

# *Little Navconnect User Manual*





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# Little Navconnect User Manual

## Version 2.0

*Little Navconnect* is a small free open source application that acts as an agent connecting Little Navmap with a flight simulator like FSX, Prepar3D and X-Plane. This allows to use Little Navmap on Linux or Mac and saves the the pain of setting up remote SimConnect links.

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More about my projects at [GitHub](#).

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## Acknowledgments

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Thanks to all in the forums who patiently supported me and gave invaluable feedback during the public beta:

[AVSIM](#), [SimOuthouse](#), [FlightX.net](#) and [FSDeveloper.com](#).

This project and my library [atools](#) would not exist without the fabulous documentation of the BGL files in the [FSDeveloper Wiki](#). So, here a huge thank-you to all the contributors.

Also a thank you to Ed Williams for his Aviation Formulary.

Without the open source [Marble](#) widget that allows me to access and display all the maps I would still be busy doing that myself for years.

No [Qt application framework](#) and I could not even draw a simple button.

Let's not forget about all the services that provide us all the online maps for free:

[Stamen Design](#), [OpenTopoMap](#) and [CARTO](#).

A thank-you to the [GIScience / Geoinformatics Research Group](#) of Heidelberg University for kindly giving me permission to use their map [OpenMapSurfer](#).

And last but not least: If there were no [OpenStreetMap](#) and its thousands of contributors none of us would have any maps at all.

## Donations

Donate to show your appreciation if you like my programs.

Spenden Sie, um Ihre Wertschätzung zu zeigen, wenn Ihnen meine Programme gefallen.



# Installation

**Note that *Little Navconnect* is bundled with the *Little Navmap* download.**

Highlighted text is used to denote window, menu, button, file or directory names.

*Little Navconnect* for Windows is a 32-bit application and was tested with Windows 7, Windows 8, Windows 10 (32-bit and 64-bit).

The macOS and Linux versions are both 64-bit and were tested with macOS Sierra and Ubuntu Linux.

## Updating

Delete all installed files of a previous *Little Navconnect* version before installing a new version. All files from the previous ZIP can be deleted since settings are stored in separate directories. In any case do not merge the installation directories.

There is no need to delete the old settings directory. The program is written in a way that it can always work with old setting files.

## Windows

Installation involves the simple copying of files therefore an installer or setup program is not required.

Do not extract the archive into the folder `c:\Program Files\` or `c:\Program Files (x86)\` since you will need administrative privileges in some Windows versions. Since Windows keeps control of these folders other problems might occur like replaced or deleted files.

Extract the Zip archive into a folder like `c:\Own Programs\Little Navconnect` . Then start the program by double-clicking `littlenavconnect.exe` .

In some cases you have to install the [Update for Visual C++ 2013 and Visual C++ Redistributable Package](#). Install both 32 and 64 bit versions. Usually this is already installed since many other programs require it.

## Other Simulators than FSX SP2

This program was compiled using plain FSX SP2 (no Acceleration) SimConnect version 10.0.61259.0.

You might have to install an older version of SimConnect if you use *Prepar3D* or *FSX Steam Edition*. If not sure about this simply try *Little Navconnect* out. If it fails with an error message follow the instructions below:

**Prepar3D:** In the same directory as `Prepar3D.exe` is a `redist\Interface` directory (normally `C:\Program Files (x86)\Lockheed Martin\Prepar3D v3\redist\Interface` ). There are multiple legacy versions of SimConnect available. You have to install `FSX-SP2-XPack.msi` for *Little Navconnect*.

**FSX Steam Edition:** The installation adds the folder `C:\Program Files (x86)\Steam\SteamApps\common\FSX\SDK\Core Utilities Kit\SimConnect SDK\LegacyInterfaces` where you can find the legacy SimConnect interfaces.

## macOS

Extract the ZIP file and copy the `Little Navconnect` app to `Applications` or any other folder.

## Linux

Extract the tar archive to any place and use the `littlenavconnect.sh` shell script to start the program from a terminal:

```
bash ./littlenavconnect.sh
```

## X-Plane

*Little Navconnect* can only connect to X-Plane using the *Little Xpconnect* X-Plane plugin which has to be installed too.

The *Little Xpconnect* plugin is included in the *Little Navmap* archive but can also be downloaded separately. See the included `README.txt` in the `Little Xpconnect` folder for installation instructions.

The plugin is 64-bit only and is available for Windows, macOS and Linux.

## General

*Little Navconnect* acts as an agent that connects [Little Navmap](#) running on a remote computer with a flight simulator. This saves the complexity of setting up a remote SimConnect link and also allows using *Little Navmap* to connect remotely to the *Little Xpconnect* X-Plane plugin.

*Little Navmap* can connect to the flight simulator directly when running on the same computer as the flight simulator therefore the *Little Navconnect* agent is only needed for connecting to a remote computer.

For X-Plane you need the *Little Xpconnect* plugin.

## Usage

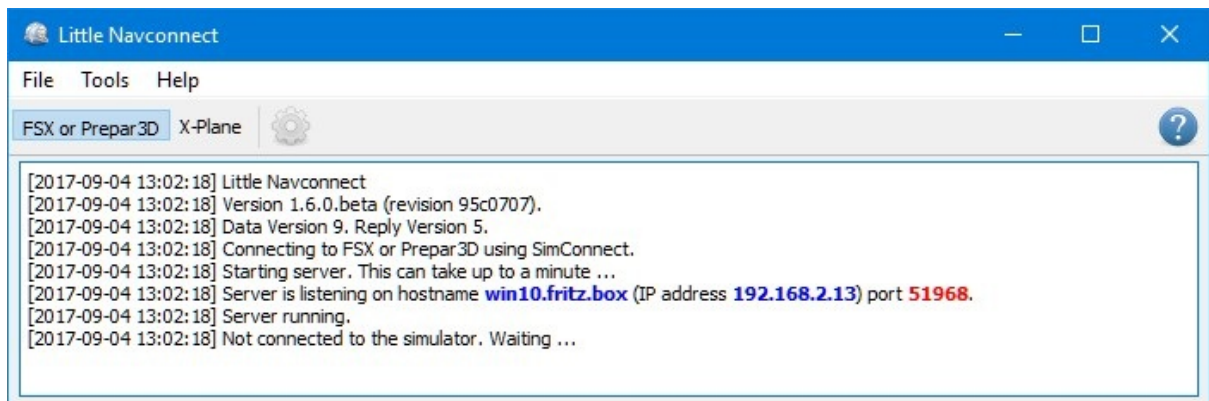
You will receive an error message if the protocol of *Little Navmap*, *Little Navconnect* or *Little Xpconnect* does not match. Make sure to use the latest versions of all programs or use the ones included in the *Little Navmap* download archive.

## Flying Computer

Install *Little Navconnect* on the flying computer. Start it and take note of the message that is printed in the logging window. You only need the colored values. You can use the IP address or the hostname.

The program will automatically connect to the flight simulator using SimConnect, if found. You can change the connection to X-Plane and it will connect automatically to the *Little Xpconnect* plugin if X-Plane is running. If no simulator was found it will retry in 10 second intervals.

*Little Navconnect* can print multiple IP addresses or hostnames depending on your network configuration. This can happen if you have Ethernet plugged in and are connected using wireless LAN too, for example. You have to try all addresses if you are unsure which one to use.



**Picture above:** *Little Navconnect* is running and waiting for a flight simulator. The `FSX or Prepar3D` and `X-Plane` buttons are not shown on macOS and Linux or if SimConnect is not available.

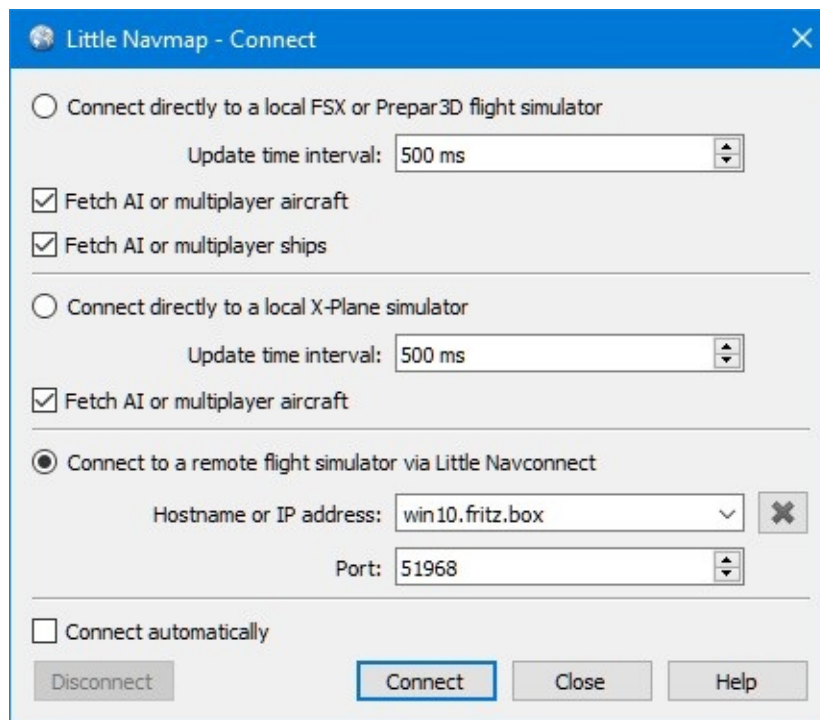
Change the port in the `options` dialog if you see an error message like shown below:

```
[2016-07-27 16:45:35] Unable to start the server: The bound address is already in use.
```

## Client or Remote Computer

1. Start *Little Navmap* on the client computer.
2. Open the connection dialog in *Little Navmap* by selecting `Main Menu -> Tools -> Flight Simulator Connection`.





**Picture above:** Connect dialog with correct values to access the *Little Navconnect* shown above.

3. Select `Connect to a remote Flight Simulator`.
4. Add the value for hostname. This can be either the hostname or the IP address printed by *Little Navconnect*.
5. Check the value for the port. `51968` is the default value and does not need to be changed usually.
6. Click `Connect`. The dialog will close and *Little Navmap* will try to establish a connection in the background which can take some time, depending on your network. Your aircraft will show up on the map and on the `Simulator Aircraft` dock window once a flight is set up and loaded on the simulator. You will see the message `Connected. Waiting for update.` in the `Simulator Aircraft` dock window if no flight is loaded yet (i.e. the simulator still shows the opening screen).

Note that it sometimes can take a while until an error is shown if you used the wrong values for hostname or port.

## Menu and Options



### File -> Quit

Exits the application. Will ask for confirmation if there are still clients connected.

### Tools -> FSX or Prepar3D / X-Plane

Chooses the simulator connection. These functions are also available on the toolbar.

### Tools -> Reset Messages

This will re-enable all dialogs that were disabled by clicking `Do not show this dialog again` or similar messages.

### Tools -> Toolbar

Shows or hides the toolbar.



### Tools -> Options

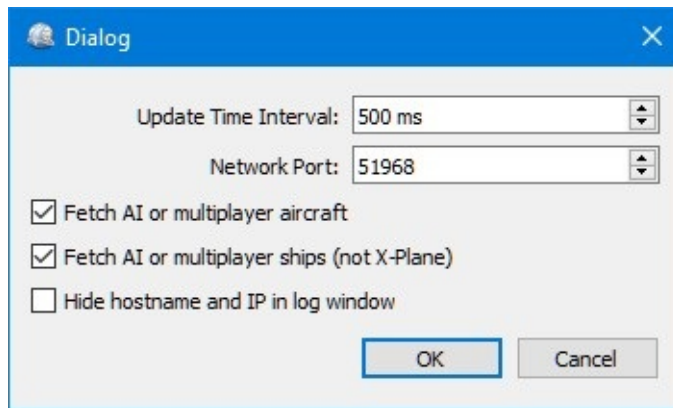
Opens the `Options` dialog which has three settings:

- `Update Time Interval` : Allowed range is 50 milliseconds up to 1 second. *Little Navconnect* fetches data from Flight Simulator and sends it to all clients (i.e. *Little Navmap*) using this time interval. Increase this value if you get a warning message like shown below:  

```
[2016-07-27 16:45:35] Dropped more than 50 packages. Reason: Missing reply. Increase update time interval.
```

Dropped packages can also appear if the *Little Navmap* cannot respond because a dialog is open.
- `Network Port` : This can normally be left at default. Change this value only if another application occupies this port and you get an error message like shown below when starting *Little Navconnect*:  

```
[2016-07-27 16:45:35] Unable to start the server: The bound address is already in use.
```
- `Fetch AI or multiplayer aircraft` and `Fetch AI or multiplayer ships` : Disables fetching of AI vehicles and the transfer across the network. This can be useful for performance reasons if you use large amounts of AI but do not want to see it in *Little Navmap*. Note that ship AI is not available on X-Plane.
- `Hide hostname and IP in log window` : Check this option to disable printing of hostname and IP address on startup. This can be useful for streaming sessions where *Little Navconnect* window is visible to others.



**Picture above:** *Little Navconnect Options Dialog with default settings.*



### **Help Menu -> Contents (Online)**

Shows the online help in your default web browser.



### **Help Menu -> Contents (Offline, PDF)**

Shows the offline help PDF document in your default PDF viewer.



### **Help Menu -> About Little Navconnect**

Shows version and revision number for *Little Navconnect*, also contains links to the configuration file, log file and the author's e-mail addresses.



### **Help Menu -> About Qt**

Information about the [Qt application framework](#) that is used by *Little Navconnect*.

## How to report a Bug

If something goes wrong send me *Little Navconnect's* log file and configuration file which both can be located in the about dialog. My e-mail address is shown in the about dialog of *Little Navconnect* as well. Please compress the log file in a ZIP archive.

Please add all steps that are necessary to reproduce the error.

If you're concerned about privacy when sending log files: The log files will contain all paths (like your `Documents` directory) which will also include your username as a part of the path. They might also contain your computer's name IP address in your network.

In no case file names from anything else than flight simulator scenery or configuration files are included. No names or content of personal files is included in the log files.

I'd suggest to remove this information if you're concerned about it.

I strongly recommend to send the log files using a private forum message or by email and not attach them to forum posts where they are publicly visible.

## Files

### Windows

Log files of *Little Navconnect* for Windows 7/8/10 are typically stored in the directory:

```
C:\Users\YOURUSERNAME\AppData\Local\Temp
```

The program keeps three log files and rotates these on each startup. So you can find up to three logs:

```
abarthel-little_navconnect.log , abarthel-little_navconnect.log.1 and abarthel-little_navconnect.log.2 .
```

All configuration files of my programs for Windows 7/8/10 are typically stored in the directory:

```
C:\Users\YOURUSERNAME\AppData\Roaming\ABarthel
```

There is one configuration file for this program:

```
little_navconnect.ini : INI style configuration file. Text file.
```

### macOS and Linux

The configuration files are stored in `$HOME/.config/ABarthel` on macOS and Linux. Log files are stored in `/tmp` on Linux and in `/var/folders` on macOS.

## License

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