere Map plan.

For this feature to work, your Pocket PC must be properly connected and turned on. The file is copied via Microsoft ActiveSync so that must also be properly installed (it's installed by default when you connect a Pocket PC).

Note: ControlVision changed Anywhere Map's flight plan file format with its version 1.7 release in the summer of 2005. *Voyager* defaults to using the new file format. This new file format includes altitude (what they call *VNav*) information. If you're using an older version of Anywhere Map, be sure to check the **Use old file format** checkbox.

Tip: If Anywhere Map is having trouble loading the *Voyager* flight plan, uncheck the **Use Anywhere's database for aviation waypoints** checkbox. When unchecked, *Voyager* sends all waypoints as pure latitude/longitude points.

Note: It's a coincidence that *Voyager* and Anywhere Map use the same file extension (*.fp*). A flight plan created with Anywhere Map cannot be loaded into *Voyager* even though, since the extension is the same, the file may appear to have the standard *Voyager* icon associated with it. Similarly, a *Voyager* flight plan cannot be directly loaded by Anywhere Map.

Send to Garmin GPS

SmartPlan *Premier* Required
To access this feature: Select **Send to Device or Application** from the **File** menu or click  on the main toolbar.

This feature exports the current flight plan to a Garmin handheld GPS. It has been tested against the Garmin Pilot III, 96, 96c, 195, 196, 295 and 296 but it might also work with other units. As Garmin panel-mounted GPS units do not have a public computer interface, *Voyager* cannot export to panel-mounted units such as the 430, 530 and G1000.

The export makes best-use of the features available on each GPS unit. For example, the export process will use the internal aviation database of most units rather than create user-defined waypoints directly over existing airports or navaids.

By default, *Voyager* will scan your computer's COM and USB ports for a Garmin GPS so be sure the unit is on and properly connected before you use this feature.

A Garmin route is not as detailed as a *Voyager* flight plan. For example, the exported flight plan does not contain altitude information, fuel stops or any information specific to the aircraft or pilot.

Note: For the USB-based GPS units (96, 96c and 296) to communicate with the computer, you must install the software that came with your GPS first. For the COM (serial port)-based units, you may need to purchase a special connection cable before you can connect to your PC. The cables can be purchased directly from **Garmin** or from many of their resellers.

OPTION	DESCRIPTION
Automatically detect my GPS	Instructs *Voyager* to scan your computer's COM (serial) ports and USB bus for a Garmin GPS. Conceivably, if you have another device connected to the COM port (a dial-up modem, Palm PDA, etc.), this scan could interfere with other devices so you might need to manually determine which port your GPS is connected to. **Note:** After *Voyager* finds the correct COM or USB connection the first time, *Voyager* attempts to use that connection for subsequent exports before trying other connections. Therefore, the first export might take a little longer than later exports.

Use the following connection	Select this option if the automatic scan has trouble finding your GPS or you have multiple GPS units connected to your computer.
Waypoints only	By default, *Voyager* sends the waypoints as part of what Garmin calls a route (a flight plan). However, if this option is selected, *Voyager* just sends the waypoints in the flight plan to the GPS as user-defined waypoints, not as part of a route.
Flight plan (route)	The flight plan points are sent as part of a Garmin route.
Name/Number	A unique name for the route. For older GPS units, a route number is also required. This value is ignored by the 295 and later models.
Altitude change points (all waypoints)	On the screen, *Voyager* normally shows just the waypoints you entered (airports, navaids, etc.). However, when printed, a *Voyager* flight plan usually also includes altitude change points (*Begin Cruise*, *Begin Descent*). Check this box to include these points as well.
Use the GPS database for standard aviation wpts	If checked, *Voyager* attempts to use the GPS aviation database rather than create user-defined waypoints. This feature requires the 295 or later GPS units. For older units, this checkbox is ignored and *Voyager* must create user-defined waypoints even when the waypoint is an airport, navaid or waypoint. Additionally, even with a newer units, if you don't keep its database up to date, *Voyager* may have to create user-defined waypoints if the waypoints are too new to be in the GPS database.

Send to Microsoft Flight Simulator

SmartPlan Required
To access this feature: Select **Send to Device or Application** from the **File** menu or click  on the main toolbar.

This feature exports the current flight plan to a Microsoft Flight Simulator plan file (.pln). By default, the output goes to the usual Flight Simulator directory (*c:\documents and settings\<your name>\My Documents\Flight Simulator Files*) but you can use the **Browse** button to put the file in a different location.

A Flight Simulator flight plan is not as detailed as a *Voyager* plan. For example, the exported flight plan does not contain altitude information, fuel stops or any information specific to the plane or pilot. In addition, a Flight Simulator plan is constrained to airports, navaids and waypoints so a *Voyager* plan created via the GPS Direct router (or manually 'rubber-banded') cannot be accurately translated to Flight Simulator. In such a case, 'user-defined' points are removed from the exported flight plan. Additionally, the Flight Simulator airspace database does not get updated so it's possible, especially if your copy of Flight Simulator is old, that the *Voyager* plan, using current airspace data, has airport, navaid or waypoint references that are not in the Flight Simulator database.

Flight plans are supported by Microsoft Flight Simulator 2000 or later.

Note: You can also do a virtual flight using Google Earth.

Send to Lowrance GPS

SmartPlan *Premier* Required
To access this feature: Select **Send to Device or Application** from the **File** menu or click  on the main toolbar.

This feature exports the current flight plan to a Lowrance handheld GPS. It has been tested against the AirMap 500, 1000 and 2000c but it might also work with other units.

Lowrance units store flight plans on industry-standard SD/MMC memory cards so you must remove the memory card from your GPS and attach it to your computer before using this feature. Once the flight plan is copied to the memory card, put the card back into the GPS. See the Lowrance documentation for how to remove the memory card,

A Lowrance route is not as detailed as a *Voyager* flight plan. For example, the exported flight plan does not contain altitude information, fuel stops or any information specific to the aircraft or pilot.

OPTION	DESCRIPTION
Memory cards attached to this computer	Shows all the available memory cards currently attached to this computer. As noted above, Lowrance units store flight plans on a removable memory card. The card must be removed from the GPS and connected to this computer (and then replaced, of course).
Show all drives	*Voyager* queries each drive on your PC to determine which might be memory cards (as opposed to hard drives or network drives) and limit the visible list to these drives. In some circumstances, this logic fails and valid memory cards will be hidden. If so, check this box to show all drives attached to the PC.
Waypoints only	By default, *Voyager* sends the waypoints as part of what Lowrance calls a route (a flight plan). However, if this option is selected, *Voyager* just sends the waypoints in the flight plan to the GPS as user-defined waypoints, not as part of a route.
Flight plan (route)	The flight plan points are sent as part of a Lowrance route.

Name	A unique name for the route.
Altitude change points (all waypoints)	On the screen, *Voyager* normally shows just the waypoints you entered (airports, navaids, etc.). However, when printed, a *Voyager* flight plan usually also includes altitude change points (*Begin Cruise*, *Begin Descent*). Check this box to include these points as well.

Send to Hilton Software WingX

SmartPlan *Premier* Required
To access this feature: Select **Send to Device or Application** from the **File** menu or click  on the main toolbar.

This feature exports the current flight plan to a Hilton Software WingX route (*.rt*).

By default, *Voyager* will automatically detect your Pocket PC PDA and put the flight plan in the usual directory used by WingX. Alternately, you can use the **Write the WingX plan to my PC and let me manually put it on my PDA** option to write the file to any location on your computer's hard disk. You can then copy or move the file to the PDA yourself.

Just like a printed *Voyager* flight plan, *Voyager* can export the plan either with all the altitude change points (*Begin Cruise*, *Begin Descent*, etc.) or just the waypoints you entered (airports, navaids, etc.). Check or uncheck the **Send altitude change points** box depending on your preference.

A WingX route is not as detailed as a *Voyager* plan. For example, the exported flight plan does not contain fuel stops or any information specific to the plane or pilot. Additionally, if the WingX database is not updated, it's possible that the *Voyager* plan, using current airspace data, has airport, navaid or waypoint references that are not in the WingX database.

For this feature to work, your Pocket PC must be properly connected and turned on. The file is copied via Microsoft ActiveSync so that must also be properly installed (it's installed by default when you connect a Pocket PC).

Tip: If WingX is having trouble loading the *Voyager* flight plan, uncheck the **Use WingX's database for aviation waypoints** checkbox. When unchecked, *Voyager* sends all waypoints as pure latitude/longitude points.

Customizing Aircraft and Other Lists

Aircraft / General

To access this feature: Select **Aircraft** from the **Lists** menu and choose an aircraft or click the **Add** button.

This tab contains the most basic information about an aircraft such as its make and model, tail number, etc.

Tip: To define a new aircraft, it's usually faster to base it on an existing aircraft rather than define it from scratch. Click the **Copy from aircraft library** button to clone and modify information from another aircraft.

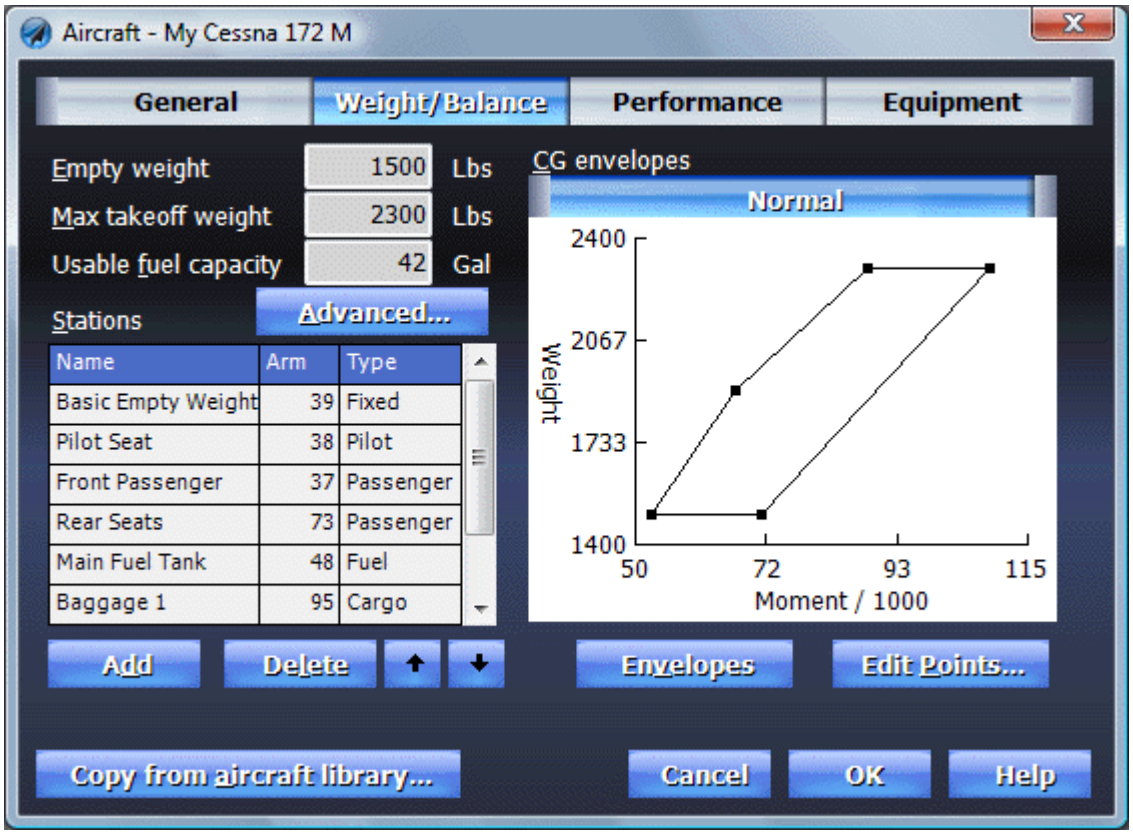
OPTION	DESCRIPTION
Name	The name you'll use to refer to this aircraft. This can be anything you like such as *My Airplane*, *Bonanza A-36*, *Rental 172*, or the tail number.
Description	The description is optional text that you can use to differentiate between this aircraft and others later. It's not

	shown anywhere except in the **Aircraft** dialog box.
Manufacturer	The current manufacturer of this aircraft as listed in the official ICAO aircraft directory. In cases where the aircraft design has been sold from the original manufacturer, select the current manufacturer and look for the aircraft in the **Model** list below. The **Mfg** and **Model** are used when filing a flight plan. **Note:** Selecting a **Mfg** and **Model** does not automatically select all the proper performance, weight and balance and other factors for this aircraft as such would require *Voyager* to store thousands of aircraft profiles. The **Mfg** and **Model** selections are **only** used to complete the **Type/Equipment** field (block 2) of the **FAA Flight Plan form**.
Model	The model of the aircraft as listed in the official ICAO aircraft directory. In cases where the aircraft is referred to by multiple names, you may have to look to find the right choice. For example, most people refer to a Cessna Skyhawk 172 as a C172 or 172 but it's listed here under its official name of *Skyhawk 172* although the similar Cessna 152 is simply called a *152*. The **Mfg** and **Model** are used when filing a flight plan.
Type	Optional additional model specifier. For example, the Cessna Skyhawk 172 has been made for decades so an additional type, a single letter in this case, is used to differentiate between the variants.
Color	The color(s) of this aircraft, using colors approved for FAA flight plans and used when a flight plan is filed. Click the **...** button to change the color.
Tail number	The ICAO identification number of the aircraft. For US-based aircraft, this is commonly called the "N-Number" since it begins with the letter N.
Year	Optional year of manufacture.
Category	The FAA category of the aircraft: *Normal*, *Utility*, *Acrobatic*, *Restricted*, *Transport* or *Experimental*.

IFR certified?	Selects whether or not this aircraft is rated for IFR operations.
Fuel	The type of fuel used by this aircraft such as *AvGas (100LL)* or *JetA*. If this aircraft uses a fuel not listed, add it with the **Fuel** item of the **Lists** menu.
Show fuel as	Selects whether fuel is displayed as Volume (typically Gallons) or as Weight (typically pounds). Volume is common for light GA aircraft; Weight for jets.
Photo	*Voyager* can display a photograph of the aircraft. Use the **Browse** button to select a photo and the **Clear** button to remove one.
Icon	The icon used during the time-lapse display of weather.
Photo	An optional photograph of the aircraft. Click the **Browse** button to select a GIF, JPEG or BMP image. Click the **Clear** button to clear an existing image (this does not delete the original file).
Home airport	The FAA or ICAO identifier of the home airport of this aircraft. Used to complete the **FAA Flight Plan Form**. As with any other airport identifier in *Voyager*, you may enter almost any text in this field (3 or 4 letter FAA ident, 4 letter ICAO ident, official name, common name, city, etc.) and *Voyager* will present you with a list of matching airports from which to select.
Home base phone	The optional phone number of the aircraft's home base. Used to complete the **FAA Flight Plan Form**.

Aircraft / Weight and Balance

To access this feature: Select **Aircraft** from the **Lists** menu, choose an aircraft and click Edit. Select the **Weight and Balance** tab or step.



This tab has several sections including fields for basic weight and load information, a weight and balance stations table and a CG envelope display.

BASIC WEIGHT AND LOAD INFORMATION

OPTION	DESCRIPTION
Empty weight	The minimum weight of the aircraft without any useable fuel, passengers or cargo. In most cases, this is the Basic Empty Weight (BEW).
Max takeoff weight	The maximum total weight at which the aircraft is certified to fly. Click the **Advanced** button to set **Maximum Ramp Weight**, **Maximum Landing Weight** and **Maximum Zero-Fuel Weight**.
Usable fuel capacity	The useable fuel capacity. By default,

this amount of fuel is added to new flight plans using this aircraft. This value is displayed as either a *volume* (usually gallons) or as *weight* (usually pounds) depending on the setting of the **Show fuel as** option in the **General** tab.

Advanced

Click the **Advanced** button to specify the capacity and burn order when using multiple tanks.

When using multiple fuel tanks, use this button to set individual fuel capacities and fill/burn orders.

STATIONS TABLE

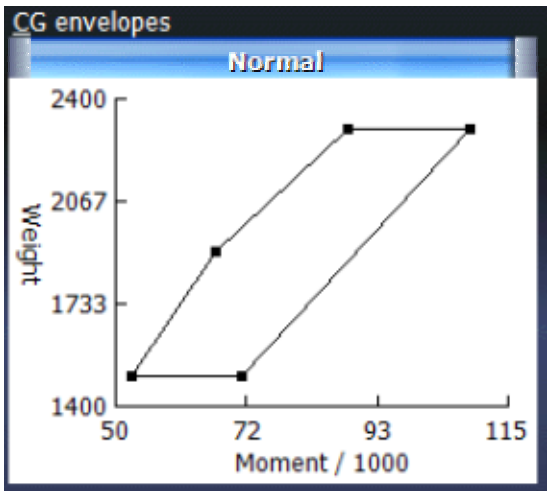
Stations are specific locations within the aircraft that are different distances away from the CG datum point and, therefore, affect weight and balance differently. Hence, the same weight at different stations may cause very different stability characteristics.

The **Add** button inserts a new station immediately above whichever station is currently selected or at the end of the table if no row is selected. The **Delete** button removes the selected row. The **up** and **down** arrow buttons change the order of the stations for visual purposes but the sequence is technically irrelevant.

COLUMN	DESCRIPTION
Name	The unique name of the station.
Arm	Arm is the distance from the CG datum point.
Type	To make it easier to complete a weight and balance form during flight planning, *Voyager* keeps track of several different types of objects (pilots, passengers, cargo, etc.) that might be added to an aircraft manifest. **Type** selects which of these objects may be added to this station.

CG ENVELOPE DISPLAY

A CG (Center of Gravity) Envelope is a 2-dimensional range of weight and moment combinations that define a safe flight range for the aircraft. As aircraft may be certified in more than one category (*Normal*, *Utility*, etc.), the **Envelopes** button adds and removes envelopes. **Note:** *Voyager* currently only looks to the first envelope (typically *Normal*) to determine if an aircraft is loaded within limits.



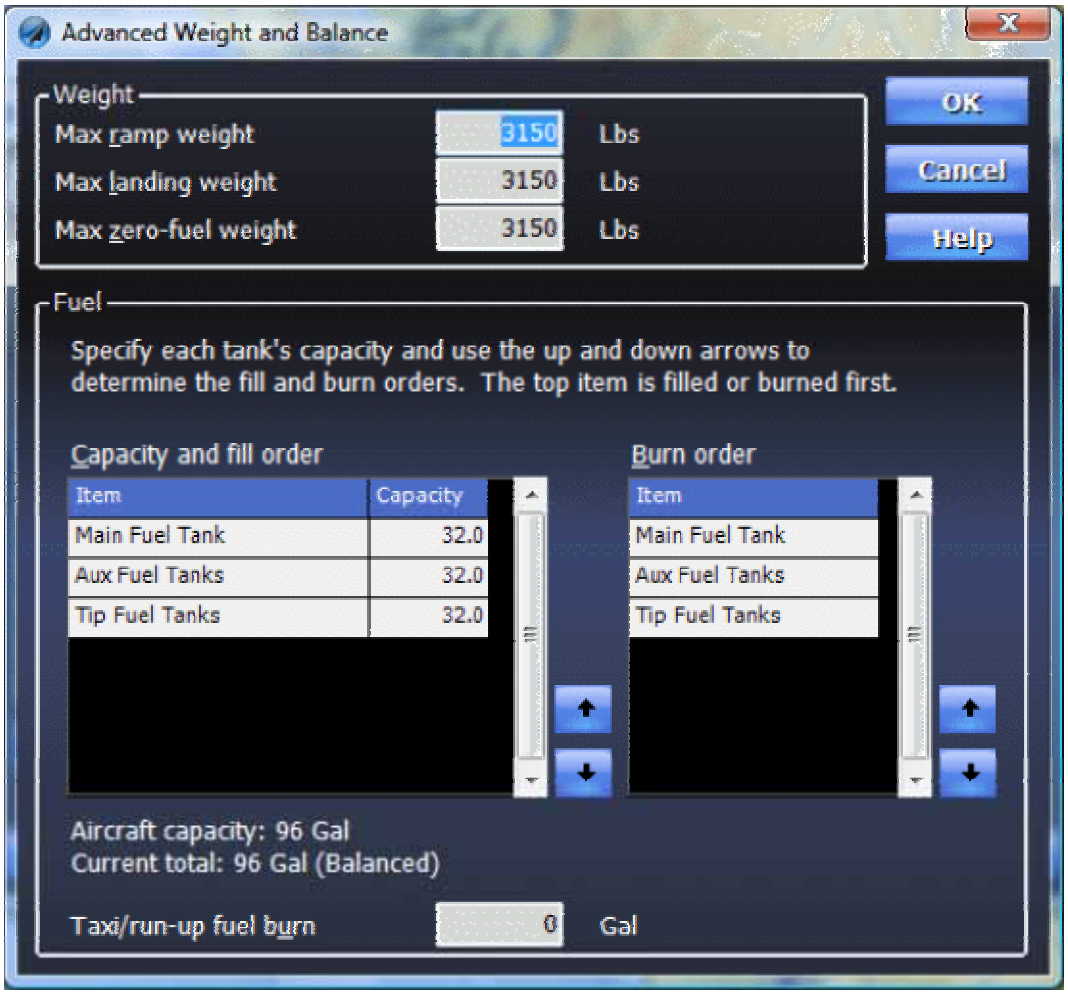
The acceptable weight and balance envelope for this aircraft is displayed as a shape defined by various points. The vertical or Y axis is the weight, measured in whichever units are selected in the **Units** tab of the **Options** dialog (default is pounds). The horizontal or X axis is the total moment measured in the combined units implied by the product of the arm unit (default is inches) and the weight unit or simply the arm, depending on the aircraft. If moment is on the X axis, it is shown divided by 1000 to simplify the display. An aircraft loaded within the weight and balance envelope has weight/moment combinations that are within this envelope during all stages of flight.

Define points with the Edit points button. Also use Edit Points to switch between Weight x Moment and Weight x Arm display.

Advanced Weight and Balance

SmartPlan *Premier* Required

To access this feature: Select **Aircraft** from the **Lists** menu. Select an aircraft and click **Edit**. Choose the **Weight and Balance tab** and click the **Advanced** button.



This dialog box helps make very precise profiles for high-performance planes. In addition to the **Maximum Takeoff Weight** specified in the main **Weight and Balance** tab, this window lets you specify additional maximum weight points. It also lets you specify the capacity and fill/burn order of the fuel tanks.

WEIGHT

OPTION	DESCRIPTION
Max ramp weight	The maximum total weight, in the units specified in the **Units tab** of the **Options** dialog, of the aircraft before it begins its run-up. See **Run-up fuel** burn (below) for more information.
Max landing weight	The maximum total weight of the aircraft as it begins to land.
Max zero-fuel weight	The maximum total weight of the aircraft without any fuel. Any additional weight, up to **Maximum Takeoff Weight**, must be in fuel not cargo or passengers.

FUEL

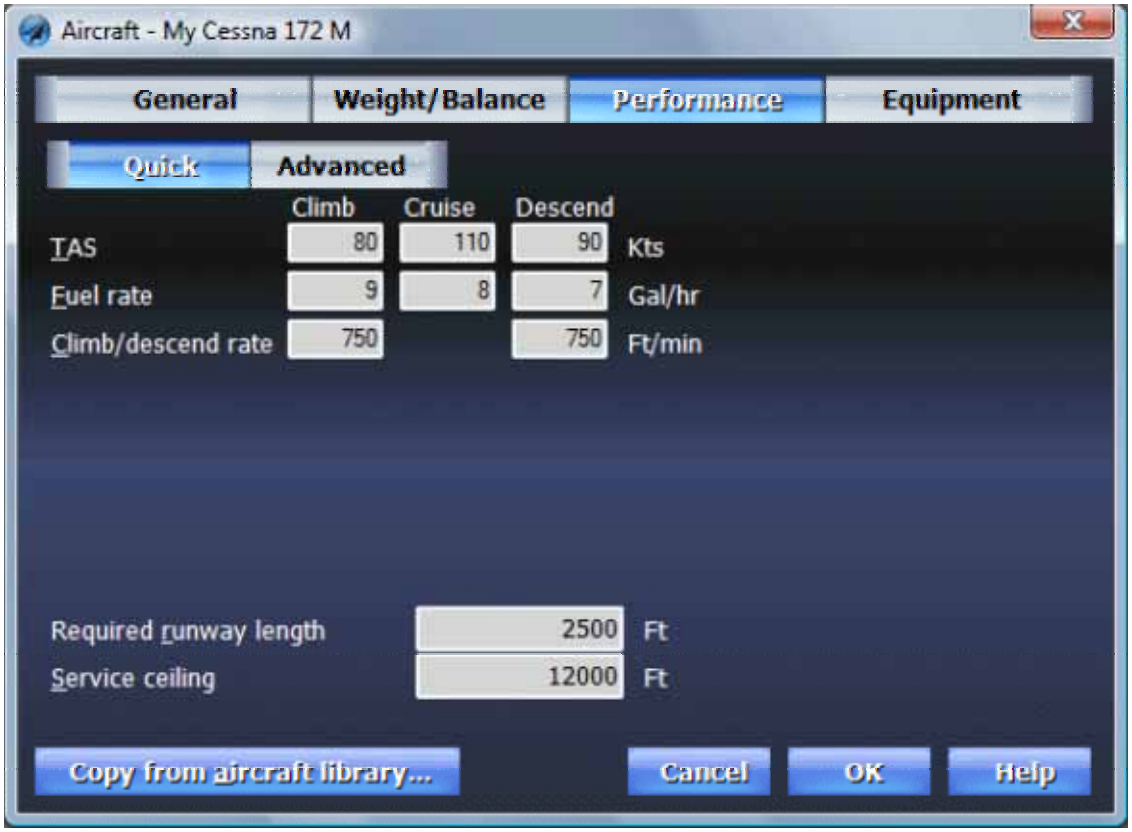
This area lets you specify the fill and burn order of your fuel tanks.

Tip: The fuel tanks listed here are based on the stations marked as Type *Fuel* in the **main weight and balance area**. Therefore, to add or remove fuel tanks, use the **Add** and **Delete** buttons in the **Stations** area of the main weight and balance screen.

OPTION	DESCRIPTION
Capacity and fill order	This grid does two things. It lets you specify the capacity of each tank, in the units specified in the **Units tab** of he **Options** dialog box. It also lets you specify the order in which fuel is to be added to the tanks. The tank at the top of the list is filled first, the bottom tank last. Use the **Up** and **Down** arrow buttons to the right of the list to change the fill order.
Burn order	This list lets you specify the tank burn order, which is often different than the fill order. Use the **Up** and **Down** arrow buttons to the right of the list to change the burn order.
Taxi/run-up fuel burn	The amount of fuel burned before takeoff (i.e. startup, taxi and run-up).

Aircraft / Performance

To access this feature: Select **Aircraft** from the **Lists** menu and choose an aircraft or click **Add**. Select the **Performance** tab or step.



SmartPlan Premier lets you model performance based on a **Quick** model, most applicable for lower performance plans that fly at lower altitudes and **Advanced** model, applicable to high-performance aircraft. Select the model appropriate for you aircraft.

The **Quick** model lets you select different fuel and speed values for climb, cruise and descend but doesn't vary by altitude, temperature or weight. The **Advanced** tab lets you take those additional factors into consideration for more precise performance modeling.

Regardless of which modeling method is used, this page is divided into two sections. The top section specifies the speed and fuel burn rates under various conditions and the second half has various minimum and maximum performance specifications.

QUICK MODEL

The following table asks for basic performance data used during flight planning. In all cases, the actual performance will vary given different conditions such as altitude,

temperature, power settings, etc. Therefore, use values that reflect your most typical conditions. For example, if you fly a Cessna Skyhawk 172, your aircraft may have better than 500 feet/minute climb at sea level but only 150 feet/minute at 12,000 feet. If you normally fly high, use a lower climb rate; if you normally fly below 7,000 feet, use something closer to 500.

Tip: If accurate performance modeling at different altitudes, temperatures or weights is important, use the **Advanced Model**, below.

	Climb	Cruise	Descend
TAS	True airspeed during a climb.	True airspeed during cruise.	True airspeed during a descent.
Fuel rate	Fuel consumption rate during climb, normally in gallons per hour.	Fuel consumption rate during cruise, normally in gallons per hour.	Fuel consumption rate during descent, normally in gallons per hour.
Climb/descend rate	Climb rate. This is in Ft/Min if you're using either Feet or FL as your **altitude unit** and M/Min if Meters is selected.		Descent rate. This is in Ft/Min if you're using either Feet or FL as your altitude unit and M/Min if Meters is selected.

Tip: Fuel rates may be expressed as either volume/hour (e.g. 10 gl/hr) or weight/hour (e.g. 100 lbs/hr). This is controlled by the **Show fuel as** option on the **General tab** or step.

PERFORMANCE SPECIFICATIONS

OPTION	DESCRIPTION
Required runway length	The minimum runway length required for safe operation of this aircraft.
Service ceiling	The highest altitude MSL at which this aircraft is certified to fly.

ADVANCED MODEL

SmartPlan Premier Required

The **Advanced** model shows a table divided into four sections. The left-most column(s) show the different combination of settings. By default, this area just shows **Alt** so you can vary performance by altitude. By clicking the **Options** button, you can also take **Weight** and **Temperature** into consideration.

The next three sections, which begin with the headings **Cruise**, **Climb** and **Descend**, are essentially the same as the table in the **Quick model** (see above for

details) with a somewhat different layout. Here, these settings are grouped by the **Alt**, **Weight** and **Temperature** selected in the left-most area.

Note: *Temperature* is relative to ISA not absolute. For example, if the POH groups performance by ISA such as *ISA -20*, *ISA* and *ISA +20*, the correct settings in *Voyager* would be *-20*, *0* and *20* respectively. This makes the data easier to enter. When computing expected performance, *Voyager* converts these values to absolute outside air temperatures, for each altitude, and compares them to the expected winds aloft temperatures.

Note: *Weight* is the initial weight at the start of the climb or descent.

Note: Each TAS and Fuel Rate must be > 0 even if it represents climb from the highest altitude the aircraft can fly (that is, impossible). If necessary, duplicate values from the next-highest altitude in the table.

For example, to model performance differently at 6,000 ft than at 18,000 ft, you need two rows, one with an **Alt** of *6000* and one with an **Alt** of *18000*. Then you need to complete the Cruise, Climb and Descend values for each altitude.

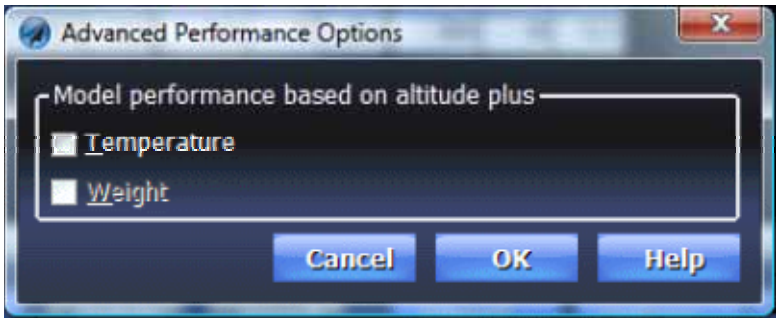
Use the **Add** button to add another row to the end of the worksheet. Use **Delete** to remove the currently selected row. Use **Insert** to add a row above the currently selected row. The **Up** and **Down** arrow buttons are used to re-order the worksheet although the order in the table is for data-entry ease only; *Voyager* is indifferent to the order of each entry.

Use the **Import** button to load complex tables saved as text files. For importing models with tens or even hundreds of different combinations, it's generally easier to use an external editor, like a spreadsheet, and use the **Import** button rather than use *Voyager's* built-in interface. See **File Format** for details.

Advanced Performance Options

SmartPlan *Premier* Required

To access this feature: Select **Aircraft** from the **Lists** menu and choose an aircraft then select the **Performance tab** and click **Options**.



The dialog lets you select how detailed you'd like to model aircraft performance. By default, **Advanced performance modeling** takes altitude into account. Select other options for even more precise performance modeling.

OPTION	DESCRIPTION
Temperature	When selected, *Voyager* takes the current outside air temperature into account. If no predicted or actual data is available, the standard lapse rate, at ISA, is assumed.
Weight	When selected, *Voyager* take the current aircraft weight into account when estimating performance. That is, as fuel burns and weight decreases, *Voyager* will model performance differently. This option is only available if **Temperature** is also selected.

Performance Table Import File Format

SmartPlan *Premier* Required

To access this feature: Select **Aircraft** from the **Lists** menu. Choose an aircraft and click **Edit**. Select the **Performance** tab and, within that, the **Advanced** tab. Click **Import**.

This feature makes it easier to enter large amounts of performance data for advanced planes where weight and temperature are all taken into account. For modeling performance based on altitude alone, it's easier to use *Voyager's* built-in interface from the **Performance** tab.

Voyager can import a performance table as a text file formatted with the fields below. Each field must be separated by a comma and each line by a carriage-return/line-feed combination. The file may be created with *Notepad* or any text editor or with a spreadsheet such as *Microsoft Excel*. If a spreadsheet is used, remember to export the file as a *CSV* (comma-separated values) file as *Voyager* cannot directly read spreadsheet files.

The units used for temperature, weight, altitude and speed are all determined by the **Units tab** of the **Options** dialog box unless otherwise noted below. Fuel flow is entered as either a *Volume* (such as *Gal/Hr*) or a *Weight* (such as *Lbs/Hr*) as set in **Show fuel as** area of the **General tab** of the **Aircraft** dialog.

Note: It is necessary for **Show fuel as** to be set to the appropriate value ***before*** **Import** is used. It may be necessary, therefore, to set **Show fuel as**, close the dialog box, then re-open the dialog box before using **Import**.

For more information, see **Advanced Model** in the **Performance** topic.

The first three lines of the file are special.

LINE	DESCRIPTION
1	The file format version number. Should always be *Version=1*
2	A description of the file. This can be any text or nothing and is not used by *Voyager*. It is just so a human reading the file knows what the file models. E.g. *Falcon 900EX with Long-Range Cruise and Normal Takeoff.*
3	A comma-separated list of three key columns. As all POHs are organized somewhat differently, this feature allows you to specify the column-order for the

Weight, *Temperature* and *Altitude* columns such as to best match your manual. The other columns, however, must be entered in the exact order. If either *Weight* or *Temperature* is not to be used in the model, leave the column name off this line.

Case and spaced after the commas are ignored.

e.g.

Temp, Alt, Wt

Temperature, Altitude, Weight

Temp, Alt

Wt, Alt

etc.

Data

OPTION	DESCRIPTION
Temperature	If used (see above), the differential from ISA in the units specified in the **Units tab** of the **Options** dialog box. (e.g. *-10,0,10,20*)
Weight	If used (see above), the weight at the start of the climb, descent or cruise. Units specified in the **Units tab** of the **Options** dialog.
Altitude	The altitude to which this entry applies, in units specified in the **Units tab** of the **Options** dialog.
TAS Cruise	The speed, in units specified in the **Units tab** of the **Options** dialog, of the aircraft, during cruise, at this combination of altitude and/or temperature and/or weight.
TAS Climb	The speed, in units specified in the **Units tab** of the **Options** dialog, of the aircraft, during climb, at this combination of altitude and/or temperature and/or weight. **Note:** This value must be > 0 even if it represents climb from the highest

	altitude this aircraft can fly (that is, impossible). If necessary, duplicate values from the next-highest altitude in the table.
TAS Descent	The speed, in units specified in the **Units tab** of the **Options** dialog, of the aircraft, during descent, at this combination of altitude and/or temperature and/or weight.
Fuel Rate Cruise	The fuel flow per hour, in units specified in the **Units tab** of the **Options** dialog, of the aircraft, during cruise, at this combination of altitude and/or temperature and/or weight. The data should be a weight (e.g. *Lbs/Hr*) if **Show Fuel As** is set to *Weight* in the **General tab** of this dialog or a volume (e.g. *Gals/Hr*) if *Volume* is selected.
Fuel Rate Climb	Same as above but during a climb beginning at this altitude/temperature/weight combination. **Note:** This value must be > 0 even if it represents climb from the highest altitude this aircraft can fly (that is, impossible). If necessary, duplicate values from the next-highest altitude in the table.
Fuel Rate Descent	Same as above but during a descent beginning at this combination.
Altitude Change Rate Climb	The climb rate per minute in either Feet or Meters (e.g. *Ft/Min*) when starting at this altitude/temperature/weight condition. If your POH uses Time and Distance rather than *Ft/Min*, you may have to do some manual calculations first. **Note:** If your Altitude Unit is FL, use FT here instead. That is, enter as FT/Min not FL/Min. **N**ote: This value must be > 0 even if it represents climb from the highest altitude this aircraft can fly (that is, impossible). If necessary, duplicate values from the next-highest altitude in the table.
Altitude Change Rate Descent	As above but for descent.

Aircraft / Equipment

To access this feature: Select **Aircraft** from the **Lists** menu and choose an aircraft or click the **Add** button. Select the **Equipment** tab or step.

This tab list the various equipment that may be aboard each aircraft. These settings are used to compute the equipment field (*/Q, /X*, etc.) of an **FAA** or **ICAO** Flight Plan Form. As FAA and ICAO forms have very different equipment sections, this page is also separated into an **FAA** and **ICAO** section.

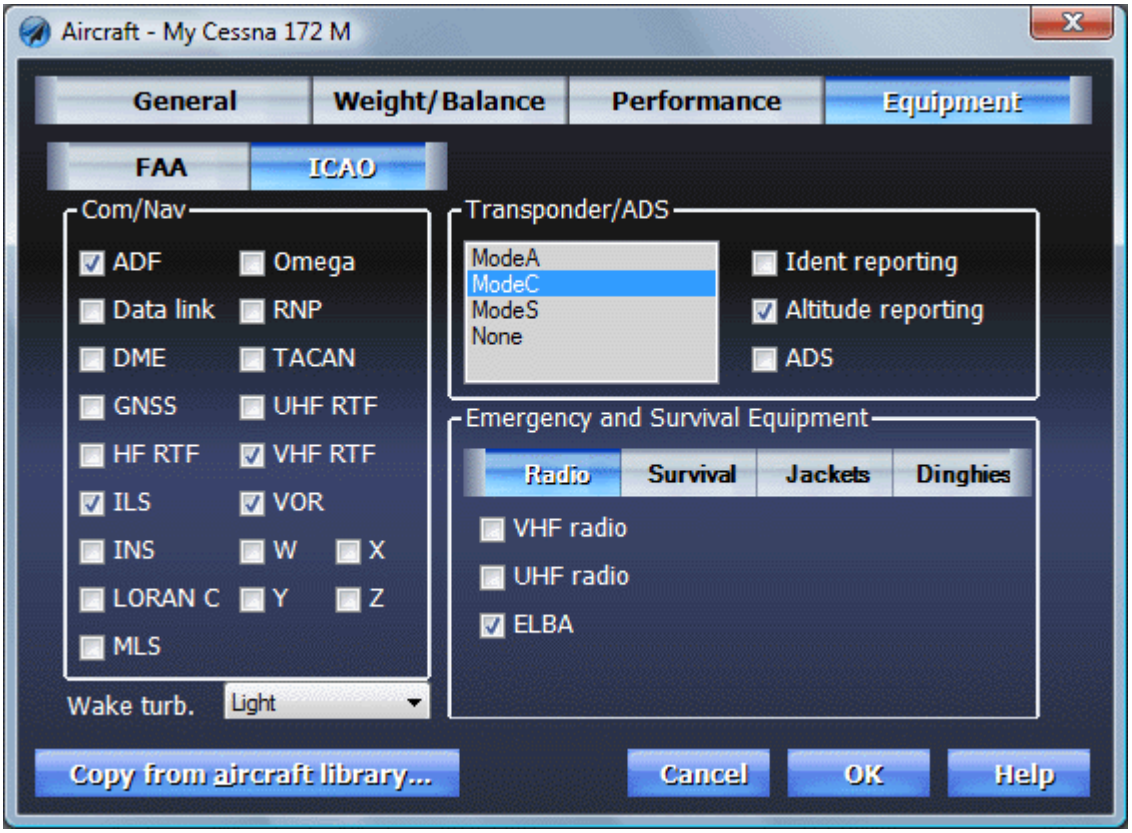
FAA

OPTION	DESCRIPTION
GPS	Specifies what Global Positioning System equipment, if any, is aboard.
Transponder	Specifies which transponder, if any, is aboard.
FMS	Specifies which Flight Management System, if any, is aboard.
Radio	Checked if a radio is aboard.
DME	Checked if Distance Measurement Equipment is aboard.

RNav	Checked if Area Navigation equipment is aboard.
TACAN	Checked if TACAN equipment is aboard.
LORAN	Checked if a LORAN is aboard.
INS	Checked if an Inertial Navigation System is aboard.
RNP	Checked if Required Navigation Performance equipment is aboard.
RNP/RVSM	Checked if RNP with RVSM equipment is aboard.
TCAS	Checked if the aircraft includes an advanced collision avoidance system.
Heavy	Checked if the aircraft is capable of a takeoff weight of more than 255,000 pounds, whether or not it is operating at this weight.

ICAO

SmartPlan Premier Required



COM/NAV

OPTION	DESCRIPTION
ADF	Checked if the aircraft has ADF navigation equipment.
Datalink	Checked if a datalink system is installed.
DME	Checked if Distance Measurement Equipment is aboard.
GNSS	Checked if a Global Navigation Satellite System (effectively a GPS system) is installed.
HF RTF	Indicates that a High Frequency RTF is installed.
ILS	Checked if Area Navigation equipment is aboard.
LORAN C	Checked if a LORAN is aboard.
MLS	Indicates that a MLS is installed.
Omega	Checked if an Omega receiver is installed.
RNP	Checked if Required Navigation Performance equipment is aboard.
TACAN	Checked if TACAN equipment is aboard.
UHF RTF	Indicates that an Ultra High Frequency RTF is installed.
VHF RTF	Indicates that an Very High Frequency RTF is installed.
VOR	Indicates that a VOR navigation system is installed.
W	Indicates that the aircraft is RVSM certified.
X	Indicates that the aircraft is MNPS certified.
Y	Indicates that the aircraft is CMNPS certified.
Z	Indicates that the aircraft has other special equipment.
Wake turbulence	Indicates the amount of expected wake turbulence based on the MCTOM (maximum certified takeoff mass) of the aircraft. Choices are: *Heavy*. MCTOM of 136,000 kg or more. *Medium*. MCTOM less than 136,000 kg but more than 7,000 kg. *Light*. MCTOM of 7,000 kg or less.

Transponder/ADS

OPTION	DESCRIPTION
Mode	Specifies which transponder, if any, is aboard.
Ident reporting	Specifies if the transponder can transmit the aircraft identification -- a Mode S transponder, for example.
Altitude reporting	Specifies whether the transponder transmits altitude information -- a Mode C transponder, for example.
ADS	Indicates if the transponder contains an ADS.

Emergency and Survival Equipment

OPTION	DESCRIPTION
Radio/VHF radio	Indicates that the aircraft has a radio that transmits and receives in the VHF band.
Radio/UHF radio	Indicates that the aircraft has a radio that transmits and receives UHF.
Radio/ELBA	Indicates that the aircraft has an ELBA (called an ELT by the FAA).
Survival/Polar	Indicates that cold-weather survival equipment is on-board.
Survival/Desert	Indicates that hot-weather survival equipment is on board.
Survival/Maritime	Indicates that the aircraft contains survival equipment for water landings.
Survival/Jungle	Indicates that the aircraft contains survival equipment for landing in tropical climates.
Jackets/Lights	Indicates that the aircraft contains life jackets with lights.
Jackets/Fluorescent	Indicates that the aircraft contains life jackets with fluorescent chemicals.
Jackets/UHF	Indicates that the aircraft contains life jackets with embedded UHF transmitters.
Jackets/VHF	Indicates that the aircraft contains life jackets with embedded VHF transmitters.
Dinghies/Covered	Indicates that the aircraft carries covered dinghies.
Dinghies/Number and Capacity	Indicates the number of dinghies and the capacity (in people) of each.
Dinghies/Colour	Indicates the color of each dinghy.

Note: The spelling of color as *colour* is to match the ICAO English spelling of the word.

Pilot

To access this feature: Select **Pilots** from the **Lists** menu and choose a pilot.

This dialog shows information about a pilot. This information is used for completing **weight and balance forms**, submitting flight plans via DUAT or DUATS and for verifying valid flight plans. It is divided into three sections: General Info, DUAT/DUATS Info and AOPA Info. You can edit this information later using the **Pilots** choice under the **Lists** menu.

GENERAL INFO

OPTION	DESCRIPTION
Name	The pilot's full name. Used to differentiate between various pilots in the Pilots list, to complete the FAA and ICAO Flight Plan Forms and is printed, by default, on the cover page of a printed flight plan.

Description	An optional description of the person. This is only displayed within this dialog.
Organization	An optional item that is printed on the flight plan's **cover page**.
Certificate #	The pilot's FAA certificate number as listed on his license.
Rating	The pilot's highest FAA rating. Used to compare against flight plans to ensure that a VFR or Student pilot is not planning an IFR flight.
Phone	The pilot's contact phone number. Required to complete a **FAA Flight Plan Form** via DUAT.
Address	The pilot's address. Required for DUAT and ICAO flight plan forms.
Weight	The pilot's actual weight. Used to complete the **weight and balance form** for a flight plan.

DUAT/DUATS INFO

This optional section lets you select which provider you prefer (DUAT or DUATS) and the login information for either. *Voyager* uses this information to download legal weather briefings and file flight plans via the Internet.

OPTION	DESCRIPTION
Provider	Lets you switch between DTC DUAT and CSC DUATS. **Note:** The free version of *Voyager* only works with DUAT.
Access Code	The pilot's DUATS access code (ID number). This is his unique ID number. Access codes can be obtained, free of charge, from **DUAT.COM**. For DUAT, the Access code must be between 8 and 10 digits. **Note:** DUAT and DUATS are different companies with different Access Codes. If your Access Code has exactly 8 digits, the first digit specifies the provider: 0 means DUAT and 1 means DUATS. **Tip:** If you're not a registered US pilot, you can provide the following fictitious

	Access Code (DUAT only) and *Voyager* knows to accept it but not process it: *01234567*
Password	The password associated with the above **Access Code**. DUAT Passwords are 6 to 8 characters using only letters and numbers (that is, no symbols).
Test Logon	Attempts to logon to DUAT or DUATS using the **Access Code** and **Password** specified.

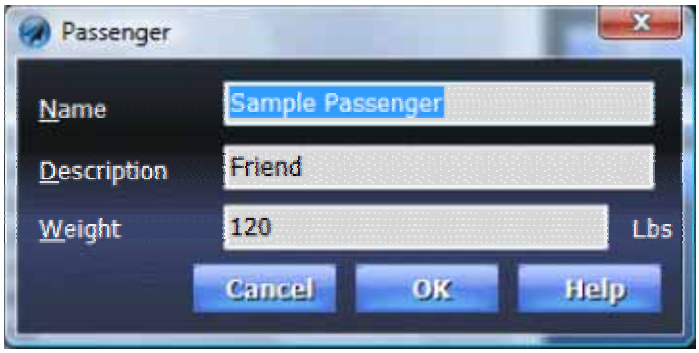
AOPA INFO

AOPA is an acronym for the Aircraft Owners and Pilots Association. AOPA is the largest, most influential aviation association in the world. This optional section is used for various tasks including downloading comprehensive FBO/Services information.

OPTION	DESCRIPTION
Web Username	The AOPA Web Username is used to download FBO information. If you've been an AOPA member for years, this is probably your AOPA Membership number. If you became a member more recently, this is probably a name you selected. **Click here** if you don't remember your Web Username or Password.
Web Password	The Web Password associated with the above **Web Username**. If you are an AOPA member but have not registered on the Web site, click **here** to register now. If you are not yet an AOPA member, we strongly recommend joining for many reasons. See **www.aopa.org** for more information.

Passenger

To access this feature: Select **Passengers** from the **Lists** menu and choose a passenger.

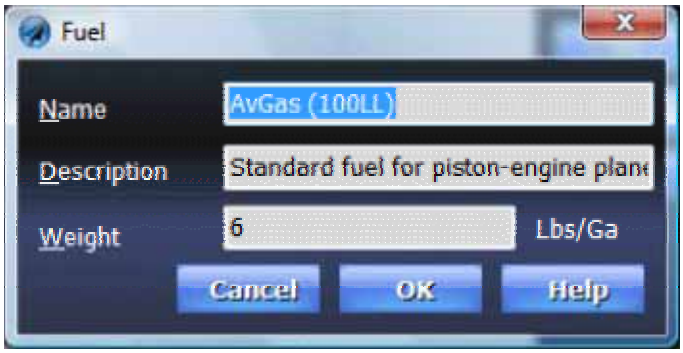


To simplify completing **weight and balance** forms, *Voyager* allows the creation of a passenger list. When a listed passenger is added to a weight and balance form, their weight is automatically added to the station.

FIELD	DESCRIPTION
Name	The person's full name.
Description	An optional description of the person. This is only displayed within this dialog.
Weight	This person's weight.

Fuel

To access this feature: Select **Fuel** from the **Lists** menu and choose an item.



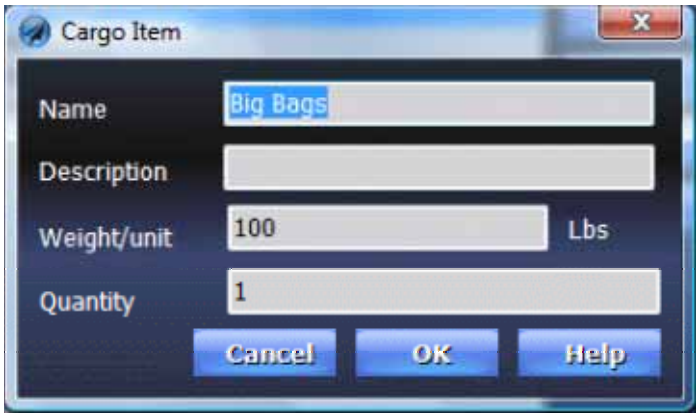
This dialog defines each type of available fuel. *Voyager* comes with *AvGas (100LL)* and *JetA* already defined.

Within *Voyager*, Fuel quantity can be displayed as either a *volume* (usually gallons) or a *weight* (usually pounds). This is determined by the **Show fuel as** option of the selected aircraft.

FIELD	DESCRIPTION
Name	A unique name associated with this item.
Description	An optional description of the item. This is only displayed within this dialog.
Weight	The weight of each unit of this item.

Cargo Item

To access this feature: Select **Cargo** from the **Lists** menu.



This dialog defines each cargo item.

The **Quantity** field can simplify data entry for items frequently used in groups. For example, if you define an item named *Case of Oil* (12 quarts), you can enter the **Weight/unit** as *1.875* pounds and the **Quantity** as *12*.

FIELD	DESCRIPTION
Name	A unique name associated with this item.
Description	An optional description of the item. This is only displayed within this dialog.
Weight/unit	The weight of each unit of this item.
Quantity	The quantity of these items.

Options

Options

Voyager can display information in a variety of different ways and can remember your preferred default settings (default pilot, default aircraft, etc.). For simplicity, the dialog is divided into sections.

Defaults

Preferences

Internet

Units

Wizards

Options / Defaults

To access this feature: Select **Options** from the **Tools** menu.

This tab shows the defaults used when a new flight plan is created or a new *GlassView* window is created. They can all be changed for each flight plan. Changes made to these defaults do not affect flight plans already created.

OPTION	DESCRIPTION
Aircraft	The default aircraft. Select an aircraft from the drop-down list. The aircraft list can be changed with the **Aircraft** selection from the **Lists** menu.
Pilot	The default pilot. Select a pilot from the drop-down list. The pilot list can be changed with the **Pilot** selection from the **Lists** menu.
Departure airport	The default departure airport. Typically this is either the FAA or ICAO identifier;

	however, you can type anything in this field and *Voyager* will attempt to determine which airport you mean. For example, *Snohomish County Airport* in Everett, WA (Seattle area) has the FAA identifier of *PAE*, the ICAO identifier of *KPAE* and the common name of *Paine*. Any of these (including the city name) may be entered and, when you click the **OK** button, *Voyager* will pop-up a list of matches.
Cruise altitude	The default cruising altitude MSL. If the **Adjust cruise altitude for VFR/IFR standard cardinal altitudes** is on (which it is, by default), the cruise altitude of a given leg is based on this but adjusted to meet standard cruise altitudes. For example, an east-bound leg of a VFR flight with a specified cruise altitude of 7,000 feet results in an actual cruise altitude of 7,500 feet. 7,000 feet is the default value.
Plan type	The default flight plan style: VFR or IFR. This determines the default color/symbol scheme used in the Chart and is a required part of the **FAA Flight Plan Form**. VFR is the default. **Note:** A DVFR flight plan can also be created but DVFR is not available as a default since it's so uncommon.
Number on board	The default number of occupants, including the pilot, aboard the aircraft. This is used to complete the **FAA Flight Plan Form** and verify against the number of occupants implied in the **Weight and Balance** associated with each flight plan. Default is 1.
Takeoff time	The default difference, in hours and minutes, between the current time and takeoff time. Default is 1 hour. *Voyager* adds this value to the current time and rounds up to the next 15 minute increment. For example, if this value is 02:00, a flight plan created at 09:08 Home Time gets a default takeoff time of 11:15.
Layover time	*Not in Voyager FreeFlight* The default layover duration, in hours and minutes, of *Stop and Go* legs. *01:00* (1 hour) is the default value.
Default VFR theme	Selects which **theme** is used when

	Voyager opens a flight plan in VFR mode. The default VFR theme is called *Default*. **Tip:** If you want faster performance when you open a flight plan, select *Fast Draw* as the default theme and turn **Show Profile when flight plan opens** (below) *off*.
Default IFR theme	Selects which theme is used when *Voyager* opens a flight plan in IFR mode. The default IFR theme is called *IFR Enroute*. **Tip:** If you'd prefer to also see terrain, select *IFR Enroute with Terrain* instead.
Default GlassView layout	Normally, when you switch to GlassView, *Voyager* selects the **layout** most appropriate for the task, your screen size and orientation (landscape vs. portrait). If you prefer a specific layout, select it from the list or select *Auto* to let *Voyager* choose. You can also specify a Personal Layout.
Default document folder	If set, this specifies the folder (directory) that *Voyager* defaults to using to store flight plans and Plates Packs. If not set, *Voyager* uses a folder called *Flight Plans* under the default Windows *Documents* folder. For example: Windows Vista: *c:\Users\<your name>\Documents\Flight Plans* Windows XP: *c:\documents and settings\<your name>\My Documents\Flight Plans*
Show Profile when flight plan opens	When *Voyager* opens a flight plan, it normally generates a detailed **Profile** view. For long flights, this generation can take some time so you might want to disable it until you've reviewed and edited the plan. When this checkbox is off, the Profile is hidden until you select **Show Profile** from the **View** menu.
Delete Airport Info	*Not in Voyager FreeFlight*

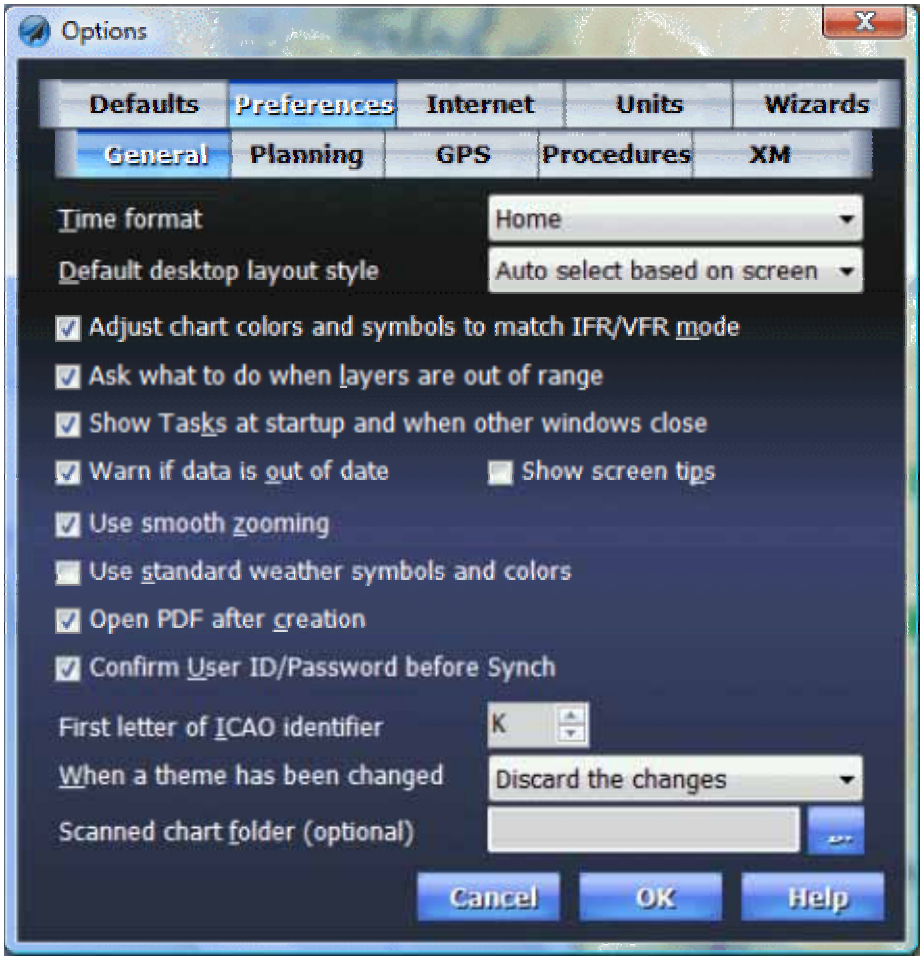
	This button deletes all Procedures, Airport Diagrams and FBO info pages from your disk. It cannot be undone. To get the data back, you'd have to reload from a CD-ROM or download them all again. This is most useful if you **switch Procedure sources**.
Restore Chart Presets	*This button only appears when using Voyager FreeFlight.* It resets all the Chart themes to their default values in case you've altered them. It is identical to clicking **Restore Presets** from the **Themes dialog box** (which is not available in *Voyager FreeFlight*).
Clear List of Recently Opened Files	This button clears the list of recently opened or saved files that *Voyager* normally lists on the **File** menu and in Tasks screen. It does not delete the flight plans or Plate Packs themselves, only tells *Voyager* to "forget" about them. **Note:** This button does not appear in the Briefer version.
Clear Current User Data	 Removes all data related to the current user (not Briefer) from the database and deletes all stored flight plans, etc. Unlike the Delete command in the **Users** dialog box, the actual user is not deleted. This is useful if a Briefer or System Administrator wants to essentially reset an account.

Options / Preferences

To access this feature: Select **Options** from the **Tools** menu then choose the **Preferences** tab.

This tab shows various display and information settings, organized by topic. Select **General**, **Planning**, **GPS**, **Procedures** or **XM**.

GENERAL



OPTION	DESCRIPTION
Time format	*Voyager* can display time in either Zulu format or in Home Time (the time zone set on this computer).
Default desktop layout style	*Not in Voyager FreeFlight* All *GlassView* layouts assume you want maximize information and minimal screen clutter so they begin with Command Mode *off*. While working at

	your desk doing pre-flight planning, you may want the additional tools always visible. Hence, this switch lets you set the style to your liking. *Auto select based on screen size* - Uses the **Simplified** (Command Mode *off*) view for screens smaller than 1280 x 1024 and **Rich** for those that size or larger. *Rich* - The Chart includes the **Layers toolbar**, the **altitude slider** and the **timeline**. *Simplified* - The above items are hidden to maximize Chart size.
Adjust chart color and symbols to match IFR/VFR	*Not in Voyager FreeFlight* If selected, switching an existing flight plan from VFR/DVFR to IFR (or vice-versa) will change the colors and symbols on the open Chart to match the new flight plan type.
Show Tasks at startup and when other windows close	*Not in Voyager FreeFlight* If checked, *Voyager* begins with a quick way to create a new flight plan or open an existing plan. If this isn't checked, *Voyager* opens with a blank main window.
Warn if data is out of date	When selected, *Voyager* compares today's date with the expiration date of the air database each time it is launched. If today's date isn't within the valid term of the database, a warning dialog will display.
Show screen tips	Selects whether screen tips (the balloons that pop-up as you open certain windows) are enabled.
Use smooth zooming	When checked, *Voyager* smoothly zooms and 'flies' to new locations rather than immediately jumping to the new zoom or location. This feature requires a reasonably fast computer and video card so it is disabled, by default, for single-processor computers.
Use standard weather symbols and colors	*Not in Voyager FreeFlight* In a few places, most notably for Winds Aloft and METAR/TAF graphics, *Voyager* uses a display system that is easier for most of us to understand but non-

	standard. For example, rather than use arrows with multiple barbs to indicate wind speed (akin to counting with Roman Numerals), *Voyager* simply states the wind speed and/or uses color to give a general range. For METARs and TAFs, *Voyager* uses a three color system (*Green=VFR*, *Yellow=MVFR* and *Red=IFR*). The FAA has suggested, and some in-cockpit weather systems use, a four (or sometimes five) color system to show even worse weather than IFR such as *Low IFR (LIFR)* and *Very Low IFR (VLIFR)*. When this switch is checked, *Voyager* uses wind barbs and the four color METAR/TAF system. Different themes can have different settings. See Advanced/METAR and Advanced/Winds Aloft for more information.
Open PDF after creation	SmartPlan *Premier* Required When checked, *Voyager* tells Windows to open the PDF generated by the **Print to PDF** command on the **File** menu. If not checked, the file is still created but Adobe Reader (or other PDF reading program you may have) will not be invoked.
Confirm User ID/Password before Synch	When checked, *Voyager* shows a dialog box before a **Web Synch** for entering a User ID and Password. When unchecked, *Voyager* uses the last-used combination.
First letter of ICAO identifier	*Not in Voyager FreeFlight* *Voyager* tries very hard to match anything you type to an airport or navaid name. For a given entry, it searches both the FAA name list (the typical 3 letter name like *PAE*) and the ICAO name list (the 4 letter name list that, for everything in the continental US begins with *K* such as *KPAE*), among other things. However, if you're outside the continental US (any other country or even in Alaska and Hawaii), *K* isn't the correct first letter so you'll want to supply the appropriate one. For example, the ICAO identifier of *Vancouver International* in Canada is *CYVR*. Therefore, if *YVR* is typed into

an airport field and this value is still set to *K*, *Voyager* will look for any US airport with a *YVR* or *KYVR* ident, never finding Vancouver.

Note to US users: *K* is correct for continental US only. Alaska and Hawaii both have initial letters of *P* (for *Pacific*). Additionally, the second letter of all ICAO airports in Alaska is *A* and *H* in Hawaii.

When a theme has been changed

As you modify the **Chart** layers (e.g. add Navaids, terrain, etc.), you are implicitly changing the definition of the Chart **theme**. When you close the window with the Chart, *Voyager* checks to see if the Chart settings have changes from the settings in the current theme. If they have, *Voyager* normally asks if you want to save or discard the changes. This switch lets you determine if *Voyager* asks what to do, automatically saves all changes without asking, or never saves any changes.

Scanned Charts folder

Scanned Charts (sectionals, IFR low and high altitude, etc.) can consumer more than 6 GB of storage space. Normally, *Voyager* puts this in the same directory as other *Voyager* data:

Windows Vista:

c:\Users\<your name>\AppData\Roaming\Seattle Avionics\Voyager\Scanned Charts

Windows XP:

c:\documents and settings\<your name>\application data\Seattle Avionics\Voyager\Scanned Charts

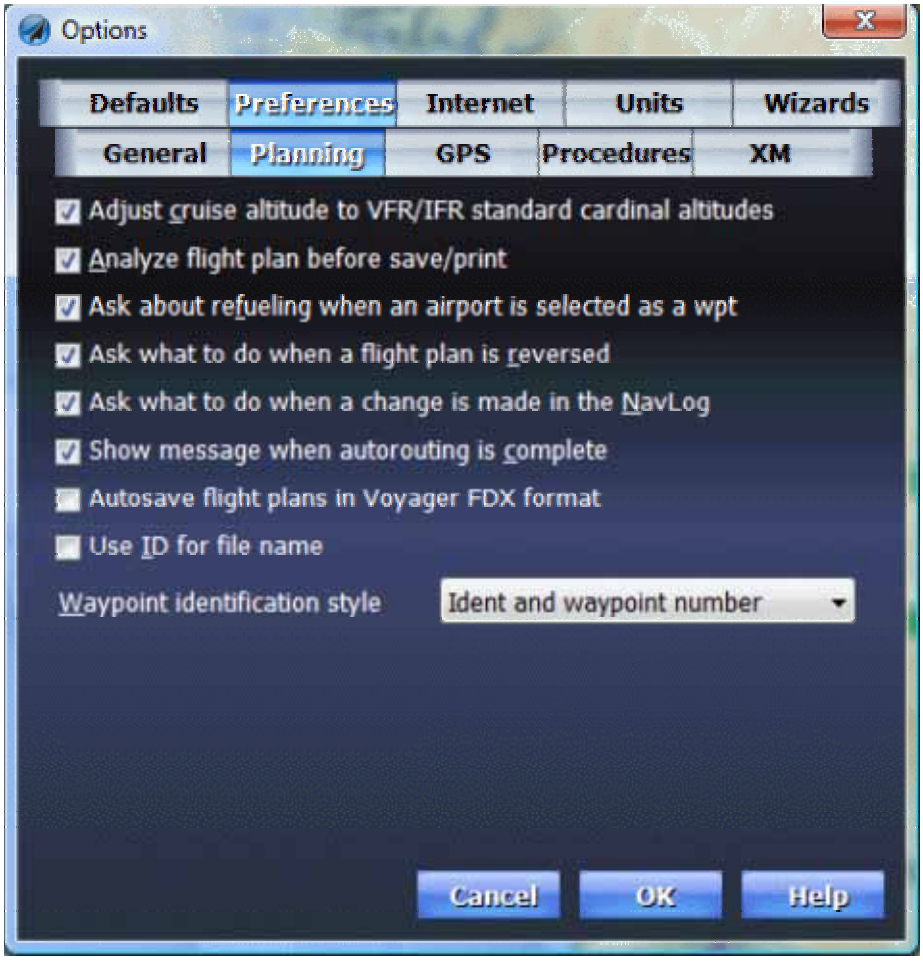
However, if you'd prefer to put them on a different drive, you can select a drive and folder here. Leave this field blank to use the default folder above. If you change this setting, you'll have to manually copy any downloaded Charts

to the new location.

Tip: This feature is very handy if you have multiple machines. For example, you can download a complete set to your home or work desktop to a memory card then put the memory card into a laptop or Tablet PC for in-flight use.

Tip: You can use the Memory Card Synch feature to export current ChartData, Procedures, flight plans, etc. to another computer via a memory card or USB memory stick.

PLANNING



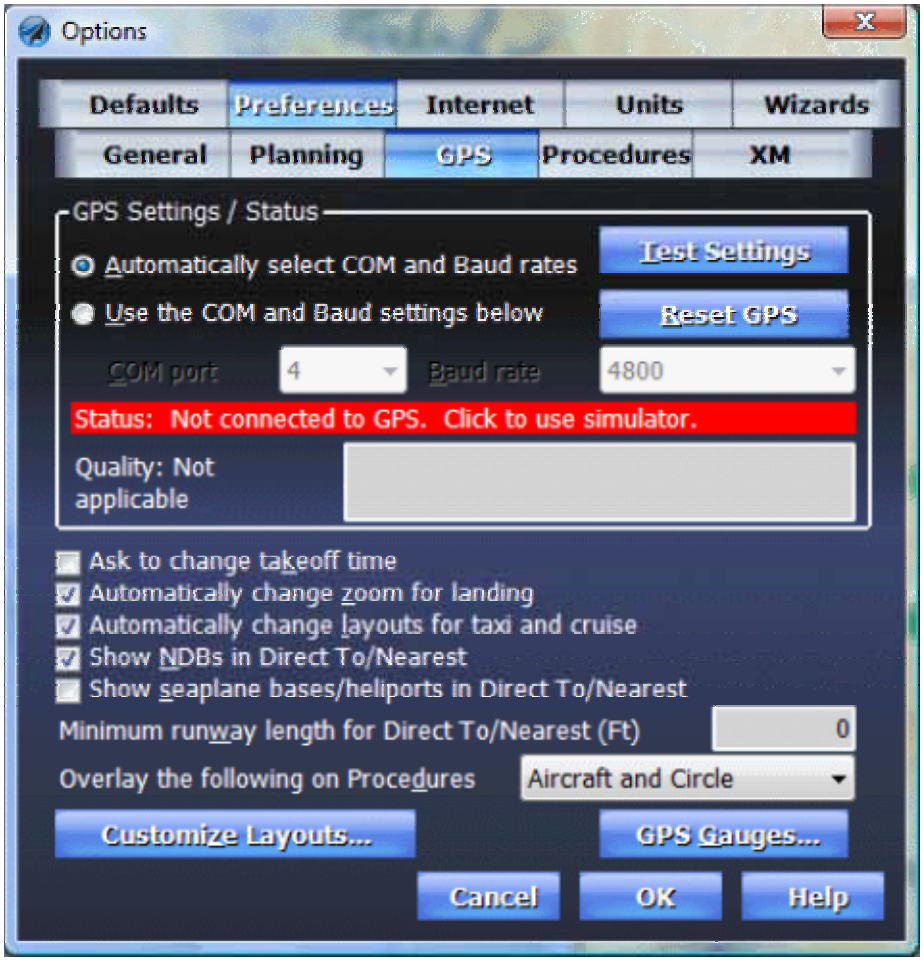
OPTION	DESCRIPTION
Adjust cruise altitude to VFR/IFR standard cardinal altitudes	A switch that allows *Voyager* to vary the requested cruise altitude to

	conform to VFR/IFR standards. If checked, the cruise altitude of a given leg is based on the **Cruise altitude** but adjusted to meet standard cruise altitudes. For example, an east-bound leg of a VFR flight with a specified cruise altitude of 7,000 feet results in an actual cruise altitude of 7,500 feet while a west-bound IFR flight with the same specified cruise altitude results in a 6,000 foot actual altitude.
Analyze flight plan before save/print	An option that instructs *Voyager* to analyze a flight plan, warning of some potential problems, before it is saved, printed or submitted electronically to the FAA.
Ask about refueling when an airport is selected as a wpt	*Not in Voyager FreeFlight* If checked and you choose an airport as a waypoint, *Voyager* asks if you'd like to make it a refueling stop.
Ask what to do when a flight plan is reversed	*Not in Voyager FreeFlight* A switch that causes *Voyager* to ask you what to do, in terms of potentially renaming the flight plan, when you reverse a flight plan. If unchecked, *Voyager* will do whatever it was instructed to do in similar circumstances last time.
Ask what to do when a change is made in the NavLog	If checked, manual changes to an item in the NavLog (changing an altitude, changing a TAS entry, etc.) cause *Voyager* to ask you if you'd like to change just one entry, change all entries below this one or change all entries. If unchecked, *Voyager* will do whatever it was instructed to do in similar circumstances last time.
Show message when autorouting is complete	When checked, *Voyager* shows a dialog box when the SmartRouter successfully completes a route. Regardless of this setting, *Voyager* will always alert you when it has a problem routing.
Autosave flight plans in Voyager FDX format	When this is checked, saving a flight plan causes *Voyager* to not only save the original *Voyager*-format flight plan but also save a duplicate flight plan in the ***Voyager Flight Data eXchange (FDX)* format**. This format is easily read by third-party applications. Checking this option may make it easier to use *Voyager* in conjunction

	with another application that needs to read flight plans because you won't have to manually export the flight plan in FDX format.
Use ID for file name	SmartPlan Premier Required *Voyager* file names are usually human-readable names comprised of the takeoff, landing and fuel-stop airports. However, in cases of multiple users sharing a same **document folder**, this can cause a problem because file names would tend to overlap, causing either a proliferation of files names with numbers (like *KPAE-KSFO (215).fp*) or overwriting files for other users. By checking this box, *Voyager* substitutes its internal ID number for the file name. These ID numbers are unique for all flight plans, regardless of the machine or user that created them. Thus, file names will not be duplicated. Of course, this also means that the file name itself will not be understandable to a human so the user should use the **Customize columns** button within Tasks to display the **Flight plan name** column instead of the **File name** column.
Waypoint identification style	*Voyager* can display route waypoints using any of three styles. *Waypoint numbers* is the most basic as it simply displays the sequential number of each waypoint within the flight plan. *Ident* displays the name of each waypoint or, if the name is too long, *Wpt<Number>*. *Ident and numbers* combines both of the above and is the default setting.

GPS

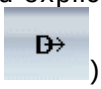
GlassView Required



OPTION	DESCRIPTION
Automatically select COM and Baud rates	Normally, *Voyager* can automatically detect the correct connections to your GPS. Use this option to enable automatic detection. **Notes:** Only GPS units connected via a COM port or Bluetooth can be used with *Voyager*. If your GPS is connected via a USB connection, most come with driver software to make it appear to Windows, as if its connected via a COM port. You may have to install this software before *Voyager* (or most other

	programs) can see your GPS. *Voyager*, like most programs that connect to a GPS, supports only those GPS units that use a standard data format called *NMEA*. As virtually all GPS units support this by default, this is seldom a problem. However, some handheld aviation GPS units (Garmin, for example), have both NMEA and Garmin-proprietary output modes. If you're having trouble connecting to an aviation GPS, check its documentation to ensure it's using NMEA output format. Contact support@seattleavionics.com for more information. Be careful when using programs other than *Voyager* to diagnose GPS connection problems. Under Windows, only one application may access a COM port at a time. Thus, if the testing program (such as *Microsoft Streets and Trips*) is connected to the GPS, *Voyager* will never see it. In addition, Windows COM ports are notoriously 'sticky' meaning that even after an application shuts down, Windows may still not allow another program to access it without a reboot.
Use the COM and Baud settings below	Turns off automatic GPS discovery so you can manually select the COM and Baud rates. This should only be necessary when troubleshooting GPS connection problems or if you have multiple GPS units connected to your computer.
COM port	The logical communication port (COM port) used to connect your GPS receiver to the computer. See **Notes** above for more details.
Baud rate	If manual settings has been enabled, you can choose the speed (baud) at which your GPS communicates with the computer. As GPS data is very low bandwidth (that is, very little information is sent), there is no need to select a high baud rate. Most GPS units function properly at *4800* baud.
Test Settings	If you manually adjust the COM and baud rates, click this button to test a

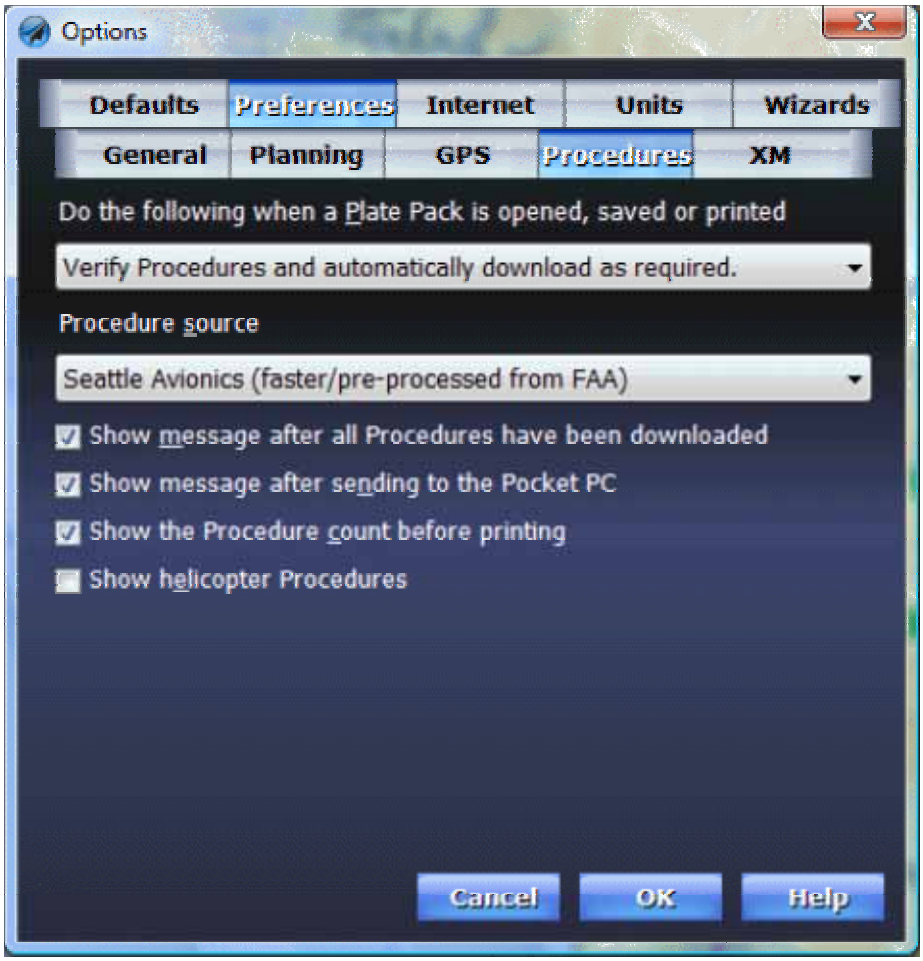
	new setting. After clicking, allow the system some time, perhaps as high as 30 seconds, to report success (see below).
Status	This is not an option but a display. It shows whether or not *Voyager* is connected to a GPS. If so, it also shows which COM port is being used, the baud rate and whether or not the GPS is receiving valid position data from the satellites. It's bright red when there is no connection, yellow when connected but without valid data and green when valid data is being received. **Note:** If *Voyager* is not connected to a GPS, you can click here to start a built-in GPS simulator. You can also output a *Voyager* flight plan to the GPS simulator portion of Franson's GPSGate.
Quality	When connected, this area shows the number of satellites that the GPS has found, whether the GPS is receiving WAAS information and if the GPS has enough data for a 3D position. The more satellites, the more accurate the positional information. If fewer than three or four satellites are found, the GPS will be unable to provide valid data. Altitude information is much more accurate if the GPS finds enough satellites for a 3D lock. Without a 3D lock (a 2D lock), altitude information is highly suspect. Positional information is much more accurate if the GPS is receiving WAAS information.
Position	If valid data is being received, this area shows the current position, groundspeed and altitude updated every second. **Note:** GPS locations are only accurate to about 10 feet, at best (with WAAS). Hence, even when you're stationary, the GPS will report some movement and a track. GPS altitude is less accurate. Even when stationary, a GPS may report altitude that varies by hundreds of feet. **The reported altitude should be considered *less***

	accurate than a properly set altimeter.
Reset GPS	Sometimes, after a computer returns from Hibernation or Sleep, the Bluetooth connection to the GPS is lost. Click this button to re-initialize a lost GPS connection. After clicking, *Voyager* may take up to 30 seconds to restore the connection so do not click the button repeatedly. In most cases, you won't have to reset the GPS itself (that is, turn it off then back on again) but, if *Voyager* doesn't regain the GPS connection within one minute, you might try that.
Ask to change takeoff time	When you open a flight plan in *GlassView* mode, *Voyager* can ask you to set the correct takeoff time. If unchecked (the default), *Voyager* assumes a takeoff time of when you open the flight plan.
Automatically change zoom for landing	When checked, *Voyager* uses heuristics that take speed and position into account to adjust the **Chart** zoom as you approach landing. This only applies when a flight plan has been created explicitly or implicitly (via the use of ). When unchecked, *Voyager* makes no automatic adjustments.
Show NDBs in Direct To / Nearest	When checked, the **Nearest widget** and the **Direct To** dialog box lists NDBs. If unchecked, they are suppressed.
Show seaplane bases / heliports in Direct To / Nearest	Similar to above, unchecking this box will remove items from **Direct To** and **Nearest**.
Minimum runway length for Direct To / Nearest	Entering a value here will remove smaller airports from the **Nearest** and **Direct To** lists. Set to *0* to show all airports.
Overlay the following on Procedures	SmartPlates Required This setting determines if, and how, *Voyager* overlays your position on Procedures and Airport diagrams. You can overlay nothing, an icon representing your aircraft and/or a colored circle. The aircraft is best if you want to get directional information

	but can cover information and might be hard to see against the plate. The colored circle is semi-transparent so may be the best choice if you want to see the plate's diagram and text most clearly.
Customize layouts	Click to change which **layouts** are shown when Layout is clicked.
GPS gauges	Allows you to select which **GPS gauges** (altitude, groundspeed, track, etc.) are displayed when in *GlassView* mode.

PROCEDURES

SmartPlates Required

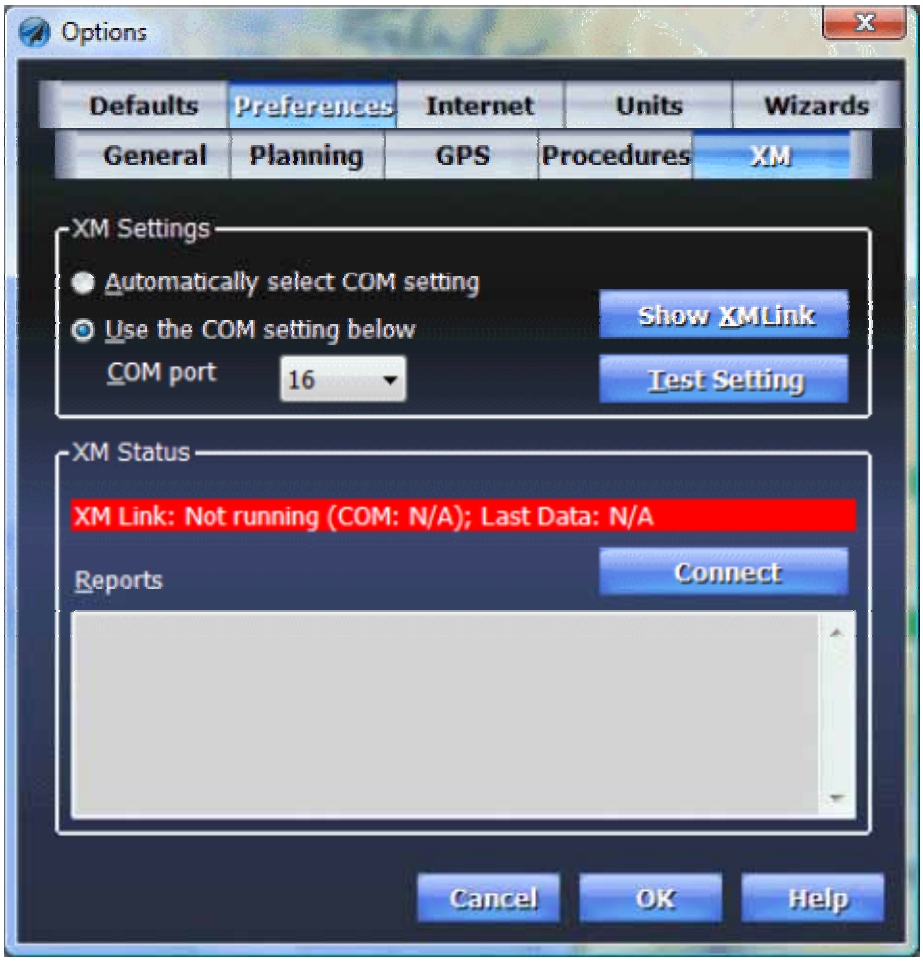


OPTION	DESCRIPTION
Do the following when a Plate Pack is opened, saved or printed	When a **Plate Pack** is opened, saved or printed, you have the option for what action, if any, SmartPlates should take to ensure you have the latest plates. The choices are: *Verify Procedures and automatically download as required* *Verify Procedures but do not automatically download.* *Do nothing. Do not verify or download.* The first choice tells *Voyager* to do everything automatically. This is the safest choice and ideal if you have a high-speed, always-on Internet connection. The second choice is best if you have a slow connection to the Internet or are frequently not online. The last option should only be used if you're not online as it makes no attempt to verify if the Procedures are current.
Procedure Source	*Voyager* can download Procedures and Diagrams from either the FAA directly or from Seattle Avionics. The plates are legal and essentially identical either way. The difference is that the Seattle Avionics plates have been pre-processed from the FAA plates to give much better download speed (about 5 times faster) at a very slight resolution loss. The Seattle Avionics plates can also be viewed on a PDA whereas the FAA plates cannot.
Show message after all Procedures have been downloaded	If you specifically request to download procedures (select **Download Procedures** from the **File** menu) or procedures get downloaded when you open, save or print, *Voyager* will generally tell you when the download is done. Uncheck this box to disable the message. With or without this box checked, *Voyager* will always tell you if there is a problem downloading a Procedure.

Show the Procedure count before printing	When checked, *Voyager* shows the number of Procedures and Diagrams that will actually be printed (or previewed) so you can decide if you need to abort the print and change a setting. *Voyager* has a number of different ways to categorize airports and, depending on the type of Plate Pack, this affects which Procedures and Diagrams are printed. See **Print Settings / Procedures** for more information.
Show Helicopter procedures	When checked, helicopter Procedures are shown. When unchecked, they are always suppressed even when all other **Filter** settings are checked.

XM

SatelliteWX Required

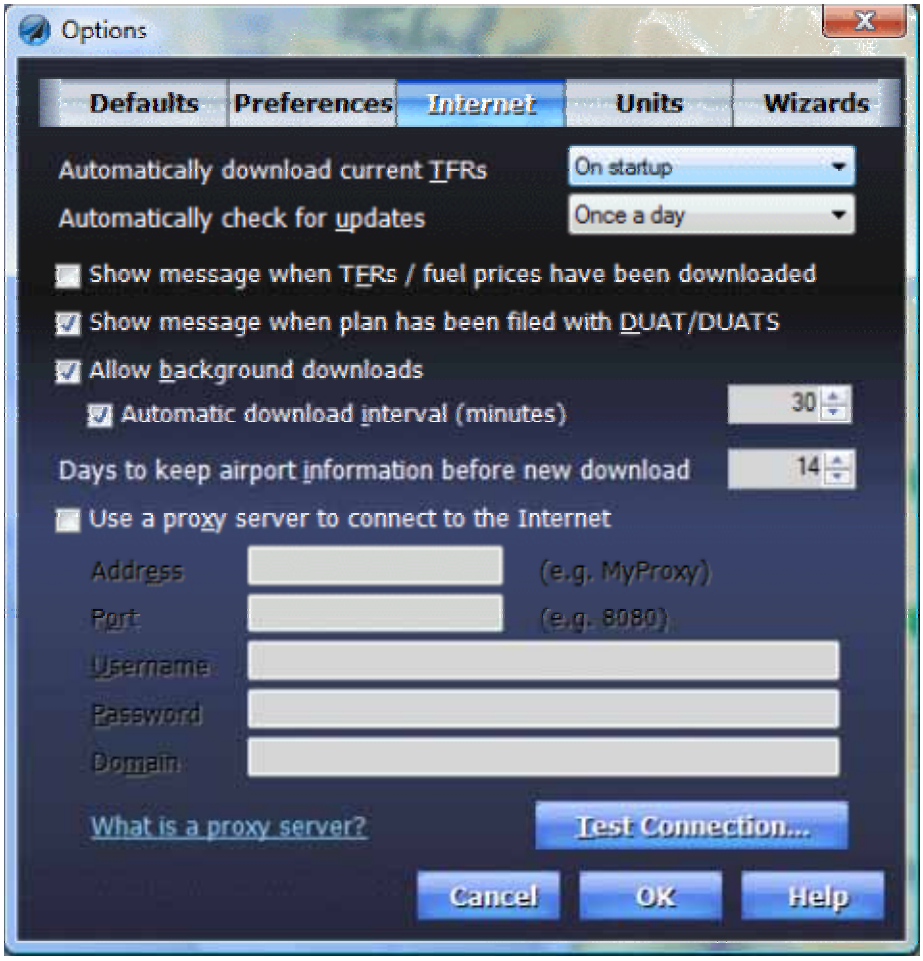


Tip: Configuring an XM receiver properly can be a little tricky. See **XM Troubleshooting** for additional information.

OPTION	DESCRIPTION
COM port	The logical communication port (COM port) used to connect your XM receiver to the computer. See **XM Troubleshooting** for additional information.
Test Settings	If you manually adjust the COM port, click this button to test a new setting. After clicking, allow the system some time, perhaps as high as 30 seconds, to report success (see below). See **XM Troubleshooting** for additional information.
Status	This is not an option but a display. It shows whether or not XM Link (the XM-supplied program that retrieves the raw data from the receiver) is running. If so, it also shows which COM port is being used and when the last file of any type was downloaded from the satellite. It's bright red when XM Link is not running and green when it is. See **XM Troubleshooting** for additional information.
Reports	When data is being received, this area shows the last time specific weather products were downloaded. You can use this as a diagnostic tool or, more commonly, to see how old your XM weather is while in-flight.
Connect/Disconnect	Use this button to toggle your machine's connection with XM Link. Clicking **Connect** and clicking **Test Settings** (above) are exactly the same.

Options / Internet

To access this feature: Select **Options** from the **Tools** menu then choose the **Internet** tab.



The tab contains options controlling *Voyager's* use of the Internet.

OPTION	DESCRIPTION
Automatically download current TFRs	*Voyager* can automatically download new TFRs from the Seattle Avionics Web site once a day, whenever the application starts (*At startup*) or only when manually instructed (*Never*). This service is free, even if you don't have the automatic data update service. TFRs may be manually updated at any time by connecting to the Internet and selecting **Update TFRs** from the **Tools** menu. **Note:** The *Once a day* option means once a day in your Home time zone, not Zulu time.

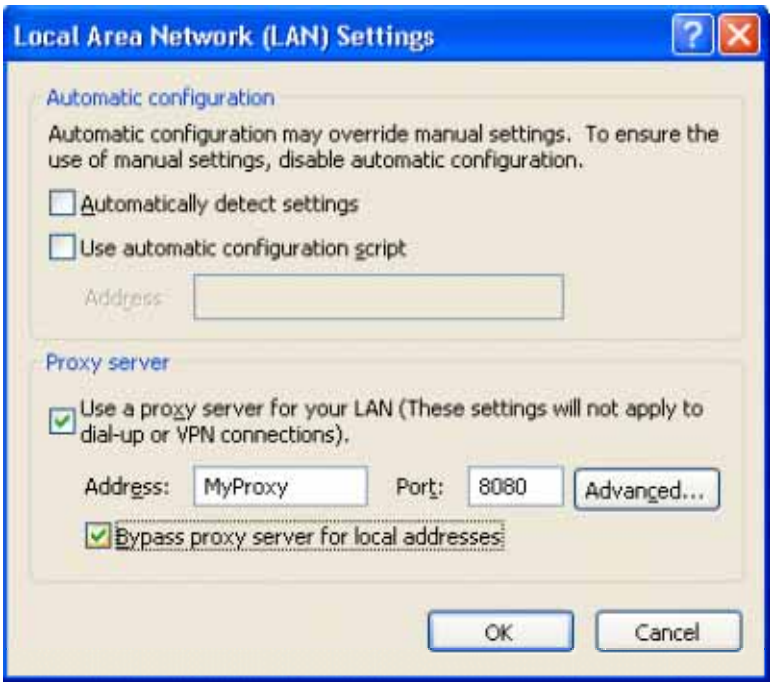
Automatically check for updates	*Voyager* can ensure that you always have the latest version of the application, airspace data (ChartData) and fuel prices by automatically checking at various periods. By default, the application checks for updates once a day although you can make this less frequent or even disable it entirely (the *Never* option). If it's disabled, you can still check for updates by selecting the **Update Application** item from the **Tools** menu. Most application updates and all data updates require an optional **ChartData subscription service**.
Show message when TFRs / fuel prices have been downloaded	*Voyager* always displays a message if it attempts to download current TFRs or fuel prices and it fails for any reason (not connected to the Internet, for example). This option controls whether or not a message appears when the download is successful. **Tip**: *V*oyager **displays and uses fuel prices in many useful and innovative ways**. See all the different ways by **clicking here**.
Show message when plan has been filed with DUATS	Similar to the above, *Voyager* always warns if an attempt to electronically file a flight plan fails. This item determines if a message is displayed upon successful filing.
Allow background weather downloads	*Voyager* saves you time and effort by downloading weather information in the background, as you need it, rather than waiting for you to explicitly ask to download it. If you're not usually connected to the Internet, you can turn this feature off by unchecking the box.
Automatic download interval	If background weather downloads are enabled, *Voyager* can also update weather already downloaded at a fixed interval. This helps ensure that you're always looking at current weather data. Uncheck this box to disable the feature.
Days to keep airport information before new download	*Not in Voyager FreeFlight* Airport information, including **airport diagrams** and **FBO information** are downloaded from the Internet. This value is the number of days to keep cached data before requesting updated data from the source. A higher value improves performance to often reviewed airports but could potentially lead to out-of-date information. The default value is 14 days. **Approach / departure procedures** are also downloaded from the Internet but carry intrinsic expiration dates. *Voyager* uses that information to determine when new data must be downloaded so this value does not apply to them.
Use a proxy server to connect to the Internet	If your computer network requires you to logon to a proxy server, check this box and complete the information below as required.

Learn more about proxy servers.

If you can access the Internet via Microsoft Internet Explorer but *SmartPlates* is having trouble, try copying the proxy settings from Internet Explorer. To do that:

- Launch Microsoft Internet Explorer
- Select **Internet Options** from its **Tool** menu
- Choose the **Connection** tab
- Click the **LAN Settings** button

The resulting dialog box should look something like



- Copy the **Address** and **Port** settings in Internet Explorer to the same fields in *SmartPlates* (described below).
- Unlike in Internet Explorer, you'll usually also have to enter your **Username** and **Password**. Domain, however, is not typically required.

Address	The name or IP address of your proxy server. This is typically just a one-word name like *CorporateProxy*.
Port	Proxy servers generally require access via a specific network port. The most common value is *8080* but it can vary depending on your network. Ask your Network Administrator for details if it isn't clear from the Internet Explorer dialog box (above).
Username	If your proxy server requires a login, you'll have to enter your Username here. Ask your Network Administrator

	for details if you need more information.
Password	If your proxy server requires a login, you'll have to enter your Password here. Ask your Network Administrator for details if you need more information. Passwords are stored in an encrypted format using encryption algorithms built into Windows; they are not stored as plain text.
Domain	In some situations, it might be necessary to also enter your network domain name. This can be left blank in most cases.
Test Connection	Use this button to verify the Internet connection. If you've entered proxy information and get an error, please contact your System Administrator for more information as these settings vary greatly between networks.

Options / Units

SmartPlan *Premier* Required
To access this feature: Select **Options** from the **Tools** menu then choose the **Units** tab.

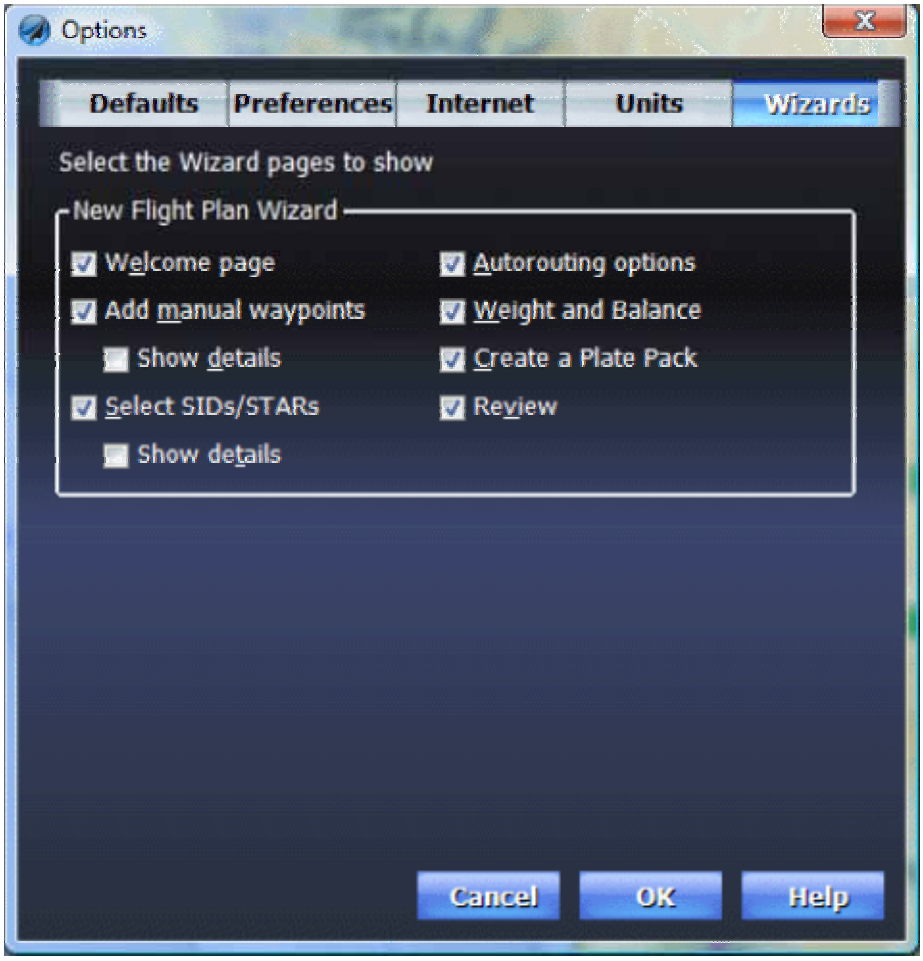
This tab controls the units used to display information. Changing the units immediately updates all open flight plans but does not affect those saved to disk. For ad-hoc unit conversions, use the **Unit Converter** feature under the **Tools** menu instead of changing these values.

Note: Fuel quantities can be displayed as either a *Volume* or a *Weight*. This is specified for each individual aircraft, not here. To change, use the **Show fuel as** option within an aircraft dialog.

OPTIONS	DESCRIPTION
Altitude	The units used to display altitude and terrain elevation. Default is *Ft (feet)*. Other choices include *M (meters)* and *FL (Flight Level)*. **Note:** If *FL* is selected, *Voyager* will use feet in situations, such as terrain elevation, where *FL* would be odd.
Arm	The units used to display the arm portion of a weight and balance calculation. Default is *In (inches)*. *Cm (centimeters)* is the other choice.
Distance	The units used to display large distances such as distance between two legs. *NM (nautical miles)* is the default and other choices include *Ft (feet)*, *km (kilometers)*, *M (meters)* and *SM (statute miles)*.
Lat/Long	The format used for latitude/longitude points. The default, *DD MM.xx*, matches the *Degree Minute.[fraction of minute]* format used in popular GPS units. Other options include *DD MM SS (Degrees Minutes Seconds)* and *Decimal* formats.
Pressure	The units used to display pressure readings. Default is *Hg (inches of mercury)*. *Mb (millibars)* is the other choice.
Runway	The units used to display relatively small distances like runway length and width. Default is *Ft (feet)*. *M (meters)* is the other choice.
Speed	The units used to display speed. Default is *Kts (knots)* and other choices include *KPH (kilometers per hour)*, and *MPH (statute miles per hour)*.
Temp	The units used to display temperature. Default is *C (Celsius)*. *F (Fahrenheit)* is the other choice.
Volume	The units used to display liquid volume. Default is *Gal (gallon)*. *Ltr (liter)* is the other choice.
Weight	The units used to display weight. Default is *Lbs (pounds)*. *Kg (kilograms)* is the other choice.

Options / Wizards

To access this feature: Select **Options** from the **Tools** menu then choose the **Wizards** tab.



This tab shows options for the Wizards.

NEW FLIGHT PLAN

OPTION	DESCRIPTION
Welcome page	When checked, the Wizard begins with a summary of what it does.
Add manual waypoints	SmartPlan *Premier* Required If checked, *Voyager* asks if you'd like to add manual waypoints before the SmartRouter begins.
Show details (waypoints)	SmartPlan *Premier* Required If the above item is checked, also

	checking this option tells *Voyager* to skip asking if you'd like to add waypoints and immediately show the feature.
Select SIDs/STARs	SmartPlan Premier Required When this item is checked and the flight plan is IFR, *Voyager* asks if you'd like to add Departure (SID) and Arrival (STAR) procedures to the takeoff and landing points.
Show details (SIDs/STARs)	SmartPlan Premier Required If the above item is checked, also checking this option tells *Voyager* to skip asking if you'd like to add SIDs/STARs and immediately show the feature.
Autorouting options	SmartPlan Premier Required When checked, *Voyager* displays a wide variety of routing options. If unchecked, the General step of the New Flight Plan Wizard simply asks which routing method to use (Airway or GPS Direct) and uses the options last selected.
Create a Plate Pack	SmartPlates Required When selected, *Voyager* asks whether to create a **Plate Pack** for IFR flights.
Weight and Balance	Not in Voyager FreeFlight Checking this instructs *Voyager* to display a weight and balance table and graph.
Review	Not in Voyager FreeFlight This option displays summary and warning information about the flight.

Briefer Version

Briefer Task Pad

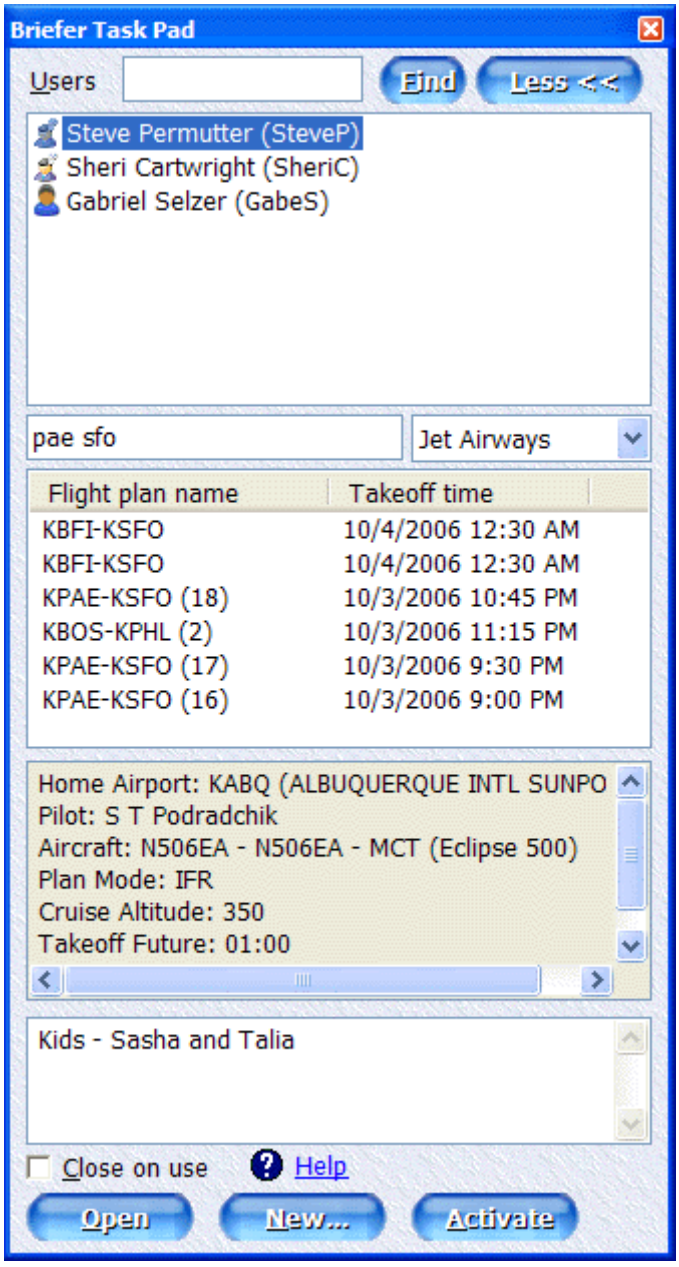
Briefer Version Required

To access this feature: Click  on the main toolbar or select **Briefer Tasks** from the **View** menu.

The Briefer version of *Voyager* allows corporate or government flight planning departments to quickly and easily plan flights for many different pilots. *Voyager* keeps track of personal preferences, default settings, lists (passengers, pilots, etc.) and flight plans for each pilot individually. It requires a Web server running Microsoft IIS and Microsoft SQL Server. Contact the **Sales** department at Seattle Avionics for more information.

When the Briefer version is used in conjunction with a special Client version of *Voyager*, pilots and Briefers can jointly create flight plans and exchange information using the **Web Synch** feature. In this way, a pilot can create a rough flight plan, synch it with the Web server to give the Briefer a copy, then let the Briefer review and/or modify the plan and send back the revised plan. All of this takes just a few mouse clicks. Or a Briefer can create the entire plan and send it to the Client for review.

While there are a few visual differences between the Briefer and standard versions of *Voyager*, most of the Briefer features are encapsulated here for efficient use.



WORKING WITH USERS

At the top of the Briefer Task pad is text field that allows a Briefer to enter a name or partial name of a specific user. When blank (as it is here), all Users are listed. To find a specific user, such as when one calls, enter his name or any part of his name then click **Find** or press the Enter key on the keyboard. In the example to the side, *Steve* or even *Perm* would find *Steve Permutter*.

The **Less <<** button makes the Briefer Task Pad shorter by hiding less important information. When in the 'short' mode, the **Less <<** button becomes **More >>** and expands the Briefer Task Pad.

There are five levels of users from *Basic* to *Briefer* to *System Administrator*. Users with Briefer or better privileges are shown with a Briefer icon, all other users are indicated with a . The list is sorted such that Briefers are always listed first.

Clicking a user name shows the flight plans associated with him (created either by the user or a Briefer for them), his preferences and defaults (below the flight plan list), and any notes a Briefer has associated with him such as the name of his children.

Double-clicking a user (or selecting one and clicking the **Activate** button), activates all his default settings so any

new flight plan or other action refers to his settings. It also brings any open flight plan associated with him to the front.

The name of the active user and the current Briefer are shown at the top of the main window. In addition, when flight plans are open, the **Flight Plan Window** shows the name of the user associated with that plan to make it easy to keep track of plans for different users.

Note: Select Users from the **Tools** menu to add or delete users, change their names or passwords, etc.

Opening / Creating Flight Plans

To open an existing flight plan, simply double-click any listed plan or select the plan and click **Open**.

To create a flight plan with the **New Flight Plan Wizard** (with the current user's defaults), clear the Quick Route area (the text field below the user list that now shows *pae sfo*) and click **New**.

Use the Quick Route area (the text field below the user list with *pae sfo)* to bypass the Wizard. You may enter airport, navaid or fixes as well as Victor and Jet route identifiers (like *V23* or *J4*). The first and last idents are assumed to be airports so, in the example above, *PAE* is the same as *KPAE* and *SFO* is the same as *KSFO*. For all other idents, *Voyager* assumes a navaid unless a full ICAO airport identifier is used. If an airport ident is entered, *Voyager* assumes a fuel stop. To create the flight plan, press the Enter key on the keyboard or click the **New** button below.

When using the Quick Route area, use the drop-down list next to it to select the type of routing. Options include *No Routing* (simply connects the idents listed without any wind optimization or fuel planning), *Wind/Fuel Only* (same as the previous but adds fuel stops and optimizes for best winds), *Victors*, *Jets* or *GPS Direct*. **Note:** If the route includes an explicit Victor or Jet ident, the routing method is ignored.

The Briefer Task Pad normally stays open after you open or create a flight plan. If screen space is limited, you may check the **Close on use** checkbox so that *Voyager*

automatically closes this window when flight plan is created or opened. You can bring it back at any time by clicking  on the main toolbar.

EXCHANGING INFORMATION BETWEEN BRIEFERS AND USERS

Exchanging information is very easy. Normal users running the Client version of *Voyager* click the  synch button on the main toolbar to exchange information with the server. Within about 30 seconds, each Briefer's screen is updated with any new flight plans the user may have created. Similarly, each Briefer's screen is also be updated if another Briefer makes a change.

Briefers do not need to manually synch as their data is always automatically synchronized.

Examples:

1. A user creates a flight plan and wants a Briefer to review it.

The user creates the flight plan in the usual way then clicks Synch. He then calls a Briefer who uses the text field at the top of the Briefer Task Pad to immediately find the user. The Briefer then double-clicks on the new flight plan (which is at the top of the list since the flight plans are sorted by the time they were last modified). If the Briefer makes any changes, he simply saves the changed plan and tells the user to click the Synch button on his computer.

2. A user wants the Briefer to create the plan from scratch then send it to him.

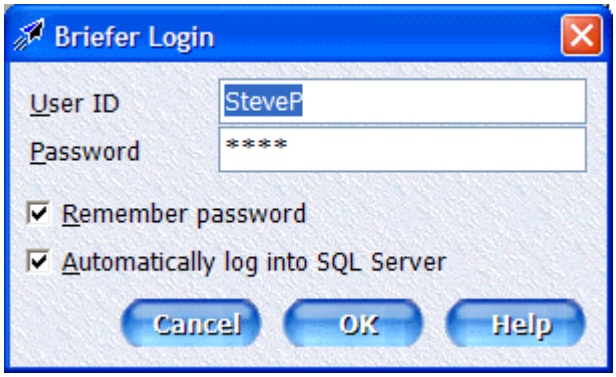
The Briefer uses the Briefer Task Pad to find the user in the Users list. After clicking the user, the Briefer either uses the Quick Route area or the Wizard to create the plan. The Briefer then saves the flight plan and calls or emails the user, telling him to hit the Synch button on *Voyager*. The Briefer might also create a PDF of the plan (select **Print to PDF** from the **File** menu) and email or fax the printout to the user.

3. A user has two machines (*Home* and *Work*) and wants to keep the same flight plans and pilot info on both of them.

In most cases, the user simply clicks the Synch button on the machine with the most recent changes then clicks Synch on the other machine. However, if flight plans have been added on both machines, the user may have to click Synch on the first machine again. That is, if *Work* created a flight plan from SEA to SFO and *Home* has a plan from SFO to LAX, clicking Synch on *Work* puts SEA SFO on the server. Clicking Synch on *Home* gets SEA SFO and uploads SFO LAX to the server. Clicking Synch on *Work* downloads SFO LAX.

Briefer Login

Briefer Version Required
To access this feature: Select **Login** from the **File** menu.

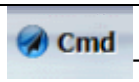
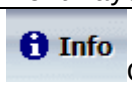


OPTION	DESCRIPTION
User ID	The User Name of the Briefer. This is the 'short' name assigned to the Briefer, not the full 'human' name. Only users with a Briefer or better Access Level may login. **Note**: User Names, Passwords and Access Levels may be changed by selecting Users from the **Lists** menu.
Password	The Password associated with this user.
Remember password	When checked, the system will remember the **Password** associated with this user. Use with care.
Automatically log into SQL Server	User information is stored in a Microsoft SQL Server database. Therefore, to access the Briefer version of *Voyager*, the user and machine must have access to the SQL Server. Contact your System Administrator for more information. When checked, the system will find the SQL Server login credentials of the user and attempt to automatically login. If the login credentials are blank or invalid,the SQL Server login window will still appear.

Advanced Features

Keyboard Shortcuts

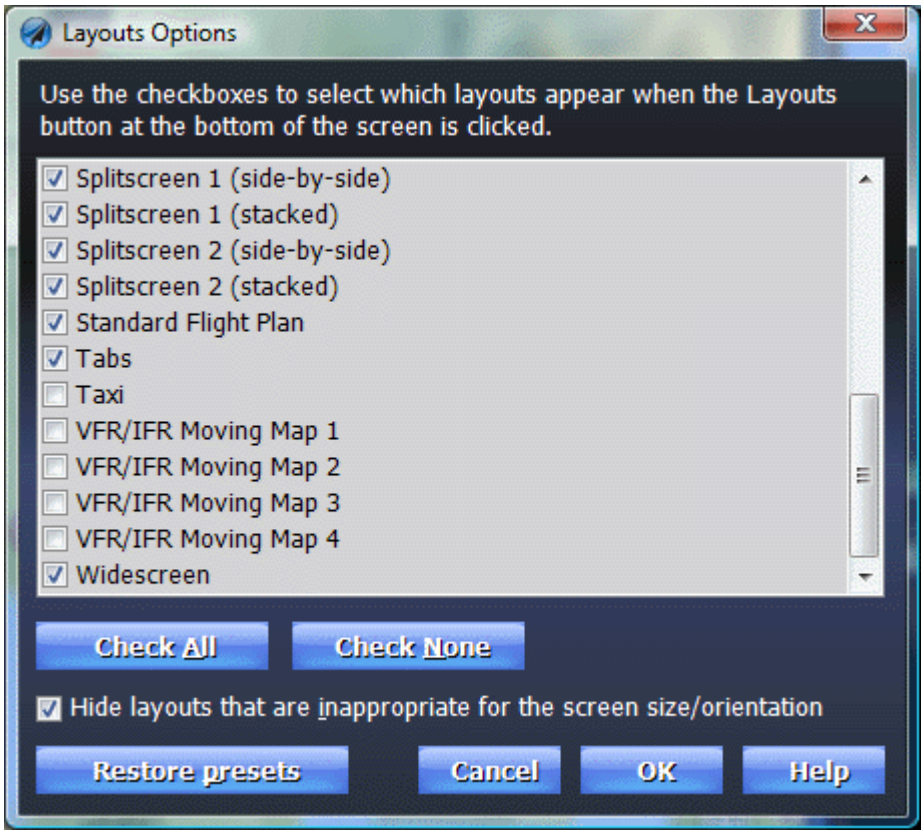
Voyager includes a number of keyboard shortcuts. Many are especially useful while in *GlassView* mode using a laptop.

KEY	DESCRIPTION
F1	Shows Help (Common Tasks and Questions)
F2	 Toggles Command Mode
F3	 **Direct To**
F4	 **GPS Centering lock**
F5	 Switch to *GlassView* mode (from desktop layouts only)
F7	Use the *Sectional (Digital)* theme
F8	Use the *IFR Enroute Low (Digital)* theme
F9	 Toggle **Track Up / North Up** modes
F10	 Toggles the **TAWS**-like terrain avoidance system
Ctrl O	 Open file
Ctrl N	 New file
Ctrl S	 Save file
Ctrl P	 Print
Ctrl W	Print Preview
Ctrl Shift P	Previous **Layout**
Ctrl Shift N	Next Layout
Ctrl I	 Get information about a location
Ctrl +	 Zoom In
Ctrl -	 Zoom Out
Ctrl F	 Autofit the Chart to flight plan or **Plate Pack**
Ctrl J	Jump the Chart to a location

Alt Backspace	 Previous Chart view
Ctrl A	 Add leg to end of the flight plan
Ctrl D	 Delete leg
Ctrl R	 Start the SmartRouter Wizard

Customize Layouts

Not in Voyager FreeFlight
To access this feature: Select **Layouts** from the **View** menu then click **Customize** or click **Customize Layouts** from the **GPS area** in the **Options** dialog box.



Voyager includes about two dozen distinct **layouts**. This can be a little overwhelming, especially for quick in-flight access. Therefore, this dialog lets you hide layouts you never use by unchecking them. Layouts that are not checked are available by selecting Layouts from the **View** menu but hidden when you click the 

button. By default, Voyager hides the less common layouts.

In addition, *Voyager* checks the screen size and orientation (portrait vs. landscape) to selectively hide layouts that are designed for different sized screens. For example, the *Widescreen* layout is an excellent general-purpose in-flight layout for a laptop or tablet in landscape mode (wider than tall) but useless on a small tablet or any tablet in portrait mode (taller than wide). Thus, when **Hide layouts that are inappropriate for the screen size/orientation** is checked, *Widescreen* is not shown when 

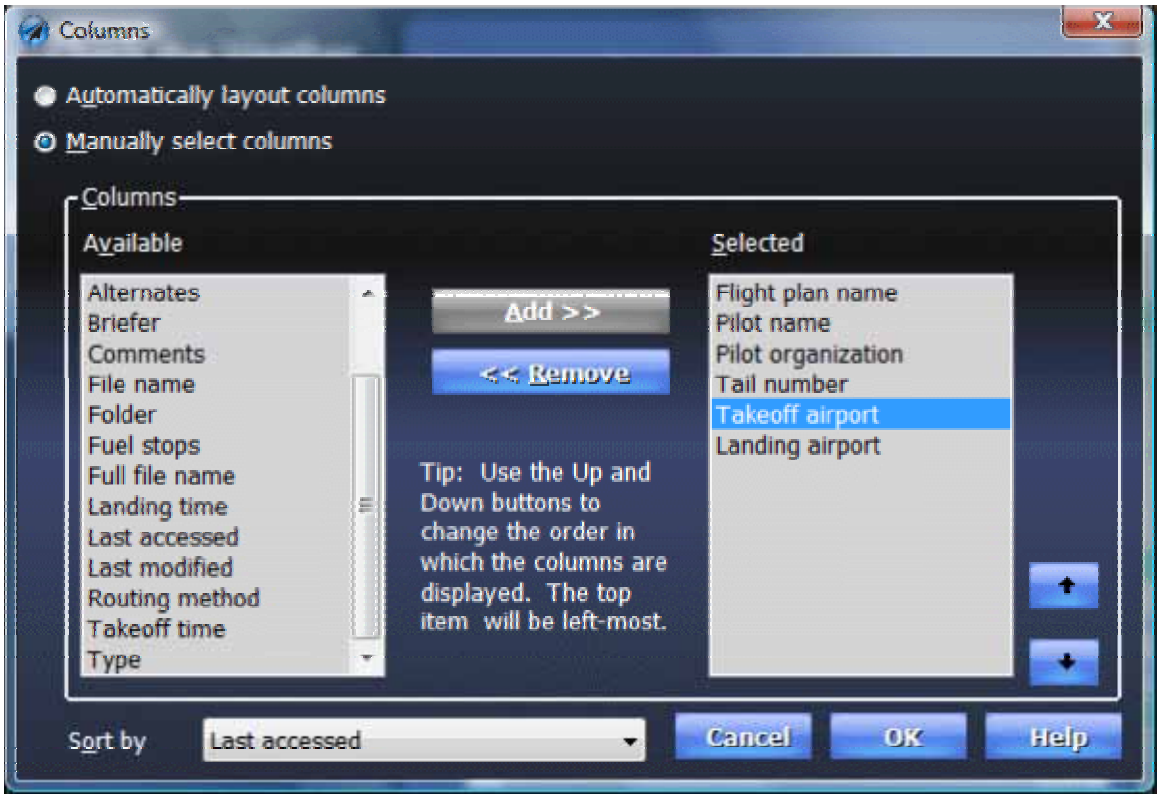
is clicked.

Many layouts include multiple areas. You can usually resize the areas by grabbing and dragging the dividing line between the areas (the splitter). *Voyager* keeps track of where you last resized each area and uses those settings the next time the layout is displayed on the same screen size and orientation. You can click **Restore presets** to restore the default settings for each layout if necessary.

You may also create Personal Layouts specific to your missions. Such layouts are not listed here but are shown when you click the Chart button on the lower toolbar.

Columns

SmartPlan *Premier* Required
To access this feature: While the **Tasks** list is open, click **Customize columns** in either the Plan or Fly tab.



The Columns dialog lets you select which columns of flight plan information are shown, and in what order, in the Tasks window.

You can also **filter on these columns** to limit the number of flight plans shown in the Tasks window.

COMMANDS

COMMAND	DESCRIPTION
Automatically layout columns	Shows the standard columns, **File name** and **Folder**, regardless of what is shown in the **Selected** area.
Manually select columns	Shows the columns selected in the **Columns** area.
Available	Lists each column available that is not already in the **Selected** list.
Selected	The columns to be shown. The top item is listed first (to the far left).
Add	Moves the column highlighted in

	Available to **Selected**.
Remove	Removes the column selected in the **Selected** list. The column is added to the **Available** list.
Up arrow	Moves the column selected in **Selected** up one place.
Down arrow	Moves the column selected in **Selected** down one place.
Sort by	Selects the column used to sort. It is not necessary for a column to be shown to be used as the sort criteria. For example, by default *Voyager* shows the **File name** and **Folder** columns yet sorts by **Last accessed**. Text columns are sorted alphabetically from A to Z. Date columns are sorted from most recent to oldest.

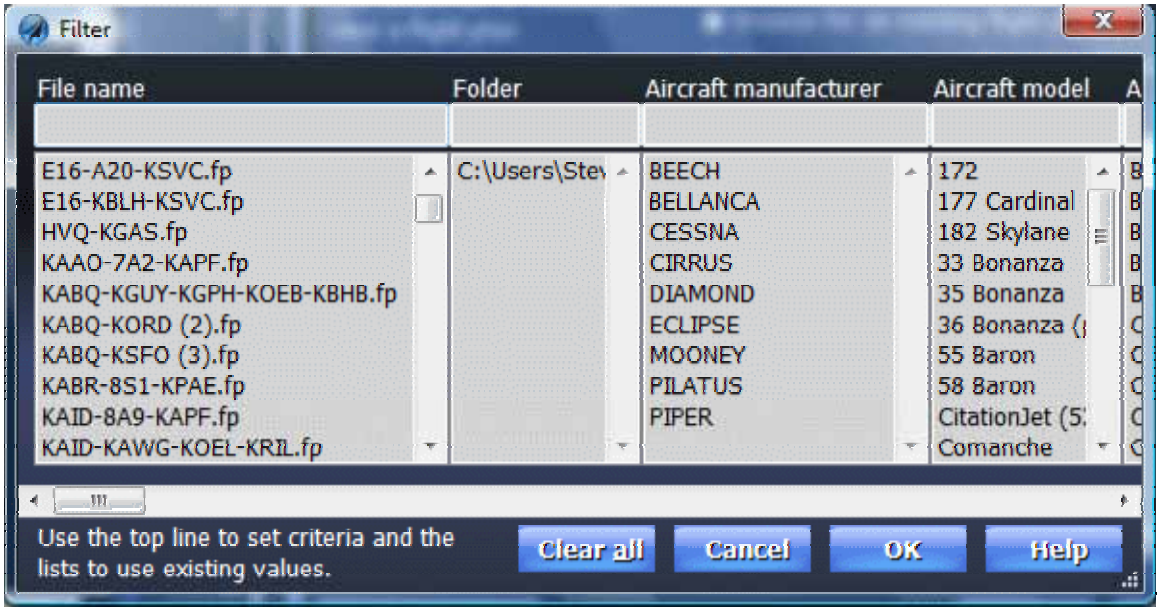
DATA COLUMNS

NAME	DESCRIPTION
Aircraft manufacturer	The name of the aircraft manufacture such as *Cessna*, *Piper* or *Eclipse*.
Aircraft model	The model of the aircraft such as *172*, *PA-28* or *A-36*.
Aircraft name	The name of the plane, as used within *Voyager*. This could be anything you choose such as *My Diamond DA40* or *N12345* or *My Plane*.
Alternates	A list of any airports provided in the **Alternate block** of the FAA form.
Briefer	The name of the briefer. Only relevant in *Voyager Briefer* versions.
Comments	A comment added by the briefer. Only relevant in *Voyager Briefer* versions.
File name	The name of the flight plan file such as *KSEA-KSFO.fp*
Flight plan name	The name of the flight plan. Note: **File name** and **Flight plan name** are not the same although they sound similar. In most cases, the **File name** will be the same as the **Flight plan name** plus a *.fp*. However, if *Voyager* is **saving flight plans based**

	on an internal ID, the **File name** will be the machine-readable ID number and the **Flight plan name** will be the human-readable name you'd expect.
Folder	The folder in which the flight plan is stored. **Note**: By default, all *Voyager* flight plans are stored in your *My Documents* folder, under a *Flight Plans* subfolder. However, it is possible to tell *Voyager* to use a different **default document directory**.
Fuel stops	This is a comma-separated list of all airports used a fuel stops.
Full file name	This field is the combination of the **Folder** and **File name** columns.
Landing airport	The ident of the landing airport.
Landing time	The date and time of landing. Depending on how **Time format** is set, *Voyager* will either display this as your computer's normal time format, using the local time zone setting (such as *6/28/06 5:05 PM*) or in Zulu format (such as *2006-06-28 17:05*)
Last accessed	The date and time the file was last saved or opened, displayed according to the time display rules above.
Last modified	Same as above but only based on when the file was last saved.
Pilot name	The name of the pilot such as *Joe Pilot*. **Note**: It is possible to rename a pilot in the **Pilot window**. However, if so, the new name is *not* reflected here.
Pilot organization	The organization (company), if any, to which the pilot belongs.
Routing method	The routing method used when the flight plan was created. Possible values include *Victor Airways*, *Jet Airways*, *GPS Direct*, *Manual (no routing)* and *Direct*.
Tail number	The tail number of the aircraft, normally including the country identifier (e.g. *N*).
Takeoff airport	The ident of the takeoff airport.
Takeoff time	The date and time of takeoff, displayed according to the time display rules above.
Type	The flight rules used for the flight: *VFR*, *IFR* or *DVFR*.

Filter

SmartPlan *Premier* Required
To access this feature: While the **Tasks** list is open, click **Set filter** in either the Plan or Fly tab.



The filter is a powerful way to limit the number of flight plans shown in the Tasks window.

The first line in each column is a text field in which you can enter whatever criteria a flight plan must match to be shown in the list. You can enter criteria for multiple columns and, if so, a plan must match all the criteria to be shown (a logical AND). For text fields, matches are found if the given text appears anywhere in the field. That is, wildcards are implicitly added to both sides of the text (e.g. *SFO* will match *KSFO* or *SFOX*). In addition, you can use comparison operators such as >, <, =>, =< and <> (not equal) to further refine the criteria.

See **Customize columns** for an explanation of each column.

As a shortcut, *Voyager* lists all the observed values in each column, except for date columns. To select one of these values, simply click it in the list.

The columns are shown in the order they appear in the Tasks window (determined by the **Customize columns** button). After these columns, all remaining columns (that is, the ones not shown in Tasks) are arranged alphabetically.

Examples:

Enter *KSFO* in the **Takeoff airport** column shows all flight plans that originate in San Francisco.

Enter *SFO* in the **Takeoff airport** column is essentially the same as above since *SFO* will find a match within *KSFO*.

Enter *Steve* in the **Pilot name** column to find all flights flown by anyone named *Steve* or with *Steve* as any part of their last name (like *Stevenson*).

Enter *SFO* in the **Takeoff airport** column and *N12345* in the **Tail number** column finds only those flight plans that begin in San Francisco and fly the aircraft with *N12345* as its tail number. Note that *12345* would be the same as *N12345* because of wildcard matching.

Enter *6/30/06* in the **Last modified** column to show all plans created or modified on June 30, 2006. Entering *2006-06-30* would have the same effect.

Enter < *6/30/06* in the **Last modified** column to show all plans created before June 30, 2006.

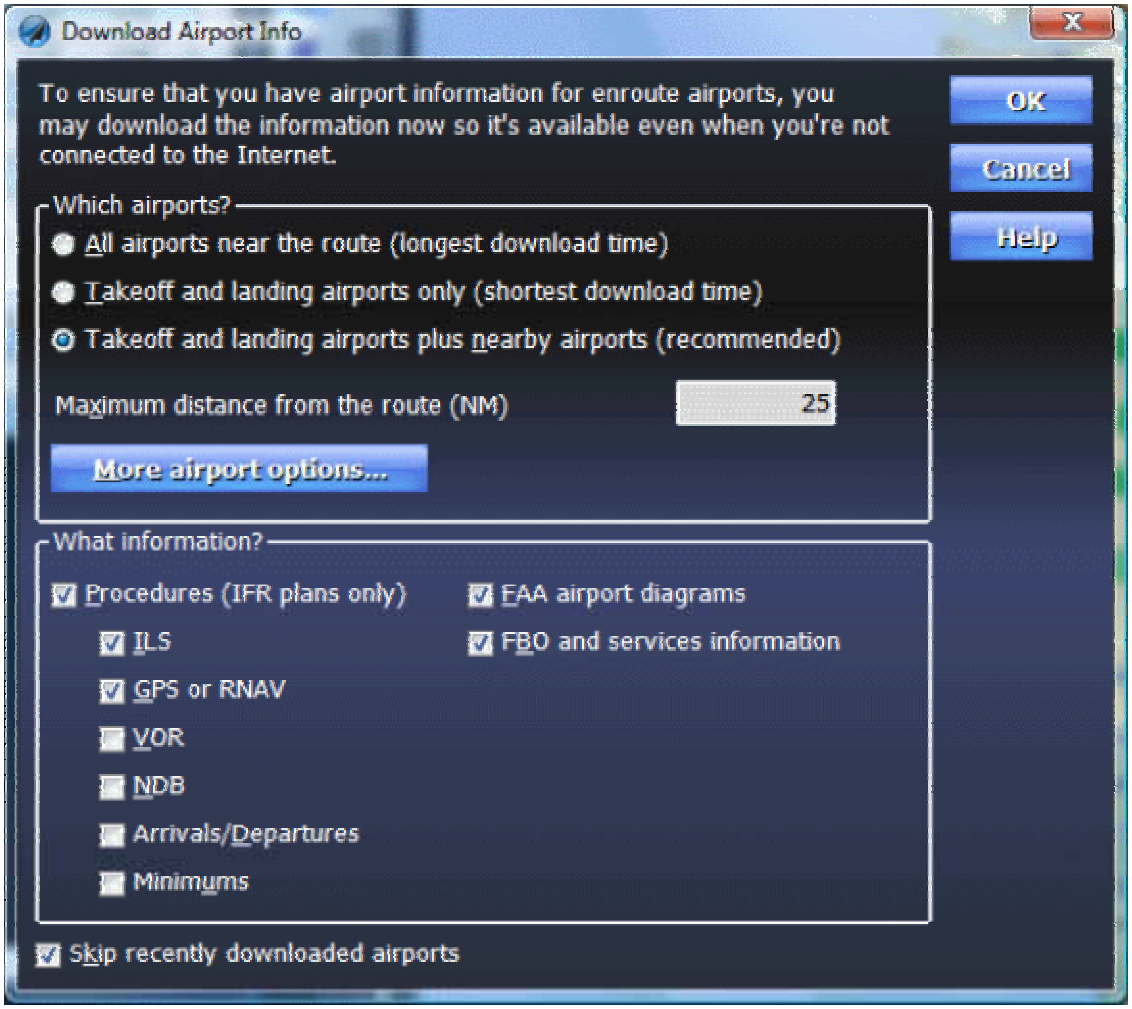
Enter > *6/30/06 3:00 PM* in the **Last modified** column to show all plans created after June 30, 2006, 3 PM.

Note: Using > with a date that has no time may give unexpected results in that it will show all plans matching the supplied date with an implicit "12:00 AM" added. That is, > *6/30/06* shows all plans created after midnight on 6/30 such as on 6/30/06 at 2 PM. To get plans created on 7/1/06 or later, use > *7/1/06* rather than > *6/30/06*.

Download Airport Information

SmartPlan *Premier* Required

To access this feature: Select **Download Airport Information** from the **Plan** menu while a Flight Plan is open.



This powerful features makes it easy to download all airport information that might be necessary during a flight, including airports near your planned stops or even anywhere near your planned route. In this way, if you want to make an unplanned stop while enroute, *Voyager* already has the airport information you need even without a live Internet connection. Of course, depending on which airports are selected and which download options are chosen, this can take some time, especially with a dial-up modem.

By default, *Voyager* keeps download FBO information for 28 days to strike a balance between speed and accuracy. You can change this setting in the **Internet** tab of the **Options** dialog box. Approach and Departure procedures have embedded dates so

Voyager expires them as required. You can also uncheck the **Skip recently downloaded airports** box to force *Voyager* to download fresh information, even if the airport had been examined recently.

AIRPORTS

OPTION	DESCRIPTION
All airports near the route (longest download time)	This option downloads all airports near (as determined by **Maximum distance from the route**, below) your planned route. As this may be hundreds or potentially even thousands of airports, this option should be used sparingly.
Takeoff and landing airports only (shortest download time)	This option is the fastest because it downloads the least information, only airports involved in a takeoff and/or landing. This option is not suggested for IFR flights or flights into poor weather because it won't provide any information about alternate airports.
Takeoff and landing airports plus nearby airports (recommended)	This option is the recommended compromise between the two previous options. It tells *Voyager* to download information for airports near (again, determined by **Maximum distance from the route**) any planned stops. In this way, if you need to deviate from a landing (but not too far), *Voyager* will be ready with the information you need.
Maximum distance from the route	This is the search radius that *Voyager* uses when it needs to scan nearby airports. As the area of a circle grows very rapidly as the radius expands, relatively small increases in this value may dramatically impact download time.
More airport options	Click this button to make more specific airport selections. For example, *Voyager* defaults to requiring a runway length appropriate for the selected aircraft. You might want to override that for emergency use.

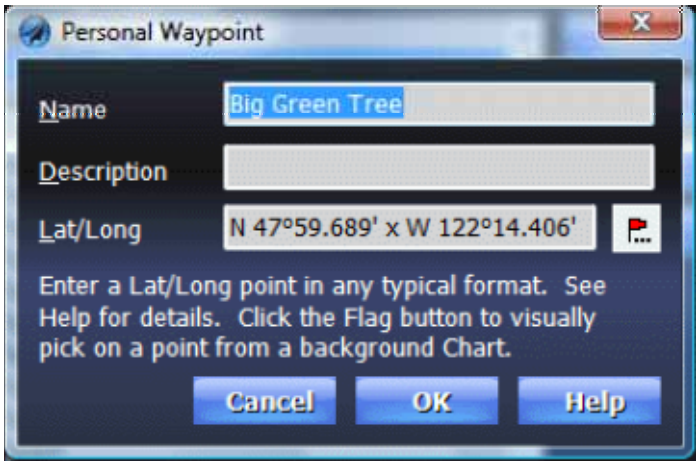
INFORMATION

OPTION	DESCRIPTION
Procedures (IFR plans only)	Check this option to download legal (FAA) terminal procedures from the FAA Web site. No membership is required. Only available for IFR flight

	plans. Select options below to limit the downloads to the types of approaches your prefer. Each procedure is an Adobe PDF (Acrobat) file, generally between 50K and 100K bytes.
ILS	Check to download ILS approaches.
GPS or RNAV	Check to download GPS and RNAV approaches.
VOR	Check to download VOR approaches.
NDB	Check to download NDB approaches.
Arrivals/Departures	Check to download arrival and departure procedures.
Minimums	Check to download airport minimums.
FAA airport diagrams	Downloads FAA airport diagrams when available. As of this writing, this means all US Class B, most Class C and many Class D airports. Even without this download, *Voyager* displays a runway diagram.
FBO and services information	Select this option to download, from the AOPA Web site, current FBO and services info, generally including hotel and rental car information. AOPA membership is required.

Personal Waypoint

SmartPlan Required
To access this feature: Select **Personal Waypoints** from the **Lists** menu then choose a waypoint.



Voyager lets you define as many unique, personal waypoints as you like. Once defined, you can enter the name of a Personal Waypoint anywhere that *Voyager* asks for a location. This includes within a NavLog, as part of a Personal Procedure or in a Jump To box.

A valid Personal Waypoint simply has a unique name (like *My House* or *Point Near Airport*) and a latitude/longitude coordinate. Use the **Flag** button to visually select a point by clicking on a **Chart** or Flight Plan window that happens to be open in the background.

Tip: Any place where *Voyager* accepts a series of idents to produce a route (**QuickRoute** from the Tasks dialog, within the **Idents** area of the **Direct To** dialog box, etc.) it will accept a Personal Waypoint or Personal Procedure only if the waypoint or procedure is a single word. If this is important to you, be sure to keep your names to one word (e.g. *MyHouse* rather than *My House*). If the name is multiple words, *Voyager* will interpret each word as a distinct ident.

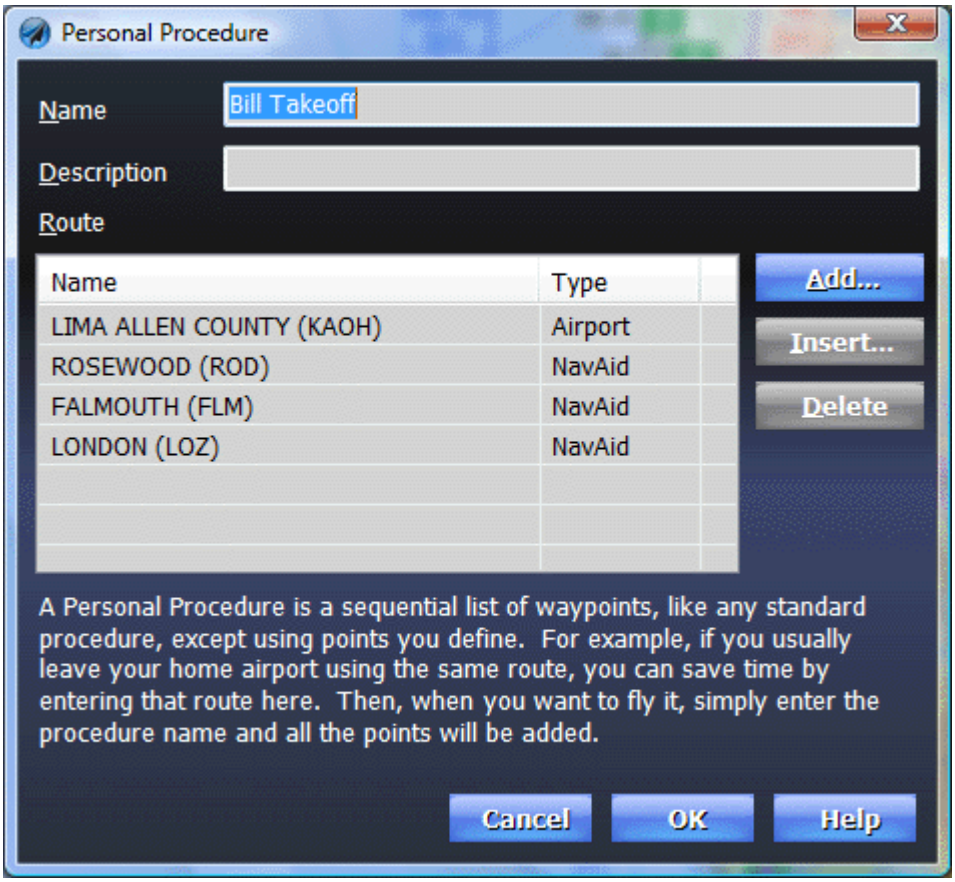
After creation, a Personal Waypoint is shown on the Chart when the **Waypoints layer** is turned on.

As there is no 'standard' format for expressing latitude longitude coordinates, *Voyager* recognizes a wide variety of common formats. These include (but are not limited to) the following where W means *West* or *East*, N means *North* or *South*, DDD means *Degrees*, MM is *Minutes*, SS is *Seconds* and XXX is *decimal*. *Voyager* accepts either Lat x Long or Long x Lat order.

WDDD MM SS x NDDD MM SS
WDDD MM SS NDDD MM SS
W DDD MM SS x N DDD MM SS
W DDD MM SS N DDD MM SS
W DDD'MM'SS" N DDD'MM'SS"
W DDD*MM'SS" N DDD*MM'SS"
W DDD'MM.xx' N DDD'MM.xx'
W DDD*MM.xx' N DDD*MM.xx'
WDDD'MM'SS" NDDD'MM'SS"
W DDD'MM'SS" x N DDD'MM'SS"
WDDD'MM'SS" x NDDD'MM'SS"
+/-DDD.DDDD +/- DDD.DDDD
'+/-DDD.DDDD x +/- DDD.DDDD
W DDD°MM.XX' x N DD°MM.XX'

Personal Procedure

SmartPlan *Premier* Required
To access this feature: Select **Personal Procedures** from the **Lists** menu then choose a procedure.



Voyager has the unique ability to let you define your own procedures, a *Personal Procedure*. Personal Procedures are similar to standard Terminal Procedures except you choose the waypoints. They are useful in a number of situations including creating a custom departure from your home airport, a typical mountain crossing, a commonly taken path, etc. Once created, you can enter (or select from a list) a Personal Procedure while editing a Flight Plan (the NavLog window, for example) and *Voyager* instantly enters all the waypoints in the procedure.

For example, if you typically exit your airport to the west to avoid Class B airspace then pass over a recognizable visual point, you can create a Personal Procedure called *Takeoff* that lists each of these points. Then, when you create a new Flight Plan with the New Flight Plan Wizard, enter *Takeoff* in the **Waypoints / Must-Fly** step and *Voyager* automatically adds all the required points. You can also enter a Personal Procedure when you manually add points to a Flight Plan using the **NavLog**.

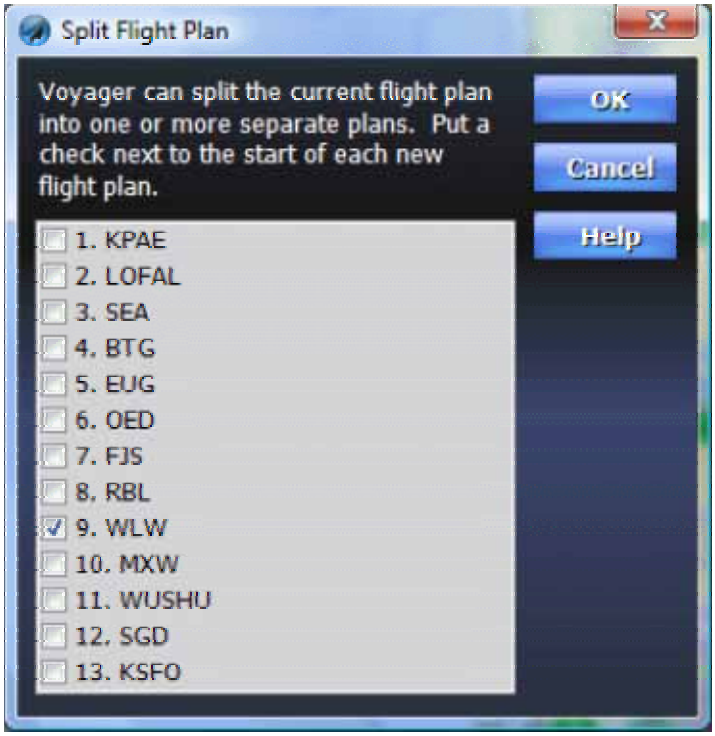
Defining a Personal Procedure simply means assigning it a unique name and entering one or more waypoints. A waypoint can be an airport, navaid, standard waypoint or **Personal Waypoint**.

Tip: Any place where *Voyager* accepts a series of idents to produce a route (**QuickRoute** from the Tasks dialog, within the **Idents** area of the **Direct To** dialog box, etc.) it will accept a Personal Waypoint or Personal Procedure only if the waypoint or procedure is a single word. If this is important to you, be sure to keep your names to one word (e.g. *MyHouse* rather than *My House*). If the name is multiple words, *Voyager* will interpret each word as a distinct ident.

Split Flight Plan

SmartPlan *Premier* Required

To access this feature: Select **Split Flight Plan** from the **Plan** menu.

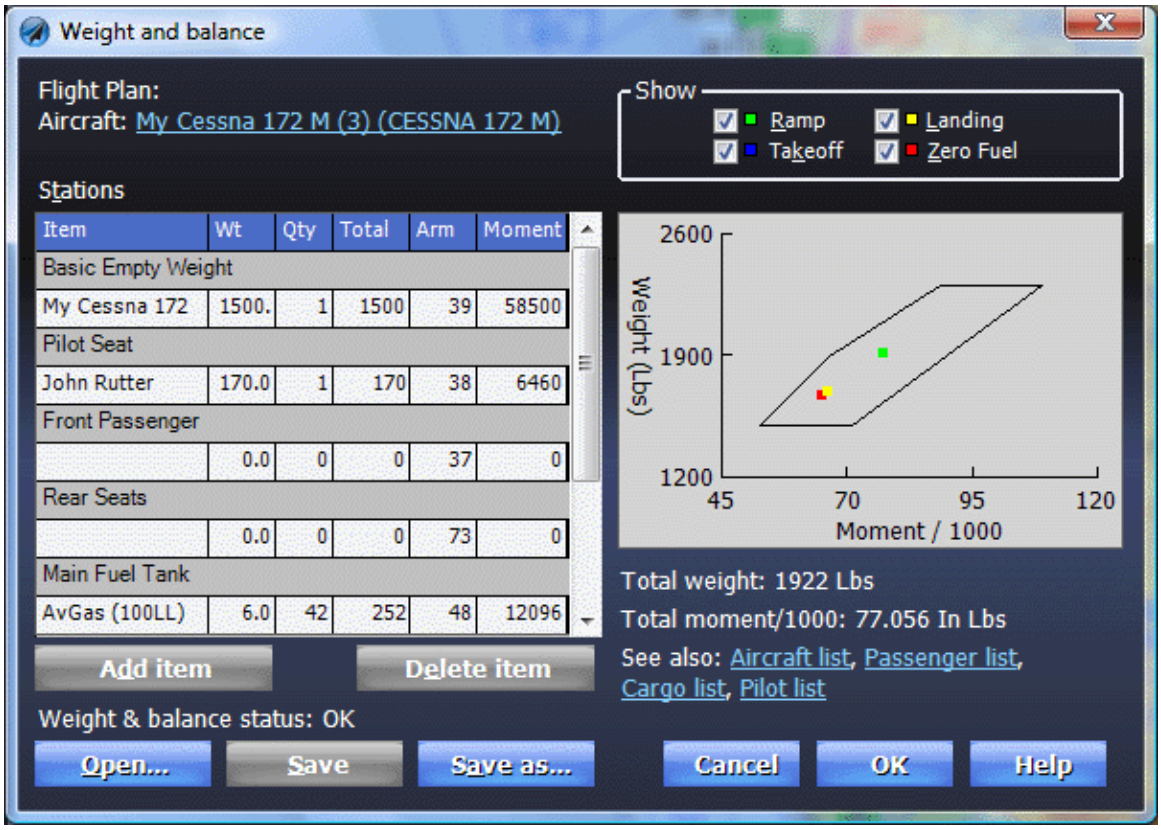


Use this dialog box to split an existing flight plan into multiple flight plans, demarcated by fuel stops. Place a check next to the fuel stops at which you'd like to begin a new plan. This is useful for flights that span more than one day, for IFR flights or whenever you expect significant changes after a fuel stop.

In the case of a very long flight with several fuel stops, you can break the plan into fewer plans than fuel stops. For example, assume you have a flight that should last two days and you plan two fuel stops in the first day and only one in the second. Rather than split the first day into three plans, you might want to keep the whole first day's flying together as one plan but create a new plan for the second day. Do that by only checking the box next to the third fuel stop (the overnight stop).

Weight and Balance

To access this feature: Select **Weight and Balance** from the **Tools** menu or click the **Weight and Balance** field in the **Plan** area of a Flight Plan window.



This dialog page consists of two parts: Adding items to each aircraft station and showing the resulting weight and balance information.

If a flight plan is displayed, the name of the flight plan and the associated aircraft are shown at the top left of the dialog. If no flight plan is open, this area has a drop-down list of available aircraft.

Note: This dialog lets see the *results* of adding items to the aircraft. To edit the weight and balance *definitions* for the aircraft (e.g. modify its Basic Empty Weight, the Stations or the Arms, or the Weight/Moment envelope, see the **Weight and Balance tab** of the actual aircraft definition. From this dialog, you can immediately jump to that by selecting the blue underlined name of the aircraft at the top of the dialog. From elsewhere in *Voyager*, simply select **Aircraft** from the **Lists** menu, choose an aircraft and click **Edit**. Then switch to the **Weight and Balance** tab.

Note: *Voyager* warns when the number of passengers and pilots in this table is different than the number specified for the FAA Flight Plan form. To correct the

imbalance, once the flight plan is open, select **File FAA / ICAO Flight Plan** from the **Plan** menu and edit the value in block 15 (**# on board**).

STATIONS

The Stations table shows each station and the items at those stations. You can enter items either by typing their names and weights or by selecting existing items using the drop-down list that appears as you click into the **Item** column. For example, if there is station named *Front Passenger*, you can click into the **Item** column, under the *Front Passenge*r heading, and select *Sample Passenger* from the drop-down list. His weight is automatically entered in the **Weight** column and the **Moment** column is recalculated. Alternately, if you have a new passenger, enter her name and weight in the **Item** and **Weight** columns and *Voyager* will not only recalculate the moment but also add this person to the Passengers list for quick use the next time she flies.

Each station may have more than one item in it. For example, the rear seat of a Cessna 172 can carry two passengers although only one blank row is shown. To add a second passenger, click into the existing *Rear Passenger* row, click the **Add item** button and enter the passenger information as above. Similarly, to delete an item from a station, click into the appropriate row and click the **Delete item** button.

Tip: You can edit the Passenger, Cargo and Pilot lists by clicking the blue underlined hyperlink in the **See also** area of this page or via the **Lists** menu on the main window when this dialog box is closed.

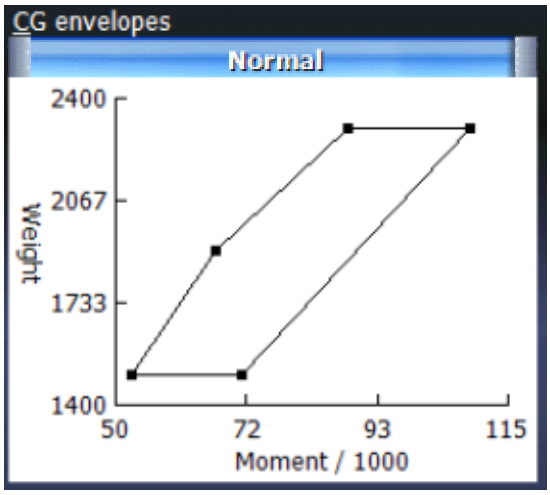
Tip: You can save completed weight and balance manifests for later use with the **Save** and **Save as** buttons. Later, if you use the **Open** button to apply a saved weight and balance manifest to a different aircraft, *Voyager* will try to match stations with the same names. Therefore, if you rent aircraft, you can still use the Open/Save features to rapidly complete the weight and balance form.

COLUMN	DESCRIPTION
Item	The name of the item. Either type a new name or select an existing item from the drop-down list. If you enter a new item, the name and its associated weight will be saved in the appropriate list (Pilot, Passenger, etc.) for later use.
Wt (Weight)	The weight of one unit of the selected item.
Qty (Quantity)	The number of units of the selected item. This is typically 1 for Pilot and Passenger stations and the number of gallons of fuel in a Fuel station. However, if this is a Fuel station and the selected aircraft displays **fuel as weight**, not volume, this column is disabled. In that case, the **Wt** column displays the total fuel weight, not just

	one unit.
Total	The product of Weight times Quantity.
Arm	This is the arm specified for this station of this aircraft. It cannot be directly changed but you can modify the station from within the **Aircraft** dialog box. In that case, the arm (and moment) will be automatically updated.
Moment	The moment is the product of Weight X Quantity X Arm. It cannot be changed directly.

WEIGHT AND BALANCE INFORMATION

The right side of this dialog displays the weight and balance information implied by the Stations area on the left side. The most obvious part is the graph similar to the example below.



Here, the acceptable weight and balance envelope for this aircraft is displayed as a shape consisting of five points arranged more-or-less diagonally. The vertical or Y axis is the weight, measured in whichever units are selected in the **Units** tab of the **Options** dialog (default is pounds). The horizontal or X axis is the total moment measured in the combined units implied by the product of the arm unit (default is inches) and the weight unit. To simplify, the moment is divided by 1000. An aircraft loaded within the weight and balance envelope has all the colored points within the shape. If any point is outside the shape, *Voyager* will warn of the imbalance. Therefore, in this example, the aircraft is safely loaded within the weight and balance envelope.

Tip: You can use the checkboxes above the graph to show or hide any measurement point. This is useful when two or more dots appear to overlap, obscuring one of them.

SmartPlan *Premier* Required

The **Takeoff** checkbox is only enabled when using *Voyager Premier* or above because only these version of *Voyager* take **taxi / run-up fuel burn** into account. Without taking these into account, **Ramp** and **Takeoff** are always identical. Moreover, even in *Voyager Premier*, if the aircraft doesn't have **taxi / run-up fuel burn** set (that is, greater than *0*), the takeoff blue box is suppressed to simplify the display.

Flight Calculator

Not in Voyager FreeFlight
To access this feature: Select **Flight Calculator** from the **Tools** menu (not available with *SmartPlan Express*).

The Flight Calculator window is conceptually similar to a standalone E6B flight calculator.

To compute a flight variable, either:

- Select a function in the **By category** list then choose a specific flight variable in the list to its right.
- Click the **Alphabetical** tab and choose a specific flight variable.

If more than one function computes this flight variable, choose a function from the right pane.

The right pane becomes a **Function** area, providing space to enter necessary inputs (the **Input** area) and showing the results in the **Output** area. Click the **Compute** button to calculate the output values. If additional preliminary values must be calculated, click the blue-underlined flight variable names (if name) in the **Input**

area. Results from one calculation are automatically applied to subsequent calculations using the same variables.

Click the **Close** button to dismiss this window. Click **Units** to change the display units.

Appendix

Purchase

If you're using a trial version of any module, simply select **Buy now** from the **Help** menu to purchase online from the Seattle Avionics Web site. The online purchase process accepts most major credit cards and works 24 hours a day, 7 days a week. After your purchase, a **Purchase key** is emailed to you. Enter the **Purchase key** in the Trial dialog or by selecting **Enter Purchase Key** from the **Help** menu.

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Uninstall

This application makes use of the standard Windows Uninstall mechanism. Go to your computer's **Control Panel** and select the **Add/Remove Programs** application. Select *Voyager* from the list and click **Remove**. After the removal completes, some files are intentionally left on your computer so that you don't lose information if you re-install the application later. Unless otherwise stated, these files are in the application's main directory (*c:\program files\Seattle Avionics\Voyager4* by default). These files include:

FILE(S)	DESCRIPTION
Config.mdb	A database with aircraft, pilot, passenger, fuel and cargo information.
All program settings (files ending with .ini)	General setup and configuration information.
Some registry keys	Basic setup and configuration information.
Flight plans (.fp), Plate Packs (.PlatePack), saved weight and balance configurations (.wbs), etc.	User-created data files. You may have placed them anywhere but the default location is: Windows Vista: *c:\Users\Your Name\Documents\Flight Plans* *Windows XP:* *c:\Documents and Settings\Your Name\My Documents\Flight Plans*

See the **Seattle Avionics Web site** for information about deleting these files.

Troubleshooting

There is relatively little that should go wrong during the installation process providing the machine is relatively modern (built in 2005 or later), includes a modern video card and has at least 1 GB of RAM (2 GB if running Vista). ***Voyager* will not run on machines with 512 MB or less RAM.**

Voyager relies of a Microsoft technology called DirectX (version 9.0c) to dramatically enhance chart drawing performance by pushing most of the work to the video card. Thus, overall performance can be dramatically affected by the video card. If you're having trouble displaying charts, we suggest checking with your video card manufacturer for updated video drivers.

In particular, computers using an Intel 915 video card, such as the Motion LE 1600 and LS 800, must update their video drivers. The URL is:
http://downloadcenter.intel.com/filter_results.aspx?strTypes=all&ProductID=1862&OSFullName=Windows*+XP+Professional&lang=eng&strOSs=44&submit=Go%21

Install the latest Mobile Intel® 915GM/GMS, 910GML Express Chipset Family Driver.

Users of other video cards should check for updated drivers by visiting
http://www.seattleavionics.com/support/VideoCards.aspx

Voyager runs well on Intel-based Apple Macintosh computers under Boot Camp. However, as of this writing, *Voyager* will not run correctly under a virtual machine such as Parallels or VMWare.

Additional support information is available on the Seattle Avionics Web site. See

http://www.seattleavionics.com/support

Contact Seattle Avionics technical support via email at
Support@SeattleAvionics.com or by phone at +1.425.806.0249.

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