



Introduction to Navigraph Charts

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1. Introduction

Navigraph Charts is a software which allows you to search most airports, waypoints, airways and procedures in the world. Charts contains a worldwide coverage of airport charts, procedure diagrams and an enroute chart over high and low airways based on information provided by Jeppesen.

Navigraph Charts is intended to be used with a flight simulator such as Microsoft Flight Simulator X, Lockheed Martin Prepar3D, or Laminar Research X-Plane. You can use Charts separately to look up information and build a route you want to fly, but you can also connect your simulator to Charts and monitor the progress of your flight.

2. Prerequisites

You need an active Navigraph User account to log in to Navigraph Charts. You also need a valid Charts or Ultimate subscription to access all information. You can register an account and purchase a subscription on the Navigraph website.

Charts exists for Windows and Mac desktop, iPad¹ and Android tablets, and can also be accessed via most web browsers.

3. Feature Examples

Here are examples of some of the things you can do with Charts. For a more detailed instruction, please continue further down in this document.

3.1. Enroute Chart

Pan and zoom the enroute chart to explore high and low airspace. You can search by text or right click the mouse in a region to do a proximity search. Pick any object with the mouse to explore it.

3.2. Flight Panel

Use the flight panel to plan a flight. You can create one from scratch by selecting waypoints; have one calculated for you; or import flights from Simbrief or a PLN file. You can also view and select procedures that fit your route.

3.3. Charts

The software covers 6,800 airports around the world. The charts are color coded and divided into procedures, airport diagrams and reference texts. You can favorite airports and pin charts to a pinboard for quick access. You can also visualize procedures from and to a particular airport. If you connect Charts to your simulator using Simlink you can also monitor your flight with the moving maps function.

¹ iPad version is delayed, please use Charts Cloud in Safari or Chrome on iPad

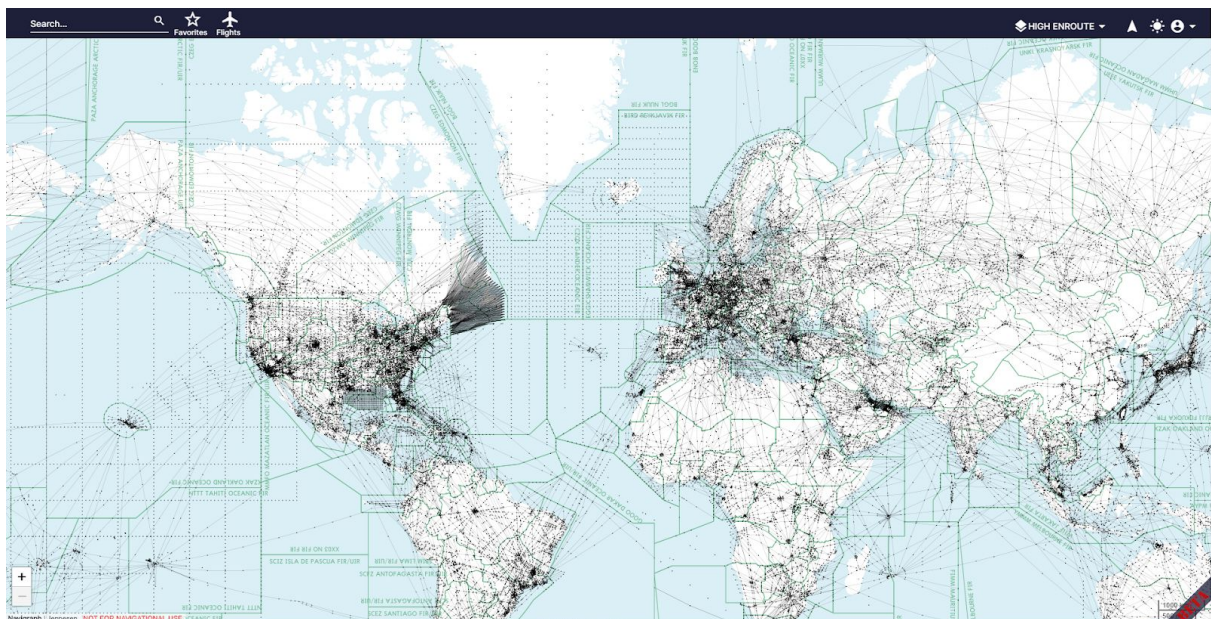
4. Guide

4.1. Signing in

1. Find the link to download Navigraph Charts on this page:
<https://navigraph.com/ChartsApps.aspx> alternatively use Navigraph Charts in a web browser via this link <https://charts.navigraph.com/>
2. Sign in using your Navigraph username and password. You also need to have a Navigraph Ultimate subscription associated with your Navigraph account.
 - 2.1. If you need to sign out to sign in with another account, you will find the link in the upper right corner under the profile icon.

4.2. Exploring the Enroute Chart

The first thing you will see after signing in is the enroute chart. It is a big chart window where you can move around and explore airspaces.



1. Click and drag the enroute chart with the mouse to pan it.
2. Use the zoom wheel on the mouse zoom in and out. You may also use the plus and minus buttons in the lower left corner.
3. Switch between upper and lower airspace with the drop down menu in the upper right corner.
4. Switch between low contrast night mode and high contrast day mode with the button in the upper right corner that looks like a moon.

5. Have a quick look at the symbology...



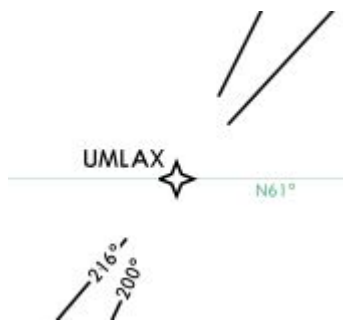
IFR airport

A blue cogwheel means an IFR airport. If there is a blue dot in the middle, there is chart coverage.



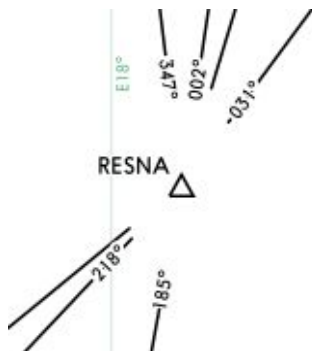
VFR airport

A green cogwheel means a VFR airport. A hollow center means there is no chart coverage. VFR charts will be added in a future version of Charts.



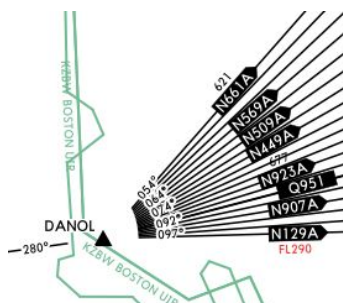
Waypoint

A star denotes an RNAV waypoint. A waypoint with compulsory reporting is filled.



Waypoint

A triangle denotes a combined RNAV waypoint and airway intersection.



Waypoint

A waypoint with compulsory reporting is filled.



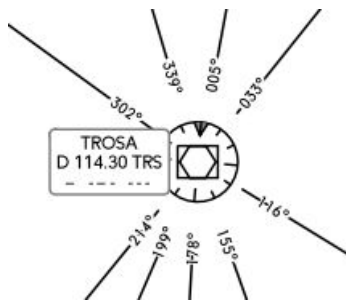
NDB

A circle denoted an NDB navaid.



DME

A box denotes a DME. The circle around it is a compass rose which shows the magnetic deviation at the location.



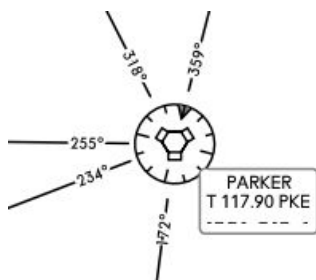
VOR/DME

A hexagon inside a box denotes a VOR/DME. The circle around it is a compass rose which shows the magnetic deviation at the location. The numbers on the airways denote the radial relative to the VOR.



TACAN

A three pointed star denotes a TACAN.



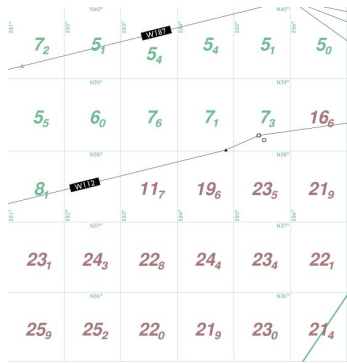
VORTAC

A three pointed star with banded points denotes a VORTAC.



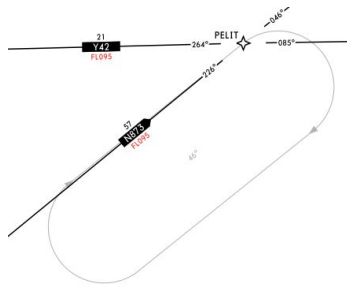
Restricted Airspace

A purple circle or polygon denotes restricted airspace.



MORA

The large numbers in the map grid are minimum off-route altitudes.



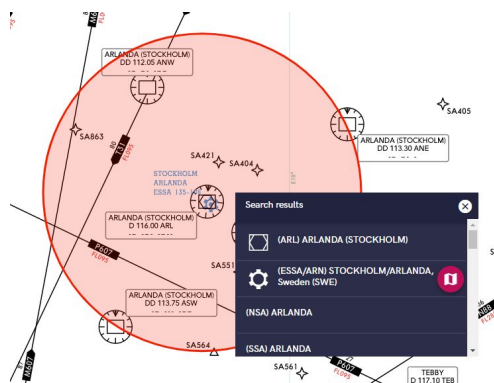
Holding Pattern

A race track denotes a holding pattern. The inbound holding course is shown in the middle.

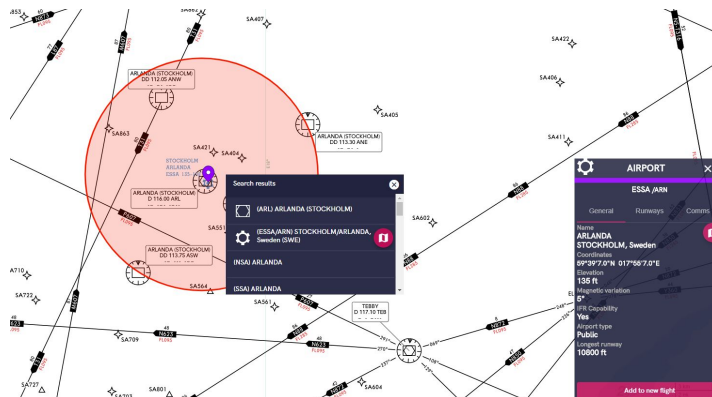
There are too many symbols to list here, but for the most part it follows the Jeppesen standards explained in detail here:

<http://ww1.jeppesen.com/documents/aviation/business/ifr-paper-services/glossary-legends.pdf>

6. Now click the text field in the top left corner where it says "Search..." and type: "ESSA" and hit enter. As you can see, the search results return the Arlanda airport (whose ICAO code is ESSA) as well as the Odessa airport (because Charts searches the full name of the airport too). In the search result you can also see other waypoints and nav aids. You can use the drop box in the top of the search result list to filter the results according to type.
7. In addition to searching by text, you can also search by proximity. You can test this by right clicking with the mouse on the enroute chart. Make sure you are zoomed in a bit, because the diameter of the search region is only 20 km (12.5 miles). The results are returned in a list next to the red circle which denotes the search region.



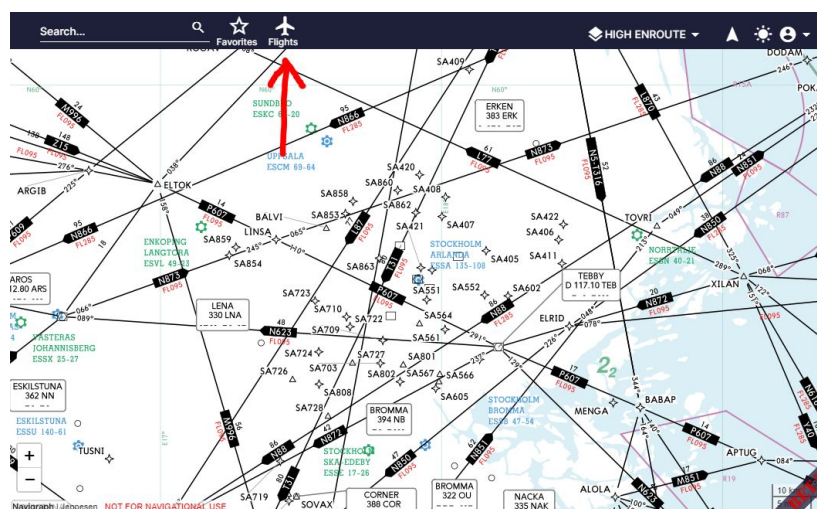
- Now you can select the Arlanda airport to explore it. The details are displayed in the detail view in the lower right corner.



4.3. Creating a Flight

4.3.1. New Flight Specifying Airports

In this version of Charts there has been a significant change in how a flight is organized. To access flights, open the flight dialog window by clicking the flight icon at the top.



- Open the flight dialog window by clicking the button where it says Flights.
- Click New Flight and select Manual Input.
- Select which chart format you want to use: Standard IFR charts or Airline CAO chart. CAO charts are mainly for category C and D aircraft. More info: http://ww1.jepesen.com/documents/educational/why-jepesen-charts/Jepesen_Airline_Charts_Series.pdf
- Enter Origin and Destination airport by typing the ICAO code, the name of the city, or the name of the airport. You may want to try flying from ESSA to ENGM.

5. Check the checkbox next to “Auto generate my route” to have Charts calculate a route for you.



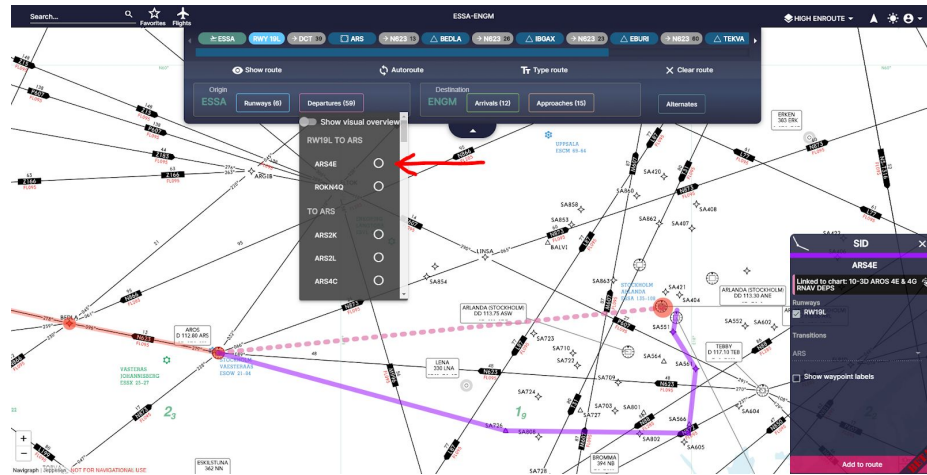
Here is a very simple route from Stockholm (ESSA) to Oslo (ENGM). The enroute chart centers on the route and the flight panel opens. Note how the flight panel contains a string of colorful pills indicating the airports, waypoints and airway segments.

6. Proceed by clicking the blue Runway button on the origin airport to select a departure runway. Let’s select RWY 19L.



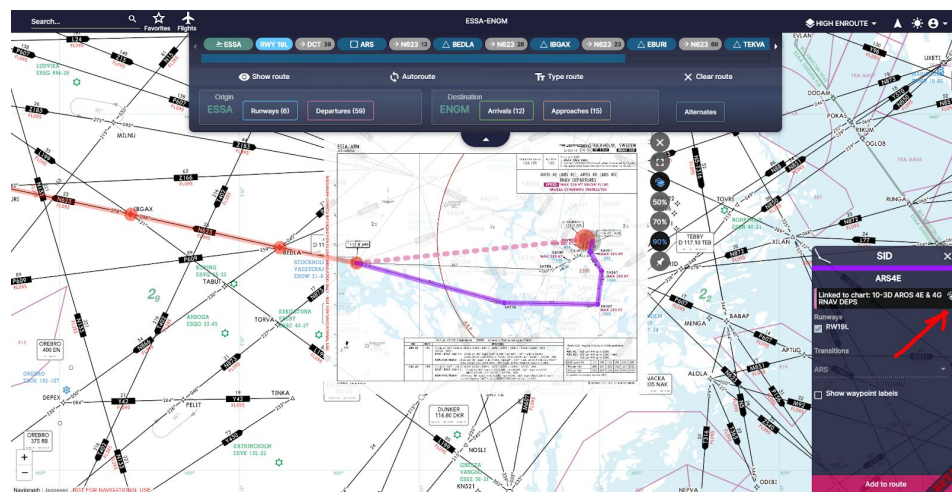
(If you are not familiar with the runways at ESSA you can have a look at chart 10-9 by clicking ESSA, go to charts list, bring up Taxi charts and scroll down to AIRPORT 10-9.)

- Click on Departures. You can see that Charts suggests that you use ARS4E to connect from runway RWY 19L. You can select ARS4E by clicking the radio button (the circle) next to it. Note how Navigraph Charts only shows the two procedures for departing from RWY 19L at the very top.



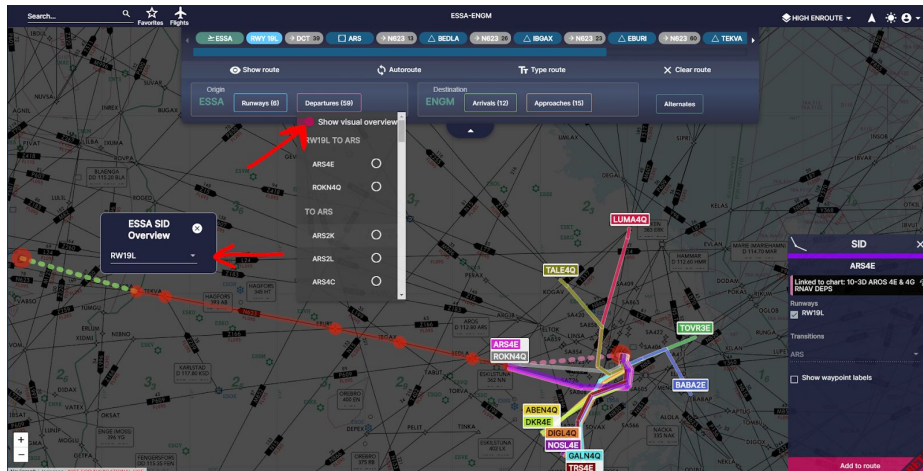
If you click on the text “ARS4E” instead of the radio button the procedure is highlighted as a purple line on the enroute chart. A details box with more information also appears in the lower right corner.

If you click the icon that looks like a stack of papers with an arrow in the details box you can superimpose the departure procedure chart on top of the enroute chart.

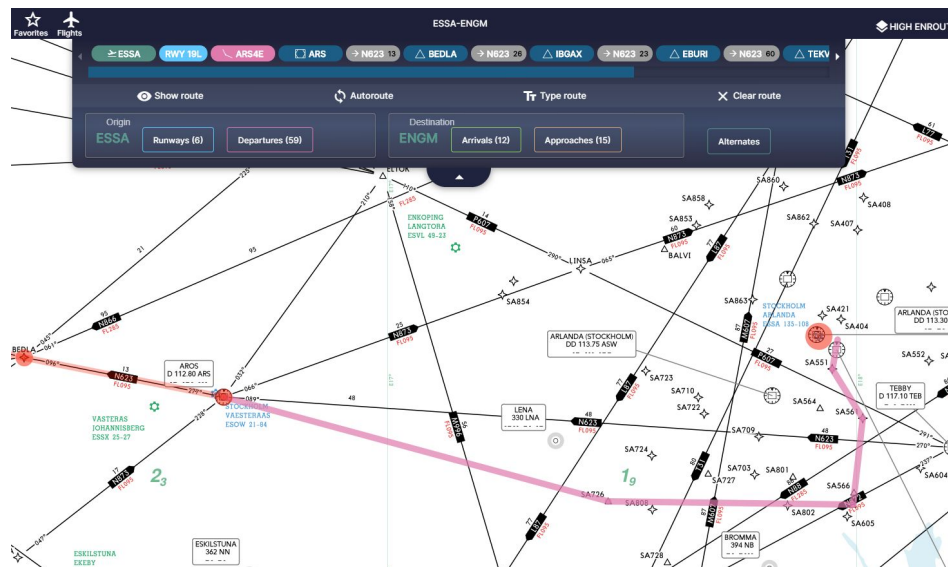


- If you want to see all SIDs that are available to you, pull the slider to “show visual overview”. The departure procedures from RWY 19L are now shown on the enroute chart and the ARS4E connecting to ARS is clear to see.

If you want to see SIDs departing from another runway, use the runway selector to the left.



- When the ARS4E has been selected, the pink dashed line turns solid and two more pills have been added to the route: a blue runway 19 pill and a pink SID ARS4E pill.



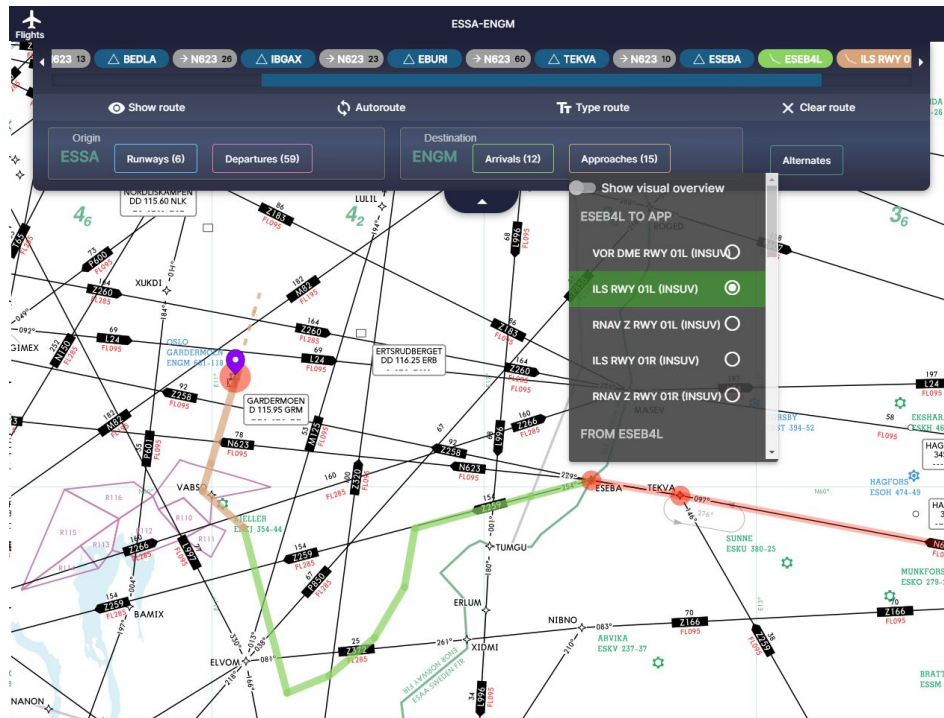
- Now let us move over to the destination airport. You can click the destination airport code or scroll to the end of the sequence of pills to see ENGM. Notice how the leg from ESEBA to ENGM currently is a dashed green line.



- Click on Arrivals. You can see that Charts suggests ESEB4L and ESEB4M as they connect from ESEBA. You can also see that you can turn on a visual overview to see the STAR procedures.



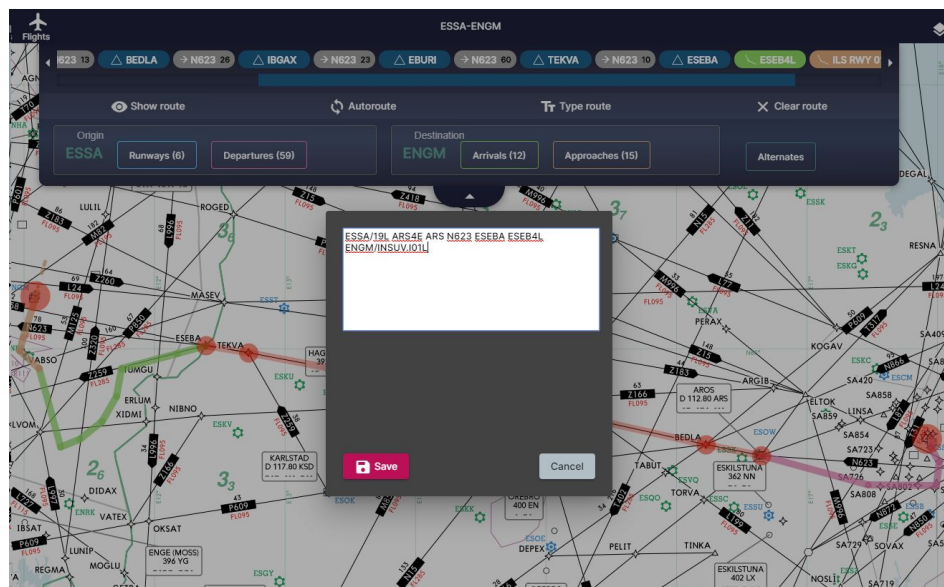
- Let's select ESEB4L. Watch the green dashed line turn solid.
- Now let's select an approach by clicking the Approaches. Charts suggest a few approaches to Runway 01. You can click on their names to visualize them on the chart, or you can again drag the slider to turn on a visual overview.
- Let's select the ILS RWY 01L (INSUV). Notice how the last part, the orange line, now turns solid and that the route now has an orange approach pill.



15. The route can be copied from the flight panel by pressing the T icon where it says Type route. The resulting route string is:

ESSA/19L ARS4E ARS N623 ESEBA ESEB4L ENGM/INSUV.I01L

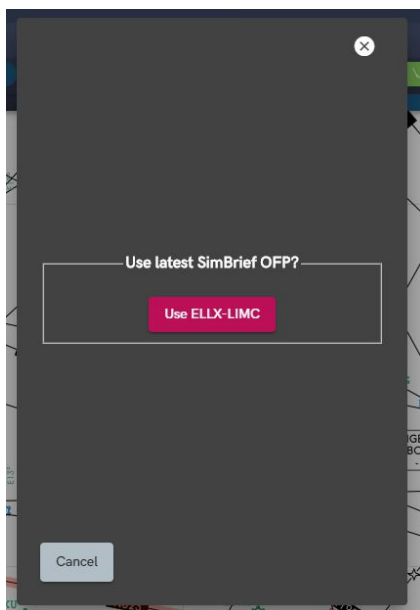
If you didn't succeed in completing the steps above you can paste this string into the type route interface to see the finished result.



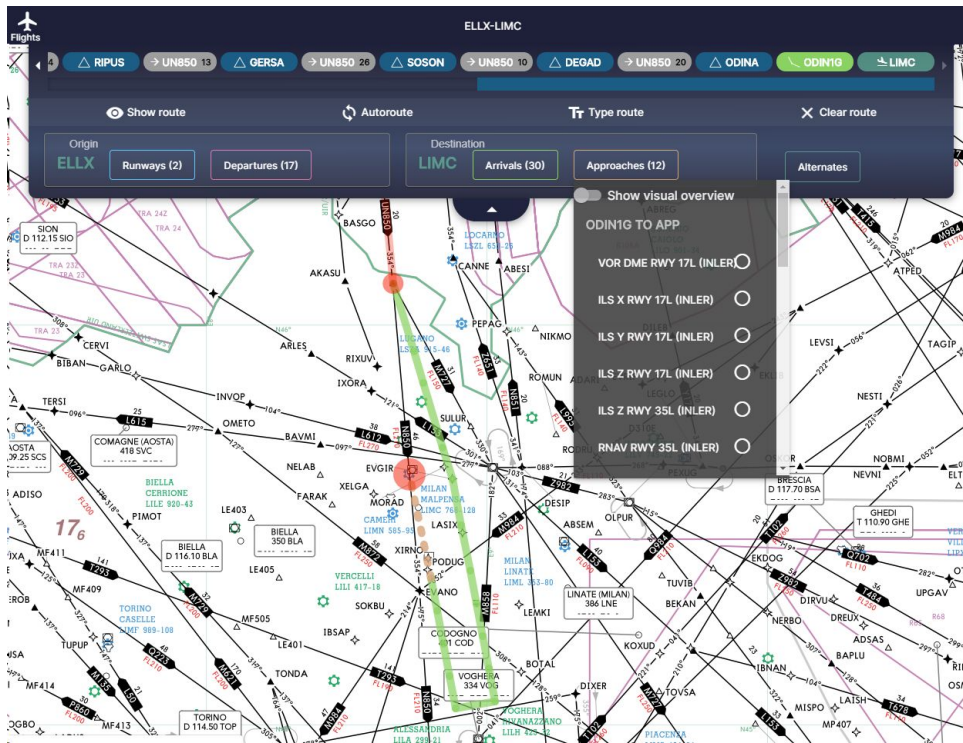
4.3.2. Importing a Flight from SimBrief

In this version of Charts we have interfaced with SimBrief making it possible to fetch your latest flight plan.

1. First, go to Settings which is under the profile icon in the top right corner of the window.
2. Make sure you have entered your SimBrief username and press Save.
3. Open the flight dialog window by clicking the button where it says Flights in the top bar.
4. Click New Flight and select From SimBrief.
5. At this point Charts will try to contact SimBrief and fetch the latest Operational Flight Plan you have created in SimBrief.



6. In the case above we are fetching ELLX to LIMC. The route is imported, including SID and STAR if those were specified in SimBrief. We can now manually specify the approach by clicking the Approaches button as described above. In this example we see the approaches that are suitable given the STAR ODIN1G.



4.3.3. Importing a Flight Plan (PLN) File

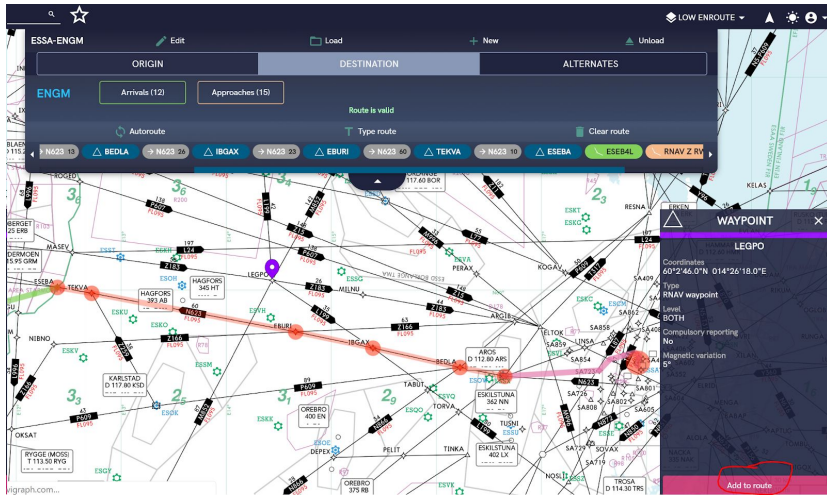
It is also possible to create a flight by importing a PLN file as created by Microsoft Flight Simulator X (XML formatted).

1. Press New in the flight panel to create a new flight.
2. In the window which appears, click the second button to create a flight from PLN file.
3. In the next window, click select flight plan and locate the PLN file on your computer.

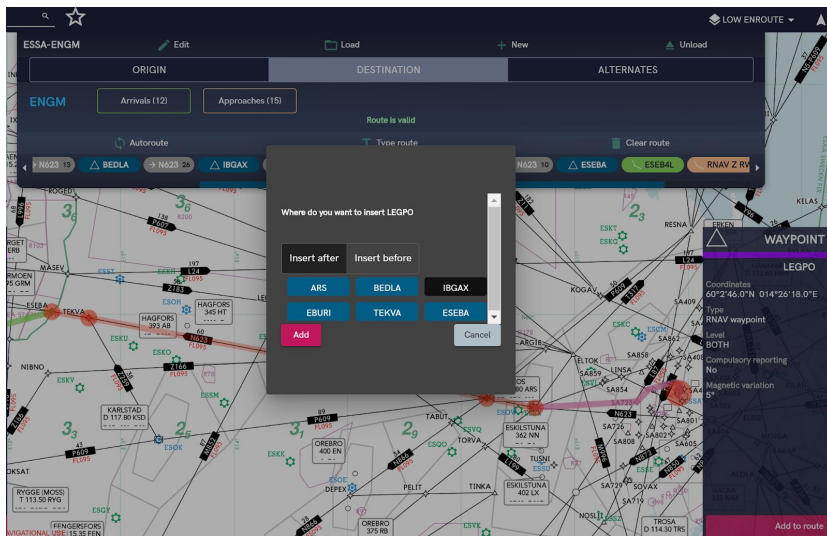
4.3.4. Manually adjusting a route

The existing route can be edited either by editing the text route string or by interacting with the route pills. To edit the text, click the Type route button in the flight panel. To edit the route interactively, follow the steps described below.

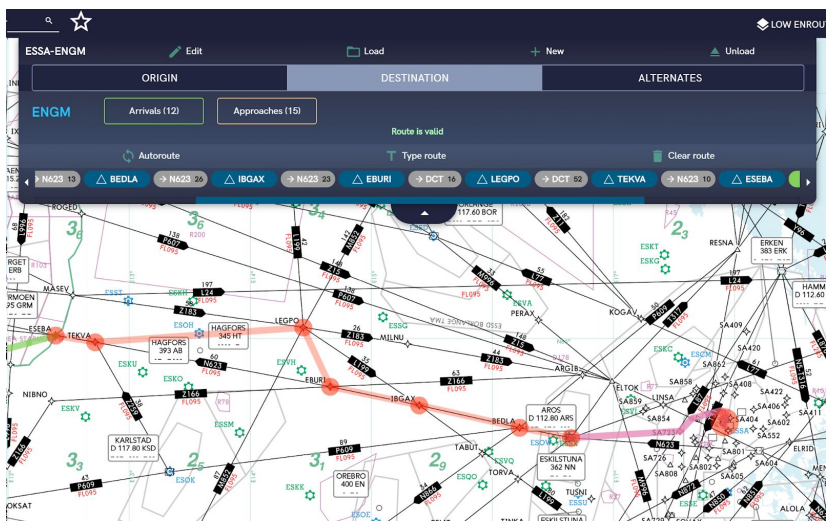
1. Click to explore a waypoint or navaid in the enroute chart and press the Add to route button in the bottom right corner.



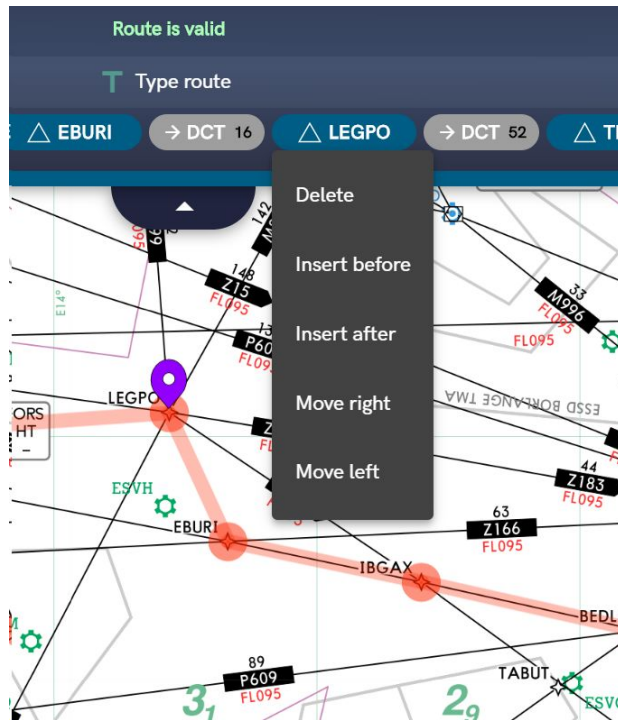
2. On the next screen, specify where to add the fix.



3. Here is the modified route after adding LEGPO “after” IBGAX.



4. If you made a mistake, or the route pill was added in the wrong place, then click one of the pills in the route to open a menu with additional editing options. It is possible to Delete a fix, Insert another fix before or after this one, and Move this fix left or right in the sequence.



4.4. Airport Charts

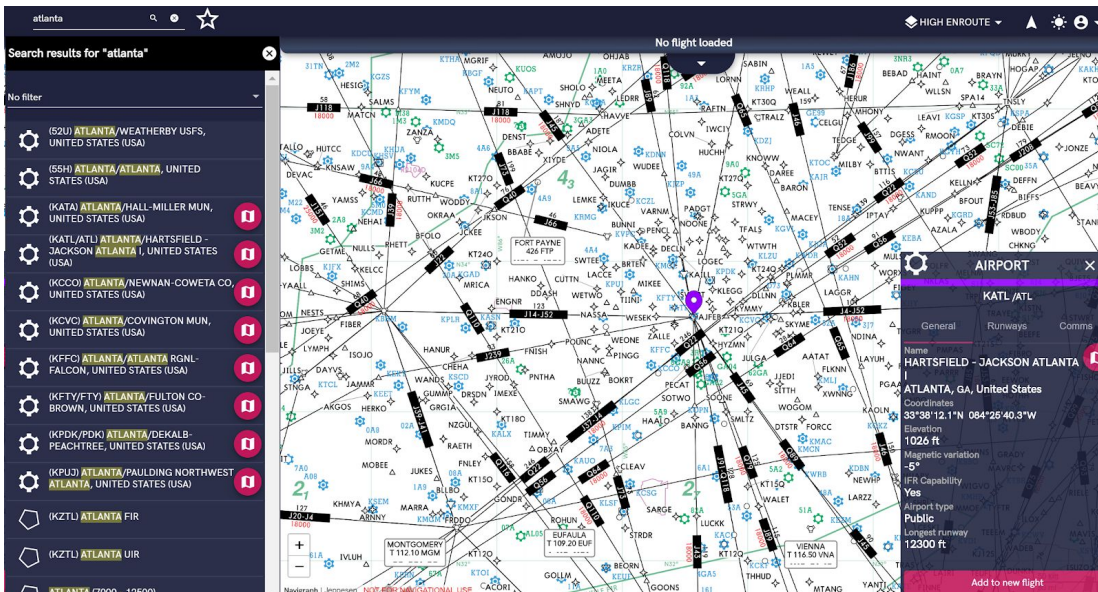
Airport charts can be accessed in three ways.

- A. You can search an airport like described in step 6 or 7 in [4.2. Exploring the Enroute Chart](#) in the enroute.
- B. If you have created a flight as described in [4.3. Creating a Flight](#) you can clicking the ICAO code in the flight panel to access the airport chart list.
- C. If you have created a route string in your flight you can click the airport pill in the route string to access the airport list.

We will now describe these ways in more detail.

4.4.1. Charts via Searching Airport

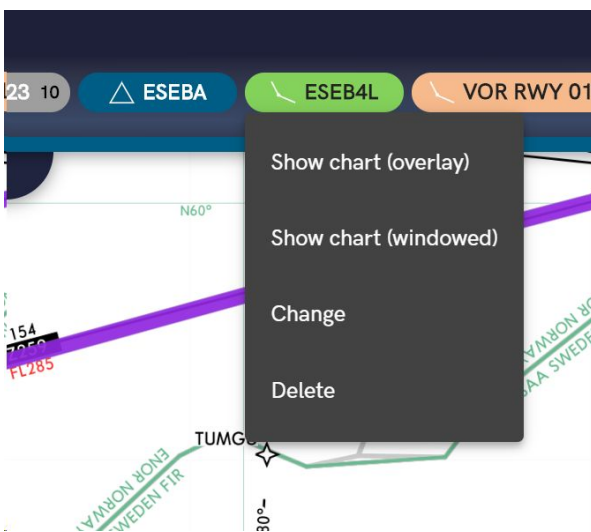
Use the search box in the top left corner to search for an airport using e.g. airport name, city name, ICAO code or IATA code. Clicking the chart icon on the right edge of the search result opens the chart list (see icons with dark red background below).



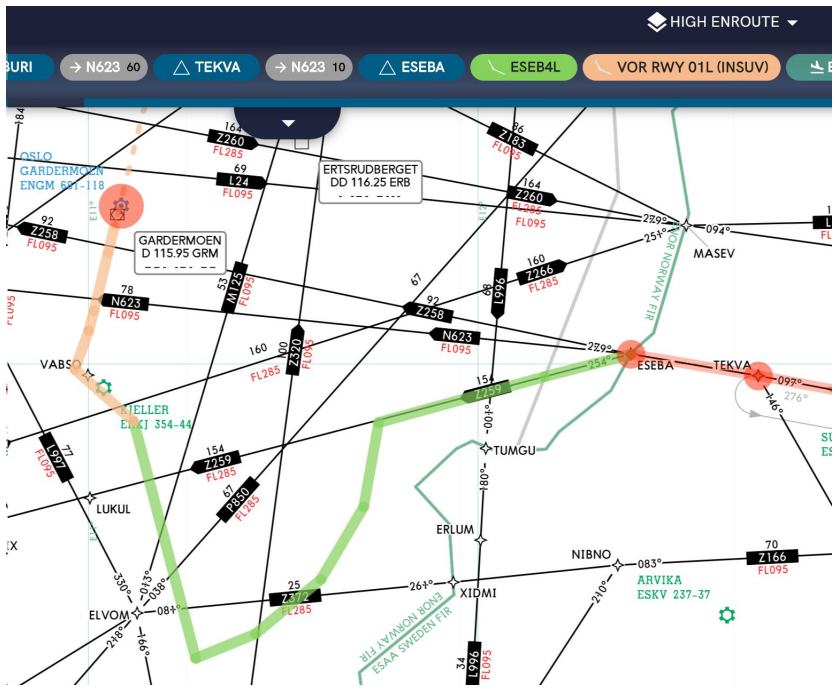
It is also possible to click an airport in the enroute chart. Press the chart button adjacent to the airport name in the detail panel which appears in the bottom right corner to open the chart list.

4.4.2. Charts via Airport in Flight

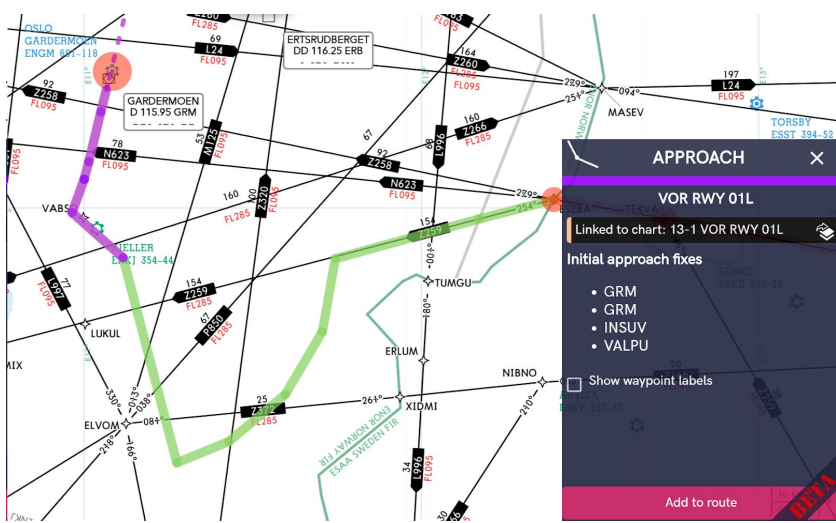
When a flight has been created with a route specifying a SID, STAR or approach, the Charts software in most cases knows which charts are associated with those procedures. Click any SID, STAR or approach pill, and a menu will expand with options Show chart (overlay) and Show chart (windowed). The difference between these will be explained further down. Click these to see the associated chart. If chart has no georeferencing information, the overlay option is not available.



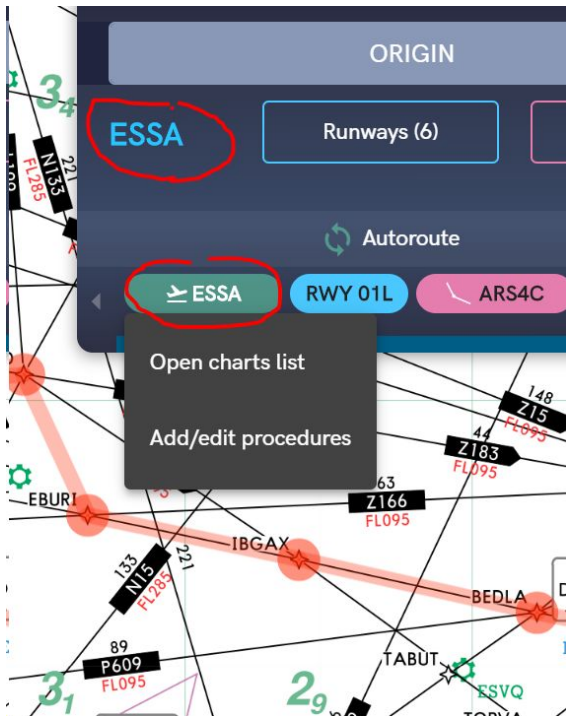
It is also possible to click the procedure drawn on the enroute chart. Below, the green and beige lines depict the STAR and approach respectively.



Clicking the beige approach line highlights it and pops up a detail panel in the bottom right corner. In this panel the associated chart can be opened (in windowed mode) by pressing its name. Pressing the icon on the right edge opens it in overlay mode.

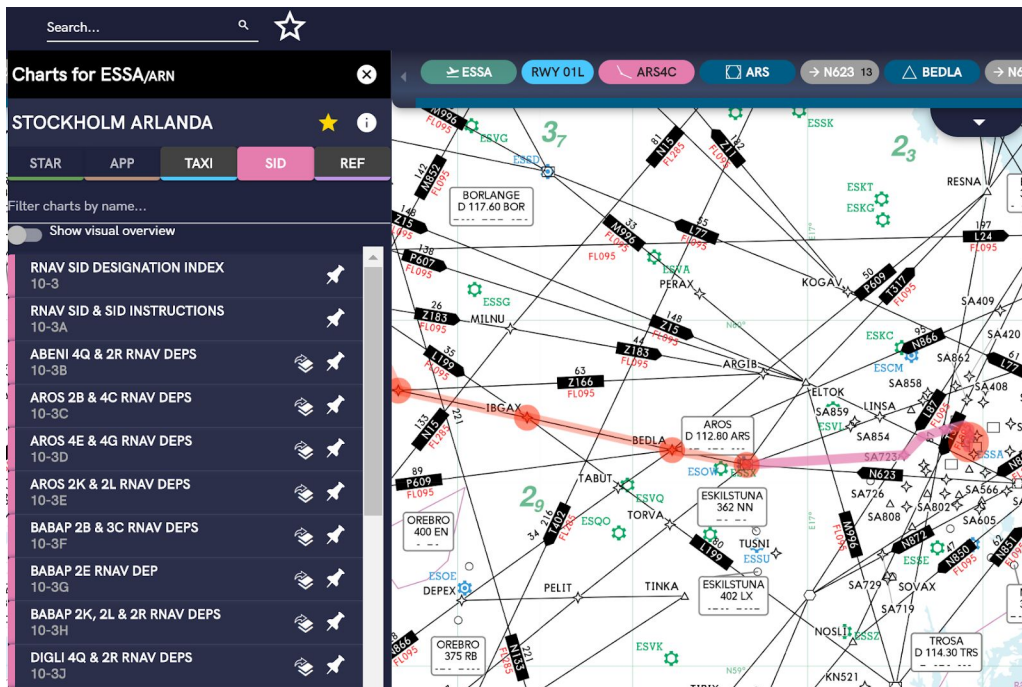



To view a full list of charts available at the airport, press either the airport pill in the route, or the airport code to the left of the procedure selection buttons, highlighted below. Choose the option "Open charts list" in the dropdown menu that appears.



4.4.3. Airport Chart List


As outlined in the previous sections there are a few ways to reach the airport chart list (below). It is divided into 5 sections, STAR, APP, TAXI, SID and REF. (If the airport is a part of a flight, STAR and APP are not available for the origin airport, and SID is not available for the destination airport.)



Pressing the name opens the chart in windowed mode. Pressing the overlay button () opens the chart in overlay mode.

The SID, STAR and APP sections have a “visual overview” which can be activated by pulling the slider. The overview is filtered by runway, which can be changed in the floating box in the middle of the screen.



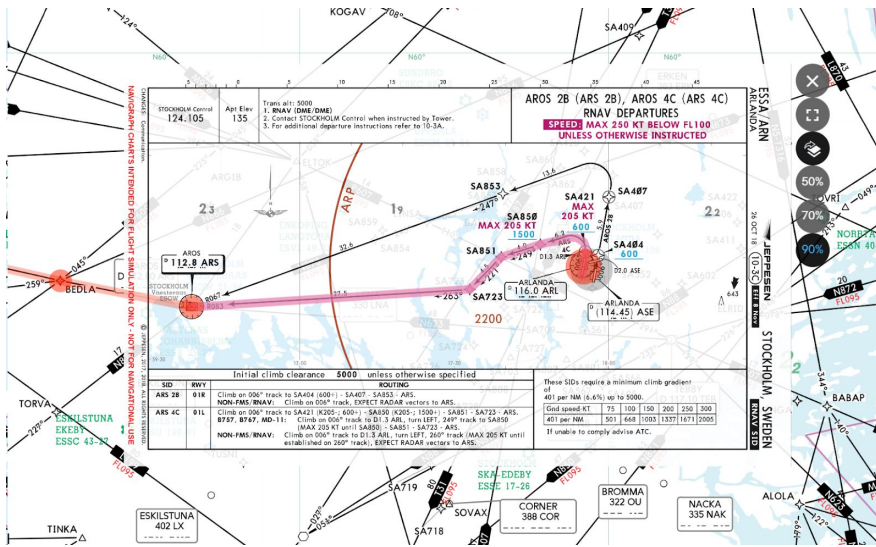
On the right edge of each chart there is a pin button (). Press this to add or remove the chart from the pinboard, which is a quick access feature for quickly switching charts relevant to a flight.



Clicking a chart in the pinboard opens it in windowed mode. There is also an overlay button for those charts that support it.

4.4.4. Overlaying Airport Chart on Enroute Chart

A chart can be opened in overlay mode, as described in the previous sections, where the airport chart is drawn on top of the enroute chart.




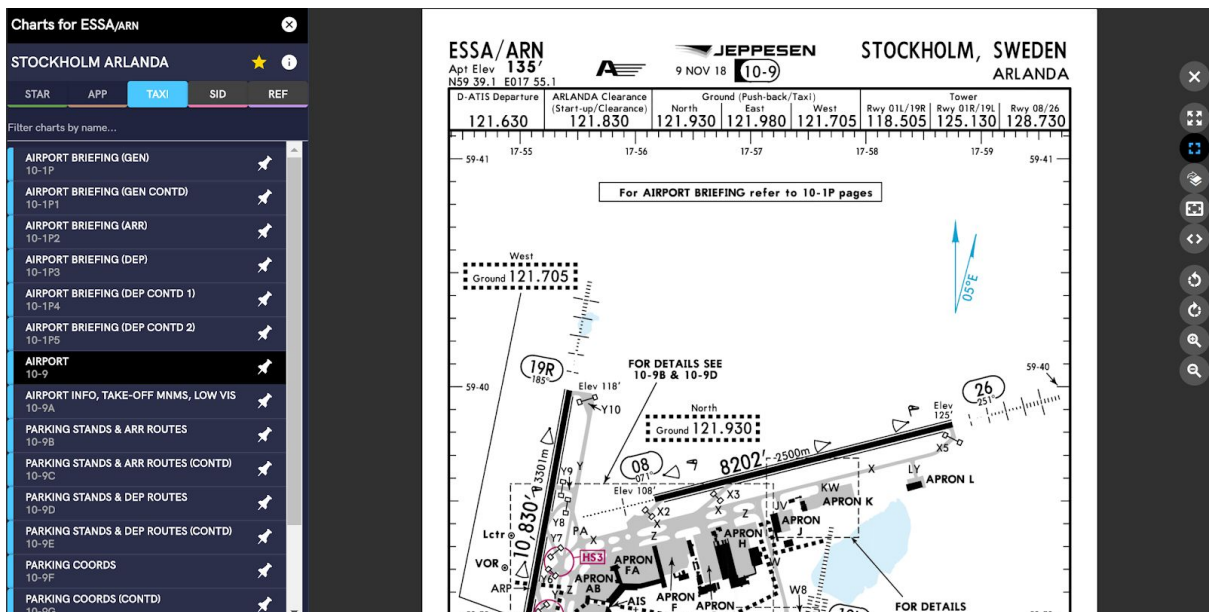
On the right edge of the overlaid chart there are buttons for adjusting the opacity (50%, 70%, 90%).


There is also a button for switching to windowed mode ().

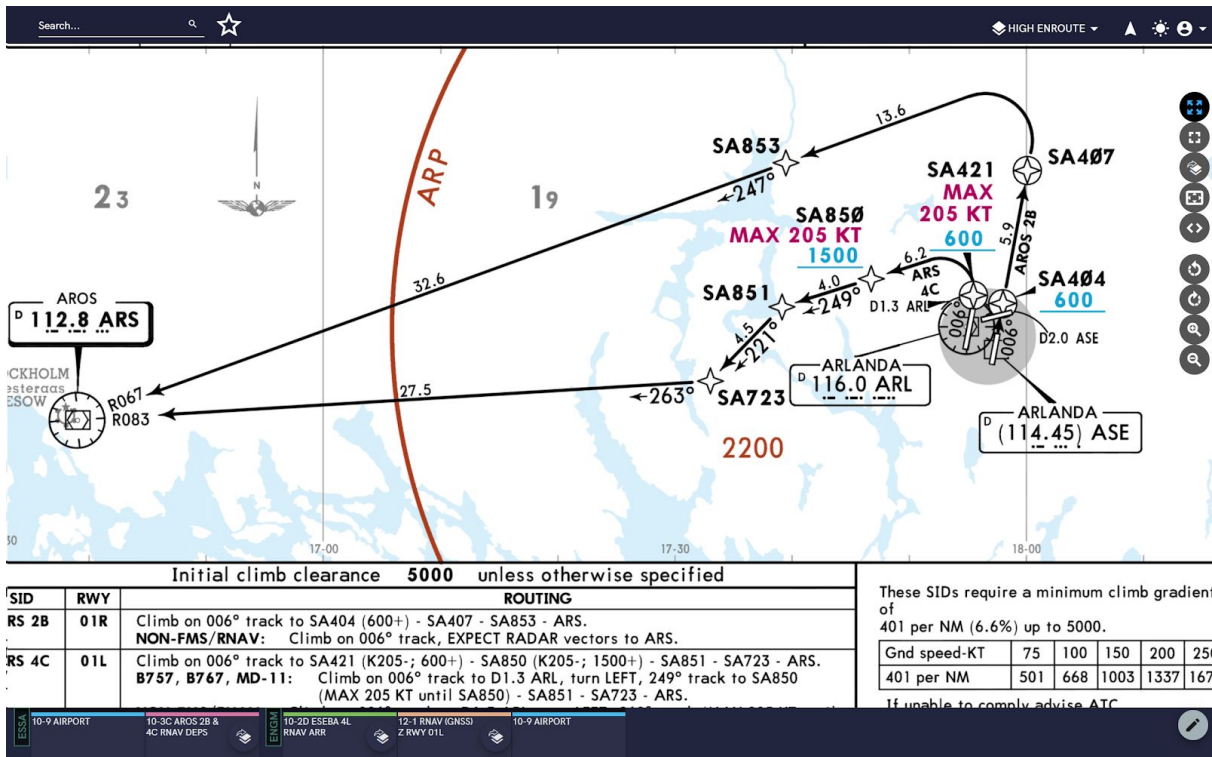
4.4.5. Viewing Chart in Windowed and Fullscreen Modes

When viewing the chart in windowed mode, the enroute chart is hidden and the airport chart fills the interface. In this mode, the opacity buttons are replaced by buttons for fitting page/height, rotating, and zooming.

It is also possible to return to overlay mode by pressing the overlay button ().



By pressing the fullscreen button (), the chart opens the browser in fullscreen mode, and removes the chart list. The pinboard is still available for quick switching of charts.



4.5. Moving Maps

Moving maps is a function which allows you to draw the aircraft position on procedure charts, airport diagrams and the enroute chart. You can use this function to monitor your flight and increase your situational awareness while taxiing.

To enable this function, you need to have Navigraph Simlink installed on the same computer which is running the simulator software. Currently, Microsoft Flight Simulator X, Lockheed Martin Prepar3D v2-4, and Lamina Research X-Plane 10 and 11 are supported for Windows and Mac. A post in the support forum explains how to install and run Simlink:

<https://forum.navigraph.com/viewtopic.php?f=90&t=5193>

Once Simlink and your simulator is running, then press the purple arrow in the top right corner.

